BERGMANN
Machines for
Waste Management

Translation of the original Operating Instructions

# ALPHA - PACK - BIN

## I M P O R T A N T  D O C U M E N T

| | |
|---|---|
| Machine model | APB 616 |
| Serial - no. | |
| Year | |
| Operating instructions - No. | 17902 |

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FO-09-39 Version 01

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# 1. Use for intended purpose

The present unit is a stationary operated compaction container which can be taken up by a roller tipper for transport and emptying purposes. The machine was only manufactured for a specific pick-up system according to customer requirements and is therefore only suitable for use with this system. The ALPHA-PACK-BIN has been designed only for the compaction of valuable substances and wastes and may be used for this purpose only. Any other use or application beyond this must be considered as improper use. BERGMANN will not accept any responsibility for any damages resulting from this.

Proper use also includes

- observing all operating instructions as set out in the Operating and Maintenance Manual,
- observing the service and maintenance instructions
- the prohibition of any extensions or reconstructions of the machine.

Awareness of the basic safety instructions and regulations is of utmost importance in order to handle the machine safely and to guarantee trouble-free operation. These operating instructions contain the most important information needed to operate the machine in compliance with the safety instructions.

**Ensure that the operating manual is given to the operator and kept in a safe location.**

**Read and observe the entire operating manual, including all details.**

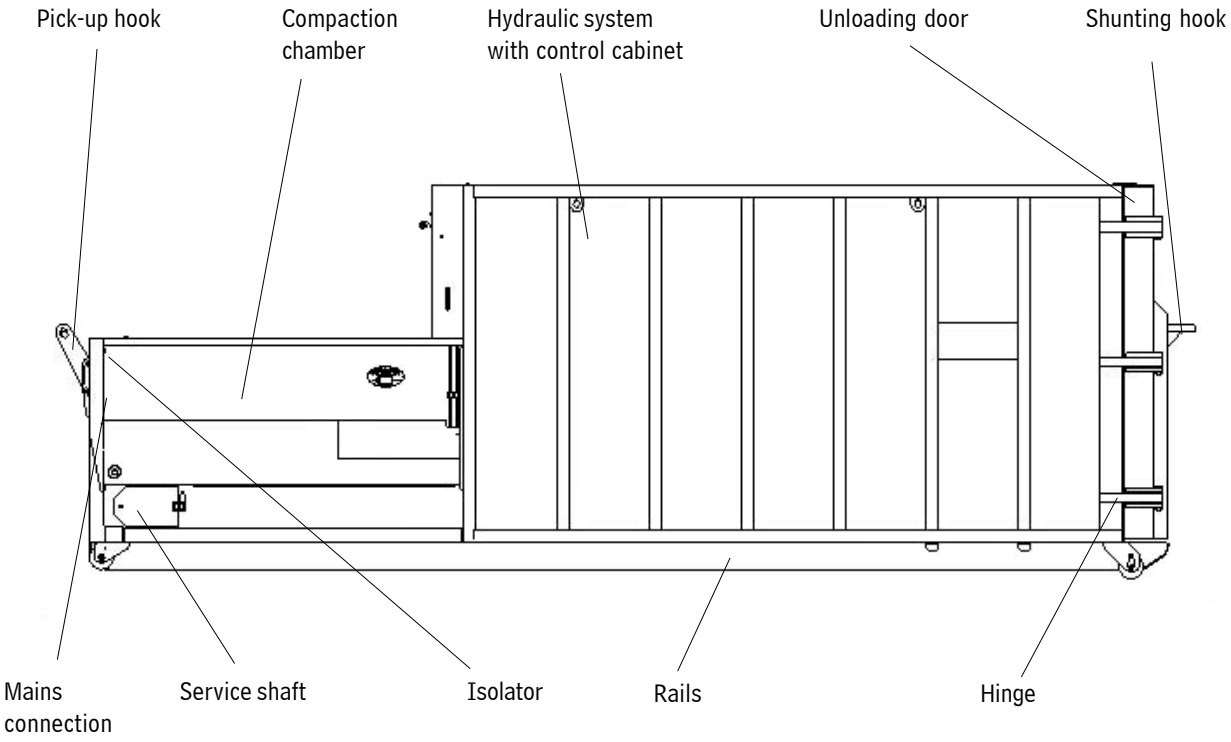
There may be deviations in technical data, illustrations and dimensions due to continual further development.

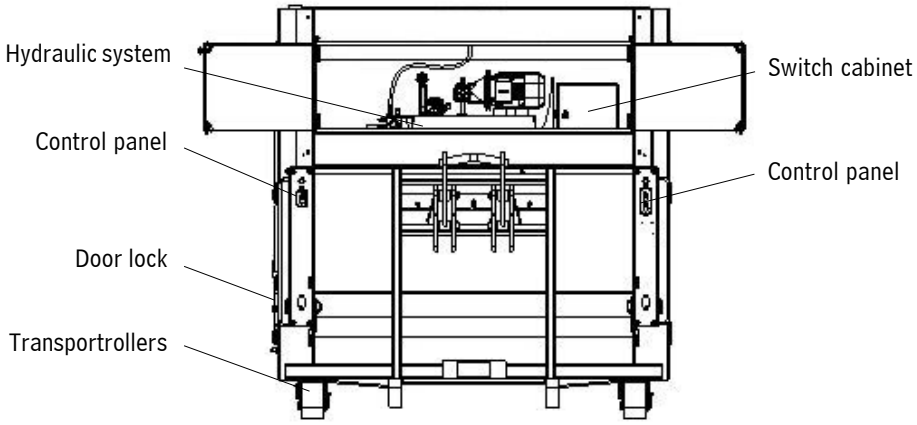
When ordering spare parts please quote the machine serial number, the spare parts list page and the name of each item with its part number.

Label :

# 2. Introduction

## 2.1 View of the machine APB 616



# 2. Introduction

## 2.2 Background, benefits and features

BERGMANN - Waste Disposal Equipment - has as a result of many years experience, introduced the BERGMANN ALPHA-PACK-BIN 616 with its patented throw-over blade.

The compact construction of the packer blade offers an outsized charging hole in the compaction chamber. Thus there is enough space even for large objects and the time-consuming cutting of the wastes becomes unnecessary.

The machine can be continuously fed due to the throw-over blade which brings the non-compacted material back in front of the packer blade on the return stroke.
Cleaning behind or below the packer blade is absolutely unnecessary. On each forward stroke the underside of the blade scrapes away any waste which may have got stuck between the charge box and the container.

Positive driving of the packer blade is guaranteed even under extreme loads. This is helped by the durable plastic guides on which the packer blade runs.

The power pack is situated in the upper part of the container and thus out of the dirty area. This protects it from aggressive liquids, as well as the elements.

Below the power unit there is a pan for leaking oil in order to collect the hydraulic oil required for the operation of the machine.

A sturdy and safe locking of the discharge opening prevents the material from escaping.
A clearly arranged operating keyboard and two EMERGENCY STOP buttons, as well as a time relay for automatically switching off the machine are part of the serial scope of delivery
Optical and acoustic level indicators or a spring releasing cover beyond the charging hole can be useful extra equipment.

The BERGMANN ALPHA-PACK-BIN APB 616 has been designed in order to be taken up by a roller tipper. The take-up hooks can be matched to the corresponding vehicle type as required by the respective customer.

The high economic benefit of the APB 616 results from the fast work cycles, the large charging hole in connection with the high compaction ratios, the standard hinged roof (APB 606) and the easy emptying as well as the resulting reduced costs for disposal, personnel and space.

BERGMANN - Machines are constantly adapted to technical and general safety provisions. This means that minor deviations may occur in the operating instructions. All information is based on theoretical calculations / values.

# 3. Principle safety considerations

## 3.1 List of symbols and notes

The following signs for hazards are used in the operating instructions and on the machine:

**This symbol stands for a possible hazard for the life and health of persons.**

The non-observance of these instructions can result in serious effects to health and even life-threatening injuries.

**This symbol stands for a possible hazard.**

The non-observance of these instructions can result in slight injuries or damages to property.

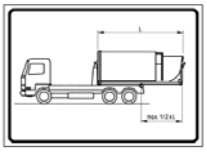
**This symbol points to important facts.**

**This symbol warns of dangerous electrical voltage.**

**This symbol indicates that it is prohibited to enter the compaction chamber.**

**This symbol means that the operating staff is to have read and understood the user manual.**

**This symbol means that the machine is to be disconnected from the mains power supply and secured against reactivation during repair and maintenance work.**



**This pictogram defines how to take up the PACK-BIN by means of a hook.**

Thereby the projecting end of the PACK-BIN on the collection vehicle must not exceed half of the machine length.

# 3. Principle safety considerations

The following pictograms have validity for machines and special equipment :

**Machines with a cover above the feed opening :**

This symbol warns that reaching into the pivoting area of the covers is prohibited.

This symbol points out the danger of injury in case of improper use of the covers.

**Machines with a BIN-LIFT-TIP DEVICE :**

This symbol warns that staying in the pivoting area as well as underneath the raised lift-and-tilt device is prohibited.

**Machines with automatic start-up :**

This symbol means that the machine starts automatically.

## 3.2 Principle safety rules

**The safety and availability of the machine depends on the observance of these regulations.**
**You will also find the most important requirements as a sticker on your machine.**

### 3.2.1 Organisational measures

* The machine is transported and emptied using a roller tipper. Each of the machines was only manufactured for a specific pick-up system according to customer requirements and is therefore only suitable for use with this system.
* Before placing the machine by the disposal vehicle, it must be assured that at the assembly site all operating elements can be easily reached.
* Only trained and instructed personnel may operate the machine. The operating staff must have read and understood the operating instructions.
* The operating instructions must always be at the PRESS-BOX or at the place of use.
* The operating staff has to wear the necessary protective equipment, i.e. safety shoes and gloves. This equipment must be provided by the operator.
* Safe operation of the machine is only possible if sufficient illumination is provided. This is the responsibility of the operator.
* In addition to the operating instructions the general and local regulations for the prevention of accidents and the protection of the environment must be observed.

# 3. Principle safety considerations

* It is not allowed to make any modifications, extensions or reconstructions on the machine without the prior written consent of BERGMANN. This is also valid for welding works at load bearing parts.
* If the machine is combined with other machines (e.g. conveyor belts, etc.), a separate risk assessment has to be created by the operator.
* The pressure in the hydraulic system may only be changed by an authorised expert of BERGMANN.
* It is not allowed to make changes on sealed components. This applies especially for hydraulic valves.
* During the operation, all noise protection devices (aggregate doors, aggregate hoods, etc.) must be closed.
* The type of material compacted can result in different noises. The decibel value indicated was measured on an empty machine.
* To minimise noise emission, we recommend a cover hood.
* The substances and materials used must be used and disposed of properly.
* Toxic, explosive and chemical materials may not be compacted and must be disposed according to the local regulations.
* It is the owner/user's responsibility to provide the operating personnel with special protective equipment (e.g. protective clothing, goggles, gloves, etc.) for medical waste. For this use, we recommend equipping the machine with a hood and covers, which must be closed prior to compaction.
* Fill in compactable material only. Otherwise steel girders, timber planks etc. might damage the door.
* Smaller hard material (screws, glass etc.) and hardening materials as well as materials which are subject to special regulations according to the law concerning waste disposal must not be compacted.
* It is not allowed to press materials that may incur the risk of hauling out (hard plastic, splintering wooden parts). If hauling off of smaller parts cannot be fully excluded, the filling opening must be closed with a special covering hood during the pressing process. The hood must be approved by the manufacturer for this use.
* On the plastic versions small metal parts may accumulate and cause noise.
  They must be immediately repaired by an authorised expert.
* Use a rubber sheathed cable type H07 RN-F with a minimum cross section of 2.5 mm² for the power supply.
* An earth leakage circuit breaker with 30 mA should be provided by the customer.
* Pressure receptacles, like hair spray cans, spray cans, etc. may not be compacted. Risk of explosion.
* The container must not be overfilled.

## 3.2.2 Safety and protective devices

* It is prohibited to enter and to reach into the compaction chamber.
* Prior to switching on make sure that there is nobody in the compaction chamber resp. in the container.
* It is not allowed to remove or change any safety devices. The safety devices must be fully-functioning.
* In case of malfunctions, the machine must immediately be shut off and the fault must be eliminated by an expert with the corresponding knowledge.
* Machine parts which are not in a perfect condition must be replaced immediately.
* In consideration of the safety distances (see point 3.3 “Safety distances”) the use of ramps and platforms is allowed.
* If the machine is filled via ramps, platforms, etc., the owner/user must create a separate risk assessment.

* All handles, steps, railings, pedestals, platforms and ladders must be kept free of soiling, snow and ice.
* The safety and danger instructions on the machine have to be kept in a legible condition and must be replaced if necessary.
* Operation of the PACK-BIN in publicly accessible areas such as market places etc. is only allowed under supervision of the operator. If the machine is not under supervision, it is necessary to secure the main switch by means of a padlock. If the machine is equipped with a cover hood over the filling opening, this hood must be closed and also secured with a lock. The keys to these locks must be kept in a safe place.
* PACK-BINs which are equipped with four transport rollers must be secured in such a way that inadvertent rolling is prevented.
* The pick-up hook at the discharge opening is used as a shunting and maneuvering aid only.
* If the machine is pulled onto the transport vehicle by means of the pick-up hook the projecting end of the PACK-BIN on the collection vehicle must not exceed half of the machine length.
* The locking of the PACK-BIN on the tipper vehicle must be carried out according to the instructions of the vehicle manufacturer. The driver is to ensure that the machine was correctly locked.
* When releasing the discharge opening and emptying the PACK-BIN it is prohibited to stand behind the discharge opening.
* After emptying the box the discharge opening must be locked safely again.
* If the machine is operated with an integrated LIFT-TILT DEVICE, the movement range of the machine incl. container should be marked on the floor.

### 3.2.3 Safety installations

Faultless function of the safety installations must be checked each time before beginning work.

**Main switch** — Main switch in OFF position switches the machine off and all poles are disconnected. Switching on the machine is not possible. (See chapter 6.6)

**EMERGENCY STOP buttons** — If one of the EMERGENCY STOP buttons is pressed, the machine is switched off. (see chap. 5.1)

### 3.2.4 Hazards through electrical energy

* During works at the machines, the 5 safety rules must be adhered to:
  - Activating,
  - securing against accidentally being switched back on,
  - checking for no current,
  - earthing and short-circuiting,
  - Cover or fence off adjacent parts which are live.
* Repairs or maintenance on the electrical supply system may be carried out by qualified electrician only.

* The electrical equipment of the machine must be inspected at regular intervals. Any faults such as loose connections and/or scorched cables must be cleared immediately.
* In the event of a defect on the electrical equipment, further operation of them machine is prohibited. That is valid until authorised expert staff confirms that all faults have been successfully eliminated.
* Extinguish fire in the electric control with a CO2 extinguisher.
* Location and operation of fire extinguishers must be made public. The possible measures of fire detection and fire fighting must be observed.
* The switch cabinet must always be kept closed. Access is only allowed for authorised staff.
* Plugged connections have to be loosened and/or plugged in when the current has been switched off.
* When connecting equipment to the mains, the local EVU-regulations must be observed.
* The adjustment of the motor protection switch must not be changed.
* Dust deposits may lead to dangerous explosions in connection with electric components. Therefore deposits must be removed at regular intervals.
* Due to extreme temperature differences (especially in winter), condensation can never completely be ruled out in the console enclosures and switch boxes. In the event of a fault, the mains plug must be pulled and the console housing and control cabinet must be inspected by a qualified professional and, if present, the condensation must be removed.

### 3.2.5 Hazards through hydraulic energy

* Only staff with specialised know-how and experience may work on the hydraulic equipment.
* The hydraulic equipment must be inspected at regular intervals. Any faults such as chafe marks on the hoses or leakages at the screwed connections must be corrected immediately.
* System sections and pressure pipes that can be opened must be depressurised prior to the start of repair (see chapter 3.2.6). Liquids that escape under high pressure can penetrate the skin and may cause severe injuries.

### 3.2.6 Switching the machine pressure-free

* The machine must be set up on a firm, level surface.
* Disconnect the PACK-BIN from the power supply and secure against switching on.
* For machines with BIN-LIFT-TIP DEVICE (BLT), both hydraulic cylinders of the BLT must be fully moved in. This means, the BLT must be in home position. In home position, the container can be slid in.

### 3.2.7 Maintenance and repair

* The operating instructions are no instructions in order to carry out extensive servicing. These works must be carried out by recognised specialised staff.
* The above mentioned maintenance and service must be carried out within the prescribed time limit (see chapter 11 “Maintenance and care”).
* Maintenance and repair may be carried out only be qualified staff with the corresponding know how. On this occasion the machine must be disconnected from the mains and be secured against being switched on by mistake.

* Maintenance work must be carried out on the stations intended for this purpose.
* As far as necessary the repair area must be secured.
* If maintenance personnel have to access the machine through the unloading door, this door must be secured by means of an arresting cable. For this purpose, a snap hook is mounted on the bottom of the container (see also chapter 5.3).
* During maintenance work, the filling hole must be closed by the cover hood or scaffold boards. If necessary, use a certified ladder or work platform sufficient for the respective purpose. It is the owner/user's responsibility to provide this equipment.
* If required a certified ladder or platform appropriate for the respective purpose must be used. These auxiliaries must be supplied by the operator.
* Larger assemblies must be fixed and secured carefully with lifting devices when being replaced.
* Hydraulic hoses must be replaced every 6 years as a minimum, even if no safety relevant faults are visible.
* When handling oils, greases and other chemical substances, follow the safety instructions applicable to the product.
* Only use original spare parts in case of replacement.
* After finishing service work check functioning of all safety devices (see chapter 3.2.3) and mount again all lids, cleaning flaps, etc. and check them for tightness.

### 3.2.8 Instructions in case of emergency

* Always press the EMERGENCY STOP button in emergency situations and pull the mains plug. For the exact emergency procedure, refer to chapter 3.3.
* Extinguish fire in the electric control with a CO2 extinguisher.
* Burning oil must be extinguished using a Co2 extinguisher or dry powder extinguisher.
* Location and operation of fire extinguishers must be made public. The possible measures of fire detection and fire fighting must be observed.

## 3.3 Emergency procedure "Person trapped in the compaction chamber"

If a person is trapped in the compaction chamber, proceed as follows:

1) Actuate the EMERGENCY STOP button

2) Pull the mains plug.

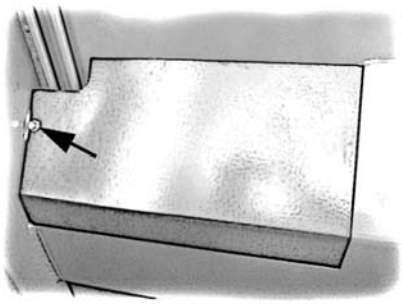
3) Call emergency services.

4) Clear the filling area of waste and refuse as much as possible and secure the filling area prior to any further filling.

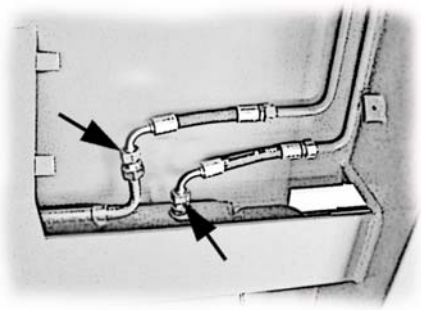
To release the press ram, proceed as follows:

**These steps may only be carried out when supervised by emergency services!**

5) Secure the press ram against any further movement in the direction of the trapped person using suitable lifting means (e.g. a crane, forklift truck, etc.).



6) Open the cylinder cut covers on the LH and RH side of the machine.



7) Disconnect the hydraulic hoses (A and B line) from the cylinder.
Note the emerging hydraulic oil.
If necessary, seal the line (using a rag, etc.).

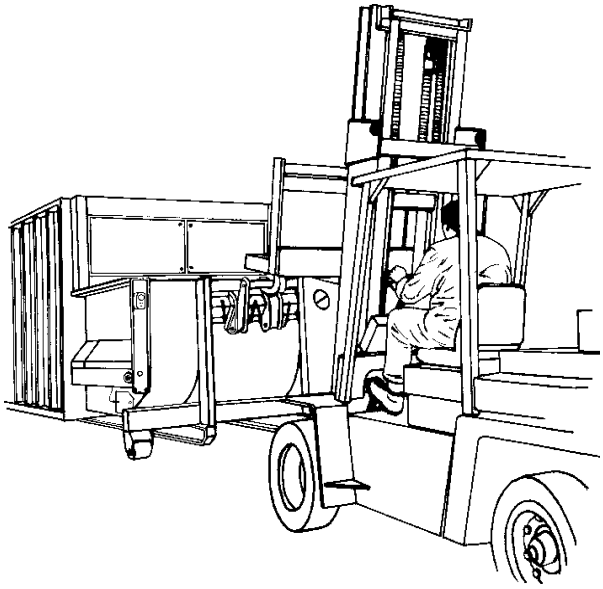
8) Use the lifting equipment to carefully pull or push the press ram back.

9) Rescue the person from the filling area of the machine.

# 4. Commissioning

**Commissioning must only be carried out by a BERGMANN authorized dealer.**

The following instructions have to be observed for the commissioning and in case of a later change in location:



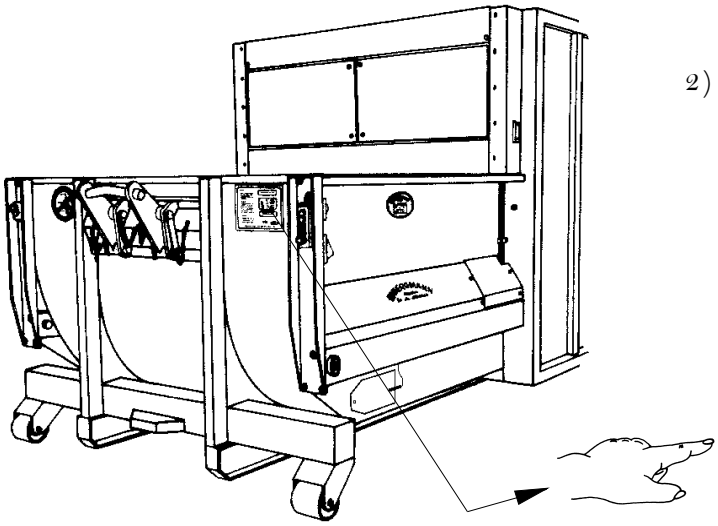
**Prior to lifting the machine, ensure that the COMPACTION BOX is disconnected from the mains.**

**Pull the remote control plug prior to lifting (optional).**

**For machines with a LIFT-TILT-DEVICE or a cover hood, move these to their transport position first (optional).**

1) Transport the PACK-BIN to a site with solid, level ground.

You will find special hooks at the front side and at the discharge opening of the unit.

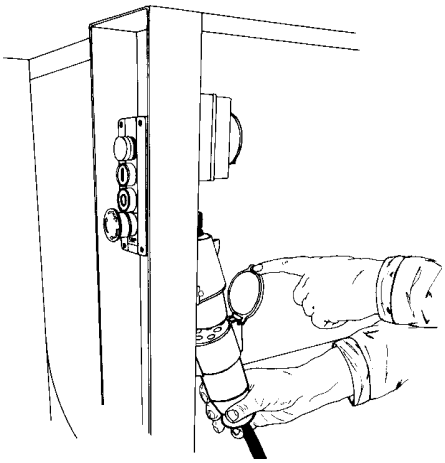


2) Check to see if the mains voltage is the same as the machine voltage.
You will find this information on a sticker at the front side of the unit.

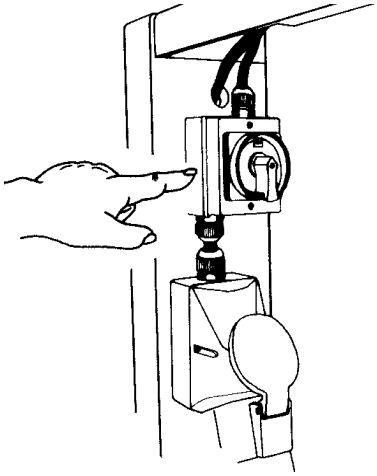
| | | |
|---|---|---|
| Electricity supply | O 220 - 240 V 3 ~<br>● 380 - 415 V 3 ~ | O 480 V 3 ~ |
| Frequency | ● 50 Hz | O 60 Hz |
| Main fuse (by user) | 3 x 25 A | |
| Power rating | O 5,5kW | O 7,5kW |
| Protection | IP 44 | |

( e.g. in case of 380V, 50 Hz )

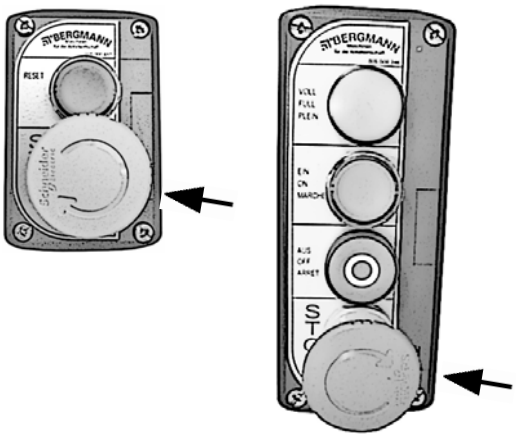
# 4. Commissioning



3) If the voltage is the same connect the PACK-BIN to the mains.



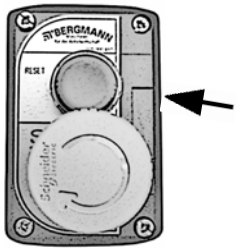
4) Switch on the isolator.



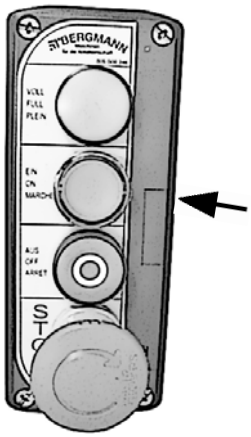
5) Release the two EMERGENCY SHUTOFF button by turning the buttons to the right.

**In case of danger immediately press the EMERGENCY SHUTOFF button.**

# 4. Commissioning



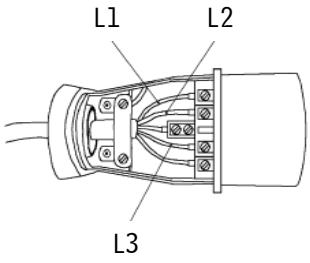

6) Actuate the RESET button.




7) After the connection to the electrical mains the rotational direction of the motor must be tested.

For this purpose press the ON switch.
If the rotational direction is correct the compacting piston will move backward.

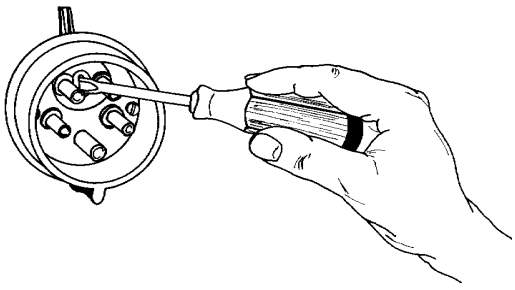
**If this is not the case, the machine must be disconnected from the mains immediately and the rotational direction of the motor must be changed.**




This can have two causes :

* Two of the three phases in the supply line were switched.

**This work is only to be carried out by a qualified electrician.**

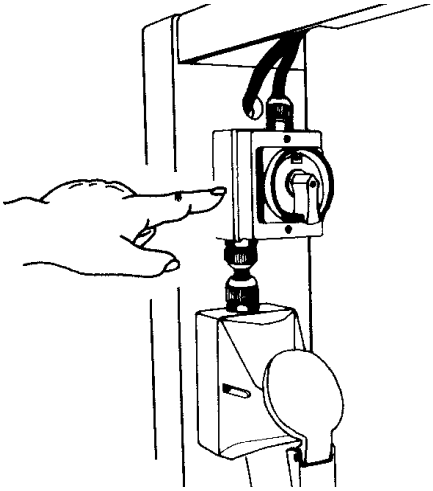


or

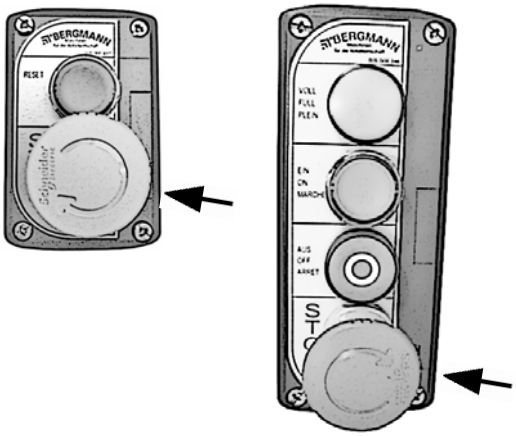
* The implement hitch on your machine is equipped with a phase inverter.
The phases are hereby switched by the insulating part being rotated by 180° by applying light pressure to a lock.

# 5. Operation

## 5.1 Filling and starting the machine

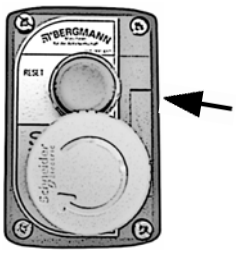


1) Switch on the isolator.



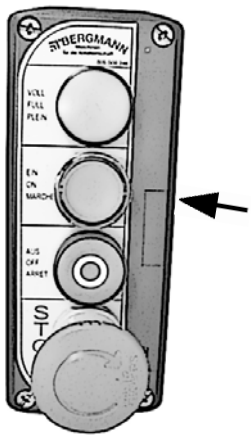
2) Release the two EMERGENCY SHUTOFF button by turning the buttons to the right.

**In case of danger immediately press the EMERGENCY SHUTOFF button.**

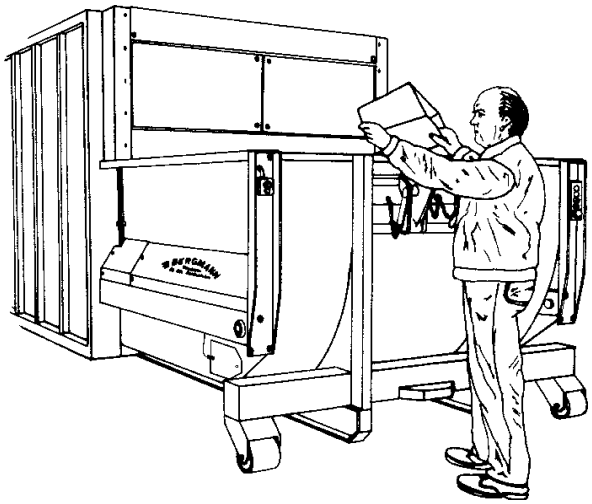


3) Switch the RESET button.

# 5. Operation

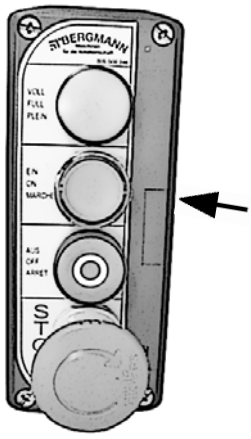



4) A green lamp indicates that the machine is ready for use.



5) Fill the machine with material.

An optimal compaction result can be achieved when material is filled in the middle.

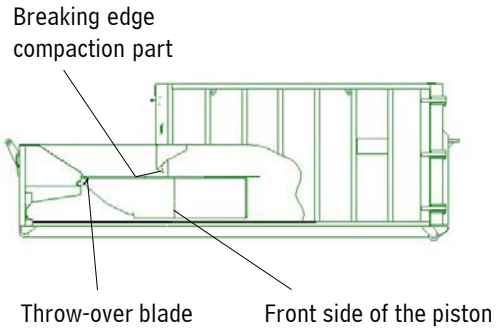



6) Press the ON button to start the compaction process.

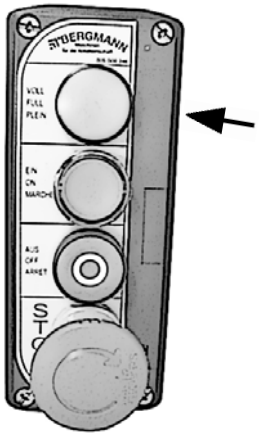
7) The machine is switched off manually by pressing the OFF button or automatically after the pre-set compaction time has ended (see chapter 6.3).

# 5. Operation

## 5.2 The full signal



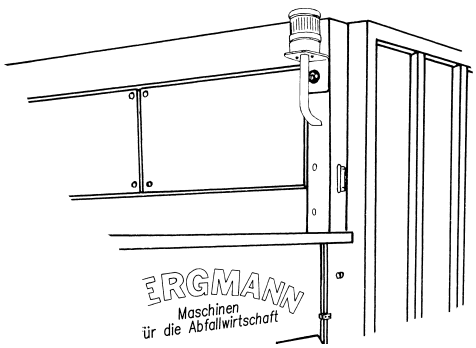

1) The PACK-BIN is full when the front side of the compaction piston is no more visible and disappears under the breaking edge of the compaction part.



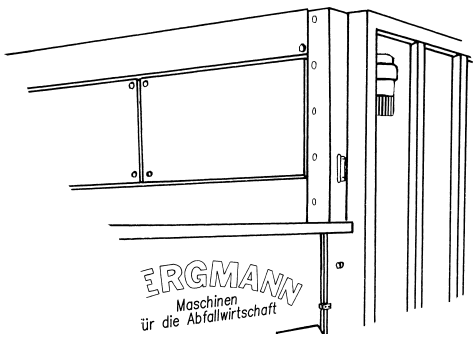
2) Some machines are fitted with additional full signals :

* A lamp on the control panel indicates that the container is 75 or 100% full.

  yellow lamp = 75% full signal
  red lamp = 100% full signal

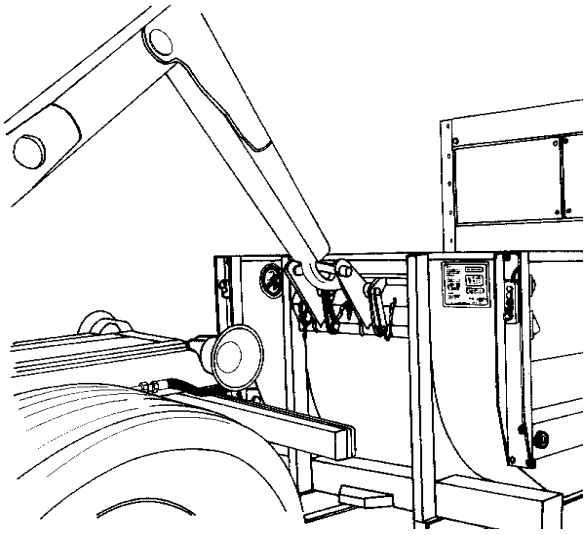



* A flashing light will go on when the container is full.




* A siren will sound when the container is full.

## 5.3 Emptying the machine



1) When the PACK-BIN is full, it can be transported by means of a roller tipper and then be emptied.

To pick up the BOX, a suspension hook is attached to the front side of the machine.

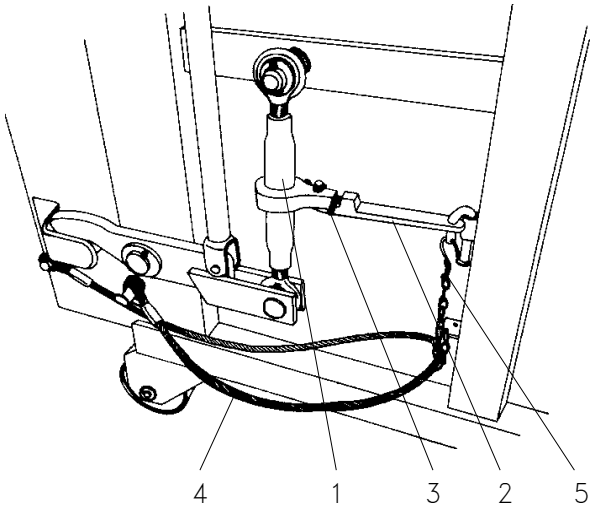
**The suspension hook on the unloading door is only used for manoeuvring.**

**The projecting end of the PACK-BIN on the collection vehicle must not exceed half of the machine length.**

The locking on the transport vehicle must be carried out according to the instructions of the vehicle manufacturer.

**The driver is to ensure that the machine was correctly locked.**

**The driver must ensure that no persons are located behind the vehicle as well as in the swing range of the door.**



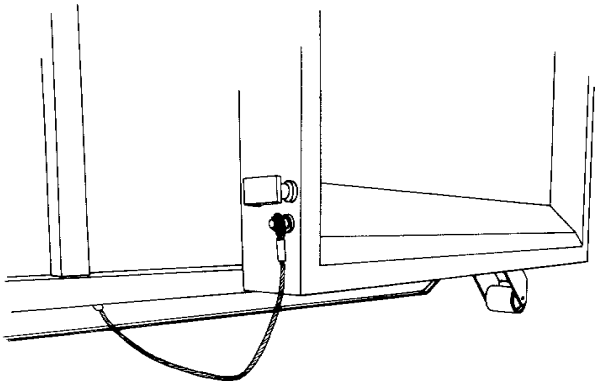

2) **For safety reasons the discharge opening may only be opened if the machine stands on the transport vehicle.**

A ratchet crank (1) serves as a door lock.
The door can be opened and closed through the back and forth swing movement of the crank arm (2).
The crank is switched over by throwing the bolt (3).

**When releasing the lock, the arresting cable (4) must be hooked in and released from the chain (5).**

**It is prohibited to stay behind the discharge opening.**

# 5. Operation

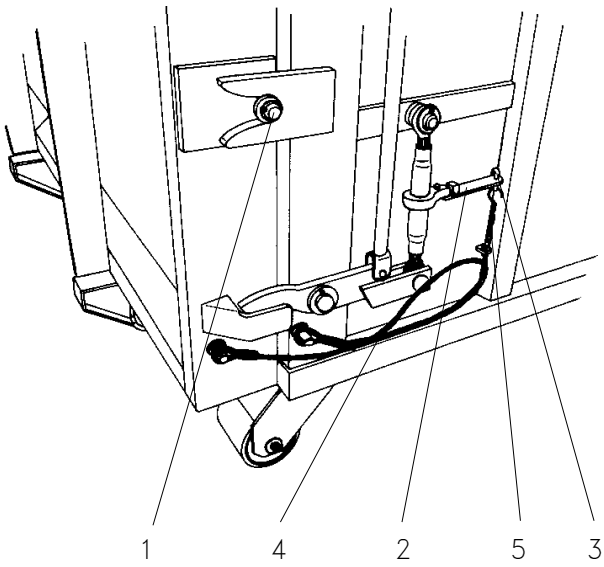


3) Once the locking hooks have released the door, you can loosen the arresting cable and fully open the door (about 260°).

**An eyelet is welded onto the underside of the container base.**
**In order to avoid that the door returns the rope has to be hung in there.**

The PACK-BIN can now be tilted and emptied.

After emptying the machine, drive the machine back into the horizontal position.
The lock, the container, the door frame as well as the rubber seal (if any) must be cleaned.
Clean them with a water hose and a broom / rubber broom.




4) Close the unloading hatch again.

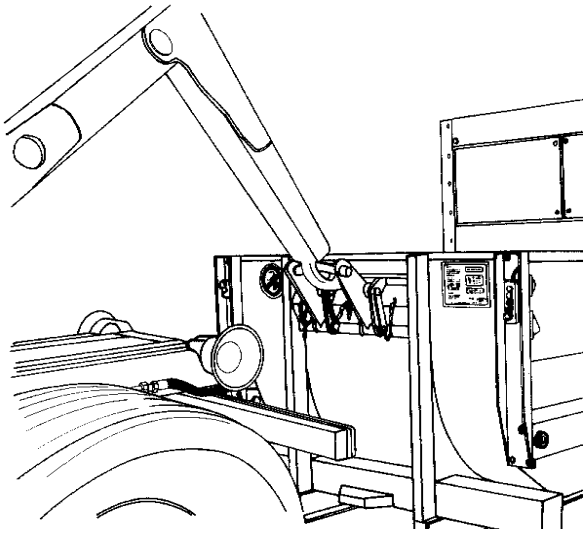
To do so, initially press the door in the centring (1).

**See to it that all hooks are locked into place before you tighten the lock by means of the ratchet crank.**

Then tighten door by means of the ratchet lever and secure crank arm (2) by fastening bolt (3).

**In order to avoid damage to the arresting cable (4) from the container rollers, it must be bound up again with the help of the chain (5).**

## 5.4 Emptying the machine with a pendulum-type flap



1) When the PACK-BIN is full, it can be transported by means of a roller tipper and then be emptied.

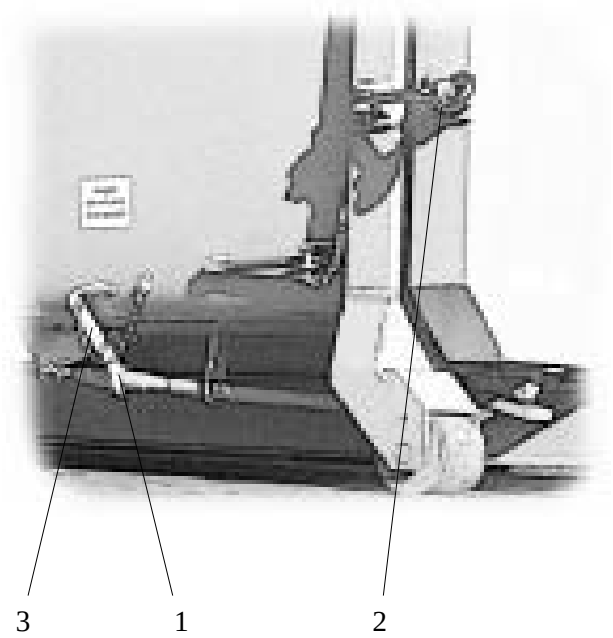
To pick up the BOX, a suspension hook is attached to the front side of the machine.

**The suspension hook on the unloading door is only used for manoeuvring.**

**The projecting end of the PACK-BIN on the collection vehicle must not exceed half of the machine length.**

The locking on the transport vehicle must be carried out according to the instructions of the vehicle manufacturer.

**The driver is to ensure that the machine was correctly locked.**




2) **For safety reasons the discharge opening may only be opened if the machine stands on the trans-port vehicle.**

A ratchet lever (1) and two toggle closures (2) are used as the door lock.

**The following applies when opening the pendulum-type flap: first toggle, then ratchet.**

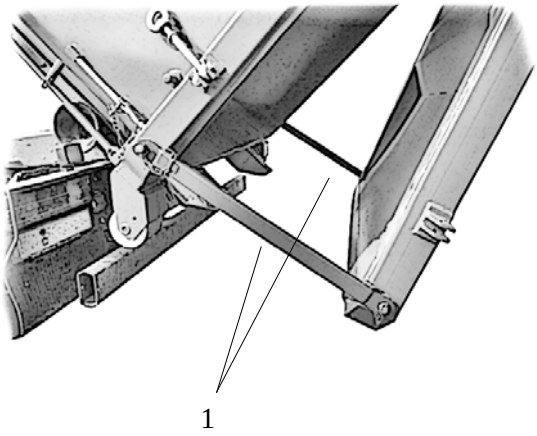
The door can be opened and closed through the back and forth swing movement of the crank arm (3).

**It is prohibited to stay behind the discharge opening.**

# 5. Operation

3) Once the locks are open, the PRESS BOX can be tilted and emptied using the A receiving vehicle.

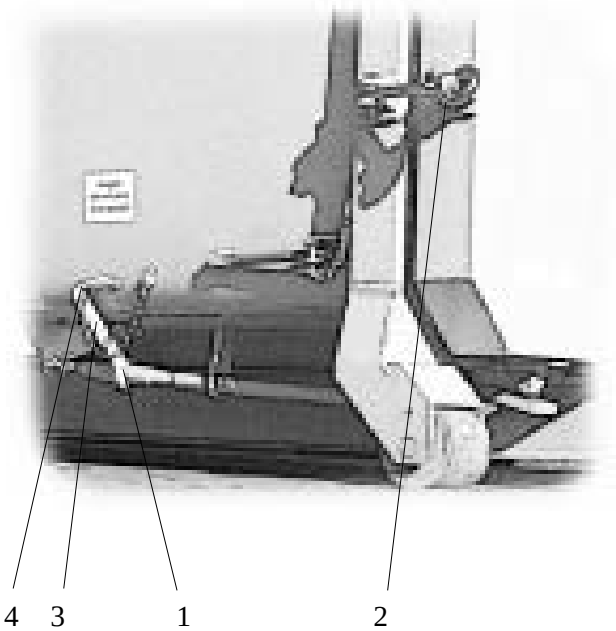
4) After emptying, the lock, the container, the door frame as well as the rubber seal (if any) must be cleaned thoroughly.




**For this purpose, use the pendulum flap protection device (1).**

Clean them with a water hose and a broom / rubber broom from the side of the unloading hatch / vehicle.

**It is prohibited to stay behind or underneath the unloading hatch.**




5) Close the unloading hatch once the PRESS BOX is horizontal again on the transport vehicle.

Here, you first tighten the door using the ratchet lever (1) and then close both of the toggle closures (2).
Secure the crank arm (3) again through the fastening bolt (4).

**The following applies when closing the pendulum-type flap: first toggle, then ratchet.**

# 6. Electrical Circuit

## 6.1 General

**Maintenance or repairs on the electrical supply system may only be carried out by a qualified electrician with corresponding know-how. On this occasion the machine must be disconnected from the mains and be secured against reclosure.**
**The wiring diagram for this machine can be found in the switch cabinet.**

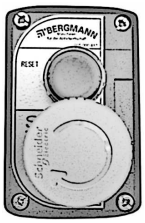
The PACK-BIN is supplied with a total control system which takes care of the work process. The system is activated by releasing the two EMERGENCY SHUTOFF buttons and pressing the ON button. The isolator being in the ON position.
A lamp signal indicates that the machine is ready for use.

Activation of the ON button sets the programme in motion until the pre-set running time has lapsed, where upon it automatically switches off (see point 6.3).
The process may be stopped before the end of the cycle by pressing the OFF button.

The compacting piston must move backwards and forwards at regular intervals shortly after switching on.

**If there is merely a humming tone switch off immediately and change rotation of motor (swap round 2 of the 3 phases in the motor cable).**

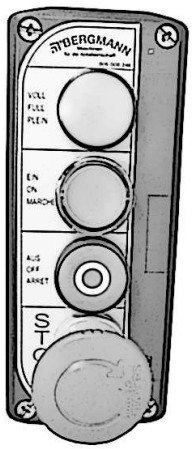
EMERGENCY SHUTOFF - panel



RESET- button

EMERGENCY SHUTOFF - button

Panel - Standard



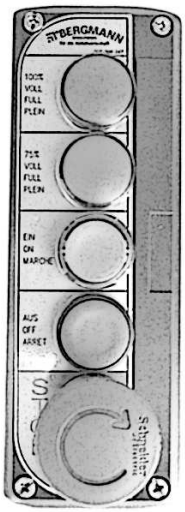
Lamp for container full signal 100% or 75%

ON / Operating lamp

OFF

EMERGENCY SHUTOFF - button

Panel with accessories



Lamp for container full signal 100%

Lamp for container full signal 75%

ON / Operating lamp

OFF

EMERGENCY SHUTOFF - button

# 6. Electrical Circuit

The temperature in the control cabinet should not exceed +60°C or go below -10°C.
Where there are considerable minus temperatures, a heating element must be installed in the control cabinet (contact manufacturer with requirements).

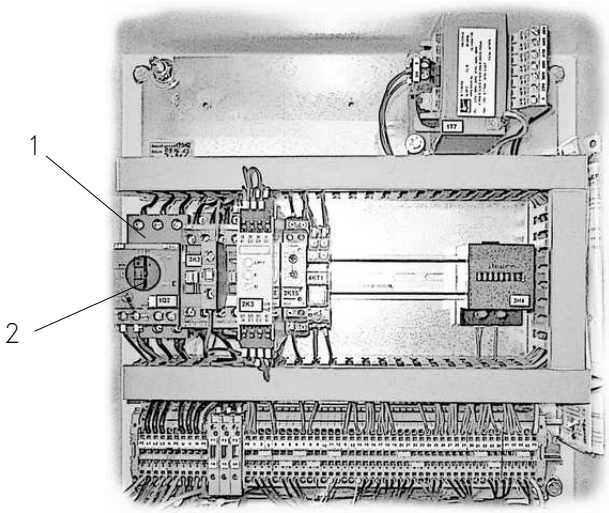
## 6.2 The motor overload protection

The motor protection switch (1) is an electronic component which switches off the machine automatically in case of motor overload.

The PACK-BIN is put into operation again by turning the spindle-shaped button (2).

The adjustment of the motor protection switch depends on the rated voltage of the machine and the efficiency of the electric motor.
The corresponding amperage is indicated on the type plate of the motor.

**The motor protection switch is pre-set in the factory and the adjustment must not be changed.**

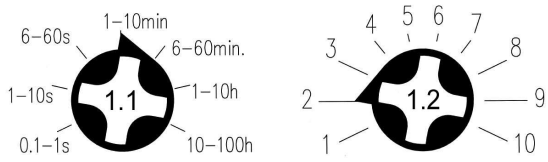


# 6. Electrical Circuit

## 6.3 The electrical control

In the switch cabinet there is a special control which determines the working sequence of your machine.

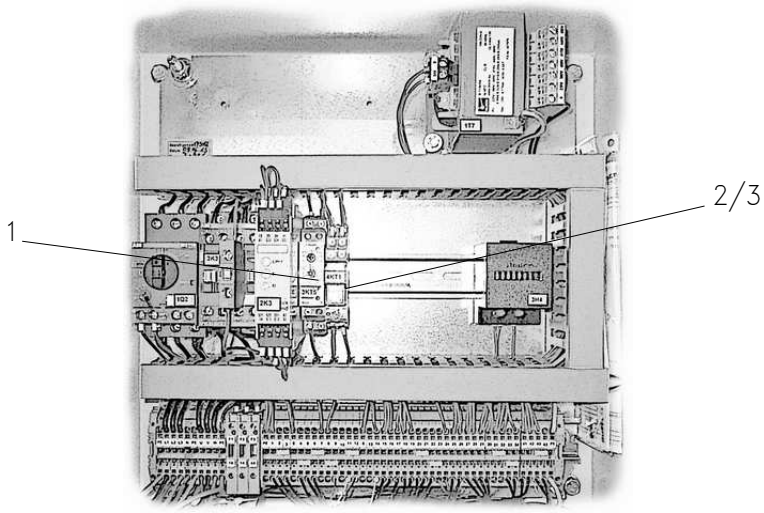
If the PACK-BIN is started by means of the ON button the machine compacts until the running time has ended. You will find the time relay (1) for this running time in the switch cabinet. This relay covers a time from 1 second to 100 hours.
The factory setting is 5 min. and can be changed as required.
For this the maximum period of time (1.1) is determined at first and then the percentage of this time (1.2) is determined.
5 minutes is adjusted as follows:




The time relays (2) and (3) form parts of the extra equipment full signal. (see point 6.9.4).

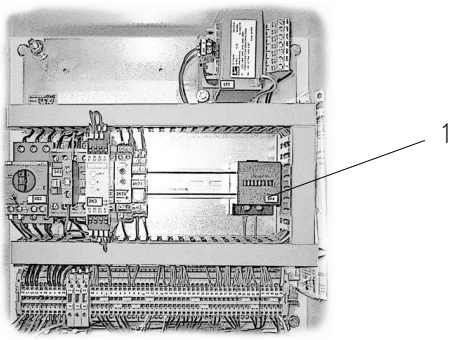
Time adjustments :

| | | | |
|---|---|---|---|
| (1) | Running time | time can be selected | 1 sec. - 100 h. |
| (2) | 75 % Full signal | recommended setting | 3 sec. |
| (3) | 100% Full signal | recommended setting | 3 sec. |



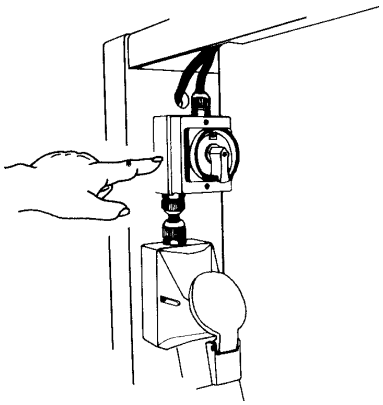
# 6. Electrical Circuit

## 6.4 The working hour counter




There is a counter (1) in the switch cabinet indicating the performed working hours.
This is connected to the master contactor of the machine and is activated together with the electric motor.

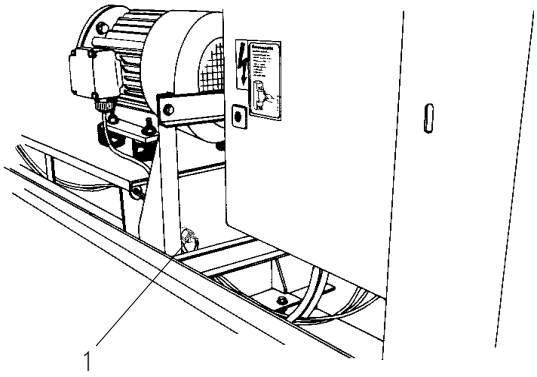
## 6.5 The isolator



Next to the connector plug there is the main switch.
With this the PACK-BIN can be switched off at all poles (except for phases N and PE).

If the main switch is in the OFF -position it can be secured by means of a padlock. Thus an unauthorised use of the machine is prevented.

## 6.6 The float switch




The float switch (1) is an electrical oil control. It switches the PACK-BIN off automatically when there is even a slight loss of hydraulic oil.

The switch is screwed in at the front side of the hydraulic tank.

## 6.7 Switch mechanism for container opening

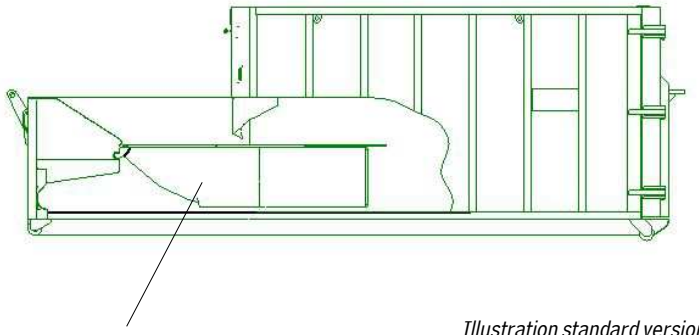



*Illustration standard version*
*(deviations are possible)*

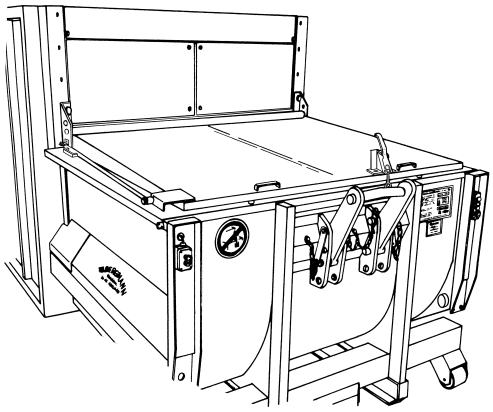
An oil-pressure switch for the limit stop of the compaction piston is screwed into the hydraulic valve.
This oil-pressure switch causes the piston to remain in the top position of the compaction room when the machine is switched off.

This switching container opening only works when the compaction process is finished automatically, i.e. after the operating time has ended.

# 7. The additional equipment

**The PRESS-BOX can be equipped with additional devices on request. These will be optionally adjusted to the machine.**
**You will find the exact equipment of your machine on our order confirmation and on the delivery note.**

## 7.1 The covering hood



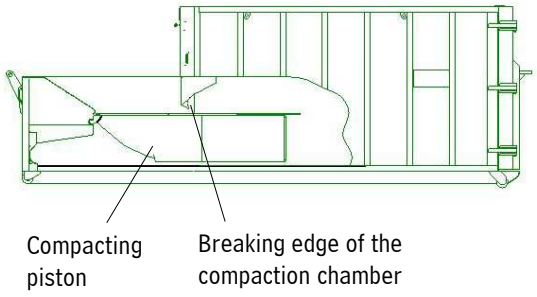
A lid can be mounted in order to prevent the penetration of rain water into the compaction chamber.
It is available in several versions.

**When you open the lid, please always save it by means of the support rods.**
**When you close it, no person may be in the press or within swivel area of the lid.**

If the lock is provided with a padlock the unit can be secured against unauthorised use.

**The cover over the inlet opening must be locked in the open position during the compaction process. Other-wise a special cover must be applied which is approved by the manufacturer.**
**During the transport it must be closed and secured by means of the toggle-lock.**

## 7.2 Switch mechanism for container lock



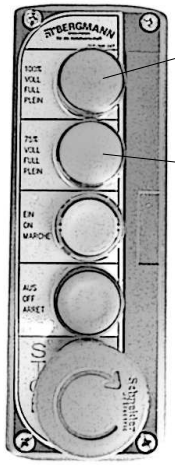

As an alternative to the function “Container opening” (point 6.8) the hydraulic valve can be equipped with an oil-pressure switch for the option “Container closing”.
This switch causes the compaction piston to stop below the breaking edge when the machine is switched off.
This switching only works when the compaction process is finished automatically, i.e. after the operating time has ended.

# 7. The additional equipment

## 7.3 The container full signal

The time interval between a full container and collection by the waste contractor can sometimes be unacceptably long, which means that waste may continue to accumulate.
This problem can be avoided to a large extent with the hydraulic/electric container full signal. There are useful warnings of how full the container is.
There is an optional full indication when the container is 75% or 100% full.

An oil pressure switch built into the piston's forward stroke gives a signal to a relay via the turn-on delay. Thereby the yellow or red lamp on the operating panel lights up.

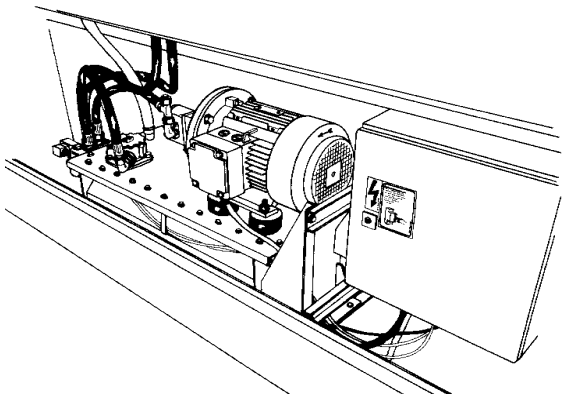



The factory setting for the turn-on delay is 3 seconds.
If you, however, think that the period between the full signal and the arrival of the transport company is too short or too long, you can change this time.
The relay is in the switch cabinet and is adjustable between 1 and 15 seconds (see point 6.3).

Thereby applies

the higher the adjusted time - the longer high pressure remains unrecognised - and the shorter is the time between full signal and total full condition.

## 7.4 The double pump



Instead of an individual pump, the machine may also be equipped with a double pump.

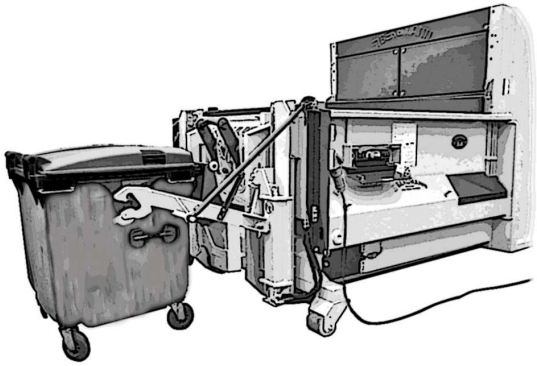
By means of that, the compaction cycle is reduced from approx. 70 seconds to 41 seconds.

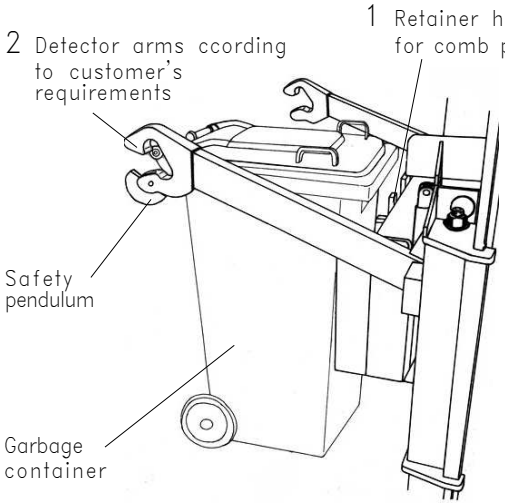
# 7. The additional equipment

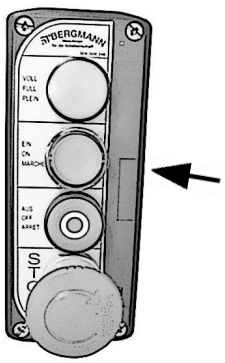
## 7.5 The HUB-TILTING DEVICE

**Container types according to DIN EN 840, with a width of 1,260 mm, a cone height of 980 to 1,280 mm or a neck height of 820 to 1,120 mm, may be tipped.**
**This is to be inspected prior to use.**
**As a rule, the standard is stamped into the container.**
**The factory must be asked for special container sizes and special containers (e.g. crates, etc.).**
**The automatic cover openers and oscillating cover openers are available as accessories.**

### 7.5.1 The operation of the HUB-TILTING DEVICE






1) Push the garbage container into the machine up to the stop.
Due to different heights of the containers, the HUP-TILTING-DEVICE must be lifted up to the height of the cone and/or comb inlet.

Depending on the container type, there are different reception systems:

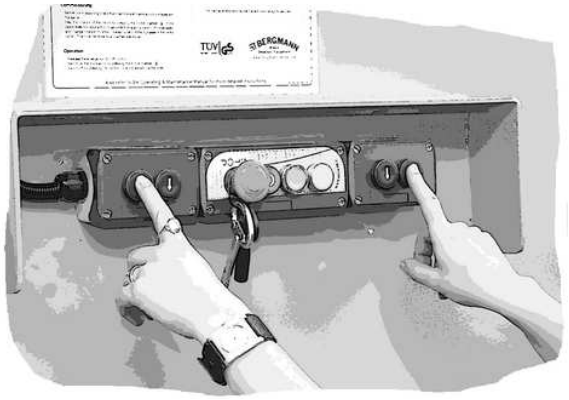
The so-called comb pouring (1) and the reception by means of special lever arms (2) which can be adjusted to the container depending on customer's requirements.

A safety pendulum at both retainer hooks assures that the garbage container while swiveling in the compaction chamber of the machine not falls out of the reception.
Please check prior to any use whether they are intact.

**The max. load bearing capacity of the chain case lift-tilt device is 300 kg.**
**The max. load bearing capacity of the lift-tilt device is 600 kg.**

2) Start the compaction process by activating the push-button ON.

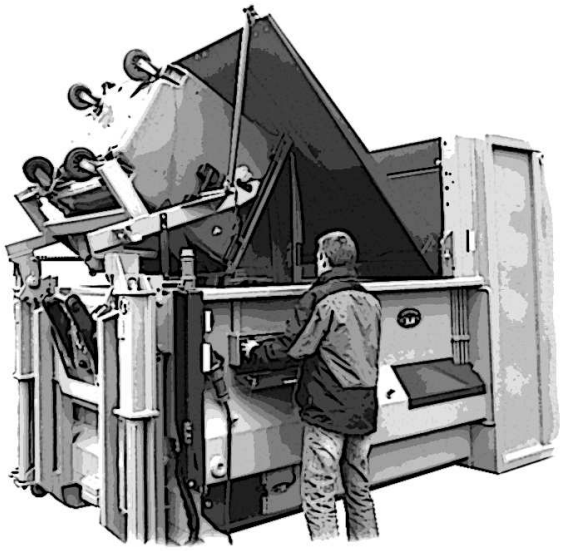
# 7. The additional equipment



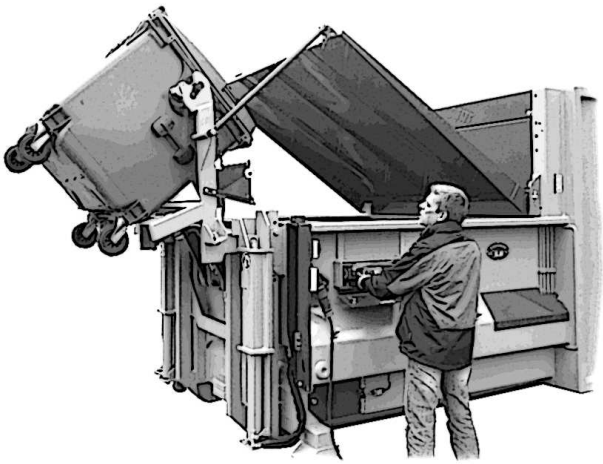
3) Activate then both push-buttons LIFT at the same time.

**The operator of the HUP-TILTING-DEVICE must assure that there is no person within the danger zone.**
**Residing on or below the lifted HUP-TILTING-DEVICE is prohibited.**

**A flashing light as an optical signal or an acoustic horn signal the operation of the LIFT-TILT DEVICE.**



4) Maintain the button pressed until the container is completely emptied.



5) With the help of the push-button LOWER the container is then moved downwards.

**For the transport, the HUP-TILTING-DEVICE must be moved into its highest position.**
**If this is not observed, there is a risk**
**that the machine can be damaged during transport.**

# 7. The additional equipment

## 7.5.1.1 The automatic lid opener (optional)

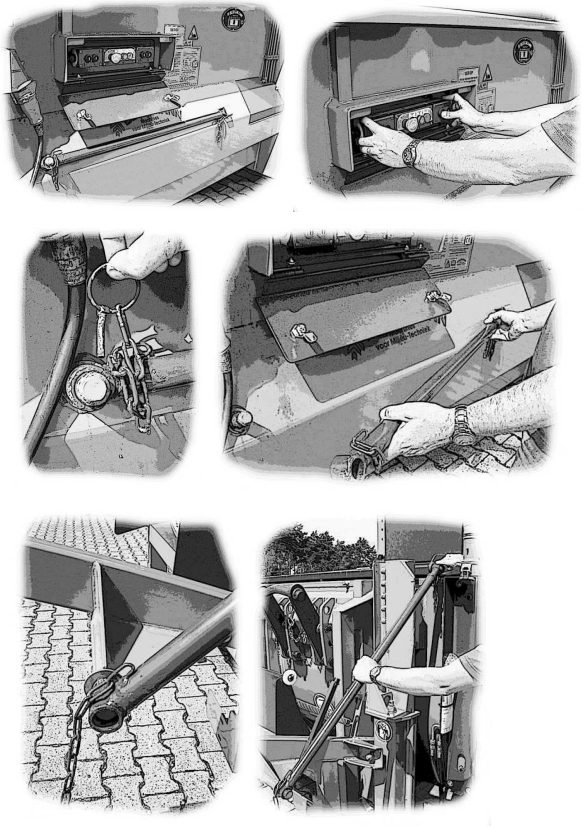
Optionally, your PRESS-BOX with integrated HUP-TILTING-DEVICE can be equipped with an automatic lid opener.
Depending on the equipment, that will be activated by means of one or two push rods.
That must be mounted during the commissioning.

Proceed as follows:

1) If the voltages are compatible, you can connect the PRESS-BOX to the power supply.

2) Turn the main power switch in the ON position.

3) Unlock both EMERGENCY STOP buttons by turning them to the right and start the machine.



4) Activate both push-buttons LOWER at the same time until the HUP-TILTING-DEVICE is moved downwards.

**The operator of the HUP-TILTING-DEVICE must assure that there is no person within the danger zone. Residing on or below the lifted HUP-TILTING-DEVICE and the lid is prohibited.**

5) Loosen the laterally mounted push rod from the machine by eliminating the spring cotter pin and take out the rod.

6) Fasten the push rod at the bolt at the tilting frame and at the hood and secure them with the help of the spring cotter pin. Take care that the spring cotter pins are correctly mounted.

**Without a correctly mounted push rod, the PRESS-BOX may not be operated. It must be checked prior the each use.**

# 7. The additional equipment

**During transport of the PRESS-BOX, principally dismount the push rod and fix it again at an lateral part of the machine.**
**During the dismounting the HUP-TILTING-DEVICE must be moved into its lowest position.**
**For safety reasons no the push rod can be extended.**
**For the transport, the HUP-TILTING-DEVICE must be moved into its highest position.**

## 7.5.1.2 The automatic swinging lid opener (optional)

Optionally, your PRESS-BOX with integrated HUP-TILTING-DEVICE can be equipped with an automatic swinging lid opener.
That lid opener is suited for 1.1m³ roll container with swinging lid according to DIN 30700.
That device enables an automatic opening and closing of the container lid during the tilting process.

1) If the voltages are compatible, you can connect the PRESS-BOX to the power supply.

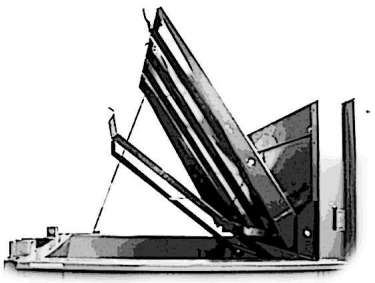
2) Turn the main power switch in the ON position.

3) Unlock both EMERGENCY STOP buttons by turning them to the right and start the machine.

4) Activate both push-buttons LOWER at the same time until the HUP-TILTING-DEVICE is moved downwards.

5) Push the garbage container into the machine up to the stop (see point 5.4).

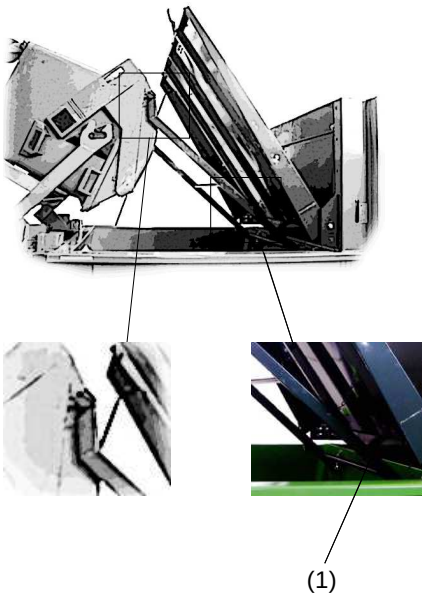
6) Activate then both push-buttons LIFT at the same time.



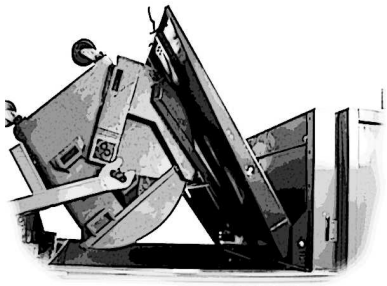
**The operator of the HUP-TILTING-DEVICE must assure that there is no person within the danger zone. Residing on or below the lifted HUP-TILTING-DEVICE is prohibited.**

**Take care that the cone of the swinging lid reaches exactly into the swinging lid opener; otherwise the swinging lid will not be opened.**

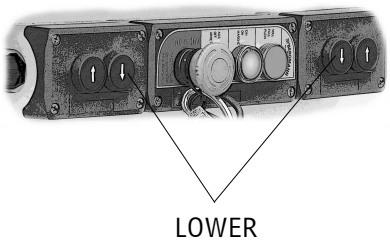
# 7. The additional equipment




7) While tilting the container, the cone of the swinging lid must reach into the swinging lid opener and open him.
Due to tolerance deviations of different manufacturers, the swinging lid opener can be adjusted for a correct function by lengthening or shortening the chain (1) with the help of the screws.
For that adjustment you must call the company.

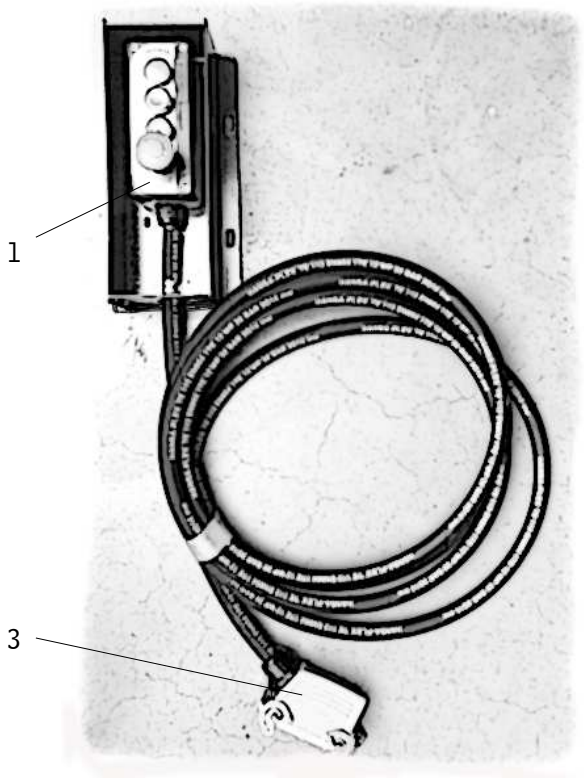


8) Maintain the button pressed until the container is completely empty.




9) With the help of the push-button LOWER the container is then moved downwards while the swinging lid is closing automatically.

## 7.6 The remote control





Additionally, the machine can only be operated by means of a remote control (1).

That is possible as soon as the remote control is connected.

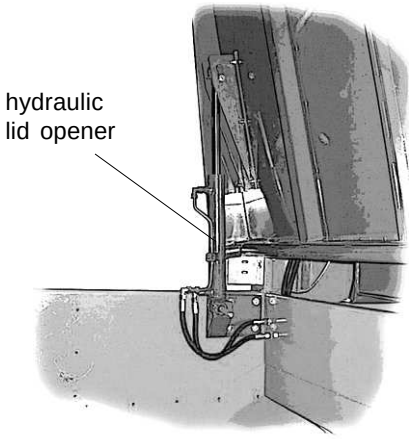
Proceed as follows:

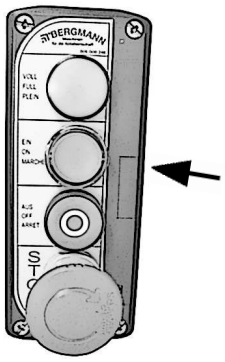
1) Open the lid of the lower housing (2). This device is located at the side of the machine.
2) put the upper housing (3) on the lower housing and fasten it by folding down the hooks.

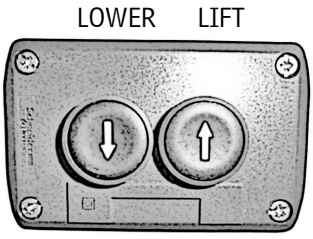
**The machine can only be operated by means of a remote control.**

3) Loosen the hooks and close the lid of the upper housing (2) in order to disconnect again the remote control.

## 7.7 The hydraulic lid opener






If required, the cover over the compaction chamber can be hydraulically opened and closed.

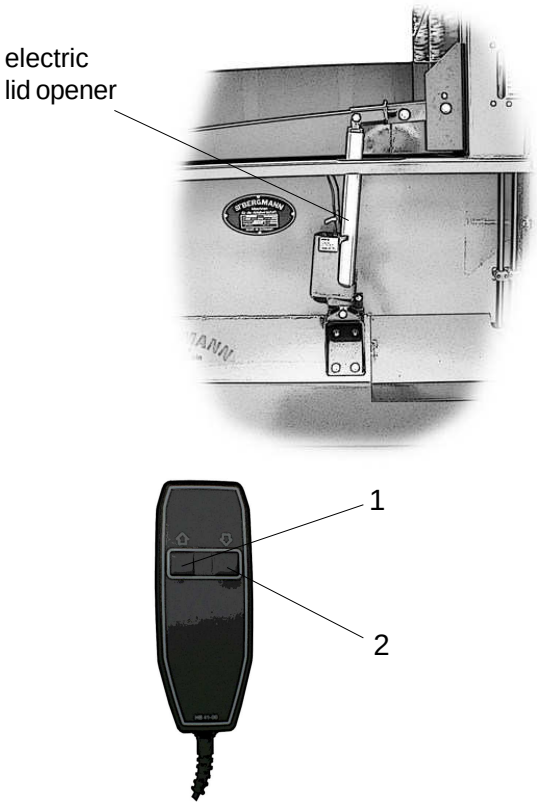
You find the operating keypad at the front or lateral part at the machine.

The hook can only be moved when the compacting process was started.

For opening the cover, the LIFT button must be pressed.
When the lid opens, a limit switch is activated and the compaction process is stopped.
By activating the LOWER button, the compaction container is closed again and the compaction process is automatically continued.

# 7. The additional equipment

## 7.8 The electric lid opener




If required, the cover over the compaction chamber can be hydraulically opened and closed.

The operation is carried out via an additional keypad.

The lid opener is ready for us when both EMERGENCY STOP buttons are unlocked.

Press OPEN(1) in order to open the lid. By activating the button CLOSE (2) the compaction chamber is closed again.

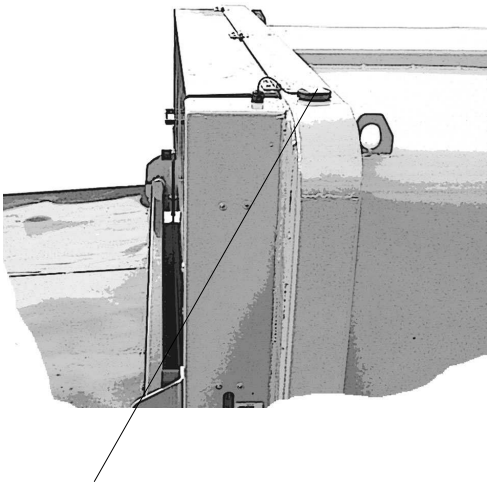
## 7.9 Preliminary setup for a GSM unit

A preliminary setup for a GSM unit can be mounted on customer's request.

In that case, the control box is equipped with a power supply unit and an additional relay for a later installation of the GSM signal device.

# 7. The additional equipment

## 7.10 The GSM complete package



Antenna
(the GSM unit is in the control box)

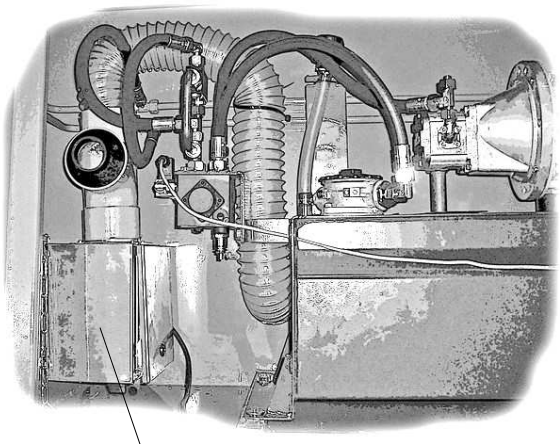
The GSM unit with 900 to 1800 MHz can send as a maximum three messages (e.g. full signal or error message) to a maximum of six addresses.

These messages are sent as SMS on a mobile phone or as e-mail.
The customer has to provide a SIM card.

Programming of the call number and/or text messages are carried out online via the BERGMANN GSM module programming.

You will find more information on our website:
www.bergmann-online.com (service).

## 7.11 The ozone generator

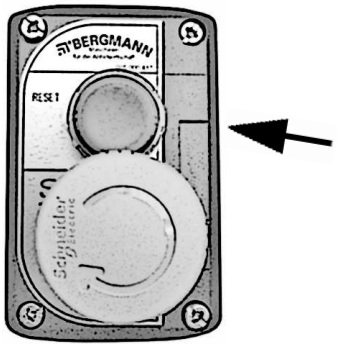


Ozone generator

With the help of the ozone generator unpleasant odours are minimized by chemical processes.

The generator is installed in the aggregate room. Ozone is conducted via hoses into the compaction chamber and, on request, also into the container.

## 7.12 The RESET button




If your machine is equipped with safety limit switches (e.g. on service doors, etc.), it must also be equipped with a RESET button.

For safety reasons, the button must be pressed as soon as the mains plug is pulled, the EMERGENCY STOP button is actuated or the safety limit switch is triggered.

# 8. The Hydraulic Power Pack

## 8.1 General

The heart of the BERGMANN PACK-BIN is the hydraulic power pack.

It mainly consists of a valve block, an oil filter as well as an electric motor with oil pump.
The oil pump, an ecologically friendly and quiet gear pump, conveys oil from the tank into the hydraulic system.

The valve block controls the oil flow in such a way that both cylinders move the compacting piston to and fro alternatively.

After the machine has been switched on the cylinders first retract, i.e. the compacting piston moves in the direction of the upper edge of the charging opening. When the cylinders reach the back limit position pressure is built up until the switch over pressure is reached. Then the hydraulic valve controls the oil flow an the A-side (piston side) of the cylinder. The displaced oil of the B-side (circular room side) also flows via a back-pressure valve to the piston side (differential circuit). Thereby the piston moves rapidly towards the container. When the cylinders have reached the front final position the oil flow of the oil flowing out of the B-side is interrupted. Thus the valve is pressed into the basic position again and the compacting piston moves backward.

Beyond this the valve block is responsible for the control of the container opening and the two extra equipments, container full signal and container lock.
Should any problems arise with respect to the functions this may be traceable to an incorrect adjustment of the oil pressure. In that case please contact our company or one of our service points.
We expressly point out that the adjustment of the pressure may be carried out only by an expert authorised by our company in Lathen. An unauthorised removal of the seal will lead to an extinction of possible guarantee claims.

The hydraulic system is filled with 92 litres of hydraulic oil. An electrical oil controller (float switch) switches the machine off even when there is only a slight loss of oil.

An oil change should always be made once annually for single shift operation (= 8 hours per day); when operation is for more than one shift this should be carried out more frequently.

The ambient temperature must not exceed +60°C or fall below -5°C.
For machines located in the open and when extremely low temperatures are experienced, a suitable grade of oil must be used, or a heating element fitted to warm the oil to its operating temperature.
Please contact the dealer or the manufacturer.

The wiring diagram for this machine can be found in the switch cabinet.

## 8.2 The grade of hydraulic oil

The correct use of the appropriate lubricants contributes considerably to achieving maximum efficiency and avoiding trouble in everyday use.

Therefore we would recommend using the hydraulic oil

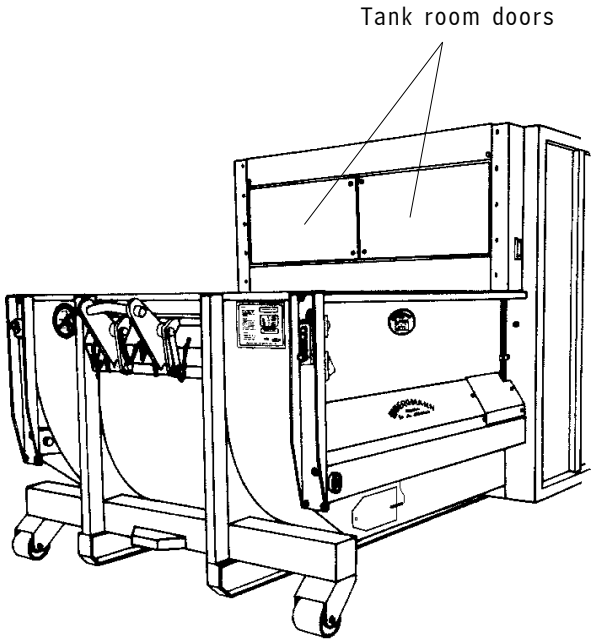
HLP according to DIN 51 524, part 2 with a viscosity of 32 $mm^2/s$ at 40°C.

For the initial filling of the hydraulic tank BP Energol HLP-HM 32 was used.

However, you can also use products of equally good quality. Examples are shown in the lubrication chart in chapter 12.

## 8.3 Oil change on the hydraulic power pack

**Only personnel with special know-how and experience of hydraulics may work on the hydraulic system.**
**Prior to the oil change the hydraulic cylinders must be driven in completely, i.e. the compacting piston must be at the top.**
**Ensure that oil changes are carried out in a dust-free environment. Cleanliness is vital.**
**Oil should only be drained at operating temperature.**




1) Disconnect the machine from the electricity supply.

Open the doors to the tank room. The corresponding key is fixed at the EMERGENCY SHUTOFF button.

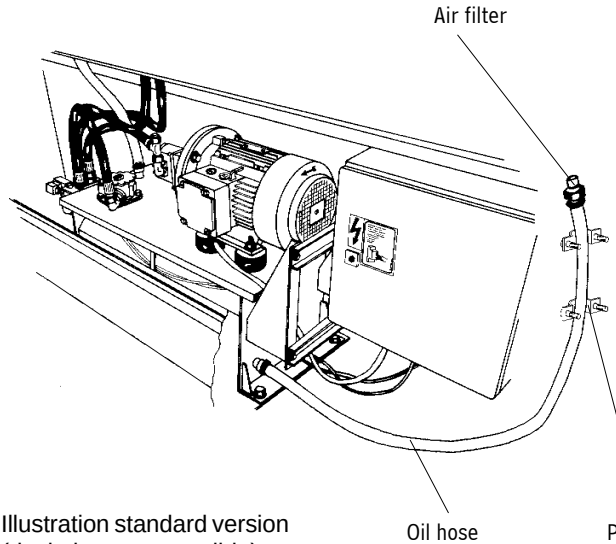



Illustration standard version
(deviations are possible)

2) On the right hand front side of the hydraulic tank there is an oil hose. Loosen the two clamps which attach the hose to the tank room.
Now remove the air filter.

Catch oil which runs off in a suitable container.

Reclose the hose and attach it to the tank room by means of the clamps.

# 8. The Hydraulic Power Pack

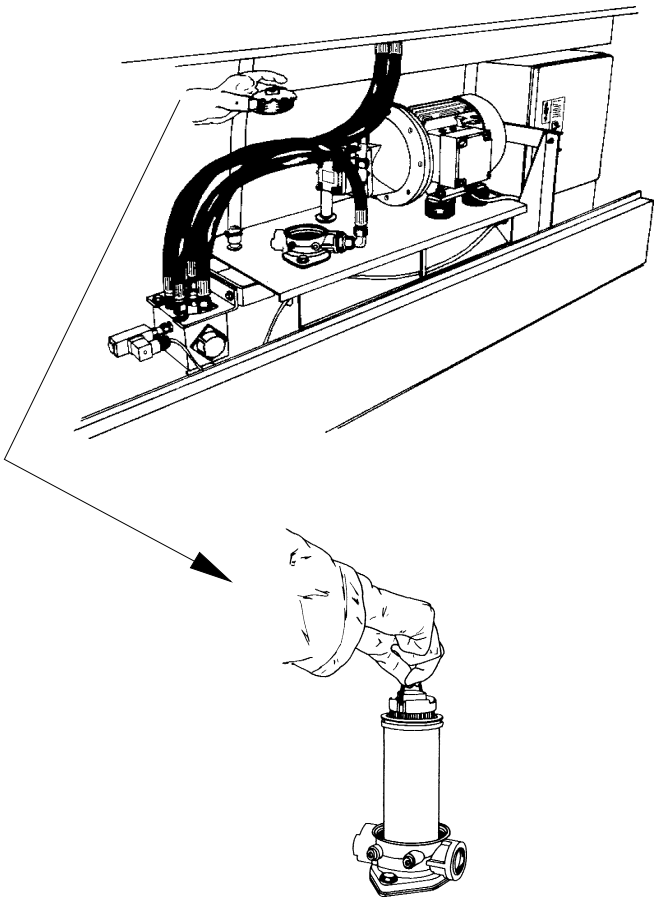


Illustration standard version
(deviations are possible)

3) Unscrew the filter cap and remove the filter element.

Fill with 77 litres of hydraulic oil.

You can read the oil level by referring to the adhesive label which is located on the right of the front of the compacting part. If 77 litres are filled up the oil should be just below the MAXIMUM mark.

Insert a new filter element and tightly screw down the filter cap.

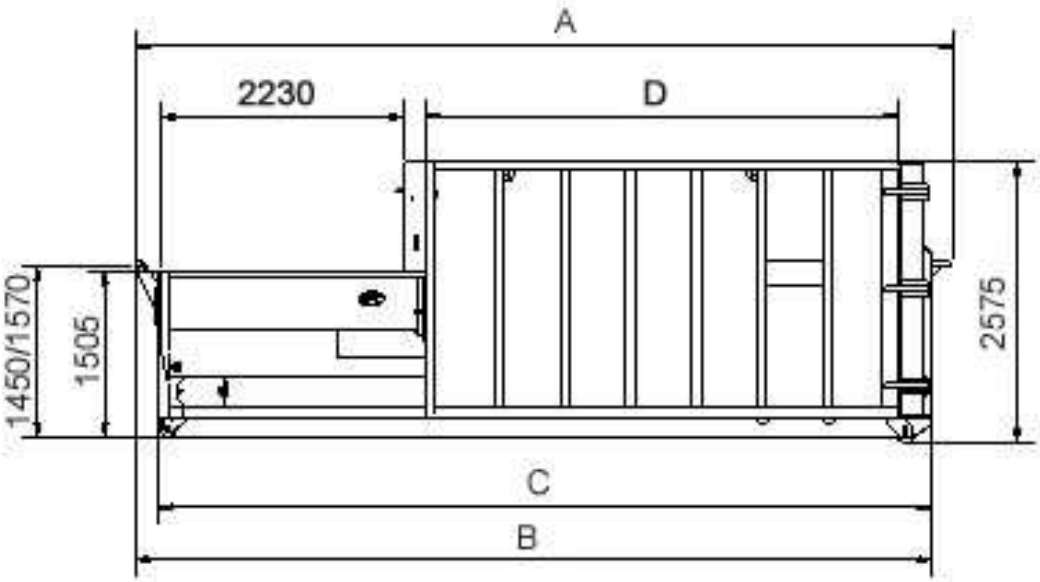
**Used oil must be disposed of in accordance with local byelaws.**

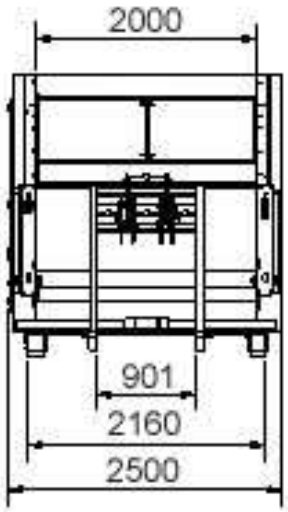
# 9. Technical Data

| Machine type APB 616 - | SN / 15 | SN / 18 | SN / 20 | SN / 23 |
|---|---|---|---|---|
| Capacity [$m^3$/$yd^3$] | 14,6/19.1 | 17,5/22.9 | 20,3/26.6 | 23,0/30.1 |
| Forward cycle | 34 sec. (20 sec. - with double pump) | | | |
| Return cycle | 36 sec. (21 sec. - with double pump) | | | |
| Force of pressure of the cylinder approx. [kN/tons] | 314/35,3 | 346/38,9 | 346/38,9 | 346/38,9 |
| Force of pressure of the piston max. [N/$cm^2$/psi] | 23,3/33,1 | 25,6/36,4 | 25,6/36,4 | 25,6/36,4 |
| Max. carrying capacity [kg/lbs] | 6000/13228 | 7200/15873 | 8000/17637 | 9200/20283 |
| Machine width max. | 2500 mm (98,43") | | | |
| Machine height approx. | 2573 mm (101,30") | | | |
| Machine length approx.[mm/inch] | 6235 (245,5") | 6835 (269,1") | 7435 (292,7") | 8035 (316,3") |
| Loading aperture max. | 2000x1920 mm (top)(78,7"x75,6"), 2000x1200 (below)(78,7"x47,2") | | | |
| Loading height approx. | 1565 mm (61,61") | | | |
| Net weight [kg/lbs] | 5080/11200 | 5450/12015 | 5830/12853 | 6200/13669 |
| Net weight with cover [kg/lbs] | 5220/11508 | 5590/12324 | 5970/13162 | 6340/13977 |
| Power | 5,5 kW (7,38 HP) | | | |
| Speed electric motor | 1500 $min^{-1}$ | | | |
| Power supply | Rubber sheathed cable to specification H07 RN-F<br>CEE - plug 5 x 32 A (clockwise rotation) | | | |
| Input voltage | 220-240 V / 380-415 V ( depending on local supply - see label on the machine ) | | | |
| Frequency | 50 Hz | | | |
| Control voltage | 24 V | | | |
| Main fuse (by user) | 3 x 25 A (in case of a time-lag fuse and a stable power connection, 16 A is sufficient) | | | |
| Degree of protection | IP 44 as per DIN EN 60 529 | | | |
| Noise level | 65 dB(A) under full load / 70 dB(A) in neutral | | | |
| Displacement single pump | 14 $cm^3$/rev. (0,85 cu.in./rev.) | | | |
| Operating pressure up to [bar/psi] | 200/2845 | 220/3129 | 220/3129 | 220/3129 |
| Amount of hydraulic oil total | 92 litres (20,2 galUK) (24,3 galUS) | | | |
| Hydraulic oil | HLP as per DIN 51 524, part 2<br>viscosity of 32 $mm^2$/s at 40°C (0,05 sq.in./s at 104°F)<br>temperature range : - 5°C to +60°C (23°F to 140°F) | | | |

All information is based on theoretical calculations / values.

# 10. Dimensions




| | 15 | 18 | 20 | 23 |
|---|---|---|---|---|
| "A" | 6230 | 6830 | 7430 | 8030 |
| "B" | 6050 | 6650 | 7250 | 7850 |
| "C" | 5830 | 6430 | 7030 | 7630 |
| "D" | 3100 | 3700 | 4300 | 4900 |

*Illustration standard version*
*(deviations are possible)*

# 11. Maintenance and Care

## 11.1 General

The use of appropriate grade materials ensure that the machine will give many years of service.

Nevertheless maintenance and repairs are necessary and these works have to be carried out on time and with the necessary care.
This applies especially for maintenance after the first hours of operation because otherwise possible guarantees will not be valid.

You will find a list of the necessary jobs in the following.

**All maintenance and repair works may only be carried out by qualified personnel with corresponding know how.**
**It is absolutely necessary to consider the safety instructions in Chapter 3.**

If no appropriate personnel is at your disposal, our company or one of our service partners will be glad to help you.

In order to preserve the efficiency and reliability in service of your BERGMANN - machine, we would recommend annual maintenance by our company or by one of our service partners.

## 11.2 Maintenance and inspection list

| Interval | Description of work | Procedure | see chapter / note |
|---|---|---|---|
| prior to every switching on | check main switch and both EMERGENCY SHUTOFF buttons | function check | see ch. 3.2.3 |
| after the first 20 - 50 operating hours | check all hydraulic connections for leakages | visual check, retighten screwed connections and/or replace | |
| | retighten all screwed connections | | |
| after the first 100 to 200 operating hours | check oil filter for pollution | open the tank room doors, unscrew filter tap, remove filter element, clean if required | |
| weekly | check service shaft | visual check, if necessary waste deposits can be removed | |
| every 2 weeks | lubrication of bearing points | with 1-2 portions of grease | see ch. 10.3 |
| | check slide faces of the piston | Remove smaller hard material if existing, grease slide faces if required | |
| monthly | check electrical lines for chafe marks | visual check, replace lines as required | |
| | check hydraulic hoses for chafe marks | visual check, replace hoses as required | |
| | check hydraulic screwed connections for leakages | visual check, retighten screwed connections and/or replace | |
| | check oil level | the oil in the transparent hose (to the right of the tank room) has to be slightly lower than the MAXIMUM mark on the adhesive oil level label | compacting piston must stand at top in charging room, see ch. 7 |
| | check screwed connections | retighten connections as required | |
| quarterly | clean electric motor | remove motor protection, clean fan blades, cooling vanes, motor protection | see ch. 10.4 |
| | check electrical components for dust deposits | visual check, remove dust with soft brush | |
| | check rubber lip | visual check, replace as required | |
| half-yearly | check the hydraulic cylinders and cylinder shafts | visual check, clean if required | |
| yearly *) | oil change in hydraulic unit | | see ch. 7 |
| | replace the rubber lip | | |

| | | | |
|---|---|---|---|
| every 6 years | replace pressure hoses | | enter replace-ment into main-tenance plan |

*) in one-shift operation (8 hours per day) yearly, in case of several shift operation

## 10.3 Lubrication of the bearings

A proper lubrication of your machine is absolu-tely necessary to ensure a trouble-free operation and to avoid expensive repairs.

Your COMPACTION BOX is equipped with lubricating points at the bearing points of the cylinders (pos. 1, 2x) at the door hinges (pos. 2, 3x) and at the container wheels (pos. 4, 4x or 8x) for this purpose.

Lubrication should be carried out every 14 days; using a grease gun apply a generous quantity of resin-free grease.

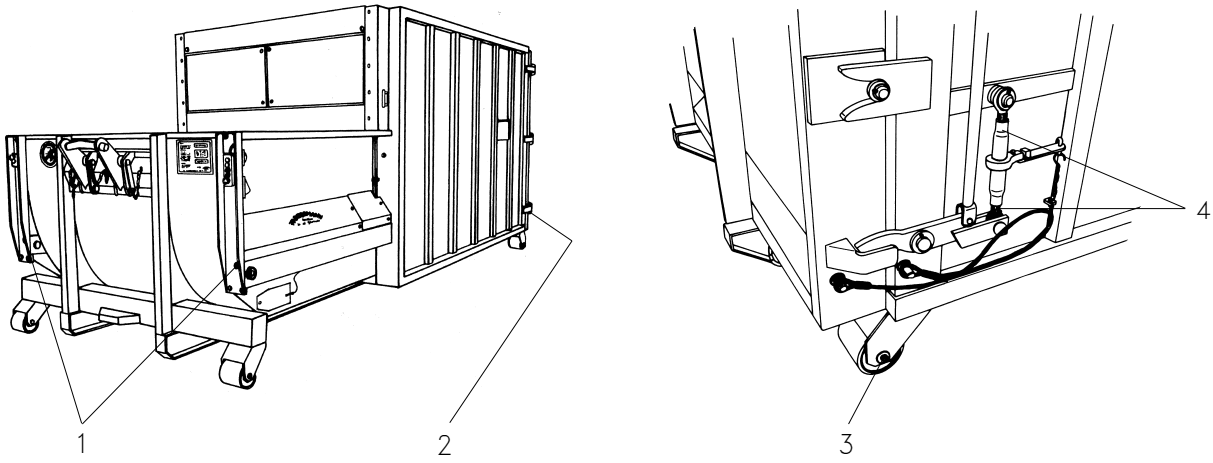



Illustration standard version
(deviations are possible)

We would recommend the use of lithium base or natrium base grease KP 0 F -30 or GP 0 F -30.

One can, however, also use greases of an equally good quality with the following characteristics :

| | | |
|---|---|---|
| Temperature range for use | | - 30 to + 80°C (-22°F to 176°F) |
| Walkpenetration | DIN ISO 2137 | 355 to 385 ( NLGI - class 0) |
| Drop point | DIN ISO 2176 | approx. 150°C (302°F) |
| Corrosion protection | DIN 51 802 | corrosion degree 0 |
| Basic oil viscosity at 40°C (104°F) | DIN 51 562 | approx. 130 mm²/s (0,2 sq.in./s) |

## 11.4 Cleaning of electric motor

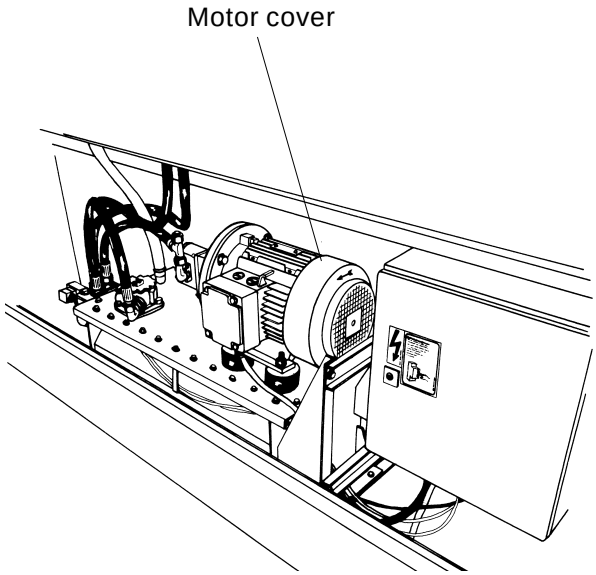



Illustration standard version
(deviations are possible)

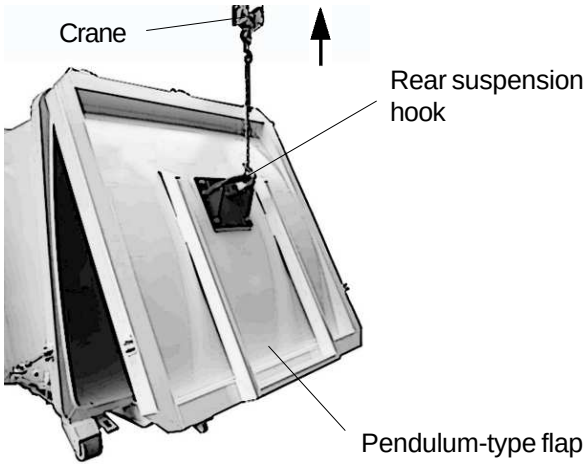
The motor should be cleaned quarterly to prevent it from burning out.

To do so, initially open both of the tank room doors.
Lift off the motor cover and clean the fan as well as the cover and the motor cooling fins.

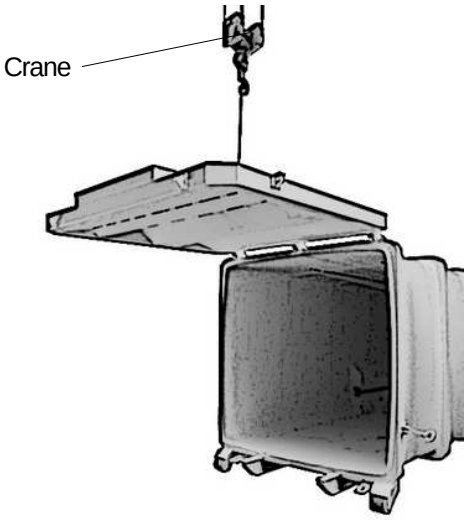
## 11.5 Working in the interior of the machine (pendulum-type flap)

For thorough cleaning work or repair and maintenance work in the interior of the machine, the unloading hatch is to be lifted with a crane and secured with a support.

**The operating personnel must wear protective clothing for work in the interior of the machine.**

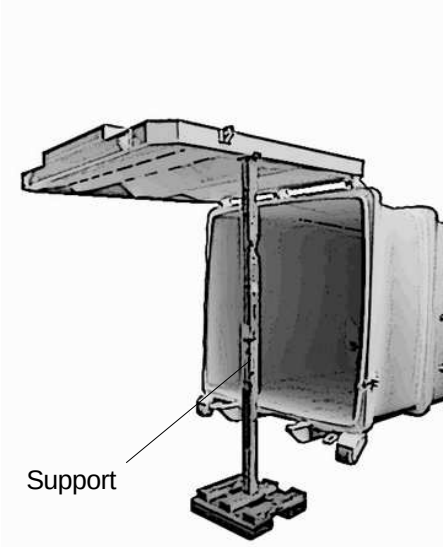



1) For this purpose, lift the pendulum-type flap by the suspension hook by using a crane.




2) Then secure the door by proceeding as follows:

- Lift the pendulum-type flap by using the crane.




- Then secure the pendulum-type flap by means of a support (bearing load 1.5 tonnes).

3) Once the pendulum-type flap is secured, you can begin with the work in the interior of the machine.

Use a steam jet for thorough cleaning of the closure, the container and the door frame.

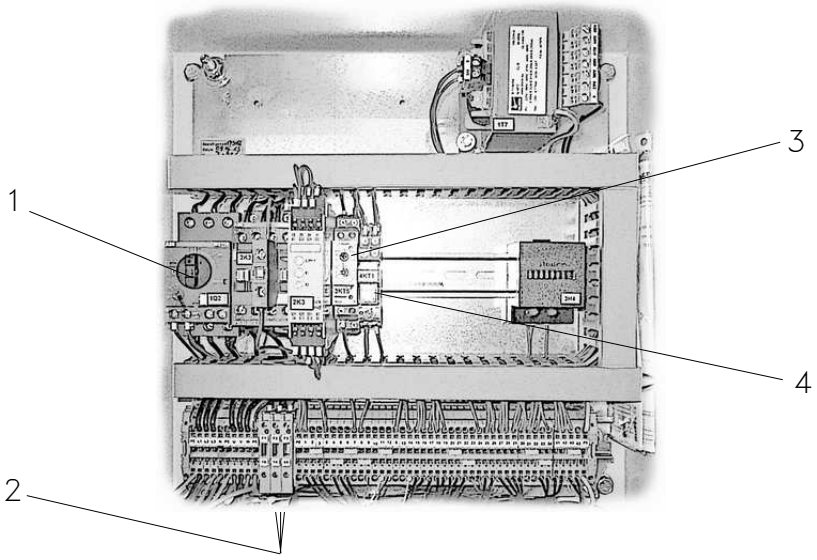
If the machine is fitted with a rubber seal, you a water hose and a broom / rubber broom.

# 12. Trouble - Shooting

**All maintenance and repair works may only be carried out by qualified personnel with corresponding know how.**
**It is absolutely necessary to consider the safety instructions in Chapter 3.**

| Problem | Source | Solution |
|---|---|---|
| 1. The machine cannot be switched on | 1.1 No power available | Check supply voltage |
| | 1.2 Plug faulty | Change plug |
| | 1.3 Isolator not switched on | Switch on isolator (over the plug) |
| | 1.4 Motor overload protection has tripped | Re-set motor overload (see fig. 1, pt. 1) |
| | 1.5 Defect fuse | Change fuse (see fig. 1, pt. 2) |
| | 1.6 EMERGENCY SHUTOFF button locked | Release EMERGENCY SHUTOFF button |
| | 1.7 Switch contacts stuck | Check all contacts in control panel |
| | 1.8 Float switch registering too little oil | Top up with hydraulic oil or carry out oil change (see chapter 7) |
| | 1.9 Elektric motor defective | Replace motor (see fig. 3, pt. 1) |

fig. 1



# 12. Trouble - Shooting

| Problem | Source | Solution |
|---|---|---|
| 2. Green lamp on control panel does not light up | 2.1 Lamp defect | Replace lamp |
| 3. Motor running, compacting piston does not start to move | 3.1 Supply incorrectly connected | Change 2 of the 3 supply phases (see fig. 2) |
| | 3.2 Not enough operating pressure | The pressure must be checked; Please contact dealer |
| | 3.3 Pump defect | Replace pump (see fig. 3, pt. 2) |

fig. 2

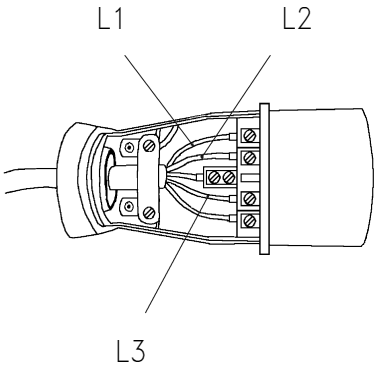



fig. 3

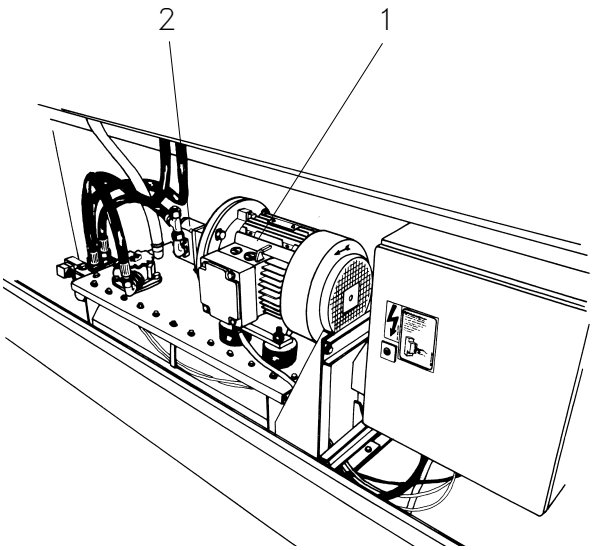



Illustration standard version
(deviations are possible)

# 12. Trouble - Shooting

| Problem | Source | Solution |
|---|---|---|
| 4. Machine does not switch off automatically | 4.1 Time relay for running time defective | Replace time relay (see fig. 1, pt. 3) |
| 5. Compacting piston stops at top edge of charging opening and does not switch over to front stroke | 5.1 The pressure at the hydraulic valve is not adjusted correctly | Please contact dealer |
| 6. Oil is leaking out | 6.1 Hydraulic hoses or screw connections leaking | Tighten connections; Replace hoses |

## Accessories

| | | |
|---|---|---|
| 7. Container full signal reacts too late / too early | 7.1 Time relay set wrong or defective | Correct the time (see ch. 6.9.4) or replace time relay (see fig. 1, pt. 4) |
| 8. Switching of container opening or closing does not work | 8.1 Oil pressure switch incorrectly set | Please contact dealer |
| | 8.2 Oil pressure switch defective | Please contact dealer |

# 13. Lubrication chart

We draw our customer's attention to the importance of using the correct lubricants in our machines. The proper application of appropriate lubricants will enhance performance and avoid breakdowns.

We therefore recommend the use of
Hydraulic oil HLP to DIN 51 524, part 2.

The hydraulic tank of the machine is filled with BP Energol HLP-HM 32.

It is possible to use products of equal quality for the oil change. In order to see some examples, please refer to the following chart.

Other oils, especially biological oils, may be used after consultation of our company only.

| | Hydraulic oil with a viscosity of<br>32 mm²/s at 40°C (0,05sq.in./s at 104°F) |
|---|---|
| Agip | Agip OSO 32 |
| ARAL | Aral Vitam GF 32 |
| bp | BP Energol HLP-HM 32 |
| Esso | NUTO H 32 |
| FUCHS | Renolin B 10 |
| Mobil | Mobil DTE 24 |
| | Shell Tellus 32<br>Shell Tellus Arctic 32 (till -40°C) |
| TEXACO | Rando HD 32 |
| TOTAL | Azolla ZS 32 |
| wintershall | Wiolan HS 32 |
| Castrol | Hyspin AWS 32<br>Hyspin ZZ 32<br>Hyspin XP 32 |

# 14. Guarantee and liability

## 14.1 Obligation of the user

The user undertakes to allow only such persons to work on the machine who

- are familiar with the basic regulations of safety on the job and accident prevention and who have been instructed in the use of the machine.
- have read and understood the operating instructions, especially the safety instructions and warnings and who have signed this by their signature.

## 14.2 Guarantee and liability

As a rule our "General Standard Terms and Conditions" are valid. The user is in possession of these since the conclusion of the contract. The guarantee period stated therein refers to the application in one-shift operation.

Guarantee and liability claims in case of personnel or property damages are excluded if they are traceable to one or several of the following causes :

- improper use of the machine
- improper installation, commissioning, operation and maintenance of the machine
- operation of the machine with defect safety devices or improperly mounted or non-functioning safety and protective devices
- non-observance of the notes in the operating instructions with regard to transport, installation, commissioning, operation and maintenance of the machine
- unauthorised modifications of the machine without the written consent of the manufacturer
- insufficient inspection of machine parts which are subject to wear
- repairs which have been carried out improperly
- catastrophes caused by foreign bodies or acts of God.

## 14.3 Copyright

# Original EC declaration of conformity

as required by Machinery Directive 2006 / 42 / EC Annex II A

The manufacturer

BERGMANN
Maschinen für die Abfallwirtschaft
Von-Arenberg-Straße 7
D - 49762 Lathen
www.bergmann-online.com

hereby declares that the following product :

Product designation: ALPHA - PACK - BIN

Type designation: APB 616 _____

Serial-No. / Year of manufacture: _____

This machine is a stationary operating press container, which was designed to compact recyclable material and waste.

complies with the following applicable provisions :

Machine Directive ( 2006 / 42 / EC )
Electromagnetic compatibility ( 2014 / 30 / EC )

The following harmonized norms have been applied :

DIN EN ISO 12100 : 2010
DIN EN 60204-1 : 2006 / A1 : 2009
DIN EN 16486 : 2014

Responsible for the compilation of the technical documents :
V. Adam, Tel.: 0049 (0) 5933 / 955 - 0

Lathen, 01.02.2016

Heinz Bergmann
( Owner of the above firm )

# 16. Additional information

## 16.1 Circuit diagram and program numbers

Circuit diagram: _____

The program number: _____

Hydraulic circuit: _____

**The wiring diagram for this machine can be found in the switch cabinet.**
**The circuit diagram and program numbers are to be entered by the responsible persons during acceptance.**

## 16.2 Nameplate


The nameplate is also located on the machine.

BERGMANN
Maschinen
für die Abfallwirtschaft

# ERSATZTEILLISTE
# SPARE PARTS

## ABFALL - PRESS - BOX
## ALPHA - PACK - BIN

Maschinen-Typ
Machine model : APB 616

Betriebsanleitungs-Nr.
Operating Instructions-No. : 179 01

Bei Ersatzteilbestellungen bitte unbedingt die Serien-Nr. der Maschine angeben!
Please quote the serial-no. of the machine when ordering spare parts!

P.O.Box 11 52 • Von-Arenberg-Straß e 7 • D-49762 Lathen/Ems • Phone +49 / 5933 / 955-0 • Fax +49 / 5933 / 955-294
eMail info@bergmann-online.com• www.bergmann-online.com

# Inhaltsverzeichnis
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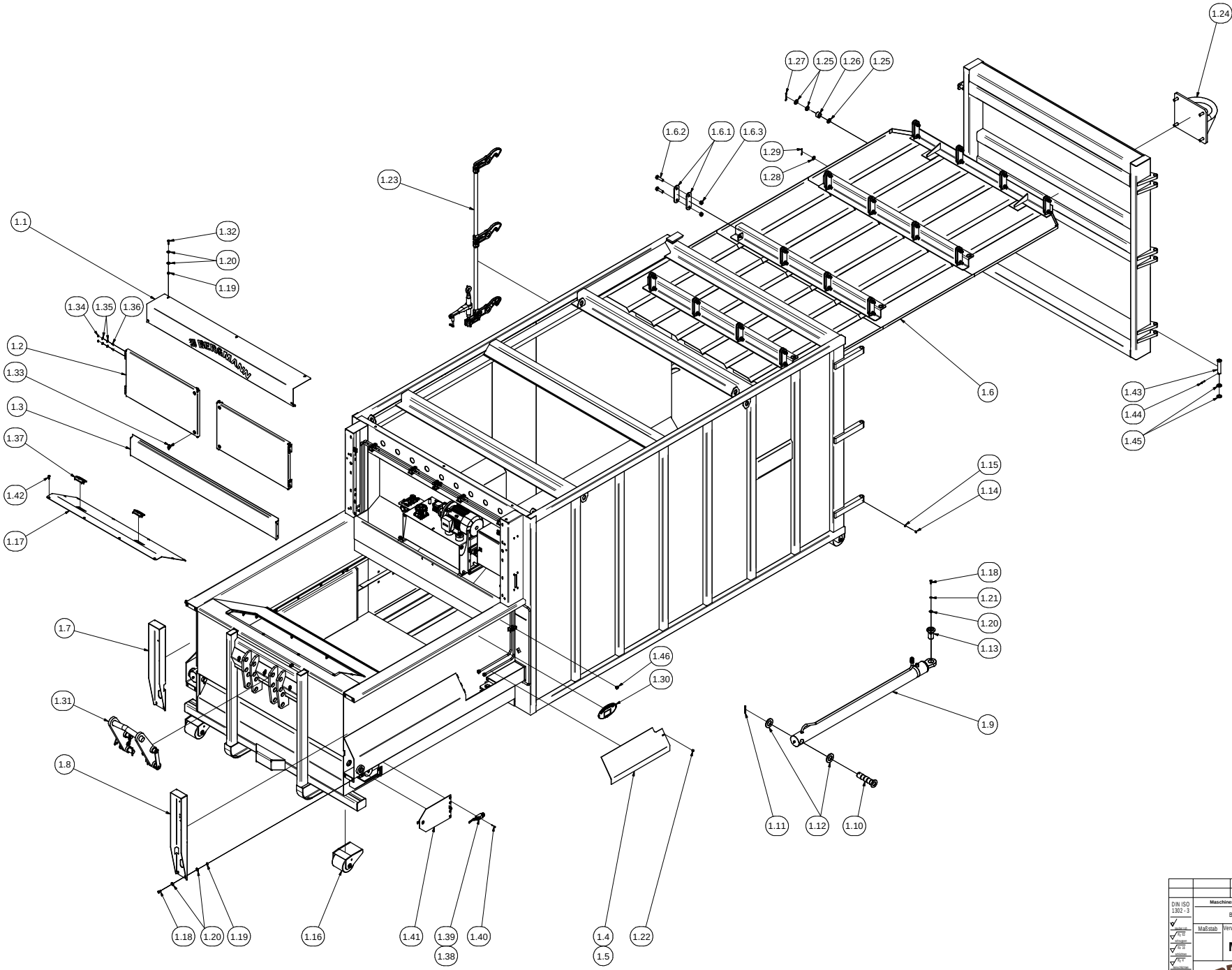
eMail info@bergmann-online.com • www.bergmann-online.com




Stückliste

| Pos. | Menge | Teilenummer | Bezeichnung |
|---|---|---|---|
| 1 | 1 | 179000003 | APB 616-SN/20 |
| 1.1 | 1 | 096003001 | Tankraumhaube |
| 1.2 | 2 | 096005000 | Tankraumklappe kpl. |
| 1.3 | 1 | 096004001 | Blende |
| 1.4 | 1 | 179012000 | Abdeckung rechts |
| 1.5 | 1 | 179013000 | Abdeckung links |
| 1.6 | 1 | 103157000 | Pendeldach 15 kpl. |
| 1.6 | 1 | 103158000 | Pendeldack 18 kpl. |
| 1.6 | 1 | 103159000 | Pendeldach 20 kpl. |
| 1.6 | 1 | 103160000 | Pendeldach 22 kpl. |
| 1.6.1 | 32 | 060039020 | Pendel |
| 1.6.2 | 32 | 000000059 | Sechskantschraube |
| 1.6.3 | 32 | 000002037 | Sicherungsmutter |
| 1.7 | 1 | 103020055 | Tastaturblech für Not-Halt |
| 1.8 | 1 | 103020056 | Tastaturblech für Bedienung |
| 1.9 | 2 | 003003672 | Hydraulikzylinder |
| 1.10 | 2 | 060117000 | Bolzen kpl. |
| 1.11 | 4 | 000004014 | Spannhülse |
| 1.12 | 4 | 000003027 | U-Scheibe |
| 1.13 | 2 | 060019000 | Bolzen kpl. |
| 1.14 | 3 | 000007003 | Kegel-Schmiernippel |
| 1.15 | 5 | 000007005 | Schmiernippelkappe |
| 1.16 | 2 | 060056000 | Kunststoffrolle kpl. |
| 1.16 | 2 | 060177000 | Stahlrolle kpl. |
| 1.16 | 2 | 103178000 | Kunststoffrolle kpl. |
| 1.16 | 2 | 103113000 | Stahlrolle kpl. |
| 1.16 | 2 | 103672000 | Kunststoffrolle kpl. |
| 1.16 | 2 | 103681000 | Kunststoffrolle kpl. |
| 1.16 | 2 | 103705000 | Stahlrolle kpl. |
| 1.16 | 2 | 060200000 | Stahlrolle kpl. |
| 1.17 | 1 | 179007001 | Deckelblech |
| 1.18 | 23 | 000000049 | Sechskantschraube |
| 1.19 | 19 | 000002027 | Sicherungsmutter |
| 1.20 | 43 | 000003045 | K-Scheibe |
| 1.21 | 4 | 000003070 | Federring |
| 1.22 | 6 | 000001061 | Ripp-Schraube |
| 1.23 | 1 | 094011000 | Verschluss seitliche Tür kpl. |
| 1.24 | 1 | 132058000 | Aufnahmebügel rund |
| 1.25 | 3 | 000003034 | Scheibe |
| 1.26 | 1 | 001023006 | Buchse |
| 1.27 | 1 | 000006012 | Splint |
| 1.28 | 1 | 000003010 | U-Scheibe |
| 1.29 | 1 | 000006005 | Splint |
| 1.30 | 1 | 005000040 | Firmenschild |
| 1.31 | 1 | 001018000 | Bügel |
| 1.32 | 9 | 000000050 | Sechskantschraube |
| 1.33 | 1 | 096005003 | Schlüssel |
| 1.34 | 8 | 000002024 | Sicherungsmutter |
| 1.35 | 16 | 000003065 | K-Scheibe |
| 1.36 | 8 | 000000029 | Sechskantschraube |
| 1.37 | 2 | 000005219 | Griffmulde |
| 1.38 | 1 | 179004000 | Endschalter Inspektionstür L |
| 1.39 | 1 | 179009000 | Endschalter Inspektionstür R |
| 1.40 | 4 | 000000010 | Zylinderschraube |
| 1.41 | 2 | 179017000 | Inspektionstür |
| 1.42 | 10 | 000010033 | Senkschraube |
| 1.43 | 3 | 060138000 | Scharnierbolzen |
| 1.44 | 3 | 000004008 | Spannhülse |
| 1.45 | 6 | 000003034 | Scheibe |
| 1.46 | 1 | 003001088 | Verschlussschraube |

DIN ISO 1302 - 3

| Maschinenübersicht - APB 616 | | Explosionszeichnung | 5648.007 kg | |
|---|---|---|---|---|
| Bezeichnung | Werkstoff | Abmessung | Masse | Norm / Bemerkung |

Maßstab | Verwendungsbereich

**Maschinenübersicht - APB 616**

BERGMANN Maschinen für die Abfallwirtschaft
Von-Arenberg-Straße 7 D-49762 Lathen/Ems
Telefon: +49 5933 955 0 Fax: +49 5933 1826
www.bergmann-online.com

| | Datum | Name |
|---|---|---|
| gezeichnet | 15.09.2014 | Krallmann |
| kontrolliert | | |
| gesehen | | |

Diese Zeichnung hat gesetzl. Schutz DIN 34

Zeichnungsnummer

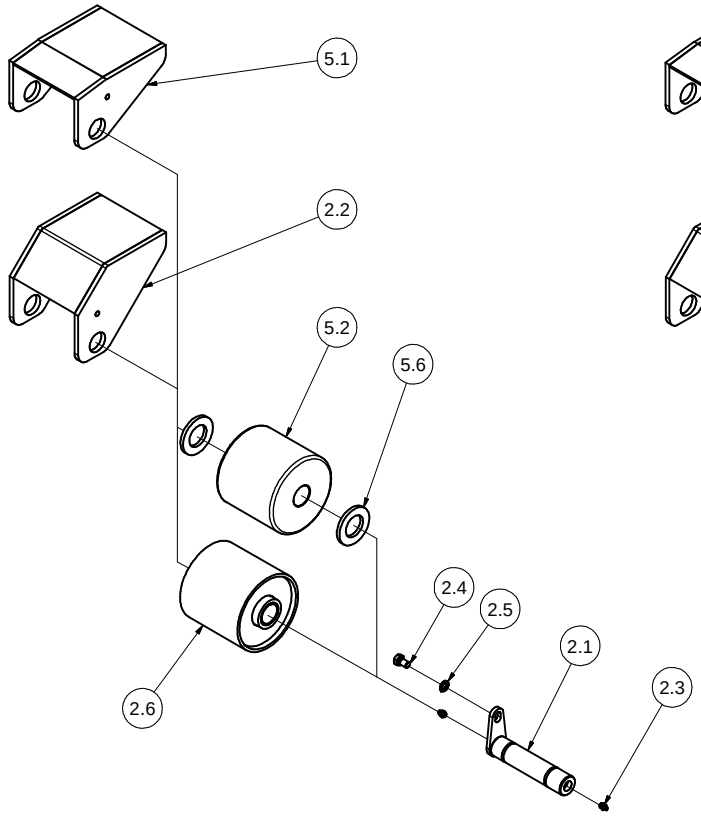
**BA17901_1-Z**

Allgemeintoleranzen nach DIN ISO 2768 - mittel

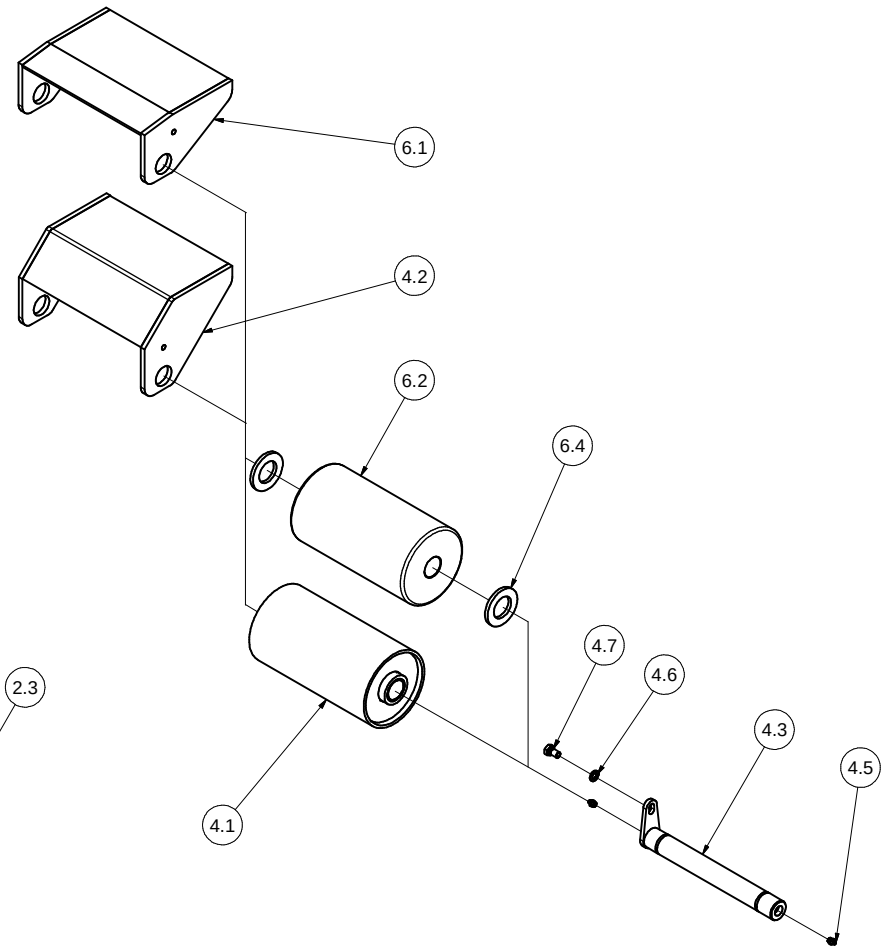
| über | 0,5 | 6 | 30 | 120 | 315 | 1000 | 2000 | 4000 |
|---|---|---|---|---|---|---|---|---|
| bis | 6 | 30 | 120 | 315 | 1000 | 2000 | 4000 | 8000 |
| | 0,1 | 0,2 | 0,3 | 0,5 | 0,8 | 1,2 | 2,0 | 3,0 |

| Stückliste | | | |
|---|---|---|---|
| Pos. | Menge | Teilenummer | Bezeichnung |
| 1 | 1 | 060056000 | Kunststoffrolle kpl. (Ø160x150x240) |
| 1.1 | 1 | 060056002 | Kunststoffrolle |
| 1.2 | 1 | 045085000 | Rollenbock |
| 1.3 | 1 | 060175000 | Bolzen kpl. |
| 1.4 | 1 | 000003071 | Federring |
| 1.5 | 1 | 000000065 | Sechskantschraube |
| 1.6 | 2 | 000003021 | U-Scheibe |
| 2 | 1 | 060177000 | Stahlrolle kpl. (Ø160x150x240) |
| 2.1 | 1 | 060175000 | Bolzen kpl. |
| 2.2 | 1 | 045085000 | Rollenbock |
| 2.3 | 2 | 000007004 | Kegel-Schmiernippel |
| 2.4 | 1 | 000000066 | Sechskantschraube |
| 2.5 | 1 | 000003071 | Federring |
| 2.6 | 1 | 060176000 | Rolle mit Gleitlager |
| 3 | 1 | 103178000 | Kunststoffrolle kpl. (Ø160x300x240) |
| 3.1 | 1 | 103113001 | Kunststoffrolle |
| 3.2 | 1 | 103115000 | Rollenbock |
| 3.3 | 1 | 103116000 | Bolzen kpl. |
| 3.4 | 2 | 000007004 | Kegel-Schmiernippel |
| 3.5 | 1 | 000000065 | Sechskantschraube |
| 3.6 | 1 | 000003071 | Federring |
| 3.7 | 2 | 000003021 | U-Scheibe |
| 4 | 1 | 103113000 | Stahlrolle kpl. (Ø160x300x240) |
| 4.1 | 1 | 103114000 | Stahlrolle |
| 4.2 | 1 | 103115000 | Rollenbock |
| 4.3 | 1 | 103116000 | Bolzen kpl. |
| 4.4 | 2 | 000009000 | Gleitlager |
| 4.5 | 2 | 000007004 | Kegel-Schmiernippel |
| 4.6 | 1 | 000003071 | Federring |
| 4.7 | 1 | 000000066 | Sechskantschraube |
| 5 | 1 | 103672000 | Kunststoffrolle kpl. (Ø160x150x180) |
| 5.1 | 1 | 103706000 | Rollenbock |
| 5.2 | 1 | 060056002 | Kunststoffrolle |
| 5.3 | 1 | 060175000 | Bolzen kpl. |
| 5.4 | 1 | 000003071 | Federring |
| 5.5 | 1 | 000000065 | Sechskantschraube |
| 5.6 | 2 | 000003021 | U-Scheibe |
| 5.7 | 2 | 000007004 | Kegel-Schmiernippel |
| 5.8 | 2 | 000007005 | Schmiernippelkappe |
| 6 | 1 | 103681000 | Kunststoffrolle kpl. (Ø160x300x180) |
| 6.1 | 1 | 103704000 | Rollenbock |
| 6.2 | 1 | 103113001 | Kunststoffrolle |
| 6.3 | 1 | 103116000 | Bolzen kpl. |
| 6.4 | 2 | 000003021 | U-Scheibe |
| 6.5 | 1 | 000003071 | Federring |
| 6.6 | 1 | 000000065 | Sechskantschraube |
| 6.7 | 1 | 000007004 | Kegel-Schmiernippel |
| 6.8 | 1 | 000007005 | Schmiernippelkappe |
| 7 | 1 | 103705000 | Stahlrolle kpl. (Ø160x300x180) |
| 7.1 | 1 | 103704000 | Rollenbock |
| 7.2 | 1 | 000005228 | EP-Rolle |
| 7.3 | 1 | 103116000 | Bolzen kpl. |
| 7.4 | 1 | 000000065 | Sechskantschraube |
| 7.5 | 1 | 000003071 | Federring |
| 7.6 | 2 | 000007004 | Kegel-Schmiernippel |
| 8 | 1 | 060200000 | Stahlrolle kpl. (Ø220x300x240) |
| 8.1 | 1 | 060201000 | Stahlrolle mit Gleitlager |
| 8.2 | 1 | 060202000 | Rollenbock |
| 8.3 | 1 | 103116000 | Bolzen kpl. |
| 8.4 | 2 | 000007004 | Kegel-Schmiernippel |
| 8.5 | 1 | 000000066 | Sechskantschraube |
| 8.6 | 1 | 000003071 | Federring |

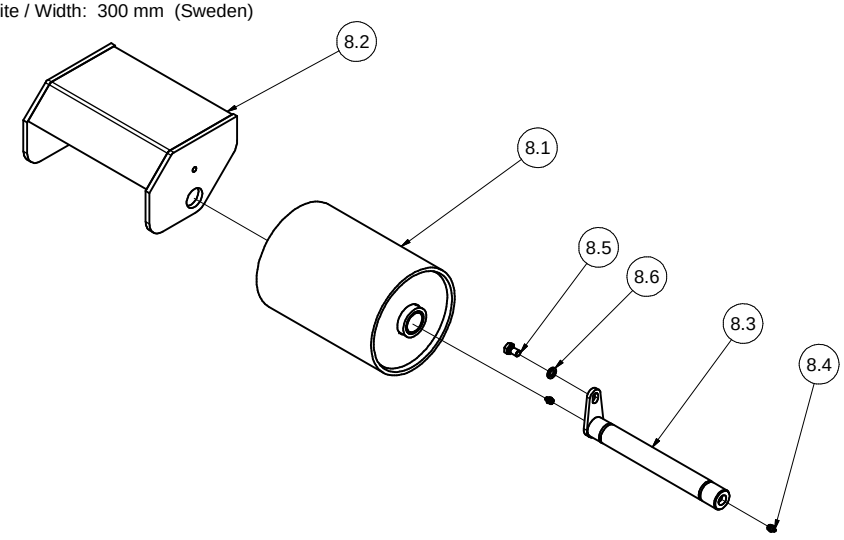
Breite / Width: 150 mm




Breite / Width: 300 mm




Breite / Width: 300 mm (Sweden)




DIN ISO 1302 - 3

| Bezeichnung | Werkstoff | Abmessung | Masse | Norm / Bemerkung |
|---|---|---|---|---|
| Rollen komplett - APB 616 | | Explosionszeichnung | 165.579 kg | |

Maßstab

Verwendungsbereich

**Rollen komplett - APB 616**


BERGMANN Maschinen für die Abfallwirtschaft
Von-Arenberg-Straße 7 D-49762 Lathen/Ems
Telefon: +49 5933 955 0 Fax: +49 5933 1826
www.bergmann-online.com


| | Datum | Name |
|---|---|---|
| gezeichnet | 12.09.2014 | Krallmann |
| kontrolliert | | |
| gesehen | | |

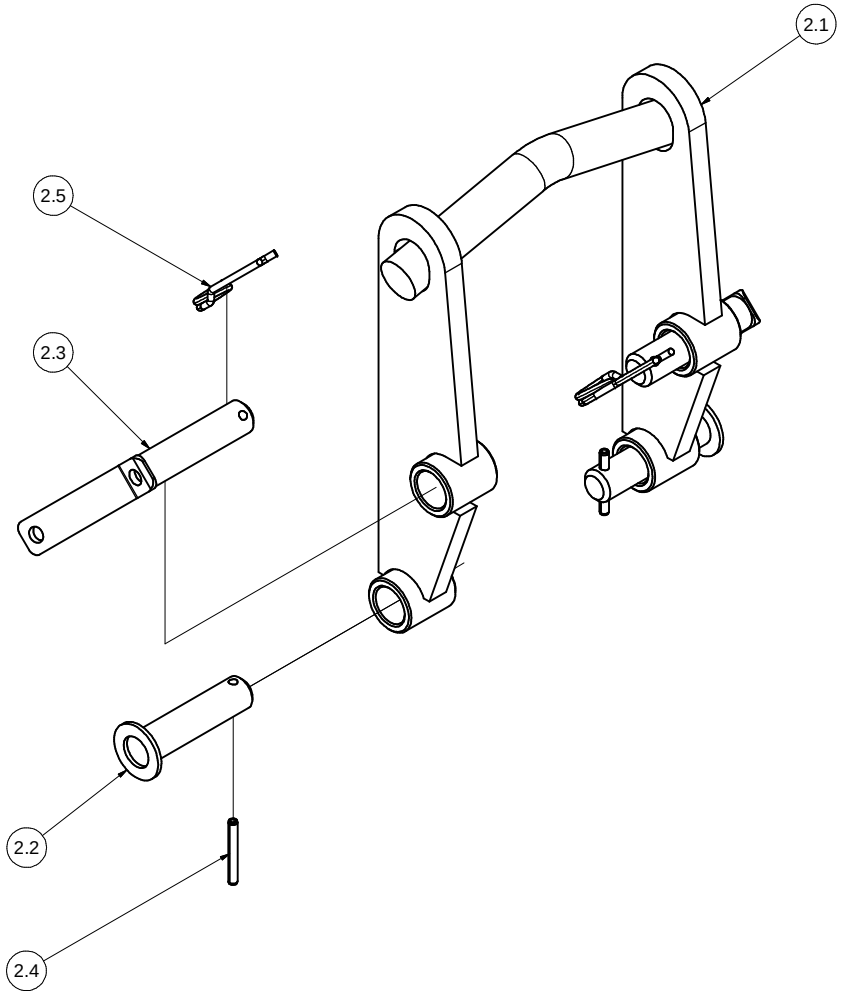


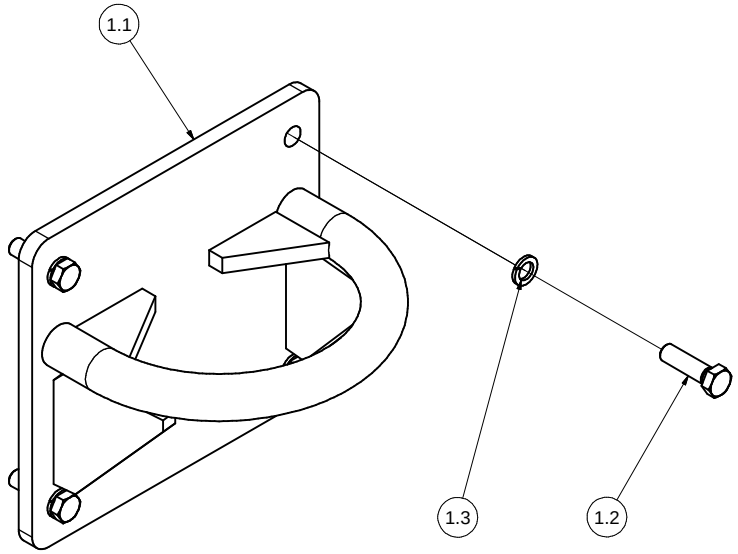
Zeichnungsnummer

**BA17901_2-Z**

Allgemeintoleranzen nach DIN ISO 2768 - mittel

| über | 0,5 | 6 | 30 | 120 | 315 | 1000 | 2000 | 4000 |
|---|---|---|---|---|---|---|---|---|
| bis | 6 | 30 | 120 | 315 | 1000 | 2000 | 4000 | 8000 |
| | 0,1 | 0,2 | 0,3 | 0,5 | 0,8 | 1,2 | 2,0 | 3,0 |




| Stückliste | | | |
|---|---|---|---|
| Pos. | Menge | Teilenummer | Bezeichnung |
| 1 | 1 | 132061000 | Rangierbügel kpl. |
| 1.1 | 1 | 132058000 | Rangierbügel |
| 1.2 | 4 | 000000059 | Sechskantschraube |
| 1.3 | 4 | 000003075 | Federring |
| 2 | 1 | 001255000 | Aufnahmebügel kpl. |
| 2.1 | 1 | 001018000 | Aufnahmebügel |
| 2.2 | 2 | 032032000 | Bolzen |
| 2.3 | 2 | 032033000 | Bolzen |
| 2.4 | 2 | 000004014 | Spannhülse |
| 2.5 | 2 | 000006023 | Federstecker |

DIN ISO 1302 - 3

| Bügel komplett - APB 616 | | Explosionszeichnung | 79.280 kg | |
|---|---|---|---|---|
| Bezeichnung | Werkstoff | Abmessung | Masse | Norm / Bemerkung |

Maßstab

Verwendungsbereich

# Bügel komplett - APB 616

BERGMANN
Maschinen für die Abfallwirtschaft
Von-Arenberg-Straße 7 D-49762 Lathen/Ems
Telefon: +49 5933 955 0 Fax: +49 5933 1826
www.bergmann-online.com

| | Datum | Name |
|---|---|---|
| gezeichnet | 15.09.2014 | Krallmann |
| kontrolliert | | |
| gesehen | | |

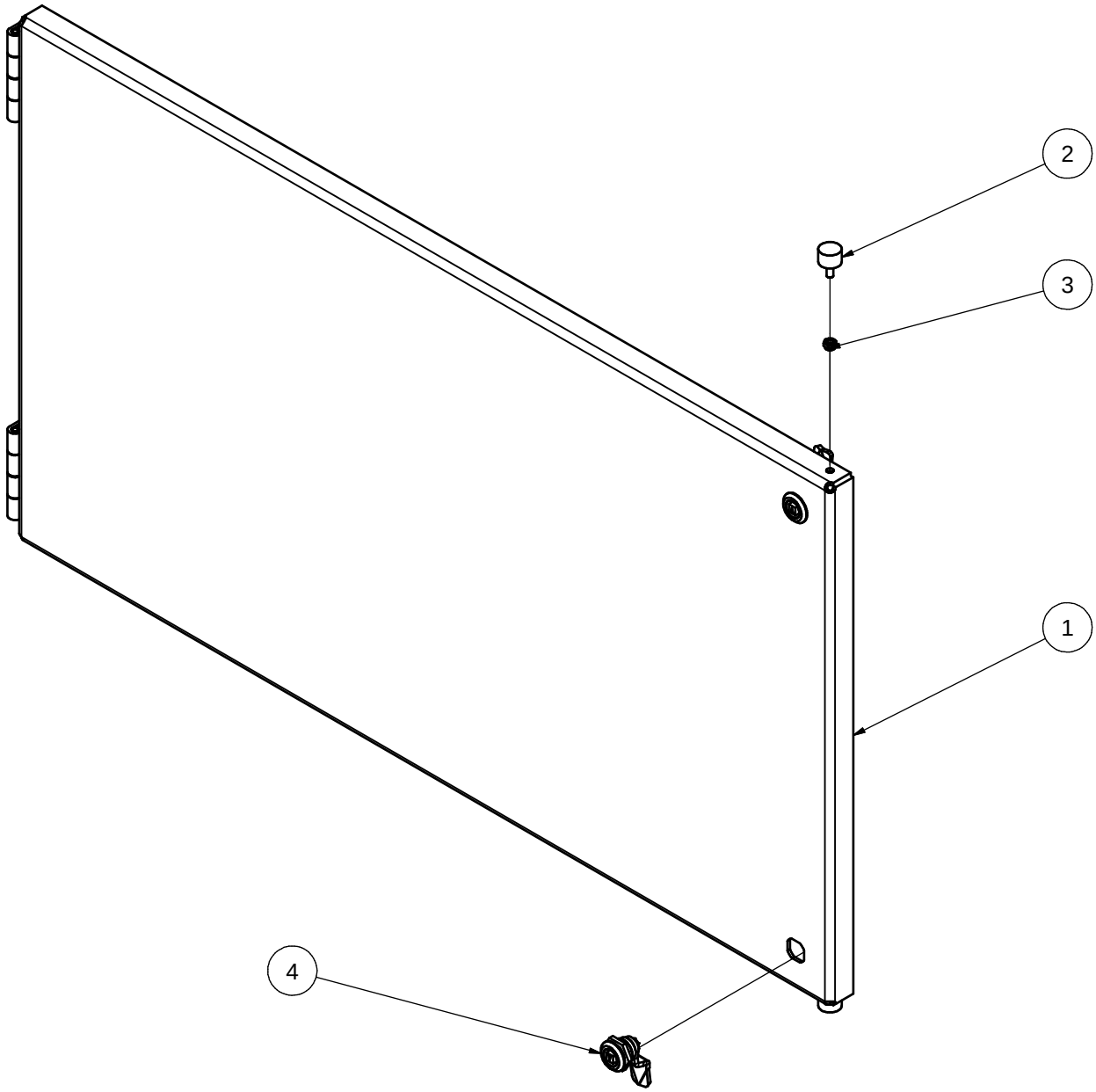


Zeichnungsnummer

**BA17901_3-Z**

Allgemeintoleranzen nach DIN ISO 2768 - mittel

| über | 0,5 | 6 | 30 | 120 | 315 | 1000 | 2000 | 4000 |
|---|---|---|---|---|---|---|---|---|
| bis | 6 | 30 | 120 | 315 | 1000 | 2000 | 4000 | 8000 |
| | 0,1 | 0,2 | 0,3 | 0,5 | 0,8 | 1,2 | 2,0 | 3,0 |




| Stückliste | | | |
|---|---|---|---|
| Pos. | Menge | Teilenummer | Bezeichnung |
| 1 | 1 | 096005001 | Tankraumklappe |
| 2 | 2 | 000008040 | Gummipuffer |
| 3 | 2 | 000002024 | Sicherungsmutter |
| 4 | 2 | 096005002 | Vorreiber mit Vierkant |

| DIN ISO 1302 - 3 | Tankraumklappe komplett - APB 616 | | Explosionszeichnung | 14.857 kg | |
|---|---|---|---|---|---|
| | Bezeichnung | Werkstoff | Abmessung | Masse | Norm / Bemerkung |

sauber roh
$R_z$ 63 schruppen
$R_z$ 16 schlichten
$R_z$ 4 feinschlichten
poliert $R_z$ 4 polieren
geschliffen $R_z$ 16 flächenschleifen schruppen
geschliffen $R_z$ 16 flächenschleifen schruppen
geschliffen $R_z$ 4 flächenschleifen schlichten

Maßstab

Verwendungsbereich

# Tankraumklappe komplett - APB 616

BERGMANN
Maschinen
für die Abfallwirtschaft
Von-Arenberg-Straße 7 D-49762 Lathen/Ems
Telefon: +49 5933 955 0 Fax: +49 5933 1826
www.bergmann-online.com

| | Datum | Name |
|---|---|---|
| gezeichnet | 15.09.2014 | Krallmann |
| kontrolliert | | |
| gesehen | | |

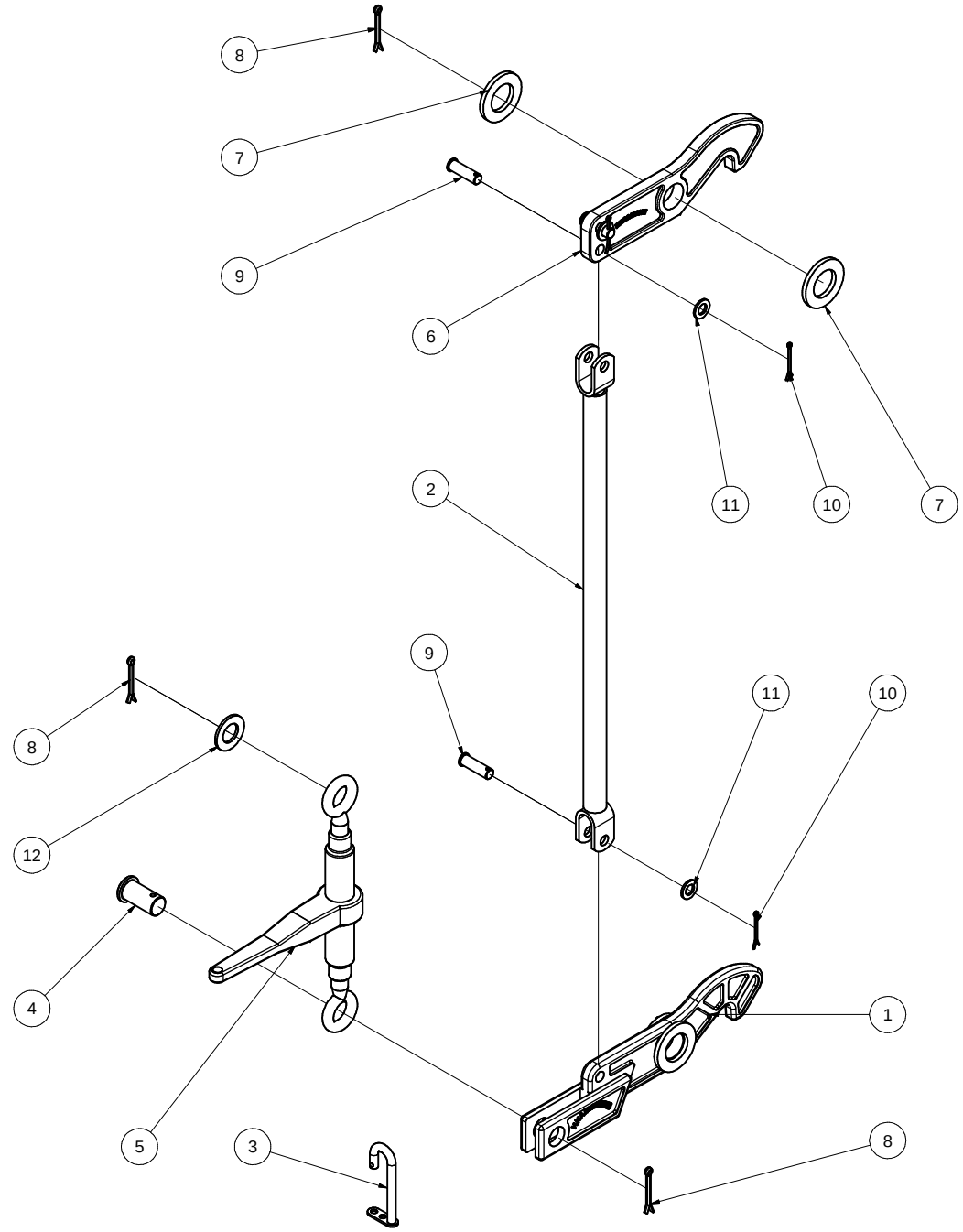


Zeichnungsnummer

**BA17901_4-Z**

Allgemeintoleranzen nach DIN ISO 2768 - mittel

| über | 0,5 | 6 | 30 | 120 | 315 | 1000 | 2000 | 4000 |
|---|---|---|---|---|---|---|---|---|
| bis | 6 | 30 | 120 | 315 | 1000 | 2000 | 4000 | 8000 |
| | `0,1 | `0,2 | `0,3 | `0,5 | `0,8 | `1,2 | `2,0 | `3,0 |




| Stückliste | | | |
|---|---|---|---|
| Pos. | Menge | Teilenummer | Bezeichnung |
| 1 | 1 | 094014000 | Öffnungshebel |
| 2 | 2 | 094015000 | Verbindung |
| 3 | 1 | 060075000 | Sicherung |
| 4 | 1 | 060072007 | Bolzen |
| 5 | 1 | 000014147 | Spannschloss |
| 6 | 2 | 103011008 | Containerhaken |
| 7 | 6 | 000003021 | U-Scheibe |
| 8 | 5 | 000006012 | Splint |
| 9 | 4 | 094012000 | Bolzen kpl. |
| 10 | 4 | 000006005 | Splint |
| 11 | 4 | 000003025 | Scheibe |
| 12 | 1 | 000003014 | U-Scheibe |

DIN ISO 1302 - 3

| Verschluss seitliche Tür komplett - APB 616 | | Explosionszeichnung | 22.688 kg | |
|---|---|---|---|---|
| Bezeichnung | Werkstoff | Abmessung | Masse | Norm / Bemerkung |

Maßstab

Verwendungsbereich

# Verschluss seitliche Tür komplett - APB 616

BERGMANN
Maschinen für die Abfallwirtschaft
Von-Arenberg-Straße 7 D-49762 Lathen/Ems
Telefon: +49 5933 955 0 Fax: +49 5933 1826
www.bergmann-online.com

| | Datum | Name |
|---|---|---|
| gezeichnet | 15.09.2014 | Krallmann |
| kontrolliert | | |
| gesehen | | |

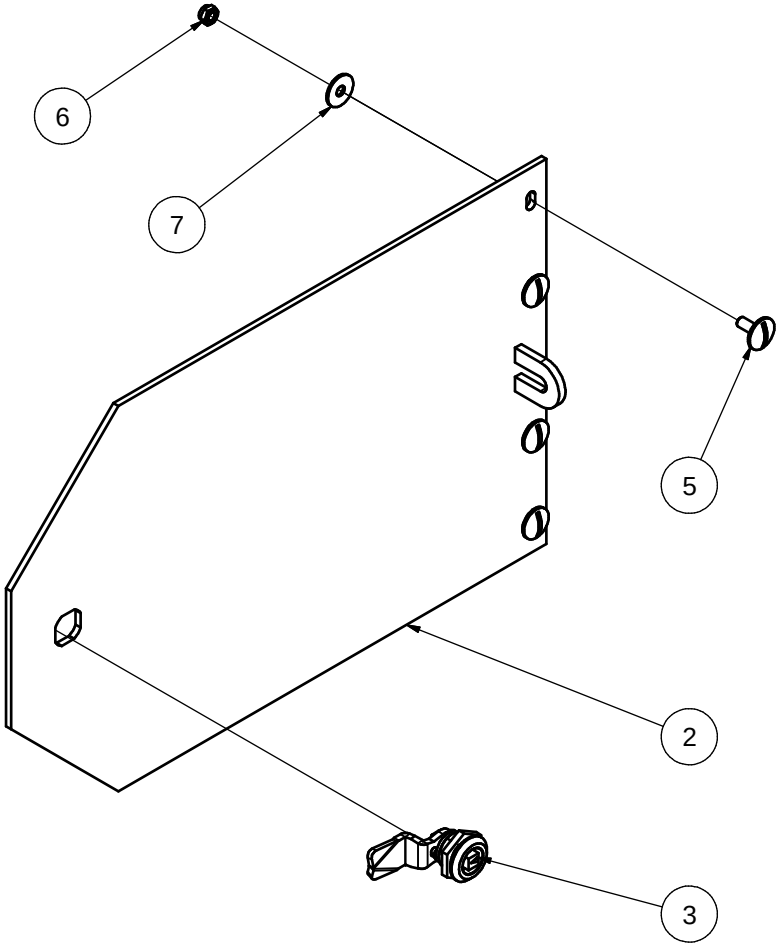


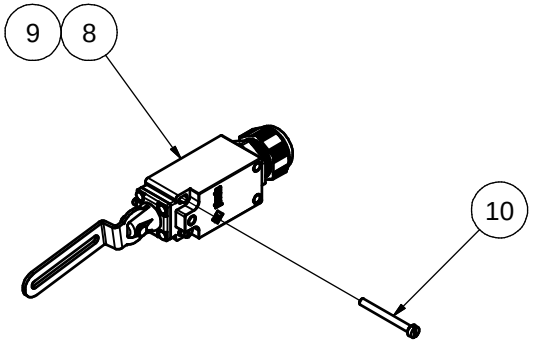
Zeichnungsnummer

**BA17901_5-Z**

Allgemeintoleranzen nach DIN ISO 2768 - mittel

| über | 0,5 | 6 | 30 | 120 | 315 | 1000 | 2000 | 4000 |
|---|---|---|---|---|---|---|---|---|
| bis | 6 | 30 | 120 | 315 | 1000 | 2000 | 4000 | 8000 |
| | 0,1 | 0,2 | 0,3 | 0,5 | 0,8 | 1,2 | 2,0 | 3,0 |




| Stückliste | | | |
|---|---|---|---|
| Pos. | Menge | Teilenummer | Bezeichnung |
| 1 | 1 | 179017000 | Inspektionstür |
| 2 | 1 | 179017001 | Türflügel |
| 3 | 1 | 096005002 | Vorreiber mit Vierkant |
| 4 | 1 | 103332002 | Öse für Endschalter |
| 5 | 4 | 000010042 | Flachrundschraube |
| 6 | 4 | 000002024 | Sicherungsmutter |
| 7 | 4 | 000003065 | Scheibe |
| 8 | 1 | 179009000 | Endschalter Inspektionstür R |
| 9 | 1 | 179004000 | Endschalter Inspektionstür L |
| 10 | 2 | 000000010 | Zylinderschraube |

DIN ISO 1302 - 3

sauber roh
$R_z$ 63 schruppen
$R_z$ 16 schlichten
$R_z$ 4 feinschlichten
poliert $R_z$ 4 polieren
geschliffen $R_z$ 16 flächenschleifen schruppen
geschliffen $R_z$ 16 flächenschleifen schruppen
geschliffen $R_z$ 4 flächenschleifen schlichten

| Bezeichnung | Werkstoff | Abmessung | Masse | Norm / Bemerkung |
|---|---|---|---|---|
| Inspektionstür komplett - APB 616 | | Explosionszeichnung | 4.008 kg | |

Maßstab

Verwendungsbereich

# Inspektionstür komplett - APB 616

BERGMANN Maschinen für die Abfallwirtschaft
Von-Arenberg-Straße 7 D-49762 Lathen/Ems
Telefon: +49 5933 955 0 Fax: +49 5933 1826
www.bergmann-online.com

| | Datum | Name |
|---|---|---|
| gezeichnet | 15.09.2014 | Krallmann |
| kontrolliert | | |
| gesehen | | |

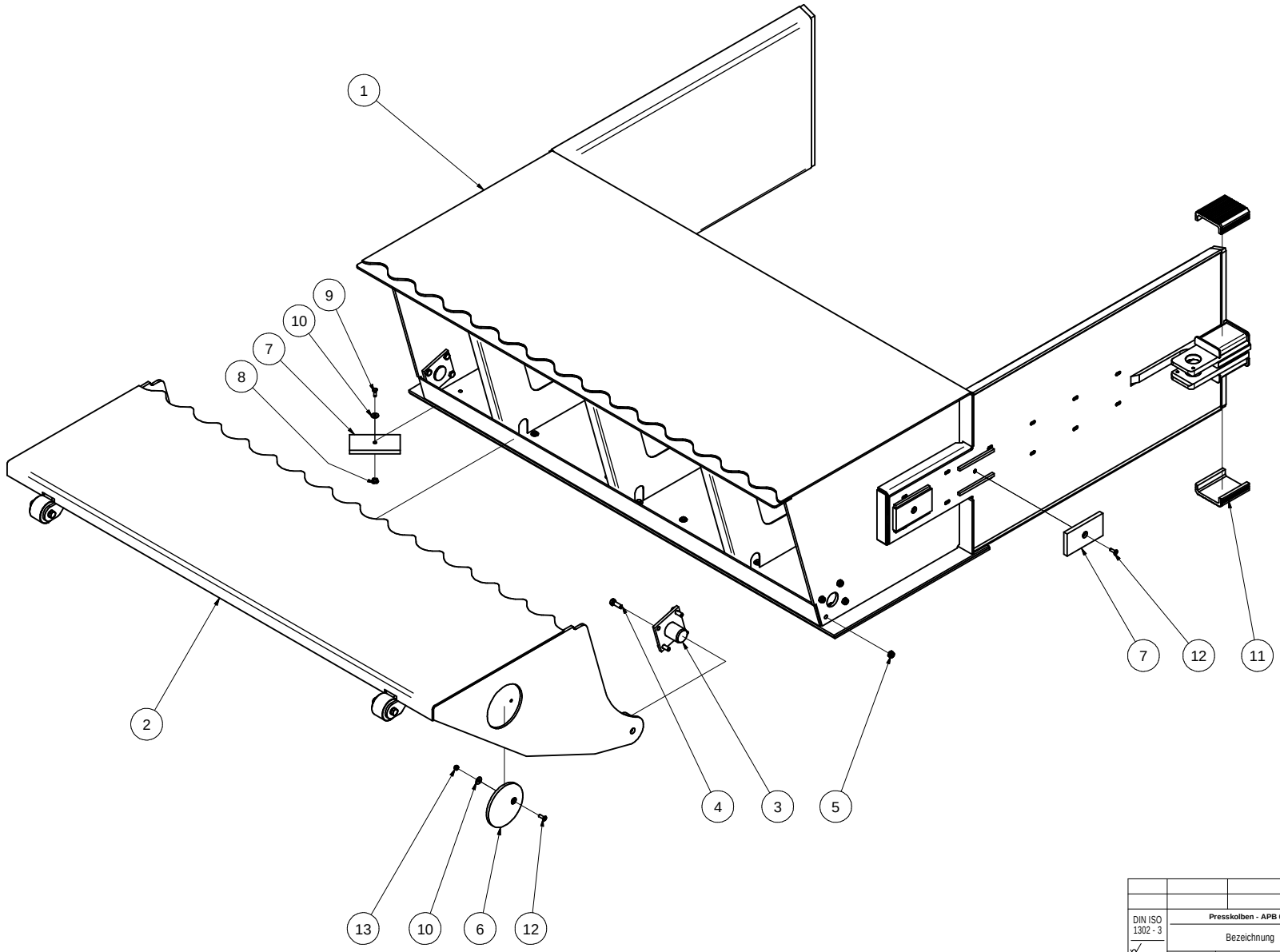


Zeichnungsnummer

**BA17901_6-Z**

Allgemeintoleranzen nach DIN ISO 2768 - mittel

| über | 0,5 | 6 | 30 | 120 | 315 | 1000 | 2000 | 4000 |
|---|---|---|---|---|---|---|---|---|
| bis | 6 | 30 | 120 | 315 | 1000 | 2000 | 4000 | 8000 |
| | `0,1 | `0,2 | `0,3 | `0,5 | `0,8 | `1,2 | `2,0 | `3,0 |




| Stückliste | | | |
|---|---|---|---|
| Pos. | Menge | Teilenummer | Bezeichnung |
| 1 | 1 | 179034000 | Presskolben |
| 2 | 1 | 179035000 | Kolbenklappe kpl. |
| 3 | 2 | 103176000 | Bolzen kpl. |
| 4 | 8 | 000000076 | Sechskantschraube |
| 5 | 8 | 000002029 | Sicherungsmutter |
| 6 | 2 | 103173002 | Scheibe |
| 7 | 24 | 149007001 | Gleitstück |
| 8 | 20 | 000010017 | Einschlagmutter |
| 9 | 20 | 000000033 | Sechskantschraube |
| 10 | 22 | 000003047 | Scheibe |
| 11 | 4 | 103173007 | Gleitstück |
| 12 | 6 | 000010031 | Senkschraube |
| 13 | 2 | 000002025 | Sicherungsmutter |

DIN ISO 1302 - 3

| Presskolben - APB 616 | | Explosionszeichnung | 875,78 kg | |
|---|---|---|---|---|
| Bezeichnung | Werkstoff | Abmessung | Masse | Norm / Bemerkung |

Maßstab

Verwendungsbereich

**Presskolben - APB 616**

BERGMANN
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www.bergmann-online.com

| | Datum | Name |
|---|---|---|
| gezeichnet | 15.09.2014 | Krallmann |
| kontrolliert | | |
| gesehen | | |

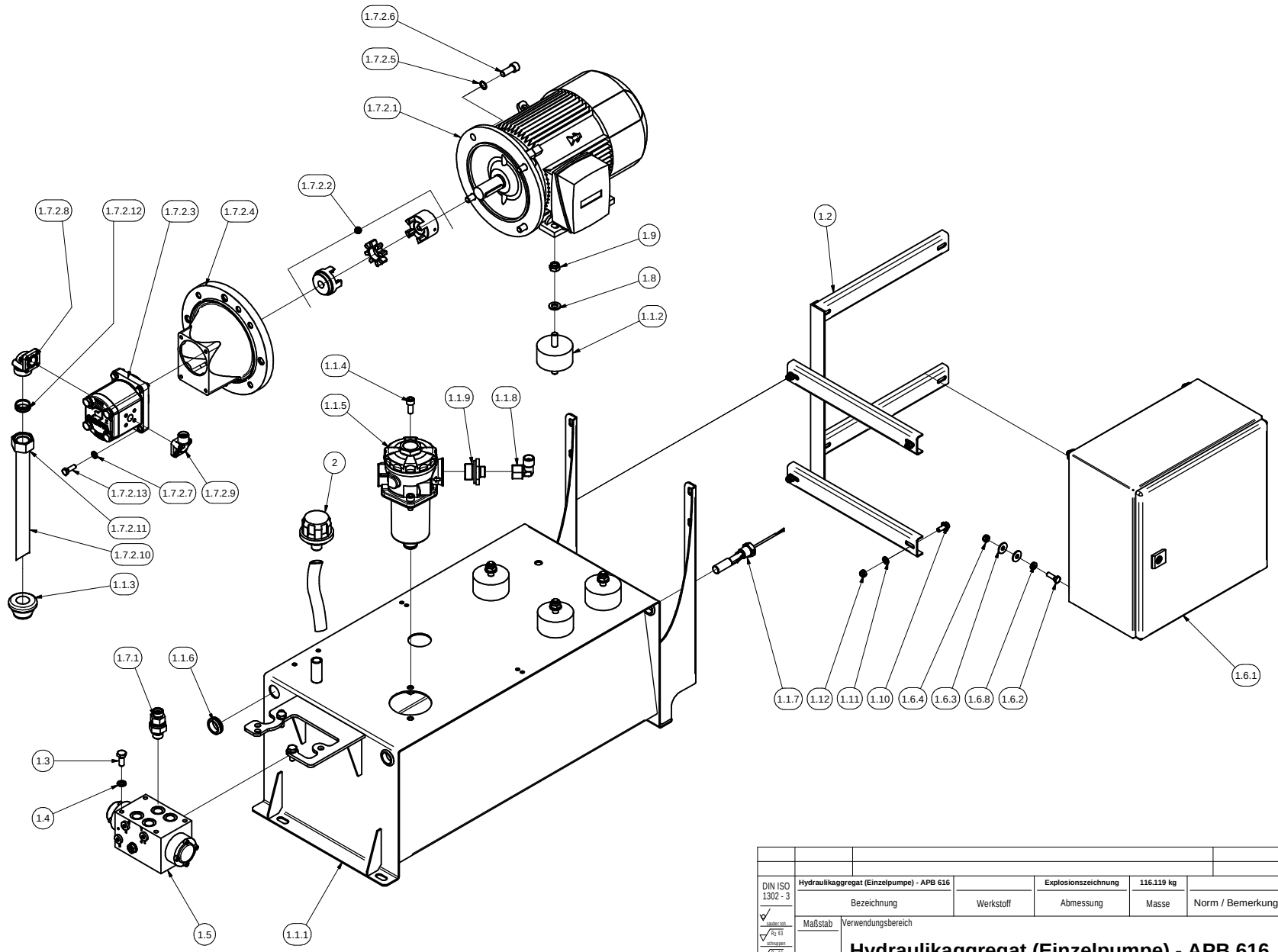


Zeichnungsnummer

**BA17901_7-Z**

Allgemeintoleranzen nach DIN ISO 2768 - mittel

| über | 0,5 | 6 | 30 | 120 | 315 | 1000 | 2000 | 4000 |
|---|---|---|---|---|---|---|---|---|
| bis | 6 | 30 | 120 | 315 | 1000 | 2000 | 4000 | 8000 |
| | 0,1 | 0,2 | 0,3 | 0,5 | 0,8 | 1,2 | 2,0 | 3,0 |




| Stückliste | | | |
|---|---|---|---|
| Pos. | Menge | Teilenummer | Bezeichnung |
| 1 | 1 | 103520000 | Aggregat |
| 1.1 | 1 | 152023000 | Tank Vormontage |
| 1.1.1 | 1 | 152047000 | Hydrauliktank |
| 1.1.2 | 4 | 000008001 | Gummipuffer |
| 1.1.3 | 1 | 000008003 | Durchführungstülle |
| 1.1.4 | 2 | 000001043 | Zylinderschraube |
| 1.1.5 | 1 | 003004112 | Rücklaufilter |
| 1.1.6 | 4 | 000008078 | Kabeltülle |
| 1.1.7 | 1 | 003004070 | Klappschwimmerschalter |
| 1.1.8 | 1 | 003001123 | Winkelverschr. einstell. |
| 1.1.9 | 1 | 003000100 | Einschraubstutzen gerade |
| 1.2 | 1 | 103028000 | Schaltschrankhalter |
| 1.3 | 3 | 000000049 | Sechskantschraube |
| 1.4 | 3 | 000003070 | Federring |
| 1.5 | 1 | 003006042 | HY-Steuerblock |
| 1.6 | 1 | 103370000 | Schaltschrank |
| 1.6.1 | 1 | 004005004 | Schaltschrank |
| 1.6.2 | 4 | 000000034 | Sechskantschraube |
| 1.6.3 | 8 | 000003047 | K-Scheibe |
| 1.6.4 | 4 | 000002025 | Sicherungsmutter |
| 1.6.5 | 3 | 004007114 | Kabelverschraubung |
| 1.6.6 | 9 | 004007115 | Gegenmutter |
| 1.6.7 | 1 | 004005157 | Bodenplatte |
| 1.6.8 | 4 | 000008162 | Dichtring |
| 1.7 | 1 | 103500000 | Aggregat E-Pumpe |
| 1.7.1 | 1 | 003001075 | Rückschlagventil |
| 1.7.2 | 1 | 103107000 | Motor/Pumpe Vormontage |
| 1.7.2.1 | 1 | 004009144 | E-Motor |
| 1.7.2.2 | 1 | 003002010 | Kupplung |
| 1.7.2.3 | 1 | 003005007 | Hydraulik-Zahnradpumpe |
| 1.7.2.4 | 1 | 003002000 | Pumpenträger |
| 1.7.2.5 | 4 | 000003115 | Schnorr-Sicherung |
| 1.7.2.6 | 4 | 000001078 | Zylinderschraube |
| 1.7.2.7 | 4 | 000003069 | Federring |
| 1.7.2.8 | 1 | 003005039 | Saugflansch |
| 1.7.2.9 | 1 | 003005038 | Druckflansch |
| 1.7.2.10 | 1 | 001157035 | Ansaugrohr |
| 1.7.2.11 | 1 | 003000011 | Überwurfmutter |
| 1.7.2.12 | 1 | 003000022 | Profilring |
| 1.7.2.13 | 4 | 000000034 | Sechskantschraube |
| 1.8 | 4 | 000003006 | U-Scheibe |
| 1.9 | 4 | 000002029 | Sicherungsmutter |
| 1.10 | 4 | 000001066 | Tensilock-Schraube |
| 1.11 | 4 | 000003004 | U-Scheibe |
| 1.12 | 4 | 000002025 | Sicherungsmutter |
| 2 | 1 | 003004019 | Belüftungsfilter einschraubbar |

DIN ISO 1302 - 3

| Hydraulikaggregat (Einzelpumpe) - APB 616 | | Explosionszeichnung | 116.119 kg | |
|---|---|---|---|---|
| Bezeichnung | Werkstoff | Abmessung | Masse | Norm / Bemerkung |

Maßstab | Verwendungsbereich

# Hydraulikaggregat (Einzelpumpe) - APB 616

BERGMANN Maschinen für die Abfallwirtschaft
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Telefon: +49 5933 955 0 Fax: +49 5933 1826
www.bergmann-online.com

| | Datum | Name |
|---|---|---|
| gezeichnet | 16.09.2014 | Krallmann |
| kontrolliert | | |
| gesehen | | |

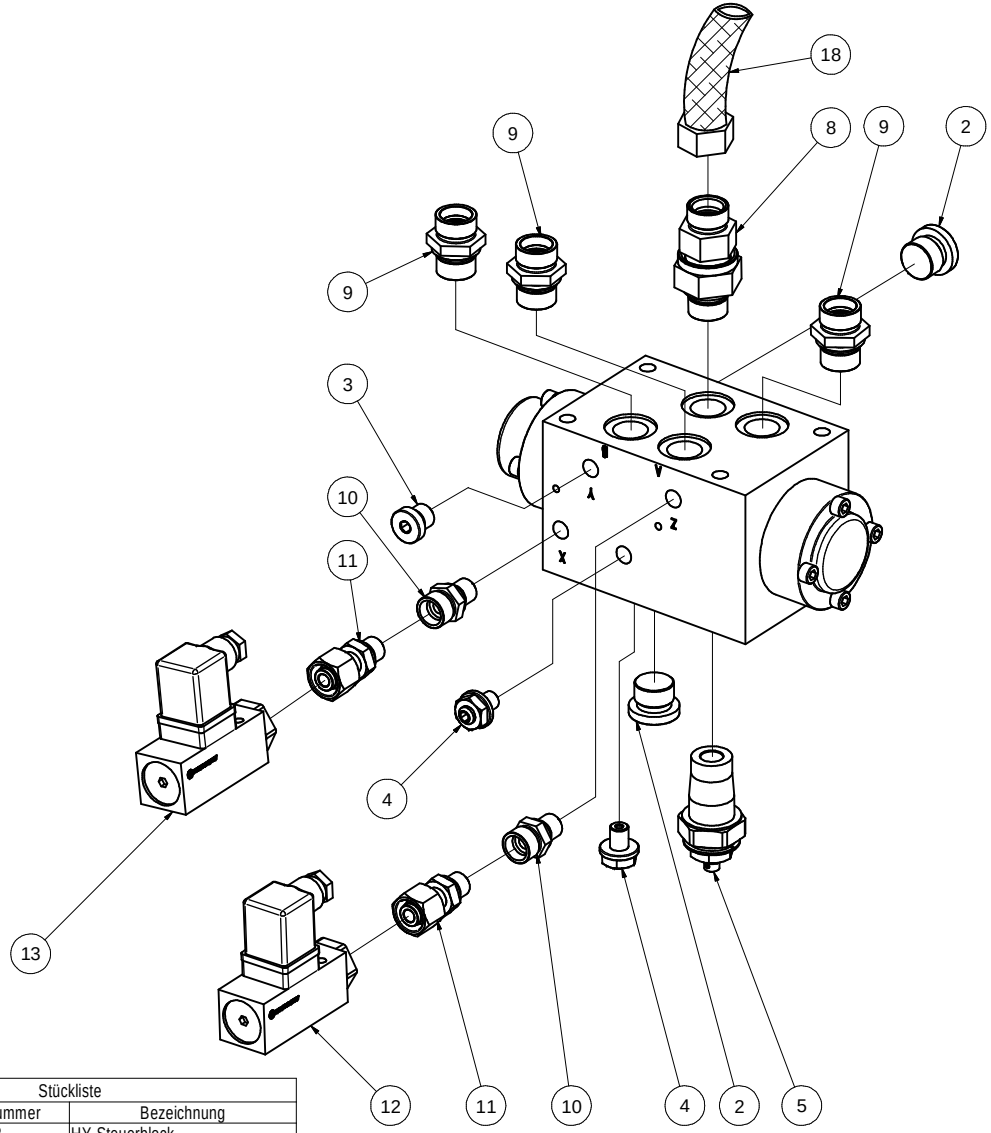


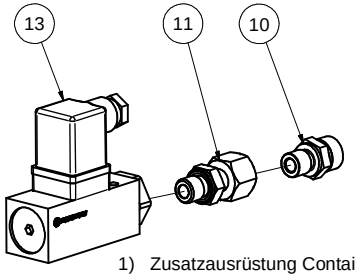
Zeichnungsnummer

**BA17901_8-Z**

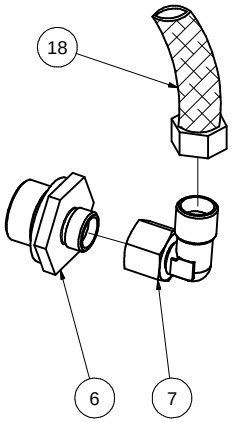
Allgemeintoleranzen nach DIN ISO 2768 - mittel

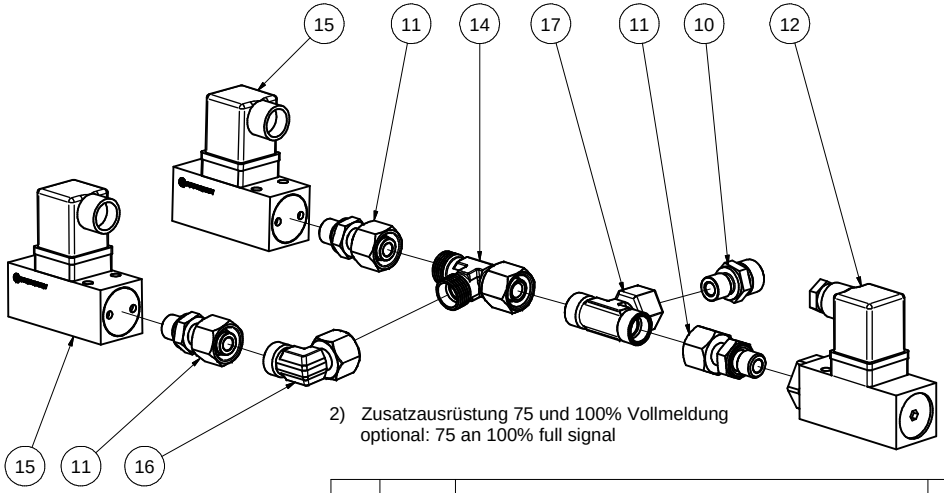
| über | 0,5 | 6 | 30 | 120 | 315 | 1000 | 2000 | 4000 |
|---|---|---|---|---|---|---|---|---|
| bis | 6 | 30 | 120 | 315 | 1000 | 2000 | 4000 | 8000 |
| | 0,1 | 0,2 | 0,3 | 0,5 | 0,8 | 1,2 | 2,0 | 3,0 |




1) Zusatzausrüstung Containerverschluss
optional: container lock




2) Zusatzausrüstung 75 und 100% Vollmeldung
optional: 75 an 100% full signal

| Stückliste | | | |
|---|---|---|---|
| Pos. | Menge | Teilenummer | Bezeichnung |
| 1 | 1 | 003006042 | HY-Steuerblock |
| 2 | 3 | 003001088 | Verschlussschraube |
| 3 | 4 | 003001087 | Verschlussschraube |
| 4 | 2 | 003006216 | Pilotventil |
| 5 | 1 | 003006055 | Druckbegrenzungsventil |
| 6 | 1 | 003000100 | Einschraubstutzen gerade |
| 7 | 1 | 003001123 | Winkelverschr. einstell. |
| 8 | 1 | 003001075 | Rückschlagventil |
| 9 | 3 | 003001116 | Einschraubverschraubung gerade |
| 10 | 4 | 003001114 | Gerade-Einschr. |
| 11 | 6 | 003001060 | Gerade-Einschr. |
| 12 | 2 | 003004045 | Öldruckschalter |
| 13 | 2 | 003004058 | Öldruckschalter |
| 14 | 1 | 003001130 | EinstellL.-Verschr. |
| 15 | 2 | 003004059 | Öldruckschalter |
| 16 | 1 | 003001122 | Einstell W.-Verschr. |
| 17 | 1 | 003001126 | EinstellT.-Verschr. |
| 18 | 2 | 003003294 | Hochdruckschlauch |

| Hydraulikventil (Einzelpumpe) - APB 616 | | Explosionszeichnung | 17.306 kg | |
|---|---|---|---|---|
| Bezeichnung | Werkstoff | Abmessung | Masse | Norm / Bemerkung |

Maßstab | Verwendungsbereich

# Hydraulikventil (Einzelpumpe) - APB 616

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| | Datum | Name |
|---|---|---|
| gezeichnet | 17.09.2014 | Krallmann |
| kontrolliert | | |
| gesehen | | |

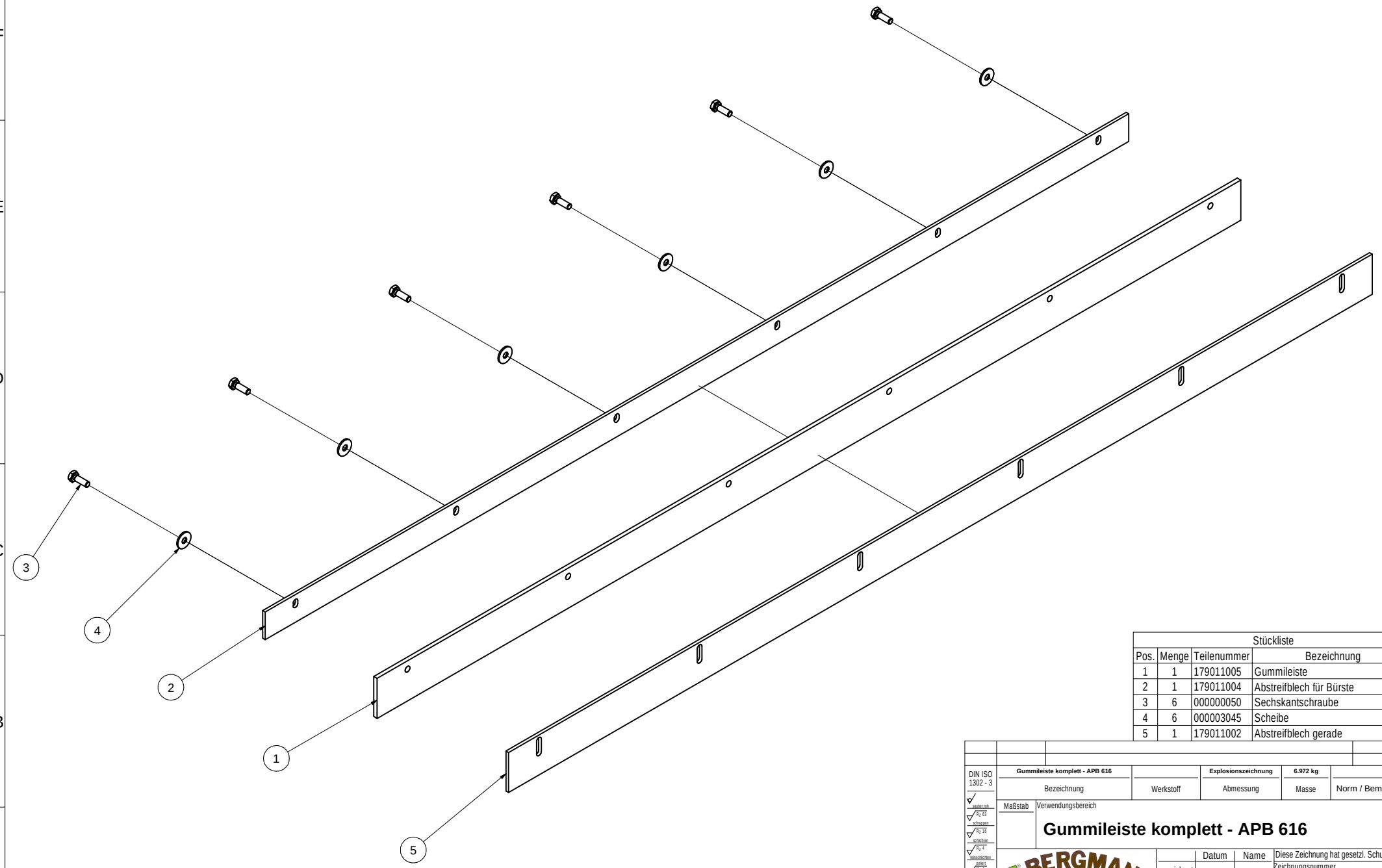


Zeichnungsnummer

**BA17901_9-Z**

Allgemeintoleranzen nach DIN ISO 2768 - mittel

| über | 0,5 | 6 | 30 | 120 | 315 | 1000 | 2000 | 4000 |
|---|---|---|---|---|---|---|---|---|
| bis | 6 | 30 | 120 | 315 | 1000 | 2000 | 4000 | 8000 |
| | 0,1 | 0,2 | 0,3 | 0,5 | 0,8 | 1,2 | 2,0 | 3,0 |




Stückliste

| Pos. | Menge | Teilenummer | Bezeichnung |
|---|---|---|---|
| 1 | 1 | 179011005 | Gummileiste |
| 2 | 1 | 179011004 | Abstreifblech für Bürste |
| 3 | 6 | 000000050 | Sechskantschraube |
| 4 | 6 | 000003045 | Scheibe |
| 5 | 1 | 179011002 | Abstreifblech gerade |

| Gummileiste komplett - APB 616 | | Explosionszeichnung | 6.972 kg | |
|---|---|---|---|---|
| Bezeichnung | Werkstoff | Abmessung | Masse | Norm / Bemerkung |

Maßstab

Verwendungsbereich

# Gummileiste komplett - APB 616

BERGMANN
Maschinen für die Abfallwirtschaft
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| | Datum | Name |
|---|---|---|
| gezeichnet | 17.09.2014 | Krallmann |
| kontrolliert | | |
| gesehen | | |

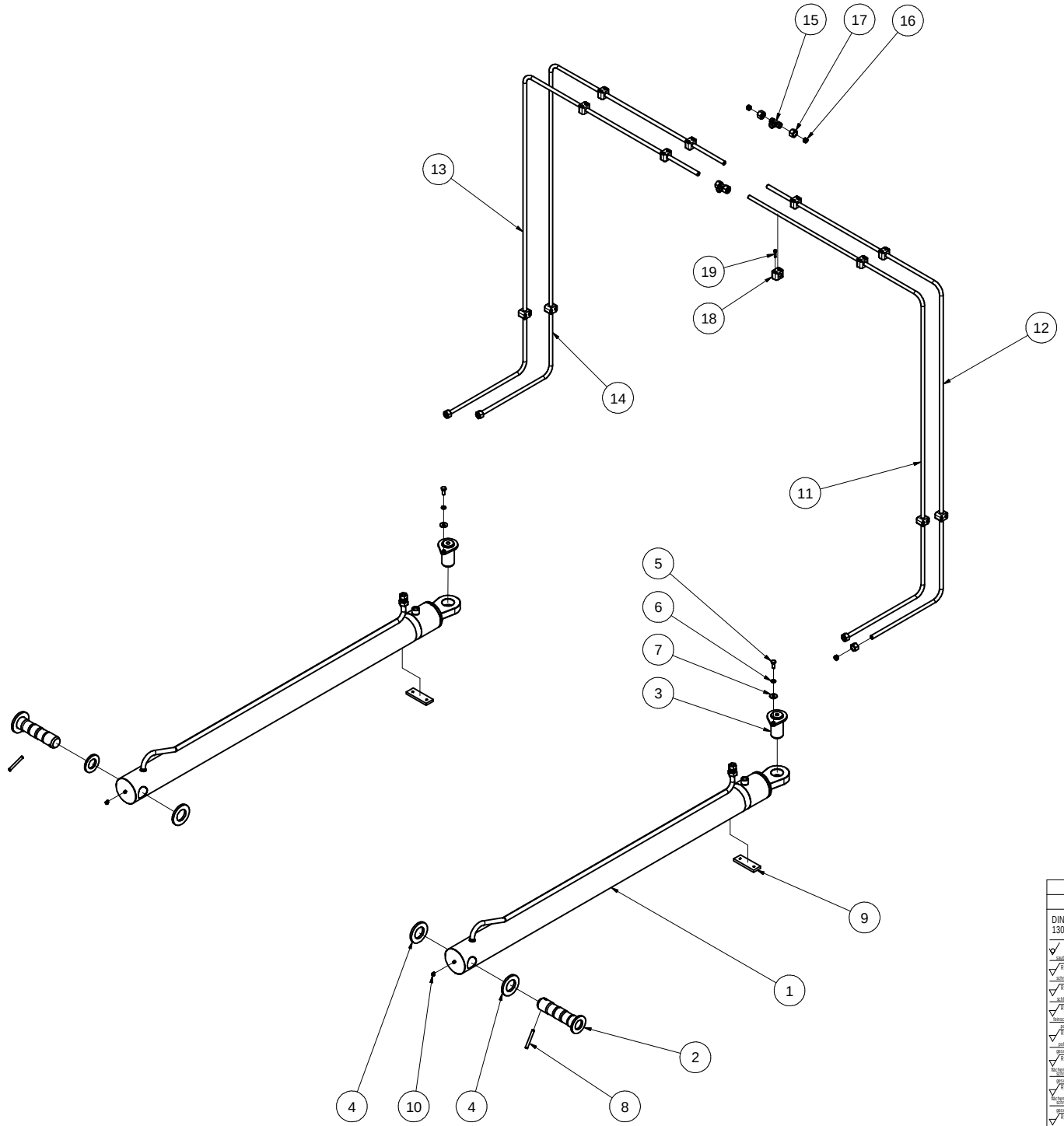


Zeichnungsnummer

**BA17901_10-Z**

Allgemeintoleranzen nach DIN ISO 2768 - mittel

| über | 0,5 | 6 | 30 | 120 | 315 | 1000 | 2000 | 4000 |
|---|---|---|---|---|---|---|---|---|
| bis | 6 | 30 | 120 | 315 | 1000 | 2000 | 4000 | 8000 |
| | 0,1 | 0,2 | 0,3 | 0,5 | 0,8 | 1,2 | 2,0 | 3,0 |




| Stückliste | | | |
|---|---|---|---|
| Pos. | Menge | Teilenummer | Bezeichnung |
| 1 | 2 | 003003672 | Hydraulikzylinder |
| 2 | 2 | 060117000 | Bolzen kpl. |
| 3 | 2 | 060019000 | Bolzen kpl. |
| 4 | 4 | 000003027 | U-Scheibe |
| 5 | 2 | 000000049 | Sechskantschraube |
| 6 | 2 | 000003070 | Federring |
| 7 | 2 | 000003045 | Scheibe |
| 8 | 2 | 000004014 | Spannhülse |
| 9 | 2 | 103020060 | Zylinderauflage |
| 10 | 2 | 000007005 | Schmiernippelkappe |
| 11 | 1 | 179010001 | Hydraulikleitung rechts A |
| 12 | 1 | 179010002 | Hydraulikleitung rechts B |
| 13 | 1 | 179010003 | Hydraulikleitung links A |
| 14 | 1 | 179010004 | Hydraulikleitung links B |
| 15 | 2 | 003001109 | T-Verschraubung |
| 16 | 8 | 003000016 | Profilring |
| 17 | 8 | 003000006 | Überwurfmutter |
| 18 | 12 | 003003166 | 2x Kunststoffschelle |
| 19 | 24 | 000001031 | Zylinderschraube |

DIN ISO 1302 - 3

| Hydraulikleitung komplett - APB 616 | | Explosionszeichnung | 216.973 kg | |
|---|---|---|---|---|
| Bezeichnung | Werkstoff | Abmessung | Masse | Norm / Bemerkung |

Maßstab

Verwendungsbereich

**Hydraulikleitung komplett - APB 616**

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| | Datum | Name |
|---|---|---|
| gezeichnet | 18.09.2014 | Krallmann |
| kontrolliert | | |
| gesehen | | |



Zeichnungsnummer

**BA17901_11-Z**

Allgemeintoleranzen nach DIN ISO 2768 - mittel

| über | 0,5 | 6 | 30 | 120 | 315 | 1000 | 2000 | 4000 |
|---|---|---|---|---|---|---|---|---|
| bis | 6 | 30 | 120 | 315 | 1000 | 2000 | 4000 | 8000 |
| | 0,1 | 0,2 | 0,3 | 0,5 | 0,8 | 1,2 | 2,0 | 3,0 |

BERGMANN
Maschinen
für die Abfallwirtschaft


**BERGMANN**

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