

1. GENERAL ASPECTS

1.1 GENERAL INFORMATION	2
1.2 GENERAL SAFETY INSTRUCTIONS	3
1.2.1 CONSCIENTIOUSNESS OBLIGATION OF THE OPERATOR	3
1.2.2 CONCRETE SAFETY INSTRUCTIONS AND APPLIED SYMBOLS	4
1.2.3 FUNDAMENTAL SAFETY MEASURES BY NORMAL OPERATING	5
1.2.4 FUNDAMENTAL SAFETY MEASURES BY SERVICE AND MAINTENANCE	5
1.2.5 OPERATING AT THE ELECTRICAL EQUIPMENT	6
1.2.6 OPERATING AT PNEUMATIC EQUIPMENT'S	6
1.2.7 PAY ATTENTION OF ENVIRONMENTAL PROTECTION - REGULATIONS	6
1.2.8 DE - COMMISSIONING	7
1.3 SHIPPING AND STORAGE	8
1.3.1 SHIPPING.....	8
1.3.2 STORAGE AND INTERMEDIATE STORAGE.....	8
1.3.3 SETTING UP THE MACHINE	9
1.3.4 LAYOUT OF THE MACHINE	9
1.4 CONNECTING THE MACHINE	10
1.4.1 ELECTRICAL INSTALLATION.....	10
1.4.2 COMPRESSED AIR- AND EXHAUST CONNECTION.....	11
1.4.3 NITROGEN (GAS) CONNECTION	12
1.4.4 PRODUCT CONNECTION.....	12
1.5 TECHNICAL DATA	13
1.6 CONNECTIONS.....	15
1.7 DECLARATION OF CONFORMITY	16

1. GENERAL ASPECTS

1.1 General Information

The manufacturer of the machine is:

PLÜMAT
Plate & Lübeck GmbH & Co
Dr.-Max-Ilgner Str. 19
D-32339 Espelkamp
Germany

Phone: +49 (0) 5772 9102-0
Fax: +49 (0) 5772 5281
e-Mail: info@pluemat.de

This documentation is meant to provide information for the following target groups:

- *those involved in shipping and setting up the machine*
- *set-up staff*
- *users and operators of the machinery*
- *technical servicing personnel*

Before assembly and the first operation of the machine the operating instructions should be studied carefully! Changes to the machine are not permitted without first checking with the manufacturer, since safety functions may be impaired.

© Copyright by PLÜMAT

M. Kirbst

August 2009

All rights of reproduction and transmission reserved.

The machine was manufactured in accordance with EC legislation on machinery.

1. GENERAL ASPECTS

1.2 General Safety Instructions

1.2.1 Conscientiousness obligation of the operator

Legislation concerning health and safety at work

§§

Accident prevention regulation

of the

trade association

Operating Manual



The [Bag Filling and Sealing Machine BFL 852](#) has been constructed and built according to a conscientious selection of the observed harmonised norms as well as further technical specifications. It will be the equivalent of the state of technology and enable a maximum of security during operating.

The safety of the machine can only be put into action, in actual practice if you take all necessary measures. The operator will be subject to the conscientiousness obligation of the machine, these measures to plan and to control the execution.

The operator has to ensure particularly, that:

- the machine will be used according to the regulations
- the machine will operated only in perfectly sound and functional condition and that particular the safety appliances will be checked regularly of the serviceability
- the operating instructions has to be always available complete and good legible at the operation place of machine
- only qualified and authorised staff will operate, service and repair the machine
- the staff will be instructed regularly in all applicable enquire of occupational safety and environmental protection, and that the staff will be instructed in accordance of the operating manual particularly about the contained safety instructions
- all safety instructions- and warning signs on the machine will not be removed and will be kept good legibled



The machine is not allowed to be operated in the explosion - hazard area.

1. GENERAL ASPECTS

1.2.2 Concrete safety instructions and applied symbols

The following operating instructions will indicate the concrete safety instructions; to point out the not avoidable risks by operating of the machine. These risks includes the danger of:

- **persons**
- **product and machine**
- **environment**

The applied symbols in the operating instructions should make attentive especially about the safety instructions!



Danger

This symbol indicate that particularly danger for persons are possible.

(Danger to life, danger to injury)



Attention

This symbol indicate that particularly danger for machine, marterial and environment are possible.

The first important target of the safety instructions is to avoid personal injury.

- If a warning triangle is marked with “**DANGER**”, then danger is also possible for machine, material and environment
- If a warning triangle is marked with „ATTENTION“, then personal danger is impossible.

In each case the applied symbol cannot compensate the text of the safety instructions. Therefore the text always has to be read completely!

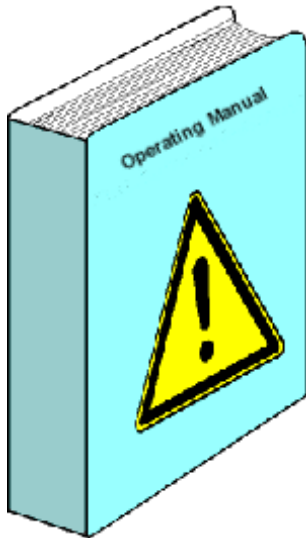


information

This symbol marks no safety instructions but information for better understanding of the sequence of machine operations.

1. GENERAL ASPECTS

1.2.3 Fundamental safety measures by normal operating



The machine is only permitted to operate from qualified and authorised personnel, when they have studied the operating instructions and are able to work in accordance to it!

Before switching on the machine, please check and secure, that

- only authorised personnel is in the operation area of the machine
- nobody can be injured by starting up the machine!

Before each production start, check and secure the machine for visible damage, so that the machine will operate in perfect condition! The superior has to be informed by observed defects!

Before each production start, all objects / material which are not required for production, has to be removed out of the operation area!

Before each production start check and secure that all safety facilities operate perfectly.

1.2.4 Fundamental safety measures by service and maintenance

The fixed service- and maintenance intervals in the operating instructions has to be executed!

Service- and repair manual according to the individual components in the operating instructions has to be observed!



Before carrying out the service- or repair works, the access to the operation area has to be barred for unauthorised persons!

Fix or put up signboards, which indicates and make attentive to the service- or repair works!



Before starting with the service- and repair works, the main switch has to be switched off for the power supply and has to be secured with a padlock! The key for the padlock must keep the person, who will carrying out the service- or repair work!

If heavy machine parts has to be exchanged, only use appropriate goods / loading take-up device and stop tools!

Before starting with the service- or repair works, secure that all eventual parts which you will come into contact has been cooled down up to room temperature!



Environment endangerer lubricant- or purifying agent should have a correct disposal!

1. GENERAL ASPECTS

1.2.5 Operating at the electrical equipment



Repair works at the electrical equipment of the machine is only allowed for electrical qualified trained workers!

Check the electrical equipment in regular intervals!

Loose connections has to be tighten!

Damaged cable / wire has to be exchanged immediately!

The control cabinet has to kept closed! Access is only allowed for persons who has got the key / tool!

Control cabinets and other housings of electrical equipment's should never be hose down with a water hose!

1.2.6 Operating at pneumatic equipment's



Service- and repair works at pneumatic equipment's has to be only executed from qualified personal!

The pneumatic equipment's has to make non-pressurised before the service- and repair works starts!

Before putting the machine into operation (commissioning) after service or repair works

- loose screw connections has to be checked of tightness
- secure if removed lids, sieves or filter are assembled

After the final service-or repair works and before starting with the production, please secure that:

- all materials, tools and other equipment's has been removed out of the machine / station
- eventual secreted liquidity has been removed
- all safety appliances at the equipment are in function!

1.2.7 Pay attention of environmental protection - regulations



At all sort of works at the machine are the legally obligation of waste avoidance and correctly waste utilisation / disposal to observe.

Especially at installation-, repair- and service works it should not pollute the ground or come into canalisation. These agents has to be stored in appropriate container and has to be transported, absorbed and removed / wasted!

- grease / oil
 - cooling agent
- solvent contained decontamination fluid

1. GENERAL ASPECTS

1.2.8 De - Commissioning

Temporary de - commissioning



Danger

To avoid unauthorized activating the **BFL 852** and hazard from persons:

- When the **BFL 852** is switched off and unsupervised for a longer period of time then the main switch has to be protected with a padlock against unauthorized switching – on!



Final de – commissioning, disposal

The final de – commissioning and disposal requires in addition a complete de – installation of the complete energy supply and the disposal of lubricating oil.



Danger

To avoid danger to life through an electric shock:

- De – installation works of the electrical equipment of the **BFL 852** to be allowed to be executed only from qualified electric specialists!



Attention

To avoid uncontrolled escaping of lubricating oil and environmental damage:

- Before dismantling the **BFL 852** the oil filling has to be let out carefully and the waste oil has to be disposed off compatible with the environment!

A qualified specialist firm has to be authorized for executing the final disposal of the **BFL 852** !

1. GENERAL ASPECTS

1.3 Shipping and storage

1.3.1 Shipping

Transport units

The machinery is shipped for assembly at 2 wooden pallets.

Position: to be transported in a horizontal position only
 Handling: can be carried with a fork-lift truck or mobile crane

Pallet no. 1

BFL 852

Dimensions: 600 cm x 225 cm x 235 cm (external dimensions)

Weight: approx. 3000 kg (gross)
 approx. 2500 kg (net)

Pallet no. 2

LF - unit

Dimensions: 455 cm x 122 cm x 80 cm (external dimensions)

Weight: approx. 540 kg (gross)
 approx. 435 kg (net)



Danger

To avoid machine damages and extremely dangerous injury at the transport:

- goods / loading take-up and stop tools has to comply with the safety rules!
- Pay attention about the weight by the selection of the goods/ loading take-up and stop tools (see schedule)!
- the transport ways has to be blocked and marked, so that no unauthorised persons can enter the danger area!

The transport ways has to be executed from qualified and authorised persons.

1.3.2 Storage and intermediate storage

A room temperature between -5° C and + 40° is prescribed for the storage of the machine, with a humidity not higher than 55%.

1. GENERAL ASPECTS

1.3.3 Setting up the machine

After opening the shipping box the fixing bolts of the machine underneath the wooden bottom need to be released. Lift the machine, catching it from underneath the basic frame with a fork lift truck, and lower it onto the ground. To avoid damage to the underside of the machine frame make sure that two wooden beams are placed across the fork.

Placing the machine in accordance to the assembly plan [2118-01.1](#) into the relevant place and align it in balance / scales.

(Setting up plan see next page!)



Danger

To avoid the danger of stumble:

- The machine connections (cable, hoses and pipes) has to be assembled in a way so that no trip (stumble) points will exist (cable conduit, bridges etc.)

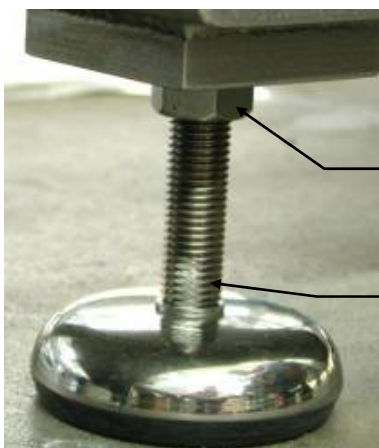


Attention

To secure an interference - free operating

- **prepare the assembly place so that the equipment can be placed horizontal onto a straight floor!**
- **Check the connections conscientious of tightness!**

Fastening of machine



After the machine has been set up and aligned, the standing feet has to be screwed onto the floor to ensure a stability of the machine.

SW 30

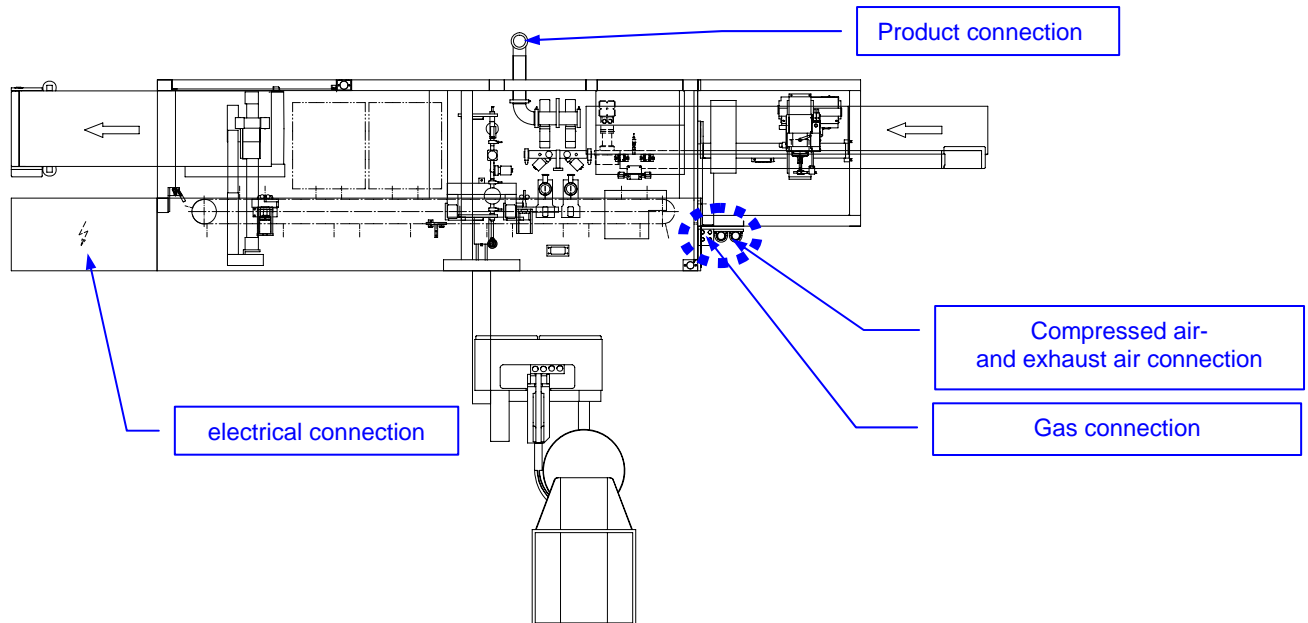
SW 17

1.3.4 Layout of the machine

(see next page)

1. GENERAL ASPECTS

1.4 Connecting the machine



1.4.1 Electrical installation



The machine should only be connected electrical from authorised trained electrical workers!
 The electrical connection has to coincide with the data on the name plate at the machine.
 The complete electrical connection must be in the main control cabinet in the bag making part of the line.

Electrical connection for BFL 852 at control cabinet

BFL-852 included LF:

Operating voltage: 230/400 V
Frequency: 50 Hz +/- 10%
Power consumption: 9 KW
Fuse: 25 A



1. GENERAL ASPECTS

1.4.2 Compressed air- and exhaust connection



Attention

- The machine must be operating with a minimum pressure 6 bar, to guarantee a perfect function. The air pressure has to be adjusted by the first commissioning at the maintenance unit and it has to be checked daily before the production begins!
- The supplied air pressure must be dry, clean and free of oil, to avoid damage at the pneumatic components.
- The eventual consisted condensate in the collecting tray has to be let out, daily.

The compressed air consumption of the entire machine is approx. 1800 l / h at 6 bar
Suction temperature: 18° Celsius



maintenance unit

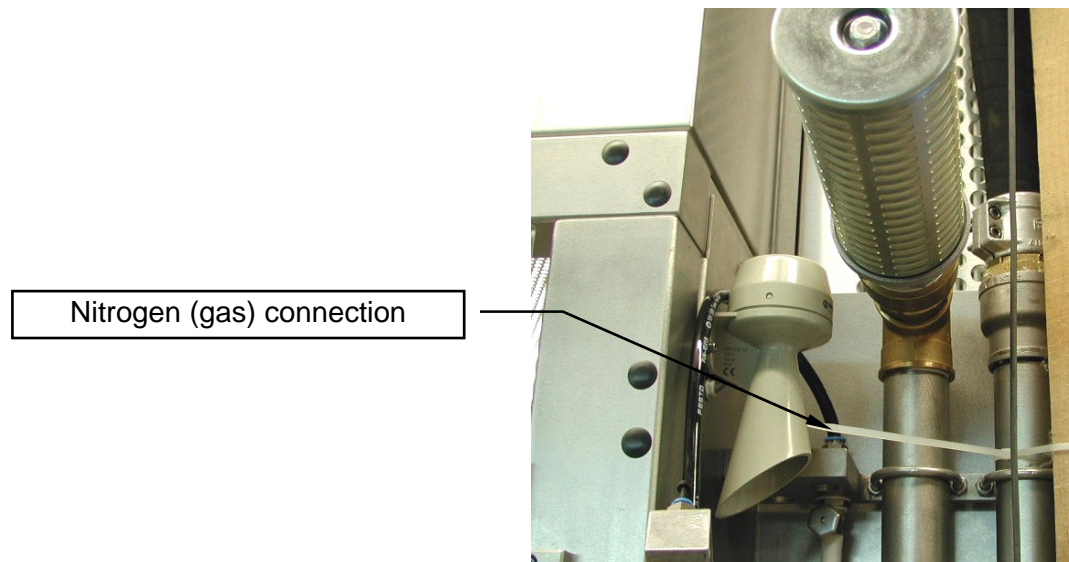


exhaust air connection; 2"

compressed air connection; 2"
Minimum pressure 6 bar

1. GENERAL ASPECTS

1.4.3 Nitrogen (gas) connection



1.4.4 Product connection

The feeding tube from the product container or the product pump must be connected to the product entry of the machine (see picture).

If necessary allow an initial large product quantity to flow at a low filling pressure, until no trapped air is visible any longer. The filling pressure must be such that the resulting product flow is within the prescribed working range of the transducer. When the product flow is too low or too high this may cause excessive filling tolerances. Fluctuations in the filling pressure also have an adverse effect on the tolerance values. We recommend 1 to 3 bar, but also wish to point out that the flow not only depends on the filling pressure, but also on pipe dimensions and product-carrying components as well as the viscosity of the product. The filling valves are leakage-proof up to 5+/-0,2 bar.

Filling temp. max.: 55° C.



1. GENERAL ASPECTS

1.5 Technical Data

Output:	2050 bph* - 300 ml 2200 bph* - 100 ml
	Based on non-foaming products and a liquid pressure of 1,0 - 5,0 bar+- 0,2 bar *The output depends on the efficient of the operators. The effective output can be impaired either by errors in operation, which occur mostly during the starting period or e.g. caused by faulty feed material or other outer influences PLÜMAT is not responsible for.
Bags:	100ml , 200ml, 300ml single tube bags made of PP (must be approved by Plümat)
Bag format:	100 ml up to 300 ml
Stopper:	Mini Tulipe (Sippex), Spike Port (Margi)
Recommended filling temperature:	25° C
Recommended Dosage range:	50 - 1000 ml (steplessly adjustable)
Filling product:	Antibiotic-Solution
Fill accuracy:	50 ml +- 2,0 % 100 ml +- 1,5 % 300 ml +- 1,0 %
Filling system:	2 massflowmeter systems, with electromagnetic filling valves and microprocessor control unit.
Sterilization:	The filling system is suitable for automatic CIP/SIP sterilization up to maximum 125° C without dismounting of any parts. (Cleaning In Place / Sterilization In Place)
Product supply:	The product must be fed to the filling system under pressure either by pump or pressure tank (1,0 - 5,0 bar +- 0,2 bar, depending on the bag format).
Product connection:	TC-2" (Tri-Clamp)
Compressed air:	6 bar, free of oil and dry.
Air consumption:	approx. 1800 NI/h
Power connection:	230 / 400V, 50 Hz

1. GENERAL ASPECTS

Power supply:	approx. 12 kW
Power consumption:	approx. 9 kWh
Pneumatic air:	centralized air collecting and exhaust system.
Material:	All product contact steel parts are made of stainless steel 1.4404/1.4571. Gaskets are made off Silicon, Teflon and EPDM. All other parts are made of stainless steel 1.43014.
Sequence control:	ABB including modem for external maintenance access
Human Interface:	Touch Panel
Emergency off switch:	actuating the emergency off switch stops all electrically and pneumatically controlled functions
Sensors:	All sensors are prepared with plug/socket connection as far as possible for easy dismounting if needed.
Recomm. room temp:	20 °C +/- 2°C
Operator language:	ENGLISH / SPANISH

1. GENERAL ASPECTS

1.6 Connections

PLÜMAT
Plate & Lübeck GmbH & Co
Dr.-Max-Ilgner-Straße 19
D-32339 Espelkamp

Phone: +49 (0) 5772 9102-0
Fax: +49 (0) 5772 5281
Email: info@pluemat.de
Internet: <http://www.pluemat.de>

Projekt Manager:

Phone: +49 (0) 5772 9102-358
Fax: +49 (0) 5772 9102-133
Email: oliver.schnepel@pluemat.de

Service:

PLÜMAT SERVICE CENTER
Dr.-Max-Ilgner-Straße 19
D-32339 Espelkamp

Phone: +49 (0) 57 72 / 91 02 - 728
Fax: +49 (0) 57 72 / 91 02 - 747
Email: service-center@pluemat.de

SERVICE - HOTLINE: +49 (0) 57 72 / 91 02 - 339

Commercial Service:

Phone: +49 (0) 5772 9102-730
9102-720
Fax: +49 (0) 5772 5281
Email: commercial@pluemat.de

1. GENERAL ASPECTS

1.7 Declaration of conformity

DECLARATION OF CONFORMITY according with the EG-guidelines machines

Name of manufacturer:

PLÜMAT
Plate & Lübeck GmbH & Co
Dr.-Max-Ilgner-Straße 19
D-32339 Espelkamp

we hereby declare that the following product

Product description: **Bag Filling and Sealing Machine BFL 852**

Mach.-No.: **2118**

which refers to this declaration conforming to the following norms or normative documents:

1. EG – guideline machines, appendix I
Fundamental safety- and health requirements
at conceivment and construction of machines
2. DIN EN 12100 parts 1 and 2
Safety of machines, basic concept, general formal principles
3. EN 60204-1(1998) / DIN VDE 0113
Electrical equipment of industrial machines
(except of EMV – inspection and voltage inspection)
4. Low Voltage Directive 2006 / 95 / EG

Espelkamp, August 13, 2009

(Plate / Lübeck, Managing Director)

(F. Muth, Techn. Manager)