

w-800

Manual Gun Washer for Water Based Paint



**Operating Manual and Test Log Book
for Spray Gun Cleaning System w-800**
– Translation of German Original Document –

EU Declaration of Conformity according to DIN EN ISO/IEC 17050-1

Manufacturer: B-TEC GmbH
Zunftweg 6-8
31303 Burgdorf / Ehlershausen
Germany



Herewith, we declare that the machines and marketed models described in the following conform in conception and in design to the relevant fundamental safety and health requirements of the applicable directives. This object of conformity is issued under the sole responsibility of the manufacturer. The object of the declaration is in conformity with the relevant Union harmonisation legislation.

If you modify the machine without our explicit agreement, this declaration will be invalidated.

Product type: Spray gun cleaning system

Type designation: **w-800**

Serial number: _____

Date of construction (month/year): _____

This machine has been designed in accordance with the following regulations:

Machine directive **2006/42/EC**

ATEX directive **2014/34/EU**

ATEX description: II 2G Ex h IIB T6 Gb

Registered with: PTB 0102 / R.No.: 05 ATEX D 116

The following harmonised technical standards have been applied:

Safety of machinery: **DIN EN ISO 12100**

Machines for surface cleaning and pre-treatment of industrial items using liquids or vapours

- Part 1: Common safety requirements: **DIN EN 12921-1**

- Part 2: Safety of machines using water based cleaning liquids: **DIN EN 12921-2**

- Part 3: Safety of machines using flammable cleaning liquids: **DIN EN 12921-3**

Explosive atmospheres: Non-electrical equipment for explosive atmospheres

- Part 36: Basic method and requirements: **EN ISO 80079-36**

- Part 37: Protection constructional safety "c": **EN ISO 80079-37**

Pneumatic fluid power - General rules and safety requirements for systems and their components:

DIN EN ISO 4414

Responsibility for technical documents: Michael Bellroth, Christian Bellroth

Address: Refer to manufacturer's address

Place/Date/Manufacturer's signature:

Hannover, 02.01.2020

Job title of signatory: Managing director

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1. Important Information

Thank you for the trust you placed in us by purchasing this B-TEC product. On the machines type plate you find the exact type designation and serial number to ensure good service and shipment of spare parts. The cleaners have been designed and manufactured to the highest quality standards for best operational safety.



Read this document carefully before putting the machine into operation and keep it for future reference.

On page 12 of this manual, there is a form for documenting the safety inspections to be carried out at regular intervals. The form has to be filled in by specialist technicians (persons with sufficient knowledge and experience or manufacturer's technicians) or experts (e.g. engineers or Technical Control Board experts).



A safety inspection must be carried out before commissioning and at least once a year.

B-TEC machines are to be used solely in accordance with the intended use. Usage not in accordance with the intended use as well as unauthorised modifications invalidate the liability of the manufacturer for any damages resulting from this. Detailed information regarding intended use as well as liability and warranty can be read in section 1.3 and 1.4.



The B-TEC machines are only to be used according to the intended used. Improper use of the machine can endanger the health of the operator.

1.1. Explanation of the Symbols

To directly draw attention to important information in this operating manual, the symbols "Caution!" and "Notice!" are used. Please note that paragraphs with these symbols need particular attention.

Caution!



You will see this symbol whenever attention is drawn to situations in which danger to life can arise due to or during incorrect or improper operation. Pay special attention to these symbols and act carefully.

Notice!



You will see this symbol in the operating manual whenever your attention is being drawn to correct work procedures, economic ways of operating or when the machines may be damaged by incorrect operation.

1.2. Operating Instruction

The responsible person within the company where the machine is placed has to create operating instructions in accordance with the "Occupational Safety and Health Regulations" applicable in the respective country. The operating instructions must be adapted to the cleaning fluid used and country of application.

1.3. Liability and Warranty

The cleaning machine is state of the art, tested and operationally safe. Liability for the function of the machine is transferred to the operating company, if the machine is improperly maintained or repaired by persons who are not authorised by the manufacturer and / or supplier, or if it's used against the

intended use and the instructions of the user manual. The operator is obliged to operate the machine only when in immaculate condition. The manufacturer is liable for errors or omissions - to the exclusion of further claims - only within the scope of the statutory warranty obligations. We reserve the right to make technical changes any time for continuous development and improvement of our products. Such changes, mistakes and misprints do not constitute a claim for damages. Only original spare parts and accessories are to be used. The manufacturer and / or supplier is not responsible for damages caused by ignoring the instructions in this operating manual. Warranty and liability conditions of the manufacturers and / or supplier sales and delivery terms are not extended by the above notes.

B-TEC warrants its products to be free from defects in materials and workmanship, for a period of 24 months on a one shift basis. In case of exceptional usage such as multiple-shift operation, the statutory warranty is shortened to 12 months (two-shift operation) or 8 months (three-shift operation). The period starts from the date the machine is shipped from the factory. The guarantee expires prematurely if the customer or a third party undertakes inappropriate modifications or repairs or if the customer, in case of a defect, does not immediately take all appropriate steps to mitigate the damage and give the supplier the possibility of remedying such defect.

1.4. Intended Use



This spray gun cleaning system may only be used for its intended purpose. It is not intended for other purposes than the following terms. The manufacturer/supplier is not liable for any damages resulting from improper use.

The intended use of this machine is to clean spray guns or paint-soiled parts/tools (e.g. stirring rods, mixing bowls etc.) using non-combustible, water-based cleaning fluids for water soluble paints.

This machine is for commercial use only, but not for continuous operation (e.g. serial production).

This machine is classified as equipment group II, equipment category 2G, type of protection Ex h, eligible for gases of explosion group IIB, equipment protection level Gb and can be used in zone 1.

See also type plate:  II 2G Ex h IIB T6 Gb

Improper use of the machine can endanger the health of the operator and of others and cause damage to the cleaner itself or to other objects. Any other use of the machine must be agreed and approved with the manufacturer in advance.

1.5. Requirements to be the Operator

The machine may only be used by competent personnel who, by virtue of their training, knowledge or experience, ensure proper handling and are aware of the dangers (for example, by reading the operating manual).

2. Safety Requirements

2.1. General Safety

The machine is built according to the state of the technology and can be operated safely. However, this does not mean that the consequences of all operational failures are protected by technical measures. Dangers can arise from this machine if it is used improperly or incorrectly. However, additional organisational measures have to be taken into account for certain workflows, such as the removal of residual paint from the gun.

- Read and follow the operating instructions for machine as well as the safety instructions before commissioning.
- Always keep the manual available in the immediate vicinity of the machine.
- The machine may only be operated by trained personnel. Operators under the age of 18 are only allowed to operate the machine when under supervision of an expert.



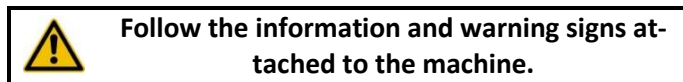
For some users, hazard assessment activity restrictions may result, e.g. for persons with chronic respiratory problems or allergic diseases as well as for pregnant women or nursing mothers.



For the correct operation of the machine, the safety and operating instructions are valid in all cases. These must be read carefully and followed strictly!

The manufacturer recommends to strictly follow the occupational safety provisions, rules and information applicable in the respective country for using spray gun and part cleaning systems such as the following examples: "Accident prevention - Principles and prevention", "Safety and health protection warnings at the workplace", "Safety rules for air pollution control systems for the workplace", "Safe use of the machine by following operating instructions", "Safe use of the machine by following operating instructions", "Avoidance of ignition from electrostatic charges", "Guidelines for facilities for cleaning parts with solvents", "Use of protective clothing", "Use of eye and face protection", "Use of protective gloves", "Industrial Safety".

2.2. Operational Safety



- The machine may only be operated, if grounding / earthing is ensured using a grounding cable (potential equalisation)! Connection must be carried out by a specialist. See section 7.2.
- In all cases, the local safety and accident prevention rules for the use of the machine must be followed.
- Fire, naked flame and smoking prohibited.
- Open fires and other sources of ignition (e.g. due to grinding or welding, any flying sparks) are not allowed within a radius of 1 metre around the machine. This applies also e.g. for lighting and fans as well as the associated electrical components.
- Depending on the cleaning application, use the required personal protective and chemical resistant protective equipment. The minimum required protective equipment is eye protection and gloves. Optionally protective clothing and safety shoes are recommended.



Minimal requirement:



Optional:



- Ensure that clothing (especially footwear) is conductive.
- Do not place the protective equipment on the machine.
- If clothing has been wetted with solvent / cleaning fluid, smoking is also prohibited outside the Ex-zone. Take off the contaminated clothing immediately. There is risk of skin irritation, allergies, etc. Persons wearing contaminated clothing must not be exposed to sources of ignition (e.g. welding). Risk of fire.
- In the event of a fire, immediately stop the compressed air supply and close the door of the machine.
- Compliance with country-specific workplace exposure limits legislation according to safety data sheets must be documented.
- The limit values of the country specific air pollution and adherence thereto must be observed.
- If the machine is not used, the door must always be closed for safety reasons.
- The operator has to ensure that nobody else is in the working area of the machine.
- Use only permitted solvents / cleaning fluids (section 3). These must be free of Halogenated hydrocarbons (CKW, CFC, TRI, PER, etc.).
- If water (e.g. with additives) is used as a cleaning fluid, this must not be discharged into the sewer system.
- Pay attention to the safety data sheet of the cleaning fluid.
- Do not eat or drink near the machine. Clean your hands before eating any food or drink after working. Danger of poisoning!
- Avoid inhalation of fumes and contact with the solvent / cleaning fluids. Risk of respiratory tract irritation!
- Do not add any other liquids to the cleaning fluid, such as kerosene, gasoline, chlorinated hydrocarbons, acids, alkalis, pickling agent or brake cleaner.
- Do not overfill the unit with cleaning fluid, as this may lead to an overflow of the barrel.
- Immediately collect spilled solvent(s) with suitable binders and dispose them in accordance with regulations. The water resources legislation must be complied with.
- When changing the cleaning fluid, all applicable regulations (e.g. waste water regulations) must be observed!



It is prohibited to open the pump casing in the machine. The manufacturer is not liable for any damage and/or secondary/subsequent damage caused by opening the pump casing on purpose or negligent opening. If you have any problems with your pump, please contact your distributor or the manufacturer's support service.

2.3. Hazards from Pneumatic Energy

Only specialists with expert knowledge and experience may work on pneumatic machines. When working on pneumatic systems, these must be disconnected from the air supply and de-pressurised in order to prevent injury.

2.4. Suggestions for Operating Instructions

Operating instructions are regulations that a company creates for safe working for its employees. These are binding instructions issued by the company in line with its policy and the law. Employees are obligated to follow these instructions.

The employer is responsible for creating and publishing workplace related operating procedures e.g. regarding Occupational Safety and Health Regulations, the Water Resources Legislation and, where applicable, the Control of Hazardous Substances applicable in the relevant country. These operating instructions are therefore to be complemented by national regulations on accident prevention and environmental protection.

Give your employee e.g. the following information:

- The hazards involving the handling of contaminated parts and the solvents used, the necessary protective measures and guidelines, including instructions in case of danger and first aid.
- The type and scope of periodic inspection for the safe working condition of the machine.
- Environmental Protection.
- Safe operation of the pneumatic system.
- Clean and safe working environment.
- The responsibility for operation must be clearly regulated by the company and must be complied with by all persons designated to operate the machine. Under no circumstances should unauthorised or untrained persons use the machine.
- The operator has to operate the cleaning machine only in perfect condition and has to notify their supervisor immediately in case of any changes affecting safety and environmental protection.
- Follow all warnings and warning signs.

3. Approved Cleaning Agents

Only non-combustible, aqueous cleaning agents (neutral or slightly alkaline pH) such as distilled water for water-soluble paints.



Ensure that the used cleaning fluid is suitable and does not attack the surface of the object to be cleaned. Suitability shall be ensured by the operator in preliminary tests. The manufacturer and / or supplier does not assume any liability for damages caused by these tests.



Acids are not permitted. Paint strippers or other additives (e.g. brake cleaners etc.) must not be used in the machine.



Safety data sheets relevant to the products supplied should always be available on the premises. These will contain the information about the cleaning agents that you are using.

4. Technical Description of the Machine

The cleaning device w-800 is a cleaning device with a pneumatical mixer unit (coagulation) for manual cleaning of objects or spray paint guns with brush and water gun. The model w-800-1 is equipped with a pump for brush and water gun. The model w-800-2 is without pump and has to be connected to the customer's water supply.

The machine is operated exclusively by pneumatic parts.

4.1. Technical Data

Compressed air connection

Operating pressure:

max. 6 bar

Compressed air demand:

30 l/min

Machine dimensions

Machine outside (Width × Height × Depth):

750 x 1310 x 610 [mm]

Washing chamber (W × D):

570 × 500 [mm]

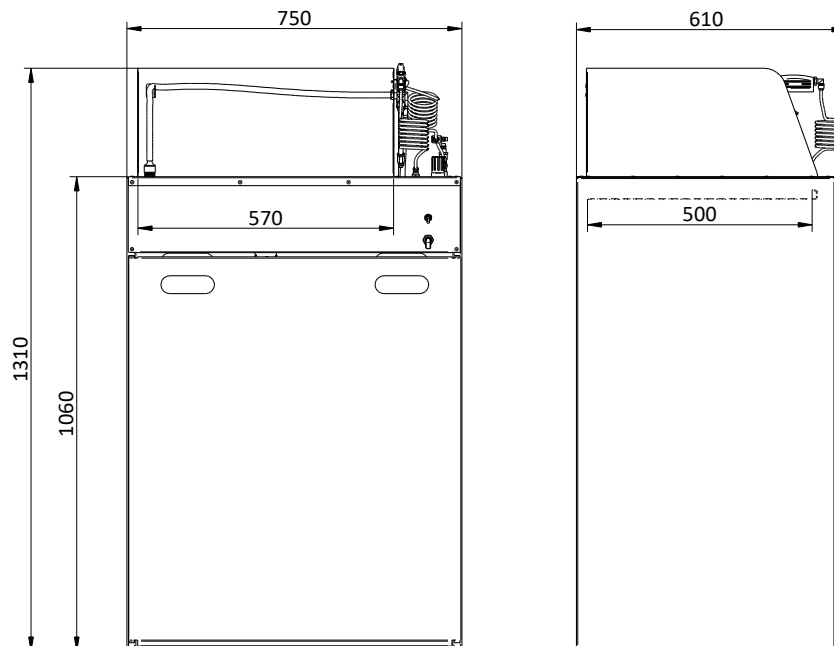


Figure 4-1

- Technical changes and errors reserved. All pictures similar -

4.2. Spare Part Names

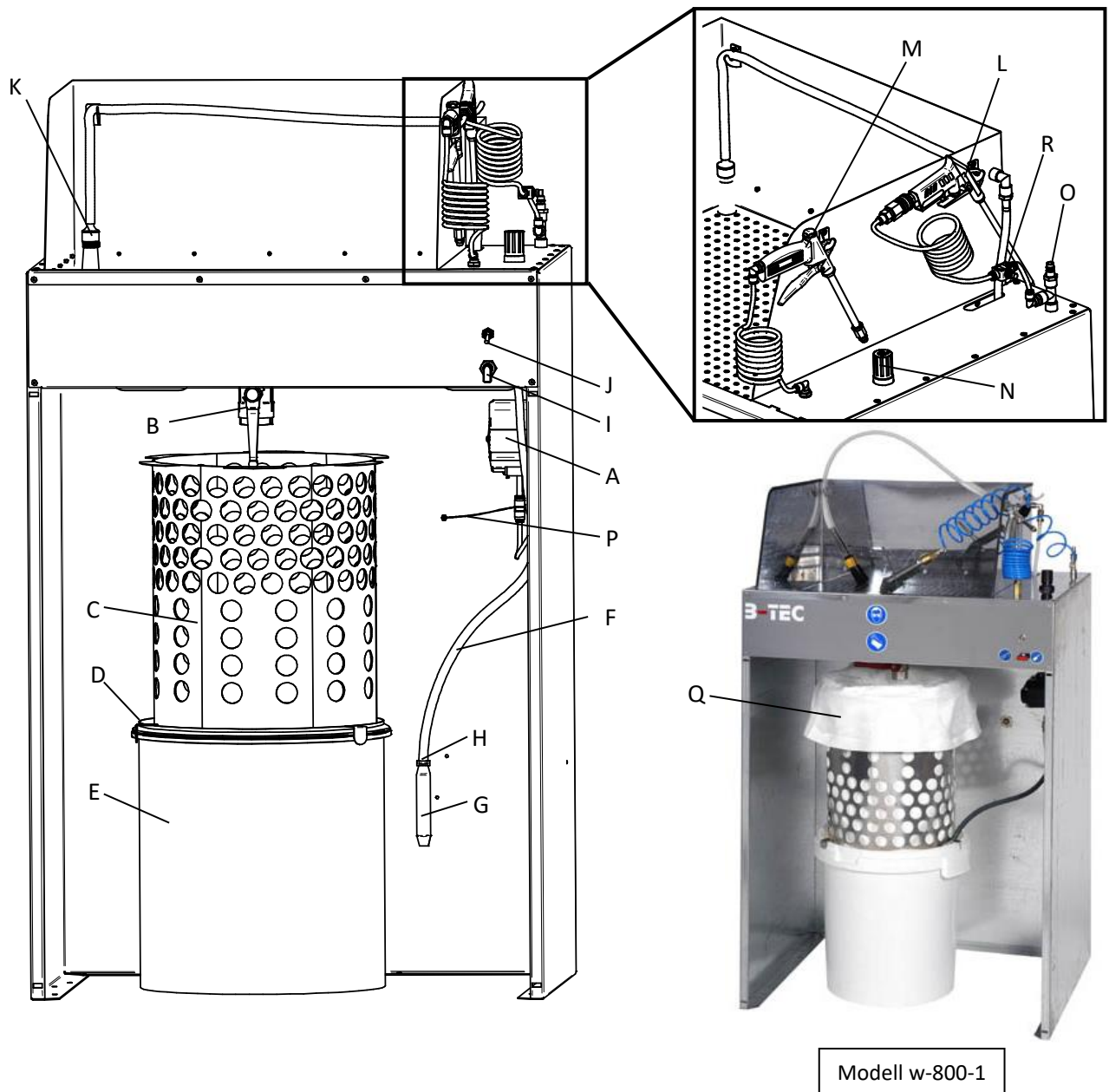


Figure 4-2

- | | | | |
|---|--------------------------------------|---|------------------------------|
| A | - Pump for manual cleaning brush | J | - Toggle switch |
| B | - Ball valve 1" | K | - Brush with hose |
| C | - Filter insert | L | - Blow-off gun |
| D | - Base for filter housing (Triangle) | M | - Water gun |
| E | - Water tank / Paint pail | N | - Pressure regulator 0-4 bar |
| F | - Corrugated hose, grey | O | - Air connection |
| G | - Intake strainer | P | - Grounding / earthing cable |
| H | - Strainer one ear clamp | Q | - Filter |
| I | - Ball valve 1/4" | R | - Flow adjuster |

- Technical changes and errors reserved. All pictures similar -

4.3. Spare Parts Ordering Numbers

A	- Main Pump	10000554
B	- Ball valve 1"	10000618
C/D	- Filter insert + triangle	10000270
E	- Water tank / Paint pail 30 Litre	10000690
F	- Corrugated hose, grey	10000655
G	- Strainer, stainless steel	10000473
H	- Strainer one ear clamp	10000649
I	- Toggle-switch	10000589
J	- Ball valve 1/4"	10000617
K	- Brush with hose	10000417
L	- Blow-off gun with long tube	10000447
M	- Water gun	10000460
N	- Pressure regulator 0-4 bar	10000581
O	- Compressed air connection plug	10000908
P	- Grounding / earthing cable	10000958
Q	- Fine filter	10000726
	- Coarse filter	10000727
R	- Flow adjuster	10000582

- Technical changes and errors reserved. All pictures similar -

5. Zone and Machine Classification according to ATEX

This machine is classified as equipment group II, equipment category 2G, type of protection Ex h, eligible for gases of explosion group IIB, equipment protection level Gb and can be used in zone 1.

See also type plate:  II 2G Ex h IIB T6 Gb

In accordance with legal requirements, the ATEX zone definition around the machine and creation of an explosion protection document comes under the responsibility of the "responsible person of the company" where the machine is placed as this classification is subject to the cleaning fluid used and various conditions such as ventilation.

However, at this point the operator should be supported with general advice to comply with this obligation. Helpful advice can also be found in EN 12921-1 and -3 and EN ISO 80079-36.

Mark the different zones with appropriate warning and prohibition signs. Markings on the floor can be helpful. In the area surrounding the machine, open flames and other ignition sources (e.g. welding or grinding equipment) are not allowed. In addition, smoking is prohibited. Temporary work causing ignition sources must be approved in writing and appropriate additional safety measures must be applied (e.g. remove all combustible materials; firefighting equipment must be on hand in the working area.)

6. Requirements for the Installation Site

- Horizontal industrial floor with electrical resistance of max. 10^8 Ohm.
- Dry and protected from frost.
- Very good technical room ventilation with 5-7 air changes per hour (Depending on local regulations).
- Do not install or operate the machine within a radius of 1.5 m from heat sources.

- Ensure an ambient temperature of 5 °C – 40 °C and do not expose the machine to direct sunlight, as this carries a risk of overheating.
- Follow the relevant legislative and regulatory safety instructions regarding substances hazardous to water applicable in the country where the machine is installed.
- Follow the safety regulations according to zone designation.

Space Requirements for Operation and Maintenance

The machine can be placed against the wall or in a corner. A 1.5 m space should be provided in front of the machine.

7. Transport and Installation

The machine is delivered packed. Unpack the machine outside an explosive atmosphere and bring it to the installation site. Install the machine as described in the following sections.

7.1. Compressed Air Connection

A compressed air supply is needed for the machine.



Operating pressure max.: 600 kPa (6 bar , 87 psi)

Operating pressure min.: 500 kPa (5 bar , 73 psi)



A **pressure regulating valve (Item no.: 10000619)** has to be fitted if the compressed air connection exceeds the required operating pressure. Use only **dry and oil-free air!**

**Betriebsdruck max. 6 bar
trockene und ölfreie Luft einsetzen
operating pressure max. 6 bar / 87 psi
dry and oil free air only**

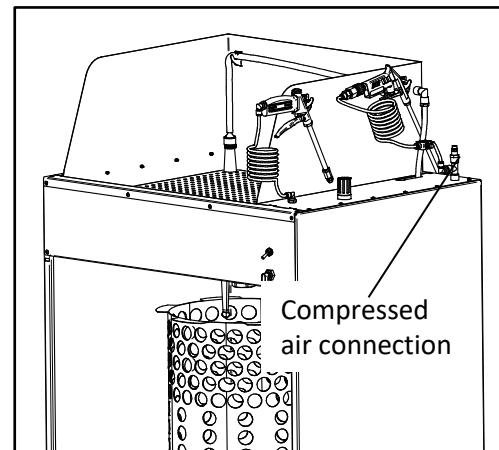


Figure 7-1

7.2. Grounding / Earthing



The machine has a grounding / earthing connection and may not be operated without being grounded!

The machine has a grounding / earthing cable, which needs to be grounded / earthed safely by a competent person (e.g. electrician). **Customer-provided containers have to be grounded separately!**

After proper installation, connection to the compressed air supply and grounding, the machine can be commissioned.

8. Commissioning



Commissioning may be done only after reading and following the operating manual carefully! Commissioning performed without following the operating manual and complying with all applicable regulations can lead to damage to persons, property, or the environment. Wear personal protective clothing. See section 2.2 - Operational Safety).

After proper installation (Section 5 & 6), connection to the compressed air supply (Section 7.1) and grounding (7.2), the machine can be commissioned:

1. Fill the water tank (E) with ca. 25-30 litres of water.
2. Put the filter bags (Q) into the filter insert (C). First the fine filter (thick filter material), then the coarse filter.
3. Put the base for filter insert / Triangle (D) on the water tank (E).
4. Put the equipped filter insert on top of the water tank.
5. Put the whole coagulation-set centred under the outlet valve (B).
6. Put the grey intake hose (F) in the water tank (E).
7. Reinsert the front cover.

The machine is now ready for operation.

9. Working with the Machine

1. Use ball valve (I) to select, if water flows through the brush (K) or the water gun (M). The brush can be used for initial cleaning and the water gun for cleaning the inside of a spray gun.
2. Use the toggle-switch (K) to activate the pump (A) → Cleaning water is pumped.
3. With the pressure regulator (N) you can adjust the water-output of the brush or the water gun.
4. After cleaning use the blow-off gun (L) to dry the cleaned object.

The model w-800-2 comes without pump and needs to be connected to a water line via a ball valve 1/2". When the ball valve is opened, cleaning water comes through the brush or water gun.

Cleaning the Washing-Water (Coagulation)

If the water level reaches the grating you have to coagulate:

1. Set up the grating vertically.
2. Pour the coagulation powder in the dirty water.
3. Take the blow-off gun to intermix the water. The pressure of the blow-off gun can be regulated with the pressure regulator (N). It shouldn't exceed 0.2 bar.



Please follow the regulations of the coagulation powder's manufacturer!

4. If water and paint are separated, open the outlet valve (B) slowly. The water flows through the coagulation system. The paint remains in the filter and the water flows into the water tank.
5. At the very end close the outlet valve again!

Please ask your paint manufacturers for information about the disposal of the paint and the water.

Note:



The brush has to be used only as intended for brushing parts. Never point the brush towards persons or pull outside of the machine.



Avoid dry runs of the pumps.

10. Care and Maintenance



The machine has to be disconnected from the compressed air supply before any repair work!

- We recommend cleaning the intake strainers on the intake hoses regularly (at least each time the cleaning fluid is changed). If the intake strainer is defective, it must be replaced immediately. Defective intake strainers either have heavy paint build-up, causing clogging of the filter surface, or the filter suffer damage that allows contaminated cleaning fluid to be drawn in to the pump, which can damage it or clog the cleaning nozzles.
- Clean the perforated stainless steel grille and the interior walls of the machine regularly. Clean any residue out of the drain pan, in order to ensure reliable drainage of the cleaning agent / solvent and to ensure that there is permanent sufficient flow capacity in the drain.
- It is recommended to use each function of the machine shortly at least once a day in order to avoid drying of the membranes inside the pumps and keeping the nozzles clean.
- **When the machine is not operated for a longer period of time (for example during holidays) a cleaning cycle with fresh cleaning fluid should be performed after the final cleaning cycle so that the nozzles are not clogged with heavily contaminated cleaning fluid.**



The warranty is invalidated, if other than original B-TEC replacement parts are used!

Customer service: Contact your dealer or directly: B-TEC GmbH
Zunftweg 6-8
31303 Burgdorf / Ehlershausen
Germany
Tel.: +49(0)5085-97100-0
Fax: +49(0)5085-97100-30
Email: info@btecsystems.de
www.btecsystems.de

11. Disposal




- If the machine shall be disposed of, please contact B-TEC or your dealer and request an appropriate quotation or the requirements for proper disposal.
- The machine must not be disposed of as domestic waste, but should be disposed of as hazardous waste depending on the degree of soiling. Contact your local authority for support.

12. Safety Inspection Checklist

Please make copies before filling out for the first time!




 **Safety inspections must be carried out at least once a year! Audit according to the applicable document regarding European Council Directive 2009/104/EC in the respective country.**

Model: _____
 Serial no.: _____
 Year of construction: _____
 Place of Operation: _____

<u>Item checked</u>	<u>OK</u>	<u>Missing or faulty</u>	<u>Recheck</u>
			
1. Operating manual / Instruction available	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Type plate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Warning signs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Condition of fluid hoses*	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Condition of air hoses*	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Clean intake strainer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Check cleaner cabinet for leaks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Function test all control elements	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Grounding / Earthing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Function test ball valves	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

* Check for brittleness, tight connections, etc.

Result of the safety inspection

-  No faults, can be operated without restrictions.
-  Restricted operation, faults to be fixed by date _____.
-  Operation not permitted. Re-inspection necessary.

Date, place, signature of expert technician

Signature of operator