



Handleiding

BT U800 M800 A800

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Declaration of conformity according to DIN EN 45014

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



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 EU directives.

All of our manufactured or assembled parts conform to the listed regulations.

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

Product type: Spraying-gun cleaning-device

Type designation: u-800 m-800

Serial-nr: Construction year: 2013

The machines conform to the following regulations:

Maschinenrichtlinie 2006/42/EG

Explosionsschutz-Richtlinie 94/9/EG ; Registered with: PTB 0102 / R.Nr.: 05 ATEX D 116

The following harmonising standards have been used:

Safety of machinery, equipment and facilities: **CEN EN 12100-1 / CEN EN 12100-2 / CEN EN 14121-1**

Machines for surface cleaning, aqueous and combustible liquids: **CEN EN 12921-2 / 12921-3**

General rules and safety requirements for pneumatic-systems: **DIN EN ISO 4414**

Special national norms are applied:

Guidelines for facilities to clean workpieces with liquid detergents: **BGR 180**

Safety- and healthsigns at workplace: **BGV A8**

Ex declaration: Ex II 2 G c II B<T6

Responsibility for technical documents: Hans-Joachim Bödrich, Michael Bellroth

Address: Refer to manufacturer's address

Location/Date/Manufacturer's signature

.....Hannover, 01.03.2013.....

Function of the signer: Managing director

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1. Important information



We thank you for your trust you gave to us by buying the spraying-gun cleaning-device "ud-800". At the rating plate at your cleaner you will find the exact name and serial-number of your cleaner for an uncomplicated service and shipment of spare parts.

The B-TEC cleaner has been built under highest quality standards for high reliability. Because of certain procedures there are places and parts that can't be protected without compromising the usability and function. Therefore we ask you to read this document carefully before using the cleaner to reach maximum life and reliable operation.



Read this document carefully before commissioning and keep it for future reference!

On page 20 of this instruction book there is a form for documenting safety inspections at regular intervals. The form has only to be filled out by specialist technicians (persons with sufficient knowledge and experience or manufacture's mechanics) or experts (e.g. engineers or Technical Control Board experts).



Safety inspections have to be conducted before operation and at least once every year!

The B-TEC devices and machines are only allowed to be used for the purpose explicitly described below. Any other use is in contrast with the regulations. The manufacturer cannot be held liable for damages resulting from such non-regulations use.



The B-TEC devices and machines are only to be used for the purpose explicitly described below!

These devices and machines are allowed to be used for cleaning varnish and spray paint guns as well as paint soiled parts and hand tools using solvents (A I, A II, A III) or non-combustible, aqueous cleaners for water-based varnishes. Exception: share of Aceton > 65 %.

The cleaners are not allowed to be used in continuous operation as for instance in serial production. Improper use of the washers can endanger the health of the operator and of others and cause damage to the cleaner itself or to other materials and assets.



Improper use of the cleaners can endanger the health of the operator!

1.1 Explanation of the symbols

Attention!



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

2. Technical description of the cleaner

u-800

The universal washer "u-800" is produced for automatically cleaning spray paint guns. The automatic wash cycle is activated by a timer. In addition, there is a brush and a fresh solvent jet in the wash enclosure for cleaning objects or spray guns manually.

m-800

The "m-800" is a washer for manual cleaning of objects and spray paint guns with a brush and a fresh solvent jet.

All models have a strong exhaust system that switches on and off automatically as soon as the hatch is opened or closed. All models are operated exclusively by pneumatic parts.

2.1 Technical Information

Compressed-air connection

Operating pressure: max. 6 bar

Acoustic emission

Average level of acoustic emission: 76 dB(A)

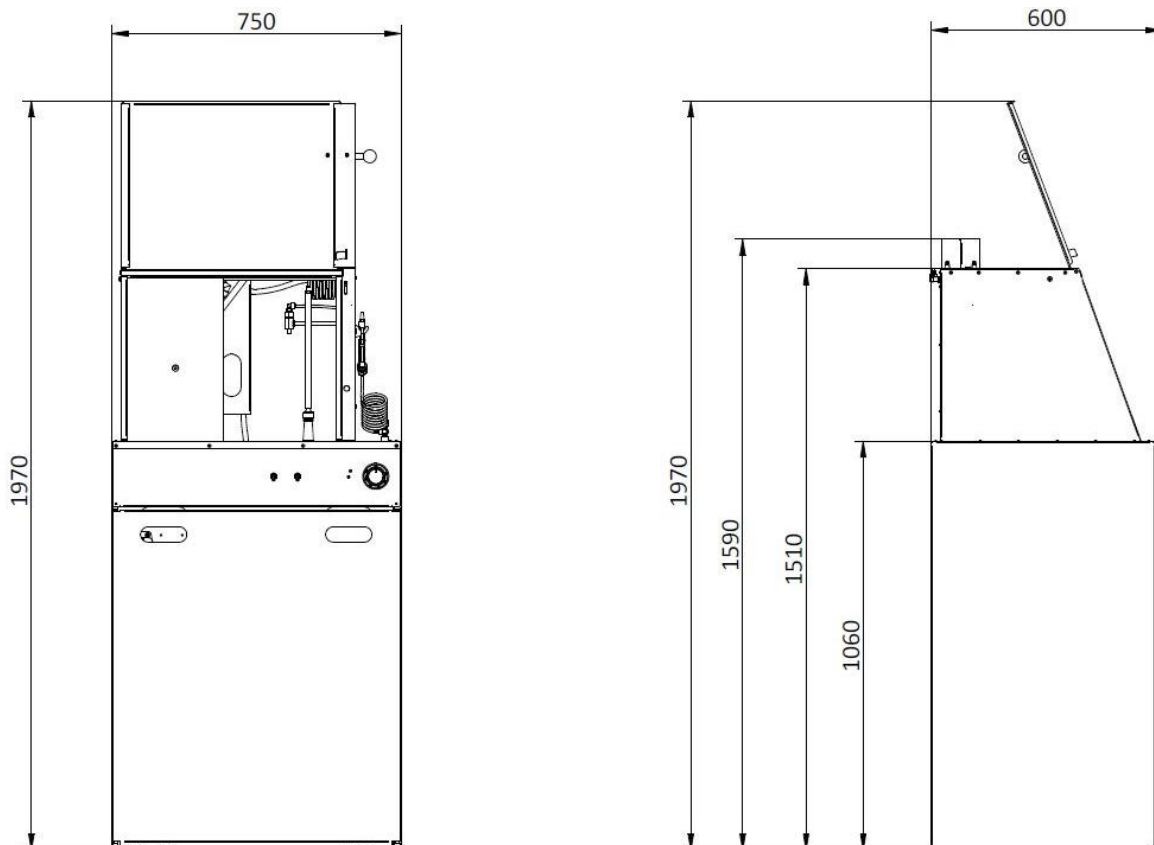
Total exhaust air flow rate:

At 6 bar 380 m³/h

Max. container size per side under the cleaning device:

Container size max. 60 l 1 pc. circulating solvent

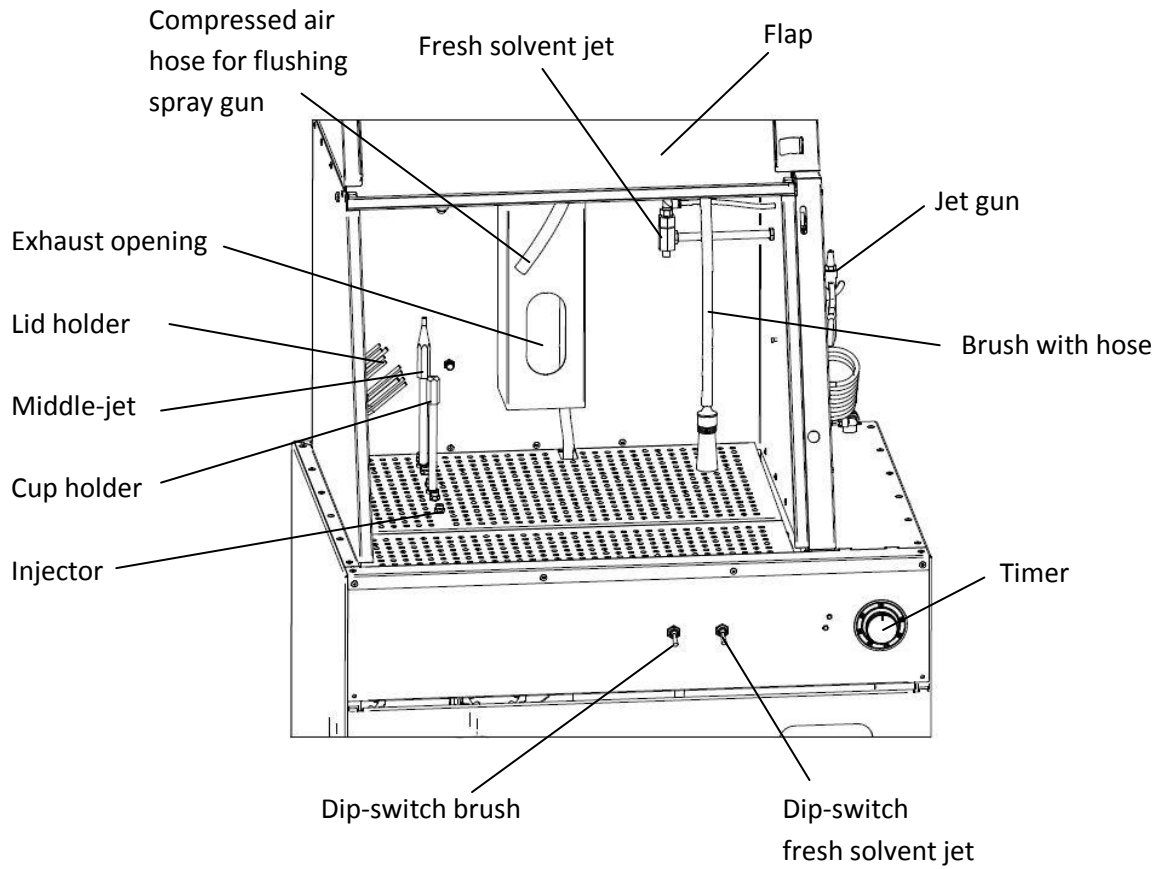
Container size max. 30 l 1 pc. clean solvent



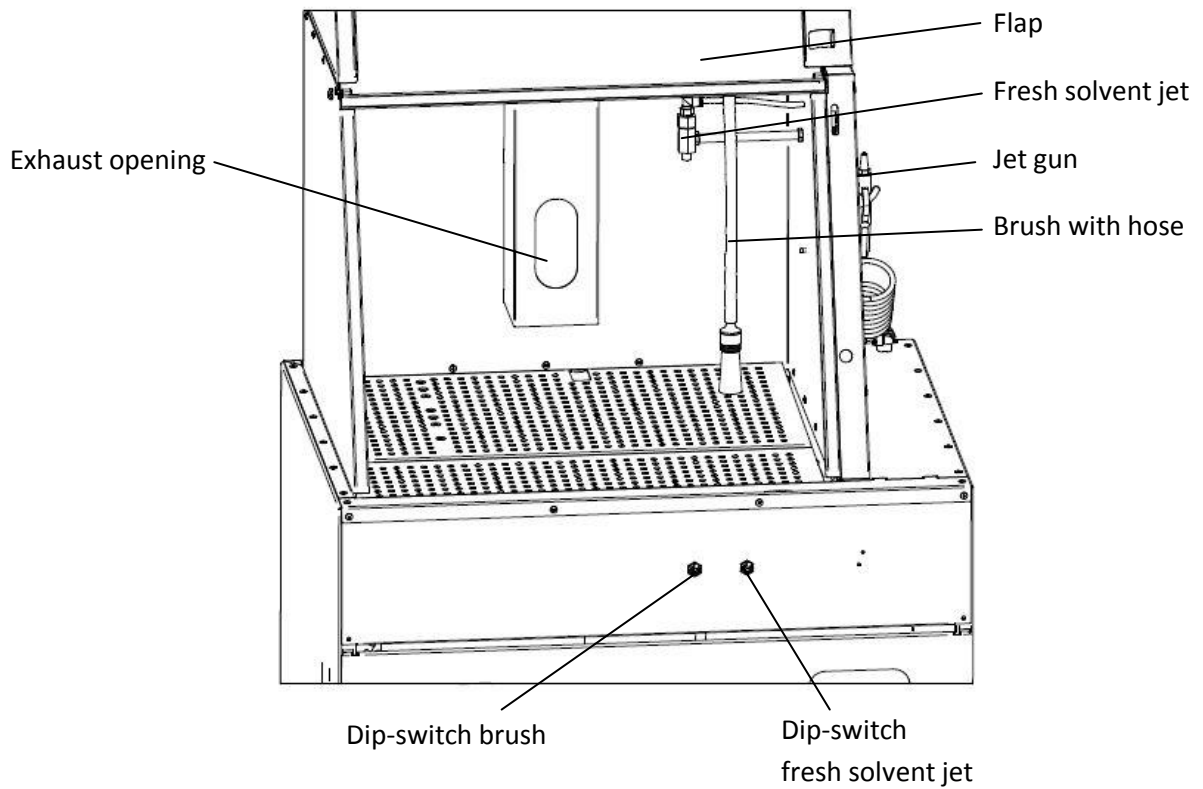
- Technical changes and errors reserved. All pictures similar -

2.2 Details

u-800



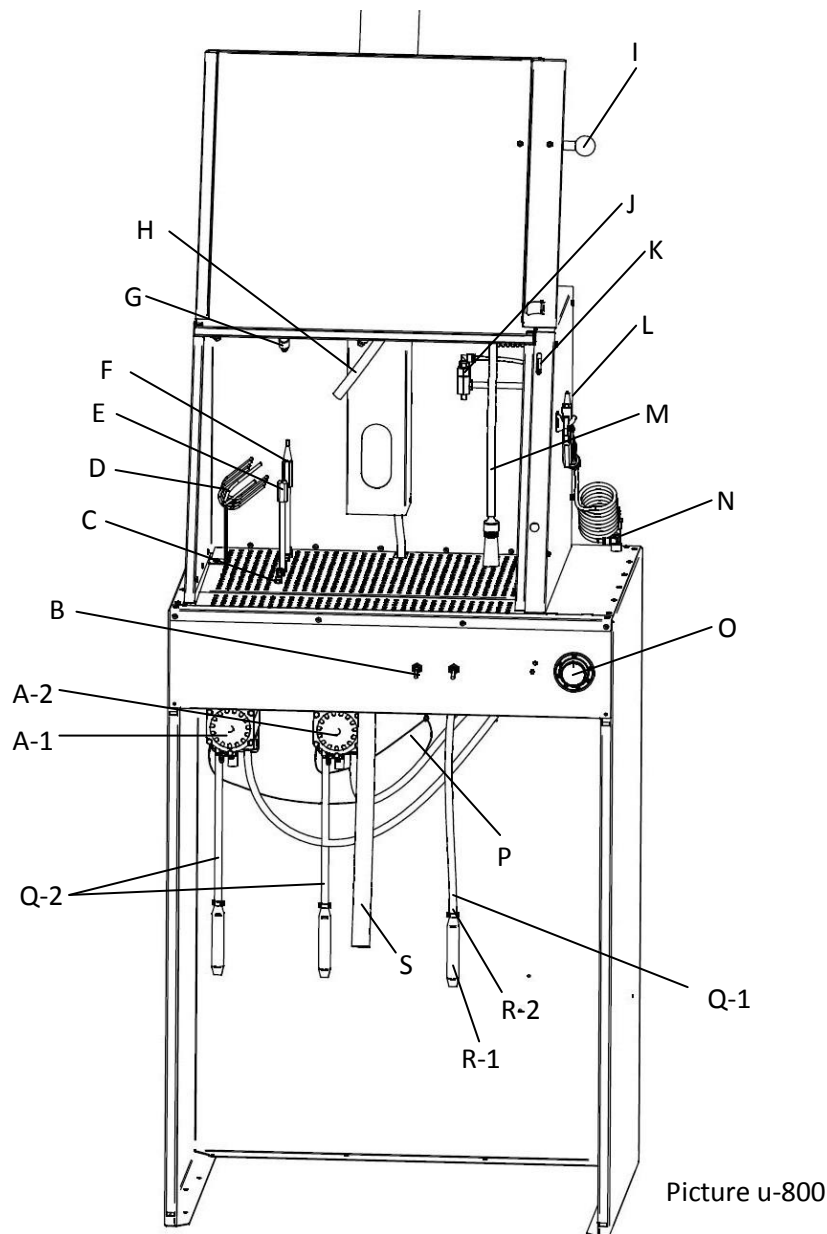
m-800



u-800 and m-800



2.3 Part names



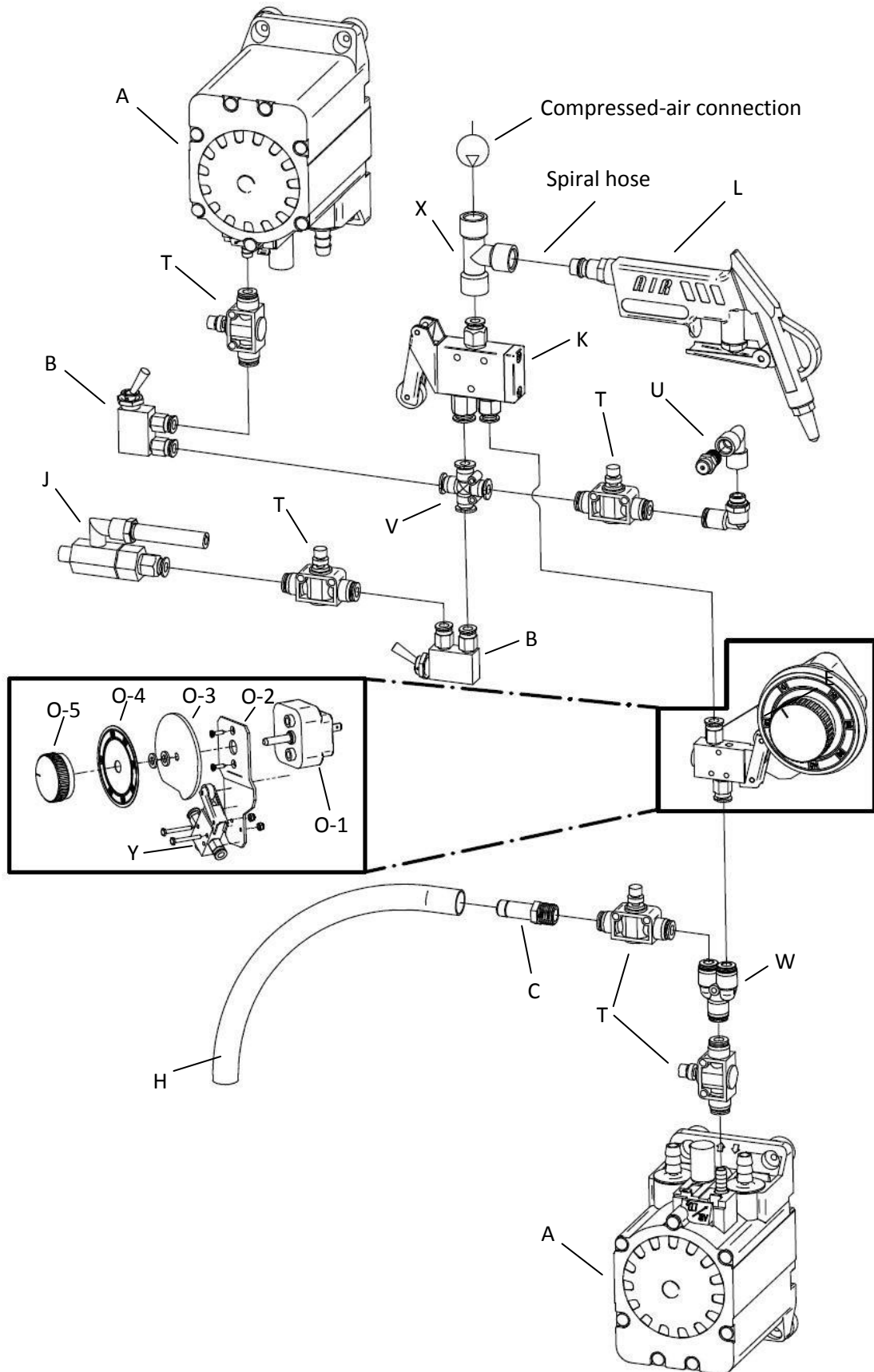
- | | | | |
|------|-----------------------------------|-----|---|
| A-1 | - Pump brush | K | - Role valve with connections |
| A-2* | - Pump jet automatic | L | - Jet gun with short tube |
| B | - Dip-switch | M | - Brush with hose |
| C* | - Injector | N | - Connecting plug compressed air |
| D* | - Lid holder | O* | - Timer |
| E* | - Cup holder | P | - Grounding cable |
| F* | - Middle-jet | Q-1 | - Transparent intake hose clean solvent |
| G* | - Injector | Q-2 | - Grey intake hose circulating solvent |
| H | - Air-hose for flushing spray gun | R-1 | - Intake-strainer |
| I | - Ball knob | R-2 | - Strainer connecting clamp |
| J | - Fresh solvent jet | S | - Discharge hose |

*only u-800

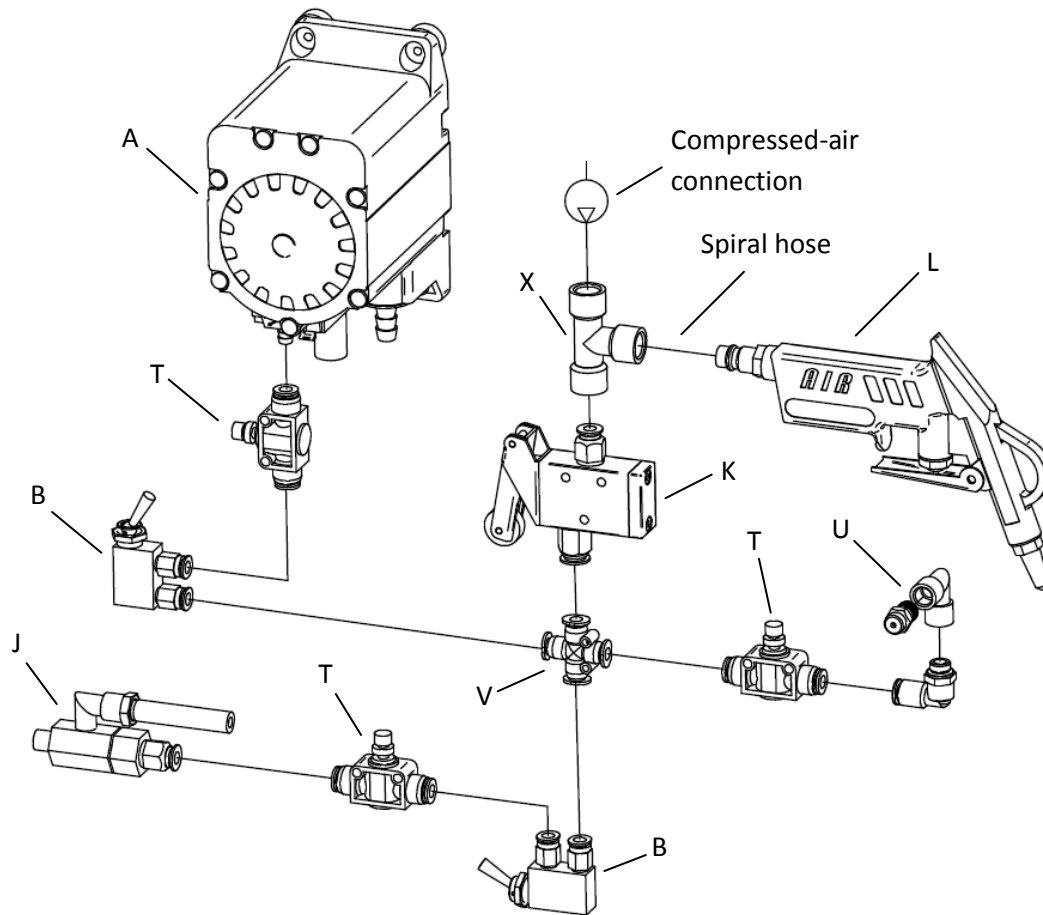
- Spare parts ordering numbers on page 9 -

2.4 Pneumatic plans

u-800



m-800



2.5 Spare parts ordering numbers

A	- Pump	020.005.020
B	- Dip-switch	05.40.05.05
C	- Injector	25.05.10
D	- Lid holder	35.20
E	- Cup holder	10.50.15.15
F	- Middle jet	10.50.15.30
G	- Injector	25.05.10
H	- Air-hose for flushing spray gun	30.25.15
I	- Ball knob	70.30.10
J	- Fresh solvent jet	10.50.15.25 St.
K	Role valve with connections	10.50.05.20.10 ST
L	- Jet gun with short tube	65.05.05
M	- Brush with hose	10.50.15.10
N	- Connecting plug compressed air	50.20.05
O-1	- Short-timer / clock unit	55.10
O-2	- Bracket	035.005.005.005
O-3	- Switch-plate	035.005.005.010
O-4	- Timer scale	55.15
O-5	- Timer knob	55.05
P	- Grounding cable	085.005.010.020
Q-1	- Transparent intake hose clean solvent	30.25.10
Q-2	- Grey intake hose circulating solvent	30.25.05
R-1	- Intake-strainer	95.05
R-2	- Strainer connecting clamp	75.05.05
S	- Discharge hose	30.25.20
T	Throttle valve	05.10.25.10
U	- Draw-jet	10.50.05.30 St.
V	- Cross connector	45.40.05
W	- Y-Connector	45.50.05
X	- T-Connector 1/4" inside	50.35.05
	Spiral hose with connectors (14 turns)	030.030.010

3. Approved cleaning agents

- Highly flammable liquids, hazard symbol „F“ / R 11 flashpoint < 21°C
GHS/CLP H 225 flashpoint < 23°C, boiling point > 35°C
- Flammable liquids, hazard symbol - / R 10, flashpoint 21 – 55°C
GHS/CLP H 226 flashpoint 23 – 60°C
- Non-flammable aqueous cleaning agents (neutral or slightly alkaline pH value for water-soluble paints and dyes, such as demineralized water).
- The machine d-800 is classified as machine category 2, group II, machine type explosion group II B and can be used in zone 1.
See also machine rating plate: **Ex II 2 G c II B < T6**



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



Ask the supplier of your cleaning device for a material safety data sheet. This provides information about the cleaning medium you are using.



Never alternately use solvents and cleaning agents for water-based paints. Follow the cleaner manufacturer's instructions. Alternating the two types of agents can cause gas buildup and the risk of an explosion.



If you plan on changing from solvent to water-based paint remover (or the other way round), the spray gun washing unit has to be completely cleaned of all paint, water, and solvent residues.



Recommendation to reduce solvent consumption:
If the unit shall be connected to a continuously running exhaust when using solvent, we recommend the pneumatic exhaust damper to reduce solvent consumption.
See B-TEC, catalog no.: 065.015.030.005 / ATEX version.

4. Safety regulations

The B-TEC GmbH machines are operationally safe and are constructed according to the state of the art. Due to the nature of the processes there are processes and parts that cannot be protected without impairing operability and functionality. Improper use of the gun-cleaner can be endanger the health of operator and of other and cause damage to the cleaner itself or to other materials and assets. B-TEC GmbH is not liable for any damages resulting from improper or incorrect use.



The manufacturer is not liable for damages caused by changes of the cleaner that have not been specifically authorized by the manufacturer. The removal or alteration of safety devices immediately voids the warranty and is an infringement of European safety standards.



Read and follow this Instruction manual and the safety instructions carefully before commissioning!

4.1 Instructions, rules and information of the employers' liability insurance association



The following occupational safety regulations (BGV), rules (BGR), and information (BGI) have to be followed while using spray guns and part cleaning systems:

- BGV A1** "Principles and prevention", general rules
- BGV A8** "Safety and health protection warnings at the workplace"
- BGR 121** "Safety rules for air pollution control systems for the workplace"
- BGI 578** "Security by operating instructions"
- BGI 5127** " Avoidance of ignition from electrostatic charges"
- BGR 180** " Guidelines for facilities for cleaning parts with solvents"
- BGR 189** " Use of protective clothing"
- BGR 192** "Use of eye and face protection"
- BGR 195** "Use of protective gloves"
- BetrSichV** " Ordinance on Industrial Safety"

The source documents (with exception of the " Ordinance on Industrial Safety") can be obtained from: Carl Heymann Verlag KG, Luxemburger Str. 449, D-50939 Köln, Germany.

4.2 Safety instructions

- **The following persons are not allowed to operate the cleaner:**
 - Women who are pregnant or breastfeeding
 - Persons with chronic breathing problems and allergic illnesses
 - Children below 16 years may be employed only under the supervision of a technical expert
- The exhaust system has to be connected continuous whenever operating the machine to avoid the risk of fire, explosions and health impairment.
- Provisions have be made for protective clothing depending on how the machine is operated (gloves, eye protection, airway protection, whole body protection).



- Hands have to be washed thoroughly before eating or drinking
→ Danger of poisoning!
- Keep the operating manual available near to the machine.
- Observe the respective information sheets of the trade co-operative association and the safety sheets when working with solvents.
- Make use of local safety and accident prevention regulations always during the operation of the machine. These have to be observed and adhered to.
- If water is used as a cleaning agent with or without additives, must not be fed into the sewer system. At this point obtain information from your local water authorities.
- Solvent spill has to be handled according to water protection laws and regulations.
- Adherence to maximal workplace concentrations according to the DIN-safety regulation sheets have to be documented.
- The maximal concentration limits according to „TA-Luft“ have to be observed
- Only use approved solvents or cleaning agents according to page 8.
- A sufficient conductivity of the clothing (especially shoes) should be respected.



A good grounding is essential!

4.3 Safety regulations pertaining to the installation of B-TEC machines

The risk zoning around the cleaning machine and the possible creation of an explosion protection document is, in accordance with legal requirements, the operator's obligation, because this division is inter alia depending on the solvents used and various conditions such as the ventilation. However, at this point the operator should be supported with general advice to comply with the obligation. Helpful advice can also be read at BGR 104, BGR 180 and DIN EN 12921-1 and -3.

For example, in many cases the classification of the zones looks like this:

Zone 0 => The interior of the machine

Zone 2 => In periphery of 1,0 – 1,5 m

Identify the different zones with appropriate warning and prohibition signs. Marks at the floor can be helpful. In the area surrounding the unit, open flames and other ignition sources (e.g. welding or grinding equipment places) are not allowed. Similarly, smoking is prohibited. Temporary work with ignition must be approved in writing and appropriate additional safety precautions must be adhered to (remove all combustible materials, classification of a fire station, ...).



5. Transport and assembling

- The machine is completely assembled delivered in carton.
- Take the machine out of the carton and bring it to the installation site.
- The collector of the rest paint is tethered for the transport. Please remove the transport lock after positioning.



5.1 Requirements to the installation site

- Dry and frost-free.
- Very well ventilated, force-ventilated, both supply and exhaust.
- Don't position the machine close to heat sources.
- Follow the safety instructions about the site.
- Follow the safety instructions according to the zone designations (Page 12)
- Maintain the ambient temperatures (5° - 35°C / 41°F - 95°F) and do not expose the machine into direct sunlight, as this carries a risk of overheating.
- Horizontal, conductive industrial floor (max. discharge resistance 10⁸ Ohm).



Exhaust

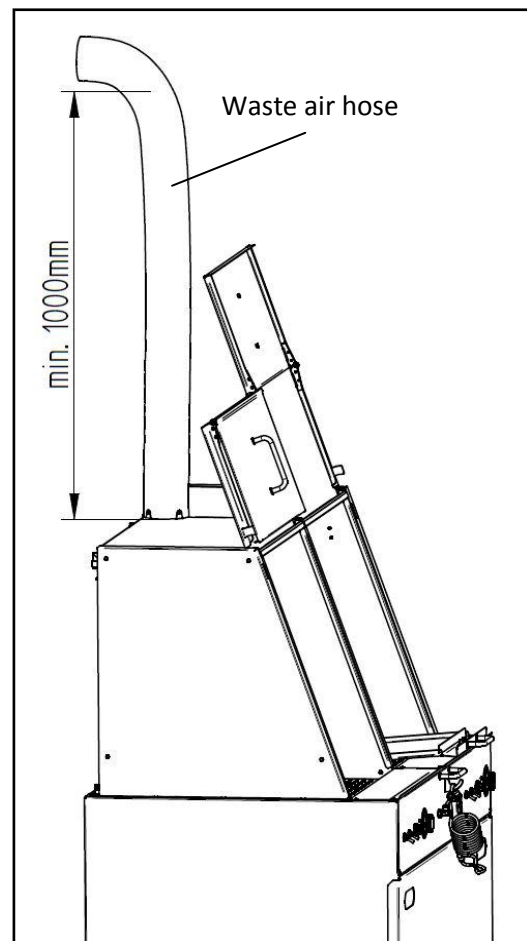
The waste air hose must lead outside. Place the waste air hose minimum one meter lengthwise for optimal work of the exhaust system.

One has to ensure that the fumes are not led into areas where people are likely to be. The waste air has to be exhausted safely. This means that it has not to be fed into chimneys serving furnaces or fireplaces and not into exhaust channels of spraying and drying cabinets.

Attention! Only use original B-TEC waste air hoses. Risk of fire if other hoses are used.



You can adjust the exhaust air flow at the throttles as needed for the length of the waste air hose.



Pictureu-800

Compressed air connection

One compressed air connection has to be provided by the plant, depending on the machine:



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

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

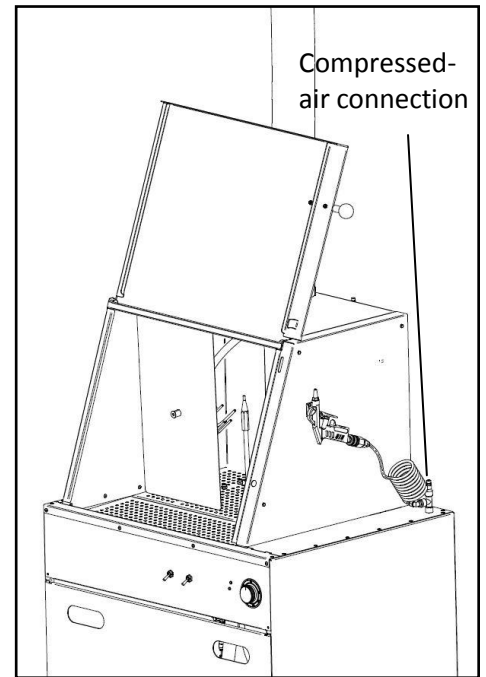


A pressure-regulating valve has to be used if the compressed air connections do not have the required operating pressures. **Use only dry and oil-free air!!**



Grounding: Device has a grounding cable!

- In the proximity of the pumps there is a grounding cable, which has to be grounded safely by a qualified person (e.g. electricians).
- **Customer-provided solvent tanks have to be grounded separately!**



After proper installation and connection to the compressed air supply, the cleaning unit can be commissioned.



Unnecessary dry running of the membrane pumps should be avoided.



**Do not open the door when the automatic wash cycle is running.
If necessary, turn the timer to "0".**

6. Operating instructions

Please follow the set-up sequence exactly!!

Transport the washer to the installation site as described in chapter 4.3 „Safety regulations pertaining to the installation of B-TEC machines“, connect compressed air supply (**maximum 6 bar / 87 p.s.i.**) and attach the waste air hose.

The safety regulations in section 4 have to be read before and followed during the installation!

The following solvent drums are required:

1 x 60 litres drum filled with 30 litres and 1 x 30 litres drum filled with 30 litres.

6.1 Commissioning

1. Remove the front cover of the machine and position the drums as shown on page 5.
2. Insert the black discharge hose (\varnothing 23) and grey intake hose into the 60 l drum, which is provided for contaminant dilution and circulating material. Insert the transparent intake hoses into the 30 l drum provided for fresh thinner and material.
3. Replace the front cover of the machine.
Now, the cleaning device is ready to work.

6.2 Operational procedure u-800

Working with the manual side of the machine (cf. pages 4)

Open the door. The exhaust starts automatically. Activate the pump of the brush with the toggle switch labelled „**Brush**“. Circulating solvent flows out of the brush. The output can be adjusted with a pressure reducing regulator that is located in front of the pump. Activate the pump of the spray jet with the **toggle switch labelled „fresh Jet“**. Fresh solvent flows out of the spray jet (30 litre drum). You can adjust the output at the throttles as needed with the black throttle valve behind the operating panel.

When the manual cleaning area is not longer in use, switch it off and close the door. The exhaust stops automatically.

With the jet gun, positioned at the front of the machine, you can dry objects or spray guns. If you unclamp the compressed-air quick connect, you can substitute the jet gun by the cleaned spray gun and exhaust it in the exhaust opening.

Working with the automatic side of the machine (cf. pages 4)

Open the hinged door. The exhaust system starts automatically. Shift the sliding door to the right side. Then install the gun as described below:

1. Remove the lid of spray gun and place it in the lid holder. Make certain that the paint-soiled inner surface faces downwards → towards the interior of the washer.
2. Place the spray gun, with the cup, on the center nozzle (large nozzle at the back right, next to the cover holder) upside down with the paint channel. If a strainer is used in the spray gun, then the cup needs to be unscrewed. Place the cup upside down on the cup holder (receptacle next to the center nozzle.) Remove the screen filter from the spray gun, and place on one of the tines of the cover holder. Next, place the spray gun upside down on the center nozzle.



3. The spray gun trigger is pulled back with the trigger clamp located in the washing chamber. This ensures that solvent flows through the paint channel of the spray gun. In addition, it is necessary to ensure that the set screw is in "opened"-position so that the air flow is possible.



4. Connect black compressed air hose to the connection on the spray gun. This ensures that air is forced into the air channels of the spray gun during the cleaning process and that solvent and paint residues are prevented from entering.



5. Shift the sliding door to the left side. **Thereby, a spraying of the solvent at the inside of hinged door is prevented!**

6. **Close hinged door!**

7. Set timer for 2-3 minutes. The main cleaning cycle is activated. Solvent is drawn from the 60 litres drum and circulated. The timer can be reset to zero by hand. When the set time is over, open the hinged door slowly and check the cleaning results
8. Since the solvent is circulated when the timer is used, it will be heavily contaminated after a certain period. If a paint film remains on the spray gun after the main cleaning cycle, the gun has to be cleaned manually using the fresh solvent jet.
9. For automatic rinsing, close the door again and press and hold the rinse button (red button) for 3-4 seconds. Thinner is drawn from the 30 l drum on the left side. The spray gun is rinsed on the inside and outside with fresh thinner.
10. Open the door to the automatic cleaning chamber and dry the spray gun with the cup and cover in their mounting brackets. Use the jet gun for this procedure.
11. The spray gun is clean. Reassemble and bring it back into production.



Clean the spray gun as soon as possible after the painting process.



Before insert the spray gun, unscrew the cover from the cup and empty out the remaining paint into a collecting container. For example the B-TEC residue collecting station RST-01. The more thoroughly the cup is emptied, the longer the solvent or cleaner can be used.

If you follow these process steps, you will have an optimal cleaning result.

6.3 Operational procedure m-800

Working with the manual side of the machine (cf. pages 5)

Open the door. The exhaust starts automatically. Activate the pump of the brush with the toggle switch labelled „**Brush**“. Circulating solvent flows out of the brush. The output can be adjusted with a pressure reducing regulator that is located in front of the pump. Activate the pump of the spray jet with the **toggle switch labeled „fresh Jet“**. Fresh solvent flows out of the spray jet (30 litre drum). You can adjust the output at the throttles as needed with the black throttle valve behind the operating panel.

When the manual cleaning area is not longer in use, switch it off and close the door. The exhaust stops automatically.

With the jet gun, positioned at the front of the machine, you can dry objects or spray guns. If you unclamp the compressed-air quick connect, you can substitute the jet gun by the cleaned spray gun and exhaust it in the exhaust opening.

7. Care and maintenance



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

7.1 Maintenance of the machine

- We recommend cleaning the stainless steel filter on the intake hose regularly (at least every time the cleaner is changed.) → if the filter is defective, it must be replaced immediately. Defective filters either have heavy paint buildup, causing clogging of the filter surface, or, the filter has a breach that allows contaminated solvent to be drawn in by the pump, which can damage the pump or clog the washing nozzle.
- 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 and solvent and to ensure that there is permanent sufficient flow capacity in the drain.
- When the machines will not operated for a longer period of time (for example during vacations) a clear rinse should be used after the final cleaning cycle so that the jets will not be clogged with heavily contaminated solvent.
- The operating permission will expire, if other than original B-TEC replacement parts are used.

Customer service: Contact your dealer, or directly:


B-TEC GmbH
Zunftweg 6-8
D-31303 Burgdorf / Ehlershausen
Tel.: ++49(0)5085-97100-0
Fax: ++49(0)5085-97100-30
Email.: b-tec@t-online.de
www.btecsystems.de

7.2 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 standard household waste. Depending on the level of contamination, it has to be handled as hazardous waste. Consult your local authorities as needed.

8. Safety inspection checklist

Please make copies before filling out first time!



Safety inspections must be conducted at least once every year!

<u>Item checked</u>	<u>OK</u>	<u>Missing or faulty</u>	<u>Rechecked</u>
			
1. Operating instructions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Model design label	<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 compressed air hoses*	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Clean intake filters	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Check washer cabinet for leaks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Functiontest of all control elements	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Grounding of the gun cleaner	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Check of the exhaust	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>




* Check for brittleness etc.

Expert technician

Name: _____
Address: _____

Date of the safety check

Result of the safety inspection

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

Signed by expert technician

Signed by operator

After correction faults

Signed by expert technician

Signed by operator