

# B-TEC® GMBH

**Geräte u. Anlagentechnik**

*Operating instructions and inspection  
checklist for water- and solvent paint gun washer*

Typ : ud-800

Serial number:



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## EG - Konformitätserklärung / Declaration of conformity

Manufacturer B-TEC North America  
4901 Prime Parkway  
McHenry, Illinois 60050

*We hereby declare that the machines described herein and the marketed models conform in conception and in design to the relevant fundamental safety and health requirements of the applicable EU directives.*

Waschgeräte/gun cleaner: ud-800

**Serien-Nr.:** \_\_\_\_\_ **Baujahr/construction year:** 2007

**Die Maschine entspricht folgenden Bestimmungen/ The machines conform to the following regulations::**

Richtlinie 98/37/EG, Maschinenrichtlinie  
Richtlinie 94/9/ EG, EG-Explosionsschutz-Richtlinie ( siehe ergänzendes Blatt im Anhang )  
PTB 0102 / R.Nr.: 05 ATEX D 116

**Folgende harmonisierende Normen sind angewandt/ The following harmonising norms are applied::**

DIN EN 12100-1, DIN EN 12100-2, Sicherheit von Maschinen, Geräten und Anlagen.  
DIN EN 294, Sicherheit von Maschinen-Sicherheitsabstände  
DIN EN 983, Sicherheitstechnische Anforderungen an fluidtechnische Anlagen und deren Bauteile  
-Pneumatik-  
DIN EN 13463, Nicht-elektrische Geräte für den Einsatz in explosionsgefährdeten Bereichen

**Folgende nationale Normen, Richtlinien und Spezifikationen sind angewandt:  
Special national norms are applied:**

BGR 180, Richtlinien für Einrichtungen zum Reinigen von Werkstücken mit flüssigen  
Reinigungsmitteln  
BGV A8, Sicherheits- und Gesundheitsschutzkennzeichnung am Arbeitsplatz

Ort/Datum/Hersteller-Unterschrift .....  
*Location/Date/Manufacturer`s signatur*  
Angaben zum Unterzeichner: Geschäftsführer  
Function of the signer: managing director

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## 2.A Protective Measures against Explosion

*B-TEC washing devices have been manufactured in accordance with the actual guidelines. The requirements 94/9/ EG (ATEX) have been met technically.*

*The Norddeutsche Metall-Berufsgenossenschaft, Hannover and PTB, Braunschweig were consulted as advisors.*

*The following declaration are on the B-TEC type plate:*

**EX II 2 G c IIA <T6**  
**max. surround temp.: 0-40° C**  
**PTB 05 ATEX D 116**

*Fundamentally, all B-TEC washing devices are operated by use of compressed air (with the exception of ultrasonic technique).*

*The following safety instructions and general provisions have to be followed:*

- 1. Washing devices may be operated exclusively for their specific purpose.*
- 2. The devices have to be grounded safely with the installed potential compensation cable.*
- 3. Barrels containing solvents or any metal containers must be grounded separately. Please see also BGR 132, 3.6.3.3.*
- 4. If barrels or containers made of plastics are used, the bunghole has to be wiped off extensively with a water-moistened cloth, before the draw in- and drain hoses are inserted or pulled out. The hoses must be inserted in their full length.*
- 5. All users must wear insulating working shoes, their clothing must not create static charge. Within the fire hazard area around the washing devices no activities are permitted, which might create static charge, sparks, or superficial heat up of more than 21° C.*
- 6. The floors in explosion endangered areas have to be insulated.*
- 7. In addition to that, will you please follow the instructions of the respective B-TEC operating manual.*

### ***3. Important information***

a) *The B-TEC apparatus and machines are only to be used for the purpose expressly described below. Any other use is contrary to regulations. The manufacturer cannot be held liable for damages resulting from such non-regulations use.*

**b) *Approved use:***

b) *These apparatus and machines are 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  $\geq 65$  %.** The washers are not to be used in continuous operation as for instance in serial production. Improper use of the washers can endanger the healths of the operator and of others and cause damage to the washer itself or to other materials and assets.*

**c) *Safety inspections:***

c) *On page 18 of this instruction book there is a form for documenting safety inspections at regular intervals. The form is only to be filled out by specialist technicians (persons with sufficient knowledge and experience, manufacturer's mechanics) or experts (e.g. engineers or Technical Control Board\* experts).*

***Safety inspections must be conducted at least once every year.***

**d) *Safety advice:***

d) *Important information and danger spots are highlighted in the operating instructions by the symbols „Notice!“ and „Attention!“. Text passages with these symbols must be read very carefully.*

*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 is to be drawn to correct work procedures, economic ways of operation or when the machines can be damaged by incorrect operation.*

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#### **4. *Approved cleaning agents***

### ***Approved cleaning agents / solvents***

- a) *highly flammable liquids (hazard class „F“/ R 11) with a flash point under 21° C such as lacquer solvent or regenerated washing solvent but not extremely flammable.*
- b) *flammable liquids of hazard class - / R 10 with a flash point between 21° C and 55° C.*
- c) *non-flammable, aqueous cleaning agents (neutral or slightly alkaline pH) such as distilled water for water-soluble varnishes and paints.*

***Notice!***            *Ask your cleaning agent supplier for the data sheets pertaining to safety matters. These will contain the information about the cleaning agents that you are using*

***Attention!***        *Never alternately use solvents and cleaning agents fo water-based paints. Follow the manufacturer’s instructions. Alternating the two types of agents can cause gas build up and explosions!*

***Notice!***            *When changing from solvents to cleaning agents for water-based paints (or vice-versa) the paint gun washer has to be completely cleaned of paint, water and solvent residues.*

### ***5. Technical description / Information***

**Technical description:**

**ud-800:** *Universal washer for automatically cleaning spray paint guns. The automatic wash cycle is activated by a timer. In addition, there is a brush in the wash enclosure for manually cleaning objects or spray guns and a fresh solution jet.*

*All models have a strong exhaust that is automatically turned on an off when the door is opened or closed.*

*All models are completely air-driven.*

**Technical data:**

**Outside dimensions:**

Width	mm	750
Depth	mm	600
Height	mm	1970 with top open

**Compressed air connection:**

Operating pressure	bar / (p.s.i.)	max. 6 / (87)
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**Size of containers standing under the gun-cleaner:**

Maximum container size	60 litres	number 2
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**Noise emission (enveloping curve method):**

	dB (A)	76
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**Exhaust air volume:**

at 6 bar operating pressure	m <sup>3</sup> /h	380
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## 6. Safety regulation

*B-TEC spray paint gun washers are safe to operate and built according to state-of-the-art technology. Due to the nature of the processes there are processes and parts that cannot be protected without impairing operability and functionality.*

**Attention !** *The operator must observe and follow the following information sheets pertaining to safety, fundamentals and guidelines whenever using these washers for cleaning spray paint guns or parts.*

<b>BGV AI</b>	<i>General regulations</i>
<b>BGR 500</b>	<i>Working with coating materials</i>
<b>BGV A8</b>	<i>Safety and health protection warnings at the workplace</i>
<b>BGR 114</b>	<i>Guidelines for avoiding dangers arising from an explosive atmosphere gas mixtures with examples - Explosion Guidelines (EX-RL)</i>
<b>BGR 121</b>	
<b>BGI 578</b>	<i>Information sheet: skin protection</i>
<b>BGS 944</b>	<i>Information sheet on first aid for contact with hazardous chemicals</i>
<b>BGR 132</b>	<i>Guidelines for preventing ignition by electrostatic discharges -&gt; Directive „Static Electricity“</i>
<b>BGR 133</b>	<i>Rules for equipping workplaces with fire extinguishers</i>
<b>BGR 621</b>	<i>Information sheet: Solvents</i>
<b>BGR 180</b>	<i>Guidelines for facilities for cleaning workpieces with solvents</i>
<b>BGR 189</b>	<i>Rules for the use of protective clothing</i>
<b>BGR 190</b>	<i>Rules for the use of eye and face protectors</i>
<b>BGR 195</b>	<i>Rules for the use of gloves</i>

*These information sheets can be purchased from Carl Heymann Verlag KG, Luxemburger Str. 449, D-50939 Köln, Germany*

**Particular emphasis is placed on the adherence to the following regulations => Attention!**

- **The following persons are not allowed to operate these washers:**
  - *Pregnant or nursing women*
  - *Persons with chronic respiratory disorders or allergies*
  - *Persons under 16 years of age are only allowed to operate these washers under the supervision of a trained operator*
- *The operating instructions and the safety information must be read carefully before using the Machine*

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- *The operation instructions must be kept easily accessible near the machine*
  - *Observe the respective information sheets of the trade co-operative association <sup>7</sup> when working with solvents*
  - *Local safety and accident prevention regulations always apply to the operation of the machine. These must be observed and adhered to.*

- *Rooms and areas with fire hazards must be marked according to paragraph 43, part 3 of the UVV (Accident Prevention Regulations) „General Regulations“*
- *Water used as a cleaning agent with or without additives must not be fed into the sewer system (Obtain information on this point from your local water authorities)*
- *Solvent spills must be dealt with according to water protection laws and regulations*
- *Adherence to maximal workplace concentrations according to the DIN-safety regulation sheets must be documented*
- *The maximal concentration limits according to „TA-Luft“<sup>2</sup> must be observed*
- *The exhaust must be connected whenever operating the machine to avoid the risk of fire, explosions and health impairment*
- *Only use approved solvents or cleaning agents -> see page 4*
- *Provisions must be made for protective clothing depending on how the machine is operated (gloves, eye protection, airway protection, whole body protection)*
- *Hands must be washed thoroughly before eating or drinking -> danger of poisoning*

***Safety regulations pertaining to the installation of B-TEC machines (Hazardous Area Classification)***

- *Open flames or other sources of ignition (e.g. welding or grinding apparatus) are not permitted within a 5 meter radius around the machine. Smoking is also prohibited!*
- *Fire hazard areas must be marked with the sign „Fire, open flames and smoking prohibited“. The prohibition sign is to show a burning match. The prohibition sign must be prominently displayed*
- *When working with highly flammable and flammable solvents, a special area fulfilling the requirements set down for rooms and areas with risk of fire must be present around the work space. All remaining areas with risk of explosion in which a hazardous explosive atmosphere can arise due to the local or factory conditions, are classified according to the Explosion Prevention Directive as:*

<b>Zone 0</b>	<i>the interior of the machine ( only for a time/short-term )</i>
<b>Zone 1</b>	<i>within a radius of 2.5 meters (see VDE 0165, section 6.1)</i>
<b>Zone 2</b>	<i>within a radius of 2.5 to 5 meters (see VDE 0165, section 6.3) )</i>

<sup>1</sup>Berufsgenossenschaft

<sup>2</sup>Technische Anleitung zur Reinhaltung der Luft = Technical Instructions for the Prevention of Air Pollution

## **7. Transport and installation**

- The machine is delivered foil-wrapped on a palette

- The foil must be removed and the drawer removed from the machine
- The machine is fastened to the palette with a screw on the left and the right side. These must be removed
- The machine is then taken to its installation site

**Requirements for the installation position: Notice !**

- Horizontal industrial floor
- Dry and protected from frost
- Very well ventilated
- Adherence to the safety regulations pertaining to location (see page 7 of the operating instructions)
- Ambient temperature not below 5° C and not above 35 ° C
- The machine can stand next to a wall. There must be a free space of about 1.5 meters in front of the machine

**Waste air: Notice!**

- The waste air hoses must lead outdoors. One must ensure that the fumes are not led into areas where people are likely to be. The waste air must be exhausted safely. This means that it is **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.

**Compressed air connection: Notice!**

- The facilities must have one compressed air connection:
 

<b>Operating pressure max:</b>	<b>kPa / bar / (p.s.i.)</b>	<b>600 / 6 / (87)</b>
<b>Operating pressure min:</b>	<b>kPa / bar / (p.s.i.)</b>	<b>500 / 5 / (73)</b>

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

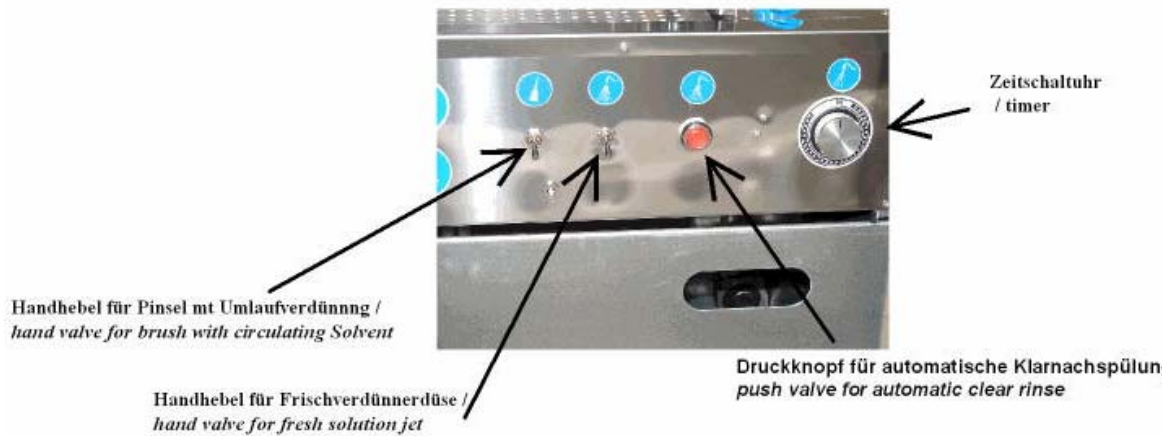
**Grounding: Attention!**

- There is a grounding cable near the pump inside. This must be electrostatically grounded, for example to a heating pipe
- According to local regulations proper grounding has to be assured with a separate ground cable (10 mm)

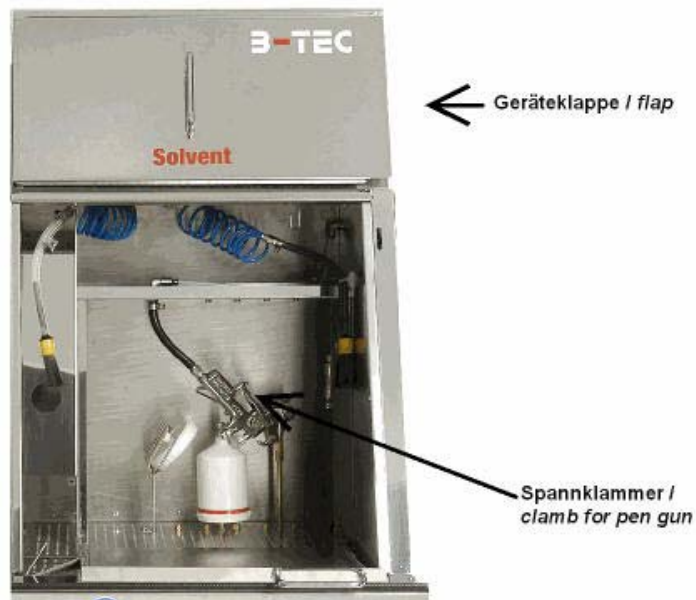
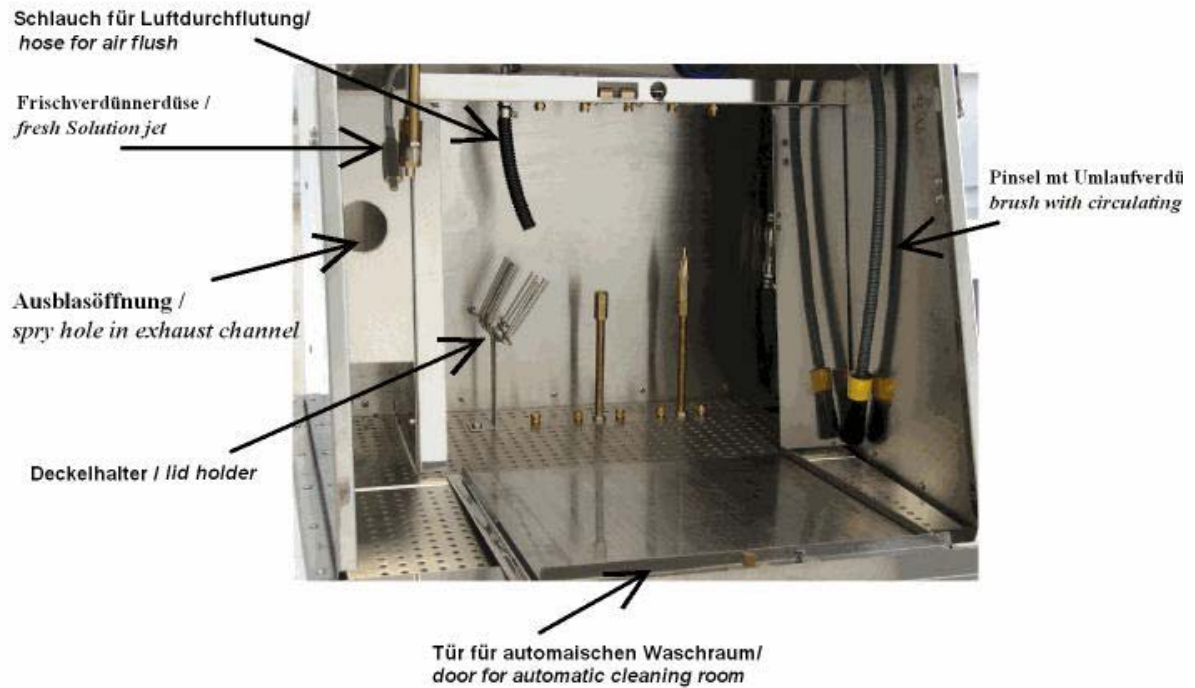
## Detailbilder / details



## Bedienfeld / operating controls



## Details Waschraum / details cleaning room



## 8. Operating instructions for Model ud-800

**Notice !     ⇒ Please follow the set-up sequence exactly.**

Transport the washer to the installation site as described **on page 8-11 under section „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. Pay particular attention to stretching the waste air hose to ensure optimal exhaust functioning.

**Attention !** The safety regulations must be read before and followed during installation.

**The following solvent drums are required:**

Two 60 litre Euro-drums each filled with 30 litre **or** one 60 litre drum filled with 30 litres and one 30 litre drum filled with 30 litres.

**Step one:**           Remove front panel from the machine and position the drums as shown on page 14.

**Step two:**           Insert both the black drain hose (23mm diameter) and the two grey intake hoses into the 60 litre Euro-drum that is used for waste solvent.  
Insert the transparent intake hoses into the second 60 litre Euro-drum that is used for fresh solvent.

**Alternative:**       Insert black drain hose (23mm diameter) and grey intake hoses into one 60 litre drum.  
Insert transparent intake hoses into a 30 litre drum.

The washer is now ready for use.

**Step three:**       Re-install front panel.

**Step four:**       **Working with the manual washer**

Open hinged door. The exhaust starts automatically. Activate the pump for the brush with the toggle switch labelled **„Brush for circulated solvent“**. Circulating solvent flows out of the brush.

The output can be adjusted with a pressure reducing regulator (black valvet that is located before the pump).

Activate the fresh solution jet for fresh solvent by switching the **toggle switch labelled „jet for fresh solvent“**. Fresh solvent flows from the spray jet (30 litre drum)

*Spray guns and parts can be dried with the air gun mounted on the front side of the washer. If the air gun is removed from the quick-release connector, the cleaned spray paint gun can be attached and residual solvent can be blown out into the opening in the exhaust channel.*

*When the manual cleaning area is not longer in use, the front door must be closed. The exhaust stops operating automatically.*

**Step five: *Operating the automatic washer section (Page 15)***

*Open hinged door. The exhaust system starts automatically. Open the door for the automatic cleaning room.*

*Then install gun as described below:*

- a) *Remove lid of spray gun and place in the lid holder. Make certain that the pain-faces downwards ⇒ towards the interior of the washer.*
- b1) *Place spray gun with cup on the middle jet (large jet at the right side with the paint channel in an upside-down position.*
- b2) *If a strainer is used in the spray gun, the paint cup must be removed and placed upside-down .  
The strainer is removed from the spray gun and placed on a peg of the lid holder. The spray gun is then placed upside-down on the middle jet.*
- c) *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.*
- d) *Connect black compressed air hose to the connection on the spray paint 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.*
- e) *The spray gun is now properly installed.*
- f) ***close door for the automatic cleaning room***

**Attention: before opening the door for the automatic cleaning room, please make sure that the timer is on “0” !!**

- 
- g) *Set timer (page 14) for 2-3 minutes. The main cleaning cycle is activated.*

*Solvent is drawn from the 60 litre drum and circulated. The timer can be reset to zero by hand. When the set time is over, open the door and check the cleaning results.*

- h) 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 manual fresh solvent jet, or the automatic clear rinse must be activated.*
- i) When using the automatic clear rinse, the door must be closed again and the rinse button (red button) is pressed for **3 - 4 seconds**. Solvent is drawn from the 30 litre drum. The spray gun is rinsed inside and out with fresh solvent.*
- j) Open the door and dry the spray gun, cup and lid in their holders. Use the air gun which is in front of the unit.*
- k) The spray gun is clean. Reassemble and bring back into production.*

**Notice !** *Clean spray gun immediately after each use.*

**Notice !** *Before placing the spray gun in the washer, remove lid from the paint cup and empty remaining paint into a collection container. The more thoroughly the cup is emptied, the longer the solvent can be used in the washer.*

*Following these steps ensures optimal cleaning results.*

***Attention ! Disconnect the machine from the compressed air supply during cleaning and maintenance.***

- *We recommend cleaning of the stainless steel filter in the intake hose at regular intervals - at least at every solvent change. Defective filters must be replaced immediately.*
- *Clean perforated aluminium grates at regular intervals. Remove residues from drain pans to ensure rapid solvent run-off.*
- *When the machines are not to be 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 expires if other than original B-TEC replacement parts are used.*

*Customer Service: Your dealer or directly at:*

B-TEC North America  
4901 Prime Parkway

McHenry, Illinois 60050

Phone: 815-759-1612  
Fax: 815-759-1615  
e-mail: sales@btecna.com

for regular safety inspections ( at least one time yearly )

<u>Item checked</u>	<i>OK.</i>	<i>Missing or faulty</i>	<i>Rechecked</i>
1. Operating instruc.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. model designation label	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Warning signs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Conditions 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. Function test 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"/>

1. Name and address of expert technician .....

2. Safety inspection performed on: .....

**Result of 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

.....  
lift user

After correction faults:

.....  
Signed by expert technician

.....  
lift user