

User Manual

Vacuum Suction Blasting System Type Workshop System



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Appended Documents:

User Manual for Power Supply Unit
Safety Data Sheet Blasting Abrasive
EU Declaration of Conformity

1. Safety Notes

Before setting the blasting system into operation, carefully read this manual.

General regulations for prevention of accidents as well as legal prescriptions have to be observed likewise.

The customer is responsible for establishing a plan for preventive maintenance and regular inspection of electrical and mechanical components. Whenever a damage becomes obvious, the problem must be solved before operation is continued. Repair and maintenance work should not be carried out with the machine switched ON. It must be disconnected from the mains beforehand.

The system has not been developed for applications in wet, hazardous or humid environment. Storage in corresponding rooms is not admissible as well. For reasons of safety, this equipment should not be handed over to unauthorized personnel or any other third party.

Before starting to work, thoroughly inspect the machine and the surroundings. In the case of any defect, supervisory personnel must be informed without delay. Trip hazard, caused by hoses on the floor, oil spill etc., must be prevented.

Note that maintenance is reserved to technicians with adequate qualification and training. Repair of electrical components for instance, should exclusively be performed by an electrician. Improper maintenance or improvised repair immediately entails loss of warranty. Liability of the manufacturer in corresponding situations is excluded.

Operation by members of the team, which do not have a good knowledge of handling and service elements, is forbidden. Prior training under supervision may be useful.

With vacuum generator activated, the machine should never be left unattended. When illumination is no more required, the transformer must be disconnected from the grounded socket located at the machine, and to be plugged into the corresponding receptacle.

The blasting hood illumination features a 6.5 V lamp. Its transformer has been set to secondary voltage of 6 V; this value should not be altered.

The machine must be operated, cleaned and maintained in conformity with the prescriptions of the manufacturer. Improper use may give rise to exclusion of liability.

Particular safety clothing is not necessary. The machine itself is grounded and meets the requirements for protection against electrostatic charge. The client however is responsible for taking precautions against electrostatic charge of workpieces and operator. For the same reason, the machine during operation must permanently be connected to the grounded plug within a grounded socket, and the lid must remain attached to the container.

For correct handling of blasting abrasive, refer to the safety data sheet appended to this manual. In order to avoid danger for personnel in the surroundings, possible risks caused by particles stripped off from surfaces (e.g. lacquer) must be determined by the customer in time.

As the entire system is based on the vacuum principle, dust emission does not to be taken into consideration. As soon as the vacuum generation fails, supply of abrasive immediately stops.

Operating instructions for the transformer are appended to this manual.

2. Scope of Delivery and Specification

The following elements are included in the delivery of the workshop type blast gun:

- ⇒ 4 – chamber media container, complete with trolley
- ⇒ Injector lance with anti-static hose and metering tube
- ⇒ Suction hose with bushings
- ⇒ Transformer unit for illumination
- ⇒ Blasting hood with illumination
- ⇒ Grip with 4 adaptors for different applications
- ⇒ One bag each (25 kg) of blasting abrasive GB 315

Specification:

Weight:	ca. 20 kg (without blasting abrasive)
Operating Voltage:	230 V AC
Power Consumption:	20 W

Recommended Minimum Working Point:

- ⇒ Negative Pressure: 120 mbar at least
- ⇒ Air Flow: > 33 l/s

The recommended working point defines the minimum requirements for the suction unit used (described by characteristic curve). With increasing capacity, the performance of the entire system is enhanced; insufficient values on the other hand are not advisable.

Legend for illustrations 2 and 3:

- 1: 4 – chamber media container for blasting abrasives
- 2: Grip
- 3: Blasting hood
- 4: Adaptors
- 5: Injector lance
- 6: Metering tube
- 7: Set collar
- 8: Hose with anti-static protection
- 9: Cable
- 10: Suction hose
- 11: Transformer unit for illumination
- 12: Grounded plug
- 13: Grounded socket IP 44
- 14: Trolley
- 15: Lid
- 16: Air flap
- 17: Connector



Fig. 1: Workshop System

3. Structure

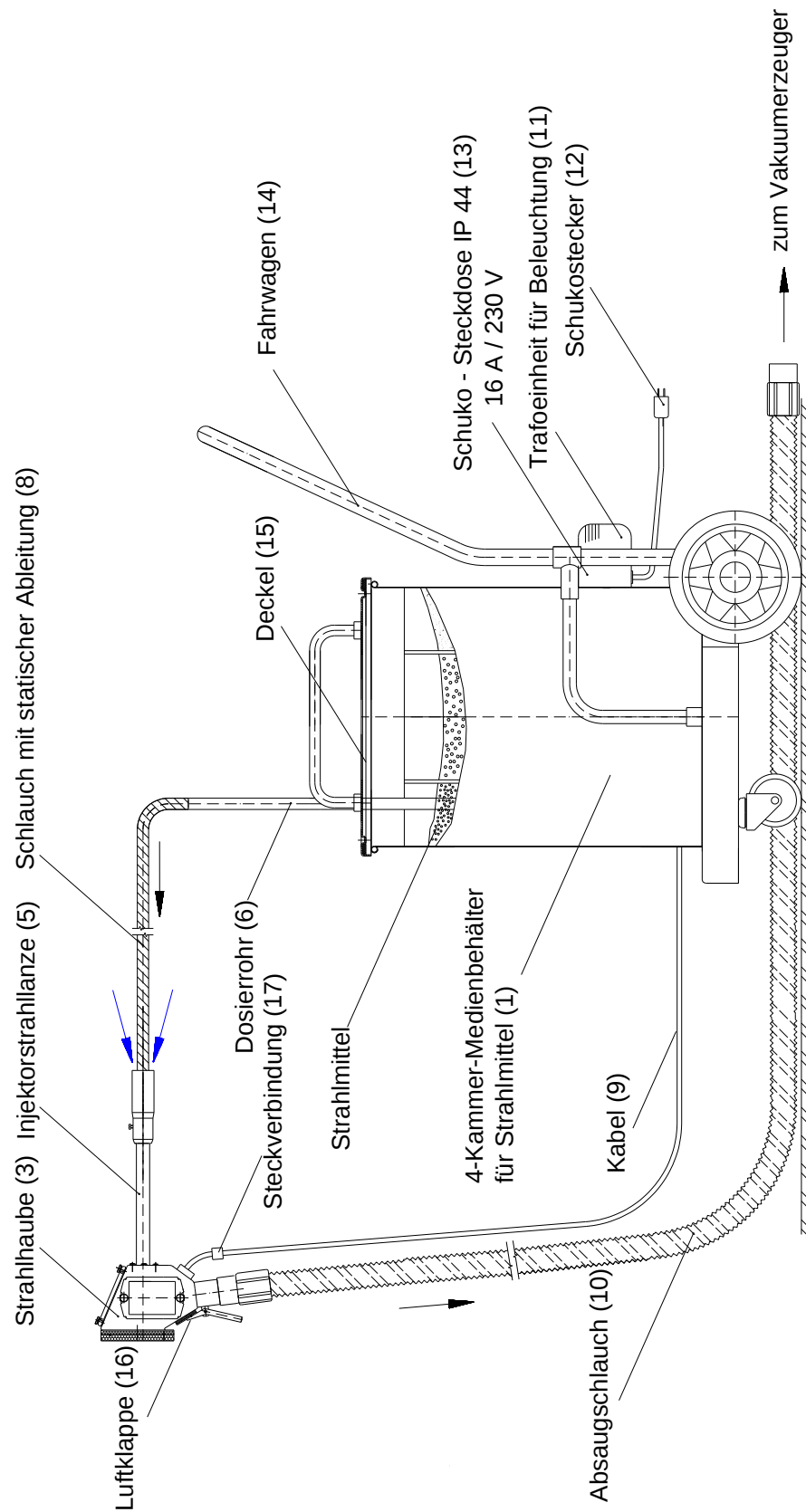


Fig. 2: Vacuum suction blasting system, workshop system with illuminated hood

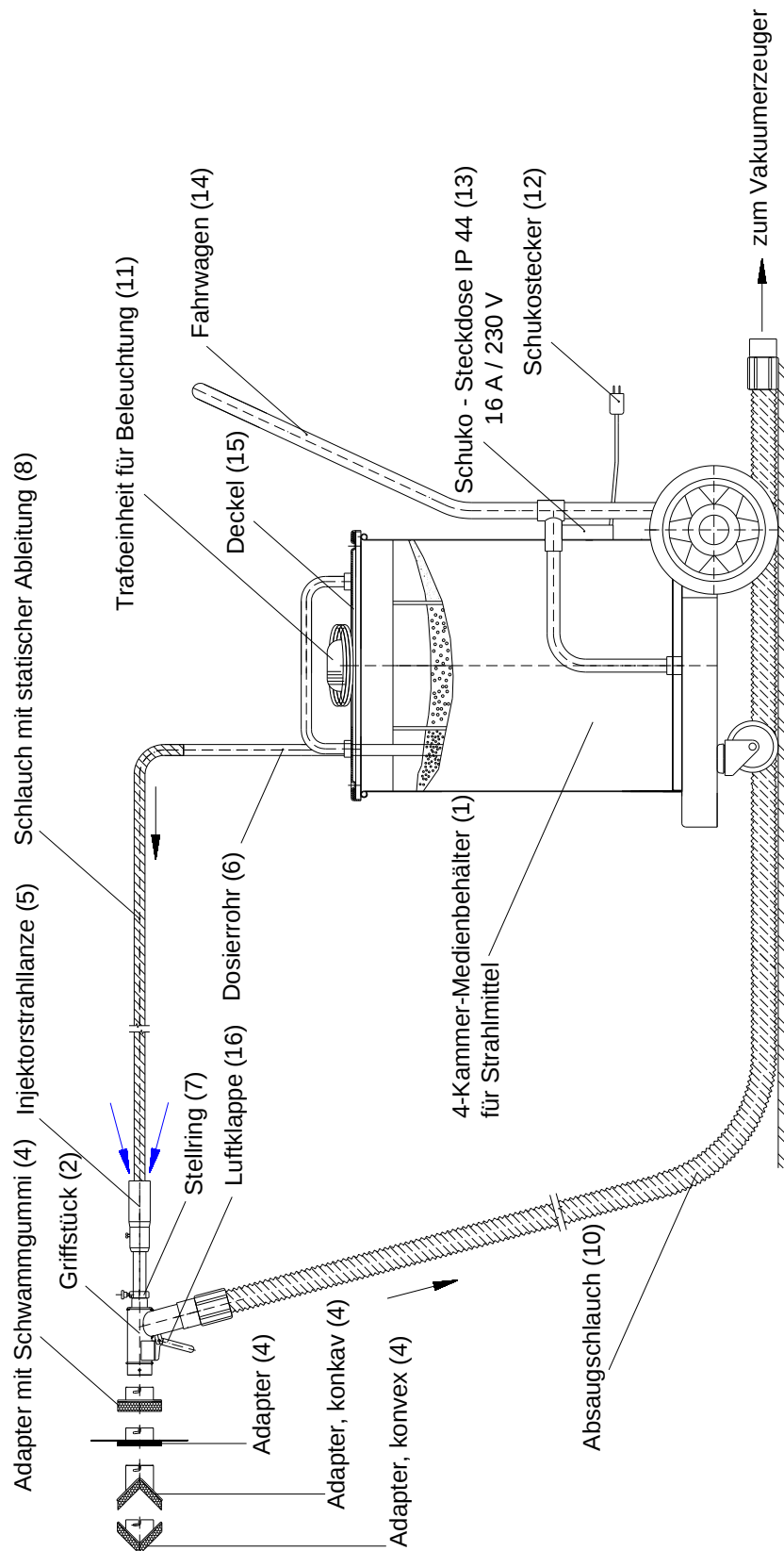


Fig. 3: Vacuum suction blasting system, workshop system with grip and adaptor

The 4 – chamber media container (1) for blasting abrasives, mounted on a trolley (14), comprises a 230 V power supply cable (12) and a grounded socket (13) for the transformer unit (11) belonging to the illumination.

The metering tube (6) has to be attached to this container as well, as explained in the following section. Its connection to the injector lance (5) is provided by means of the supply hose (8) for blasting abrasive.

As to the blasting hood, the following alternative exists: Illuminated hood (as shown in fig. 2), or grip with selectable adaptor (fig. 3).

The blasting hood (version fig. 2 or 3) is coupled to the suction unit by means of the suction hose (10).

4. Operation

To initiate blasting operation, follow this sequence:

- a) Connect the grounded plug (12) to a grounded socket (static charge must be prevented).
- b) Fill the desired blasting abrasive into the chamber of the media container (1).
- c) After locking of the container by the lid (15), insert the metering tube (6) to the chamber.
- d) Connect the blasting hood (3) or the grip (2) -together with adaptor (4)- to the suction hose (10).
- e) In the case of the illuminated hood (3), the transformer unit (11) must be plugged into the grounded socket (13) located at the container. The connector (17) blasting hood/transformer unit has to be locked in position.
- f) Then connect the other end of the suction hose (10) to the suction unit.
- g) Switch ON the suction unit.
- h) The injector lance (5) has to be coupled to blasting hood 3 resp. grip 2.
- i) With the air flap (16) still opened, the blasting hood (3) -resp. grip (2) together with adaptor (4)- has to be positioned on the workpiece, which is intended to be subjected to the blasting procedure. The procedure starts, as soon as the air flap (16) closes. Acceptable results can only be achieved, if the air flap in the course of operation remains permanently closed.
- j) Before separating the blasting hood from the workpiece again, open the air flap. In this state, the blasting hood resp. the grip can easily be displaced or removed. The blasting process stops automatically.
- k) Repeat the sequence up from point i),
or finish the procedure as follows:
- l) Set aside the blasting hood resp. the grip, together with the injector lance (5).
- m) Finally the suction unit can be switched OFF.
- n) For the configuration with illuminated hood, do not forget to disconnect the transformer unit (11) from the grounded socket (13).

5. Advice for Efficient Work

Grip (2) with adaptor (4):

- ⇒ Three different adaptors are available, to be selected in conformity with the surface geometry.
- ⇒ The corresponding item can quickly be exchanged and fixed by means of the bayonet joint of the grip.
- ⇒ The injector lance (5) features a set collar (7). The lance has to be pushed into the grip, until it contacts that set collar, so that an appropriate working distance (20 to 30 mm) between lance and surface is ensured.

⇒ As mentioned above: During blasting procedure, the air flap (16) must always be correctly closed.

Illuminated blasting hood (3):

⇒ To simplify visual inspection of the process, besides the illumination, three windows are available. Working place lighting however must be provided as well.

⇒ The optimum distance between lance and surface amounts to 20 – 30 mm. The lance may be displaced in depth, so that the required distance remains ensured even in the case of irregular surfaces.

⇒ The transformer unit (11) for the blasting hood (3) is accommodated in the corresponding section of the lid (15).

⇒ As mentioned above: During blasting procedure, the air flap (16) must always be correctly closed.

Metering tube (6):

⇒ The upper end of the metering tube includes a regulator located on a boring. This way the proportioning of blasting abrasives can be adapted to the capacity of the suction unit any time.

⇒ Sometimes in the case of fine abrasive and powerful suction unit, it may be useful to aspirate additional air to the process (by means of this regulator). This measure can improve the blasting result.

6. Cleaning and Maintenance

In order to exclude unnecessary risks, all components of the system at the end of the work have to be cleaned. Body protection meanwhile may be necessary. Accessories have to be plugged into the corresponding fixtures (for adaptors, grip and hood, they are located on the trolley, transformer unit on the container lid).

When leaving the workplace, the machine should not be left behind connected to the mains. Residual of blasting abrasive however may remain inside the container.

To discover damages and excessive wearing in time, regular inspection of the system should not be neglected. Defective parts have to be exchanged by qualified personnel. If protective equipment meanwhile must be removed, do not forget to fix it in place again afterwards.

7. Appropriate Use



Operation, cleaning and maintenance must be performed strictly in conformity with the instructions of this manual, otherwise the warranty immediately expires. The manufacturer is not liable for any consequential damage. In particular, he assumes no responsibility for material damage or personal injury, arising from infringement of safety notes contained in this manual.

The vacuum suction blasting system is intended for removal of dry and oil-free pollution and layers from surfaces. It has been designed exclusively for applications in dry environment and low atmospheric humidity.

As blasting abrasives, only special abrasives GB 180, GB 315, GB 500 and GB 1000 are admitted. Other substances must not be used without explicit permission of the manufacturer (in writing).

8. Applications and Available Options

Within the range of the specification, the workshop type blasting system can be used for all kinds of blasting procedures. It offers particular benefits for the following purposes:

- ⇒ Derusting and cleaning of workpieces
- ⇒ Removal of enamel from surfaces (also for plastic parts)
- ⇒ Blasting of edges, corners, indentations, curvatures etc.
- ⇒ Cleaning of welding and soldering seams
- ⇒ Removal of scratches on a lacquered surface
- ⇒ Clearing away of color coats in recessed grips and openings
- ⇒ Cleaning of notches and indentations
- ⇒ Uncovering of welding seams
- ⇒ Complete derusting after mechanical pre-treatment
- ⇒ Removal of single color films

For subsequent treatment of blasted components, often a specified surface roughness is desired. This can be obtained by the mentioned admitted blasting abrasives as follows:

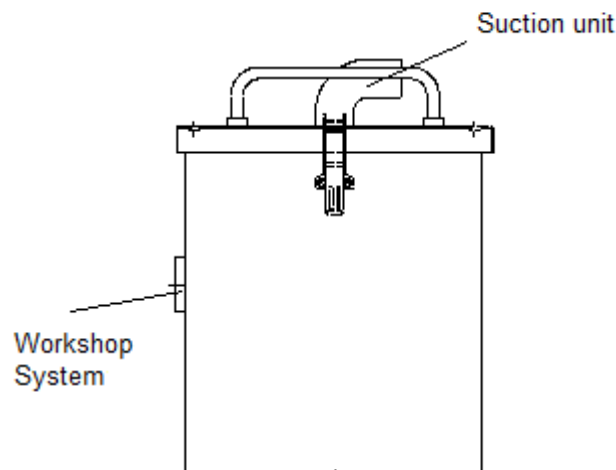
GB 180:	fine
GB 315:	medium
GB 500:	coarse
GB1000:	very coarse

Options:

For the workshop model, the following options are available upon request:

Collector:

For repeated use of the blasting abrasive, a collector can be placed between blasting hood and suction unit (suction unit to be connected on the top, blast gun laterally):

*Suction unit:*

Various models with adequate power and capacities are available. For details, consult factory service.

Cellular rubber plates:

For purposes of sealing, cellular rubber plates are available with the following dimensions:

120mm x 120mm x 10mm

150mm x 150mm x 10mm

Specific dimensions upon request.

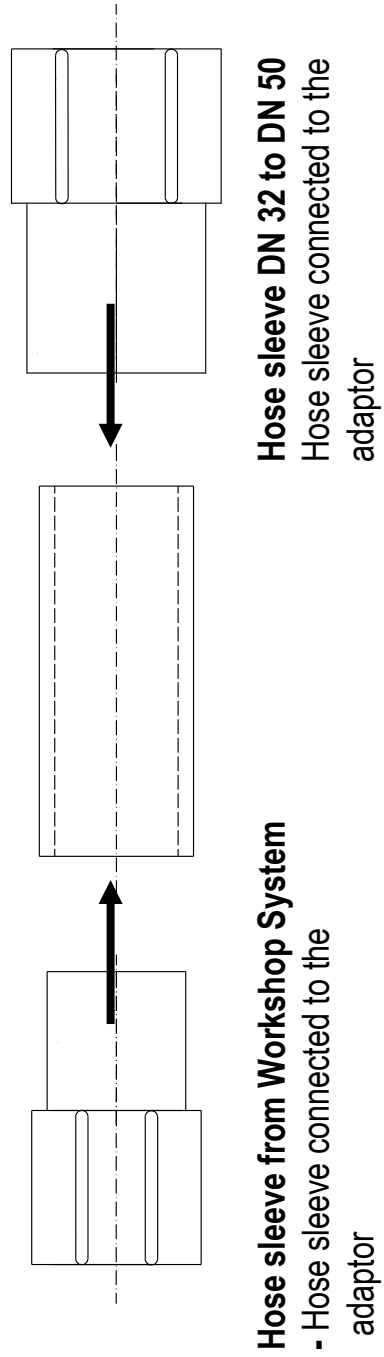
Blasting ribbons:

In order to protect particular zones of the surface, self-adhesive ribbons may be useful:

- Width 30 mm, or
- Width 50 mm

The following illustration shows an adapter hose (length = 120 mm) for connection of the blast gun. Suitable bushings have to be plugged into this hose.

Adaptor hose for connection of teh blast hood (length 120 mm)

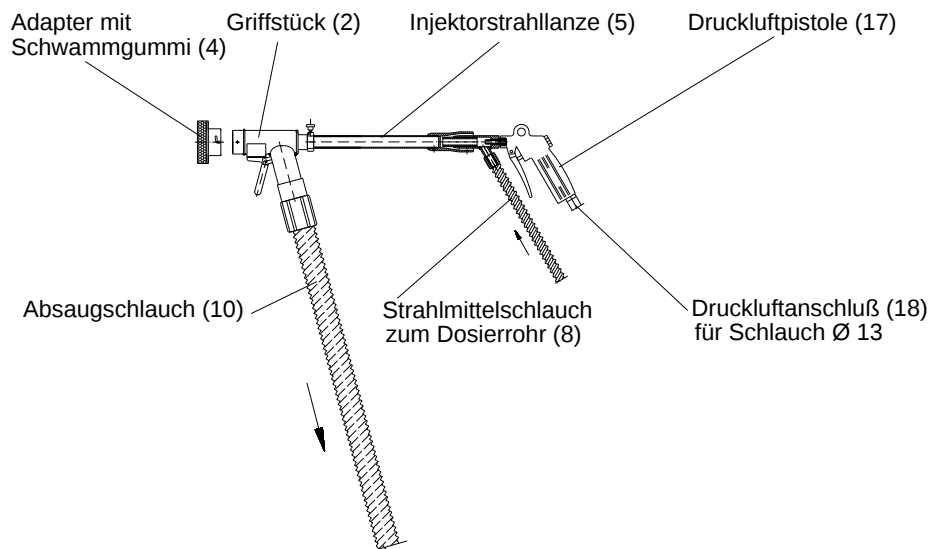


**Supplement
To User Manual**
Vacuum Blast Gun
Workshop Type

Vacuum Blast Gun Supported by Compressed Air

1. Structure

(Adapter with cellular rubber = 4, Grip = 2, Injector Lance = 5, Compressed Air Gun = 17, Suction Hose = 10, Hose for Blasting Abrasive to Metering Tube = 8, Pneumatic Connection = 18)



2. Purpose

In contrast to the usual application with merely vacuum support involved, it is possible to perform blasting procedures also with additional compressed air. This option increases the system capacity by factor 5. Connections required are illustrated above. Note that suction unit and generator for compressed air are not included in the delivery.

This feature can be activated any time by means of the compressed air gun (17).

General rule:

In the case of fine grain blasting abrasive and support by compressed air, the clip at the metering tube (6) has to be rotated to the required position, until air inlet borings are open.

Caution: When making use of a Multi-LED, the transformer must be set to 12 V!

The following safety notes must be observed as well:

3. Safety Notes

Compressed air supplied by this option, has only to be used for acceleration of the blasting abrasive and is ejected through the blasting hood resp. the grip with adapter. If the blasting hood resp. the grip with adapter is not properly placed on the workpiece, it is strictly forbidden to initiate the blasting procedure, or to switch ON the compressed air supply – otherwise not only the safety of the operator himself, but also of other persons in the surroundings may be compromised.

Liability of the manufacturer in corresponding situations is excluded (refer to section 'Appropriate Use').

The maximum pressure of 6 bar should not be exceeded.

All components in contact with the blasting abrasive (also the parts described in this appendix) have to be considered as wearing parts. Sometimes it is possible to repair (by shortening) a blasting hose, which is defective in proximity of the connectors. Care must be taken however that electrostatic charge is prevented. 3 cm of wire coil of the hose have to be laid bare and to be bent inwards before mounting. These works are entirely within the scope of responsibility of the client himself. Liability of the manufacturer is excluded.

User Manual for Power Unit

Version 04/00

<i>Issued for order No.</i>	<i>518305 PA 300</i>
	<i>518318 PA 500</i>
	<i>518331 PA 600</i>
	<i>518345 PA 800</i>

Manufacturer: Conrad Elektronik GmbH, Hirschau, Germany

This manual represents an integral part of the product and must also be handed over to third parties when selling the equipment. It contains important information for start-up and handling.

The document must remain accessible in the proximity of the equipment any time!

The power supply unit has been designed in conformity with the requirements of directives VDE 0551 = EN 60742 resp. 61558. The power supply units are EMV certified and thus meet all national and European standards. The conformity has been proven, and all corresponding documents (declaration) are available at the site of the manufacturer. In order not to impair the inherent safety and to ensure trouble-free operation, each operator must read these instructions.

Intended Use

Connection and operation of extra low-voltage units with an operating voltage of 3 or 4.5 or 6 or 7.5 or 9 or 12 VDC: The power consumption of a connected unit should not exceed 0.3 A (PA 300), 0.5 A (PA 500), 0.6 A (PA 600) resp. 0.8 A (PA 800).

The polarity (+ or - inside) depends on the connection of one of the eight plugs included in the delivery (arrow marking) to the exit line.

The equipment should not be used under inappropriate ambience conditions, like:

- Wet environment or increased air humidity
- Dust or explosive gas mixtures, vapors or solvents
- Thunderstorm or other circumstances giving rise to strong electro-magnetic fields

Applications beyond the range of specification may give rise to destruction of the device and other danger (e.g. short circuit, fire hazard, electric shock). The entire product should not be altered or modified. Safety notes listed below must be observed any time!

Safety Notes



In the case of damage arising from infringement of instructions contained in this manual, the warranty immediately becomes null and void. The manufacturer does not assume any liability for consequential damage. In particular, he assumes no responsibility for material damage or personal injury, caused by any action contrary to the safety notes contained herein.

The power units have been shipped in perfect condition. In order to maintain the level of safety provided, users must follow safety notes and warnings listed in this manual. The structure of the units corresponds to safety class II. The two-pin Euro mains plug is firmly connected to the case.

Power units and accessories should safely be stored (no access for children)!

In industrial environment, rules for prevention of accidents for electrical articles and equipment must be implemented and observed.

When using the devices in schools, educational institutions, hobby workshops etc., supervision by trained personnel is imperative.

Do not set the power unit into operation, before the case is firmly locked and bolted.

Contact to humans or animals is forbidden.

Serial connection of outputs of one or several units generates extremely dangerous voltage (>35 VDC).

Power units and connected consumers should not be operated without supervision.

It is advisable not to install bare wires and contacts. All positions must be covered by proper flame resistant insulating materials or protected by other measures, preventing direct contact. Electrically conductive components of connected consumers (live wires etc.) must be sheathed as well.

If safe operation is not supposed to be possible, the device should be placed out of service without delay and secured against restart by mistake. In particular, the following circumstances are concerned:

- In the case of visible damage,
- Impaired functionality
- After longer storage under unfavorable conditions
- When suspecting transport damage.

When the power unit has been transported from a cold to a warm room, do not connect it to the mains at once; otherwise condensed water may destroy the equipment. Wait until temperature has stabilized before establishing connection.

Connection and Start-up

Except for the LED (status lamp), a switch for the distinct secondary windings of the transformer, a rectifier and an electrolytic capacitor for charging, the power units with DC output do not dispose of any electronic components, i.e. a control is not provided. This means, they are short circuit-proof only to a certain degree. After a longer short circuit at the output of the power unit, the thermal fuse at the primary winding of the transformer responds once (one way fuse). Before connecting a consumer to the power unit, verify that it is switched OFF.

Do not connect the unit to the mains without having verified the correct setting of output voltage.



The adjusting button should never be rotated in the course of operation. This may give rise to damage (of the consumer or of the power unit itself).

The output voltage can be adapted within the range from 3 to 12 VDC, which is sufficient for most of the applications. According to the device type, a power consumption from 300 mA max. (PA 300) up to 800 mA max. (PA 800) can be achieved.

Specification

Operating Voltage	230 VAC $\pm$ 10 %
Standard Frequency	50 Hz
Power Output	ca. 3.6 VA (PA300), 6 VA (PA500), 7.8 VA (PA600), 9.6 VA (PA800) max.
Output Voltage	(1.5) 3 VDC min. up to 12 VDC max. (loaded
with rated load), in (7) 6 steps	
Output Current	ca. 0.3 A or 0.5 A oder 0.6 A or 0,8 A max. (according to power unit)
Working Temperature Range	
(min. to max.)	0° C to + 40 ° C

EU – Safety Data Sheet

According to 91/155/EWG

Special Blasting Abrasive GB 315

GP Innovation GmbH

Date of Issue: 10/30/2002

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1. Designation of Substance, Preparation and Manufacturer**1.1 Product Name:** Special blasting abrasive GB 315**1.2 Manufacturer/Supplier:** **GP Innovationsgesellschaft mbH**
Gewerbepark 23
D - 03222 Lübbenau, Germany
Telefon: 03542 - 46235**2. Composition / Constituents****Chemical characterization:**

CAS-No.: 65 997-17-3

EWG-No.:

Chemical designation:
Glass**Substance**

Index-No.:

UN-No.:

Additional notes for chemical characterization:

SiO₂ ca. 71 % chemically bonded in form of silicateAl₂O₃ ca. 2.0 %Fe₂O₃ ca. 0.3 %

CaO ca. 10.0 %

Na₂O ca. 11.5 %SO₃ ca. 0.13 %

MgO ca. 2.0 %

K₂O ca. 0.7 %TiO₂ ca. 0.1 %**3. Potential risks**

In state of delivery, no risks to humans and environment

4. First Aid**General:**

No danger

After inhalation:**After skin contact:****After eye contact:**

Low quantities of blasting abrasive are normally retained by tear fluid and can be rinsed by appropriate water jet laterally directed to the eyes.

After swallowing:**Notes for the doctor:**

Irritations of hard skin and conjunctiva are possible.

5. Fire-fighting Measures

Substance is not combustible.

6. Measures after Release by Mistake**Air:** Initiate precipitation of dust and mist of product by means of water spray (a sufficient distance must be maintained).**Water:****Soil:****7. Handling and Storage****7.1 Handling**

EU – Safety Data Sheet

According to 91/155/EWG

Special Blasting Abrasive GB 315

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Formation of dust has to be avoided. In case of need (above a concentration of 1.5 mg/m³), respiratory equipment must be used.

Respiratory equipment: Particle filter.

7.2 Storage

To be stored in a dry warehouse, no further measures required.

8. Limitation of Exposition and Personal Protective Equipment**8.1 Additional prescription for design of technical plants**

Limit of 1.5 mg/m³ for fine dust must be respected.

8.2 Constituents with limits to be monitored – relevant for working place

Brown glass CAS-No.: 65 997-17-3

8.3 Personal equipment

Respiratory equipment filter type P2

8.4 Hygienic protective measures

After working with blasting abrasive, skin must be cleaned with warm water and pH neutral soap

9. Physical and Chemical Properties**9.1 Appearance**

Form: grained

Color: brown

Odor: Odorless

Threshold:

9.2 Safety Data

Method of determination:

pH value oder range of the substance

at °C

pH value of the substance in solution

at °C

Conc. F. pH value of the substance in solution

Changes of state:

Melting point: 950 - 1000 °C

Boiling point at 1013 hPa °C

Fire point °C

Inflammation point °C

lower: Vol. %

upper: Vol. %

Vapor pressure

at °C mbar

Density at 20 °C 2,5 g/ml

9.3 Further information

Solubility in water at °C g/ml

Logarithm of the octanol/water distribution coefficient:

Solubility in organic solvents:

10. Stability and Reactivity**10.1 Thermal decomposition:**

Up from ca. 2000 °C in molten state

EU – Safety Data Sheet

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11. Toxicologic Information**12. Ecologic Behavior**

Glass can be segregated mechanically in water purification plants.
Depending on concentration, grain size and reaction time, glass powder can form alkaline solutions with water, up to a pH value of 10.

13. Information for Waste Management

No particular supervision required.
Small quantities can be disposed in form of normal domestic waste.

14. Shipment**14.1 Overland**

Class / Figure / Letter:

GGVS Comment:

Danger sign Danger-No.:

UN-No.:

14.2 Per inland waterway vessel

Class / Figure / Letter:

14.3 Sea transport

Class:

14.4 Air transport

Class:

Further information for air transport

14.5 Further information**15. Prescriptions****15.1 Marking acc. to EU directives****Danger designation****Product contains:**

No dangerous substances contained

R-Phrases**S-Phrases****Further information****15.2 National Prescriptions**

Information to employment restrictions

Order on combustible liquids, class:

Major accidents ordinance from:

Classification acc. to technical instructions on air quality control:

No. in catalogue of substances hazardous to water

Water hazard class: Self-assessment (Y/N):

Further prescriptions - restrictions – prohibition ordinances

Relevant TRGS/TRGA Numbers:

Marketing authorization

Chemical prohibition ordinance - Appendix to § 1 No.:

Prohibition on self-service acc. to § 4 Chem. Prohib. Ord.:

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Production and Application

Ordinance on hazardous substances - Appendix IV No.:

Storage acc. to § 24, Ordinance on hazardous substances

Special marking acc. to appendix III, Ordinance on hazardous substances, No.:

BG: Principle: G

Occupational disease: BK

16. Further Information

Data summarized originate from our own information sources and reflect the current state of our knowledge and experiences. They have been presented only to describe the products with respect to safety requirements and do not have to be interpreted as assurance of properties.

EG – Safety Data Sheet

Acc. to 91/155/EWG

Special Blasting Abrasive GB 180, GB 500, GB 1000

GP Innovation GmbH

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1. Designation of Substance, Preparation and Manufacturer**1.1 Product name: Special blasting abrasive GB 180, GB 500, GB 1000****1.2 Manufacturer/Supplier: GP Innovationsgesellschaft mbH**
Gewerbepark 23
D - 03222 Lübbenau, Germany
Telefon: 03542/46235**2. Composition / Constituents****2.1 Chemical Characterization (substance)****Main constituents** SiO₂, Al₂O₃, Fe₂O₃, CaO, MgO, Na₂O, K₂O**CAS-No.:** 65 997-17-3**Designation:** Glass

Differences between the products exclusively relate to graining.

3. Possible Dangers**3.1 For humans:** n/a**3.2 For environment:** n/a**4. First Aid****4.1 After inhalation:** No particular measures required**4.2 After eye contact:** No particular measures required**4.3 After skin contact:** No particular measures required**4.4 After swallowing:** No particular measures required**5. Fire-fighting Measures****5.1** Substance is not combustible.**5.2 Improper solvents:** None**5.3 Particular risks, emanating from the substance itself, its preparation, products of combustion or gas:** None**5.4 Particular protective equipment in case of fire:** None**6. Measures after release by mistake****6.1 Air:** Initiate precipitation of dust and mist of product by means of water spray (a sufficient distance must be maintained).**6.2 Water:****6.3 Soil: Mechanical resorption**

EG – Safety Data Sheet

Acc. to 91/155/EWG

Special Blasting Abrasive GB 180, GB 500, GB 1000

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7. Handling and Storage**7.3 Handling**

7.3.1 Formation of dust must be avoided. In case of critical dust concentration ($>1.5 \text{ mg/m}^3$), respiratory equipment must be used (particle filter).

7.2.3 Storage

To be stored in a dry warehouse, no further measures required

8. Limitation of Exposition and Personal Protective Equipment**8.1 Additional prescriptions for design of technical plants**

Limit of 1.5 mg/m^3 for fine dust must be respected.

8.2 Constituents with limits to be monitored – relevant for working place

Glass - CAS-No.: 65 997-17-3

8.3 Personal protective equipment

Respiratory equipment: Filter type P2

9. Physical and Chemical Properties**9.1 Appearance**

Form: Flourey/grained

Color: White/green

Odor: Odorless

9.2 Data relevant for safety:

Rel. density (g/ml): 2.5 at 1000 °C

Melting point: 925 - 1000 °C

9.3 Further information: Solubility in organic solvents

10. Stability and Reactivity

10.1 n.a. inert solid matter

11. Toxicologic information

11.1 n.a. no dangerous substances

12. Ecologic behavior

12.1 Glass can be segregated mechanically in water purification plants.

12.2 Depending on concentration, grain size and reaction time, glass powder can form alkaline solutions with water, up to a pH value of 10.

13. Information for Waste Management

13.1 No particular supervision required. Small quantities can be disposed in form of normal domestic waste.

14. Transport

No hazardous material

15. Prescriptions

15.1 Marking acc. to EU directives**Designation of danger****Not relevant****No dangerous substances****R-Phrases****S-Phrases****15.2 Further prescriptions, restrictions and prohibition ordinances****Authorization for Marketing:** Chemical prohibition ordinance - Appendix to § 1 No.:
Prohibition on self-service acc. to § 4 Chem. Prohib. Ord.:**Production and application:** Ordinance on hazardous substances - Appendix IV No.:
Storage acc. to § 24, Ordinance on hazardous substances**Special marking acc. to Appendix III, Ordinance on hazardous substances No.:****BG: Principle: G Occupational disease: BK****16. Further information**

Data summarized originate from our own information sources and reflect the current state of our knowledge and experiences. They have been presented only to describe the product with respect to safety requirements and do not have to be interpreted as assurance of properties.

Legend:

MAK	=	Maximum allowable concentration (MAC)
TRGS	=	Technical rules on hazardous substances
WGK	=	Water hazard class
WGK 1	=	Slightly hazardous to water
WGK 2	=	Hazardous to water
WGK 3	=	Severely hazardous to water

This safety data sheet corresponds to § 14 and Appendix 1 No. 5, Ordinance on hazardous substances. This ordinance has been implemented in order to convert 91/155/EU to German Jurisdiction (refer to BGBL. 1993 I, S. 1782 ff).

Data summarized have been presented only to describe the product with respect to safety requirements, based on the current state of our experience. They do not have to be considered as assurance of properties.

Wearing and Spare Parts Vacuum Blast Gun, Type Workshop System

All parts are following (drawing A configuration adaptor, configuration hood and

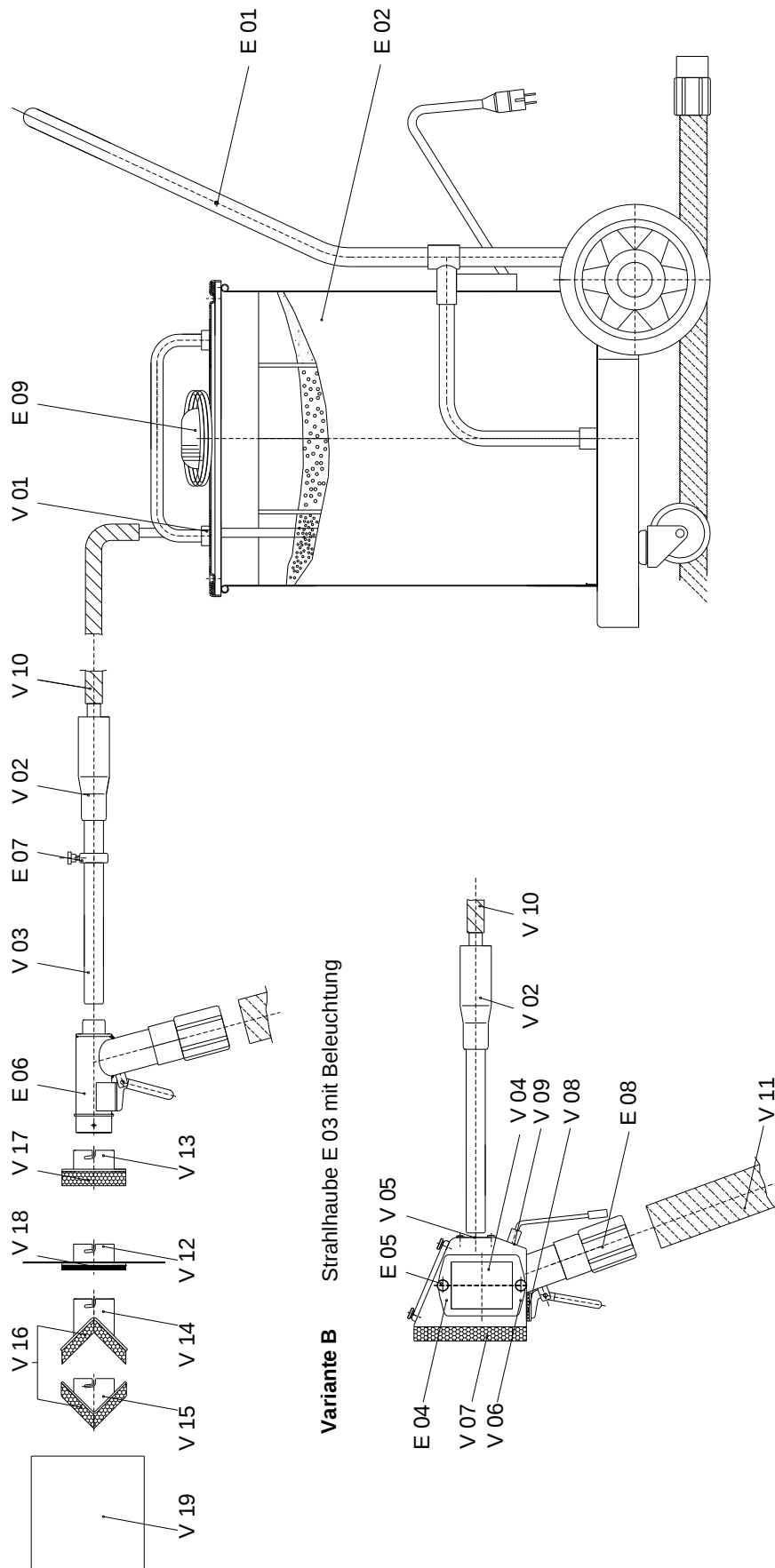
Wearing Parts	Part No.
Metering tube	V01
Injector lance	V02
Blasting tube	V03
Window pane, set of 12	V04
Lance sealing	V05
Window sealing	V06
Hood sealing	V07
Flap sealing	V08
Ball lamp	V09
Suction hose	V10
Suction hose	V11
Adaptor, large	V12
Adaptor with cellular rubber	V13
Adaptor, concave	V14
Adaptor, convex	V15
Sealing for adaptor concave/convex	V16
Cellular rubber sealing for adaptor	V17
Sealings for adaptor, large	V18
Cellular rubber plate	V19

shown in the illustration for with grip and drawing B for with blasting illumination).

Spare Parts	Part No.
Trolley	E01
Container for media	E02
Blasting hood	E03
Window frame	E04
Knurled screw	E05
Grip	E06
Set collar	E07
Bushing for suction hose	E08
Transformer unit	E09

Explosionszeichnung zur Verschleißteil - und Ersatzteilliste

Variante A Griffstück E 06 mit Adapter



EG-Konformitätserklärung

EC Declaration of conformity

im Sinne der EG-Maschinenrichtlinie 98/37/EG, Anhang II A
according 98/37/EEC, appendix II A

Hiermit erklären wir, dass die Maschine / Anlage

Herewith we declare, that the machine

Bauart:

Vacuum Blast Gun

Trade name:

Typ:

Workshop System

Type:

Serien-Nummer:

910 - 0X - XXXX

Serial no:

in der Ausführung mit dem vom TÜV Rheinland/Berlin-Brandenburg auf
Konformität geprüften Produkt übereinstimmt und Konformität mit folgenden EG-
Richtlinien und harmonisierten Normen besitzt:

*corresponds with the sample tested by the TÜV Rheinland/Berlin-Brandenburg and is conform to the following
EEC-directives and harmonised standards :*

98/37/EG

Maschinenrichtlinie

Machinery Directive

89/336/EWG

EMV-Richtlinie i.d.F. 93/68/EWG

EMC Directive 93/68/EEC

73/23/EWG

Niederspannungsrichtlinie i.d.F. 93/68/EWG

Low Voltage Directive 93/68/EEC

DIN EN 292

DIN EN 294

DIN EN 349

DIN EN 418

DIN EN 60204-1

Weiterhin wird die Anwendung einschlägiger nationaler Normen und Spezifikationen
bestätigt.

Applied national technical standards and specifications.

Die Technische Dokumentation ist vollständig vorhanden.

The technical documentation is complete.

Die zugehörige Betriebsanleitung liegt vor.

The user manual is present.

Lübbenau, den 21.11.02



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Dipl.-Ing. Pieper
Geschäftsführer

Quick Reference Guide (see illustration next page):**Version A (with grip and adaptor):**

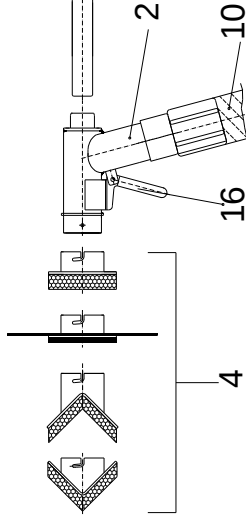
- a) Establish electrical connection by means of cable 12 (grounded socket)
- b) Plug the metering tube (6) into the container (1) filled with blasting abrasive
- c) Plug an adaptor (4) onto the grip (2), and connect it to the suction hose (10)
- d) Push the injector lance (5) together with the injector and the abrasive hose (8) into the grip (2)
- e) The position of the lance (5) inside the grip (2) can be fixed by means of the set collar (5).

Version B (with blasting hood and illumination):

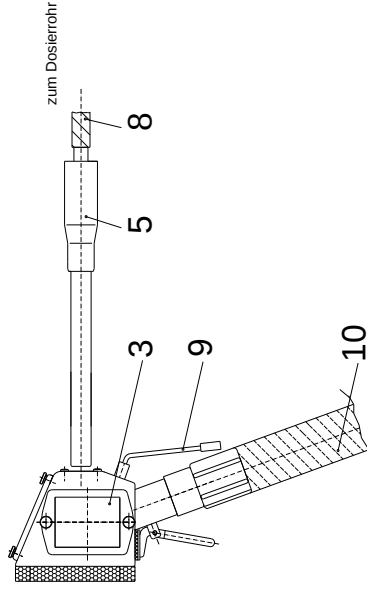
- a) Establish electrical connection by means of cable 12 (grounded socket)
- b) Plug the metering tube into the container (1) filled with blasting abrasive
- c) Connect the blasting hood (3) to the suction hose (10)
- d) The cable (9) has to be coupled to transformer (11)
- e) Push the injector lance (5) together with the injector into the blasting hood (3).

Kurzbeschreibung Werkstattssystem

Variante A Griffstück mit Adapter



Variante B Strahlhaube mit Beleuchtung



Variante A :

- a) den elektrischen Anschluß über das Kabel (12) herstellen (Schuko Steckdose)
- b) das Dosierrohr (6) in den gefüllten Strahlmittelbehälter (1) stecken
- c) auf das Griffstück (2) einen Adapter (4) aufstecken und mit dem Absaug Schlauch (10) verbinden
- d) die Strahlhaube (5) mit dem Strahlmittelschlauch (8) in das Griffstück (2) schieben
- e) mit dem Stelling (7) kann die Position der Strahlhaube (5) im Griffstück (2) fixiert werden

Variante B :

- a) den elektrischen Anschluß über das Kabel (12) herstellen (Schuko Steckdose)
- b) das Dosierrohr (6) in den gefüllten Strahlmittelbehälter (1) stecken
- c) die Strahlhaube (3) mit dem Absaug Schlauch (10) verbinden
- d) die elektrische Zuleitung (9) mit dem Trafo (11) verbinden
- e) die Strahlhaube (5) mit Injektor in die Strahlhaube (3) schieben