// UV FLASH DRY C1

Flash Curing System

USER MANUAL //

VISIT.HENSEL.EU

VISIT
INDUSTRIAL LIGHT

HENSEL-VISIT GmbH & Co. KG
Robert-Bunsen-Str. 3
D-97076 Würzburg
GERMANY

Tel. +49 (0) 931 27881-0
Fax: +49 (0) 931 27881-50
Email: info@hensel.de
Internet: http://www.hensel.de

Stand 02/2015

For Your Safety

This device was developed according to the latest standards of technology and manufactured, with greatest care and testing, from high-quality material.

However, its use can result in bodily injury and property damage.

Please note the general safety guidelines and warnings that precede each use when operating this device. Please read all of the enclosed instructions.

Please note the warnings in the documents and on the device.

Only use the device when it is in proper condition. Be aware of safety precautions and possible danger.

Keep this document available with the device.

Safety Precautions and Warning Notices

The warning notices are marked with the following danger icons and signal words according to severity:

Danger icon	Signal word	Explanation
	Danger	Warning of danger which can lead to **major or fatal injuries** if disregarded.
	Warning	Warning of danger which can lead to **major or fatal injuries** if disregarded.
	Caution	Warning of danger which can lead to **injuries** if preautions are disregarded.
	Caution	Warning of danger which can lead to **property damage** if disregarded.

Structure of Warning Notices

Warning notices are indicated by separation lines above and below. They are structured according to the following principle:

Signal Word

Type and Source of Danger

Explanations of the type and source of danger

- Measures to avert danger

Basic safety hints

Safety hints pertaining to emitted ultraviolet radiation

Electrical power is changed inside the flash tube to ultraviolet radiation for curing paint. Never trigger flashes when the flash head is not applied to the surface:

- Ensure sufficient safety distance and do not flash directly into eyes from a short distance (5 m or less) because the emitted ultraviolet radiation (UV-A, UV-B, UV-C radiation) can cause eye and skin damage.
- Do not look directly into flash reflector; the flash may be accidentally triggered.
- In case of damage to skin or eyes caused by ultraviolet radiation consult a physician immediately.

Working in potentially explosive rooms

Working in potentially explosive rooms and environments is prohibited because small sparks develop upon triggering the flash.

- Never work in potentially explosive environments.
- Do not work near flammable material.
- Do not store flammable material in direct vicinity of flash generators and flash lamps to avoid fire hazards.

Ozone formation

Closed rooms must be ventilated frequently to prevent excessive ozone formation which can result from to the use of strong flash units.

Protecting equipment from moisture and splash water

Flash units need to be protected from moisture, wetness and splash water. Therefore, please do not place containers with liquids on the flash units.

Connecting accessories

Do not connect accessories from other manufacturers, even if these look similar or identical.

Not in use during dust development

Equipment that is not in use when doing work that results in strong dust development needs to be covered with suitable dust protection.

Safety hints pertaining to the electrical system

Contact with the flash generator's capacitor voltage is life threatening. Therefore, opening the housing and repairs may only be done by authorized customer service personnel:

- Never open the device – high voltage, risk of death!
- The unit may only be connected to a power supply with working equipment grounding conductor.
- Use only lamp plugs with flawless contacts. Burned down or corroded plug contacts may cause a fire.
- Defective plugs may lead to defective plug sockets.
- To prevent damages, avoid leading cables across floors. If this can not be avoided, make sure that the cable is not damaged by vehicles, ladders, etc. Damaged cables and housings need to be replaced immediately by authorized customer service personnel.

Explosion of flash tube

The flash tube is filled with xenon gas. There is negative pressure inside the flash tube. Plasma develops during flashing due to electrical energy being changed to radiation. This plasma development then causes positive pressure inside the flash tube. At the same time, the glass tube is exposed to strong mechanical forces. Minimal defects of the fused quartz glass, visually impossible to notice, may possibly lead to the explosion of the flash tube.

- In case the flash tube explodes, there is a danger of tiny glass particles flying around. The user of this equipment needs to make

sure that he/she is protected (e.g. by wearing a pair of safety goggles).

- The flash tube can only explode during the flash process. Therefore, the flash head should never be directed at a person during flashing.
- Immediately disconnect the flash head from the generator if the flash tube becomes damaged. Electrodes carry high voltage!
- Flash tubes must only be changed by authorized and trained personnel.
- The flash tube must only be changed after the device is disconnected from the power supply and is completely discharged.

Risk of burns from flash head

After flashing there is a risk of burns caused by the flash head due to hot parts on the housing or infrared heat radiation.

Preface

Dear customer,

By purchasing the UV Flash Dry C1 you have selected a high quality and high performance product.

Below, we want to give you some details and hints on how to use this unit that will ensure successful and productive work with it in the coming years. Observing the information below entitles you to guarantee adjustments, prevents damages, and extends the operational life of the unit.

HENSEL-VISIT made all efforts to produce a safe and high-quality piece of equipment while observing all current rules and regulations. Stringent quality checks ensure our high quality standard even in large-scale production. Please do your part and treat the equipment with the necessary care.

In case of questions regarding the use of this equipment, feel free to call us any time.

HENSEL-VISIT GmbH & Co. KG

Table of contents

Description of service

The UV Flash Dry C1 is used for drying small defects in paint work, so called Micro-Spots, mainly of automobiles. Until now it was common to dry the clear coat with infrared light.

The UV Flash Dry System works with flash which has a very high light intensity. The filler or paint is dry right after the flash procedure and the next work process can be done. This substantially shortens the work time (circa factor 120). The clear coat 1K UV-Touch-Up from Standox was specifically developed for use with this system. The flash spectrum is calibrated to match the spectral sensitivity of the paint components.

The user applies the reflector to the spot to be dried. If the reflector is applied correctly, the proximity switch enables the UV flash curing. If both start buttons are pressed simultaneously the curing procedure is started. The unit flashes the preset number. You can see the remaining number in the display of the unit during flashing. If one or both start buttons are released during the curing the flashing and charging of the unit is interrupted.

Proper use

The UV flash drying system UV Flash Dry C1 is used to dry the ultraviolet sensitive 1K UV-Touch-Up clear coat from Standox.

Use of the UV Flash Dry System is only permitted with products from company Spies Hecker and company Standox.

The UV Flash Dry C1 stores electrical power which is released in the form of ultraviolet flashes. The flash unit with mounted reflector must be placed onto the intended part to be dried in such a way that the proximity switch enables the curing.

The spectrum of the flash is suited, in connection with chemical characteristics of the ultraviolet-sensitive paint, to dry the paint with one or more flashes (for drying times / number of flashes see paint manufacturer's product information).

Following the instructions

Following the instruction manual and all other pertinent documents is part of the intended use.

Technical data

Unit series/Unit type	UV Flash Dry C1
Stored energy	135 J
Flash tube	9450255, plug-in style
Preset number of flashes	20
Input voltage	Multivoltage 90 – 230 V~
Reflector connector	quick-change automatic
Weight	ca. 4,9 kg
Overall dimension in cm	LxWxH 38 x 25 x 26,5

Technical modifications excepted.
The listed data are standard values which may deviate depending on component tolerances.

Equipment description

Bar grip

Start button

Round grip

Power switch

Mains cable

Lever for the reflector holder

Transport cap

Label with type and serial number

Mains cable

Lever for the reflector holder

Proximity switch

Fingers of the reflector holder

Ignition wire of the flash tube

Flash tube

Reflector with protection

Round grip

Ready LED

Start button with LED

Display

Rotary switch

Power switch

User panel


Ready LED
START button with LED
START button with LED
Display
Rotary switch
Power switch
Mains cable
VISIT
INDUSTRIAL LIGHT
READY
START
START
UV Flash Dry C1
START
START
PRESS FOR NUMBER OF FLASHES
CE
in Germany

Scope of delivery

The scope of delivery includes a UV Flash Dry C1 unit with transport cap, a reflector with protection, packed seperately, and a user manual.

Accessories

Wall mount for UV Flash Dry C1

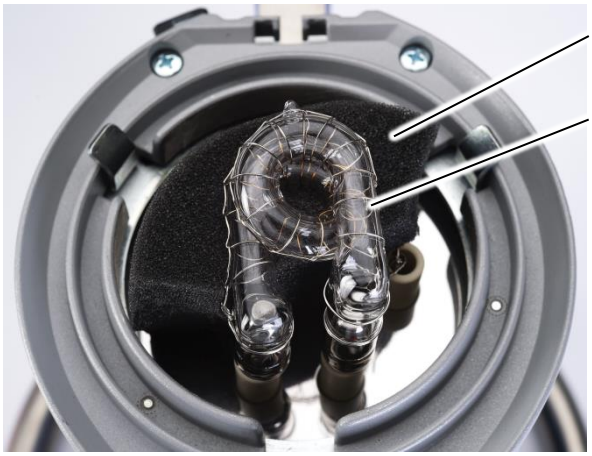
Remove Transport Cap

Make sure the unit is power off and not connected tot he mains supply.

Lever of the reflector holder

Transport cap

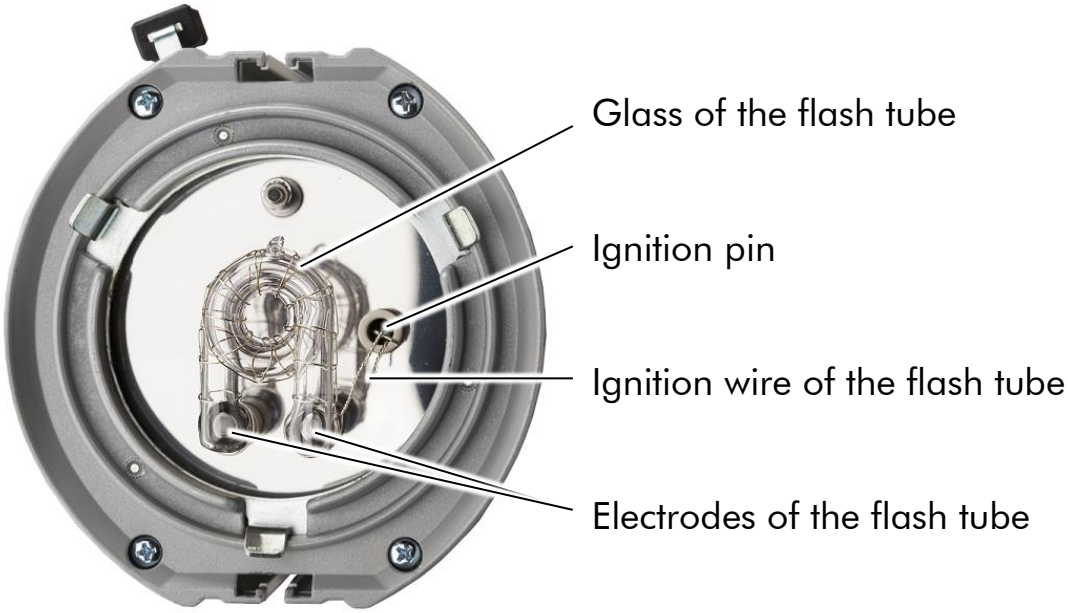
- Press the locking mechanism of the reflector holder against the spring tension until reaching the end stop.
- Pull out the transport cap straight from the holder and keep it for future usage.
- Carefully returning the locking mechanism of the reflector into its standard position with the help of the spring tension.



Foam protection during transport

Flash tube

Remove the foam.


Glass of the flash tube
Ignition pin
Ignition wire of the flash tube
Electrodes of the flash tube

Mounting of the reflector

DANGER **Danger of electric shock**

Danger of electric shock exists during installation and removal of system components.

- Switch off the system and pull the plug.

DANGER **Risk of electric shock from defective flash tube**

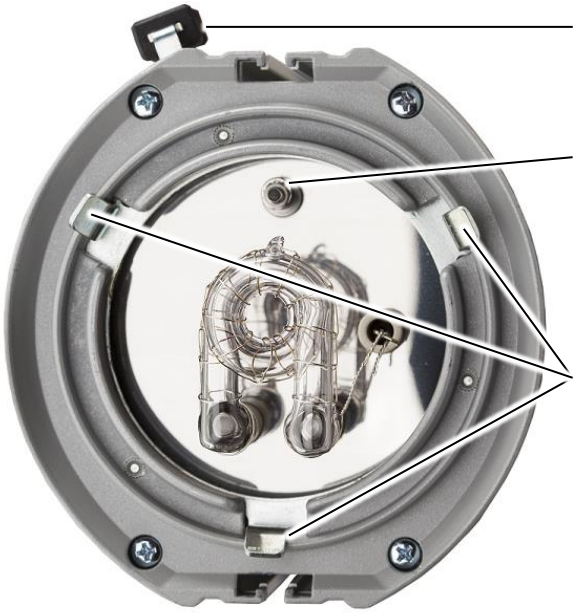
If the glass tube of the flash tube is defective, the electrodes may become exposed and cause an electric shock when touched.

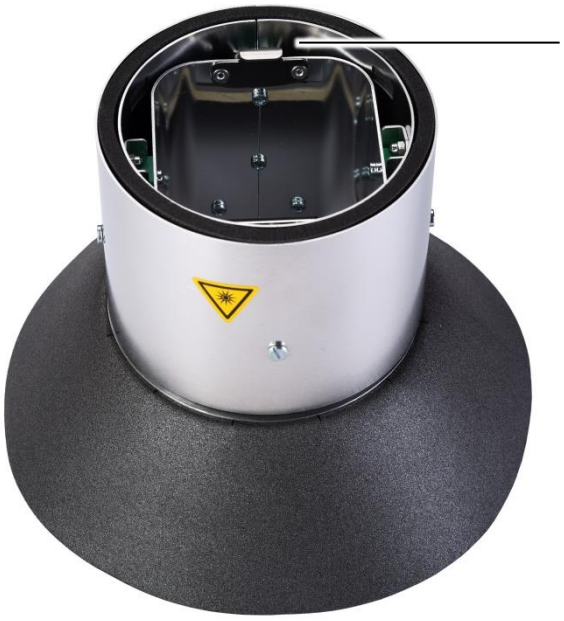
- Switch off system via the power switch.
- Open the trolley and disconnect the power cable from the generator.

CAUTION **Flash tube may get damaged**

The flash tube may get damaged during the mounting of the reflector to the flash head.

- Do not touch flash tube with reflector.
- Place flash head on a level surface to remove reflector.
- For mounting, place reflector flush onto the flash head.
- Hold reflector with one hand during removal.





- Press the lever of the reflector holder against the spring tension until reaching the end stop.
- Put the reflector even onto the unit and push it against the unit.
- Be aware that the 3 fingers are inside the reflector and that they grab correctly into the holes inside the reflector.
- Make sure the metal sheet for triggering the proximity switch is located above the proximity switch, otherwise the unit won't work.
- Hold the reflector with one hand while carefully returning the locking mechanism of the reflector into its standard position with the help of the spring tension.
- Check the correct mounting of the reflector.

Initial use of system

CAUTION **System may become damaged**

The system can become damaged during connecting to the power supply.

- Check listed mains supply on type label of trolley.
- Only connect to grounded power supply.
- Plugs must be secured at building side with 16 A at 230 V and with 20 A at 110 V.

Power switch

Connect the unit with the mains supply and press the power switch.

If the power switch is pressed, it turns green and the unit is ready for operation.

Ready LED

After supplying power to the unit the version of the firmware is displayed and the Ready LED turns green.

After loading the firmware the preset number of flashes is displayed.

Ready for operation

After finishing the start-up sequence the unit is ready for operation and displays this with three dashes.

Triggering the flashes for the UV curing process

WARNING **Danger of eye and skin injuries due to optical radiation**

An intensive optical radiation develops during the flash process which can harm unprotected eyes or skin.

- Use protective clothing.
- Do not look unprotected into the flash head.
- Do not direct flash head towards unprotected persons.

Place the reflector with the soft protection onto the surface to be dried. Make sure that it covers the surface completely and that you face the user panel with the start buttons.

Proximity switch is active

If the reflector is positioned correctly onto the surface the proximity switch is activated. The LEDs above the Start buttons are then turning green.

Only with activated proximity switch the UV curing process can be started.

In case of curved surfaces at least part of the soft protection has to be placed onto the surface.

Round grip

Start buttons

Start buttons

Bar grips

Hold the UV Flash Dry C1 with both hands at the round or at the bar grips.

LEDs

Make sure all LEDs are green. Only when all LEDs are green the proximity switch is activated and the UV curing process can be started.

You can trigger the flashes for the UV curing with either pressing one of the Start buttons on each side of the user panel or by pressing both buttons at the bar grips.

You must press and hold these buttons for the whole UV curing process.

After 20 flashes, the preset number of flashes, the UV curing process is done.

If you release one of the Start buttons during the UV curing process, the curing process is halted. The number in the display shows the remaining flashes for the UV curing process. When pressing the Start buttons again, the UV curing starts again.

If the time between releasing and pressing the Start buttons again is to long the UV curing process is stopped.

If any error occurs the corresponding error number is displayed. Please refer to the section ‘Error codes’ for further details.

If you apply more than one flash sequence the surface and the surrounding area gets hot. Heating the surface above 200°F is not allowed.

Cleaning

DANGER **Danger of electric shock**

Danger of electric shock exists during installation and removal of system components.

- Switch off the system and pull the plug.

CAUTION **Risk of injury from broken glass**

The glass tube may break during cleaning.

- Wear gloves and safety goggles.
- If the flash tube can not be cleaned, it must be changed.

The UV Flash Dry C1 needs little maintenance by the user. The outside of the equipment must be cleaned periodically of dust and dirt to ensure electric safety.

Changing the flash tube

DANGER **Risk of electric shock from defective flash tube**

If the glass tube of the flash tube is defective, the electrodes may become exposed and cause an electric shock when touched.

- Switch off system via the power switch.
- Open the trolley and disconnect the power cable from the generator.

CAUTION **Risk of burns from reflector and flash head**

Heat which may cause burns develops at the head during the flash process.

- Place flash head on trolley for cool-off.
- Allow flash head to cool off.

CAUTION **Risk from broken glass.**

The glass tube may become damaged when changing the flash tube.

- Wear gloves and safety goggles.

CAUTION **The system may become damaged if external products are used.**

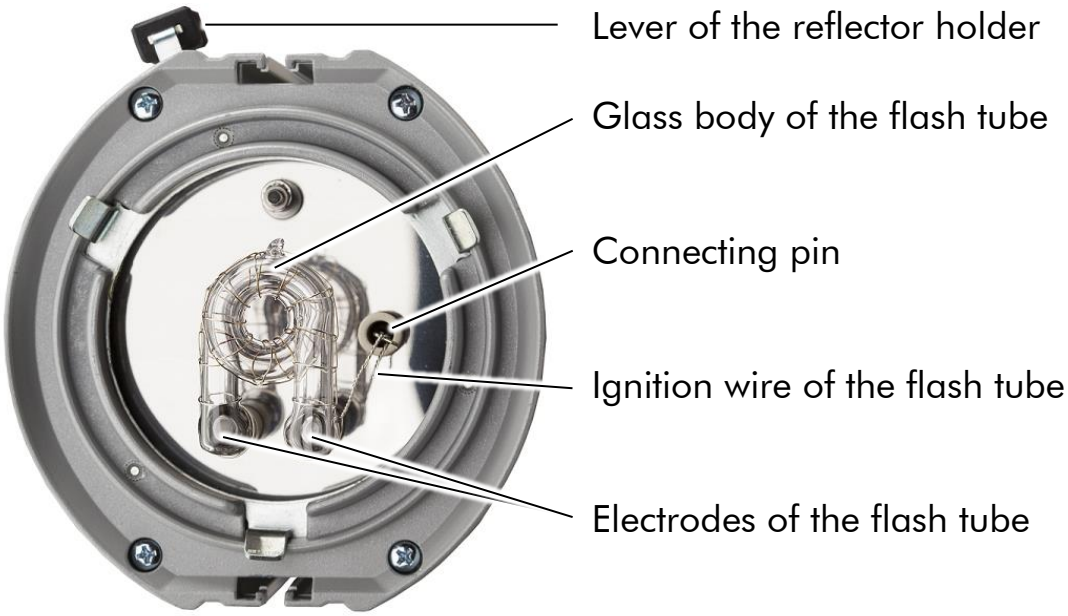
The system may become damaged when components are changed or accessories are connected.

- Only use original parts and HENSEL-VISIT accessories.

When the internal counter of the number of flashes reaches 1,000,000 flashes, the message „Flash tube exhausted. Exchange.“ is displayed when turning on the unit.

The message is repeated three times then the unit is powered on and works normal.

If the value of the counter equals 1,050,000 flashes or greater and you turn the unit on the next time, the message „Flash tube exhausted. Exchange.“ Is display three times. Now you need to change the flash tube.



- Press the lever of the reflector holder against the spring tension until reaching the end stop.
- Remove the reflector.
- Return the lever of the reflector holder to its standard position with the help of the spring tension.
- Unwire the ignition wire from the connecting pin.
- Carefully pull the flash tube out of the plug base.
- Unpack the new flash tube.
- Place the flash tube on the plug base and carefully push the flash tube in until reaching the end stop.
- Pull the flash tube out again approximately 0.5 mm so that the glass body can expand upon warming.

CAUTION **Unit does not work properly if the ignition wire is not assembled correctly.**

If the ignition wire is wrapped losely onto the connecting pin the unit might not flash properly.

- Wrap the ignition wire a few times around the connecting pin and afterwards onto itself facing the glass body.

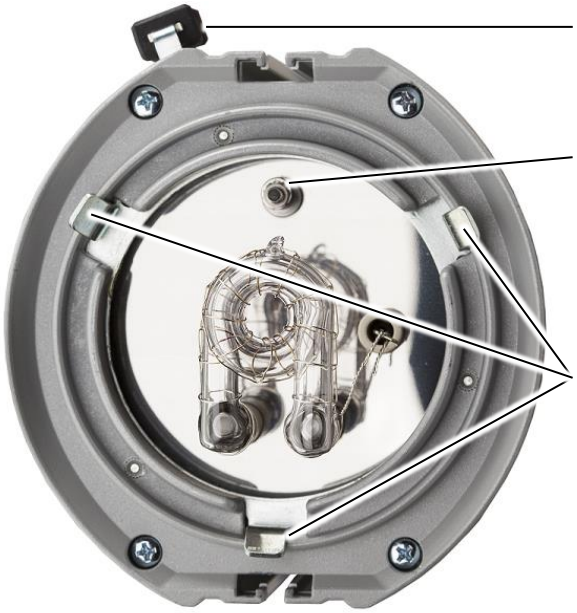
Wrap the ignition wire onto the connecting pin and afterwards onto itself facing the glass body.

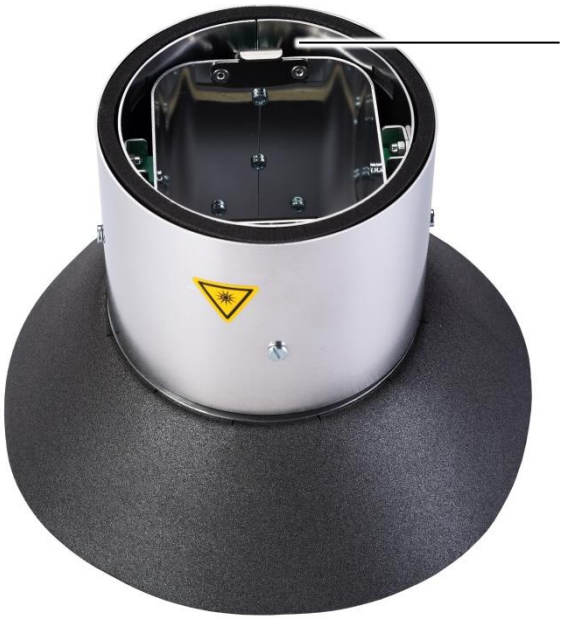
If the remaining ignition wire is too long, it can be cut with a caliper.

FALSE ASSEMBLY:

If the ignition wire is wrapped losely onto the connecting pin the unit might not flash properly.

If the ignition wire is not wrapped onto itself facing the glass body, the ignition voltage flows via the metal parts of the unit to the protecting earth.





- Press the lever of the reflector holder against the spring tension until reaching the end stop.
- Put the reflector even onto the unit and push it against the unit.
- Be aware that the 3 fingers are inside the reflector and that they grab correctly into the holes inside the reflector.
- Make sure the metal sheet for triggering the proximity switch is located above the proximity switch, otherwise the unit won't work.
- Hold the reflector with one hand while carefully returning the locking mechanism of the reflector into its standard position with the help of the spring tension.
- Check the correct mounting of the reflector.

Confirm the change of the flash tube

Rotary switch

Mains switch

Connect the unit with the mains supply.

Push and hold the rotary switch while turning on the unit by pressing the main switch.

Display

Three bars are displayed and the left one blinks.

Turn the rotary switch to the right until two and then three bars are displayed.

Press the rotary switch.

Next to the three bars, a dot is displayed and the medium bar starts to blink.

Turn the rotary switch to the right until two and then three bars are displayed.

Press the rotary switch.

Next to the three bars, a dot is displayed and the right bar starts to blink.

Turn the rotary switch to the right until two and then three bars are displayed.

Press the rotary switch.

The message „SUCCESS“ is displayed.

The flash counter is successfully reset and the counter of the flash tube change is incremented by one.

Maintenance plan

Clean the system regularly as described in the section 'Cleaning'.

Periodic inspections

National safety regulations require that electric systems and devices be inspected and maintained in regular intervals. Devices and accessories must be checked regularly for operational safety. An annual inspection of the system insures the safety of the user and retains the value of the equipment.

Customer service

Keep the original packing material in case shipment becomes necessary. It provides maximum protection during transport.

If shipment to our customer service department becomes necessary, send the equipment to the below listed address for repairs and include a description of the problem:

HENSEL-VISIT GmbH & Co. KG
Service
Robert-Bunsen-Str. 3
D-97076 Würzburg

Phone number: +49 (0)931/27881-0

Disposal

The packaging materials must be separated for recycling. Obsolete or defective equipment must be turned in to recycling facilities.

Error codes

In case of an error, an error code is shown in the display. In this caes proceed as follows:

- Switch of the unit.
- Wait a few seconds.
- Switch the unit on again.

If the error code persists, check if the problem can be remedied according to the following list or contact customer service and state the error code, see section 'Customer service'.

Error code	Meaning
E1	Charging error The maximum time for charging was exceeded, due to e.g. a glowing of the flash tube.
E2	Discharging error The maximum time for discharging was exceeded.
E3	**Temperature error** The temperature measured at the electrolyt capacitors is too high.
E4	**Ignition error** A flash could not be triggered. This error disappers on its own after a short period of time.
E5	**Temperature error** The temperature measured at the cooling fingers is too high.
E6	**ZD error**

Description of system function

The Standox clear coat 1K UV-Touch-Up to be dried requires a certain dose of radiation which is determined by the number of flashes and the amount of energy per flash. The needed optical radiation is gained from electrical power.

Inside the UV Flash Dry C1 the energy is taken from the power supply and stored with high voltage in the capacitors.

This electrical power is channeled to the flash tube upon starting the drying process. While the flash is triggered and flashes off, high voltage runs through the flash tube and transforms the gas to energy rich, gleaming plasma.

The resulting optical Radiation hits the paint surface and initiates the photo-induced drying process.

List of parts

Unit series/Unit type	UV Flash Dry C1
Flash tube	9450255
Reflector with protection	99330120
Reflector without protection	99330122
Protection	99290038

If you like to order, please use the following address.

Addresses

In case of questions concerning the shipment for repair reasons, for orders, or for questions about the equipment please contact us at:

Internet: visit.hensel.eu

Email: info@hensel.de

Telephone: +49 (0)931/27881-0

Fax: +49 (0)931/27881-50

Mail: HENSEL-VISIT GmbH & Co. KG
Robert-Bunsen-Str. 3
D-97076 Würzburg

Warranty

For new VISIT or HENSEL equipment, we grant end-consumers a warranty period of 24 months from the date of invoice and 12 months for distributor products. Flash tubes, lamps, safety caps for glass tubes, rechargeable batteries, batteries, cables and plugs are not included in the warranty (unless the fault verifiably existed already at the time of delivery).

The warranty adjustment applies only if the equipment is used as intended and according to the information in the instruction manual.

In case of unauthorized modifications or unauthorized repairs, the warranty claim expires.

The sales receipt or the delivery slip is proof of warranty. For equipment which was purchased abroad, the warranty that is valid in the respective country applies.

Limits of liability

We are not liable for bodily harm or property damage incurred due to improper use that results from using the equipment contrary to the information in the instruction manual. We are also not liable for consequential damage (loss of compensation etc.) which may be caused by a defect of our equipment.

VISIT

INDUSTRIAL LIGHT

VISIT.HENSEL.EU