

## 1 Introduction

in buying a HENSEL flash system, you have purchased powerful equipment of high quality.

So that you are able to successfully and productively work with this system for many years, we are giving you some advice on the use of this high tech product. Only by observance of the information given you secure your warranty, prevent damage and prolong the life of the equipment.

HENSEL Studiotechnik has taken great care to manufacture a secure and high quality flash system under inclusion and observance of all current regulations. Strict quality controls secure our quality requirements even in mass production. Please take your part in this and treat the equipment with due care - your reward will consist of excellent pictures.

If you should have any questions on the use, then feel free to ask us at any time.

We wish you success and „good light“.

HENSEL Studiotechnik

User manual – Date of Revision: 2006-01

Technical data are subject to change. No guarantee for misprints. The listed values are guide values and should not be understood as binding in a legal sense. The values can differ due to tolerances in used components.

## 2 Table of contents

1	Introduction .....	21
2	Table of contents .....	22
3	General safety regulations .....	23
4	Overview of controls .....	25
5	Standard delivery.....	
25		
6	Technical data .....	26
7	Starting up	
	Safety hints .....	27
	Acclimatizing .....	28
	Positioning .....	28
	Fixing of the glass dome.....	28
	Assembly of accessories .....	29
	Fuses .....	29
8	Operation	
	Connection of a power pack.....	30
	Mechanical connection of the flash head cable .....	30
	Plugmatic .....	31
	Overheating.....	31
	Flashlight and Modeling lamp.....	31
9	Maintenance	
32	Replacement of fuses ..	
	Replacement of modeling lamp .....	33
	Replacement of flashtube.....	33
	Regular check .....	34
	Return to customer service .....	34
10	Disposal .....	34
11	Accessories.....	35
12	Customer service.....	35
13	Certificate of Conformity .....	36

### 3 General safety regulations

Generators store electrical energy in capacitors by applying high voltages. In case of connecting the EH Pro Flash Head to a recommended power pack these high voltages will be also applied to the flashtube. These form a source of danger, which must be carefully excluded. Besides general rules on handling electrical appliances, the following safety measures must be observed. Therefore read and comply the safety hints (also see paragraph *Starting up*) within the user manual **before** turning the appliance on.

#### Proper use

The present flash head is meant for studio use of professional photographers. Its task is to provide flashlight.

#### Improper use

The appliance may not be used for any other purpose than that described above, especially not for other electrical appliances.

**Halogen lamps and flashtubes generate high pressure during operation and can therefore explode. For this reason it is a must to protect pilot and flashlight with the supplied correctly installed HENSEL protection glass dome. The glass dome is available in different versions. The use of the glass dome changes the colour temperature.**

- Contact with the capacitors voltage is perilous, and therefore opening of the case of the EH Pro Flash Head and repairs must only be made by authorized customer service.
- For an exchange of the flashtube and the modeling lamp the power pack must be switched off and the flash head disconnected from the power pack. Exchange of the flashtube of the EH Pro 6000 Head must only be performed by authorized trained personnel. The EH Pro 1500, 3000, and 1200P Flash Heads are fitted with an user-replaceable flashtube, that can be exchanged by the customer himself under strict observance of the safety rules.

- Only lamp connectors with immaculate contacts must be used, burned or/and corroded contacts may cause explosions in the area of connectors and lamp sockets.
- Do not route cables across the studio floor if possible, so that damage is excluded. If routing across the studio floor cannot be omitted, then it must be ensured that vehicles, ladders, etc. do not damage cables. Damaged cables and cases must be immediately replaced by customer service.
- Do not stick any objects into ventilation slots. Ventilation slots of the Flash Head must be kept free during operation and sufficient air supply must be ensured. Do not deposit any objects (tools, coffee cups, etc.) on the Flash Head.
- Flash systems must not be used in environments with explosion hazard. Flammable materials, like furnishing fabrics, paper, etc. must not be stored in the immediate vicinity of Flash Heads to prevent fire hazards.
- Flash Heads must be protected against humidity and spray water.
- Do not connect accessories from other manufacturers, even if they use the same or similar connectors.
- Flash Heads - hanging from pantographs or ceiling - must be doubly secured against falling down.
- Do not flash into eyes at short distances (smaller than 5 m), because this can lead to eye damage. Do not look directly into the flash reflector, the flash lamp could be triggered inadvertently.
- Regularly air closed rooms to prevent build-up of inadmissible ozone concentrations, which can occur due to the use of high-powered flash systems.
- During work in the studio generating much dust, the appliance must be covered with suitable dust protection (not during operation).

## 4 Overview of controls

- 1 Main Switch for Modeling Light  
ON/OFF
- 2 Fuse for Modeling Lamp
- 3 Flash Head Cable
- 4 Slider for reflector lock and assembly
- 5 HENSEL Tilting Head
  - 5 a 2 Holes for stand mounting
  - 5 b Knurl screw for stand fixing
  - 5 c Thread for safety screw
  - 5 d Wing nut for tilting
  - 5 e Integrated umbrella holder

## 5 Standard delivery

All EH Pro Heads are supplied with:

- Flashtube**  
EH Pro 1500 / 3000 / 1200 P:  
*single coated, user-replaceable*  
  
EH Pro 6000:  
*Uncoated, fixed*
- Protection glass dome**  
EH Pro 1500 / 3000 / 1200 P:  
*clear, uncoated*  
  
EH Pro 6000:  
*clear, single coated*
- Tilting Head**  
with integrated umbrella holder
- Protection Cap**

## 6 Technical Data\*\*\*

Series / Type	EH Pro 1500	EH Pro 3000	EH Pro 6000	EH Pro 1200 P
Max. capacity:	1500 J Multivoltage	3000 J Multivoltage	6000 J Multivoltage	1200 J ---
Flash plug:	20 leads plug	20 leads plug	20 leads plug	round socket
Flashtube:	user- replaceable	user- replaceable	fixed	user- replaceable
Modeling lamp max:	650W/230V/G6,35 Halogen 300W/115V/G6,35 Halogen			50W/12V Hal.* 100W/12V Hal.**
Fuse for Modeling lamp:	4 AF	4 AF	4 AF	5 AM* / 10 AM**
Fan:	yes	yes	yes	no
Flash Head Cable Length:	5 m	5 m	5 m	4 m
Characteristics and features / Scope of delivery:	ON/OFF switch for Modeling Lamp, Flashtube, Glass Dome, Reflector quick-change Mechanism, Flash Head Cable, Handle, Tilting Head, Umbrella Holder, solid Metal Housing, Protection Cap			
Accessories:	Protection Glass Domes with different coatings Reflectors, Softboxes and Umbrellas			
Weight (kg):	3,1	3,1	3,1	3,1
Measurements in cm:				
Length:	24,5	24,5	24,5	24,5
Width:	15	15	15	15
Height:	23	23	23	23
Code No.:	3601	3599	3603	3602

\* for operation with PORTY 1200 B and PORTY Premium generator

\*\* for operation of PORTY Premium generator with 1 Head only

\*\*\*: Technical changes reserved.

## 7 Starting up

### **Safety hints for operation with flash heads**

To avoid damage to the flashtube mount reflectors and lightformers (softboxes, etc.) **before** use and turning on the unit. Do not move lamp heads around, while they are operating. Turn off flash head and power pack for each change of reflectors or to move the lamp head to another location.

**Caution:** reflectors, speedrings and other accessories heat up during longer operation. To avoid injuries, handle with isolating cloth or wait, till parts cooled down.

**A damaged flashtube is extremely dangerous because the electrically charged electrodes are exposed and could be touched. In case of a damaged flashtube, the power pack must be switched off and unplugged from the generator immediately. If the power pack and the flash head are not separated from each other, the capacitors inside the generator may be still charged and dangerous high voltage can be still present at the damaged flashtube electrodes of the flash head.**

**The EH Pro Heads 1500, 3000, and 1200P are equipped with a user-replaceable flashtube. In case of an exchange the safety regulations must be strictly adhered to. For replacement, please refer to page 33, Maintenance.**

### **Assembly**

When mounting to a ceiling system or a pantograph, suspended head has to be double secured from falling down or dropping. This is done by tightening the safety screw (not included in the standard delivery) into the thread of the HENSEL Tilting Head.

Due to the existing safety regulations, it is, however, necessary to use a steel cord (Code No. 769) for further security.

The safety rope has to be led through the handle on the back of the unit which then has to be fastened on a suitable part of the boom or the rail system.

### **Heating**

Each flash head emits heat through its modeling light and flashtube. This can cause heating up parts of the lamp head to a dangerous level.

Further do not operate lamp heads and generators in the near of inflammable objects. Therefore make sure, that generators and lamp heads are located far enough from inflammable props to avoid inflaming them. Take care for sufficient air supply and make sure that ventilation slots of flash heads and generators are kept free.

Do not operate power packs or lamp heads unattended.

Due to the danger of overheating, the modeling light should never be operated at full power for more than 20 minutes. Then adequate cooling should be provided for. The modeling light should never be used for lighting up the studio but only as an assistance when focusing or determining the light guiding and shadow details of the flash.

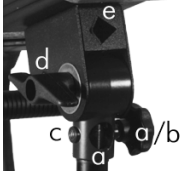
### Acclimatizing

When moving the EH Pro Flash Head from one climatic zone to the next, the appliance should stand in the room, in which it will be operated, for some time before starting it up. This prevents internal shortcuts caused by eventually condensing water.

### Positioning

EH Pro flash heads are equipped with a Tilting Head 5. The unit can be attached to a stand or pantographs using one of the two holes **a**. The head can be swivelled round 360°. By tightening the knurl screw **b** the unit can be fixed. The safety screw must be screwed into thread **c**. Wing nut **d** guarantees for tilting up and down. To ensure smooth movement please oil the thread if necessary. Above the tilting head an umbrella holder **e** is integrated.

**Tilting Head 5:**



**switch 1:**  
**OFF**

**Glass Dome:**

### Fixing of the glass dome

#### *Attention:*

*The glass dome should only be fixed or removed after having switched off the unit and disconnected from the power pack. Please take care that the flashtube and the modeling light won't be damaged.*

The glass dome is fixed by means of the three pre-mounted springs. For doing this, please slightly tilt the glass dome and insert it into one of the three springs.

Then press the glass dome gently into the other two springs until it has completely clicked in. For removing the glass dome, please slightly tilt it again so that it will easily slip out of the two fixing springs. Then gently loose the glass dome from the remaining third spring and remove it from the fixing device

## Assembly of accessories

### Reflectors and softboxes

EH Pro Flash Heads are equipped with a reflector quick-change mechanism and can be used with the whole range of HENSEL reflectors and softboxes of the EH line (adapter Ø: 10 cm).

For fixing reflectors or softboxes to the flash head, please first of all open the holding clamps. For doing this, please tension lever **4** laterally as far as it will go against the spring tension. While doing this, the holding clamps will open. Now even and precisely attach the accessory part to the unit. Please do not tilt. By releasing the lever, the holding clamps will completely enclose the accessory part.

For loosening the accessory, please hold tight the accessory part (Attention - it could be hot !) and tension lever **4** again as described above.

In any case please make sure not to damage either the flashtube or the modeling lamp (danger!).

### Umbrellas and Softstar

An Umbrella Holder **5e** is integrated above the tilting head. It allows for the connection of various umbrellas or Softstar by using a strong gripping spring mechanism.

No screw required, which could cause damage to the umbrella. The umbrella can be additionally fixed by a screw (M5 x 15).

### **Fuses**

#### Outlets, in the building:

minimum 16 A fuse outlets

#### Modeling lamp in the flash head

A melting fuse **2** secures the modeling light. Please unconditionally take care that the value of the fuse corresponds to the unit type and the mains circuit voltage. Before starting operation, please check the value of the fuse in use. Please take the specified safety values from the chapter *Maintenance, Replacement of Fuses* or even from the *Technical Data*.

### Reflector Quick-Change Mechanism:



16 A

## 8 Operation

### Connection of a power pack

The Flash Head Cable **3** is plugged into the flash socket of a HENSEL power pack. Then the generator will be connected to the mains outlet using its power cable (*Before connecting to the mains outlet please read carefully the instruction manual of the generator*). EH Pro 1500, 3000, and 6000 Flash Heads have multivoltage technology (allows 115V and 230V operation).

The maximum capacity of the connected type of the EH Pro Flash Head must be noted. The admissible capability of the Flash Head will be controlled by a flash head plug-code. When the maximum power output of the generator exceeds the capability of the connected flash head, the code will block flash release or reduce flash power of the generator.

Only original HENSEL Flash Head Extension Cables with the plug-code should be used. The cables can be ordered with precise specification from HENSEL Studioteknik.

### Recommended generators are:

*EH Pro 1500:* TRIA 1500 S and 1500 Speed,  
VELA 1500 S and VELA 1500 AS.

*EH Pro 3000:* all power packs listed above plus  
TRIA 24 S and 3000 S.

*EH Pro 6000:* all power packs listed above plus  
TRIA 6000 S.

*EH Pro 1200 P:* PORTY 1200 B and PORTY Premium.

EH Pro 1500, 3000 and 6000 Flash Heads are equipped with a fan to avoid overheating with fast flash sequences, which could cause damage to the flashtube and the power pack.

### **Mechanical connection of the flash head cable**

- Before connecting the flash head cable to the flash socket of a power pack, turn off the lamp switches of the power pack and switch off the power pack.
- Make sure that cables, plugs and connectors are not damaged in any way.

The male plug of the flash head cable is fastened with a mechanical lock. Put in the plug slightly bent to the front,

then push it with the rear part firmly into the locking mechanism. To disconnect the plug move it backwards and pull plug out starting from the rear.

### **Plugmatic**

Flash plugs of the recommended HENSEL power packs have the „plugmatic“ safety system. This enables switching plugs without any danger. This safety mechanism turns on the trigger voltage for the flashtube only after the plug is completely in place.

**However, plugs should only be switched during power packs are turned off.**

### Third party manufacturers

Even though similar lamp sockets and plugs are used by other manufacturers as well, the EH Pro Flash Head must **not** be connected to generators from these manufacturers. This requires in every case an adapter cord. Ask your HENSEL agent about suitable adapter cords for your brand.

### **Overheating**

Large uninterrupted flash sequences put the flashtube to the risk of glowing. In this case interrupt the usage of the unit till it cooled down. Do not turn off flash heads with fan cooling (EH Pro 1500, 3000, and 6000) or disconnect from power pack to keep the fan running which speeds up cooling.

**switch 1:**  
**ON**

### **Flashlight and Modeling Lamp**

The modeling light of the connected EH Pro Flash Head is switched on and off using switch **1**. The flash power and modeling light options are set using power control and modeling lamp switches of the connected generator.

## 9 Maintenance

EH Pro Flash Heads do only need very few maintenance by the user. The unit should be dry cleaned from dust from time to time. Before cleaning switch the power pack off and separate the flash head from the power pack.

**Caution:**

*Under no circumstances is any part of the equipment to be opened. The equipment is not user-serviceable and there is dangerous high voltage. In the event of difficulty notify your dealer.*

**Replacement of fuses**

In case of a broken fuse for the halogen modeling lamp 2, replace fuse only, when the power pack is switched off and the flash head separated from power pack.

**Attention:**

*Never repair or bridge fuses.*

*For replacement of fuses please only use fuses with the required value (please see the table below, Modeling Lamps and Fuses EH Pro Flash Heads). A wrong fuse may cause an explosion of the halogen modeling lamp.*

**Table:**      *Modeling Lamps and Fuses EH Pro Flash Heads*

230 V ~ operation		
<b>EH Pro Head</b>	<b>Modeling lamp</b>	<b>Fuse</b>
1500, 3000, 6000	650W/230V Halogen	4 AF
1500, 3000, 6000	300W/230V Halogen	2 AF
115 V ~ operation		
<b>EH Pro Head</b>	<b>Modeling lamp</b>	<b>Fuse</b>
1500, 3000, 6000	300W/115V Halogen	4 AF
Operation with battery packs		
<b>EH Pro Head</b>	<b>Modeling lamp</b>	<b>Fuse</b>
1200 P	50W/12V Halogen*	5 AM
1200 P	100W/12V Halogen**	10 AM

\* For operation with PORTY 1200 B and Premium Generator

\*\* For operation with PORTY Premium and 1 Head only



### **Replacement of modeling lamp**

Before replacement of the modeling lamp the power pack must be switched off and the flash head separated from the power pack.

#### *Attention:*

*Depending upon the mains circuit and the unit type, only the specified modeling lamps should be used. When changing the modeling lamp, please note that it will be secured corresponding to its capacity.*

The table above, *Modeling Lamps and Fuses EH Pro Heads*, gives an overview concerning the required modeling lamps and their safety fuses.

Wait till modeling lamp has cooled down, and then carefully remove glass dome from head by pulling it out of the spring mechanism (see page 28) and moving it straight away from the head without touching modeling lamp or flashtube (danger!).

Handle halogen lamp with care because of the high pressure inside. Pull out halogen lamp and replace the modeling lamp with a new one.

As mentioned before make sure that the right fuse is applied in accordance to the modeling lamp in use.

Avoid touching the halogen lamp with your fingers; this causes a higher risk of explosion of the halogen lamp.

### **Replacement of flashtube**

All EH Pro Heads 1500, 3000 and 1200P are equipped with a user-replaceable flashtube.

**In case of a damaged flashtube the power pack must be switched off and then the flash head separated from the power pack.**

*You must make sure that the appropriate flashtube is used.*



First remove the ignition cable by disconnecting the plug. Wait till flashtube has cooled down and then carefully remove glass dome from head by pulling it out of the spring mechanism (see page 28) and moving it straight away from the head without touching modeling lamp or flashtube (danger!). Handle flashtube with care because of the low pressure inside. Pull out flashtube and replace it with a new one. Finally connect the ignition cable.

*You must make sure that the appropriate flashtube is used. Please order from HENSEL:*

*Flashtube for EH Pro 1500 Head, user-replaceable, single coated, 1500 Ws, Code No. 9450138*

*Flashtube for EH Pro 3000 Head, user-replaceable, single coated, 3500 Ws, Code No. 9450135*

*Flashtube for EH Pro 1200 P Head, user-replaceable, single coated, 1500 Ws, Code No. 9450138*

### **Regular check**

National safety regulations require frequent safety checks of the electrical equipment. Flash Heads should be checked once a year. This check not only guarantees safety, it also protects the value of the unit.

### **Return to customer service**

To achieve a maximum protection of the unit sending it in for service, the original packaging should be kept.

## **10 Disposal**

Packaging of the EH Pro Flash Head must be separately disposed of and recycled.

Worn out and broken appliances must be disposed of by electronics recycling.

## 11 Accessories

There is a wide range of accessories for EH Pro Heads available:

### Power packs

series TRIA, VELA

### Protection Glass Domes

clear, uncoated, Code No. 9454650

clear, single coated, Code No. 9454651

clear, double coated, Code No. 9454652

frosted, uncoated, Code No. 9454653

frosted, single coated, Code No. 9454654

frosted, double coated, Code No. 9454655

### Flashtubes 1500 Ws. user-replaceable, single coated

For EH Pro 1500: Code No. 9450138

For EH Pro 1200 P: Code No. 9450138

### Flashtubes 3500 Ws. user-replaceable, single coated

For EH Pro 3000: Code No. 9450135

### Modeling lamps for EH Pro 1500, 3000, and 6000

650W/230V/G 6,35 Halogen, Code No. 129

300W/115V/G 6,35 Halogen, Code No. 1280

### Modeling lamps for EH Pro 1200 P

50W/12V/GY6,35 Halogen, Code No. 185

100W/12V/GY6,35 Halogen, Code No. 1840

### Flash Head Extension Cable

3 m, 20 leads plug, Code No. 79

3 m, round socket, Code No. 579 (for PORTY only)

### Reflectors and Softboxes

with adapter  $\varnothing$  10 cm for series EH/EXPERT/CONTRA

### Umbrellas

## 12 Customer Service

For service ask your local dealer.

### HENSEL home address:

HENSEL Studiotechnik GmbH & Co. KG

GERMANY

Robert-Bunsen-Str. 3

D-97076 Würzburg

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

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



# 13 Certificate of Conformity for Electromagnetic Compatibility and Safety

Manufacturer and Owner of Certification: HENSEL Studiotechnik GmbH & Co.KG  
Robert-Bunsen-Str. 3  
97076 Würzburg  
Germany

Test Report: of July 04, 2005

Products: **Flash Heads  
EH Pro 1500, EH Pro 3000, and EH Pro 1200 P**

Description: Emission and Interference Resistance

Directives: EN 50 081-1 / EN 55 014 / EN 60 555 /  
EN 50 082-2 / EN 61 000-4-2/3/4/5

This certificate of conformity is made by the above mentioned manufacturer according to article 10, paragraph 1, of the Councils Directive of March 3<sup>rd</sup> 1989 referring to electromagnetic compatibility and safety for bringing the statutory instruments of the Member States into lines with each other. This certificate does not make any statement according to requirements of other provisions concerning the electromagnetic compatibility and safety.

Description: Low Voltage Directive

Directives: EN 60491:95 / EN 60598-1:93+A1:96 /  
EN 60598-2-9:89

This certificate of conformity is made by the above mentioned manufacturer according to article 10, paragraph 1, of the Councils Directive of February 19<sup>th</sup> 1973 referring to electrical items for usage within specified voltage limits (72/23/EWG).

This certificate of conformity is the result of testing samples of the above listed products submitted, in accordance with the provisions of the relevant specific standards.

Date: July 04, 2005

Manufacturer



J. Renschke  
- Managing Director -  
HENSEL Studiotechnik GmbH & Co.KG