

1 Introduction

Dear Photographer,

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 Studiotchnik 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 Studiotchnik

User manual – Date of Revision: 2004-03

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.

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3 General safety regulations

Power packs store electrical energy in capacitors by applying high voltages. 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 the paragraph *Starting up*) within the user manual before turning the appliance on.

Proper use

The present power pack is meant for studio use of professional photographers. Its task is to provide electrical energy for certain fixed types of HENSEL flash lamps.

Improper use

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

Contact with the capacitor voltage is perilous. Thus opening of the housing of VELA AS power pack and repairs must only be made by authorized customer service.

- Flashtubes must only be exchanged by authorized trained personnel. Exchange of flashtube and modeling lamp must only be performed with the appliance turned off, unplugged from the mains and discharged.
- Power packs must only be used on supply lines (mains) with working protective conductor (earth line).
- Only lamp connectors with immaculate contacts must be used, burned or 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.
- Ventilation slots of power packs must be kept free during operation and sufficient air supply must be ensured. Do not stick any objects into ventilation slots, lamp sockets or synchronization sockets.
Do not deposit any objects (tools, coffee cups, etc.) on the power pack.

- 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 power packs and flash lamps to prevent fire hazards.
- Power packs must be protected against humidity and spray water.
- Do not connect accessories from other manufacturers, even if they use the same or similar connectors.
- Power packs - 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 Technical Data**

Model series Model type	VELA Power Pack 1500 AS	VELA Power Pack 1500 S
Rated energy:	1500 J	1500 J
Aperture at 2 m distance (100 ISO/21°) 12" Reflector	f 64	f 64
Flash duration t 0.5 in sec.	Max: 1/3250 Min: 1/650	1/3250 1/650
Recycle in sec.	115 V: 0.2 – 1.3 230 V: 0.8 – 1.9	----- 0.2 – 1.9
Power adjustment	6,5 f adjustable in 1/10 f	5 f adjustable in 1/10 f
Power output:	31 J – 1500 J	94 J – 1500 J
Power distribution:	symmetrical or asymmetrical	symmetrical
No. of flash sockets:	3	2
Modeling lamp max.	230V: 650W 115V: 300W	650W -----
Fuse:	10 Af	10 Af
Mains voltage:	Multivoltage version: 230 V~ / 115 V~	230 V~
Weight (kg):	5,6	4,6
Measurements	L: 20,4 cm	20,4 cm
	B: 11,9 cm	11,9 cm
	H: 36 cm	34,5 cm
Code	Multivoltage: 3800	3802

** : Technical changes reserved. Values attained at 230 V/50 Hz voltage.

5 Overview of controls

- 1 FC:
Flash Check
- *2 AUDIO:
Acoustical signal for flash readiness ON / OFF
- 3 SLAVE:
ON/OFF
- 4 SYNC:
Synchronization socket
- 5 Slave, built-in
- 4 Flash output control
- *6 LED display of flash output
- 7 Flash output control switch
- *7a Control switch upwards
- *7b Control switch downwards
- *8 SET B
Flash output channel B:
Options: Max. 500 J / 250 J / 125 J
- 9 LAMP:
Modeling lamp ON / OFF
- 10 FULL/PROP
Modeling lamp options: FULL or PROP
- 11 READY Indicator
(Indicator for flash readiness)
- 12 TEST:
Manual flash release
- 13 Lamp sockets
- 13a Socket A1
- *13b Socket A2
- 13c Socket B

On the left side of the housing (not shown):

- Main switch ON / OFF
- Fuses 10 Af for Modeling lamp
- Mains connector

On the right side of the housing (not shown):

REMOTE Socket*

*** Features only available for VELA AS power packs**

6 Starting up

Safety hints for operation with connected flash heads

To avoid damage to the flashtube mount reflectors and lightformers (softboxes etc.) before use and turning on the unit. Do not move power packs and lamp heads around, while they are operating. Turn off the appliance for each change of reflectors or to move the unit 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 flash head has to be unplugged from the power pack immediately and sent to an authorized HENSEL service department. Do not only turn off the flash head, because the capacitors inside the power pack may be still charged and dangerous high voltage can be still present at the damaged flashtube electrodes.

For replacement of flashtubes please consult your local HENSEL agency.

Assembly

When mounting to a ceiling system or a pantograph, suspended flash heads have to be doubly secured from falling down or dropping. This is done by tightening the safety screw on the HENSEL U-bracket or the wrench screw on the HENSEL tilting head. Due to the existing safety regulations, it is, however, necessary to use a safety rope (Code 769) for further security.

The safety rope has to be led through the handle of the flash head and then secured by looping through the bracket on the pantograph or the eyelet on the carriage.

Heating

Due to the modeling and flashlight, each power pack and flash head emits heat. This can heat up the parts of the unit to a dangerous level. Therefore make sure, that power packs 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 power packs and flash heads are kept free.

Do not operate power packs and flash 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 power pack 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, which might occur by condensing water.

Positioning

VELA power packs can be operated standing up.

Mains connection

The type label can be found on the bottom of the appliance.

Multivoltage Version

The VELA AS power pack adjusts itself for different main voltages. VELA S power pack is for 230V operation only.

Flash power packs must only be connected to mains outlets with ground connection.

Insert the plug of the provided power cable into the mains connector (laterally) and then connect the cable to the mains outlet.

Fuses

Outlets, in the building

Ue = 230 V: 16 A

Ue = 115 V*: 20 A

10 Af

Fuse for modeling lamp

The fuse is a general lamp fuse. Make sure that only fuses with the required value 10 A-quick are used.

Fuse for halogen lamp in flash head

The halogen lamp in the head is protected by a 5 x 20 mm melting fuse.

Caution:

Make sure that depending on the mains voltage the right modeling lamp is in use and protected by the specified type of fuse (see table below):

	<i>U_e = 230 V</i>	<i>U_e = 115 V*</i>
300W Halogen lamp	1,6 Af quick	3,15 Af quick
650W Halogen lamp	3,15 Af quick	-----



Spare fuses for the power pack

Spare fuses are integrated in the grip rod of the bracket.

Lamp connections

Caution:

Before connecting lamp heads to the VELA AS power pack check the mains voltage and make sure that the head is allowed to be operated (115V~ / 230V~ / Bi-Voltage). VELA S power packs are for 230V operation only.

For flash head connection the heads of the EHT and MH line with at least 3000 J are available as well as the EHT 3000 E flash head.

Before starting up the maximum loading of the flash head must be observed (minimum 3000 Ws).

The admissible load capacity of a flash head will be controlled by a flash head plug-code. In case of connecting an inadmissible flash head to the power pack, the code will block flash release. Only flash head extension cables with the plug-code must be used. The cables can be ordered with precise specification from HENSEL Studiotechnik.

Lamp heads / flash heads with halogen lamps, which are not equipped with a cooling fan, must not be used. During quick flash sequences, the flashtubes and therefore also the power pack would be damaged.

Third party manufacturers

Even through similar lamp sockets and plugs are used by other manufactures as well, lamps and flash heads from these manufactures must **not** be connected to the VELA power pack. This requires in every case an adapter cord. Ask your HENSEL agent about suitable adapter cords for your brand.

Number of flash heads connected

Max. 3 flash heads are allowed to be simultaneously connected to the VELA AS power pack. VELA S power packs can be only operated with max. 2 connected flash heads. The maximum load capacity of the flash head must not be exceeded.

Power distribution

Distribution of flash power in VELA AS power packs is achieved asymmetrically over the 2 channels A and B. In VELA S power packs the flash power is symmetrically distributed over 2 sockets.

Mechanical connection of lamp plugs

- Before connecting lamp plugs switch off the power pack using main switch (on the left side of the housing).
- Only use flawless plugs and sockets.

The lamp plug is locked using a mechanical catch. For this, insert the plug into the flash sockets **13** slightly tilted forward and then press it tightly into the catch at the rear near the cable duct.

To disconnect the plug, press back the catch and pull the plug upwards at the back at the cable duct.

Plugmatic

The flash sockets **13** are fitted with the HENSEL safety system „Plugmatic“. This enables unplugging and replugging the flash plugs without danger. Only after the plug has been completely inserted the triggering voltage is present by micro switch.

Still, plugs should only be unplugged or plugged in when the power pack is turned off.



ON / OFF

7 Operation

Switching ON and OFF

By pressing the main switch (on the left side of the housing) the power pack will be turned on and off, respectively.

**4:
SYNC**

Synchronization (Flash triggering)

Synchronization by cable

Via the synchronization socket **4** the power pack is connected to the camera using a synchronization cable with 6,3 mm phone jack.

The synchronization circuit is made up of state-of-the-art semiconductor technology and enables secure triggering of the flash even with older cameras with mechanical contacts.

Due to the many different electronical circuits in cameras for controlling synchronization, we cannot take any liability for possible damage to cameras triggering flashes. Please contact the camera manufacturer before using an unusual camera.

**5
SLAVE**

Synchronization by slave

The built-in slave **5** can trigger the power pack. Triggering is then performed by an „incoming“ flash, which was emitted by another flashlight. This mode of operation is switched on using push-button **3** till control LED lights up.

The slave is an impulse photocell. It can only operate, when the triggering flash has a higher f-stop than the ambient light. Please be aware that the ambient light that strikes the slave may never be too strong. If this cannot be avoided, please switch off the slave and release the flash by cable or IR.

Synchronization by infrared triggering system

For remote-controlled triggering, the infrared triggering system „SPEED“ (Set, Code 392) is available as accessory.

The IR transmitter „Speed“ has to be attached to the camera. The IR group A or B can be selected on the transmitter by a slide switch. Der IR receiver is to be connected to the synchronisation socket **4**. The same IR group A or B has to be set on the receiver using the slide switch.

Flashes can be triggered using the provided synchronization cable or the camera hot shoe according to the specified group. The transmitter should approximately be pointed towards the connected IR-receiver. All flash heads within one selected group are flashing.

**12:
TEST**

Test flash

By pressing the TEST button **12** test flashes can be released.

VELA AS:
Flash output distribution / symmetrical operation

One-Head-Use:

Maximum flash output channel A: 1500 J

Maximum flash output channel B: 500 J

Two-Heads-Use for channels A1+A2:

The power output is distributed symmetrically over the two connected flash heads. The maximum power output is 750 J per channel. The green light of the control-LED „Max 1500 J“ (total power output for channel A) lights up. For precise power adjustment over a range of 6 f stops use the up and down power control switches **7a** and **7b**, respectively.

Three-Heads-Use for channels A1+A2+B:

After connecting the flash heads to the three lamp sockets the green light of the control-LED „Max 1000 J“ (total power output for channel A) lights up. For symmetrical operation the SET B button **8** is to be set to „Max 500 J“ for channel B (green control-LED lights up). Thus, for each channel are 500 J flash power available, which can be precisely adjusted using the up and down power control buttons **7a** and **7b**, respectively.

VELA AS:
Flash output distribution / asymmetrical operation

Three-Heads-Use for channel A1+A2+B:

After connecting the flash heads to the three lamp sockets the green light of the control-LED „Max 1000 J“ (total power output for channel A) lights up. For asymmetrical operation SET B button **8** is to be set to „Max 250 J“ or „Max 125 J“ for channel B (green control-LED lights up). The LED indicators show the maximum flash output per channel: Channel A maximum 500 J at each socket and channel B maximum 250 and 125 J, respectively. For precise power adjustment (proportional at all three flash sockets) use the up and down power control switches **7a** and **7b**, respectively.

Two-Heads-Use for channel A+B:

After connecting both flash heads to channel A and B the green light of the control-LED „Max 1000 J“ (total power output for channel A) lights up. SET B button **8** is to be set to „Max 500 J“, „Max 250 J“ or „Max 125 J“ for channel B (green control-LED lights up). The LED indicators show the maximum flash output per channel: Channel A maximum 1000 J and channel B maximum 500 J, 250 J and 125 J, respectively. For precise power adjustment (proportional at all three flash sockets) use the up and down power control switches **7a** and **7b**, respectively.

7. 7a, 7b:
Power control
switches

Flash power control

VELA S: The flash power can be set in 1/10 f-stop increments using the power control switch **7** (5 f-stops).

VELA AS: The flash power can be set in 1/10 f-stop increments using power control switches **7a** and **7b**. This covers a range of 6.5 f-stops. The output levels of all connected channels are proportionally increased and reduced by pressing the up and down control buttons.

6:
LED display

The flash output will be shown on the two digits 7-segment display **6** (see table below).

VELA AS: Flash power settings and LED display

Channel A (1 or 2 Heads, symmetrical):

<u>Flash Power Output</u>	<u>LED Display</u>
47 J – 1500 J	5 – 10

Channel B (1 Head):

<u>Flash Power Output</u>	<u>LED Display</u>
31 J – 500 J	4.4 – 8.4
31 J – 250 J	4.4 – 7.4
31 J – 125 J	4.4 – 6.4

Channel A1 + A2 + B „Max. 500J” (3 Heads, symmetrical):

<u>Flash Power Output</u>	<u>LED Display</u>
1000 J (A) + 500 J (B)	10.0
.....
63 J (A) + 31 J (B)	6.0

Channel A1 or A2 + B „Max. 500J” (2 Heads, asymmetrical):

<u>Flash Power Output</u>	<u>LED Display</u>
1000 J (A) + 500 J (B)	10.0
.....
63 J (A) + 31 J (B)	6.0

A1 and/or A2 + B „Max. 250J” (2 or 3 Heads, asymmetrical):

<u>Flash Power Output</u>	<u>LED Display</u>
1000 J (A) + 250 J (B)	9.7
.....
125 J (A) + 31 J (B)	6.7

A1 and/or A2 + B „Max. 125J” (2 or 3 Heads, asymmetrical):

<u>Flash Power Output</u>	<u>LED Display</u>
1000 J (A) + 125 J (B)	9.6
.....
250 J (A) + 31 J (B)	7.6

READY
FC
AUDIO*

Flash readiness

Flash readiness of the power pack is shown by

- READY control lamp **11** turned on (green light)
- Modeling lamp turned on when Flash Check mode is activated (switch **1**)
- Acoustical signal, when AUDIO* **2** is switched on.

APD system

In case of reducing the flash power, the stored energy will be discharged by APD-system (Automatic Power Drop). No flash will be triggered. After switching off power packs will be automatically discharged.

9:
LAMP

Modeling lamp – VELA AS

The modeling light is turned on and off, respectively, using switch **9**. Turning on of the modeling lamp is only effective, when the connected flash head and modeling lamp are switched on.

FULL

When switch **10** is set to „FULL“ position, the maximum output of the modeling lamp (650W/230V, 300W/115V) is achieved independantly of the flash output setting.

10:
FULL
PROP

PROP

To have proportionality between modeling lamp and flash power output switch **10** has to be set to „PROP. When the maximum flash power output is reduced, the maximum modeling lamp output (650W / 300W) is proportionally dimmed.

The mode of operation is indicated by the control LED.

Modeling lamp – VELA S

By pressing the toggle switch it can be chosen between the modeling light options FULL – PROP – OFF. Description of the functions see above.

1:
FC

Flash Check

If this mode is switched on using switch **1** (LED indicator lights up), then the modeling lamp is turned off after a flash and is turned on after recharging to the adjusted power level. This shows correct charge as well as readiness to flash.

The flash check mode guarantees that the flash heads have triggered when more than one flash unit is used.

2:
AUDIO*

Audio*

Readiness to flash after charging is signalled with a tone. This tone can be turned on (control LED lights up) or off using the AUDIO switch **2**.

12:
TEST

Test flash

By pressing button **12** test flashes can be released.

**6:
LED display**

Remote Socket*

VELA AS power packs can be operated using the generator front panel or in the most important functions using the **Cable Remote Control RC-X**, which is available as accessory (**Code No. 3310**). The remote control unit will be connected via the supplied cable to the remote socket of the power pack (on the right side of the housing).

Provided functions of the Remote Control RC-X:

- *STBY*
Pressing the STBY key switches the power pack to the stand-by mode. The display **6** shows „--“
- *PILOT*
Pressing the PILOT key switches the modeling lamp for PROP operation on or off. The modeling lamp output is proportional to the chosen flash power.
- *Flash control*
By turning the flash control switch the flash output can be defined in 2/10 f-steps over a range of 6 f-steps.
- *READY*
Lighting up signals flash readiness.
- *TEST*
Pressing the TEST button enables manual flash release.
- *SYNC*
Additionally one synchronization socket is available.

Trouble shooting*

Er 01 - Er 07

Those error messages appear when one or more heads have not triggered. Automatic reset.

Error	Not triggered
Er 01	Head 1
Er 02	Head 2
Er 03	Head 3
Er 04	Head 1 and 2
Er 05	Head 1 and 3
Er 06	Head 2 and 3
Er 07	Head 1, 2 and 3

Er 21 - Er 34

Error messages because of overheating. Reset automatically after a cooling down period. Do not switch off the unit to allow fan cooling.

Er 40 - Er 43

Error messages concerning charging or other errors. For reset switch off the unit by pressing the main switch. Please contact the HENSEL customer service immediately, in case of multiple appearance of these error messages.

8 Maintenance

The VELA power pack is in need of little maintenance by the user. The unit should be dry cleaned from dust from time to time. Before cleaning separate the unit from the mains outlet.

Caution:

Any part of the equipment should on no account 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 modeling lamp replace fuse only, when the unit is switched off and separated from the mains outlet.

Attention:

Never repair or bridge fuses. Only use the following types of fuses according to IEC 127-2/1 and EN 60127-2/1 (sand filled), respectively:

Fuses for VELAAS power pack:

10 Af quick

Fuses for connected flash heads:


	<i>U_e = 230 V</i>	<i>U_e = 115 V*</i>
300W Halogen lamp	1,6 Af quick	3,15 Af quick
650W Halogen lamp	3,15 Af quick	-----

Spare fuses for the power pack

Spare fuses are integrated in the grip rod of the bracket.

Regular check

National safety regulations require regular inspection and maintenance of electrical systems and appliances. Power packs and accessories must be regularly checked for safe operation. Yearly inspection of the appliances serves the safety of the user and protects your investment in the system.

Return to customer service

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

9 Disposal

Packaging of the power pack must be separately disposed of and recycled.

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

10 Accessories

There is a wide range of useful accessory available. We recommend you:

- Flash Head EHT 3000 E
- Flash Heads series EHT or MH with minimum 3000 J
- Cable Remote Control RC-X, Code No. 3310*
- IR triggering system Speed, Transmitter and Receiver, Code No. 392
- Spotlights
- Linear flashlight units
- Reflectors, softboxes, autolights
- Umbrellas

Before connecting flash heads, their maximum load must be observed.

11 Customer Service

Works customer service

with 24 hours express service:

HENSEL Studiotechnik GmbH & Co. KG
GERMANY

- service department -
Robert-Bunsen-Str. 3

D-97076 Würzburg

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

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



12 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 June 12, 2002

Products: **VELA 1500 AS power pack**
VELA 1500 S power pack

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
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 March 3rd 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 19th 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: June 12, 2002

Manufacturer



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