

Operating manual

Coldlight Source

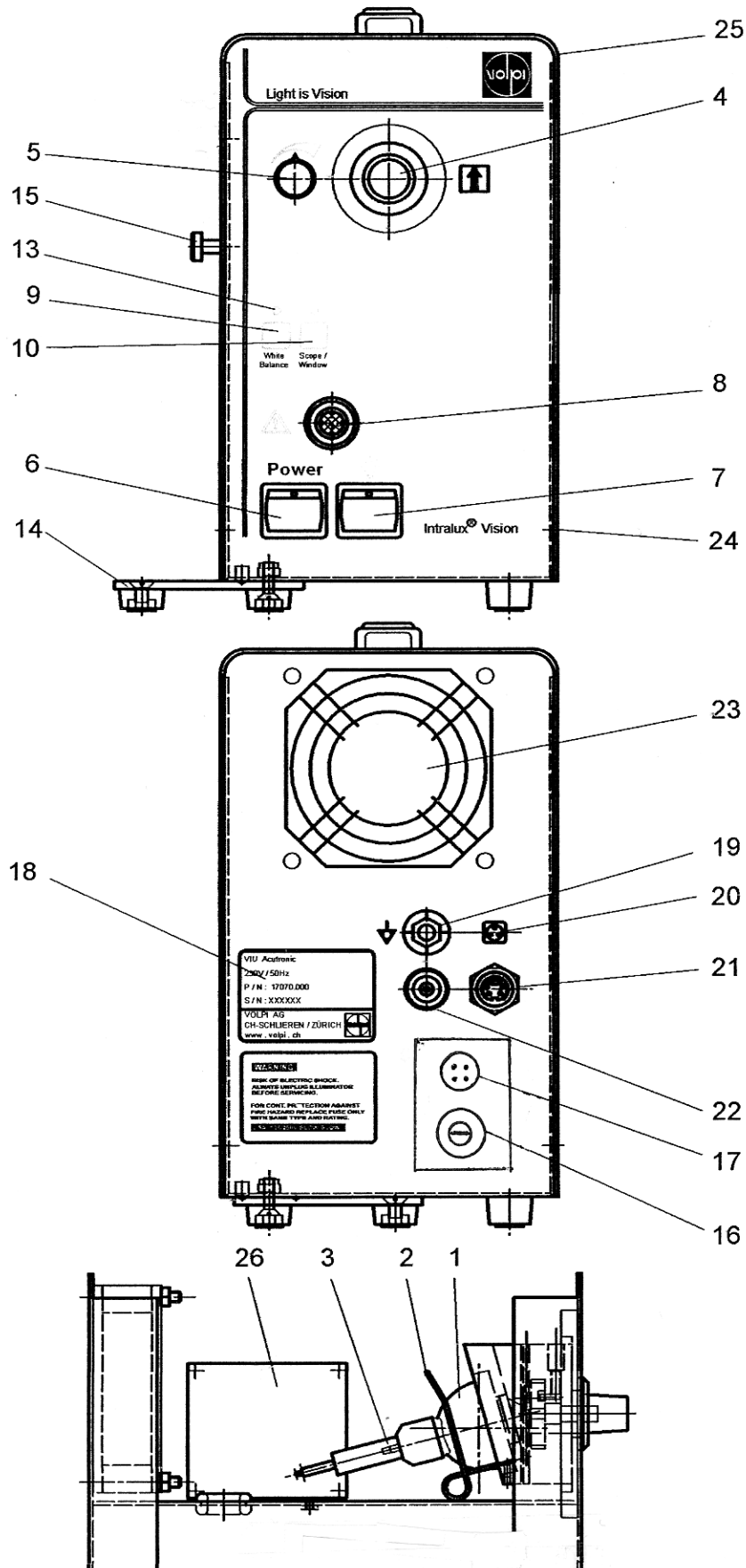
Intralux Vision

Manufacturer:	VOLPI AG Wiesenstrasse 33 CH-8952 Schlieren Tel. 01 732 43 43 Fax. 01 732 43 44
Description:	Medical cold light source with 24W Metal Halide lamp and video camera (for ½" CCD; PAL)
Model:	Intralux Vision
Part No.:	17077. 600
Country of origin:	Switzerland

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1 PRODUCT OVERVIEW



LEGEND

1

SPARE PARTS

Lamp Metal Halide 24W AL-1824
Fuse 6,3A slow blow
Power cord

ART. NO.

90357.015
90045.126
90032.111

EURO

LEGEND

- 1 Lamp Metal Halide 24W AL-1824
- 2 Retaining spring
- 3 Lamp connector
- 4 Lightguide receptacle
- 5 Control knob for brightness adjustment (crescent diaphragm)
- 6 Power ON/OFF switch
- 7 Lamp ON/OFF switch
- 8 Camera receptacle
- 9 White balance adjustment with LED
- 10 Scope / window adjustment with LED
- 13 LED – display
- 14 Turning foot
- 15 Retainer for LCD Monitor
- 16 Fuse-Holder
- 17 Power plug 12VDC for Powersupply 95-264V/47/63Hz /12VDC or
Cigarette lighter cable 12VDC
- 18 Label
- 19 Discharge pin
- 20 Display link (Power connector) for LCD Monitor
- 21 S-VHS (Y/C) video plug for LCD Monitor
- 22 Composite video plug
- 23 Fan
- 24 Cover fixing screws
- 25 Unit cover
- 26 Ballast for lamp power

2 UNIT DESCRIPTION

The cold lightsource „**Intralux Vision**“ was specifically designed for medical applications and therefore fulfills the highest safety requirements for the patient as well as for the physician.

The cold lightsource „**Intralux Vision**“ combines highest illumination requirements with high-resolution video capabilities through an integrated high-resolution ½“ CCD camera board

3 PRIOR TO START UP

3.1 Safety instructions

CAUTION:



The lightsource must be placed on a flat surface. Provide a 8cm distance between the lightsource and any solid object to provide adequate ventilation to prevent overheating.

Carefully read instructions under Sec. 5.4 prior to operating the lamp

3.2 Connecting the unit

1. Lightguide receptacle (4)
2. Camera receptacle (8)
3. Display link (20)
4. Video link (21 or 22)
5. Discharge pin (19)
6. Power plug 12VDC (17) for Powersupply 95-264VAC/12VDC or Cigaret Lighter Cable 12VDC

CAUTION:




For safety purposes this unit can only be operated with the original camera devices (instruments incl. Cameracable and head provided by the manufacturer) to comply with the Type BF of appliances.

4 OPERATING THE UNIT

4.1 Operating elements

4.1.1 Light:

LIGHT  (7): This switch turns the power of the lamp on and off.

BRIGHTNESS-Knob (5): The brightness knob can be turned manually in order to adjust the illumination output to your needs. Always set the brightness knob (5) to the position minimum before unplugging the lightguide to avoid the possibility of eye injury due to the escaping intense light:

4.1.2 Frontpanel Controller

- 1 Two seconds after Power is switched on (6) the window/scope light (white LED's) is lighting up.
- 2 After plug in of the CCD camera at receptacle (8), a white balance procedure can be performed.
Place a well lit, white object (e.g. white sheet of paper) in front of the camera lens and push the White balance button (9).
The appropriate LED (13) lights up for 2 seconds. The adjustment will be completed after 2 seconds roughly.

The electronic exposure control can be activated differently, either by measuring the light over the complete image field (Window-Mode) or by measuring only within a central portion of the image field (Scope-Mode).

If the LED atop the „Scope/Window“-button (10) lights up, the Scope-Mode is switched on – otherwise the „Window-Mode“ is activated.

4.1.3 Operating the lightsource

CAUTION:



To avoid the possibility of eye injury avoid direct viewing of the receptacle or lightguide when lightsource is turned on.

Allow lamp to cool down for 15 seconds between each use otherwise lamp life will shorten dramatically.



To protect the electronics of the „Intralux Vision“ from damage, the user has to perform an electrostatic discharge before connecting lightguide or camera devices to the lightsource

Connect the discharge pin (19) at the rear of the lightsource to ground in order to perform an electrostatic discharge .



For safety purposes this unit can only be operated with the original camera devices (instruments incl. Cameracable and head provided by the manufacturer) to comply with the Type BF of appliances.

The lightsource is ready to be operated once the devices are connected to the appropriate plugs (ref. Sec. 3.2)

4.1.4 Display assembly

Turn both turning foots (14) outward until they snap in.

Attach the display unit top-down to the holder (15).

5 MAINTENANCE AND CLEANING

5.1 Light bulb replacement

CAUTION:



Let the lamp cool down before removal. DO NOT touch the lamp itself or the reflective surface with bare hands. Hold lamp by the outside of the reflector or the connector only. Remove fingerprints with a clean Q-tip moistened with alcohol.

Disconnect the unit from the power cord!

1. Turn off power switch (6) and disconnect the unit from the power cord.
2. Using a screwdriver, completely remove the locking screws (24) from both sides of the instrument and raise the top cover (25)
3. Disconnect the lamp connector (3) and remove lamp (1) by pulling it back and up against the retaining spring (2).
4. Replace with VOLPI Spare lamp P/N 90357.015 only. DO NOT touch the lamp itself or the interior reflective surface.
5. Reconnect the lamp to the connector and insert lamp so that the alignment pin is pointing down.
6. Lower the top cover (25) and re-insert the locking screws (24), tightening them well.
7. Turn the control knob for brightness (5) counterclockwise to the minimum position.
8. Connect power cord to the lightsource (16) and plug into the electrical outlet.
9. Plug lightguide into receptacle (4). Plug camera cable into plug (8).
10. Switch power (6) ON.
11. Switch lamp (7) ON.
12. The video lightsource is ready for operation.

5.2 Replacement of fuses

1. Turn OFF power switch (6) and disconnect the unit from the power cord.
2. Remove the two fuses by squeezing the latch of the fuse-box (17) and pull out.
3. Discard old fuses and replace with two new ones of the same type indicated on the label at the back.
4. Plug lightguide into receptacle (4). Plug camera cable into plug (8).
Switch power (6) ON. Switch lamp (7) ON.
The video lightsource is ready for operation.

5.3 Adaptation of the unit voltage to the local line voltage

Provision of electricity of the „**Intralux Vision**“ is done by a external power supply with a source voltage range of 85 – 264 VAC / 12 VDC, or Cigarette Lighter cable to plug into the 12VDC Cigarette Lighter of the car.

5.4 Connecting lightguides and camera devices during operation

CAUTION:



To protect the electronics of the „Intralux Vision“ from damage, the user has to perform an electrostatic discharge before connecting lightguide or camera devices to the lightsource.



Optional: Connect the discharge pin (19) at the rear of the lightsource to ground in order to perform an electrostatic discharge .



For safety purposes this unit can only be operated with the original camera devices (instruments incl. cameracable and head provided by the manufacturer) to comply with the Type BF of appliances.

5.5 Transportation and Shipping

To avoid damaging of the lightsource the units have to be transported or shipped in the original packaging. Mishandling has to be avoided.

5.6 Cleaning



Disconnect the unit from the 12VDC power !

The external surfaces of the lightsource may be cleaned with a cloth lightly moistened with mild soap and water.

Do not reconnect lightsource to outlet until it is thoroughly dry.

5.7 Error-checklist

<i>Status</i>	<i>Cause</i>	<i>Correction</i>	<i>Comment</i>
No light (unit switched on, no LED is lit)	-defect fuses -power cord not connected -defect electronics	-change fuses -connect power cord -advise Distributor and return unit to Distributor	ref. Section 5.2 ref. Section 3.2
No light (unit switched on and LED (13) is lit)	-lamp not switched to ON -lamp not connected -lamp defective	-switch lamp ON (7) -connect the lamp -change lamp	ref. Section 5.1 ref. Section 5.1
Low light	-lamp life is down	-change lamp	ref. Section 5.1
No image on monitor	-unit not switched ON -video cable not connected („Intralux Vision“ / Monitor) -cameracable not connected	-switch ON unit -connect video cable („Intralux Vision“ / Monitor) -connect cameracable	ref. Section 3.2 ref. Section 5.1
No image on monitor (unit switched ON and camera connected)	-video cable not connected -power cable for monitor not connected	-connect video cable -connect power cable for monitor	ref. Section 3.2
No image on monitor (unit switched ON, LED is lit, camera and video output connected)	-not enough light -power cable for monitor not connected	-adjust brightness knob (5) -connect power cable for monitor	
No image on monitor (unit switched ON, no LED is lit, camera and video output connected)	-defect camera electronics	-advise Distributor and return unit to Distributor	

5.8 Disposing of the unit or spare parts

The lightsource unit and all spare parts (lamp, fuses etc.) are considered 'special electronic waste' and must be appropriately disposed by the user.

5.9 Lightguides and instruments (e.g. camera devices)



For safety purposes this unit can only be operated with the original camera devices (instruments incl. cameracable and head provided by the manufacturer) to comply with the Type BF of appliances.

Lightguides: The receptacle of the „**Intralux Vision**“ is electrically isolated from ground and therefore all kind of lightguides which fit into the receptacle can be used in combination with the „**Intralux Vision**“.

Instruments: The camera plug of the „**Intralux Vision**“ is **not** electrically isolated from ground and therefore only instruments or cameras supplied by the manufacturer which are specifically designed to be of Type BF can be used in combination with the „**Intralux Vision**“.

For instructions how to maintain and clean lightguides and instruments (e.g. camera devices) refer to the operating manuals of the lightguide and instruments.

6 TECNICAL DATA

Description:	„Intralux Vision“	
Part No.:	17077.600	EURO Power cable
Lamp:		
-type:	24W Metal Halide short arc reflector lamp	
-life	500 h (nominal)	
-luminous flux	520 lumen	
-spectral output:	360-820 nm	
-color temperature:	about 5500°K	
Filter:		
- IR-cutoff filter		
Dimensions:		
-HxWxD:	225x126x207(mm)	
-weight:	10,9lbs. (4,8 kg)	
-operating temperature:	41°F-104°F (5°C-40°C)	
-operating humidity:	20%-80%	
-storage temperature:	-4°F-140°F (-20°C-60°C)	
-storage humidity:	20%-80%	
-noise level	< 25dB(A)	
-housing temperature	max. 45°C	
Electrical Data:		
-max. power consumption:	70 VA	
Intensity:		
-continuous light intensity adjustment with crescent shaped diaphragm (patent)		
Spare Parts:		
-power cord:	90032.111	EURO
-lamp:	90357.015	Metal Halide 24W AL-1824
-fuses:	90045.126	6,3A slow blow
-light guide:		Contact Distributor
-operating manual:	17077.781	English

Camera Data:

a) 1/2" Camera-head

	PAL	NTSC
System:	1/2" Interline CCD	1/2" Interline CCD
Pixels:	752(H)x582(V)	758(H)x492(V)
Imagesize:	6.4(H)x4.8(V)mm	6.4(H)x4.8(V)mm
Resolution:	625 Lines (2:1 Interlace)	525 Lines (2:1 Interlace)
Synchronization:		Intern
Horizontal frequency:	15.625 kHz	15.734 kHz
Vertical frequency:	50 Hz	60 Hz
Sensitivity:		Minimum 3 Lux F1.4, 2500 Lux F8 (3000°K)
Cable:		3m or 5m, Ø 5mm

b) Electronics

	PAL	NTSC
Video-resolution:	470 Lines (horizontal)	470 Lines (horizontal)
Video-output:		FBAS, Y/C(S-VHS)
Signal/Noise:		>46dB p-p
AGC:		ON/OFF, 0-18dB switchable
ELC:		max. shutter speed = 1/100000s
AWC:		automatic white balance
Power /consumption:	10.8-13.2 VDC (nominal 12VDC) / 0.6A	

Approvals

CE

Class of Protection

Protection class I (only if connected to Ground)