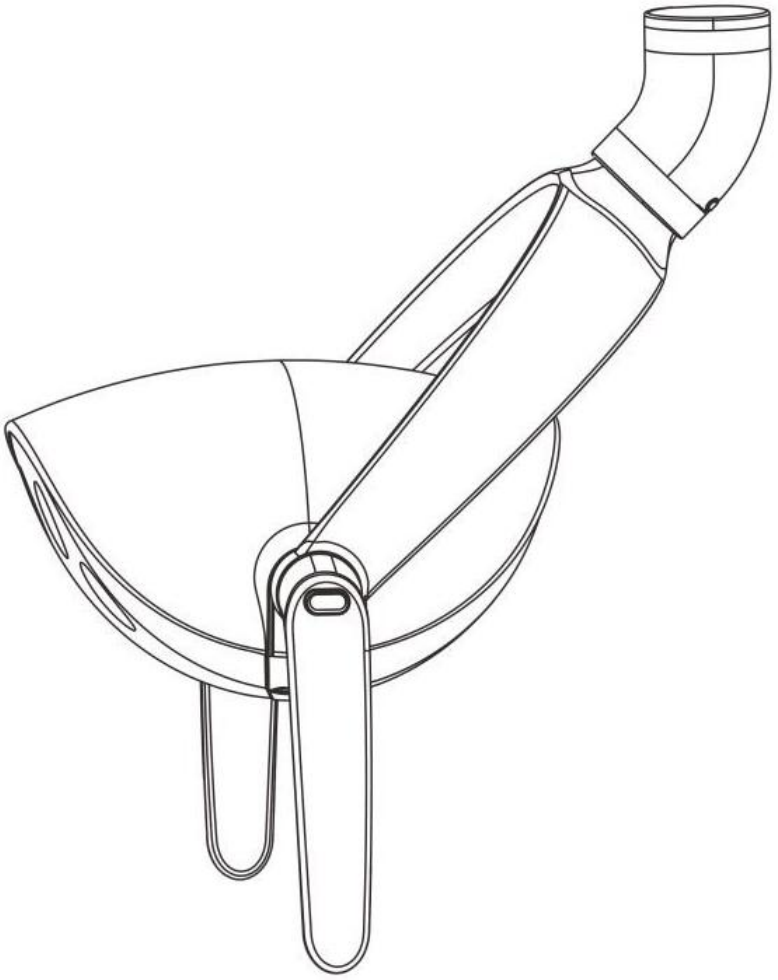
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Whale LED Dental Operating Light
Instructions for Use



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The document is intended to be used in conjunction with the equipment.

Comments and feedbacks

Please contact us if you have any feedback and opinions on this document：
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Tel: (626) 620 0456
E-mail : sales@adsequip.com
http://www.adsequip.com/

Product service

If you want to get service information, please contact the local dealer authorized by ADS company.
Technical suopport tel： 800 488 9708

Transportation Instructions

Any dispute over loss or damage in transit must be declared in the presence of the carrier at the time of delivery and stated in the waybill.

Under no circumstances shall packaging materials manufactured by manufacturer be used for any purpose other than transportation.

Installation Instructions

Installer shall：

1.have qualified mechanical and electrical safety training.

2.follow the installation procedures in this manual when installing the dental light.

3.carefully read this manual, which explains the use of the dental light in detail.

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1 General information

1.1 Dear Customer,

We are pleased that you have equipped your practice with the NiceDay LED Dental operating Light. You now have a light that features LED technology. It is characterized by high luminance, lamp longevity and lower energy consumption. Its mechanical adjustability in 3 axes ensures optimal position ability.
The technical documentation supplied is also part of the product. Always keep this documentation within reach. Please perform maintenance and cleaning based on the corresponding instructions. Familiarize yourself with the lamp by reading these Operating Instructions before putting it into operation.

1.2 Identification of danger levels

To prevent personal injury and material damage, please observe the warning and safety information provided in this document. Such information is highlighted as follows:

DANGER	WARNING	CAUTION	NOTICE	IMPORTANT
An imminent danger that could result in serious bodily injury or death.	A possibly dangerous situation that could result in serious bodily injury or death	A possibly dangerous situation that could result in slight bodily injury.	A possibly harmful situation which could lead to damage of the product or an object in its environment.	Application instrucitons and other important information.

1.3 Warranty and liability

Maintenance

Maintenance must be performed at scheduled intervals to ensure the operational and functional reliability of your product and to protect the safety and health of patients, users and other persons. The owner is responsible for making sure that all maintenance activities are performed.
As manufacturers of medical electrical equipment, we can assume responsibility for the safety properties of the unit only if maintenance and repairs on the unit are performed either by us or by agencies which we have expressly authorized and if components of the unit are replaced by original spare parts in case of failure.

Exclusion of liability

In the event that the system owner fails to fulfill its obligation to perform maintenance activities or ignores error messages, we and our authorized dealers cannot assume any liability for any damage thus incurred.

1.4 Intended use

The operating light is used to illuminate the treatment area during dental treatment. The light may be used only by trained and qualified personnel. This device is not intended for operation in areas subject to explosion hazards. Proper use also includes compliance with the present operating instructions and the relevant cleaning and care instructions. No setting for use while handling light-activated restorative materials.

2. Safety information

2.1 Blinding WARNING

Due to the extreme brightness of the LED technology employed, directing the light beam into the patient's or user's eyes should be avoided! Briefly looking into the light beam is harmless.

2.2 Electromagnetic compatibility



Medical electrical devices are subject to special precautionary measures with regard to electromagnetic compatibility (EMC).

They must be installed and operated in compliance with the specifications provided for the respective treatment center in the document “Installation Requirements”.

Portable and mobile RF communications equipment may interfere with medical electrical equipment. Therefore, the use of mobile wireless phones in practice or hospital environments must be prohibited. This may result in incorrect operation of the unit.

2.3 Care and cleaning agents

Unsuitable care and cleaning agents may corrode the surface of the unit. Therefore use only care and cleaning agents which have been approved.

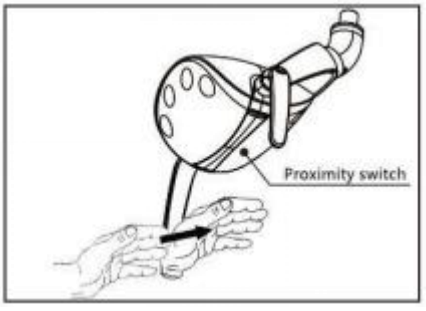
3 Operations

3.1 Operating the light via the proximity switch

NiceDay dental operating light is developed to be operated via a proximity switch. This method of operation optimally supports hygiene for all versions, especially in connection with sterile treatment work. The switch is attached to the bottom of the NiceDay's bottom.

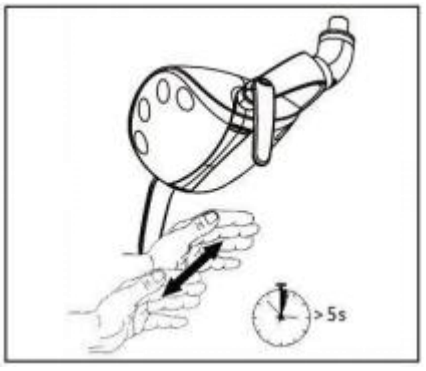
3.2 Switching the operating light ON

- The operating light is switched OFF
- Move your hand past and underneath theproximity switch.
- The NiceDay is turned ON in or switches to the normal operating mode.

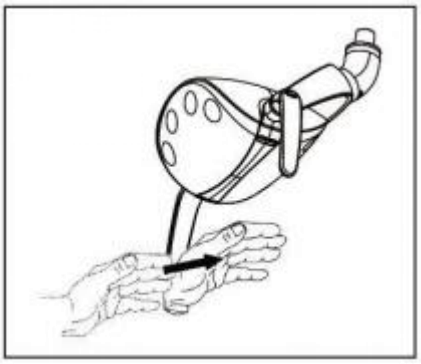


3.3 To set the brightness

- The operating light is switched ON in the normal mode.
- 1. Hold your hand underneath the proximity switch for at least 5s.
- 2. The operating light switches OFF once indicates it entered the setting mode and then increases the brightness setting to the maximum level step by step. Then the operating light reduces the brightness step by step. The program runs through this cycle 3 times before leaving the setting mode.
- 3. As soon as the desired brightness has been reached, pull your hand back from below the proximity switch. The current brightness setting is then saved for the normal mode. The light briefly flashes once again. This indicates that you have left the programming mode. The light switches to the normal mode.

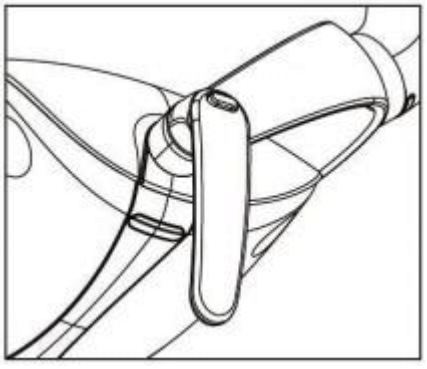


3.4 Switching the operating light OFF



- The operating light on Normal mode.
- Move your hand past and underneath the proximity switch.
  The NiceDay is turned OFF

3.5 Take off the handles for cleaning and put them back



A To take the handles

- The light is Switched off
- Push the button on the upper side of the handle and pull it off

B To put the handles back

- The light is Switched off
- Push the handle back in the position WITHOUT push the button on the handle. You can feel and hear the click when the handle is snap in well.
- **Note** the handle can be disinfect with a disinfectant wipe or thermo disinfection.
  (Slight discoloration possible)

4 Care and cleaning instructions

4.1Base

To maintain the value and safe functioning of your operating light, it is necessary to have it cared for, cleaned and disinfected by the practice team regularly. This will minimize the risk of contamination for patients and users and ensure proper functioning. The national requirements and recommendations for hygiene and disinfection must be observed, e.g. Robert Koch-Institute (RKI), American Dental Association (ADA), Centers for Disease Control and Prevention (CDC), etc.

4.2Cleaning and disinfecting lamp components

Remove any dirt and disinfectant residues regularly using a mild commercial cleaning agent. The lamp components including the light exit window and the support arms can be sprayed and wiped with surface disinfectants approved by us.

5 Product specifications

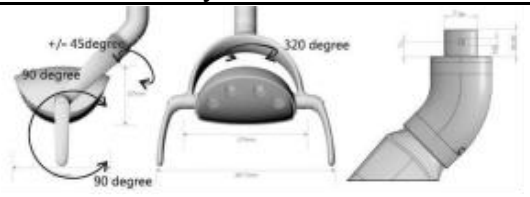
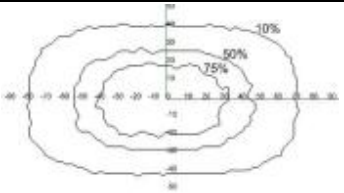
5.1Standards

The NiceDay operating light complies with the following standards (the list below is not exhaustive):

- IEC 60601-1 (electrical and mechanical safety)
- IEC 60601-1-2 (electromagnetic compatibility)
- ISO 9680 (Dental operating Light*)

No defined method of measuring the color rendering index currently exists for the LED technology used. (cf. Technical Report CIE177:2007.)

5.2 Technical Data

Modeldesignation:	Whale Light
Weight:	3.53 LB
Lightsource:	4 light-emittingdiodes
Luminance:	Adjustable from ＜8,000 to ＞25,000 lux acc. to ISO 9680
Lightcontrol:	Non-touch sensor brightnesscontrol
Colortemperature:	5,000 –5,700K
Unit Model powerconnection:	AC 12V or AC24V
Power consumption of operatinglight:	＜23W
Protectionclass:	The unit supplying power corresponds to protection class Ⅰ
Degree of protection against ingress ofwater:	Ordinary equipment (IPX 0 - without protection against ingress ofwater)
Modes ofoperation:	Continuousoperation
Transport and storageconditions:	Temperature: -40℉ — +159℉ Relativehumidity:10%—95%
Operatingconditions:	Ambienttemperature: 50℉ —104℉ Relativehumidity:30%—85%
Dimension of Light head, Movement andmounting	
luminancediagram	

6 Disposal

Disposal your product is marked with the adjacent symbol. Within the European Economic Area, this product is subject to Directive 2002/96/EC as well as the corresponding national laws. This directive requires environmentally sound recycling/disposal of the product. The product must not be disposed of as domestic refuse! Please observe the disposal regulations applicable in your country.

Disposal procedure

Please note that this product is subject to the stipulations in EC Directive2002/96 governing waste electrical and electronic equipment and must be disposed of in line with these special requirements within the European Union (EU).Prior to disassembly / disposal of the product, it must be fully prepared (cleaned / disinfected / sterilized).Please contact your local dental equipment specialist for country-specific information on disposal.

WARNING

The use of ACCESSORIES, transducers and cables other than those specified, with the exception of transducers and cables sold by the MANUFACTURER 0f the NICEDAY dental operating light as replacement parts for internal components, may result in increased EMISSIONS or decreased IMMUNITY of the ME EQUIPMENT or ME SYSTEM.

7 Maintain

7.1 Clean

After the light used for a period of time, the shell and light panel will accumulate dust, blood, body fluids, etc., and the product must be cleaned.

① **Shell:** scrub with liquid wax and soft cloth to not only clean the shell, but also protect the paint layer. Repeated scrubbing with available alcohol for severe contamination. **Attention: do not scrub with acidic, alkaline solutions or abrasives.**

② **Light panel:** because the light panel is made with macromolecule material, the surface has serious dirt or brush wool, which has very big effect to the light. Accordingly when clean, it can only be used with neuter cleaner and the clean soft cloth that do not have sundry only undertakes scrubbing. **Attention: do not scrub with acidic, alkaline solutions or abrasives.**

Caution: The laws and regulations related to the disinfection of medical devices apply to this product.

7.2 Routine Check

① **Connection:** The safety of oral digital dental light is of vital importance. The condition of connecting nut and other screw must be checked regularly.
Operate according to the relevant content in section 3 of chapter 3 Product Installation.

② **Electric:** Check the connection status of the power cord. If the connection is loose, tighten it immediately. Replace the connecting terminals when oxidation occurs. Use the measuring resistance meter to check whether the protective grounding wire is safe.

Attention: the above inspection shall be performed at least once a year.

Warning: power must be cut off during electrical inspection.

8 Fault Removal

8.1 Fault That Can Be Fixed by User

This series of dental light belongs to the electronic products, in the user's long-term use process, there may be some faults.The following list of several fault and the possible causes, only for users to repair as a reference.

Warning: power must be cut off when troubleshooting.

Fault	Possible Cause	Removal Method
Pass the hands in front of the switch and the light doesn't work	Didn't touch the sensing region	try again according to the instructions
The switch is insensitive	Didn't touch the sensing region	try again according to the instructions
	Sensor error	Contact the manufacturer or dealer to change the sensor
The dental light doesn't work	Lamp error	Contact the manufacturer or dealer to change the lamp
	Power off	Check the power switch
The light cannot be positioned	The screw of the connect pipe of the light is loose	Tighten the screw

8.2 Call Maintenance or the Company

After the above troubleshooting, the LED dental light still fails to work properly. Please inform the local authorized repairman or the maintenance department of our company of the detailed situation, and we will fix the trouble for you in the shortest time.

9 Electromagnetic Compatibility

⚠ Note:This product meets the requirements of electromagnetic compatibility of IEC60601-1-2;

•The user shall install and use the emc information provided by the random file;Portable and mobile RF communication equipment may affect the performance of this product, avoid strong electromagnetic interference when using, such as close to mobile phone, microwave oven, etc.;

•The guidance and manufacturer's statement are detailed in the annex.

⚠ Warning:

This product shall not be used in close proximity to or stacked with other standby devices. If it must be used in close proximity to or stacked with other standby devices, it shall be observed and verified to work normally in the configuration used.

Class A equipment is intended to be used in industrial environments. Due to the product's conduct of harassment and radiation harassment, it may be potentially difficult to ensure electromagnetic compatibility in other environments;

With the exception of cables sold by the manufacturer of the product as spare parts for internal components, the use of accessories and cables other than those specified may result in increased emission of the product or reduced immunity.

table 4

Guide and Manufacturer's Statement - Electromagnetic Emission		
The dental light is intended to be used in the electromagnetic environment specified below, and the purchaser or user shall ensure that it is used in such electromagnetic environment：		
Emission Test	Conformance	Electromagnetic Environment- Guide
RF emissions CISPR 11	1 Group	The dental light use RF energy only for its internal functions. As a result, the RF emission is low and there is little chance of any interference with nearby electronic devices.
RF emissions CISPR 11	Class A	The dental light is suitable for all installations that are away from home and not directly connected to the residential public low voltage supply network for household use.
Harmonic emissions IEC 61000-3-2		Electromagnetic Environment- Guide
Voltage fluctuations/ Flicker emissions IEC 61000-3-3	Not Applicable	The dental light use RF energy only for its internal functions. As a result, the RF emission is low and there is little chance of any interference with nearby electronic devices.

Guide and Manufacturer's Statement - Electromagnetic Immunity			
The dental light is intended to be used in the electromagnetic environment specified below, and the purchaser or user shall ensure that it is used in such electromagnetic environment:			
Immunity Test	IEC60601 Test Level	Conformance Level	Electromagnetic Environment- Guide
Electrostatic (ESD) IEC 61000-3-3	±6kV contact ±8kV air	±6kV contact ±8kV air	Floors should be made of wood, concrete or ceramic tiles, and if the floors are covered with synthetic materials, the relative humidity should be at least 30%
Electrical fast transient/burst IEC 61000-4-4	±2kV for power supply lines ±1kV for input/output lines	±2kV for power supply lines	Network power supply should be of typical quality for use in commercial or hospital environments
Surge IEC 61000-4-5	±1kV differential mode ±2kV common mode	±1kV differential mode ±2kV common mode	Network power supply should be of typical quality for use in commercial or hospital environments
Voltage dips short interruptions and voltage variations on power supply input lines IEC 61000-4-11	< 5% UT,for 0.5 cycle (>95% dip in UT) 40%UT,for 0.5 cycle (60% dip in UT) 70%UT,for 0.5 cycle (30% dip in UT) < 5%UT,for 5s ((>95% dip in UT)	< 5% UT,for 0.5 cycle (>95% dip in UT) 40%UT,for 0.5 cycle (60% dip in UT) 70%UT,for 0.5 cycle (30% dip in UT) < 5%UT,for 5s ((>95% dip in UT)	Network power should be of the quality typically used in commercial or hospital environments. An ongoing power supply or battery power is recommended for the dental light if its user needs to operate continuously during a power outage.
Power frequency magnetic field (50/60 Hz) IEC 61000-4-8	3A/m	3A/m,50Hz	The power-frequency magnetic field should have the horizontal characteristics of the power-frequency magnetic field at typical sites in a typical commercial or hospital environment
Note: U_T is refers to the ac network voltage before applying the test voltage			

Guide and Manufacturer's Statement - Electromagnetic Immunity

The dental light is intended to be used in the electromagnetic environment specified below, and the purchaser or user shall ensure that it is used in such electromagnetic environment：

Immunity Test	IEC60601 Test Level	Conformance Level	Electromagnetic Environment- Guide
Conducted BF:IEC 61000-4-6	3 V(effective value) 150 kHz～80 MHz	3V(effective value)	Portable and mobile rf communications equipment should not be used closer to any part of the observer than the recommended isolation distance, including cables.The distance shall be calculated by a formula corresponding to the transmitter frequency. Recommended isolation distance d = $1.2\sqrt{P}$ d = $1.2\sqrt{P}$ 80 MHz～800 MHz d = $2.3\sqrt{P}$ 800 MHz～2.5 GHz In the formula：—according to the maximum rated output power of the transmitter provided by the transmitter manufacturer, in watts (W);d—recommended isolation distance in meters (m).The field intensity of the stationary rf transmitter is determined by surveying the electromagnetic field a, which should be lower than the coincidence level in each frequency range b.Interference may occur near devices that mark the following symbols
Radiated BF: IEC 61000-4-3	3V/m 80 MHz～2.5 GHz	3V/m	

Note 1: for 80MHz and 800MHz frequencies, formulas for higher frequency bands are used.Note 2: these guidelines may not be appropriate for all situations where electromagnetic propagation is affected by the absorption and reflection of buildings, objects, and the human body.



The field strength of fixed transmitters, such as wireless (cellular/cordless) telephone and ground mobile radio base stations, amateur radio, am and FM radio broadcasts, and television broadcasts, is theoretically impossible to predict accurately. In order to evaluate the electromagnetic environment of stationary radio frequency transmitters, survey of electromagnetic filtering sites should be conducted. If the field strength at the site of the observer is measured to be higher than the RF coincidence level applied above, the observer should be observed to verify its normal operation. If abnormal performance is observed, supplementary measures may be necessary, such as reorienting or positioning the viewer.In the whole frequency range of 150KHz ~ 80MHz, the field intensity should be less than 3 V/m.

Recommended Isolation Distance between Portable and Mobile Radio Frequency Communication Equipment and Observers

The dental light is expected to be used in electromagnetic environments where radio frequency harassment is controlled. The purchaser or user may prevent electromagnetic interference by maintaining the minimum distance between the portable and mobile RF communication equipment (transmitter) and the observer, as recommended below, depending on the maximum rated output of the communication equipment

the Maximum Rated Output **W**	Isolation Distance according to Different Frequency/M		
	150 kHz ～ 80 MHz $d = 1.2\sqrt{P}$	**80 MHz ～ 800 MHz** $d = 1.2\sqrt{P}$	**800 MHz ～ 2.5 GHz** $d = 2.3\sqrt{P}$
0.01	0.12	0.12	0.23
0.1	0.38	0.38	0.73
1	1.2	1.2	2.3
10	3.8	3.8	7.3
100	12	12	23

For the maximum rated output power of the transmitter not listed in the above table, the isolation distance d is recommended, in meters (m), which can be determined by the formula in the frequency column of the corresponding transmitter. Here, P is the maximum rated output power of the transmitter provided by the transmitter manufacturer, in watts (W).Note 1. at 80 MHz and 800 MHz, formulas in the higher frequency range are used.Note 2: these guidelines may not be appropriate for all situations where electromagnetic propagation is affected by the absorption and reflection of buildings, objects, and the human body.

We reserve the right to make any alterations which may be due to technical improvements.

ADS Dental System Inc.

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