

Manual

# **Giesemann aquariumlights**

NOVA II · INFINITI · REFLEXX · MATRIX · MOONLIGHT  
SPECTRA · Light computer

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## 1. General information

Dear Customer,

You have decided to buy a Giesemann quality product. We thank you for your confidence.



Giesemann products are CE approved. You'll find the CE sign either on the identification plate of your light or on the external control unit.

Our knowledge and experience in the field of aquaristics and modern lighting technique guarantees the high quality of our products.

Giesemann introduces a new generation of aquarium illumination with the INFINITI, System 230, 400, MOONLIGHT, REFLEXX and NOVA models. Their main characteristics are advanced component technology, modern styling, high quality materials and functional design.

Please read carefully these operational instructions in order to guarantee optimal functionality and a long lasting service life.

### 1.1. delivery and safety instructions

**Check, when unpacking the fixture that no parts are missing. Your aquatic dealer needs to be informed about any damage immediately in order to check on a possible claim within the warranty period. Never put a damaged fixture into operation. Please adhere to the following safety instructions: To ignore these instructions can be potentially dangerous and infringe against existing regulations. Keep original packaging – all returns need to be in the original packaging in order to avoid product damage during shipping. Any damage to products not in their original packaging will not be covered under warranty.**

Failure to observe the following safety warnings may result in serious injury. In addition, failure to observe these safety warnings will result in a waiver of all liabilities on Giesemann Lichttechnik GmbH, and will void all warranties.

- § The fixtures must **never** be operated without the corresponding protection glasses. These protection glasses will protect from splashing and U.V. radiation from the bulbs.
- § The mounting of the light should only be carried out by an authorised electrician, considering the corresponding regulations in your country
- § The fixtures should only be used for the illumination of aquaria. Do not balance the fixture on the edge of the aquarium. Do not install the light in a poorly ventilated environment where it may overheat such as behind coverings, hoods and panelling
- § Aquarium fixtures with metal halide lamps are **never** to be used without the UV filtration glasses. Unfiltered UV rays are dangerous to human beings as well as to the life in the aquarium. Before replacing the lamps or doing any maintenance work, the fixture needs to be unplugged from the mains and dismantled completely.
- § Any work on the fixture should only be carried out after, firstly, disconnecting the light from the mains and secondly, dismantling from the wall or ceiling.
- § The bulbs and tubes must only be removed after they have cooled down completely.
- § The light body and the UV filtration glasses can become extremely hot during operation.  
**HANDLE WITH CARE !** Keep away from children

## Electrical connection

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- § The fixture and the external control unit need to be protected from direct water splash. When cleaning the fixture take care, that no moisture gets inside the fixture's body through the ventilation slots.
- § **Never** cover the ventilation slots and insure that air can circulate freely.
- § **Do not** undertake any repair work yourself! Send any defective components directly to the manufacturer or to an authorised dealer (see guarantee card) for repair.
- § In case of removing a power plug on the mains cable, please note, that there are still high voltages in the light for approx. 30 minutes after having disconnected the light from the mains .  
**HANDLE WITH CARE !**
- § **Important!: Fusing.** When discharge lamps are switched on, the current drawn from the supply can be analysed as: 1.) Inrush current - for a few milliseconds – 2) Starting current - for a few minutes – 3) Running current - after the lamp has stabilised. The fuse that protects the circuit must withstand all of the above currents with the inrush current normally being the most onerous (up to 25 x starting current). Ensure that a correctly rated fuse is used. Nuisance tripping is possible on some types of modern current limiting devices, and they may not be suitable. Consult your fuse or circuit breaker manufacturer for advice. Increasing fuse ratings will also mean that the supply cable size may need to be reviewed to support the higher fuse rating. The current ratings above will also apply to any timer switch apparatus connected to the circuit(s) or other switching apparatus controlling the circuit(s). **Ensure your domestic wiring supply is rated appropriately.**
- § only use metal halide bulbs and fluorescent tubes offered by GIESEMANN. Make sure that only 230 Volt lamps are used and that the wattage of the fixture and the wattage of the lamps are identical.
- § Make shure power cord and lamp cord are connected properly. Do not hang by power cord or lamp cord. Do not plug or unplug a lamp cord while the ballast is turned on.

### 1.2. Electrical connection

Before mounting, make sure that the chosen area is free of electrical cables i.e. in the wall or ceiling. This unit must be **grounded**, green/yellow cable.

It is also possible to use a safety plug for variable connection. The fixture can easily be controlled using a timer. Make sure that the timer is appropriate for the respective current (16 A) and consider the high voltages which are reached during the operation of the fixture.

When the mains power plug of an operating fixture is unplugged, there are still **high voltages** at the contacts. All electrical work should be carried out by an **authorised electrician** considering the corresponding regulations. Electrical components and cables should always be positioned in such a way, that they are protected from water splash and high humidity. Never cut or remove the plug on the power cord (**warranty will be voided !!**)

### 1.3. Place of installation

**When selecting the location for installing your light, please ensure that there is adequate air circulation!!**

In order to protect the internal components and the materials, sufficient air circulation and, thus sufficient cooling **must** be provided.

If the fixture gets too hot, the noise during operation might get louder, this may be due to insufficient air circulation around the ceiling or wall, where heat may be accumulating. Check the distance of the lamp unit from these points and adjust.

The fixtures should only be used for the illumination of aquaria. Do not balance the fixture on the edge of the aquarium. Do not install the light in a poorly ventilated environment where it may overheat such as behind coverings, hoods and panelling. Do not operate the light systems in wet locations.

The minimum distance between fixture and water surface needs to be 30 cm (12").

### 1.4. Installation of your light

When mounting the steel wires or the wall brackets it needs to be considered that the ceiling / wall can withstand the weight of the fixture. Make sure that the load bearing capacity is a multiple of the fixture weight itself. (mounting material like screws and anchors are not included, please choose the individual material for your wall / ceiling)

Drill two holes in the ceiling corresponding to the distance between the two suspension cables, ensuring the light is **centrally** aligned and taking into account the relevant **power connection means**. Install the ceiling mounting fixtures using the screws supplied, after checking that the ceiling offers sufficient support for the light.

Now screw the **cable holders** with the **steel suspension wires** into the **ceiling mounting fixture**. Screw the light holder into the M5 nut / M4 thread in upper guide rail on the light. (VERSION B). Then align the light horizontally above the aquarium. Ensure the light holder is firmly seated.

If the power supply does not come from above, simply lay the cable to the desired location without attaching it to the steel suspension wire. **DO NOT EXPAND THE POWER CORD OF YOUR LIGHT.**

Please ensure that any contact points (should you extend the power cable) do not come into contact with moisture or water.

As your light is continuously adjustable for height, it can be locked in position effortlessly by pressing down the spring-loaded mechanism in the light holder. (VERSION B)

For safety reasons the light should be lifted slightly before being adjusted for height. The lamp locks in position automatically as soon as a load is applied to the **light holder**. (VERSION B)

When mounting the steel wires or the wall holder it needs to be considered that the ceiling / wall can withstand the weight of the fixture. Make sure that the load bearing capacity is a multiple of the fixture weight itself.

Drill two holes into the ceiling. Check the distance between the mounting wires and take care, to have the fixture mounted in the middle of the aquarium and to allow the corresponding mains connection.

### Version A

#### System 230 eco, NOVA II

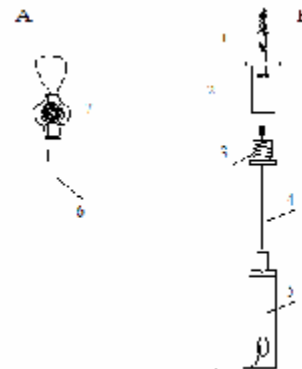
Put the steel wire into the rope clamps and form a small loop. Choose the required length of the steel wire and the height for the fixture. Fix the respective hexagon nut of the rope clamp with an appropriate tool. Screw the ceiling hooks into the dowels. Now the fixture can be mounted to the ceiling hooks; the hooks should be screwed in such a way that the steel wire is protected from withdrawing.

## Version B

### System 230 plus, System 400, BILUX, SPECTRA, MOONLIGHT, INFINITI, REFLEXX

Mount component 2 and the attached screws and the dowels to the ceiling. Make sure that the wall / ceiling can withstand the high weight of the fixture.

Now put the steel wire (4) into the screw cap (3). This screw cap now needs to be screwed into component 2. Put the other end of the steel wire into the fixture holder (5). Now you can balance your fixture in a horizontal position above your aquarium.



## 1.5. Inserting / replacing the lamps

The bulbs and tubes **should be checked at regular intervals**. Metal halide bulbs should be renewed after approx. 4.000 hours of operation. A longer operation time will have a negative impact on the lighting colour, although the physical capability is much longer than 4.000 hours. The tubes have an operation time of approx. 3.000 hours. They should be renewed after this time as the light performance becomes poorer, a change which cannot be detected by the human eye. Metal halide bulbs, which flicker often or even switch off temporarily, should be renewed immediately in order to avoid further damage to the igniters.

When replacing the tubes or bulbs, check on the sockets (lamp holders) or connectors, whether any heating damage has occurred or whether any other defects can be noticed. The operation of bulbs and tubes with defective glass is strictly forbidden.

**Assembly work** on the light may be performed only with the light dismantled from the ceiling / wall

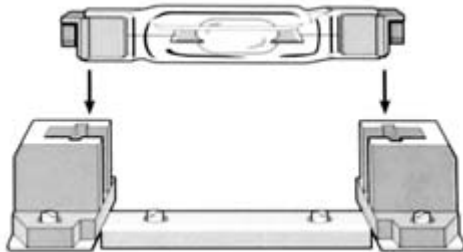
**Important note:** Never open the light (models Moonlight, Sunrise etc.) at the display side, as the cable connections behind the side panel could loose and cause irreversible damages of the electronic!

### Inserting the metal halide bulbs(HQI)

Before inserting the bulbs make sure, that the fixture is unplugged from the mains. Please install the bulb according to the instructions which are attached to the respective bulb. Take care not to touch the glass with bare hands. Any marks or finger prints need to be removed immediately with a clean cloth and alcohol or spirit, otherwise they will be burnt into the quartz glass and destroy the bulb. 70 and 150 Watt bulbs are to be inserted into the socket so that the contact springs guarantee a secure fit and a good contact.



250 Watt double ended versions are to be put into the movable ceramic socket; under even pressure they will arrest within the socket. Take care that the lamp does not edge anywhere and that the glass bulb does not get damaged. Bulbs with screw sockets should be screwed into the socket evenly (clock-wise) without exerting too much pressure



To remove a 250W lamp, wrap both your index fingers around each end of the lamp. Place your thumbs on the lampholders. Pull both ends simultaneously

### Inserting the T-5 tubes

The tubes and the contacts are to be pushed into the socket evenly, if necessary, exert a slight pressure in order to press the movable socket against the springs. After having inserted the tubes turn them by 90° until they fit properly.

### Inserting the compact fluorescent tubes (DULUX)

The tubes and the contacts are to be pushed into the socket carefully. They will lock automatically.

## 1.6. Identification plate

The identification plate can be found inside the fixture's body. The identification plate contains all of the technical data for the fixture as well as the recommended voltages. **The fixture should only be connected to a power supply system with the technical data same as indicated on the identification plate.**



## 1.7. serial number

The serial number can also be found inside the fixture's body. This serial number allows the manufacturer to follow up on all manufacturing processes and on all technical data concerning this fixture. The serial number can also be found on the guarantee card. Please return the guarantee card to the address indicated on it.



### 1.8. Compensation

Lights, fitted by condenser as compensation may be turned off automatically after a failure of the condenser. Therefore the Giesemann light fixtures normally are not compensated. Sometimes – depending on the conditions of the surroundings a compensation may be needed. In this case please contact an authorised electrician to define the best place for an installation of the condenser (e.g. fuse box).

### 1.9. Original packaging

Please keep the original packaging with it's inner paddings for a possibly later transportation, e.g. in case of fixing.

### 1.10. Cleaning / Maintenance

Generally, the aquarium lights of Giesemann do not require any maintenance. Nevertheless, the following maintenance instructions should be followed at regular intervals.

The light body should be cleaned at regular intervals to maintain a long lasting surface quality. The UV filtration glasses are only to be cleaned very carefully with a moistened cloth after the glasses have cooled down completely. Cleaning at regular intervals will avoid the burning in of salt and thus, will prevent the glasses from discolouring.

Please make sure, that the HQI bulbs and the tubes are replaced at regular intervals. Old bulbs do not switch off completely, but flicker or fail temporarily. This has a negative impact on the integrated ignitors, which can finally lead to a total component failure.

The high quality powder coating of the Powder coated fixtures is extremely resistant. However, natural dirt during every-day operation as well as splashed water and dust are unavoidable.

Clean the fixture with a moistened cloth and make sure that no water gets inside the fixture's body through the ventilation slots.

The UV filtration glasses should be cleaned very carefully with a moistened cloth after the glasses have cooled down completely. Cleaning in regular intervals will avoid the burning in of salt and thus it will prevent the glasses from fainting.

Please note that your light needs to be cleaned at regular intervals, in order to protect the surface from possible discolouring.

**NEVER** use any detergents



## **2. NOVA II**

**Check, when unpacking the fixture that no parts are missing. Your aquatic dealer needs to be informed about any damage immediately in order to check on a possible claim within the warranty period. Never put a damaged fixture into operation.**

### **2.1. Checking of delivery**

Remove the system from the box along with all additional parts :

- § lightbody with UV filter lens
- § metal halide bulb (MEGACHROME)
- § hanging wires (version A)
- § external ballast box
- § Warranty card

### **2.2. Assembling the light**

Remove one of the end plates by unscrewing the four screws. Now the UV filtration glass can easily be removed. The HQI bulb can be fixed as already described. Any further specific details hereto can be taken from the instructions attached to the bulb.

The reassembly can now be carried out in reverse order to the above mentioned steps. Please make sure that the UV filtration glass fits properly and that it does not edge.

The assembly of the fixture should only be carried out after it has been removed from the ceiling / wall and after disconnecting it from the mains.

### 2.3. First operation

Drill two holes into the ceiling. Consider the distance between the mounting wires and take care, to have the fixture mounted in the middle of the aquarium. Screw in the ceiling mounting and make sure, that the ceiling is strong enough to withstand the weight.

Now the clamp rings need to be screwed to the ends of the steel wires. Make a loop out of the steel wire and fix the clamp ring at the place requested. After having adjusted the steel wire's length, make sure, that the screws of the clamp are pulled tightly, as these have to withstand the total weight of the fixture.

The ceiling hooks need to be mounted and the loop of the fixture's steel wire needs to be fixed here. The ceiling hooks should be screwed into the dowels as deeply as possible in order to avoid the light accidentally falling down from the ceiling.

For the following height adjustment the fixture needs to be removed from the ceiling. Take care, that when choosing the place of mounting and when installing the fixture that sufficient air circulation is necessary during operation and that the ventilation slots are not covered.

The NOVA II is controlled by an external control unit. This control unit consists of an external ballast, an ignitor and, depending on the version chosen, a capacitor circuit. The external ballast controls the power supply of the fixture. Thus, the functionality and the hours of operation of the HQI bulbs are controlled automatically. The fixture should never be used without this original control unit; the wattage of the control unit and of the fixture needs to be identical.

The fixture's cable should now be connected to the external control unit through the connector. Please make sure that the control unit has **not** been connected to the power supply yet. Make sure that the plug fits properly to the contacts.

The fixture will start operating when plugged into the mains and switched on.

After having switched on the fixture for the first time, the metal halide bulbs need a few minutes to reach their full illumination capacity. The operation of new bulbs might cause minor colour variations and short time flickering. These are caused by physical processes which are typical of this technique.

HQI-bulbs are, as already described, high voltage discharge lamps. This technique requires high voltages for the ignition and the operation of up to 4500 Volt.

The implementation of inductive ballasts can cause, mainly during the starting phase, but also during general operation, a minor noise within the control unit. Although any physical and electrical optimisation were undertaken to reduce the operational noise, it is not possible to eliminate it completely, due to typical features of this technology.

Because of the modern technology of the electronic ignitors used by Gieseemann Lichttechnik, they need not be exchanged when replacing a bulb.

After having switched off the bulb, allow approx. 15 - 20 minutes to let it cool down before restarting it again.

### 2.4. Malfunctions

Before a Gieseemann fixture is delivered to a customer it will be checked once more in detail. Besides checking on the functionality, a number of electrical tests will be carried out and recorded in order to guarantee the customer a functionally working lamp.

Nevertheless, should, an operation error occur, it might be for one of the following reasons:

- § **The metal halide does not start:** please check first the cable connections between the external ballast box and the light. Ensure a proper connection to the power supply. Otherwise there might be a problem with the contacts. Please make sure that the bulb's contacts were slid evenly into the socket. If necessary, the bulbs need to be exchanged. If you do not hear any operational noise when starting an HQI-fixture, either a mistake was made when programming the timer or the connection to the power supply was not carried out properly.
- § **The bulb turns off:** If the light becomes too hot (e.g. because of covered ventilation slots or in case of built in the light in a cupboard), or after having reached the end of the bulb's lifetime, it will turn off. Please don't hide the light in a cupboard or close the ventilation slots. If necessary, the bulb needs to be exchanged.
- § **The bulb flickers:** After having reached the end of the bulb's lifetime or because of bad contacts in the connectors the light may flicker. Replace the bulb or resp. let the connectors in the light change by an authorised electrician.
- § **The light is smelling after starting:** The reflectors of the light are ensured for the transportation by foils. These foils must be removed before first operating, otherwise the reflectors may irreversibly be damaged by burning in of the foils.



### **3. INFINITI**

**Check, when unpacking the fixture that no parts are missing. Your aquatic dealer needs to be informed about any damage immediately in order to check on a possible claim within the warranty period. Never put a damaged fixture into operation.**

#### **3.1. Checking of delivery**

Remove the system from the box along with all additional parts :

- § lightbody with UV filter lenses and ventilation slots
- § metal halide bulbs (MEGACHROME)
- § T-5 tubes (POWERCHROME)
- § hanging suspension kit (version B)
- § allen key to move the reflectors and to open the light
- § Warranty card

#### **3.2. assembling the light**

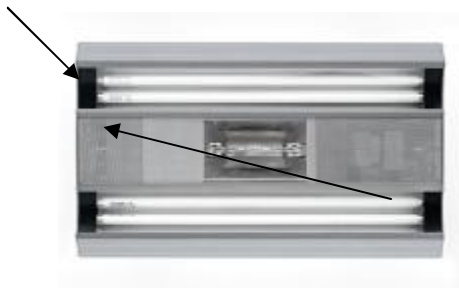
GIESEMANN introduces with the INFINITI series a new generation of aquarium illumination. Their main characteristics are advanced component technology, modern styling, high quality materials and functional design.

The filter glasses are in combination with the ventilation slots responsible for bearing the complete light body. Therefore the slots are fitting very tight in the rail, to allow the glasses to extend by operation temperatures up to 600°C.

Using the Allen key supplied slacken the four screws on one of the end panels.

Remove the acrylic protection covers for the T-5 tubes (1). The tubes and the contacts are to be pushed into the socket evenly, if necessary, exert a slight pressure in order to press the movable socket against

the springs. After having inserted the tubes turn them by 90° until they fit properly. The covers can now be reassembled in reverse order. Place the little metal plates (2) on each end to push the acrylic cover down.



Remove now the ventilation slot (3) of one side and the UV filter glass. Please install the bulb eventually according to the instructions which are attached to the respective bulb. Take care not to touch the glass with bare hands. Any marks or finger prints need to be removed immediately with a clean cloth and alcohol or spirit, otherwise they will be burnt into the quartz glass and destroy the bulb. 70 and 150 Watt bulbs are to be inserted into the socket so that the contact springs guarantee a secure fit and a good contact. 250 Watt TS-versions are to be put into the **movable**

ceramic socket; under even pressure they will arrest within the socket. Take care that the lamp does not edge anywhere and that the glass bulb does not get damaged.

The fixture can now be reassembled in reverse order. Be careful to slide the UV-filtration glasses into the correct position with the utmost care. Take care that they do not twist (risk of breakage). **Assembly work** on the light may be performed only with the light dismantled from the ceiling / wall and after disconnecting it from the mains.

To simplify the reassembling of you light, it can be helpful to press the lightbody slightly together before screwing the endplate tighten.

### 3.3. First operation

When mounting the steel wires or the wall brackets it needs to be considered that the ceiling / wall can withstand the weight of the fixture. Make sure that the load bearing capacity is a multiple of the fixture weight itself. Before mounting, make sure that the chosen area is free of electrical cables i.e. in the wall or ceiling. This unit must be **grounded**, green/yellow cable.

Drill two holes in the ceiling corresponding to the distance between the two suspension cables, ensuring the light is **centrally** aligned and taking into account the relevant **power connection means**. Install the ceiling mounting fixtures using the screws supplied, after checking that the ceiling offers sufficient support for the light. Now screw the **cable holders** with the **steel suspension wires** into the **ceiling mounting fixture**. Screw the light holder into the M5 nut in upper guide rail on the light.

Then align the light horizontally above the aquarium. Ensure the light holder is firmly seated.

If the power supply does not come from above, simply lay the cable to the desired location without attaching it to the steel suspension wire.

Please ensure that any contact points (should you extend the power cable) do not come into contact with moisture or water.

As your light is continuously adjustable for height, it can be locked in position effortlessly by pressing down the spring-loaded mechanism in the light holder.

For safety reasons the light should be lifted slightly before being adjusted for height. The lamp locks in position automatically as soon as a load is applied to the **light holder**.

### 3.4. Reflector System DYMAX

Your new INFINITI light is equipped with the adjustable reflector system DYMAX. With just one movement you can slide the reflectors along the body to achieve the correct balance of light for a particular situation or simply to avoid strengthening bars across the surface of the tank. To adjust your reflector, use the Allen key supplied, slacken the screw on the top only slightly. You can move each reflector now up to 100 mm (4 inch), with the Allen key. If you found the right position of the reflector, fix the screw vice versa.



The fixture will start operating when plugged into the mains and switched on.

After having switched on the fixture for the first time, the metal halide bulbs need a few minutes to reach their full illumination capacity. The operation of new bulbs might cause minor colour variations and short time flickering. These are caused by physical processes which are typical of this technique.

HQI-bulbs are, as already described, high voltage discharge lamps. This technique requires high voltages for the ignition and the operation of up to 4500 Volt.

The implementation of inductive ballasts can cause, mainly during the starting phase, but also during general operation, a minor noise within the control unit. Although any physical and electrical optimisation were undertaken to reduce the operational noise, it is not possible to eliminate it completely, due to typical features of this technology.

Because of the modern technology of the electronic ignitors used by Giesemann Lichttechnik, they need not be exchanged when replacing a bulb. After having switched off the bulb, allow approx. 15 - 20 minutes to let it cool down before restarting it again.

### 3.5. Malfunctions

Before a Giesemann fixture is delivered to a customer it will be checked once more in detail. Besides checking on the functionality, a number of electrical tests will be carried out and recorded in order to guarantee the customer a functionally working lamp.

Nevertheless, should, an operation error occur, it might be for one of the following reasons:

- § **The metal halide does not start:** please check first the cable connections between the external ballast box and the light. Ensure a proper connection to the power supply. Otherwise there might be a problem with the contacts. Please make sure that the bulb's contacts were slid evenly into the socket. If necessary, the bulbs need to be exchanged. If you do not hear any operational

noise when starting an HQI-fixture, either a mistake was made when programming the timer or the connection to the power supply was not carried out properly.

- § **The bulb turns off:** If the light becomes too hot (e.g. because of covered ventilation slots or in case of built in the light in a cupboard), or after having reached the end of the bulb's lifetime, it will turn off. Please don't hide the light in a cupboard or close the ventilation slots. If necessary, the bulb needs to be exchanged.
- § **The bulb flickers:** After having reached the end of the bulb's lifetime or because of bad contacts in the connectors the light may flicker. Replace the bulb or resp. let the connectors in the light change by an authorised electrician.
- § **The T5-tubes do not work:** The tubes are switched by pairs. If only **one** tube is defect or doesn't have proper contact in its connectors, the other tube will not start too. Exchange every-time **both** tubes against new ones!
- § **The light is smelling after starting:** The reflectors of the light are ensured for the transportation by foiles. These foiles must be removed before first operating, otherwise the reflectors may irreversibly be damaged by burning in of the foils.



## 4. MOONLIGHT

Check, when unpacking the fixture that no parts are missing. Your aquatic dealer needs to be informed about any damage immediately in order to check on a possible claim within the warranty period. Never put a damaged fixture into operation.

### 4.1. Checking of delivery

Remove the system from the box along with all additional parts :

- § lightbody with UV filter lenses and ventilation slots
- § metal halide bulbs (MEGACHROME)
- § T-5 tubes (POWERCHROME)
- § hanging suspension kit (version B)
- § allen key open the light
- § warranty card

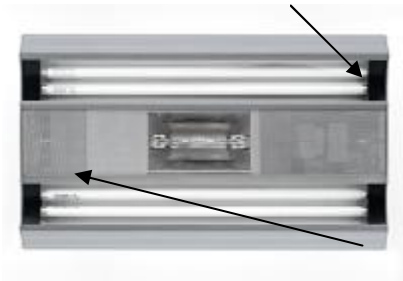
### 4.2. assembling the light

GIESEMANN introduces with the MOONLIGHT series a new generation of aquarium illumination. Their main characteristics are advanced component technology, modern styling, high quality materials and functional design.

The filter glasses are in combination with the ventilation slots responsible for bearing the complete light body. Therefore the slots are fitting very tight in the rail, to allow the glasses to extend by operation temperatures up to 600°C.

Using the Allen key supplied slacken the six screws on the end panel (opposite side of the display).

Remove the acrylic protection covers for the T-5 tubes (1). The tubes and the contacts are to be pushed into the socket evenly, if necessary, exert a slight pressure in order to press the movable socket against the springs. After having inserted the tubes turn them by 90° until they fit properly. The covers can now be reassembled in reverse order. Place the little metal plates (2) on each end to push the acrylic cover down.



Remove now the ventilation slot (3) of one side and the UV filter glass. Please install the bulb eventually according to the instructions which are attached to the respective bulb. Take care not to touch the glass with bare hands. Any marks or finger prints need to be removed immediately with a clean cloth and alcohol or spirit, otherwise they will be burnt into the quartz glass and destroy the bulb. 70 and 150 Watt bulbs are to be inserted into the socket so that the contact springs guarantee a secure fit and a good contact. 250 Watt TS-versions are to be put into the **movable** ceramic socket; under even pressure they will arrest within the socket. Take care that the lamp does not edge anywhere and that the glass bulb does not get damaged.

The fixture can now be reassembled in reverse order. Be careful to slide the UV-filtration glasses into the correct position with the utmost care. Take care that they do not twist (risk of breakage). **Assembly work** on the light may be performed only with the light dismounted from the ceiling / wall and after disconnecting it from the mains.

To simplify the reassembling of you light, it can be helpful to press the lightbody slightly together before screwing the endplate tighten.

### 4.3. First operation

When mounting the steel wires or the wall brackets it needs to be considered that the ceiling / wall can withstand the weight of the fixture. Make sure that the load bearing capacity is a multiple of the fixture weight itself. Before mounting, make sure that the chosen area is free of electrical cables i.e. in the wall or ceiling. This unit must be **grounded**, green/yellow cable.

Drill two holes in the ceiling corresponding to the distance between the two suspension cables, ensuring the light is **centrally** aligned and taking into account the relevant **power connection means**. Install the ceiling mounting fixtures using the screws supplied, after checking that the ceiling offers sufficient support for the light. Now screw the **cable holders** with the **steel suspension wires** into the **ceiling mounting fixture**. Screw the light holder into the M4 thread in upper ventilation slot on the light.

Then align the light horizontally above the aquarium. Ensure the light holder is firmly seated.

If the power supply does not come from above, simply lay the cable to the desired location without attaching it to the steel suspension wire.

Please ensure that any contact points (should you extend the power cable) do not come into contact with moisture or water.




As your light is continuously adjustable for height, it can be locked in position effortlessly by pressing down the spring-loaded mechanism in the light holder.

For safety reasons the light should be lifted slightly before being adjusted for height. The lamp locks in position automatically as soon as a load is applied to the **light holder**.

#### 4.4. The moonlight control

Programming the timer is very user friendly, i.e., the LCD display informs the user which steps need to be taken. After having connected the fixture to the mains, the electronic timer carries out a first test (self test). Then the display asks the user to choose the requested language.

Pressing the respective keys the user gets access to any further information in English, German, French or Italian.

-  Set values and menu items in ascending order
-  Set values and menu items in descending order
-  confirms data input (Enter)

After having switched on the fixture the following information will be displayed (depending on the programming): Time – Lunarphase – Dimming (%)

#### Description of the menu options

##### Selecting the language

When switching on the timer for the first time the German language will appear in the display. The language displayed will change according to the user's selection.

##### Setting date and time

After having programmed the correct date and time, the data will be recorded in the EPROM. In case the fixture is disconnected from the mains the time needs to be programmed again. As the date is daily recorded within the EPROM, it only needs to be reset in case the disconnection from the mains is longer than 1 day.

##### Setting the switch on and off times

Within this menu the switch on and off times for the tubes and HQI (metal halide) bulbs are programmed. For each channel two switch on and off times are possible. In case the switch on and off times are identical the channel will not be ignored (channel switched off).

##### Switch on and off times moon light

Within this menu the switch on and off times for the moon light are set. The user can programme one switch off and one switch on time (moon waxing and waning).

##### Selecting the moon phase

The moon phase is divided into two steps; 15 days each. The moon phase increases gradually from the first day on until full moon is reached (day 15). During the following 14 days the moon phase decreases gradually. The display symbolises the increasing moon phase with the “+“-sign, the symbol for the decreasing moon phase is the “-“-sign. On this level the requested moon phase can be selected.

##### Exchange times of the bulbs / tubes

Here the recommended exchange times (in hours) for the bulbs and tubes can be set. During the switch on phase of the bulbs / tubes the timer records the length of the operation period. In case the given time

is exceeded, a warning will be displayed. It is very important to change the bulbs constantly to protect the whole unit for damage.

### Display illumination

Here you can set LCD backlight time in minutes from 1 to 250 minutes. If you enter 250, the LCD will remain lit all the time. Please note that the backlight has a limited service life and in the event of a failure the entire control system will have to be replaced.

### Cloud simulation

The cloud simulation works only in the 100 % phase of bulbs and tubes - **random** intervals (but not during sunrise or sunset). In between the dimming phase – the cloud simulation will not work. The 100 % phase needs to be minimum 2hrs.

### T-5 dimming function – (not for all versions available)

Before dimming the tubes the first time, the need to run minimum 60 hours in a 100 % modus (by using the Test Mode menu) Otherwise there might be malfunctions during the dimming cycle. New tubes (after replacing) needs to run as well in this (burn in) modus




### Internal temperature monitor

To prevent the light from overheating, an internal temperature monitor has been installed. If the temperature inside the light exceeds 90°C, all T-5 lamps are automatically dimmed until the temperature has dropped back down to approx. 60°C. The message "Übertemperatur Notdimmung" appears on the display.

### External temperature monitor (optional)

An external temperature monitor (optional accessory) can be connected to measure the water temperature. If it rises above a user-set value of between 0° and 35°C, the fluorescent tubes are dimmed to prevent the tank warming up any further due to the radiated energy. Normal operation is resumed only when this threshold value has dropped by at least 2°C. The message "Übertemperatur Notdimmung" appears on the display. If NO external sensor has been connected, the message "No sensor connected!" appears on the display.

## 4.5. Programming the MOONLIGHT electronics





Press the Enter key  for approx. 2 s to switch to program mode. You can use the arrow keys  and  to toggle between the individual menu items. The electronics menu is organised as follows.

<p>MOND:02+ 11:22. HQI 0% TL 100%</p>
---

Standard operating display

<p>SPRACHE WÄHLEN</p>
<p>DEUTSCH</p>

Select language

Open the menu with the Enter key  to select the menu language. Use the arrow keys  and  to toggle between German, Italian, French and English. Confirm your selection with the Enter key .

AKTUELLE UHRZEIT EINGEBEN
UHRZEIT EINGABE 11:23

**Clock time setting**

To set the internal real-time clock, open the menu with the Enter key **↵**. You can now use the arrow keys **←** and **→** to set the hour value. Now switch to the minute value with the Enter key **↵** and set using the arrow keys **←** and **→**. Finish by saving the values with the Enter key **↵**.

ATUELLES DATUM EINGEBEN
DATUM 21.12.06

**Date setting**

Set the current date in the same way as you set the time. On opening the menu with the Enter key **↵** you can set the values for the day, month and year with the arrow keys **←** and **→** confirm your selections by pressing Enter **↵**.

SCHALTZEITEN LEUCHTST.LAMPE
LEUCHTST.LAMPE (1) EIN 10:15

**Set time tubes**

Open this menu with the Enter key **↵** to set the lighting times for the fluorescent tubes.

**Tubes on**

Begin by selecting the time (hour, minute) when the fluorescent tubes are to come on in the same way as you set the current time.

LAMPE (1) DIMMEN BIS 11:00
-------------------------------

**Dimtime max. until**

Once on, the tubes start giving off light at 1% of their output and gradually dim up to the maximum brightness value set under "Set program for tubes" (see below). Using the arrow keys **←** and **→** you can now enter the time when the fluorescent tubes are to reach their maximum brightness (this corresponds to the end of the sunrise phase). After confirming your entries with the Enter key **↵** you can then enter the sunset times.

LEUCHTST.LAMPE (1) AUS 22:30
---------------------------------

**Tubes off**

Here you can set the time (hour, minute) when the sunset phase is to begin.

LAMPE (1) DIMMEN BIS 23:23
-------------------------------

**Dimtime min. until**

Here you can use the arrow keys **←** and **→** to set the time when the dim phase ends and the fluorescent tubes are switched off.

SCHALTZEITEN HQI BRENNER
-----------------------------

**Set time MH bulbs**

Open this menu with the Enter key **↵** to define the lighting times for the metal halide (MH) bulbs.

HQI BRENNER (1) EIN 12:15
------------------------------

### MH bulbs on

Set the time (hour, minute) when the MH bulbs are to come on in the same way as you set the current time.

HQI BRENNER (1) AUS 15:00
------------------------------

### MH bulbs off

Now use the arrow keys  $\leftarrow$  and  $\rightarrow$  to enter the time when the MH bulbs are to go off and save with the Enter key  $\downarrow$ .

HQI BRENNER (2) EIN 16:00
HQI BRENNER (2) AUS 19:35

### MH bulbs ...

The MOONLIGHT lights feature an interval function for the MH bulb ON and OFF times. These alternative settings for MH bulbs (2) have not been implemented as yet and can therefore be ignored when programming the light.

SCHALTZEITEN MONDLICHT
MONDLICHT EIN 22:59

Set time  
moonlight

To set the ON and OFF times for the moonlight light, open the menu with the Enter key  $\downarrow$ .

MONDLICHT AUS 04:24
------------------------

### Moonlight on

With the arrow keys  $\leftarrow$  and  $\rightarrow$  start by entering the moonlight start time.

### Moonlight off

Then set the moonlight end time and save by pressing the Enter key  $\downarrow$ .

AUSWAHL MONDPHASE
MONDPHASE 02+

Select  
moon phase

The moonlight follows the natural 28-day rhythm. To synchronise the artificial moonlight emitted by your MOONLIGHT light with the actual phases of the moon, you can set the current moon phase here. Open the menu with the Enter key  $\downarrow$  and then use the arrow keys  $\leftarrow$  and  $\rightarrow$  to select the current moon day. The entry 00 signifies a new moon, and by entering a value between 01 and 14 you can specify the gap between the current day and the new moon. After confirming with the Enter key  $\downarrow$  you can then define the interval selected as a waxing moon phase (+) or a waning moon phase (-). Complete your settings by confirming with the Enter key  $\downarrow$ .

LEUCHTST.LAMPE PARAMETRIEREN
---------------------------------

Set program for  
tubes

Here you can specify your preferred default values (parameters) for controlling the fluorescent tubes.

### Max. output tubes

DIMMWERT TL MAX 100%
DIMMWERT TL MIN 48%

Start by entering the value for the maximum luminous intensity of the fluorescent tubes to be achieved on a sustained basis between the end of the sunrise phase and the start of the sunset phase.

**Min. output tubes**

This is where you define the minimum output for the fluorescent tubes.

TAUSCHZEIT TL STD 2548
---------------------------

**Replacement time tubes**

Finally, enter the scheduled life span for your fluorescent tubes. For new tubes set this value to 3,000 hours, for example, to receive a reminder to replace the tubes at the end of the scheduled life span.

HQI BRENNER PARAMETRIEREN
TAUSCHZEIT HQI STD 3000

**Set program for MH bulbs**

**Replacement time MH bulbs**

After opening the menu with the Enter key **↵** you can enter the scheduled life span for the MH bulbs in use and read off the number of operating hours currently remaining.

WOLKENSIMULATION EIN-AUS SCHALTEN
--------------------------------------

**Cloud simulation**

Under this menu item you can activate or deactivate the cloud simulation function. During standard operation an active simulation is indicated by a dot on the right of the main display.

WOLKENSIMULATION EIN-AUS SCHALTEN
--------------------------------------

**Select cloud simulation**

Here you can specify your preferred default values (parameters) for controlling the cloud simulation function.

WOLKENSIMULATION ALLE 26 min
---------------------------------

**Cloud simulation distance.. min**

Begin by setting the interval (1 to 250 minutes) for the gap between the simulated clouds.

WOLKENDAUER 18 min
-----------------------

**Cloud simulation time.. min**

Then specify how long the clouds are to be present.

LAMPE TL DIMMEN AUF 33%
----------------------------

**Output tubes**

Finish by defining the brightness value to which the fluorescent tubes are to be dimmed during cloud simulation. If the output selected is the same as the maximum value for the sunrise phase (see above.), **no** cloud simulation will take place for the corresponding lamp.

SYSTEMPARAMETER EINTRAGEN
LCD BELEUCHTUNG DAUER: 4 min

**Set system data**

**Display illumination**

Here you can set LCD backlight time in minutes from 1 to 250 minutes. If you enter 250, the LCD will remain lit

<b>WASSERTEMPERATUR</b> <b>MAX: 29 °C</b>
--

all the time. Please note that the backlight has a limited service life and in the event of a failure the entire control system will have to be replaced.

\* **Water temp. max:** \_\_\_ °C

If the optional interface to the water temperature sensor has been installed, you can enter your preferred maximum water temperature here.

\***Note: this feature must be ordered from the factory and cannot be retrofitted.**

<b>TESTMODUS</b> <b>AKTIVIEREN</b>
<b>TEST LAMPE TL</b> <b>DIMMUNG: 0%</b>

**Test mode**

This mode allows you test the function of your light sources.

**Check tube dim**

During selection with the arrow keys ← and → the fluorescent tubes are operated at the current percentage value.

<b>TEST LAMPE HQI</b> <b>1</b>
-----------------------------------

**Check bulb dim**

The MH bulbs can be switched on (1) and off (0) using the arrow keys ← and →.

<b>TEST MONDLAMPE</b> <b>MOND: 05</b>
--

**Check moonlight**

For the moonlight test you can select any day of the moon phase using the arrow keys. There is no need to distinguish between a waxing and a waning moon.

<b>PROGRAMMIERUNG</b> <b>ENDE</b>
--------------------------------------

**Memory**

Select this menu with the Enter key ↵ to exit program mode and save your choices. Operating mode can be entered only if the program mode has been exited properly. A timeout function is not planned at present.

## 4.6. System messages during operation

### Please change bulbs/tubes

When the number of operating hours entered have elapsed, the message "Please change MH bulbs" or "Please change tubes" alternates with the standard operating display. To erase this status message, enter a new replacement time for the corresponding light source.

### “Übertemperatur Notdimmung” (optional, where provided for):

This message appears on the display if the external temperature monitor (only if the sensor is connected) registers a water temperature higher than the value set by the user or if the internal temperature of the light rises above 90°C. This message will not disappear until the temperature has fallen 2°C below this maximum temperature.

### No sensor connected (optional, where provided for):

## General information

---

This message appears on the display if you try to enter a value for the maximum water temperature in program mode and no sensor has been connected.

### **Error! Check data:**

This message appears on the display prior to exiting program mode if the switching times or output values you have entered overlap, preventing the control unit from functioning properly. In this case please check the data entered.

## **4.7. General information**

### **Brand of dimmable T5-lamps**

Please note, that only T5-tubes may be used, which are especially constructed for the dimming mode. As the best use exclusively original Giesemann Powerchrome tubes. To ensure an optimal dimming, new tubes must used for their first 50 - 100 hours with 100% (without dimming!). Please use the testmode to execute this procedure. The duration of branding depends essentially on the type of lamp, it's colour and it's wattage.

### **Time, date and moon phase**

The time and date settings are not erased when the light is switched off (they are stored in a memory buffer powered by a lithium battery for a maximum of five years). The clock and the calendar will automatically take into account the 30/31/28 day rhythm, including leap years, until 2100.

The clock does *not* switch automatically between summer and winter time. In the event of a power failure, the current moon cycle will be stored and will run for a maximum of one day before having to be reset.

### **Entering the time, switching times, moon phase, operating hours**

All entries are made with the arrow keys ← and → and the Enter key ↵. Select the desired values using the arrow keys and store by pressing the Enter key ↵ to jump to the next setting or to exit the menu. Press and hold down the keys to activate a quick settings function.

On exiting program mode, a check for nonsensical or overlapping data is run and an error message will appear on the display, if applicable.

**Exception:** When setting the date, no check is made whether the month has 28, 29, 30 or 31 days. This must be taken into account when you enter the date.

### **Programme checks**

Several tests are run to check whether the data read from memory is correct in order to suppress possible EMC interference and thus ensure the light functions without any problems. Times entered are also read out as soon as they are stored and checked to ensure they have been stored correctly. If this is not the case, the data is written to the memory module until it is correct.

## **4.8. Malfunctions**

Before a Giesemann fixture is delivered to a customer it will be checked once more in detail. Besides checking on the functionality, a number of electrical tests will be carried out and recorded in order to guarantee the customer a functionally working lamp.

Nevertheless, should, an operation error occur, it might be for one of the following reasons:

- § **The metal halide does not start:** please check first the cable connections between the external ballast box and the light. Ensure a proper connection to the power supply. Otherwise there might be a problem with the contacts. Please make sure that the bulb's contacts were slid evenly into the socket. If necessary, the bulbs need to be exchanged. If you do not hear any operational noise when starting an HQI-fixture, either a mistake was made when programming the timer or the connection to the power supply was not carried out properly.
- § **The bulb turns off:** If the light becomes too hot (e.g. because of covered ventilation slots or in case of built in the light in a cupboard), or after having reached the end of the bulb's lifetime, it will turn off. Please don't hide the light in a cupboard or close the ventilation slots. If necessary, the bulb needs to be exchanged.
- § **The bulb flickers:** After having reached the end of the bulb's lifetime or because of bad contacts in the connectors the light may flicker. Replace the bulb or resp. let the connectors in the light change by an authorised electrician.
- § **The T5-tubes do not work:** The tubes are switched by pairs. If only **one** tube is defect or doesn't have proper contact in its connectors, the other tube will not start too. Exchange every-time **both** tubes against new ones!
- § **The light is smelling after starting:** The reflectors of the light are ensured for the transportation by foiles. These foiles must be removed before first operating, otherwise the reflectors may irreversible damaged by burning in of the foils.



## 5. REFLEXX T-5 / REFLEXX HQ / REFLEXX sunrise

Check, when unpacking the fixture that no parts are missing. Your aquatic dealer needs to be informed about any damage immediately in order to check on a possible claim within the warranty period. Never put a damaged fixture into operation.

The REFLEXX series contains various models with different light technologies.

### 5.1. Checking of delivery

Remove the system from the box along with all additional parts:

- § lightbody with UV filter lenses and ventilation slots (metal halide version only)
- § metal halide bulbs and / or fluorescent tubes
- § hanging suspension kit – **OPTION** – two 35 mm hanging screws
- § aquarium mounting brackets – **OPTION**
- § warranty card

### 5.2. assembling the light

Remove one of the end plates by unscrewing the four screws. Now the UV filtration glass / acrylic glass (US versions come without acrylic glass) can easily be removed. **SUNRISE VERSION ONLY** :Using the Allen key supplied slacken the four screws on the end panel (opposite side of the display).

The MH bulbs and the T-5 tubes can be fixed as already described. Any further specific details hereto can be taken from the instructions attached to the bulbs.

The reassembly can now be carried out in reverse order to the above mentioned steps. Please make sure that the UV filtration glass fits properly and that it does not edge.

The assembly of the fixture should only be carried out after it has been removed from the ceiling / wall and after disconnecting it from the mains.

### 5.3. mounting the light

All Reflexx lights come without mounting kits. You can choose between two different mounting versions (optional)

The Overtank legs are developed for the *REFLEXX T-5* and *REFLEXX sunrise* series and manufactured from corrosion resistant, matt black powder-coated, stainless steel. Unlike a conventional aquarium hood, with these legs your lighting will be raised from the tank on sturdy supports, which attach securely onto each end of the aquarium, and are adjustable to allow for slight differences in tank length. When access to the aquarium, or to the tubes is required, your *REFLEXX* light tilts backwards, and rests on its hinge until being lowered back into place. (Use for the HQI versions is not recommended).

The Suspension Kit attaches directly to the top of your light, and allows it to be suspended from the ceiling, or from wall brackets. The suspension kit allows a stepless height adjustment of your light by using a steel cable. This suspension can be used for all REFLEXX models.

When mounting the steel wires or the wall brackets it needs to be considered that the ceiling / wall can withstand the weight of the fixture. Make sure that the load bearing capacity is a multiple of the fixture weight itself. Before mounting, make sure that the chosen area is free of electrical cables i.e. in the wall or ceiling. This unit must be **grounded**, green/yellow cable.

#### Steel wire set (optional)

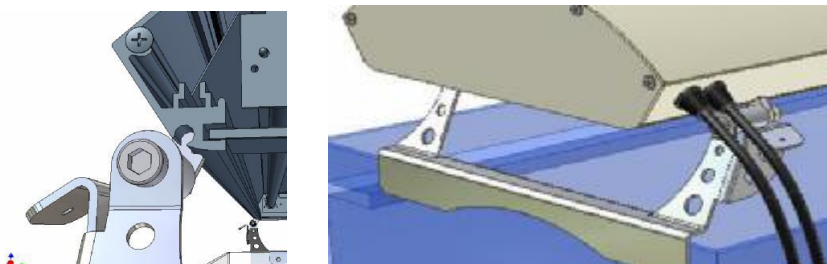
Fix the wires as shown in chapter 1.4. For the T-5 versions and for the sunrise-versions must be built in the fixing screw at first. Therefore remove the reflector and push it in one direction. Then place the screws (35 mm) with their washers at their places, so that about 10mm of the screws can be seen from outside of the light. Then the reflector has to be fixed again. The rope-holders will be fixed to the screws at the top ventilation grid. Finally tuck the already installed steel ropes into the rope-holders and adjust the light at a minimum of 30 cm above the water.

#### Overtank legs (optional)

These overtank legs are not recommended for the REFLEXX HQI versions.

*Always check with your aquarium manufacturer that the tank is capable of supporting the additional weight before using support legs.*

Before the REFLEXX light can be installed on to the aquarium the support brackets need to be installed. Please note that the two brackets are different and each shall correctly fit on to one pivot only. Connect the bracket with the Reflexx light as shown in the illustration.



Now, right the Overtank light and by utilising the sliding pivot and bracket line up the bracket recesses with the edge of the aquarium. Put double sided tape on the glass of your aquarium and attach the unit to the aquarium with the 2 nylon screws (each bracket) supplied. Tighten hand tight.

Warning: Before operation you must ensure that the REFLEXX light is securely fixed to the aquarium by tightly screwing the nylon screws.

The REFLEXX light is connected to its brackets at each end by a pivot, this allows the unit to be tipped upright to make cleaning the unit and maintenance the aquarium far easier. To tip the light into its upright position, first check that the unit is not hot. Whilst holding the unit at either end of the front edge, gently tip it backwards until it will tip no further. It will now remain in this position unsupported. When you have finished the maintenance gently lower the unit back onto its supporting brackets.

## 5.4. Programming the SUNRISE electronics

Both the SUNRISE and the SUNRISE comfort versions come with advanced control electronics and a logical programming structure. Each control has three keys for entering values. The values are set with the following keys:

- ← Set values and menu items in ascending order
- Set values and menu items in descending order
- ↵ Confirm values or menu items (Enter key)

Press the Enter key ↵ to enter program mode. Using the arrow keys ← and → you can now toggle between the individual menu items. The electronics menu is organised as follows:

<b>UHRZEIT EINGEBEN</b>
<b>UHRZEIT 11:41</b>

**Clock time setting** To set the internal real-time clock, open the menu with the Enter key ↵. You can now use the arrow keys ← and → to set the hour value. Now switch to the minute value with the Enter key ↵ and set using the arrow keys ← and →. Finish by saving the values with the Enter key ↵.

<b>SONNENAUFGANG</b>
<b>BEGINN 08:31</b>

**Sunrise** Open this menu with the Enter key ↵ to set the lighting times for the fluorescent tubes.

### Start

Begin by selecting the time (hour, minute) when the fluorescent tubes are to come on in the same way as you set the current time.

### Until

Once on, the tubes start giving off light at 1% of their output and gradually dim up to 100%. Using the arrow keys ← and → you can now enter the time when the fluorescent tubes are to reach their maximum brightness (this corresponds to the end of the sunrise phase). After confirming your entries with the Enter key ↵ you can then enter the sunset times.

<b>DAUER BIS 09:30</b>
------------------------

<b>SONNENUNTERGANG</b>
<b>BEGINN 18:33</b>

**Sunset** **Start**  
Enter the time (hour, minute) when the sunset is to

--

start.

DAUER BIS 19:33
-----------------

**Until**

Here you can use the arrow keys ← and → to set the time when the dim phase ends and the fluorescent tubes are switched off.

WOLKENSIMULATION
WOLKEN EIN

**Cloud simulation**

Under this menu item you can activate or deactivate the cloud simulation function. Press the → key to switch between clouds OFF and clouds ON.

In cloud simulation mode the lamp dims down to 50% of its brightness in approx. 50 seconds at **random** intervals (but not during sunrise or sunset).

A black rectangle appears on the display (in operating mode) when clouds are being simulated. When the cloud simulation function is active, the letter "w" appears on the display (in operating mode).

*Intervals between clouds:*

Random values between 2 minutes and 2 hours.

*Cloud duration:*

Random values between 1 and 20 minutes.

TESTMODUS
DIMMUNG 022%

**Test mode**

This mode allows you test the function of your light sources.

**Dim 000%**

During selection with the arrow keys ← and → the fluorescent tubes are operated at the current percentage value. Press and hold down the keys for longer than 1 second to activate a quick settings function.

SPEICHERN
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**Memory**

Select this menu with the Enter key ↵ to exit program mode and save your choices. Operating mode can be entered only if program mode has been exited properly. A timeout function is not planned at present.

**General instructions**

**Brand of dimmable T5-lamps**

Please note, that only T5-tubes may be used, which are especially constructed for the dimming mode. As the best use exclusively original Giesemann Powerchrome tubes. To ensure an optimal dimming, new tubes must used for their first 50 - 100 hours with 100% ( without dimming!). Please use the testmode to execute this procedure. The duration of branding depends essentially on the type of lamp, Lampentyp, it's the colour and it's wattage.

### Display

After having switched on the fixture the dimming information will be displayed (%). During the sunrise there will be shown the “+” in the display, the “-“ indicates the sunset.

### Prevention of entry of unworkable values:

Sunrise/sunset phases lasting longer than 12 hours cannot be entered, nor are overlapping phases permitted. (**Example:** The sunrise phase cannot commence before the sunset phase has ended.)

The validity of the times entered is checked each time you try to exit programming mode by selecting the menu option “SAVE”. If the times entered are invalid, the message “INCORRECT DIM TIME” appears on the display for approx. three seconds and the programming mode cannot be exited. Only upon entry of correct times is it possible to exit programming and return to operating mode.

Should you enter sunset/sunrise phases of longer than 12 hours, you will be requested to repeat the entry in the relevant menu. Where times overlap, a selective entry request cannot be made as the system cannot determine where the error lies. The system returns to the beginning of the sunrise/sunset time entry mode.

### Power failure

The system can cope with power failures of up to 30 seconds without the loss of any data or times entered. If this time is exceeded, all the times entered will be lost. Once the power is restored, the display will start flashing. The following default times will be set:

<b>Sunrise:</b>	BEGINN:	06:30	start time
	DAUER BIS:	08:30	end time
<b>Sunset:</b>	BEGINN:	19:30	start time
	DAUER BIS:	21:30	end time
<b>Cloud simulation:</b>	WOLKEN		
<b>Time:</b>	ZEIT	12.00	




These values ensure the light will operate reliably even in the event of a power failure. The display will not stop flashing until you re-enter the correct time.




### Internal test mode

Used to test the electronics system during light manufacture. The light can also be operated manually in this mode.

## 5.5. Programming the SUNRISE Comfort electronics





Both the SUNRISE and the SUNRISE comfort versions come with advanced control electronics and a logical programming structure. Each control has three keys for entering values. The values are set with the following keys:

-  Set values and menu items in ascending order
-  Set values and menu items in descending order
-  Confirm values or menu items (Enter key)

Press the Enter key  to enter program mode. Using the arrow keys  and  you can now toggle between the individual menu items. The electronics menu is organised as follows.








SPRACHE WÄHLEN
DEUTSCH

**Select language**

Open the menu with the Enter key  to select the menu language. Use the arrow keys  and  to toggle between German, Italian, French and English. Confirm your selection with the Enter key .





AKTUELLE UHRZEIT EINGEBEN
UHRZEIT EINGABE 11:23

**Clock time setting**

To set the internal real-time clock, open the menu with the Enter key . You can now use the arrow keys  and  to set the hour value. Now switch to the minute value with the Enter key  and set using the arrow keys  and . Finish by saving the values with the Enter key .


AKTUELLES DATUM EINGEBEN
DATUM 21.12.06

**Date setting**

Set the current date in the same way as you set the time. On opening the menu with the Enter key  you can set the values for the day, month and year with the arrow keys  and  confirm your selections by pressing Enter .

SCHALTZEITEN LEUCHTST.LAMPE 1
----------------------------------




**Set time tubes**

Open this menu with the Enter key  to set the lighting times for the fluorescent tubes (1).

**Tubes on**

Begin by selecting the time (hour, minute) when the fluorescent tubes are to come on in the same way as you set the current time.

**Dimtime max. until**

Once on, the tubes start giving off light at 1% of their output and gradually dim up to the maximum brightness value set under "Set program for tubes" (see below). Using the arrow keys  and  you can now enter the time when the fluorescent tubes are to reach their maximum brightness (this corresponds to the end of the sunrise phase). After confirming your entries with the Enter key  you can then enter the sunset times.

LAMPE (1) DIMMEN BIS 11:00
-------------------------------

LEUCHTST.LAMPE (1) AUS 22:30
---------------------------------

**Tubes off**

Here you can set the time (hour, minute) when the sunset phase is to begin.

LAMPE (1) DIMMEN BIS 23:23
-------------------------------

**Dimtime min. until**

SCHALTZEITEN LEUCHTST.LAMPE 2
LEUCHTST.LAMPE (2) EIN 12:15

**Set time tubes**

Here you can use the arrow keys **←** and **→** to set the time when the dim phase ends and the fluorescent tubes are switched off.

Open this menu with the Enter key **↵** to set the lighting times for the fluorescent tubes (2).

**Tubes on**

Begin by selecting the time (hour, minute) when the fluorescent tubes are to come on in the same way as you set the current time.

**Dimtime max. until**

Once on, the tubes start giving off light at 1% of their output and gradually dim up to the maximum brightness value set under "Set program for tubes" (see below). Using the arrow keys **←** and **→** you can now enter the time when the fluorescent tubes are to reach their maximum brightness (this corresponds to the end of the sunrise phase). After confirming your entries with the Enter key **↵** you can then enter the sunset times.

**Tubes off**

Here you can set the time (hour, minute) when the sunset phase is to begin.

**Dimtime min. until**

Here you can use the arrow keys **←** and **→** to set the time when the dim phase ends and the fluorescent tubes are switched off.

LAMPE (2) DIMMEN BIS 12:30
-------------------------------

LEUCHTST.LAMPE (2) AUS 15:00
---------------------------------

LAMPE (2) DIMMEN BIS 17:30
-------------------------------

SCHALTZEITEN MONDLICHT
MONDLICHT EIN 22:59

**Set time moonlight**

To set the ON and OFF times for the moonlight light, open the menu with the Enter key **↵**.

**Moonlight on**

With the arrow keys **←** and **→** start by entering the moonlight start time.

**Moonlight off**

Then set the moonlight end time and save by pressing the Enter key **↵**.

MONDLICHT AUS 04:24
------------------------

AUSWAHL MONDPHASE
MONDPHASE 02+

**Select moon phase**

The moonlight follows the natural 28-day rhythm. To synchronise the artificial moonlight emitted by your MOONLIGHT light with the actual phases of the moon, you can set the current moon phase here. Open the menu

LEUCHTSTOFFLAMPE 1 PARAMETRIEREN
DIMMWERT TL 1 MAX 100%
DIMMWERT TL 1 MIN 48%
TAUSCHZEIT TL 1 STD 2547

**Set program  
for tubes (1)**

with the Enter key **↵** and then use the arrow keys **←** and **→** to select the current moon day. The entry 00 signifies a new moon, and by entering a value between 01 and 14 you can specify the gap between the current day and the new moon. After confirming with the Enter key **↵** you can then define the interval selected as a waxing moon phase (+) or a waning moon phase (-). Complete your settings by confirming with the Enter key **↵**.

Here you can specify your preferred default values (parameters) for controlling the fluorescent tubes.

**Max. output tubes**

Start by entering the value for the maximum luminous intensity of the fluorescent tubes to be achieved on a sustained basis between the end of the sunrise phase and the start of the sunset phase.

**Min. output tubes**

This is where you define the minimum output for the fluorescent tubes.

**Replacement time tubes**

Finally, enter the scheduled life span for your fluorescent tubes. For new tubes set this value to 3,000 hours, for example, to receive a reminder to replace the tubes at the end of the scheduled life span.

LEUCHTSTOFFLAMPE 2 PARAMETRIEREN
DIMMWERT TL 2 MAX 100%

**Set program  
for tubes (1)**

Here you can specify your preferred default values (parameters) for controlling the fluorescent tubes.

**Max. output tubes**

Start by entering the value for the maximum luminous intensity of the fluorescent tubes to be achieved on a sustained basis between the end of the sunrise phase and the start of the sunset phase.

**Min. output tubes**

This is where you define the minimum output for the fluorescent tubes.

**Replacement time tubes**

Finally, enter the scheduled life span for your fluorescent tubes. For new tubes set this value to 3,000 hours, for example, to receive a reminder to replace the tubes at the end of the scheduled life span.

DIMMWERT TL 2 MIN 1%
TAUSCHZEIT TL 2 STD 3000

WOLKENSIMULATION EIN-AUS SCHALTEN
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**Cloud**


Under this menu item you can activate or deactivate the cloud simulation function. During standard operation an

<p style="text-align: center;"><b>WOLKENSIMULATION EIN</b></p>	<b>simulation</b>	active simulation is indicated by a dot on the right of the main display.
<p style="text-align: center;"><b>WOLKENSIMULATION PARAMETRIEREN</b></p>	<b>Select cloud simulation</b>	Here you can specify your preferred default values (parameters) for controlling the cloud simulation function.
<p style="text-align: center;"><b>WOLKENSIMULATION ALLE 26 min</b></p>		<b>Cloud simulation distance.. min</b>  Begin by setting the interval (1 to 250 minutes) for the gap between the simulated clouds.
<p style="text-align: center;"><b>WOLKENDAUER 18 min</b></p>		<b>Cloud simulation time.. min</b>  Then specify how long the clouds are to be present.
<p style="text-align: center;"><b>LAMPE TL DIMMEN AUF 33%</b></p>		<b>Output tubes</b>  Finish by defining the brightness value to which the fluorescent tubes are to be dimmed during cloud simulation. If the output selected is the same as the maximum value for the sunrise phase (see above.), <i>no</i> cloud simulation will take place for the corresponding lamp.
<p style="text-align: center;"><b>SYSTEMPARAMETER EINTRAGEN</b></p> <hr style="border: 0.5px solid black;"/> <p style="text-align: center;"><b>LCD BELEUCHTUNG DAUER 4 min</b></p>	<b>Set system data</b>	<b>Display illumination</b>  Here you can set LCD backlight time in minutes from 1 to 250 minutes. If you enter 250, the LCD will remain lit all the time. Please note that the backlight has a limited service life and in the event of a failure the entire control system will have to be replaced.
<p style="text-align: center;"><b>WASSERTEMPERATUR MAX: 29 °C</b></p> <hr style="border: 0.5px solid black;"/> <p style="text-align: center;"><b>KEIN SENSOR ANGESCHLOSSEN !!!</b></p>		<b>* Water temp. max: ___°C</b>  If the optional interface to the water temperature sensor has been installed, you can enter your preferred maximum water temperature here.  <b>*Note: this feature must be ordered from the factory and cannot be retrofitted.</b>
<p style="text-align: center;"><b>TESTMODUS AKTIVIEREN</b></p> <hr style="border: 0.5px solid black;"/> <p style="text-align: center;"><b>TEST LAMPE TL DIMMUNG: 0%</b></p>	<b>Test mode</b>	This mode allows you test the function of your light sources.  <b>Check tube dim</b>  During selection with the arrow keys <b>←</b> and <b>→</b> the fluorescent tubes are operated at the current percentage value.
<p style="text-align: center;"><b>TEST MONDPHASE MOND: 05</b></p>		<b>Check moonlight</b>

PROGRAMMIERUNG  
ENDE

Memory

For the moonlight test you can select any day of the moon phase using the arrow keys. There is no need to distinguish between a waxing and a waning moon.

Select this menu with the Enter key  to exit program mode and save your choices. Operating mode can be entered only if the program mode has been exited properly. A timeout function is not planned at present.

## 5.6. System messages during operation

### Please change bulbs/tubes

When the number of operating hours entered have elapsed, the message "Please change MH bulbs" or "Please change tubes" alternates with the standard operating display. To erase this status message, enter a new replacement time for the corresponding light source.

**“Übertemperatur Notdimmung”** (optional, where provided for):

This message appears on the display if the external temperature monitor (only if the sensor is connected) registers a water temperature higher than the value set by the user or if the internal temperature of the light rises above 90°C. This message will not disappear until the temperature has fallen 2°C below this maximum temperature.

**No sensor connected** (optional, where provided for):

This message appears on the display if you try to enter a value for the maximum water temperature in program mode and no sensor has been connected.

**Error! Check data:**

This message appears on the display prior to exiting program mode if the switching times or output values you have entered overlap, preventing the control unit from functioning properly. In this case please check the data entered.

## 5.7. General information

### Brand of dimmable T5-lamps

Please note, that only T5-tubes may be used, which are especially constructed for the dimming mode. As the best use exclusively original Giesemann Powerchrome tubes. To ensure an optimal dimming, new tubes must used for their first 50 - 100 hours with 100% ( without dimming!). Please use the testmode to execute this procedure. The duration of branding depends essentially on the type of lamp, Lampentyp, it's the colour and it's wattage.

### Display

After having switched on the fixture the following information will be displayed (depending on the programming): Time – Lunarphase – Dimming (%).

### Time, date and moon phase





## General information

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The time and date settings are not erased when the light is switched off (they are stored in a memory buffer powered by a lithium battery for a maximum of five years). The clock and the calendar will automatically take into account the 30/31/28 day rhythm, including leap years, until 2100.

The clock does *not* switch automatically between summer and winter time. In the event of a power failure, the current moon cycle will be stored and will run for a maximum of one day before having to be reset.

### Entering the time, switching times, moon phase, operating hours

All entries are made with the arrow keys  and  and the Enter key . Select the desired values using the arrow keys and store by pressing the Enter key  to jump to the next setting or to exit the menu. Press and hold down the keys to activate a quick settings function.

On exiting program mode, a check for nonsensical or overlapping data is run and an error message will appear on the display, if applicable.

**Exception:** When setting the date, no check is made whether the month has 28, 29, 30 or 31 days. This must be taken into account when you enter the date.

### Programme checks

Several tests are run to check whether the data read from memory is correct in order to suppress possible EMC interference and thus ensure the light functions without any problems. Times entered are also read out as soon as they are stored and checked to ensure they have been stored correctly. If this is not the case, the data is written to the memory module until it is correct.

### Power failure

The system can cope with power failures of up to 30 seconds without the loss of any data or times entered. If this time is exceeded, all the times entered will be lost. Once the power is restored, the display will start flashing. The following default times will be set:

<b>Sunrise:</b>	BEGINN:	06:30	start time
	DAUER BIS:	08:30	end time
<b>Sunset:</b>	BEGINN:	19:30	start time
	DAUER BIS:	21:30	end time
<b>Cloud simulation:</b>	WOLKEN		
<b>Time:</b>	ZEIT	12.00	

These values ensure the light will operate reliably even in the event of a power failure. The display will not stop flashing until you re-enter the correct time.

### Internal temperature monitor

To prevent the light from overheating, an internal temperature monitor has been installed. If the temperature inside the light exceeds 90°C, all T-5 lamps are automatically dimmed until the temperature has dropped back down to approx. 60°C. The message "Übertemperatur Notdimmung" appears on the display.

### External temperature monitor (optional)

An external temperature monitor (optional accessory) can be connected to measure the water temperature. If it rises above a user-set value of between 0° and 35°C, the fluorescent tubes are dimmed to prevent the tank warming up any further due to the radiated energy. Normal operation is resumed only when this threshold value has dropped by at least 2°C. The message "Übertemperatur Notdimmung" appears on the display. If NO external sensor has been connected, the message "No sensor connected!" appears on the display.

## 5.8. Malfunctions

Before a Gieseemann fixture is delivered to a customer it will be checked once more in detail. Besides checking on the functionality, a number of electrical tests will be carried out and recorded in order to guarantee the customer a functionally working lamp.

Nevertheless, should, an operation error occur, it might be for one of the following reasons:

- § **The metal halide does not start:** please check first the cable connections between the external ballast box and the light. Ensure a proper connection to the power supply. Otherwise there might be a problem with the contacts. Please make sure that the bulb's contacts were slid evenly into the socket. If necessary, the bulbs need to be exchanged. If you do not hear any operational noise when starting an HQI-fixture, either a mistake was made when programming the timer or the connection to the power supply was not carried out properly.
- § **The bulb turns off:** If the light becomes too hot (e.g. because of covered ventilation slots or in case of built in the light in a cupboard), or after having reached the end of the bulb's lifetime, it will turn off. Please don't hide the light in a cupboard or close the ventilation slots. If necessary, the bulb needs to be exchanged.
- § **The bulb flickers:** After having reached the end of the bulb's lifetime or because of bad contacts in the connectors the light may flicker. Replace the bulb or resp. let the connectors in the light change by an authorised electrician.
- § **The T5-tubes do not work:** The tubes are switched by pairs. If only **one** tube is defect or doesn't have proper contact in its connectors, the other tube will not start too. Exchange every-time **both** tubes against new ones!
- § **The light is smelling after starting:** The reflectors of the light are ensured for the transportation by foiles. These foiles must be removed before first operating, otherwise the reflectors may irreversibly be damaged by burning in of the foils.



## 6. MATRIX

Check, when unpacking the fixture that no parts are missing. Your aquatic dealer needs to be informed about any damage immediately in order to check on a possible claim within the warranty period. Never put a damaged fixture into operation.

### 6.1. checking of delivery

Remove the system from the box along with all additional parts :

- § lightbody
- § T-5 fluorescent tubes (POWERCHROME)
- § hanging wires
- § warranty card

### 6.2. assembling the light

The assembly of the fixture should only be carried out after it has been removed from the ceiling / wall and after disconnecting it from the mains.

**Before assembling the light first remove the clear/pink / yellow protection film from the reflectors.**

If necessary, remove the acrylic protection covers for the T-5 tubes. The tubes and the contacts are to be pushed into the socket evenly, if necessary, exert a slight pressure in order to press the movable socket against the springs. After having inserted the tubes turn them by 90° until they fit properly. The covers can now be reassembled in reverse order.

The MATRIX is fitted by electronic high frequency ballasts. The light may be used only including all tubes!

### 6.3. First operation

When mounting the steel wires (as shown in chapter 1.4) it needs to be considered that the ceiling / wall can withstand the weight of the fixture. Make sure that the load bearing capacity is a multiple of the fixture weight itself. Before mounting, make sure that the chosen area is free of electrical cables i.e. in the wall or ceiling. This unit must be **grounded**, green/yellow cable.

Then align the light horizontally above the aquarium. Ensure the light holder is firmly seated.

If the power supply does not come from above, simply lay the cable to the desired location without attaching it to the steel suspension wire.

Please ensure that any contact points (should you extend the power cable) do not come into contact with moisture or water.

### 6.4. Malfunctions

Before a Giesemann fixture is delivered to a customer it will be checked once more in detail. Besides checking on the functionality, a number of electrical tests will be carried out and recorded in order to guarantee the customer a functionally working lamp.

Nevertheless, should, an operation error occur, it might be for one of the following reasons:

- § **The T5-tubes do not work:** Ensure a proper connection to the power supply. The tubes are switched by pairs. If only **one** tube is defect or doesn't have proper contact in it's connectors, the other tube will not start too. Everytime exchange **both** tubes against new ones!
- § **The light is smelling after starting:** The reflectors of the light are ensured for the transportation by foiles. These foiles must be removed before first operating, otherwise the reflectors may irreversible damaged by burning in of the foils.



## 7. System 400 / BILUX

Check, when unpacking the fixture that no parts are missing. Your aquatic dealer needs to be informed about any damage immediately in order to check on a possible claim within the warranty period. Never put a damaged fixture into operation.

### 7.1. checking of delivery

Remove the system from the box along with all additional parts :

- § lightbody with UV filter lens
- § metal halide bulbs (MEGACHROME)
- § compact fluorescent tubes / T-5 fluorescent tubes (POWERCHROME)
- § external control unit
- § hanging wires (version B)
- § warranty card

### 7.2. assembling the light

Remove one of the end plates by unscrewing the four screws. Now the UV filtration glass can easily be removed. **Before assembling the light first remove the clear/pink / yellow protection film from the reflector and the protection film from the cover plates.**

The HQI bulb can be fixed as already described. Screw the lamp into the lampholder in a clockwise direction firmly, but without over-tightening.

To remove the 400W lamps screw the lamp in an anti-clockwise direction. Any further specific details hereto can be taken from the instructions attached to the bulb.

The reassembly can now be carried out in reverse order to the above mentioned steps. Please make sure that the UV filtration glass fits properly and that it does not edge.

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The assembly of the fixture should only be carried out after it has been removed from the ceiling / wall and after disconnecting it from the mains.

### 7.3. First operation

When mounting the steel wires or the wall brackets it needs to be considered that the ceiling / wall can withstand the weight of the fixture. Make sure that the load bearing capacity is a multiple of the fixture weight itself. Before mounting, make sure that the chosen area is free of electrical cables i.e. in the wall or ceiling. This unit must be **grounded**, green/yellow cable.

Drill two holes in the ceiling corresponding to the distance between the two suspension cables, ensuring the light is **centrally** aligned and taking into account the relevant **power connection means**. Install the ceiling mounting fixtures using the screws supplied, after checking that the ceiling offers sufficient support for the light. Now screw the **cable holders** with the **steel suspension wires** into the **ceiling mounting fixture**. Screw the light holder into the M4 thread in upper vent plate of the light.

Then align the light horizontally above the aquarium. Ensure the light holder is firmly seated.

Take care, that when choosing the place of mounting and when installing the light that sufficient air circulation is necessary during operation and that the ventilation slots are not covered.

The 400 and BILUX series are controlled by external control units. This control unit consists of an external ballast, an ignitor and, depending on the version chosen, a capacitor circuit. The external ballast controls the power supply of the fixture. Thus, the functionality and the hours of operation of the HQI bulbs are controlled automatically. The light should never be used without this original control unit; the wattage of the control unit and of the light unit needs to be identical.

The fixture's cable should now be connected to the external control unit through the connector. Please make sure that the control unit has **not** been connected to the power supply yet. Make sure that the plug fits properly to the contacts.

The light will start operating when plugged into the mains and switched on.

After having switched on the fixture for the first time, the metal halide bulbs need a few minutes to reach their full illumination capacity. The operation of new bulbs might cause minor colour variations and short time flickering. These are caused by physical processes which are typical of this technique.

HQI-bulbs are, as already described, high voltage discharge lamps. This technique requires high voltages for the ignition and the operation of up to 4500 Volt.

The implementation of inductive ballasts can cause, mainly during the starting phase, but also during general operation, a minor noise within the control unit. Although any physical and electrical optimisation were undertaken to reduce the operational noise, it is not possible to eliminate it completely, due to typical features of this technology.

### 7.4. electrical connection

Due to the high output of the 400 / BILUX series, ensure that a correctly rated fuse is used. When discharge lamps are switched on, the current drawn from the supply can be analysed as: 1.) Inrush current - for a few milliseconds – 2) Starting current - for a few minutes – 3) Running current - after the lamp has stabilised. The fuse that protects the circuit must withstand all of the above currents with the inrush current normally being the most onerous (up to 25 x starting current). Ensure that a correctly

rated fuse is used. Nuisance tripping is possible on some types of modern current limiting devices, and they may not be suitable. Consult your fuse or circuit breaker manufacturer for advice. Increasing fuse ratings will also mean that the supply cable size may need to be reviewed to support the higher fuse rating. The current ratings above will also apply to any timer switch apparatus connected to the circuit(s) or other switching apparatus controlling the circuit(s). **Ensure your domestic wiring supply is rated appropriately.**

### 7.5. Malfunctions

Before a Gieseemann fixture is delivered to a customer it will be checked once more in detail. Besides checking on the functionality, a number of electrical tests will be carried out and recorded in order to guarantee the customer a functionally working lamp.

Nevertheless, should, an operation error occur, it might be for one of the following reasons:

- § **The light does not start:** please ensure a proper connection to the power supply. Otherwise there might be a problem with the contacts. Please make sure that the tube's contacts were slid evenly into the contacts. If necessary, the tubes need to be exchanged.
- § **The T5-tubes do not work:** The tubes are switched by pairs. If only **one** tube is defect or doesn't have proper contact in its connectors, the other tube will not start too. Exchange every-time **both** tubes against new ones!
- § **The light is smelling after starting:** The reflectors of the light are ensured for the transportation by foiles. These foiles must be removed before first operating, otherwise the reflectors may irreversible damaged by burning in of the foils.



## 8. SPECTRA

Check, when unpacking the fixture that no parts are missing. Your aquatic dealer needs to be informed about any damage immediately in order to check on a possible claim within the warranty period. Never put a damaged fixture into operation.

### 8.1. checking the delivery

Remove the system from the box along with all additional parts :

- § lightbody with UV filter lens
- § metal halide bulbs (MEGACHROME)
- § T-5 tubes (POWERCHROME)
- § external control unit
- § hanging wires (version B)
- § warranty card

### 8.2. assembling the light

#### 400W Metal halide with E40 lampholders.

Screw the lamp into the lampholder in a clockwise direction firmly, but without over-tightening. To remove the 400W lamps screw the lamp in an anti-clockwise direction.

GIESEMANN introduces with the SPECTRA series a new generation of aquarium illumination. Their main characteristics are advanced component technology, modern styling, high quality materials and functional design.

The filter glasses are in combination with the ventilation slots responsible for bearing the complete light body. Therefore the slots are fitting very tight in the rail, to allow the glasses to extend by operation temperatures up to 600°C.

Using the Allen key supplied slacken the six screws on one of the end panels.

## first operation

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Remove the acrylic protection covers for the T-5 tubes (1). The tubes and the contacts are to be pushed into the socket evenly, if necessary, exert a slight pressure in order to press the movable socket against the springs. After having inserted the tubes turn them by 90° until they fit properly. The covers can now be reassembled in reverse order. Place the little metal plates (2) on each end to push the acrylic cover down.

Remove now the ventilation slot (3) of one side and the UV filter glass. Screw the lamp into the lampholder in a clockwise direction firmly, but without over-tightening. To remove the 400W lamps screw the lamp in an anti-clockwise direction.

Please install the bulb eventually according to the instructions which are attached to the respective bulb.

The light can now be reassembled in reverse order. Be careful to slide the UV-filtration glasses into the correct position with the utmost care. Take care that they do not twist (risk of breakage). **Assembly work** on the light may be performed only with the light dismantled from the

To simplify the reassembling of your light, it can be helpful to press the lightbody slightly together before screwing the endplate tight.

### 8.3. first operation

When mounting the steel wires or the wall brackets it needs to be considered that the ceiling / wall can withstand the weight of the fixture. Make sure that the load bearing capacity is a multiple of the fixture weight itself. Before mounting, make sure that the chosen area is free of electrical cables i.e. in the wall or ceiling. This unit must be **grounded**, green/yellow cable.

Drill two holes in the ceiling corresponding to the distance between the two suspension cables, ensuring the light is **centrally** aligned and taking into account the relevant **power connection means**. Install the ceiling mounting fixtures using the screws supplied, after checking that the ceiling offers sufficient support for the light. Now screw the **cable holders** with the **steel suspension wires** into the **ceiling mounting fixture**. Screw the light holder into the M5 nut in upper guide rail on the light.

Then align the light horizontally above the aquarium. Ensure the light holder is firmly seated. Take care, that when choosing the place of mounting and when installing the light that sufficient air circulation is necessary during operation and that the ventilation slots are not covered.

The SPECTRA series is controlled by an external control unit. This control unit consists of an external ballast, an ignitor and, depending on the version chosen, a capacitor circuit. The external ballast controls the power supply of the fixture. Thus, the functionality and the hours of operation of the HQI bulbs are controlled automatically. The light should never be used without this original control unit; the wattage of the control unit and of the light unit needs to be identical.

The fixture's cable should now be connected to the external control unit through the connector. Please make sure that the control unit has **not** been connected to the power supply yet. Make sure that the plug fits properly to the contacts.

The light will start operating when plugged into the mains and switched on.

After having switched on the fixture for the first time, the metal halide bulbs need a few minutes to reach their full illumination capacity. The operation of new bulbs might cause minor colour variations and short time flickering. These are caused by physical processes which are typical of this technique.

HQI-bulbs are, as already described, high voltage discharge lamps. This technique requires high voltages for the ignition and the operation of up to 4500 Volt.

The implementation of inductive ballasts can cause, mainly during the starting phase, but also during general operation, a minor noise within the control unit. Although any physical and electrical optimisation were undertaken to reduce

#### 8.4. electrical connection

Due to the high output of the SPECTRA series, ensure that a correctly rated fuse is used. When discharge lamps are switched on, the current drawn from the supply can be analysed as: 1.) Inrush current - for a few milliseconds – 2) Starting current - for a few minutes – 3) Running current - after the lamp has stabilised. The fuse that protects the circuit must withstand all of the above currents with the inrush current normally being the most onerous (up to 25 x starting current). Ensure that a correctly rated fuse is used. Nuisance tripping is possible on some types of modern current limiting devices, and they may not be suitable. Consult your fuse or circuit breaker manufacturer for advice. Increasing fuse ratings will also mean that the supply cable size may need to be reviewed to support the higher fuse rating. The current ratings above will also apply to any timer switch apparatus connected to the circuit(s) or other switching apparatus controlling the circuit(s). **Ensure your domestic wiring supply is rated appropriately.**

#### 8.5. Malfunctions

Before a Gieseemann fixture is delivered to a customer it will be checked once more in detail. Besides checking on the functionality, a number of electrical tests will be carried out and recorded in order to guarantee the customer a functionally working lamp.

Nevertheless, should, an operation error occur, it might be for one of the following reasons:

- § **The metal halide does not start:** please check first the cable connections between the external ballast box and the light. Ensure a proper connection to the power supply. Otherwise there might be a problem with the contacts. Please make sure that the bulb's contacts were slid evenly into the socket. If necessary, the bulbs need to be exchanged. If you do not hear any operational noise when starting an HQI-fixture, either a mistake was made when programming the timer or the connection to the power supply was not carried out properly.
- § **The bulb turns off:** If the light becomes too hot (e.g. because of covered ventilation slots or in case of built in the light in a cupboard), or after having reached the end of the bulb's lifetime, it will turn off. Please don't hide the light in a cupboard or close the ventilation slots. If necessary, the bulb needs to be exchanged.
- § **The bulb flickers:** After having reached the end of the bulb's lifetime or because of bad contacts in the connectors the light may flicker. Replace the bulb or resp. let the connectors in the light change by an authorised electrician.
- § **The T5-tubes do not work:** The tubes are switched by pairs. If only **one** tube is defect or doesn't have proper contact in its connectors, the other tube will not start too. Exchange every-time **both** tubes against new ones!
- § **The light is smelling after starting:** The reflectors of the light are ensured for the transportation by foils. These foils must be removed before first operating, otherwise the reflectors may irreversibly be damaged by burning in of the foils.

## warranty terms

### Warranty Coverage

GIESEMANN warranty obligations are limited to the terms set forth below:

GIESEMANN warrants the original purchaser of this product against defects in materials and workmanship for a period of (1) year from the date of original retail purchase. If a defect exists, at its option GIESEMANN will (1) repair the product at no charge using new or refurbished replacement parts, (2) exchange the product with a product that is new or which has been manufactured from new or serviceable used parts and is at least functionally equivalent to the original product. A replacement product assumes the remaining warranty on the original product or 90 days; whichever is longer.

When a product or part is exchanged any replacement item becomes your property and the replaced item becomes GIESEMANN property. When a refund is given, your product becomes GIESEMANN property.

### Obtaining Warranty Service

(1) If you have purchased your product in the U.S or Canada, please contact your authorized dealer, or XENIA Northamerica Inc. or check the website [www.xeniainc.com](http://www.xeniainc.com) to find the nearest authorized Warranty Service provider.

(2) Any and all warranty claims must be accompanied with original purchase invoice and warranty card.

(3) Products may be returned only after gaining written permission from , GIESEMANN and all goods must be returned freight prepaid to our warehouse. The original packaging (outer carton and inner packaging) is required on all returns. Goods returned under warranty and found defective will be repaired or replaced at the discretion of XENIA Northamerica Inc., and returned to the customer freight prepaid. Goods returned under warranty and found to be not defective or damaged caused by accident, abuse, misuse, misapplication or non GIESEMANN products; and to a product or a **part that has been modified without the written permission of GIESEMANN will be returned to the customer freight collect. Normal Handling charges will apply.**

### Exclusions and Limitations

**The GIESEMANN warranty applies only to products manufactured by or for GIESEMANN that can be identified by the GIESEMANN trademark, trade name or logo affixed to them. GIESEMANN warranty does not apply to any non-GIESEMANN product even if packaged or sold with GIESEMANN products.**

**GIESEMANN, XENIA Northamerica Inc. and their authorized dealers are not liable for any damage or loss to housing or animal life living in aquariums and damages caused during transport.**

**This warranty does not apply: (a) to damage caused by accident, abuse, misuse, misapplication or non GIESEMANN products; (b) to a product or a part that has been modified without the written permission of GIESEMANN or XENIA Northamerica Inc.**

**Light bulbs are guaranteed to operate when first installed. No warranty exists when the glass is broken. The wide variety of ballasts now being used operate over a wide range of specifications and make any blanket warranty impractical. Any claim for warranty coverage must be made according to our warranty conditions**

**THIS WARRANTY SET FORTH ABOVE ARE EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES AND CONDITIONS, WHETHER ORAL WRITTEN, EXPRESSED OR IMPLIED. GIESEMANN LICHTTECHNIK GMBH SPECIFICALLY DISCLAIMS ANY AND ALL**

**IMPLIED WARRANTIES, INCLUDING, WITHOUT LIMITATION, WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. GIESEMANN IS NOT RESPONSIBLE FOR DIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM ANY BREACH OF WARRANTY OR CONDITIONS, OR UNDER ANY OTHER LEGAL THEORY, INCLUDING BUT NOT LIMITED TO LOST PROFITS, DOWNTIME, GOODWILL, DAMAGE TO OR REPLACEMENT OF EQUIPMENT AND PROPERTY, ANY COSTS OF RECOVERING. REPURCHASING OR REPRODUCING ANY MATTER STORED OR USED WITH GIESEMANN PRODUCTS. GIESEMANN SPECIFICALLY DOES NOT REPRESENT THAT IT WILL BE ABLE TO REPAIR ANY PRODUCT UNDER THIS WARRANTY OR MAKE A PRODUCT EXCHANGE WITHOUT RISK TO OR LOSS OF AQUARIUM LIFE.**

### Troubleshooting

Before a GIESEMANN light is delivered to a customer, it will be checked once more in detail. Besides checking on the functionality, a number of electrical tests will be carried out and recorded in order to guarantee the customer a functionally working lamp.

Nevertheless, should an operation error occur, it might be for one of the following reasons:

If the bulb or the tube does not start, there might be a problem with the contacts. Please make sure that the bulb's contacts were slid evenly into the socket. The tubes need to be tight and correctly installed in the socket.

Your light is equipped with electronic ballasts for the T-5 tubes. Each ballast controls two T-5 tubes. If one tube fails, the second tube will be switched off automatically. Please change always both tubes together and use only the original D-D / Giesemann tubes.

If you do not hear any operational noise when starting an HQI-fixture, either a mistake was made when programming the timer or the connection to the power supply was not carried out properly.

If the fuse has either been considerably overloaded or there is a technical defect at the fixture. Please contact an authorised electrician.

If the luminaire does not light:

- § Check that the mains power is connected and switched on both at the wall and at the switch on the timer.
- § Check if the timer is on Auto, that it is set correctly to come on at the desired time.
- § Check that the luminaire is rated for the same supply voltage that you are using.
- § Check that the Lamps are of the correct wattage, type and length for the luminaire.
- § Check that the lamps are installed correctly (the linear fluorescent variants require the lamp to be twisted through 90° once placed in the connectors).



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