

NIETHAMMER

MZU 106 D / 256 D



## Instruction Manual



## Instruction Manual

**MZU 106 D**

**MZU 256 D**



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## 1. Introduction

### 1.1 Advice before Use

- Read these instructions carefully.
- As soon as the equipment is delivered, open packing and inspect the equipment carefully. If you notice any damage contact the transport company immediately and register your complaint in due form listing the defects.
- We can assure you that this equipment left our factory in perfect condition.
- Check if the received equipment is consistent with the delivery notice and if this delivery notice is consistent with your order. If it is not, immediately contact your supplier.

### 1.2 General Remarks

This luminaire is lighting equipment designed for professional indoor use in theatres and television or film studios. Designed and built in accordance with EN 60598-1 and EN 60598-2-17 regulations, it must imperatively be connected to earth by means of its earth wire.

To prevent any electrical shock, this equipment should not be opened when it is powered up.

Nevertheless:

- Any parts or lenses need to be replaced if they are visibly damaged and their efficiency might be reduced, e.g. in case of deep cracks or scratches.
- The Lamp must be changed if damaged or distorted by heat.

If internal access is needed for control, service or repair purposes, always refer to qualified personnel. Always be sure to unplug the power supply cable before opening the fixture.

#### **ATTENTION: LETHAL VOLTAGE INSIDE!**

It is the user's responsibility to use the luminaire for its intended purpose and to check the equipment that might be connected to it.

The luminaire can under no circumstances be modified or altered. Niethammer Lichttechnik GmbH will not assume any responsibility in case of damage resulting from modifications made to the luminaire.

This luminaire is a piece of professional equipment designed for easy and simple use. Always refer to qualified personnel for any installation or repair work.

### 1.3 Important Remark

Power supply cables and other connections are essential for your equipment and contribute greatly to a safe and trouble free operation.

- Always pull the plug when disconnecting a cable, never pull the cable.
- Never use cables or connectors in bad condition, check them before installation and periodically thereafter.
- Never tie power supply and data cables together.



## 1.4 Electrical Connection

This luminaire is designed for operating at a nominal voltage of 230 V / 50 Hz on a NON-DIMMED circuit. It is supplied with a 2,5 m special cable at the luminaire fitted with a special plug for the connection to the magnetic (MZU 106 D) or the electronic (MZU 256D) ballast, and a 1,5m cable (3 x 1.5 mm section) for the ballast. The power supply may be switched to allow for a remote ignition of the lamp.

For your own safety, make sure the earth wire (yellow-green) is ALWAYS connected to earth.



**ATTENTION:**

**LETHAL VOLTAGE  
PRESENT INSIDE !**

## 1.5 Mechanical Installation:

- 1.) The unit is normally supplied for upright mounting. 5 holes in the fixing frame are provided for mounting on a spotlight base plate according to DIN 15560.
- 2.) For locally variable use the ST 123 (3 wheels with brake) or ST124 H stand with 4 wheels , brake and ascertainable swivel castors (14) as the most suitable for upright mounting.
- 3.) When mounting accessories such as colour changers e.g. the FWV 208 you will need to balance the follow spot for optimal operation.  
After releasing the tilt locking handle of the angle of inclination control the spotlight may not tilt forward or backwards on its own. If the Spotlight does not stay in its centre of gravity so release the clamping system on the runners (9). By moving the body of the spotlight on the runners the centre of gravity can be adjusted exactly to compensate for any accessories added to the follow spot.  
After this the clamping system must be fastened again. The centre of gravity is then adjusted when the spotlight will stay in any angle of inclination with released tilt locking device.
- 4.) Take care not to block the ventilation vents on the lamp housing (2) or that the airflow is not disturbed by objects close to the spotlight

**ATTENTION:** The minimum distance from flammable materials must be at least 5 meters from the light exit point.



## 2. Product description

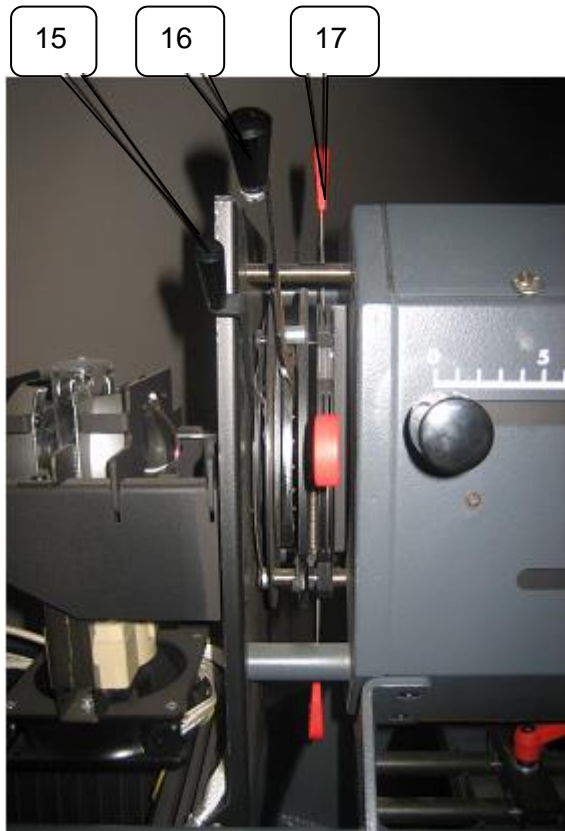
### 2.1 Overview



- (1) Handle (2) Lamphouse (3) Operator control module (4) Dowser (5) Focus (6) Zoom  
 (7) Filterframe-holder (8) Power cable (9) Tilt balance adjustment  
 (10) Crank (only ST 124, ST 124H have two hight locking) (11) Balast (in the picture the  
 conventional ballast 1,2kW for MZU 106D, MZU 256D comes with an electronic ballast)  
 (12) hight locking (13) rotatable base (14) hight adjustable stabilizer  
*The picture shows the MZU 106D with conventional ballast and ST124*

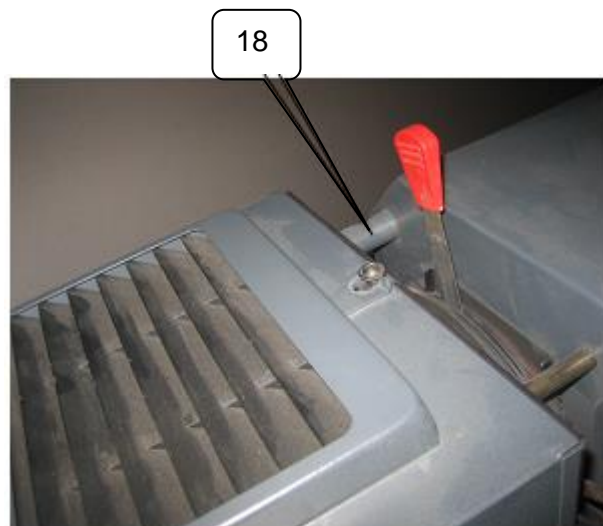


## 2.2 Beam Handles



## 2.3 Lamp house

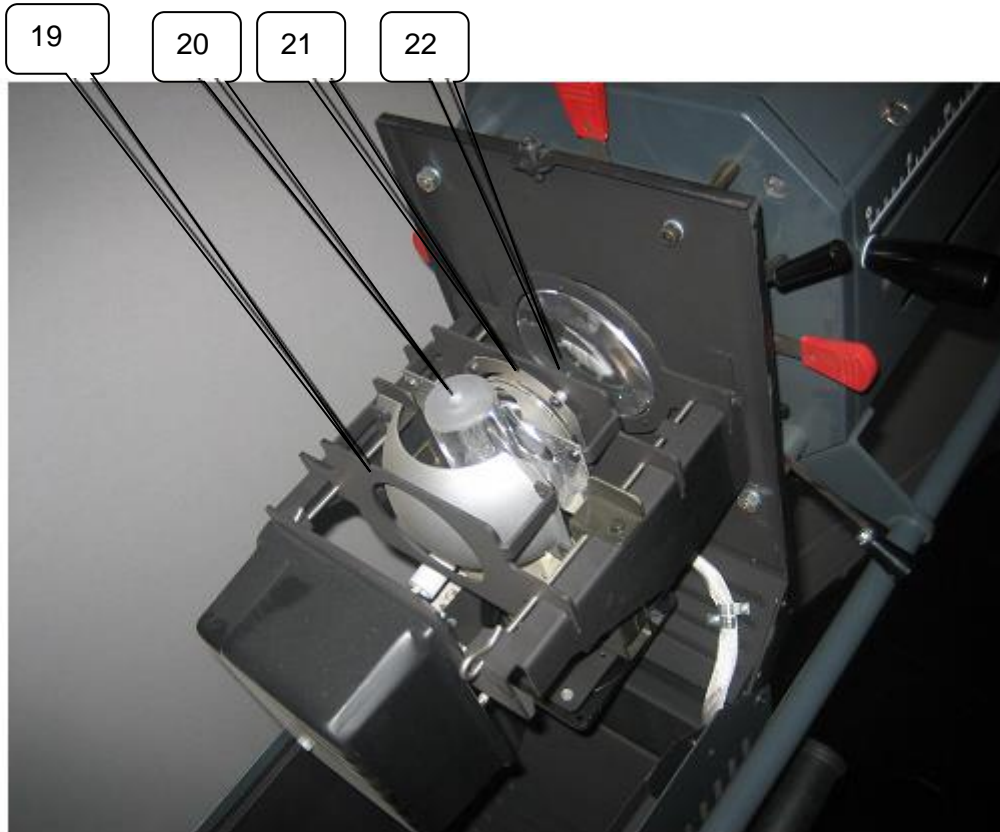
### 2.3.1 Open lamp house



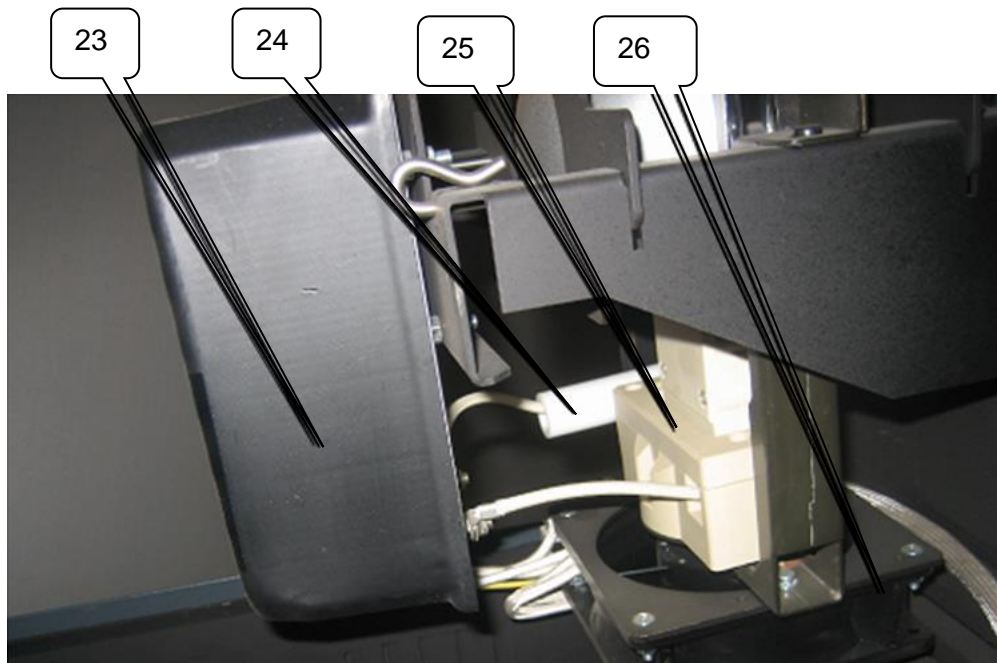
15 Blackout Shutter 16 Iris 17 Four-blade-shutter 18 Allen srew for opening the lamp house



### 2.3.2 Lamp housing (upper Element)



### 2.3.3 Lamp housing (lower Element)

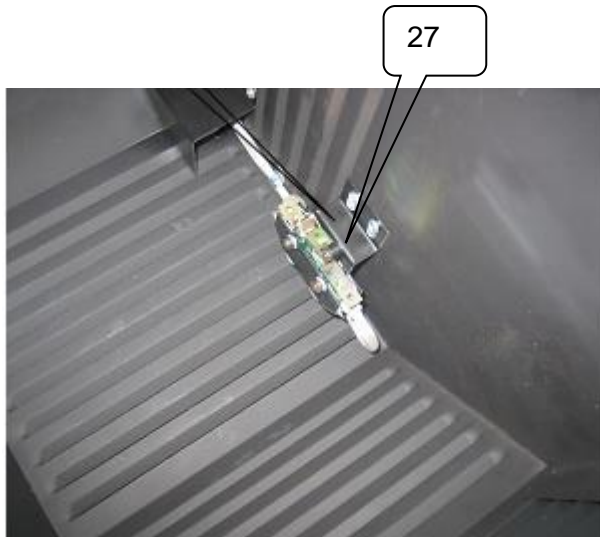


- (19) Mirror (purity aluminium MZU 106D as shown, Dichroic glas MZU 256D)  
(20) Lamp (21) second reflector (22) Condensorlens (23) Ignitor (24) High Voltage isolation  
(25) Lamp holder G38 (26) fan 230V (one in MZU 106, two at MZU 256 D)



### 2.3.4 Inside lamp house cover

Inside the lamphouse is a safety switch (27) after opening the lamphouse the power will be switched off. Nevertheless the plug must be disconnected before opening the lamphouse.







### 3. Inserting (Replacing) and Adjusting the Lamp.

**CAUTION: the lamp housing, lamp fitting and the lamp may be very hot!**  
**Disconnect the power supply cable from the ballast before attempting to open the lamp housing!**

#### 3.1 Lamps

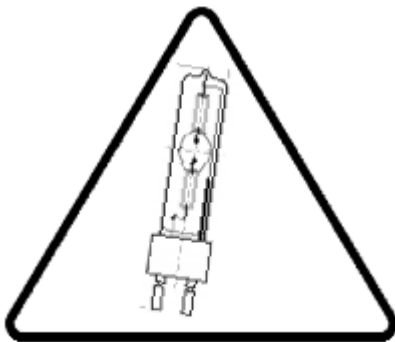
As light source use only a halogen metal vapour lamp 1200 W (MZU 106 D) or 2500W (MZU 256 D), 230 V for G38 lamp holder. The medium life expectancy of this lamp is given by major lamp manufacturers with 500 hours. The colour temperature is approximately 5600 K. The lamp must be changed if the colour from the beam becomes green.

#### 3.2 Open the lamp housing

The lamp house (2) are supported on hinges and locked by Allen screw. After opening the Allen screw (18) the lamp housing can be moved away and the optical components become easily accessible.

All optical elements in the lamp house are perfectly factory adjusted and secured by Allen screws. (see 2.3.2)

Make sure not to touch the lamp or the optical components with bare fingers. Always use gloves when moving the lamp out of its box or replacing the lamp. Accidentally touched surfaces may be cleaned with isopropyl alcohol and a soft tissue paper or a soft cloth.



#### CAUTION WITH THE LAMP:

Use only high-pressure, hot-restrike, halogen metal vapour lamps with max. 1200W (MZU 106 D) or 2500 W.(MZU 256 D) connect the follow spot only with the appropriate cable to the ballast. Allow enough time for the lamp to cool down. This is normally indicted in the lamp manufacturers notice. Change lamps with caution and wear proper safety gear (e.g. goggles and gloves)



#### BEWARE OF UV LIGHT

Discharge lamps emit ultra-violet rays which can cause skin and eye injury



1. Check the cables and connectors before the fixture before turning the unit on. The check is to be performed in regular intervals.

Avoid any confusion or the wrong connection of control and power cables.

2. Connect the power and control signal cable (8), which is fixed to the followspots ignitorboy with the special connector on the ballast (11) and fasten it.

3. On the ballast (11) is a Schuko connector built in (only MZU 106 D, MZU 256 D have a 1,5m cable without plug). On this Schukoplug you will find Schuko-connector, which is always part of the delivery. You must connect to this Schuko-Female connector a cable of at least 3x1,5 mm<sup>2</sup>. On the other end of the cable you will connect a plug which is compatible to the outlet providing the 230 Volt 50 Hz not dimmed. This Outlet can be switchable to use the remote ignition if necessary.

4. The hotter the lamp (20) is during the restrike, the quicker it will reach full light output.

#### D.) Operational Elements for the optical Functions of the Followspot

1. The size of the lightbeam can be adjusted by opening or closing the Iris diaphragm(16). It can close completely.
2. For quick black-out you can use the blackout shutter (15)
3. Manual dimming (4)
4. High adjustment (10) of the stand (picture show an example) after adjusting the high safe it with the second screw (12)
5. PAN adjustment with DS 100 (13)
6. The 4 independent beam shaping shutters (17) allow to project triangles and quadrats in various forms and sizes.
7. The Goboholder ("A" Type) these can be used to project all types of GOBOS.
8. The focus 1 (3) lever can be used to adjust the angle of the light beam (6° – 17°) and Focus 2 (6) lever to adjust the sharpness of the light field. After the Focus and beam spread have been adjusted, the two lever Focus 1 (3) and Focus 2 (6) are to be fixed by turning clockwise.
9. In case of problems to turn on the lamp
  - a. Check if the supply power 230 V 50 Hz.
  - b. Are the lamp house properly closed (the safety switch must be closed (27))
  - c. Are all the cables connected and correctly plugged in
  - d. In case you do not succeed by checking point a.) to c.) check the safety switch connector (27) in the lamp house. The switch is connected in series and even not completing the lamp housing may cause the lamp not to ignite.
  - e. As a last possibility we recommend to change the lamp.

#### Final Remarks:

Over many years of experience it has been evident that UNISPOT followspots have no failure proneness. Wear Materials such as condenser lenses (21), Mirror (glas at MZU 256 D, aluminium at MZU 106 D) (19), Iris (16), lamp (20) and spherical intermediate lens (22) must be replaced from time to time though. In this case you have a spare parts list and trained customer service personnel.



**E. Care and Maintenance**

1. Dust is unavoidable in daily use. On the optical elements (such as lamp, lenses and mirrors) this will cause a loss of transmission and reflection and a worsening of the light out put of the luminaire. We recommend to clean these components – and if necessary the complete luminaire - on a regular schedule.
2. We note explicitly that the optical components are not to be touched with bare hands. We urgently recommend to use a clean fiber-free cloth, sued leather or soft brush. For very adherent dirt you can use isopropyl alcohol.
3. The mirror and condensorlens
4. **It is recommended to slowly burn in the luminaire.**
  - Open the Iris and pull out the beam shapers as far as possible
  - Give full light for app. 15 minutes
  - Close the iris for 1 minute, open it for 5 minutes, close it again for 1 minute , ...
  - Same procedure for the shutters
  - Doing this several times, please
5. In case that during service, optical elements are replaced, it isn't recommended to regard the adjustment instructions (see 2.3.2).

The workplace related noise emission is 60 dB (A).



## 4. Disclaimer

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