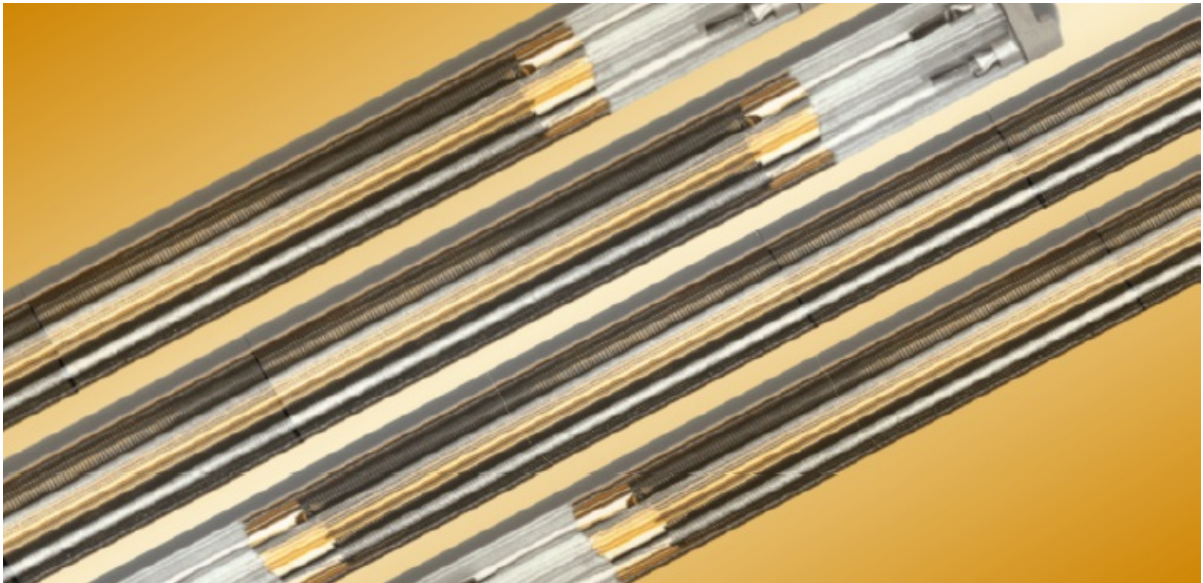


# Heraeus



## **IR twin tube emitter mediumwave**

### **Operating Instructions**

Heraeus Noblelight

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# 1. Safety instructions

## **Infrared radiation is an intensive heat source!**

*Is IR radiation dangerous?*

Basically no, because IR radiation is pure radiated heat.

However, extreme heat radiation of this type may harm the human body as a result of the heat produced in the absorption process (comparable to danger from an open fire).

The most immediate risk is of IR erythema (skin burns). Additionally, medical studies have suggested that the use of IR radiation, particularly when over-used for years or decades, can damage the cornea and the lens, causing an IR cataract.

The machine operation should be taken into account by the machine manufacturer when designing machines using IR light as a heat source.

The IR twin-tube emitter may only be used by skilled and specifically-instructed operating personnel. The system operator/owner must provide a procedure-specific operating manual with instructions for the operating personnel.

If a potentially explosive atmosphere can be formed (resulting from solvent vapor/air mixtures), the relevant standard must be observed since there is a risk of ignition at the IR twin-tube emitter (the solvent vapor concentration must be below 25% of the lower explosion threshold). Released vapors must be expelled at the installation site by the customer. The safety regulations for coating material processes must be observed.

Non-observance of the safety regulations or improper operation of the IR twin-tube emitter can lead to injuries and material damage.

The safety and function are guaranteed only if original parts and replacement parts from HERAEUS Noblelight are used.

Disregard of the safety regulations or improper operation of the IR twin-tube emitter can lead to injuries and material damage.

**The technical specifications of the IR twin-tube emitter are listed in our order confirmation.**

## 2. Area of application

The IR twin-tube emitter may be used only for industrial heating and drying processes.

The IR twin-tube emitter must be operated with a supply voltage no higher than its nominal voltage.

Depending on the installation conditions (particularly with a heat build-up and downward vertical radiation), the IR twin-tube IR emitter must be cooled so that:

- the temperature at the flat emitter base (sealed end) does not exceed 250°C.
- when using the IR twin-tube emitter continuously, a temperature of 600°C on the gold reflector surface should not be exceeded.
- the insulated lead wire has a maximum permissible operating temperature of 230°C and a standard length of 500 mm.

The maximum permissible operating temperature, after taking into account the heat losses of the electrical current and any possible heat dissipation (layout type, installation conditions) must not be exceeded.

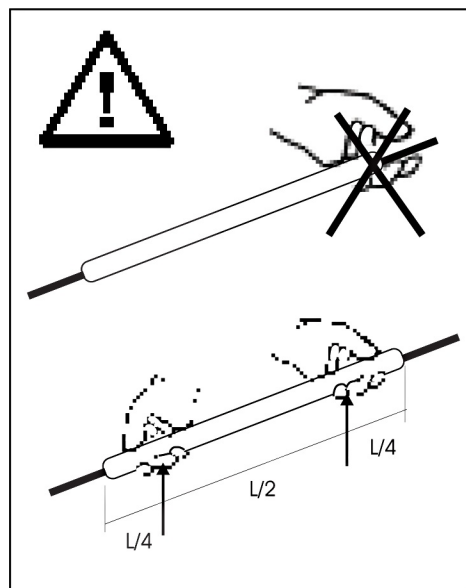
From previous experience, we know that the permissible operating temperature for an individual lead will be reached at an ambient temperature of 150 °C in the absence of any air flow.

## 3. Installation and assembly

Transport the IR twin-tube emitter in the packaging provided to the place of installation. If the IR twin-tube emitter must be transported without its packaging, wear linen gloves.

**Fingerprints on the quartz tube will cause devitrification. These lead to radiation losses and mechanical failure.**

- Carry the emitter with both hands to prevent it from breaking.
- Do not grip the IR twin-tube emitter on just one side nor carry it by its lead wires.



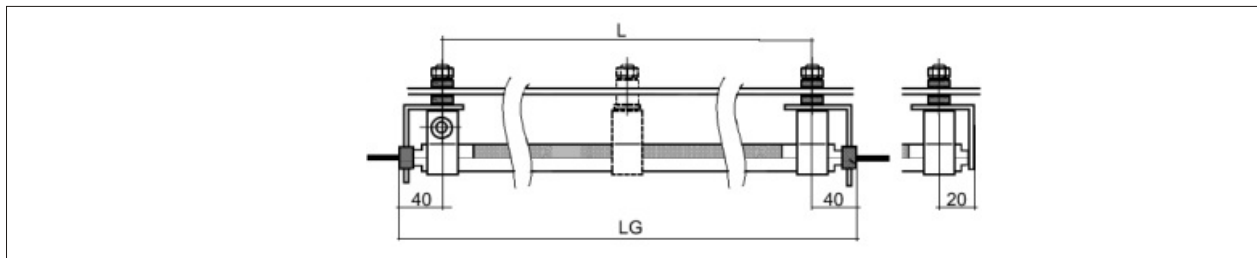
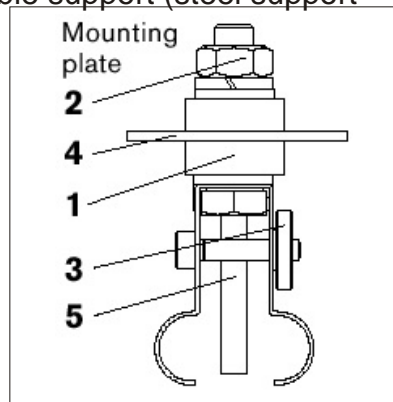
## 4. Assembly

The infrared twin-tube emitter is manufactured for **horizontal** operation only. Special IR emitters for vertical installation positions are **specially** manufactured and marked as such.

To install our IR emitters, usually **one** mounting clamp and **one** spring clamp, and if necessary, **one** or **several** central supports all manufactured by HNI are to be used. The IR twin-tube emitter must be secured in position of a stable support (steel support plate:  $\geq 1.5$  mm).

The Mediumwave IR emitter(s) must be assembled in the following order:

- Drill mounting holes with  $\varnothing 9.2$  mm for clamp spring in the support (mounting plate) at distance L.
- Screw the clamp spring in place with ceramic washers (1) on the mounting plate (4).
- Press the IR emitter into position in the retaining spring clip. The emitter must point at all the surface to be heated. The gold reflector should be pointing towards the support plate.
- End support (5) must be installed and mounted securely against the ceramic and cap.
- Tighten the fastening nuts (2) and the knurled nut (3).
- Pulling must not cause any tension on the quartz. Bending radius of connection cable:  $>30$  mm ( $\sim 1.25''$ ).



Mounting dimensions:

L = Overall length of emitter LG: 2x40 mm (two-sided connection) or

L = Overall length of emitter LG: 40 mm -20 mm (one-sided connection)



If the following overall emitter lengths are exceeded for LG, a **central support** (second clamp spring) is necessary:

Tube dimensions: 18 x 8, LG  $>1000$  mm,

tube dimensions :22 x 10, LG  $>1500$  mm and

tube dimensions: 33x15, LG  $>2000$  mm

After installation, the quartz glass tube of the IR emitter must be cleaned on the side without gold plating. For this purpose, please use the cleaning cloth included in our delivery or a clean linen cloth (without textile finishing agents) soaked in methylated spirit (such as rubbing alcohol) to remove any impurities/soiling or fingerprints from the surface.



**The gold-plated side should not be cleaned.**

## **5. Electrical connection and maintenance**

The electrical connection of the IR twin-tube emitter must be carried out by authorized skilled personnel in compliance with the relevant safety regulations.

Install the lead wires of the IR twin-tube emitter to the junction box without bunching, twisting or sharp bends. Cut them to the required length if possible. Fit a cable sleeve to the bare connection end of the cable.

Due to its design, the IR twin-tube emitter has a certain output tolerance range.

This is why after the installation of one or several emitters into a system, its/their overall power consumption must be checked to ensure compliance with the specifications.

## **6. Maintenance**

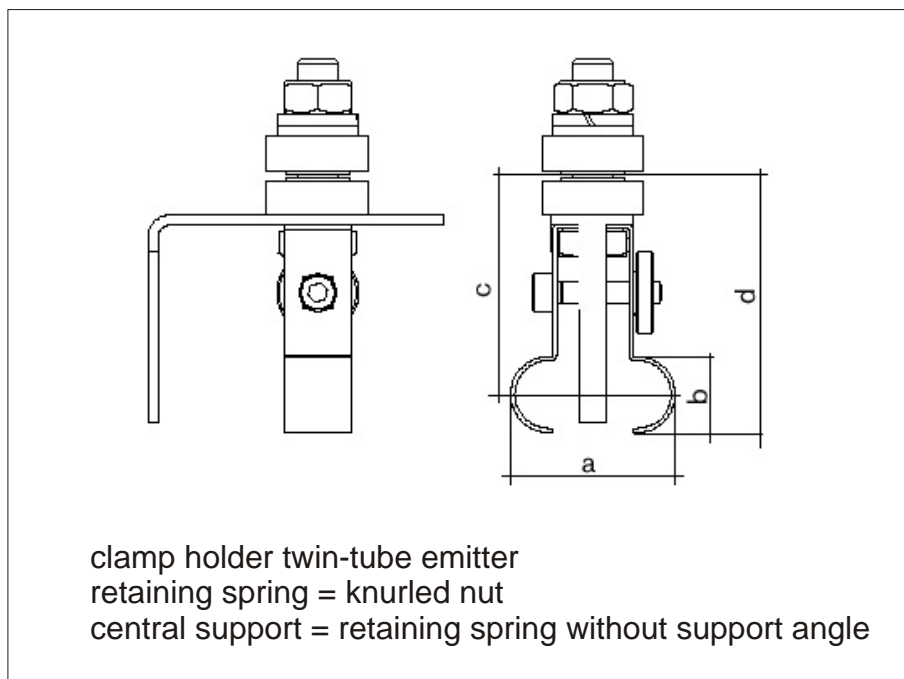
The IR twin-tube emitter is maintenance-free. We recommend, however, that you check the function and cleanliness of the IR emitter regularly (especially the quartz glass). Soiled quartz glass should be cleaned as described in the section above entitled **4. Assembly**. Proper function of the emitter is only ensured if the quartz glass remains clean.

Defective IR twin-tube emitters should be replaced.

If you have any questions, contact Heraeus Noblelight.

## 7. Accessories

Designation	Part number	Tubing format in mm	Dimensions in mm				Mounting bolt
			a	b	c	d	
Clamp holder Retaining spring Central support	0975 8010 0975 8011 0975 8012	18x8	18	8	32.2 32.2 30.7	36.2 36.2 34.7	M5
Clamp holder Retaining spring Central support	0975 8013 0975 8014 0975 8015	22x10	22	10	32.2 32.2 30.7	37.2 37.2 35.7	M5
Clamp holder Retaining spring Central support	0975 8016 0975 8017 0975 8018	33x15	34	15	37.2 37.2 35.7	44.7 44.7 43.2	M6





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