



# MERCURY LAMPS

[www.heraeus-noblelight.com](http://www.heraeus-noblelight.com)

# Heraeus

## MERCURY LAMPS FOR ANALYTICAL EQUIPMENT

Absorption measurements and fluorimetric measurements require single monochromatic lines with high radiation density. Mercury low pressure lamps emit a single monochromatic line at 253.7 nm which is well reproducible and stable.

### **Heraeus NK Lamps are Stabilised**

Heraeus lamps of the NK-Series are low-pressure mercury lamps. They are stabilised by the geometric form of the discharge tube and by a cover bulb which reduces influences of ambient fluctuations.

### **Applications**

NK lamps are used in photometers, polarimeters, fluorimeters, refractometers and densitometers as well as in mercury gas detection equipment. Additionally they are used for wavelength calibration of optical measuring instruments and for disinfection.

### **No Ozone Production**

NK lamps are equipped with a quartz material that absorbs the 185 nm line produced in the low-pressure gas discharge. Therefore the NK lamps do not produce any ozone.

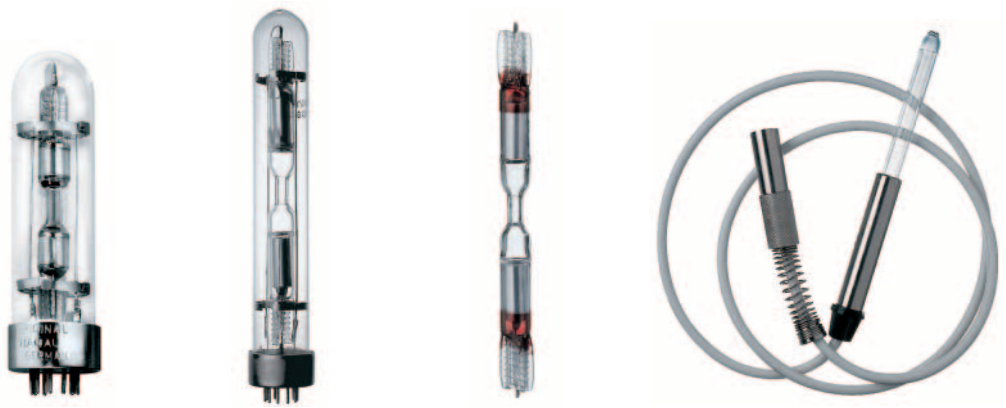
### **The 185 nm Line**

On request, the lamp bulb can be manufactured of synthetic quartz glass (SUPRASIL) allowing the emission of the mercury line at 185 nm and production of ozone from the ambient oxygen. These NK lamps are applied for disinfection, ionisation and for the production of ultrapure water by decomposition of organic compounds.

### **Lifetime**

The guaranteed operating life for all lamp types is 2000 hours with a reduction of the output of maximal 50%. A normal useful operating life can be between 4000 and 6000 hours. The lamp should be operated at ambient temperatures.

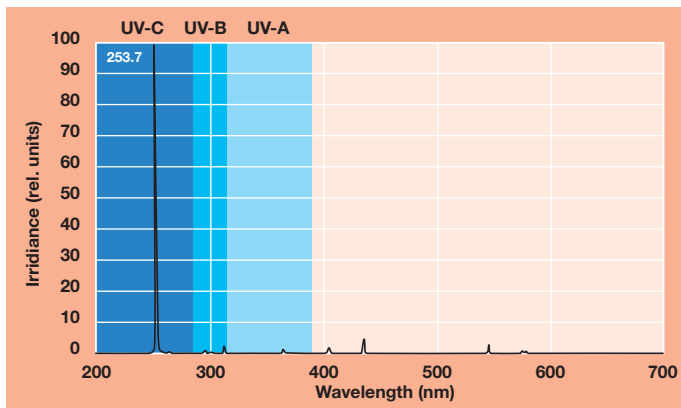
**Heraeus Noblelight GmbH**



### Technical Data

Lamp type		NK 2/1	NK 4/1	NK 4/4	NK 6/12
Part No.		56001012	56001013	56001636	56001781
Total length	[mm]	85	140	116	125
Outer bulb Ø	[mm]	21.3	21.3	without	without
Discharge tube outer Ø	[mm]	5	5	5	8.5
Arc length	[mm]	10	10	10	65
Base		Noval EF 80	Noval EF 80	without	metal tube Ø 12 x 60 mm
Lead length	[mm]	without lead	without lead	200	800 with connecting plug
Supply voltage	[V]	900= or 600~	900= or 1000~	900= or 1000~	1000~
Wattage	[W]	2	3.5	3.5	6
Lamp voltage	[V]	220	220	220	300
Lamp current	[A]	0.015	0.02	0.02	0.025
Factor for calculating the radiation flux*	[mW]	2	5	5	8
Radiation flux at 253.7 nm	[mW]	200	500	500	800
Radiance at 253.7 nm	[mW cm <sup>-2</sup> sr <sup>-1</sup> ]	6.5	15	15	15

\*example: factor x intensity (table below) 2 x 100 = 200 mW

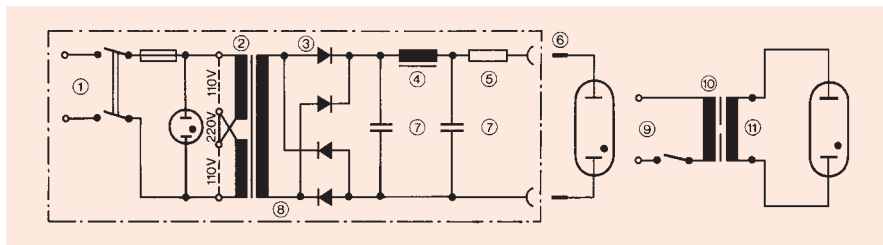


Spectral distribution  
NK 2/1

Relative intensity (%),  
for all NK-Lamp types

Wavelength (nm)	Intensity
248	0.1
253.7	100.0
265	0.1
276	0.1
280	0.1
289	0.9
297	0.6
302	0.4
313	2.8
334	0.1
366	2.2
405/408	1.6
436	1.1
546	1.6
577/579	0.5

### Electronic circuit for the NK lamp



1 Mains = 220 Vac – 2 Transformer – 3 Diode 1N 4007 – 4 Choke ND 30, 15 Hy 30 mA/1000 Ω –  
5 R = 25 kΩ/26 W for NK 4/1 – 6 U = 900 Vac – 7 C = 1µF/3kV – 8 U = 650 Vac –  
9 Mains = 220 Vac – 10 Scatterfield transformer – 11 U ac – according to the lamp

### Safety Warning:

UV radiation causes damage to skin and eyes.  
Wear protective glasses, gloves and clothing.

Products as supplied may differ from the illustrations and descriptions in this brochure. Printed in Germany · HNG - B 147 E · D 2C 0704/M+T

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