

Pen-Ray® Light Sources

Pen-Ray® Mercury Lamps

Description

Pen-Ray® Lamps are manufactured from the highest grade of quartz material.

Applications

- Sterilization
- Fluorescent Inspection
- Photochemical Reaction
- Interferometry
- Chromatography
- Photometric and Fluorometric Instruments
- Spectroscopic Wavelength Calibration
- Monochromatic Sources for Optical Systems and Reference Studies

Main Features

Some of the most popular models are described below with part numbers and further specifications detailed in the table. Custom modifications of these products are available - options include quartz type and size.

11SC-1 One of the most popular Pen-Ray Lamps

Part No.: 110.6500 (90-0012-01)

Its simplicity of physical dimensions lends itself to a multitude of applications. Lamp's lighted length is 2.12" (53.8 mm), overall length is 4.62" (117.3 mm). Lamp emits Mercury spectrum with the primary energy at 254 nm. The nominal voltages are 800 V (starting) and 270 V (operating).

Recommended power supply:

110.6520 (99-0055-02)

11SC-1L The longwave version of the 11SC-1

Part No.: 110.6501 (90-0019-01)

All properties are identical except the quartz tube is sheathed with a blue filter to absorb visible light, increasing the lighted length to 2.25" (57.2 mm) and broadening the outside diameter to 0.375" (9.5 mm). The principal emission is a 365 nm (longwave) by converting the power from 254 nm.

Recommended power supply:

110.6520 (99-0055-02)

11SC-2 A shorter lighted length version of the 11SC-1 for restricted access. (0.75", 19.1 mm)

Part No.: 110.6502 (90-0020-01)

All other properties are identical. Nominal voltages are 800 V (starting) and 270 V (operating).

Recommended power supply:

110.6520 (99-0055-02)

3SC-9: Part No.: 90-0004-01

One of the most popular large Pen-Ray Lamp modles with a lighted length of 228.6 mm (9.0") and outside diameter of 9.5 mm (0.375").

Lamp is used frequently for photoreactions and ozone production.

It emit the Mercury spectrum with primary energy at 254nm. Nominal voltages are 640 V (starting) and 560 V (operating).

Recommended power supply: 110.6522 (99-0004.02)



Different Mercury Lamps



Lamp shields and filters specifically for PenRay Lamps



Pen-Ray® Mercury Lamps



Specifications

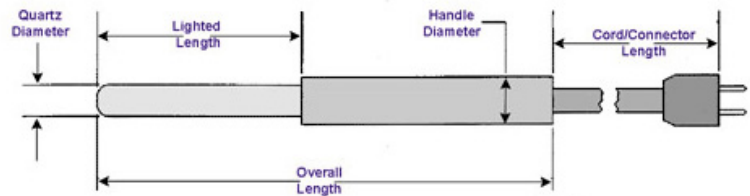
The following tables illustrate the nominal intensities of the standard Pen-Ray Mercury Lamps when current feed into the lamp is a variable. It also includes the typical temperature generated by the lamp at these current. The output is measured at a distance of 0.75" (19.1mm). Emission intensities follow the inverse square law.

All measurements were obtained with a UVX Radiometer for optimum accuracy. There are several other factors that can determine the intensity of a Pen-Ray Lamp besides the current feed. Reflectors and proprietary factors inside of the lamp can contribute to modifications of output intensities.

Typical Intensities of Pen-Ray Lamps

Lamp Current	Typical Intensity 254nm @ 0.75" (Microwatt/cm2)	Typical Intensity 365nm @ 0.75" (Microwatt/cm2)	Lamp Operating Voltage	Lamp Body Temperature (degrees C)
Model 11SC-1 / Part No.: 110.6500 (90-0012-01)				
5 mA AC	2000	65	375	55
10 mA AC	3600	105	330	80
15 mA AC	4400	145	300	100
25 mA AC	4750	215	260	145
35 mA AC	4100	330	230	185
Model 11SC-1L / Part No.: 110.6501 (90-0019-01)				
20 mA AC		1213	280	120
25 mA AC		1280	260	145
30 mA AC		1298		
35 mA AC		1255	230	185
Model 11SC-2 / Part No.: 110.6502 (90-0020-01)				
5 mA AC	1150	30	240	60
10 mA AC	1850	50	215	85
15 mA AC	1900	70	200	105
25 mA AC	1700	130	185	155
35 mA AC	1500	210	190	200
Model 3SC-9 / Part No.: 90-0004-01				
5 mA AC	800	50	590	30
15 mA AC	3300	130	600	39
25 mA AC	5400	200	570	48
35 mA AC	6700	250	530	54
50 mA AC	6900	300	480	64

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Part Number	Lighted Length	Total Length	Quartz Diameter	Handle Diameter	Primary Output	Cord Length/ Connector
on request (90-0001-04)	0.88" (22 mm)	3.13" (79.5 mm)	0.375" (9.5 mm)	0.44" (11 mm)	302nm	3" (76 mm) Std conn.
110.6566 (90-0001-05)	2.25" (57 mm)	4.5" (114 mm)	0.375" (9.5 mm)	0.44" (11 mm)	254nm	16" (406 mm) Std conn.
110.6568 (90-0002-01)	0.75" (19 mm)	3.25" (83 mm)	0.256" (6.5 mm)	0.375" (9.5 mm)	254nm	5" (127 mm) / Stripped
110.6519 (90-0003-01)	2.12" (54 mm)	4.62" (117 mm)	0.256" (6.5 mm)	0.44" (11 mm)	254nm	16" (406 mm) / Std conn.
110.6503 (90-0004-01)	9.0" (229 mm)	11.6" (295 mm)	0.375" (9.5 mm)	0.50" (13 mm)	254nm	16" (406 mm) / Std conn.
110.6504 (90-0004-07)	6.0" (152 mm)	8.62" (219 mm)	0.375" (9.5 mm)	0.50" (13 mm)	254nm	16" (406 mm) / Std conn.
110.6505 (90-0004-10)	9.0" (229 mm)	11.6" (295 mm)	0.375" (9.5 mm)	0.50" (13 mm)	254nm	42" (1067 mm) / Stripped
110.6508 (90-0004-11)	6.0" (152 mm)	8.62" (219 mm)	0.375" (9.5 mm)	0.50" (13 mm)	254nm	16" (406 mm) / Stripped
110.6500 (90-0012-01)	2.12" (54 mm)	4.62" (117 mm)	0.256" (6.5 mm)	0.375" (9.5 mm)	254nm	16" (406 mm) / Std. conn.
110.6501 (90-0019-01)	2.25" (57 mm)	4.75" (12 mm)	0.375" (9.5 mm)	0.375" (9.5 mm)	365nm	16" (406 mm) / Std. conn.
110.6518 (90-0019-04)	2.12" (54 mm)	4.62" (117 mm)	0.375" (9.5 mm)	0.375" (9.5 mm)	365nm	16" (406 mm) / Std. conn.
110.6502 (90-0020-01)	0.75" (19 mm)	3.25" (83 mm)	0.256" (6.5 mm)	0.375" (9.5 mm)	254nm	16" (406 mm) / Std. conn.
110.6600 (90-0033-01)	0.94" (24 mm)	2.84" (72 mm)	0.256" (6.5 mm)	0.375" (9.5 mm)	254nm	6" (152 mm) / Stripped
on request (90-0037-01)	1.50" (38 mm)	Lamp Shield C	Lamp Shield C	0.375" (9.5 mm)	254nm	16" (406 mm) / Std. conn.
on request (90-0041-02)	2.12" (54 mm)	4.62" (117 mm)	0.256" (6.5 mm)	0.375" (9.5 mm)	254nm	5.5" (140 mm) / Special
on request (90-0059-01)	0.75" (19 mm)	3.25" (83 mm)	0.256" (6.5 mm)	0.256" (6.5 mm)	254nm	12" (306 mm) / Stripped
on request (90-0077-01)	1.14" (29 mm)	3.50" (89 mm)	0.375" (9.5 mm)	0.50" (13 mm)	365nm	6" (152 mm) / 6 pin conn.
110.6606 (90-0077-03)	0.95" (24 mm)	3.50" (89 mm)	0.375" (9.5 mm)	0.50" (13 mm)	365nm	12" (305 mm) / 6 pin conn.
on request (90-0079-01)	1.0" (25 mm)	2.90" (74 mm)	0.375" (9.5 mm)	0.44" (11 mm)	365nm	26.5" (673 mm) / Stripped
110.6608 (90-0084-01)	1.0" (25 mm)	3.22" (82 mm)	0.256" (6.5 mm)	0.375" (9.5 mm)	254nm	14" (356 mm) / Std. conn