

Pen-Ray Mercury Lamps

Description

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

Applications

- 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 53.8 mm, overall length is 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 57.2 mm and broadening the outside diameter to 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)



Different Mercury Lamps

11SC-2 A shorter lighted length version of the 11SC-1 for restricted access. (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: One of the most popular large Pen-Ray Lamp modles with a lighted length of 228.6 mm and outside diameter of 9.5 mm.

Part No.: 110.6503 (90-0004-01)

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)

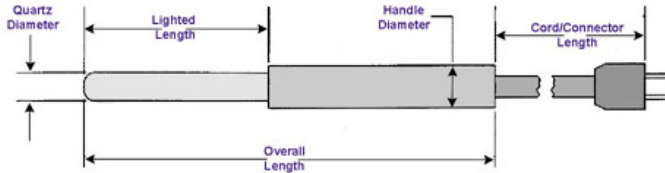
Pen-Ray Mercury Lamps - Intensities

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.

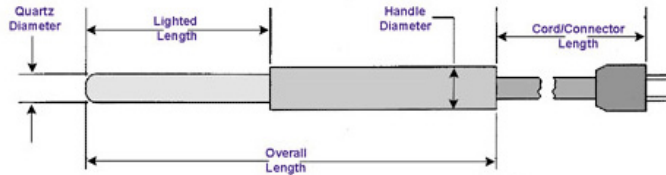
Lamp Current	Typical Intensity 254nm @ 19 mm (Microwatt/cm ²)	Typical Intensity 365nm @ 19 mm (Microwatt/cm ²)	Lamp Operating Voltage	Lamp Body Temperature (degrees C)
Model 11SC-1 / Part No.: 110.6500 (90-0012-01)				
5 mA AC	2000	65	375	55
10 mA AC	3600	105	330	80
15 mA AC	4400	145	300	100
25 mA AC	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.: 110.6503 (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

Pen-Ray Mercury Lamps - Models



Part Number	Lighted Length	Total Length	Quartz Diameter	Handle Diameter	Wave-length	Cord Length/ Connector	Recommended Power Supply
(90-0001-04)	22 mm	79.5 mm	9 mm	11 mm	302 nm	76 mm Standard connect.	PS-1 (230 V) 110.6520
110.6566 (90-0001-05)	57 mm	114 mm	9 mm	11 mm	254 nm	406 mm Standard connect.	PS-1 (230 V) 110.6520
110.6568 (90-0002-01)	19 mm	83 mm	6.5 mm	9.5 mm	254 nm	127 mm Stripped	On request
110.6519 (90-0003-01)	54 mm	117 mm	6.5 mm	9.5 mm	254 nm	406 mm Standard connect.	PS-1 (230 V) 110.6520
110.6503 (90-0004-01)	229 mm	295 mm	9.5 mm	13 mm	254 nm	406 mm Standard connect.	PS-4 (230 V) 110.6522
(90-0004-03)	203 mm	270 mm	9.5 mm	13 mm	254 nm	406.4 mm Standard connect.	PS-4 (230 V) 110.6522
(90-0004-04)	51 mm	117 mm	9.5 mm	13 mm	254 nm	406.4 mm Standard connect.	PS-1 (230 V) 110.6520
110.6504 (90-0004-07)	152 mm	219 mm	9.5 mm	13 mm	254 nm	406 mm Standard connect.	PS-4 (230 V) 110.6522
110.6505 (90-0004-10)	229 mm	295 mm	9.5 mm	13 mm	254 nm	1067 mm Stripped	PS-4 (230 V) 110.6522
110.6508 (90-0004-11)	152 mm	219 mm	9.5 mm	13 mm	254 nm	406 mm Stripped	PS-4 (230 V) 110.6522
110.6500 (90-0012-01)	54 mm	117 mm	6.5 mm	9.5 mm	254 nm	406 mm Standard connect.	PS-1 (230 V) 110.6520
110.6501 (90-0019-01)	57 mm	117 mm	6.5 mm	9.5 mm	351 nm/ 365 nm	406 mm Standard connect.	PS-1 (230 V) 110.6520
110.6518 (90-0019-04)	57 mm	117 mm	6.5 mm	9.5 mm	351 nm/ 365 nm	406 mm Standard connect.	PS-1 (230 V) 110.6520
(90-0019-06)	92 mm	155 mm	6.5 mm	9.5 mm	351 nm/ 365 nm	406 mm Standard connect.	PS-1 (230 V) 110.6520
110.6502 (90-0020-01)	19 mm	83 mm	6.5 mm	9.5 mm	254 nm	406 mm Standard connect.	PS-1 (230 V) 110.6520
110.6600 (90-0033-01)	24 mm	72 mm	9 mm	11 mm	254 nm	152 mm Stripped	PS-1 (230 V) 110.6520
(90-0033-02)	24 mm	72 mm	9 mm	11 mm	254 nm	508 mm Stripped	PS-1 (230 V) 110.6520
(90-0033-03)	24 mm	76 mm	9 mm	11 mm	254 nm	254 mm Stripped	PS-1 (230 V) 110.6520

Pen-Ray Mercury Lamps - Models



Part number	Lighted Length	Total Length	∅ Quartz	∅ Handle	Wave-length	Cord Length/ Connector	Recommended Power Supply
(90-0037-01)	54 mm	124 mm	6.5 mm	13 mm	254 nm	305 mm Standard connect.	PS-1 (230 V) 110.6520
(90-0041-02)	54 mm	117 mm	6.5 mm	9.5 mm	254 nm	140 mm Special	PS-1 (230 V) 110.6520
(90-0059-01)	19 mm	83 mm	6.5 mm	9.5 mm	254 nm	406 mm Stripped	PS-1 (230 V) 110.6520
(90-0075-03)	100 mm	164 mm	6.5 mm	9.5 mm	254 nm	406 mm Standard connect.	PS-1 (230 V) 110.6520
110.6606 (90-0077-03)	24 mm	90 mm	9 mm	13 mm	365 nm	304 mm 6 pin connect.	PS-1 (230 V) 110.6520
(90-0079-01)	25 mm	74 mm	9 mm	11 mm	365 nm	673 mm Stripped	PS-1 (230 V) 110.6520
110.6608 (90-0084-01)	25 mm	82 mm	6.5 mm	9.5 mm	254 nm	356 mm Standard connect.	PS-1 (230 V) 110.6520
(90-0084-04)	25 mm	82 mm	6.5 mm	11 mm	254 nm	356 mm Stripped	PS-1 (230 V) 110.6520
(90-0086-03)	44 mm	108 mm	6.5 mm	9.5 mm	254 nm	152 mm Stripped	PS-1 (230 V) 110.6520