

Jelight Company, Inc.

<http://www.jelight.com>

LOW PRESSURE MERCURY VAPOR LAMPS



Double-Bore[®] Lamps

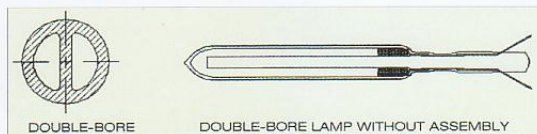


DOUBLE-BORE® LAMPS

WHAT IS DOUBLE BORE?

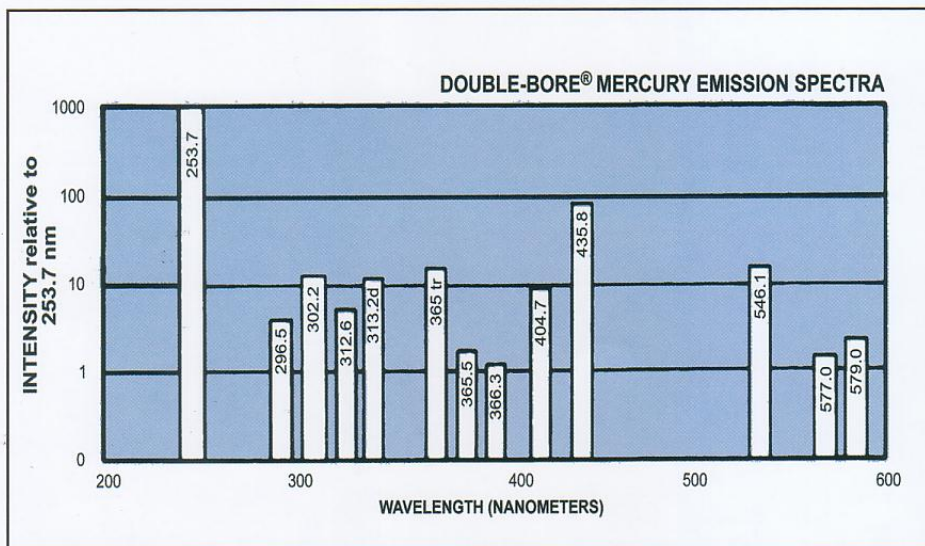
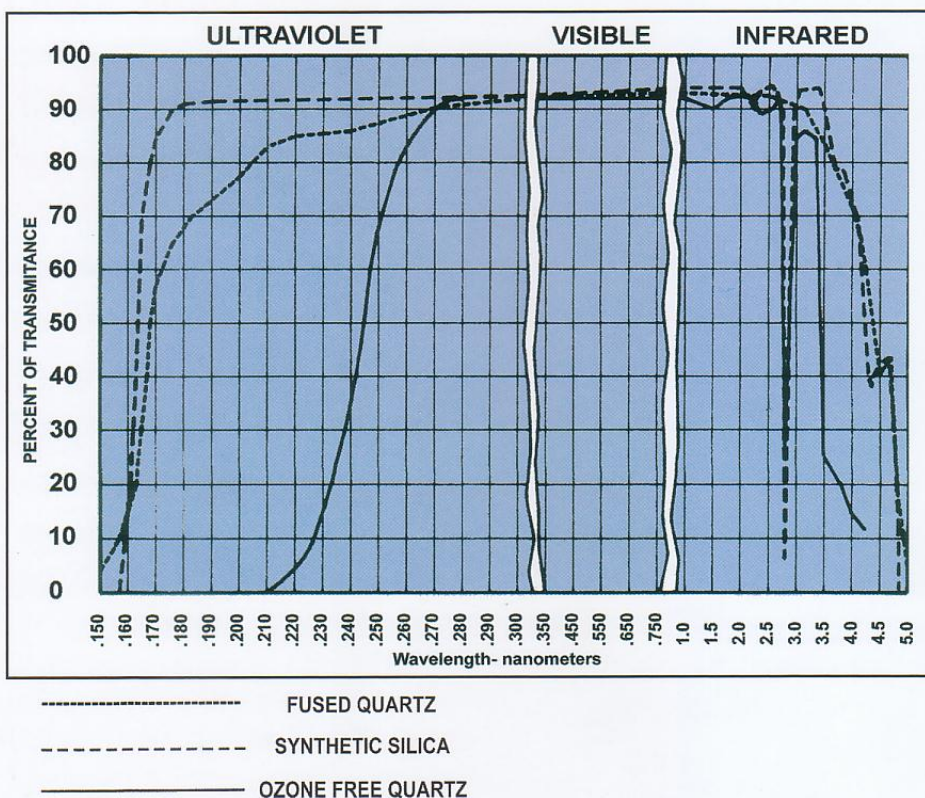
The name "double-bore" comes from the special quartz used to make the ultra violet lamps. This glass consists of quartz tubing with a quartz partition or septum through the center. (see drawing). This allows the plasma to ignite at one electrode, travel around the septum, and back down to meet the other electrode creating an arc of U.V. energy.

Double-Bore® lamps are low pressure, cold cathode, mercury vapor lamps which are manufactured from either fused quartz (ozone producing) or ozone free quartz (ozone free quartz lamps can replace Vycor® filter lamps for most applications).



WHAT ARE SOME FEATURES OF DOUBLE-BORE® LAMPS?

- The specialized design of the Double-Bore® lamp eliminates dangling lead wires because of their location at only one end of the lamp. This feature is ideal for such applications as dipping into liquid or inserting the lamp into small apertures.
- The Double-Bore® lamps are free from contaminants which are harmful to the operation of the lamp. Jelight Company takes extra, unique steps in the manufacturing process to ensure that each lamp is contamination free. This process improves the quality, stability, uniformity and lifetime of the Double-Bore lamps.
- The Double-Bore® lamps have strong isolated spectral lines that are well separated from the others.
- When operated properly, the Double-Bore® lamps are extremely stable. This is important for accurate calibration and instrumentation applications where the lamp stability is vital.
- All of the Double-Bore® lamps can be filled with a variety of rare gases such as argon, krypton, neon, xenon, and helium.
- In comparison to other U.V. light sources, the Double-Bore® lamps are very cool burning. The temperature rarely exceeds 100° C. This is important where the components or substances must not be heated by the light source used.
- The Double-Bore® lamps have a long life. They are guaranteed to last 5,000 hours, although they have been operated for as many as 30,000 continuous hours.



*Vycor is a registered trademark of Corning Glass.

DOUBLE-BORE® MERCURY LAMPS

DATA SHEET

OZONE PRODUCING DOUBLE-BORE® LAMPS (SYNTHETIC SILICA)													
PART NO.	FIG.	A	B	C	D	E	F	INTENSITY mW/cm ²	STARTING VOLTAGE	OPERATING VOLTAGE	POWER SUPPLY RECOMENDATION		
											120V 60Hz	220V 50Hz	12 VDC
95-2100-1	1	6.5mm ± .6mm	1 in 2.54 cm	.375 in .95cm	2 in 5.08 cm	17 in ± 1 in	.125 in .32cm	3.5	800	220	PS-2000-20	PS-2013-20	DC-1260-20
953-2100-1	2	6.5mm ± .6mm	1 in 2.54 cm	.375 in .95cm	2 in 5.08 cm	8 in ± .5 in		3.5	800	220	PS-2001-20	PS-2005-20	DC-1260-20
95-2100-2	1	6.5mm ± .6mm	2.125 in 5.4cm	.375 in .95cm	2 in 5.08 cm	17 in ± 1 in	.125 in .32cm	6.0	800	270	PS-2000-20	PS-2013-20	DC-1260-20
953-2100-2	2	6.5mm ± .6mm	2.125 in 5.4 cm	.375 in .95cm	2 in 5.08 cm	8 in ± .5 in		6.0	800	270	PS-2001-20	PS-2005-20	DC-1260-20
96-2100-1	1	9 mm ± .9mm	1 in 2.54 cm	.5 in 1.27cm	2.5 in 6.35 cm	17 in ± 1 in	.125 in .32cm	4.5	800	220	PS-3000-30	PS-3004-30	DJ24-8000-30
963-2100-1	2	9mm ± .9mm	1 in 2.54 cm	.5 in 1.27cm	2.5 in 6.35 cm	8 in ± .5 in		4.5	800	220	PS-3001-30	PS-3005-30	DJ24-8000-30
96-2100-2	1	9 mm ± .9mm	2.125 in 5.4 cm	.5 in 1.27cm	2.5 in 6.35 cm	17 in ± 1 in	.125 in .32cm	9.0	800	270	PS-3000-30	PS-3004-30	DJ24-8000-30
963-2100-2	2	9 mm ± .9mm	2.125 in 5.4 cm	.5 in 1.27cm	2.5 in 6.35cm	8in ± .5 in		9.0	800	270	PS-3001-30	PS-3005-30	DJ24-8000-30
OZONE PRODUCING DOUBLE-BORE® LAMPS													
78-2046-1	1	6.5 mm ± .6mm	1 in 2.54 cm	.375 in .95 cm	2 in 5.08 cm	17 in ± 1 in	.125 in .32cm	3.5	800	220	PS-2000-20	PS-2013-20	DC-1260-20
783-2046-1	2	6.5 mm ± .6 mm	1 in 2.54 cm	.375 in .95cm	2 in 5.08 cm	8in ± .5		3.5	800	220	PS-2001-20	PS-2005-20	DC-1260-20
78-2046-2	1	6.5 mm ± .6 mm	2.125 in 5.4 cm	.375 in .95cm	2 in 5.08 cm	17 in ± 1 in	.125 in .32cm	6.0	800	270	PS-2000-20	PS-2013-20	DC-1260-20
783-2046-2	2	6.5 mm ± .6 mm	2.125 in 5.4 cm	.375 in .95cm	2 in 5.08 cm	8 in ± .5 in		6.0	800	270	PS-2001-20	PS-2005-20	DC-1260-20
80-2049-1	1	9 mm ± .9 mm	1 in 2.54 cm	.5 in 1.27cm	2.5 in 6.35 cm	17 in ± 1 in	.125 in .32cm	4.5	800	220	PS-3000-30	PS-3004-30	DJ24-8000-30
803-2049-1	2	9 mm ± .9 mm	1 in 2.54 cm	.5 in 1.27cm	2.5 in 6.35 cm	8in ± .5 in		4.5	800	220	PS-3001-30	PS-3005-30	DJ24-8000-30
80-2049-2	1	9 mm ± .9 mm	2.125 in 5.4 cm	.5 in 1.27cm	2.5 in 6.35 cm	17 in ± 1 in	.125 in .32cm	9.0	800	270	PS-3000-30	PS-3004-30	DJ24-8000-30
803-2049-2	2	9 mm ± .9 mm	2.125 in 5.4 cm	.5 in 1.27cm	2.5 in 6.35 cm	8 in ± .5 in		9.0	800	270	PS-3001-30	PS-3005-30	DJ24-8000-30
VYCOR FILTER DOUBLE-BORE® LAMPS													
79-7910-1	1	9 mm ± .1 mm	1 in 2.54 cm	.4375 in 1.11 cm	2 in 5.08 cm	17 in ± 1 in	.125 in .32cm	3.5	800	220	PS-2000-20	PS-2013-20	DC-1260-20
793-7910-1	2	9 mm ± .1 mm	1 in 2.54 cm	.4375 in 1.11 cm	2 in 5.08 cm	8 in ± .5 in		3.5	800	220	PS-2001-20	PS-2005-20	DC-1260-20
79-7910-2	1	9 mm ± .1 mm	2.125 in 5.4 cm	.4375 in 1.11 cm	2 in 5.08 cm	17 in ± 1 in	.125 in .32cm	6.0	800	270	PS-2000-20	PS-2013-20	DC-1260-20
793-7910-2	2	9 mm ± .1 mm	2.125 in 5.4 cm	.4375 in 1.11 cm	2 in 5.08 cm	8 in ± .5 in		6.0	800	270	PS-2001-20	PS-2005-20	DC-1260-20
OZONE FREE DOUBLE-BORE® LAMPS													
81-3306-1	1	6.5 mm ± .6 mm	1 in 2.54 cm	.375 in .95 cm	2 in 5.08 cm	17 in ± 1 in	.125 in .32cm	3.5	800	220	PS-2000-20	PS-2013-20	DC-1260-20
813-3306-1	2	6.5 mm ± .6 mm	1 in 2.54 cm	.375 in .95 cm	2 in 5.08 cm	8 in ± .5 in		3.5	800	220	PS-2001-20	PS-2005-20	DC-1260-20
81-3306-2	1	6.5 mm ± .6 mm	2.125 in 5.4 cm	.375 in .95 cm	2 in 5.08 cm	17 in ± 1 in	.125 in .32cm	6.0	800	270	PS-2000-20	PS-2013-20	DC-1260-20
813-3306-2	2	6.5 mm ± .6 mm	2.125 in 5.4 cm	.375 in .95 cm	2 in 5.08 cm	8 in ± .5 in		6.0	800	270	PS-2001-20	PS-2005-20	DC-1260-20
83-3309-1	1	9 mm max.	1 in 2.54 cm	.4375 in 1.11 cm	2.5 in 6.35 cm	17 in ± 1 in	.125 in .32cm	4.5	800	220	PS-3000-30	PS-3004-30	DJ24-8000-30
833-3309-1	2	9mm max.	1 in 2.54 cm	.4375 in 1.11 cm	2.5 in 6.35 cm	8 in ± .5 in		4.5	800	220	PS-3001-30	PS-3005-30	DJ24-8000-30
83-3309-1	1	9 mm max.	1 in 2.54 cm	.4375 in 1.11 cm	2.5 in 6.35 cm	17 in ± 1 in	.125 in .32cm	9.0	800	270	PS-3000-30	PS-3004-30	DJ24-8000-30
833-3309-2	2	9 mm max.	2.125 in 5.4 cm	.4375 in 1.11 cm	2.5 in 6.35 cm	8 in ± .5 in		9.0	800	270	PS-3001-30	PS-3005-30	DJ24-8000-30
82-3309-1	1	9mm ± .9 mm	1 in 2.54 cm	.5 in 1.27cm	2.5 in 6.35 cm	17 in ± 1 in	.125 in .32cm	4.5	800	220	PS-3000-30	PS-3004-30	DJ24-8000-30
823-3309-1	2	9 mm ± .9 mm	1 in 2.54 cm	.5 in 1.27cm	2.5 in 6.35 cm	8 in ± .5 in		4.5	800	220	PS-3001-30	PS-3005-30	DJ24-8000-30
82-3309-2	1	9 mm ± .9 mm	2.125 in 5.4 cm	.5 in 1.27 cm	2.5 in 6.35 cm	17 in ± 1 in	.125 in .32cm	9.0	800	270	PS-3000-30	PS-3004-30	DJ24-8000-30
823-3309-2	2	9 mm ± .9 mm	2.125 in 5.4 cm	.5 in 1.27 cm	2.5 in 6.35 cm	8 in ± .5 in		9.0	800	270	PS-3001-30	PS-3005-30	DJ24-8000-30

Also available: Lighted lengths up to 48 inches, customized handle dimensions, customized cable length, and the variety of connectors.

*Vycor is a registered trademark of Corning Glass.

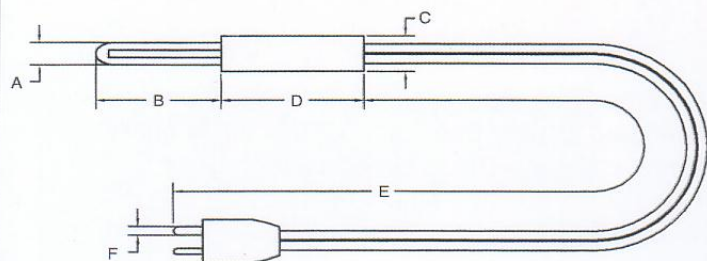
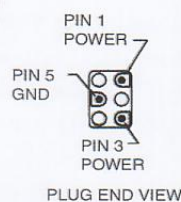


FIGURE 1



PLUG END VIEW

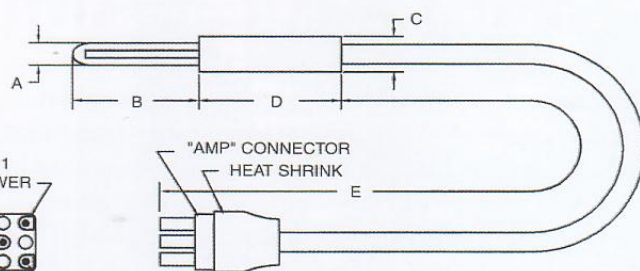


FIGURE 2

INERT GAS DOUBLE-BORE® LAMPS (CALIBRATION LAMPS)

PART NO.	FIG.	A	B	C	D	E	F	INTENSITY mW/cm ²	STARTING VOLTAGE	OPERATING VOLTAGE	POWER SUPPLY RECOMMENDATION		
											120V 60Hz	220V 50Hz	12 VDC
78-ARGON-1	1	6.5mm ± .6mm	1 in 2.54 cm	.375 in .95 cm	2 in 5.08 cm	17 in ± 1 in	.125in .32cm	3.5	800	220	PS-2000-20	PS-2013-20	DC-1260-20
78-ARGON-2	1	6.5mm ± .6mm	2.125in 5.4 cm	.375 in .95 cm	2 in 5.08 cm	17 in ± 1 in	.125in .32cm	6.0	800	270	PS-2000-20	PS-2013-20	DC-1260-20
78-NEON-1	1	6.5mm ± .6mm	1 in 2.54 cm	.375 in .95cm	2 in 5.08 cm	17 in ± 1 in	.125in .32cm	3.5	800	220	PS-2000-20	PS-2013-20	DC-1260-20
78-NEON-2	1	6.5mm ± .6mm	2.125in 5.4 cm	.375 in .95 cm	2 in 5.08 cm	17 in ± 1 in	.125in .32cm	6.0	800	270	PS-2000-20	PS-2013-20	DC-1260-20
78-KRYPT-1	1	6.5mm ± .6mm	1 in 2.54 cm	.375 in .95 cm	2 in 5.08 cm	17 in ± 1 in	.125in .32cm	3.5	800	220	PS-2000-20	PS-2013-20	DC-1260-20
78-KRYPT-2	1	6.5mm ± .6mm	2.125in 5.4 cm	.375 in .95 cm	2 in 5.08 cm	17 in ± 1 in	.125in .32cm	6.0	800	270	PS-2000-20	PS-2013-20	DC-1260-20
78-XENON-1	1	6.5mm ± .6mm	1 in 2.54 cm	.375 in .95 cm	2 in 5.08 cm	17 in ± 1 in	.125in .32cm	3.5	800	220	PS-2000-20	PS-2013-20	DC-1260-20
78-XENON-2	1	6.5mm ± .6mm	2.125in 5.4 cm	.375 in .95 cm	2 in 5.08 cm	17 in ± 1 in	.125in .32cm	6.0	800	270	PS-2000-20	PS-2013-20	DC-1260-20

PHOSPHOR COATED LAMPS*

84-2011-1	1	9 mm ± .1mm	1 in 2.54 cm	.4375in 1.11cm	2in 5.08cm	17in ± 1in	.125in .32 cm	3	800	220	PS-2000-20	PS-2013-20	DC-1260-20
843-2011-1	2	9 mm ± .1mm	1 in 2.54cm	.4375in 1.11cm	2 in 5.08cm	8in ± 1in		3	800	220	PS-2001-20	PS-2005-20	DC-1260-20
84-2011-2	1	9mm ± .1mm	2.125in 5.4 cm	.4375in 1.11cm	2 in 5.08cm	17in ± 1in	.125in .32cm	5	800	270	PS-2000-20	PS-2013-20	DC-1260-20
843-2011-2	2	9 mm ± .1mm	2.125in 5.4 cm	.4375in 1.11cm	2 in 5.08cm	8in ± 1in		5	800	270	PS-2001-20	PS-2005-20	DC-1260-20

APERTURE PHOSPHOR COATED LAMPS*

85A-2011-1	1	9 mm ± .1mm	1 in 2.54 cm	.4375in 1.11cm	2 in 5.08cm	17 in ± 1 in	.125in .32cm	3	800	220	PS-2000-20	PS-2013-20	DC-1260-20
853A-2011-1	2	9 mm ± .1mm	1 in 2.54 cm	.4375in 1.11cm	2 in 5.08 cm	8 in ± 1 in		3	800	220	PS-2001-20	PS-2005-20	DC-1260-20
85A-2011-2	1	9 mm ± .1mm	2.125in 5.4 cm	.4375in 1.11cm	2 in 5.08 cm	17 in ± 1 in	.125in .32cm	5	800	270	PS-2000-20	PS-2013-20	DC-1260-20
853A-2011-2	2	9 mm ± .1mm	2.125in 5.4 cm	.4375in 1.11cm	2 in 5.08 cm	8 in ± 1 in		5	800	270	PS-2001-20	PS-2005-20	DC-1260-20

PHOSPHOR COATED LAMPS WITH BLACK LIGHT BLUE GLASS SLEEVE

86B-2011-1	1	9 mm ± .1 mm	1 in 2.54 cm	.4375in 1.11cm	2 in 5.08 cm	17 in ± 1 in	.125in .32cm	2	800	220	PS-2000-20	PS-2013-20	DC-1260-20
863B-2011-1	2	9 mm ± .1 mm	1 in 2.54 cm	.4375in 1.11cm	2 in 5.08 cm	8 in ± 1 in		2	800	220	PS-2001-20	PS-2005-20	DC-1260-20
86B-2011-2	1	9 mm ± .1 mm	2.125in 5.4 cm	.4375in 1.11cm	2 in 5.08 cm	17in ± 1 in	.125in .32cm	3.5	800	270	PS-2000-20	PS-2013-20	DC-1260-20
863B-2011-2	2	9 mm ± .1 mm	2.125in 5.4 cm	.4375in 1.11cm	2 in 5.08 cm	8 in ± 1 in		3.5	800	270	PS-2001-20	PS-2005-20	DC-1260-20

NOTES:

1. Also available: Lighted lengths up to 48 inches, different handle diameters and lengths, different cable lengths, and various connectors.

2. Nominal intensities are measured at a distance of 3/4 of an inch at 365 nm.

* - 2011 is the 365 nm phosphor. For other phosphors create your own part number using example. For further phosphor listings and information refer to Aperture Lamp catalog sheets.

XXXX-XXXX-XX
MODEL TYPE OF PHOSPHOR LIGHTED LENGTH

CAPILLARY LAMPS

Jelight Company, Inc. has developed a lamp called the Capillary Lamp. This special lamp with mercury produces three times the intensity of 254nm of U.V. energy compared with the standard Double-Bore® lamp. The unique quality of the Capillary Lamp is that the entire arc is concentrated into a 1 or 2 mm capillary. This is beneficial for making the light additionally intense, uniform and stable. The actual detection of the light is from the end of the capillary and therefore it causes a detector to "view" the diameter of the arc instead of the width of the arc.

The Capillary Lamp is available with an ozone free quartz window where vacuum U.V. lines are not desirable, or with a synthetic silica window for transmitting VUV.

The Capillary Lamp is obtainable with other options such as one or two capillaries either 1 or 2 mm in diameter and various fill gases: argon, neon, helium, krypton, or xenon, and different phosphor coatings.

CAPILLARY LAMP									
PART NUMBER		NUMBER OF CAPILLARIES	CAPILLARY DIAMETER	WINDOW MATERIAL	STARTING & OPERATING VOLTAGE	POWER SUPPLY RECOMMENDATION			
WITH 2 PIN CONNECTOR & 17in± 1 in CABLE	WITH 6 PIN CONNECTOR & 8 in ± 0.5 in CABLE					120V 60 Hz		24V D.C,	
						2 PIN CONNECTOR	6 PIN CONNECTOR	2 PIN CONNECTOR	6 PIN CONNECTOR
CPG-1	3CPG-1	1	1 mm	OZONE FREE QUARTZ	800/200	PS-3000-30	PS-3001-30	DC24-8000-30	DC24-8001-30
CPG-2	3CPG-2	2	1 mm	OZONE FREE QUARTZ	800/200	PS-3000-30	PS-3001-30	DC24-8000-30	DC24-8001-30
CPG2-1	3CPG2-1	1	2 mm	OZONE FREE QUARTZ	800/200	PS-3000-30	PS-3001-30	DC24-8000-30	DC24-8001-30
CPG2-2	3CPG2-2	2	2 mm	OZONE FREE QUARTZ	800/200	PS-3000-30	PS-3001-30	DC24-8000-30	DC24-8001-30
CPS-1	3CPS-1	1	1 mm	SYNTHETIC SILICA	800/200	PS-3000-30	PS-3001-30	DC24-8000-30	DC24-8001-30
CPS-2	3CPS-2	2	1 mm	SYNTHETIC SILICA	800/200	PS-3000-30	PS-3001-30	DC24-8000-30	DC24-8001-30
CPS2-1	3CPS2-1	1	2 mm	SYNTHETIC SILICA	800/200	PS-3000-30	PS-3001-30	DC24-8000-30	DC24-8001-30
CPS2-2	3CPS2-2	2	2 mm	SYNTHETIC SILICA	800/200	PS-3000-30	PS-3001-30	DC24-8000-30	DC24-8001-30

FEATURES

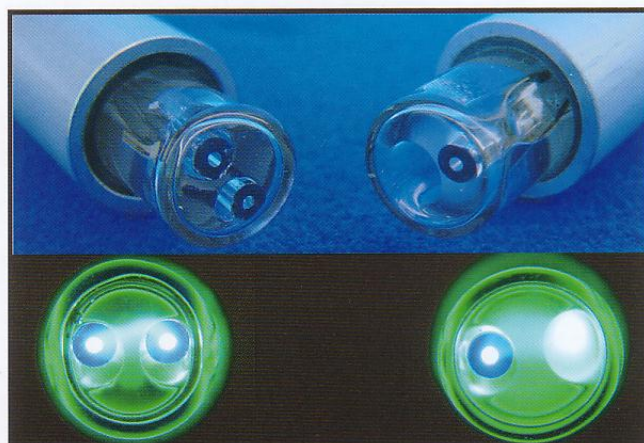
- ♦ Approximately three times greater intensity per mm² at the end of the capillary compared to the standard Double-Bore® lamp.
- ♦ The radiation from the end of the capillary and the axis of the handle are parallel.
- ♦ Compact size
- ♦ Low cost
- ♦ Long lamp life (approximately 5,000 hours)

OPTIONS

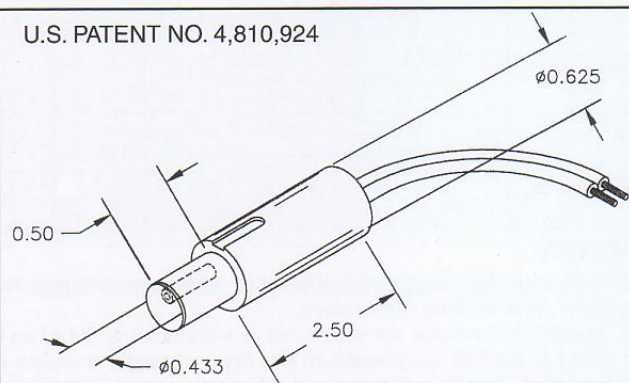
- ♦ End window material
- ♦ Fill gases
- ♦ One or two capillaries
- ♦ Phosphor coating (for phosphor selection see Aperture Phosphor Coated Lamps data sheet)

APPLICATIONS

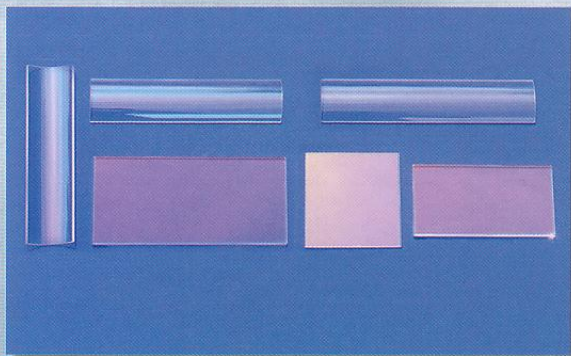
- ♦ Arc imaging
- ♦ Chromatography
- ♦ Photochemistry
- ♦ Calibration for U.V. detectors
- ♦ Spectrophotometer calibrations



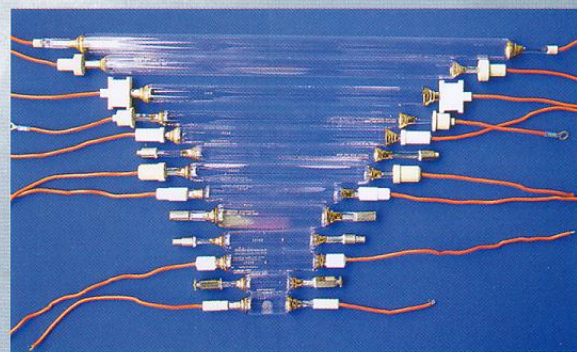
U.S. PATENT NO. 4,810,924



Our other products include:



Cold UV Components



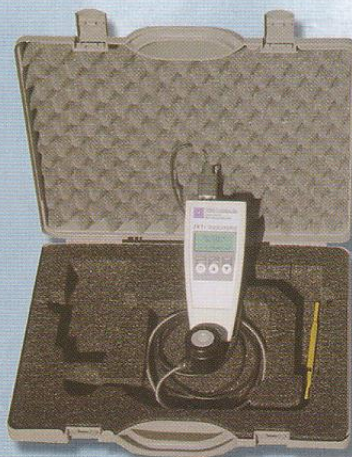
Wide Variety of Medium Pressure Mercury Vapor Lamps (UV Curing Lamps)



Magnetic Ballast Transformers



UV Ozone Cleaning Devices (UVO-Cleaner®)



Radiometers Detectors and Filters

Also...

- Low pressure grid lamps replacement
- EPROM erasers & wafer cleaners
- Ozone generating equipment
- Full line of quartzware products for semiconductor manufacturing sector



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Manufacturing High Quality UV Light Sources Since 1978