

DEUTERIUM LAMPS

Economy deuterium lamps
FOR
UV/VIS spectrophotometer



BROOK CHEMICAL LIMITED

Your Success is our driving force

Economy deuterium lamps

Special designed for UV/VIS spectrophotometers

Features:

1. High stability and good spectrum continuity.
2. Use UV glass as shell, which bring low generation of ozone and do not need special anti-ozone treatment.
3. Complex material is used in part of models. T series models use UV glass as shell and synthetic silica at projecting position to increase the transmittance.
4. Shelf life from 800 hours to 1000hours guaranteed.
5. The lowest price in the market. 1/5 price of HAMAMATSU L2D2. 1/10 price of Heraeus compatible deuterium lamps.

Coding principle.

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7
DD	2.5	T	D	Z	30	C
	10	S	N	B	28	
				W		

Column 1: DD (Means D₂, Deuterium element)

Column 2: Filament voltage
2.5=2.5V
10=10V

Column 3: Window structure
T= Projecting type (1mm thick from the outer shell)
S= non projecting type, smooth glass cylinder structure

Column 4: Lamp length
D=Short length type
N= Normal length type

Column 5: Fix Flange
Z= Aluminum alloy flange fix
B= Universal tube type seat fix
W= Naked lamp without fix structure

Column 6: Outer diameter of the glass cylinder
30=30mm
28=28mm

Column 7: Single window type or see through type
C=See through type
Blank=Single window type

FOR EXAMPLE:

DD2.5TDZ28C

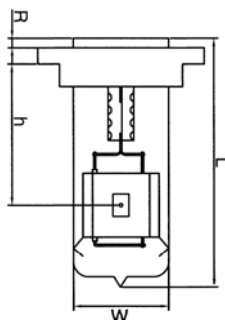
Code representation:

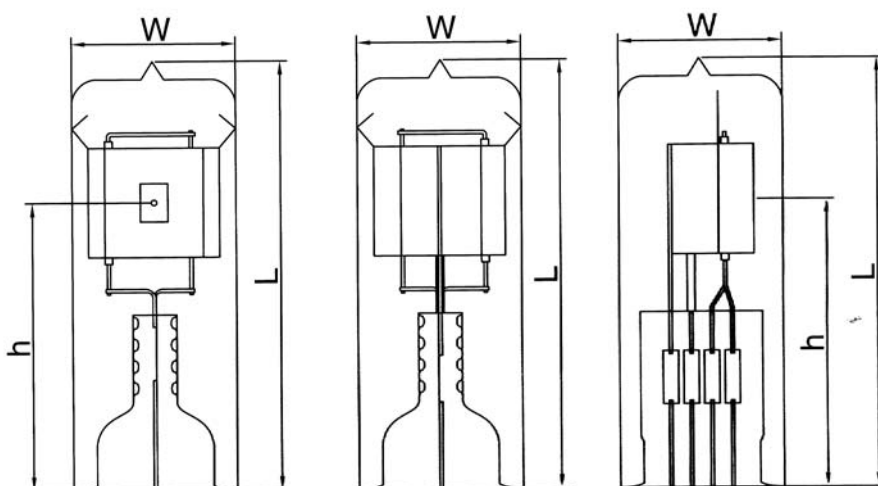
Deuterium lamp with 2.5V filament voltage, projecting type, short length, flange fix, 28mm outer diameter and see through type
(Similar to HAMAMATSU L6999-50)

Size, structure, technical data of some models in stock

Remark:

1. Client can select different assemble of these sizes, structures.
2. We produce special sizes according to the request of clients after sample or drawing provided.
3. For flange fix models, the distance between lamp end line to ARC point “h” has to be re-specified if the installation shall be reversed.





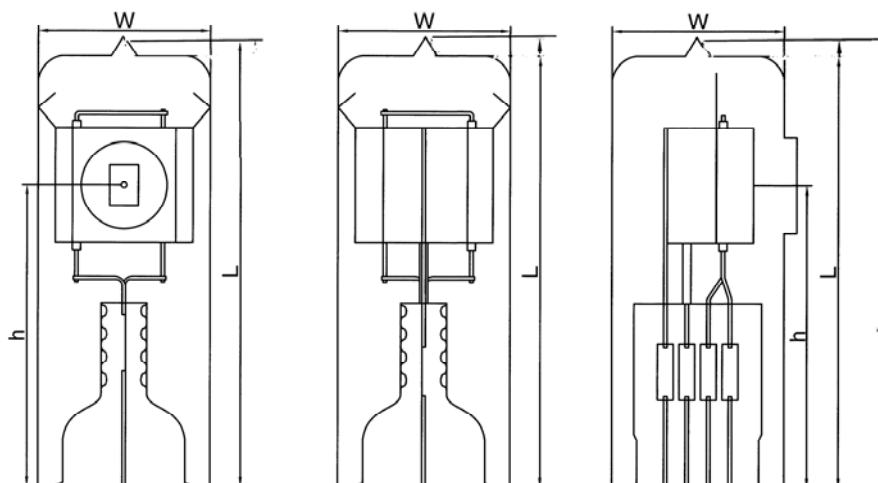
h: The distance between lamp end line to ARC point

W: Outer diameter of lamp glass cylinder

L: Total length of the lamp

Models	L(mm)	h (mm)	W (mm)	Trigger voltage(V)	Tube voltage (V dc)	Anode Current (mA dc)
DD2.5SNW30	80	45-48	30	≥ 350	60-90	300
DD2.5SDW28	70	40-42	28	≥ 350	60-90	300
DD10SNW30	80	45-48	30	≥ 350	60-90	300
DD10SDW30	70	40-42	28	≥ 350	60-90	300

Models	Filament ratings					Guarantee Life at 230nm(h)
	Warm up			Operating		
	Voltage(V)	Current(A)	Time(S)	Voltage(V)	Current(A)	
DD2.5SNW30	2.5	4	10-60	0-1	0-1.8	800
DD2.5SDW28	2.5	4	10-60	0-1	0-1.8	800
DD10SNW30	10	1	10-60	0-6	0-0.6	800
DD10SDW30	10	1	10-60	0-6	0-0.6	800



h: The distance between lamp end line to ARC point

W: Outer diameter of lamp glass cylinder

L: Total length of the lamp

Models	L(mm)	h (mm)	W (mm)	Trigger voltage(V)	Tube voltage (V dc)	Anode Current (mA dc)
DD2.5TNW30	80	48	30	≥ 350	60-90	300
DD2.5TDW30	70	40	30	≥ 350	60-90	300
DD2.5TDW28	70	40	28	≥ 350	60-90	300
DD10TNW30	80	48	30	≥ 350	60-90	300
DD10TDW30	70	40	30	≥ 350	60-90	300
DD10TDW28	70	40	28	≥ 350	60-90	300

Models	Filament ratings					Guarantee Life at 230nm(h)
	Warm up			Operating		
	Voltage(V)	Current(A)	Time(S)	Voltage(V)	Current(A)	
DD2.5TNW30	2.5	4	10-60	0-1	0-1.8	800
DD2.5TDW30	2.5	4	10-60	0-1	0-1.8	800
DD2.5TDW28	2.5	4	10-60	0-1	0-1.8	800
DD10TNW30	10	1	10-60	0-6	0-0.6	800
DD10TDW30	10	1	10-60	0-6	0-0.6	800
DD10TDW28	10	1	10-60	0-6	0-0.6	800

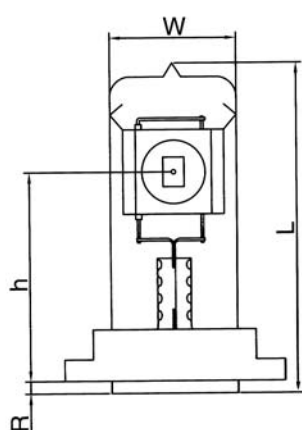


fig.1

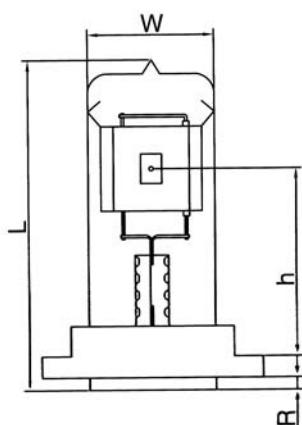


fig.2

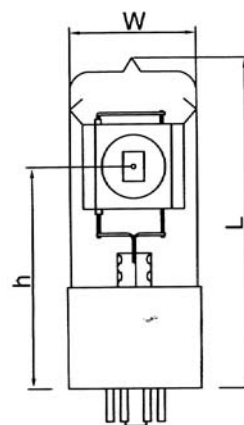


fig.3

h: The distance between lamp end line to ARC point

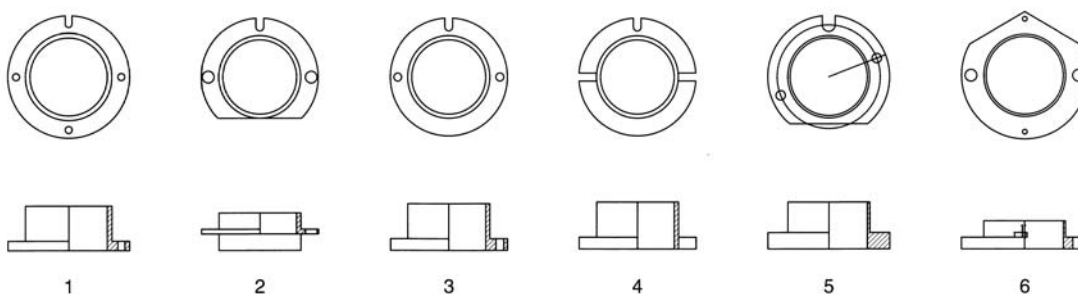
W: Outer diameter of lamp glass cylinder

L: Total length of the lamp

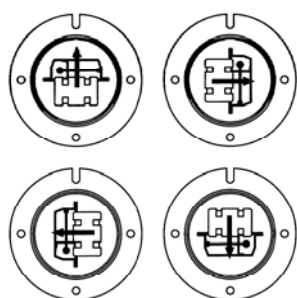
Models	Fig	L(mm)	h (mm)	W (mm)	Trigger voltage(V)	Tube voltage (V dc)	Anode Current (mA dc)
DD2.5TDZ30	1	68	38-50	30	≥ 350	60-90	300
DD2.5TDZ28	1	68	38-42	28	≥ 350	60-90	300
DD2.5TNB28	3	95	50	28	≥ 350	60-90	300
DD2.5TDZ30C	1	68	40	30	≥ 350	60-90	300
DD2.5SDZ30	2	68	22-50	30	≥ 350	60-90	300
DD10TDZ30	1	68	38-50	30	≥ 350	60-90	300
DD10TDZ28	1	68	38-42	28	≥ 350	60-90	300
DD10TNB28	3	95	50	28	≥ 350	60-90	300
DD10SDZ30	2	68	22-50	30	≥ 350	60-90	300

Models	Filament ratings					Guarantee Life at 230nm(h)
	Warm up			Operating		
	Voltage(V)	Current(A)	Time(S)	Voltage(V)	Current(A)	
DD2.5TDZ30	2.5	4	10-60	0-1	0-1.8	1000
DD2.5TDZ28	2.5	4	10-60	0-1	0-1.8	1000
DD2.5TNB28	2.5	4	10-60	0-1	0-1.8	1000
DD2.5TDZ30C	2.5	4	10-60	0-1	0-1.8	1000
DD2.5SDZ30	2.5	4	10-60	0-1	0-1.8	1000
DD10TDZ30	10	1	10-60	0-6	0-0.6	1000
DD10TDZ28	10	1	10-60	0-6	0-0.6	1000
DD10TNB28	10	1	10-60	0-6	0-0.6	1000
DD10SDZ30	10	1	10-60	0-6	0-0.6	1000

Different flange shape of “Z” related models



Directions assemble of window and flange



“B” related models with universal tube seat

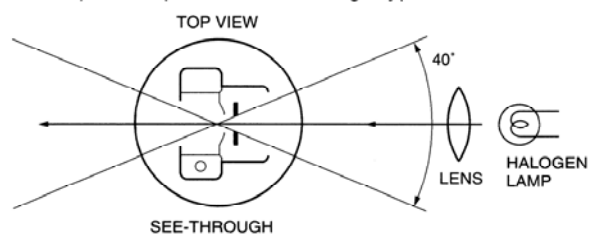


See through type schematic diagram

SEE-THROUGH TYPE

The see-through type electrode structure enables straight-line arrangement of the halogen lamp, deuterium lamp, optical system and optical passage. This simplifies optical design of UV-VIS spectrophotometer etc., and eliminates loss of light amount caused by the half mirror.

An Example for optics of See-through type



POWER SUPPLY

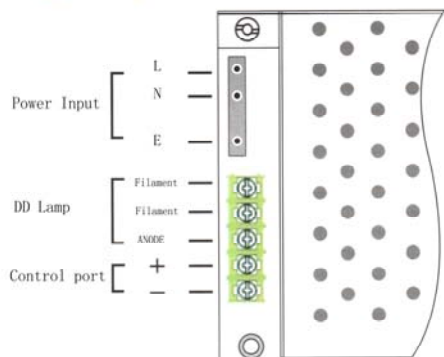
Application using DD series deuterium lamp requires a very stable light output, so using a dedicated power supply is recommended to operate these lamps.

Our dedicated power supply uses high frequency transformer, which has function of filament warm up, high trigger voltage and constant-current control. The characteristics of these power supplies are small dimension, light weight and high efficient operation. It can be connected to any international generic power voltage and works well in the range between AC85 to 265V voltage, and ensure the UV spectral distribution. The power supply has isolated control port. External control signal (CPU or manual) can turn on or off the deuterium lamp easily through the connection to such port.

The power supply unit has a special circuit design to lower its electromagnetic interference to A level. The aim is to reduce the interference to the instrument.

There are A model and B model that fit for 2.5V and 10V deuterium lamp separately.

Technical information of power supply



Parameter		Model A	Model B
Input	Input Voltage (AC V)	85-265	85-265
	Input Current(Max) (A)	0.5	0.5
Output	Filament warm up voltage(DC V)	2.5	10
	Filament operating voltage(DC V)	0	6-7
	Anode warm up voltage(DC V)	125	125
	Anode operating voltage(DC V)	80	80
	Anode current (mA)	300	300
	Current drift (%/h)	±0.05	±0.05
	Minimum Trigger voltage(DC V)	400	400
Voltage endurance		AC1500V/1min	AC1500V/1min
Turn off signal		3-12V/1mA	3-12V/1Ma
Dimension(mm)		130x99x40	130x99x40
Weight (KG)		0.4	0.4
Conformance standards EN (CE marking)		Yes	Yes

Environment requirement

1. Working environment

Operation ambient temp. 0-40°C
 Relative humidity: 40°C (20-90)%RH
 Atmosphere pressure: 86-106Kpa

2. Storage environment

Storage temp.-40-70°C
 Storage humidity: 50°C 90% RH
 Atmosphere pressure: 86-106Kpa