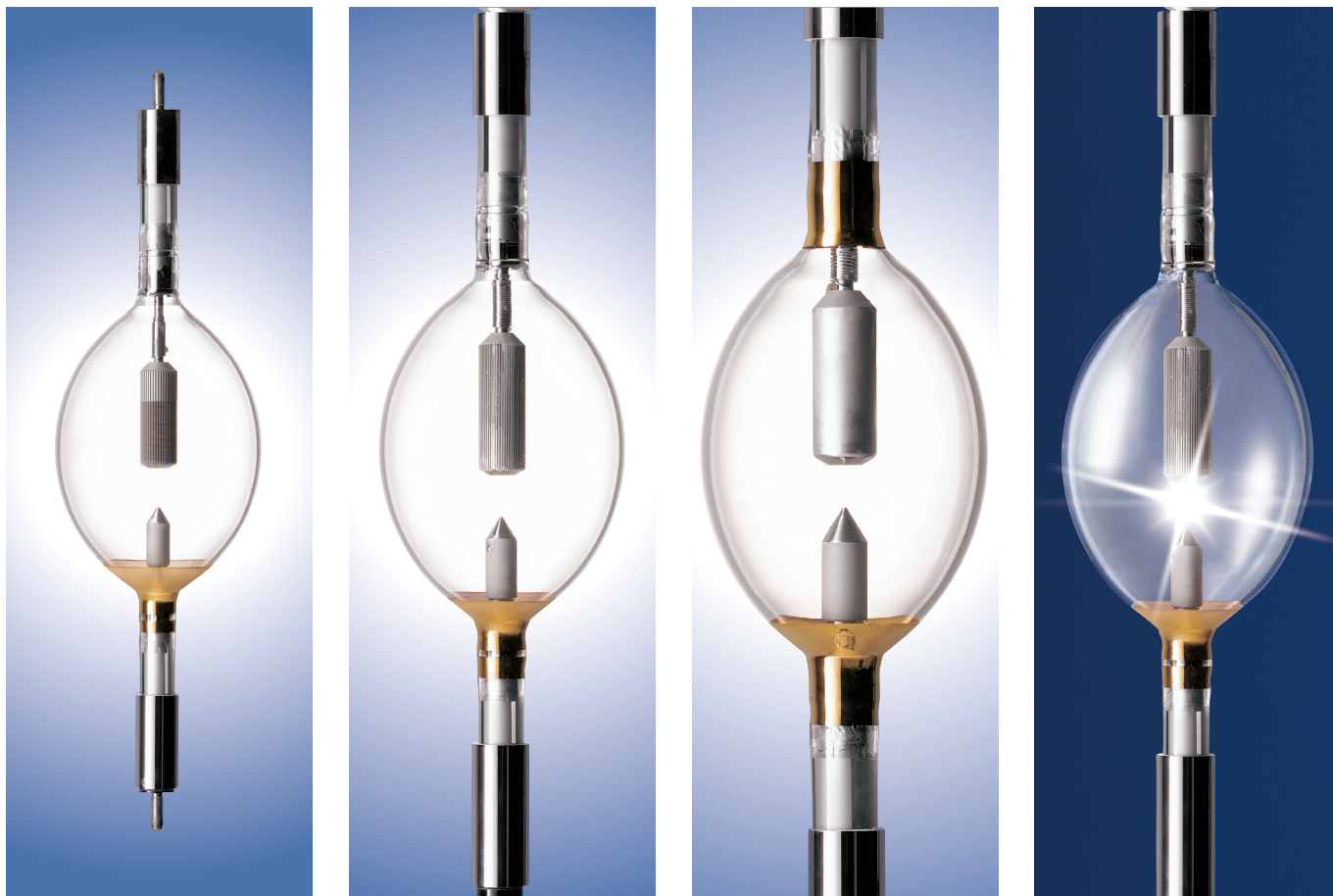


SUPER HIGH PRESSURE SHORT ARC UV LAMPS

ショートアーク UV ランプ

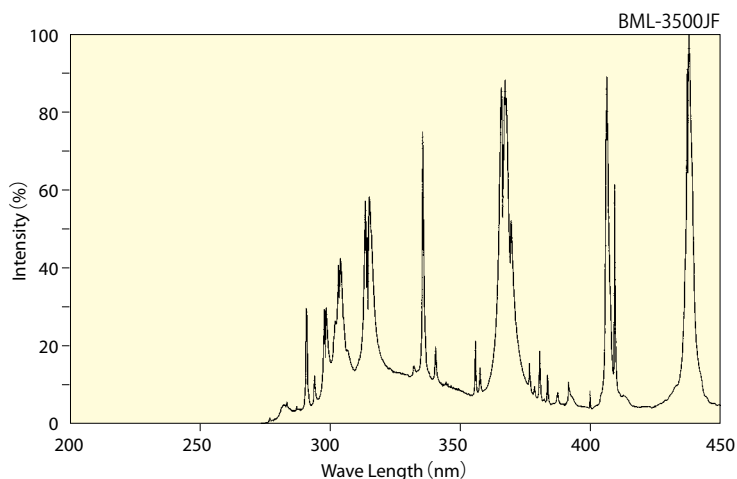


WACOM presents UV light sources to realize higher precision in the electronic device field and large-sized display panels in the display panel field.

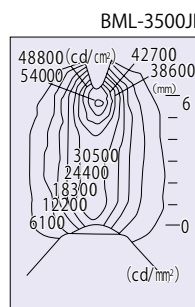
WACOM super high pressure Short Arc UV lamp is used as UV light source for semiconductor manufacturing systems (exposure system) such as a semiconductor device, display panel and printed wiring boards. Being a point light source of high luminance, this lamp radiates emission line spectrum of 365nm, 405nm, and 436nm, which are necessary for exposure.

当社では、先端メモリ LSI・ロジック LSI などの半導体デバイス製造分野における配線パターン形成、先端半導体パッケージサブストレートや多層ビルドアップ基板などのプリント配線板製造分野におけるファイン配線パターン形成、TFT-LCD や LCD 用カラーフィルター・プラズマディスプレイ・有機 EL ディスプレイなどのフラットパネルディスプレイ製造分野におけるファイン配線パターン形成、その他電子デバイス製造分野で使用されている平行光露光装置用ショートアーク UV ランプを幅広く取り揃えております。

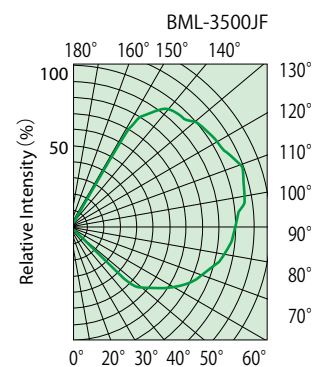
■ Spectral distribution of radiation



■ Luminance distribution in Arc



■ Luminous intensity distribution

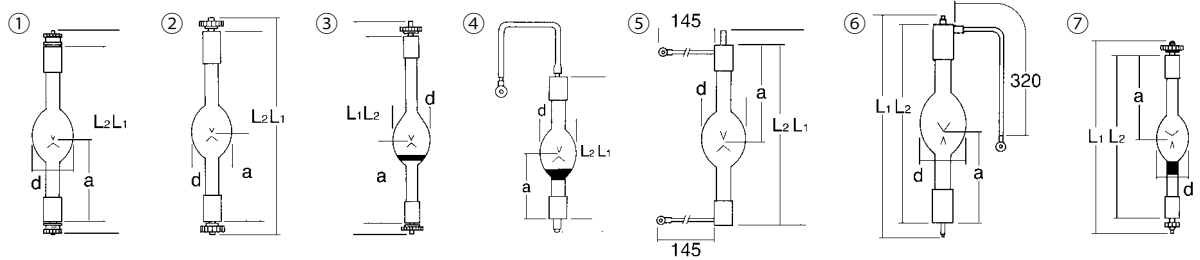


Super High Pressure Short Arc UV Lamps For Semiconductor Manufacturing (半導体回路形成用光源)

| Specification Model | Wattage (W) | Voltage (V) | Current (A) | Average Life * 1 (h) | Gap cold | L ₁ max (mm) | L ₂ max (mm) | a (mm) | d (mm) | Metal Base | | Figure No. |
|------------------------|----------------|----------------|----------------|----------------------------|-------------|----------------------------|----------------------------|-----------|-----------|----------------------|------------------|------------|
| | | | | | | | | | | Anode | Cathode | |
| BMI-200D1 | 200 | 56 | 3.6 | 1,000 | 2.0 | 121 | 99 | 41 | φ 17 | φ 10 NO.8-32 | φ 10 NO.8-32 | ① |
| BML-250D3 | 250 | 40 | 6.3 | 1,000 | 2.0 | 152 | 125 | 62 | φ 20 | UNC φ 13 | UNC φ 13 | ② |
| BML-250D4 | 250 | 40 | 6.3 | 600 | 2.0 | 152 | 125 | 62 | φ 20 | M5-P0.8 φ 13 | M5-P0.9 φ 13 | ② |
| BMI-350D1 | 350 | 60 | 6.0 | 1,000 | 3.0 | 128 | 103 | 47.5 | φ 20 | M5-P0.9 φ 10 | M5-P0.9 φ 10 | ① |
| BML-350DP | 350 | 60 | 6.0 | 1,000 | 2.9 | 122 | 101 | 48 | φ 20 | NO.8-32 UNC | NO.8-32 UNC | ① |
| BMO-500D1 | 500 | 77.5 | 6.5 | 600 | 4.8 | 165 | 141 | 68 | φ 27.5 | φ 10 NO.8-32 | φ 10 NO.8-32 | ② |
| BMO-500DM | 500 | 60 | 8.5 | 600 | 4.1 | 190 | 160 | 75 | φ 29 | UNC φ 13 | UNC φ 13 | ② |
| BMO-500S | 500 | 52.5 | 9.5 | 600 | 3.1 | 165 | 142 | 68 | φ 28 | M4-P0.7 φ 13 | M4-P0.7 φ 13 | ② |
| BML-1000DSF | 1,000 | 38 | 28 | 600 | 3.0 | 240 | 206 | 91 | φ 40 | φ 15 M6-P1.0 | φ 15 M6-P1.0 | ③ |
| BMO-1002DF1 | 1,000 | 80 | 12.5 | 400 | 4.2 | 288 | 248 | 114 | φ 38 | φ 15 M6-P1.0 | φ 15 M6-P1.0 | ③ |
| BML-1003FAL | 700/1,000 | 47 | 16 | 1,500 | 3.0 | 205 | 192 | 104 | φ 30 | φ 19 φ 9.6 pin | φ 15 | ④ |
| BMO-2001S | 2,000 | 37 | 54 | 1,000 | 3.0 | 290 | 265 | 140 | φ 62 | φ 27 | φ 27 φ 10 pin | ⑤ |
| BMO-2002SA | 2,000 | 37 | 54 | 750 | 3.0 | 332 | 270 | 140 | φ 62 | φ 27 HEX M8-P1.25 | φ 27 M8-P1.25 | ③ |

Super High Pressure Short Arc Deep UV Lamps (半導体回路形成用短波長光源ランプ)

| Specification Model | Wattage (W) | Voltage (V) | Current (A) | Average Life * 1 (h) | Dimensions of Luminous Area (mm) | L ₁ max (mm) | L ₂ max (mm) | a (mm) | d (mm) | Base | | Figure No. |
|------------------------|----------------|----------------|----------------|----------------------------|----------------------------------------|----------------------------|----------------------------|-----------|-----------|---------------------|----------------------|------------|
| | | | | | | | | | | Anode | Cathode | |
| KXM-501A | 500 | 25 | 20 | 600 | 3.0 | 180 | 150 | 80 | φ 29 | φ 13 M5-P0.9 | φ 13 M5-P0.9 | ⑦ |
| KXM-501D | 500 | 25 | 20 | 600 | 3.0 | 180 | 150 | 80 | φ 29 | φ 13 M5-P0.9 | φ 13 M5-P0.9 | ⑦ |
| KXM-5000MF | 5,000 | 50 | 100 | 750 | 7.5 | 360 | 318 | 143.5 | φ 80 | φ 33.5 φ 9.4 pin | φ 33.5 φ 7.85 pin | ⑥ |

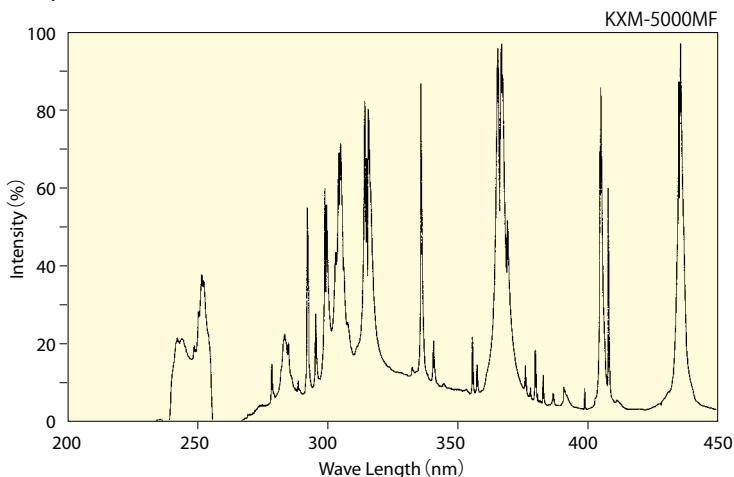


* 1 Average Life: IN cases of continuous burning at rated lamp current.

* 1 平均寿命：定格電流で連続点灯した場合の平均値。点滅、環境等点灯条件により短くなります。

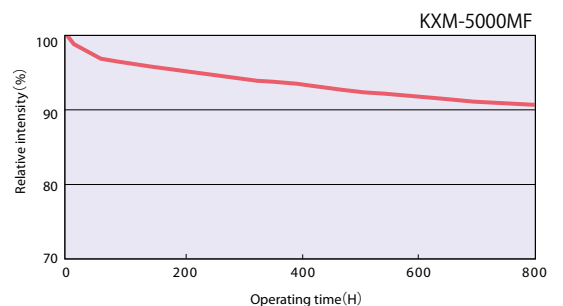
Model : KXM-5000MF

Spectral distribution of radiation



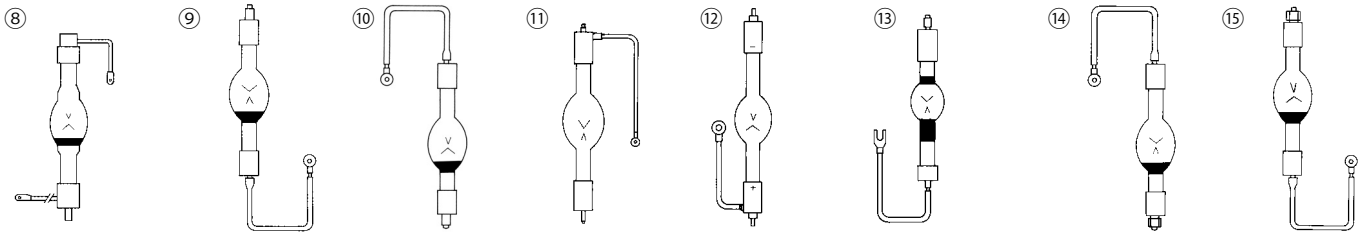
Model : KXM-5000MF

Intensity degradation data (i line)



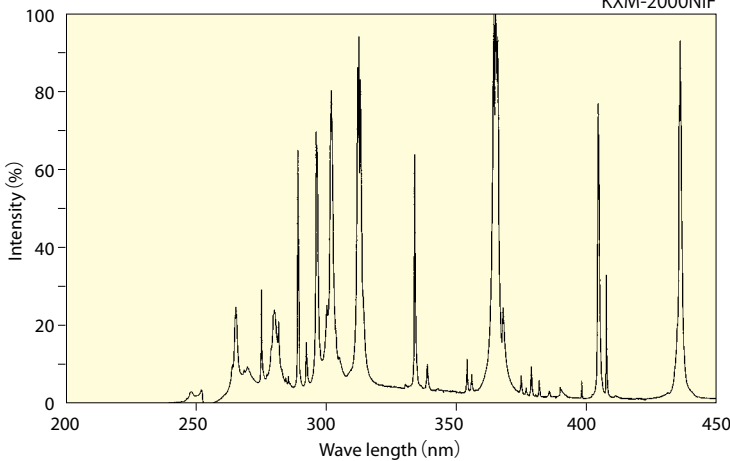
Super High Pressure Short Arc UV Lamps For i Line Stepper (i 線ステッパー用キセノンマーキュリーランプ)

| Equipment | Lamp Type | Wattage (W) | Voltage (V) | Current (A) | Lifetime (h) | Figure No. | |
|-----------|--------------------------------|---------------|-------------|-------------|--------------|------------|---|
| Nikon | NSR-2005 i8 A | KXM-2000NIF,H | 1,750 | 26 | 68 | 1,500 | ⑨ |
| | NSR-2005 i9, i10, NSR-2205 i11 | KXM-2001NIF | 1,750 | 26 | 68 | 1,500 | ⑩ |
| | NSR-2205 i11 SHRINC3 | KXM-2002NIF,H | 1,750 | 26 | 68 | 1,500 | ⑭ |
| | NSR-2205 i12 | KXM-2011NIF,H | 2,000 | 25 | 80 | 1,500 | ⑭ |
| | NSR-2205 i14 E | KXM-2510NIF | 2,500 | 23 | 109 | 1,500 | ⑭ |
| | NSR-2205 i14 E2 | KXM-2510NIH | 2,500 | 23 | 109 | 1,500 | ⑭ |
| | NSR-4425 i | KXM-2501NIF | 2,500 | 23 | 109 | 1,500 | ⑮ |
| | NSR-SF100, SF110 | KXM-3500NIF | 3,500 | 26 | 134 | 1,500 | ⑬ |
| Canon | FPA-2000 i1, FPA-2500 i2, i3 | KXM-1500CIL | 1,500 | 23 | 65 | 1,500 | ⑧ |
| | FPA-3000 i4, i5, i5+, iW,MR | KXM-2001CIL | 2,000 | 26 | 77 | 1,500 | ⑧ |
| | FPA-3000 i5++ | KXM-2700CIL | 2700 | 24.5 | 110 | 1,500 | ⑧ |
| ASML | PAS 5500/100C/100D | KXM-1500AIF | 1,500 | 23 | 65 | 1,500 | ⑫ |
| | PAS 5500/200 | KXM-2500AIF | 2,500 | 28 | 90 | 1,500 | ⑪ |
| | PAS 5500/200B/200C/400B/400C | KXM-3500AIL | 3,500 | 23 | 148 | 1,500 | ⑪ |



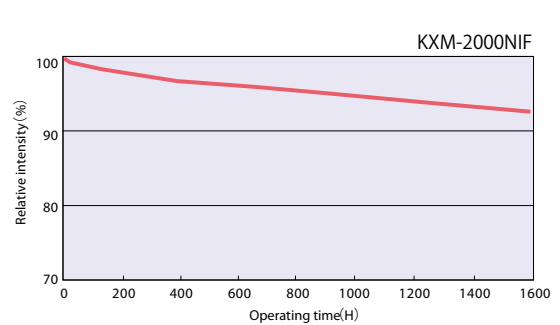
■ Model : KXM-2000NIF

Spectral distribution of radiation



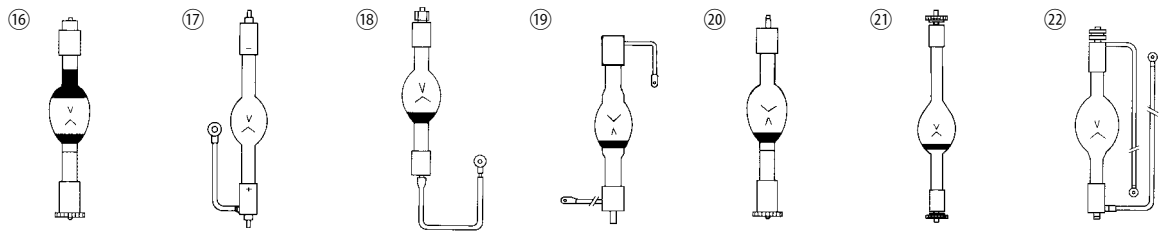
■ Model : KXM-2000NIF

Intensity degradation data (i line)

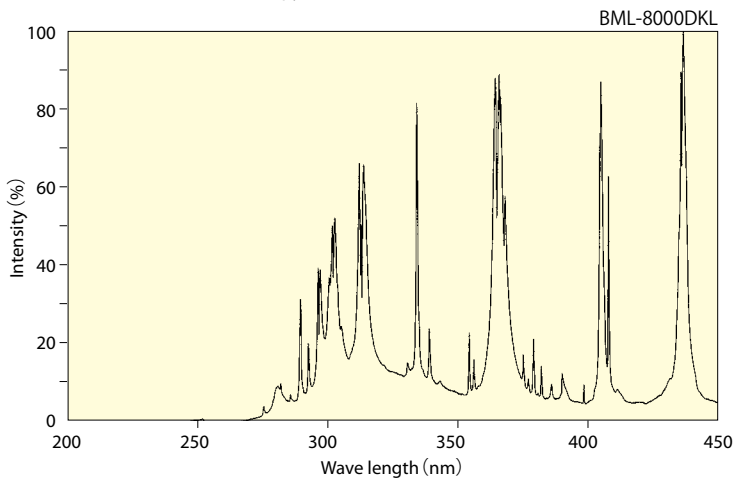


Super High Pressure Short Arc UV Lamps For FPD Manufacturing (FPD 露光装置用ランプ)

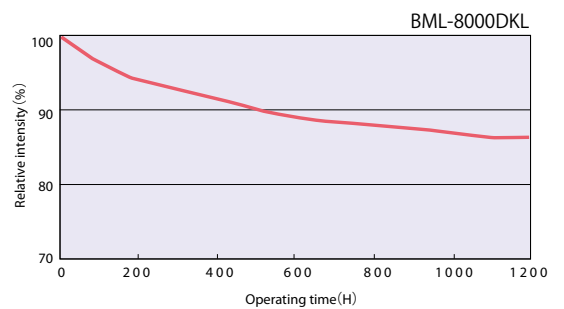
| Equipment | | Lamp Type | Wattage (W) | Voltage (V) | Current (A) | Lifetime (h) | Figure No. |
|-----------|--------------------------------|--------------|-------------|-------------|-------------|--------------|------------|
| SCREEN | MA1000 ~ 6700 series | BML-3502DK | 3,500 | 62 | 56 | 750 | ⑳ |
| | | BML-5000DK | 5,000 | 70 | 72 | 750 | ㉑ |
| | | BML-8000DKL | 8,000 | 72.5 | 110 | 1,000 | ㉒ |
| Nikon | FX-201B,301D, 401E, 402E, 501D | BML-3501PNLF | 3,500 | 62 | 56 | 1,500 | ㉑ |
| | FX-501B3, 601F | BML-4300NHL | 4,300 | 45 | 97 | 1,500 | ㉑ |
| HITACHI | LE-4000A | DEL-3500H | 3,500 | 62 | 56 | 750 | ㉑ |
| | LE-series | DEO-3500H | 3,500 | 62 | 56 | 750 | ㉑ |
| | LE-4050 | DEL-5000H | 5,000 | 70 | 71 | 750 | ㉑ |
| | LE-series | DEO-5000H | 5,000 | 70 | 71 | 750 | ㉑ |
| | LE-5565 | DEU-5000H | 5,000 | 70 | 71 | 750 | ㉑ |
| | LE-8000S | DEL-8000H | 8,000 | 72.5 | 110 | 750 | ㉑ |
| | LE-8000A | DEL-8004H | 8,400 | 75 | 112 | 750 | ㉑ |
| | LE-9100S | BML-10001DE | 10,000 | 94 | 106 | 750 | ㉑ |



■ Model : BML-8000DKL
Relative spectral energy distribution



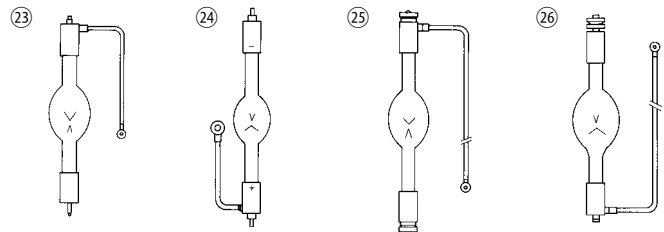
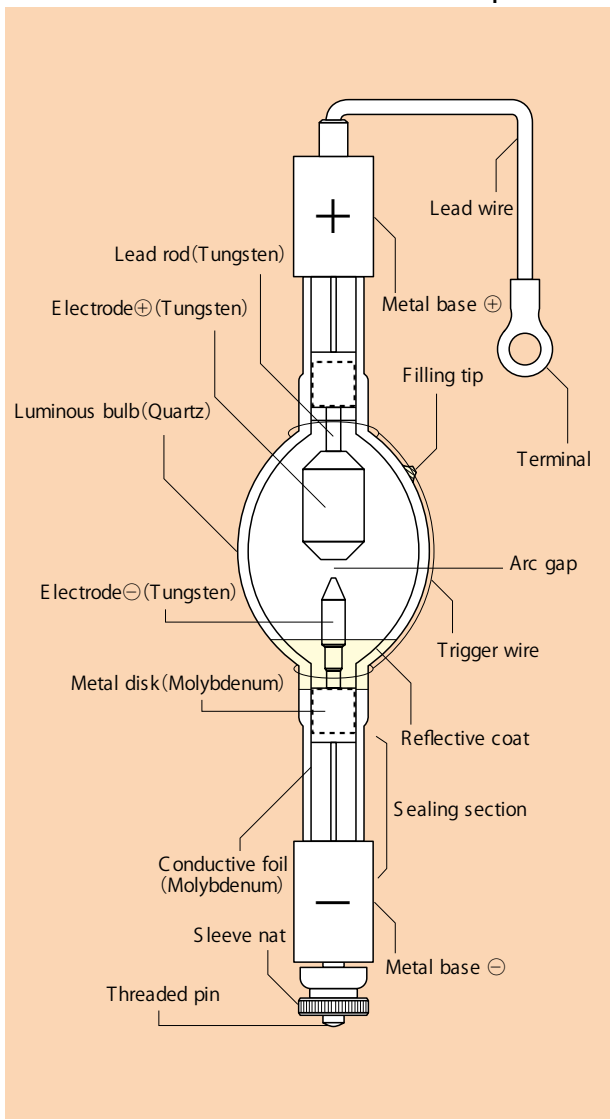
■ Model : BML-8000DKL
Intensity degradation data (i line)



Super High Pressure Short Arc UV Lamps For FPD Manufacturing (FPD 露光装置、電子デバイス露光装置用ランプ)

| Equipment | Lamp Type | Power (W) | Voltage (V) | Current (A) | Lifetime (h) | Figure NO. |
|---------------------------------------------|--------------|-----------|-------------|-------------|--------------|------------|
| WACOM Standard For FPD,PWB,PHOTO ETCHING | BML-3500JF | 3,500 | 56 | 62.5 | 750 | ⑳ |
| | BML-5000UJF | 5,000 | 62 | 80 | 750 | ㉑ |
| | BML-5000JF | 5,000 | 70 | 72 | 750 | ㉒ |
| | BML-8000UJF | 8,000 | 72 | 110 | 750 | ㉓ |
| | BML-8001F | 8,000 | 72 | 110 | 750 | ㉔ |
| | BML-10000UJF | 10,000 | 95 | 105 | 750 | ㉕ |
| | BML-16000 | 16,000 | 133 | 120 | 750 | ㉖ |
| | BML-17000 | 17,000 | 135 | 126 | 750 | ㉗ |
| | BML-18000 | 18,000 | 144 | 125 | 750 | ㉘ |
| | BML-25000 | 25,000 | 190 | 132 | 750 | ㉙ |
| | BML-35000 | 35,000 | 233 | 150 | 750 | ㉚ |

Construction of short arc UV lamp



Handling Precautions

1. Be sure to turn on a lamp in a lamp house because the lamp radiates strong UV when lighting and increases the voltage in the lamp.
2. Never look at a lamp when lighting. Strong UV radiated from the lamp injures human eyes.
3. Clean a lamp with alcohol before fixing. Due to such stains as fingerprints and impurities, the lamp loses transparency and life is reduced.
4. If a lamp should be fixed at the both metal base in a lamp house, the lamp might be damaged due to heat expansion. Leave one end unfixed giving 2 ~ 3mm movable space.
5. This UV lamp is designed for vertical lighting. Be sure to place the UP metal base top. Be sure to place the cathode and the anode as specified. Erroneous fixing causes breakage of the lamp.

取扱上の注意

1. ランプ点灯中は強力な紫外線を放射し、ランプ内の圧力が高くなりますので、必ずランプハウスの中で点灯して下さい。
2. ランプ点灯中は絶対に直視しないで下さい。ランプから放射される強力な紫外線により眼を害する危険性が有ります。
3. ランプは使用前にアルコール類で拭いてから取付けて下さい。指紋や異物などの汚れが付いていますと失透などのトラブルが発生し寿命を短くします。
4. ランプは口金の両端を固定すると熱膨張により破損する事が有ります。取付の際には片方が 2 ~ 3mm 可動出来る構造にして下さい。
5. UV ランプは垂直点灯です。UP 表示の有る口金を必ず上にして下さい。また、極性(陰極 ⊖・陽極 ⊕)に誤りが無いように接続して下さい。間違えますと破損などのトラブルが発生する原因になります。

Power Supplies for Super High Pressure Short Arc UV Lamps (ショートアーク UV ランプ用点灯装置)

| Model | Specification | Input Voltage AC50/60Hz (V) | Input current (A) | Input Power (KVA) | No-load Voltage (V) | Load Voltage (V) | Load Current (A) | Max. Ripple Current (%) | Dimension (mm) | Weight (kg) | Color | | Starter |
|-------------|---------------|--------------------------------|-------------------|-------------------|---------------------|------------------|------------------|-------------------------|----------------|-------------|------------------|-----------------|---------------------|
| | | | | | | | | | | | Panel | Cover | |
| BMS-251S | | 100 | 6 | 0.6 | 110 | 40 | 6.5 | 3 | 160×145×377 | 5 | Hairline | N4 Leather | Enclosed |
| BMS-351S | | 100 | 7 | 0.7 | 120 | 60 | 6 | 3 | 160×145×377 | 5 | Hairline | tone N4 | Enclosed |
| BMS-501S | | 100 | 9.3 | 0.93 | 120 | 77.5 | 6.5 | 3 | 160×145×377 | 6 | Hairline | Leather tone | Enclosed |
| KSG-1002MHW | | 1 φ 200 | 11 | 2.2 | 85 | 38 | 28 | 5 | 350×190×475 | 16 | N7 Half | N. D. G | DC· Booster |
| KSG-2002MHW | | 1 φ 200 | 20 | 4 | 150 | 37 | 54 | 5 | 380×235×560 | 25 | Polished N7 | N. D. G | Enclosed DC· |
| KSG-3502MHW | | 1 φ 200 | 35 | 7 | 150 | 56 | 62.5 | 5 | 380×235×560 | 30 | Half Polished | N. D. G | Booster Enclosed |
| KSG-5003MHW | | 3 φ 200 | 29 | 7.3 | 110 | 60 | 80 | 5 | 400×265×650 | 40 | N7 Half | N. D. G | DC· Booster |
| KSG-8003MFW | | 3 φ 200 | 46 | 10.5 | 130 | 80 | 100 | 5 | 400×265×650 | 45 | Polished N7 | N. D. G | Enclosed |
| KSG- | | 3 φ 200 | 45 | 15.6 | 160 | 95 | 105 | 5 | 420×297×680 | 50 | Half Polished | N. D. G | Enclosed |
| 10003HFW | | 3 φ 200 | 65 | 22.2 | 200 | 13.5 | 126 | 5 | 550×415×695 | 60 | N7 Half | N. D. G | Enclosed |
| KSG- | | 3 φ 200 | 105 | 36.4 | 350 | 200 | 125 | 5 | 480×850×795 | 130 | Polished N7 | N. D. G | Enclosed |
| 17003HFW | | 3 φ 200 | 132 | 45.7 | 450 | 225 | 156 | 5 | 680×1338×850 | 300 | Half Polished | N. D. G | Enclosed |

WACOM's power supply is designed to conform to the characteristics of WACOM super high pressure UV lamp.

WACOM's power supply is smaller in size and lighter in weight than before by adoption of a new switching method realized by the latest transistor.

A power supply develops an extremely high voltage condition when lighting. Carefully follow the handling manual for actual lighting.

Use WACOM's power supply when lighting WACOM super high pressure UV lamp.

当社の点灯安定化電源は、ショートアークUVランプが有する特性を最大限に引き出すことを目的に設計されており、制御方式にスイッチングレギュレータ方式を採用したことにより高効率化・コンパクト化・軽量化を実現いたしました。この電源と当社のショートアークUVランプをセットでご使用いただくことにより、点灯初期より点灯末期まで安定かつ安全な点灯動作が可能となります。



Example to use WACOM Short arc lamp

