

Change of the Light Source of the Microscope Lighting for the Dicing Saw

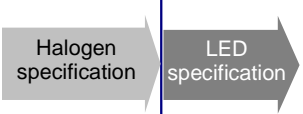
Notice

Production of the light source box (DISCO Part No.: DEBDHFS5004-*) of the halogen lamp, which is used as the microscope light source for the dicing saw, stops (* stands for a single-digit number from 0 to 9). For any models whose microscope light source is halogen, we will start to change it to the LED specification to ship the machines, from April 1, 2019 onwards.


Also, we will stop handling of the halogen specification as an optional accessory. From April 1, 2019 onwards, if you want to select the halogen specification as the microscope light source, it will be available as a user-specified specification.

Applicable models

Models whose microscope light source (standard) changes from the halogen specification to the LED specification:

Series	Applicable models	Microscope light source installed as standard
300/3000	DAD3220 DAD3230 DAD3430	Starts to change from April 1, 2019 onwards 
6000	DFD6240 DFD6750 DFD6340 (EAD or Half-cut Specification only) DFD6361 (EAD or Half-cut Specification only) DFD6450 (Including DAD specification)	

Models for which we stop handling of the halogen specification as an optional accessory:

Series	Applicable models	Handling of the halogen specification
300/3000	DAD323 DAD3220 DAD3230 DAD3240 DAD3350 DAD3360 DAD3430 DAD3650 DAD3660	Starts to change from April 1, 2019 onwards  *We will set the price separately because it is difficult to procure the parts.
6000	DFD6240 DFD6341 DFD6360A DFD6362 DFD6560 DFD6750 DFD6340 (Including EAD and Half-cut Specifications) DFD6361 (Including EAD and Half-cut Specifications) DFD6450 (Including DAD specification)	

Handling of maintenance parts

Maintenance parts for the machines already shipped will be handled as follows:

Parts	DISCO Part No.	Handling
Light source box	DEBDHFS5004-*	The production stops. • However, the inventories are sold as maintenance parts for the machines already shipped, <u>as long as they are in stock</u> even after April 1, 2019 onwards.
Halogen lamp	DEALMEB5001-*	Continues to be sold.

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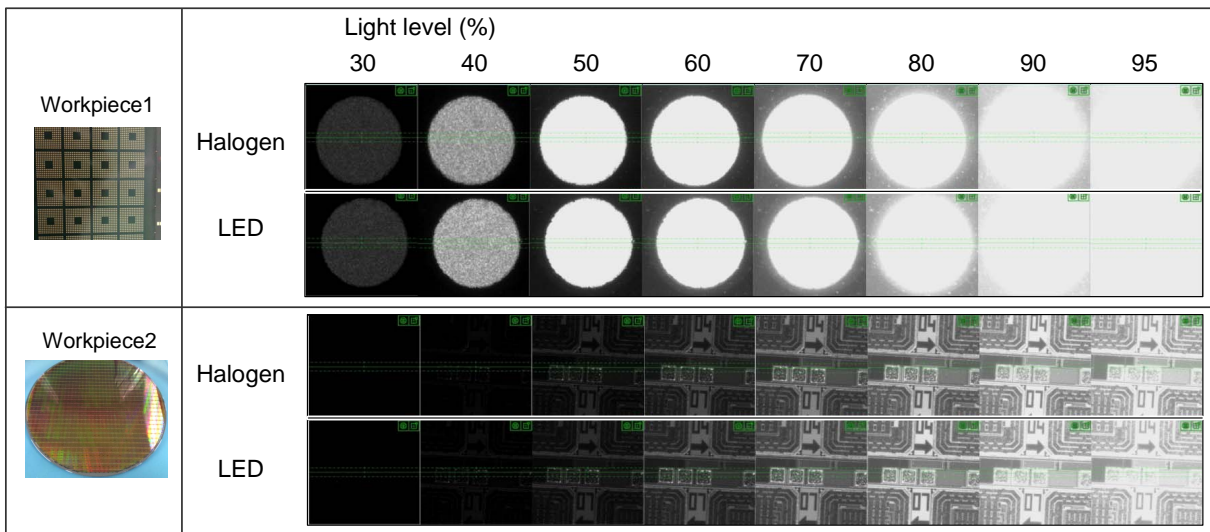
Advantages of the LED light

Changing the microscope light source from the halogen lamp to the LED light allows power consumption of the machine to be reduced. Also, the LED light has a long life, which improves the maintenance performance.

Comparison between the halogen lamp and LED light

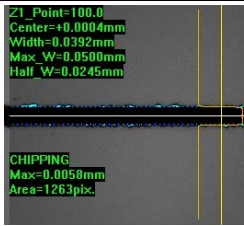
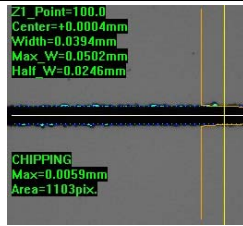


Comparison among the microscope images

Below are results of comparing the microscope images shot at various light levels using the halogen lamp and LED light for oblique lighting. When the LED light is in use, it is also possible to obtain images equivalent to when the halogen lamp is in use.



Kerf check results comparison

For workpieces (silicon/ceramic) cut using the DFD6362, below are comparison results obtained by performing kerf check at the same position using the halogen lamp and LED light for oblique lighting. When the LED light is in use, it is also possible to obtain results equivalent to when the halogen lamp is in use.

Workpiece	Halogen lamp	LED light
Silicon	 <p>Z1_Point=100.0 Center=+0.0004mm Width=0.0392mm Max_W=0.0502mm Half_W=0.0245mm</p> <p>CHIPPING Max=0.0058mm Area=1263pix.</p>	 <p>Z1_Point=100.0 Center=+0.0004mm Width=0.0394mm Max_W=0.0502mm Half_W=0.0245mm</p> <p>CHIPPING Max=0.0059mm Area=1103pix.</p>
Ceramic	 <p>Z1_Point=51.0 Center=+0.0004mm Width=0.0942mm Max_W=0.0952mm Half_W=0.0471mm</p> <p>CHIPPING Max=0.0009mm Area=4pix.</p>	 <p>Z1_Point=54.0 Center=+0.0004mm Width=0.0945mm Max_W=0.0945mm Half_W=0.0472mm</p> <p>CHIPPING Max=0.0009mm Area=4pix.</p>

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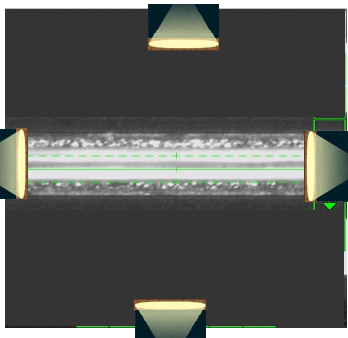
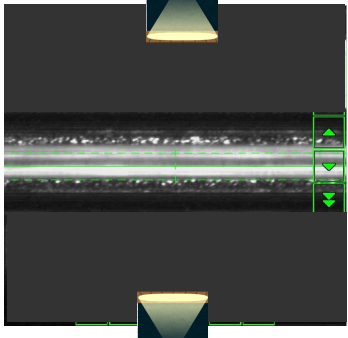
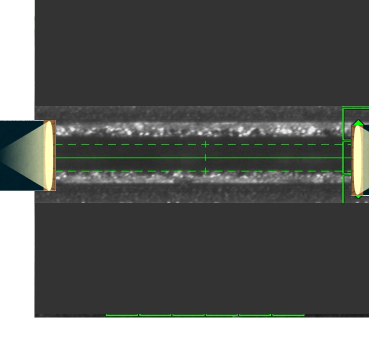


New function of the machine equipped with the LED light

Function for changing the lighting direction for oblique lighting (installed as standard in the 6000 series machines whose software version is 2.5 or later)

For the LED light, it is possible to change the lighting direction between the X and Y directions. For the kerf check for laser grooving or step cutting, selecting the lighting direction, with which the reflection from the lateral and bottom sides of the kerf is low, prevents wrong kerf recognition.

Setting example:

X:ON / Y:ON	X:OFF / Y:ON	X:ON / Y:OFF
		
Light from the lateral and bottom sides of the kerf in the groove reflects, and thus it is difficult to recognize the kerf.		There is no reflection from the lateral and bottom sides of the kerf, and thus it is easy to recognize the kerf.

Inquiries

Please contact your local DISCO sales representative or customer engineer if you have any questions regarding this matter.