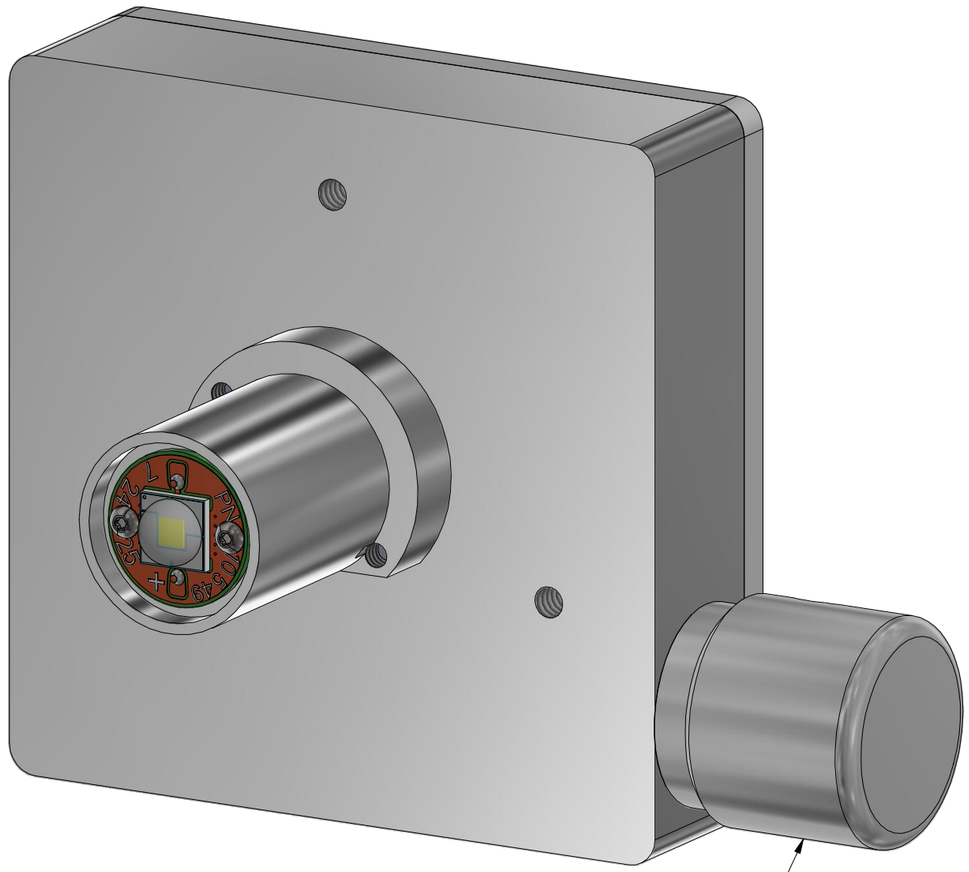
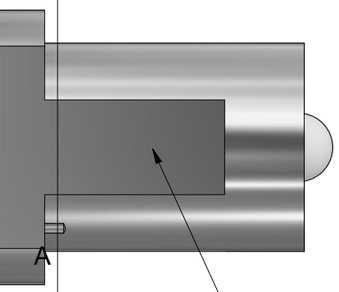
Nanodyne Replacement Illuminator for Zeiss OPMI X-FC* Microscopes - Low Power - Included Items

* This illuminator fits the Zeiss OPMI 1-FC, OPMI 9-FC, Kolposkop Plus and others that we will add as we verify.

PN 12677 OPMI x-FC illuminator Assembly (Low Power)





Bottom surface - Note flat surface for set screw to engage. Also note that the LED lens extends beyond the front of the protective lip on the adapter. This allows the LED lens to enter the small hole at the end of the 14mm hole in the OEM lens holder (and provide a smaller spot of light that is over twice as bright). The protective lip prevents damage to the LED when inserted into the microscope, but only limited protection outside of the microscope.

Intensity Adjust Knob

Additional Items Included But Not Shown:

PN 10456 Hex Key 1.5mm (for the set screw in the OEM lens holder - to remove the 14mm fiber optic cable holder and secure the Nanodyne illuminator)

PN 10733 Power Supply and PN 10734 Cable Assy 1.35mm ID x 3.5mm OD RA plug to USB A 6 foot

The illuminator may be powered by plugging the cable into the power supply provided, or into a suitable USB port on a computer or other device. (USB port may not provide full power)

Power supplies are subject to substitution without notice due to availability issues and changes in regulations.

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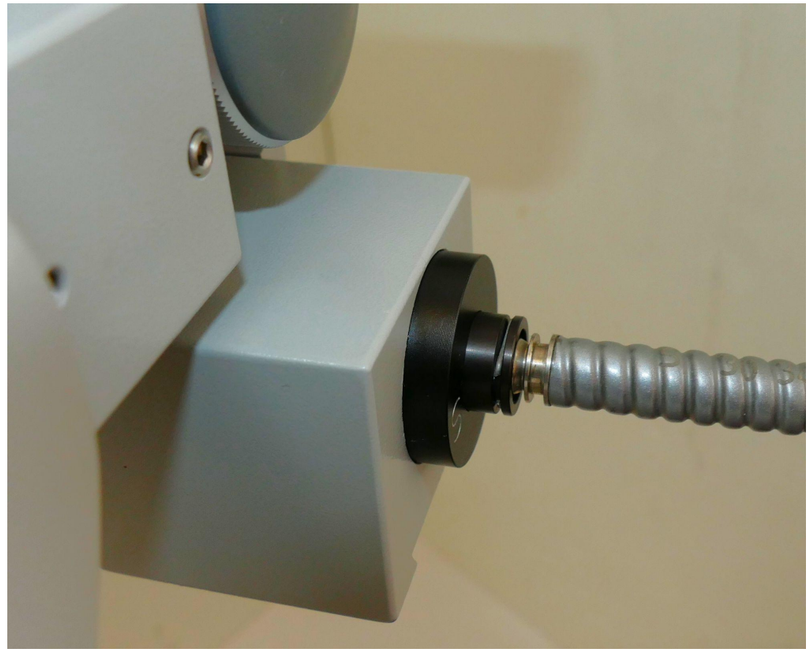
Nanodyne Replacement Illuminator for Zeiss OPMI X-FC* Microscopes - Does it Fit My Microscope?

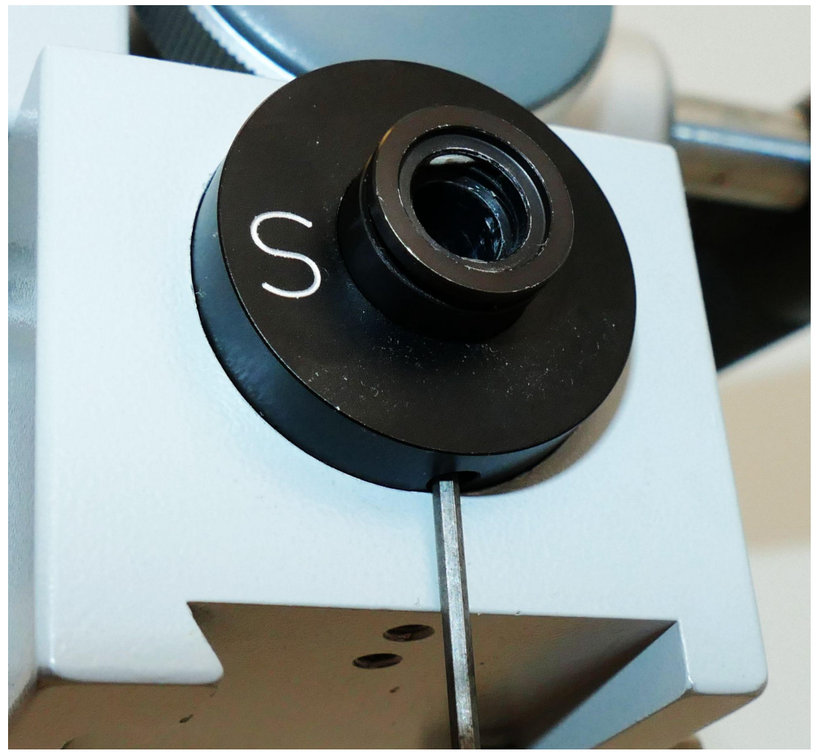


1. Photo at left.

OEM (Original Equipment Manufacturer) light source.

It has a 30mm diameter black metal collector lens holder, and 14mm diameter black metal insert that holds the fiber optic cable.

The insert is shown pushed it all the way, which generally gives the best lighting. It is secured by a set screw (see photos 2 and 3).



2. Photo at left.

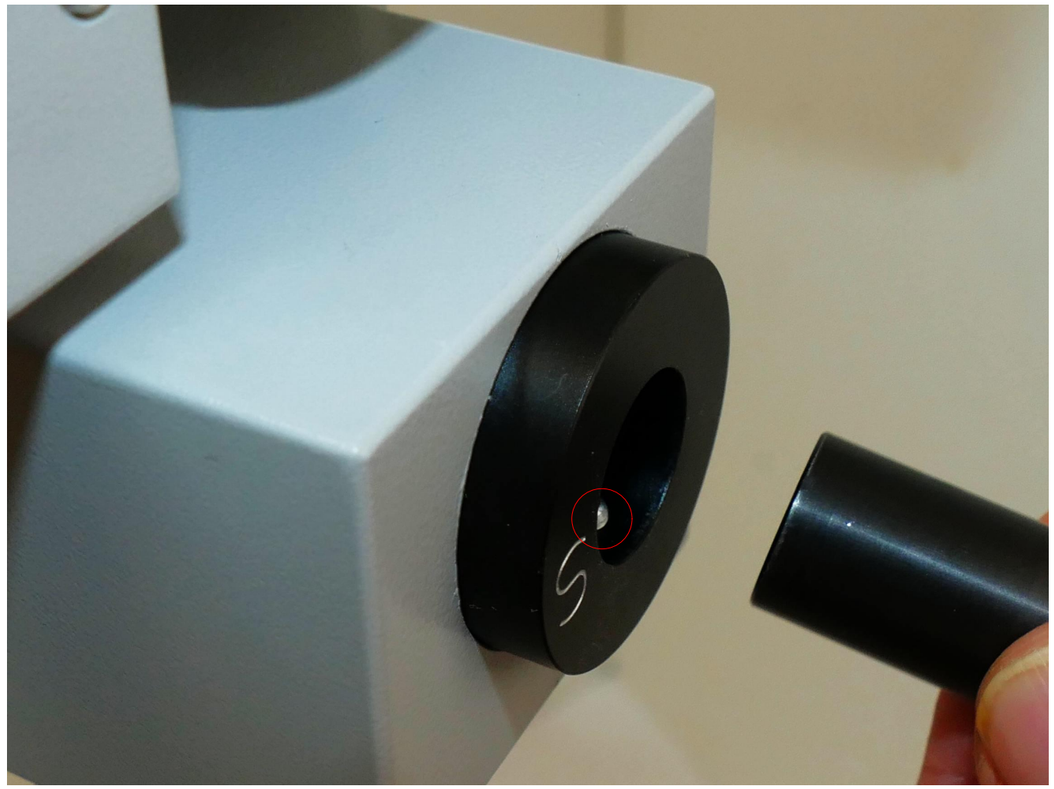
There is a flat on the bottom side of the 14mm insert. The insert will be free to move in and out as soon as the set screw is loosened.

The cable is held by a spring clip can be removed by simply pulling it out as shown here. Loosen the set screw to remove the insert.

* This illuminator fits the Zeiss OPMI 1-FC, OPMI 9-FC, Kolposkop Plus and others that we will add as we verify.

Photos on this page show the port on the microscope that the OEM fiber optic cable plugged into.

That cable and the 14mm diameter part that held the cable are both removed to insert the Nanodyne illuminator. If your microscope has the same port (with or without the engraved letter "S"), this illuminator should fit.



3. Photo above. 14mm insert removed, ready to insert the Nanodyne illuminator.

Note - The red circle shows the set screw protruding into the 14mm hole. Because the flat on the 14mm insert goes all the way to the end, the set screw does not need to be fully retracted to remove the insert, but it must be fully retracted to install the Nanodyne iluminator.

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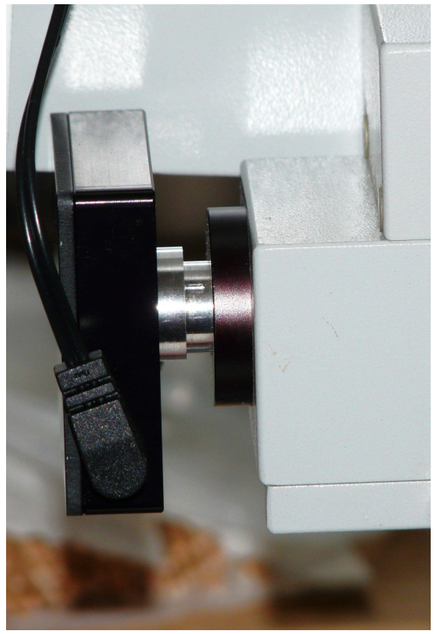
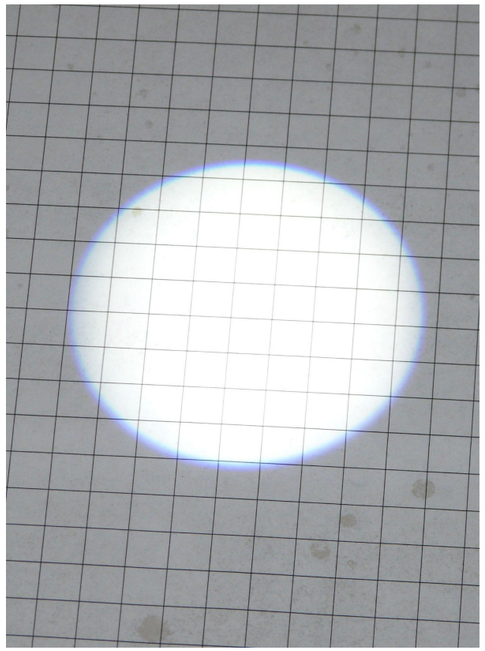
Nanodyne Replacement Illuminator for Zeiss OPMI X-FC Microscopes - Low Power Unit - Performance

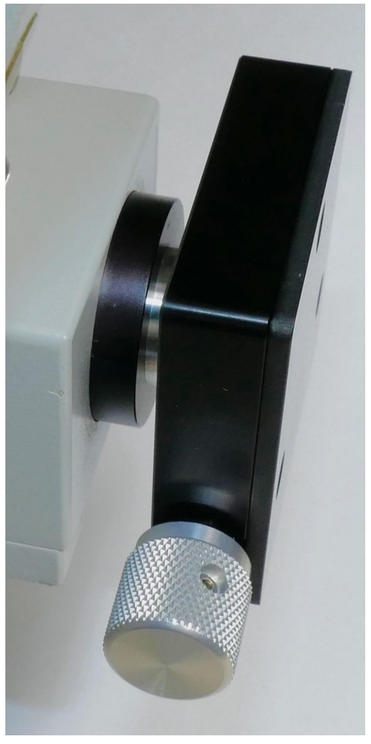


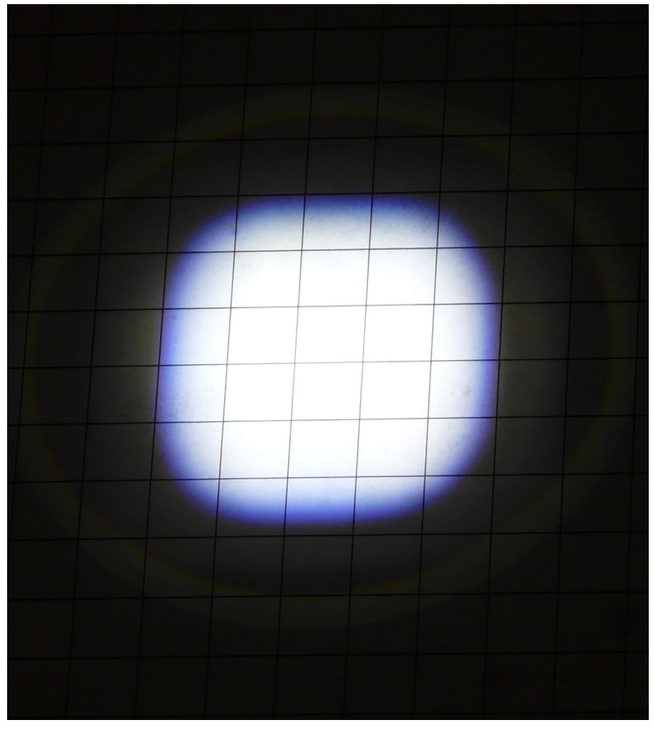


Far Left Image. The illuminator is pulled out about 0.14 inch (3.6 mm) to produce the 3.3 inch diameter uniform circular pattern shown in the middle image.

Near left image. Illuminator adjustment same as far left. Note 2.37Kfc light intensity.

Both at 12 inches, microscope to lighted surface.





Far Left Image. The illuminator is fully inserted to produce a brighter but smaller uniform lighted rectangle of 1.8 inch by 1.6 inch with rounded corners.

Near left image. Illuminator adjustment same as far left. Note 4.36Kfc light intensity.

Both at 12 inches, microscope to lighted surface.

The grid spacing in the center photos showing the lighted area are both 1cm.

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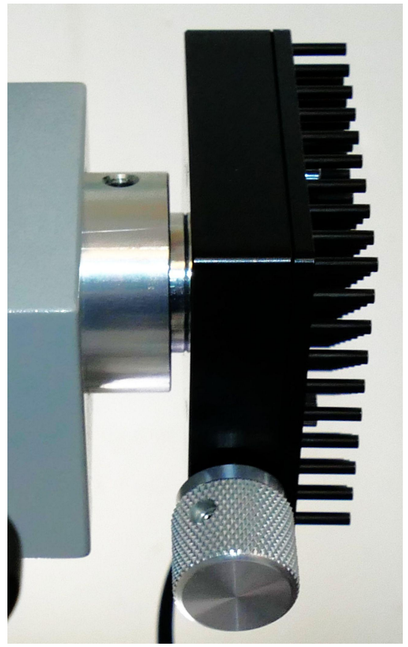
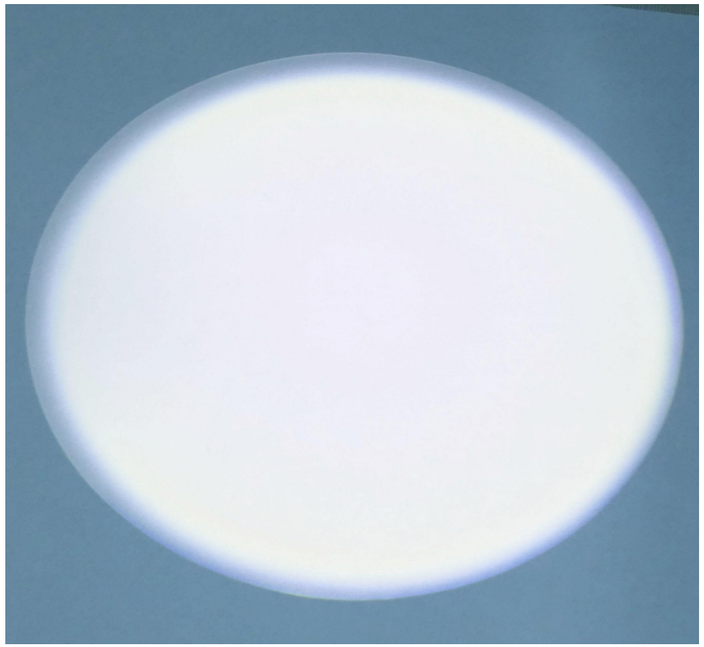
Old Nanodyne Replacement Illuminator for Zeiss OPMI 1-FC Microscope for comparison with new OPMI X-FC

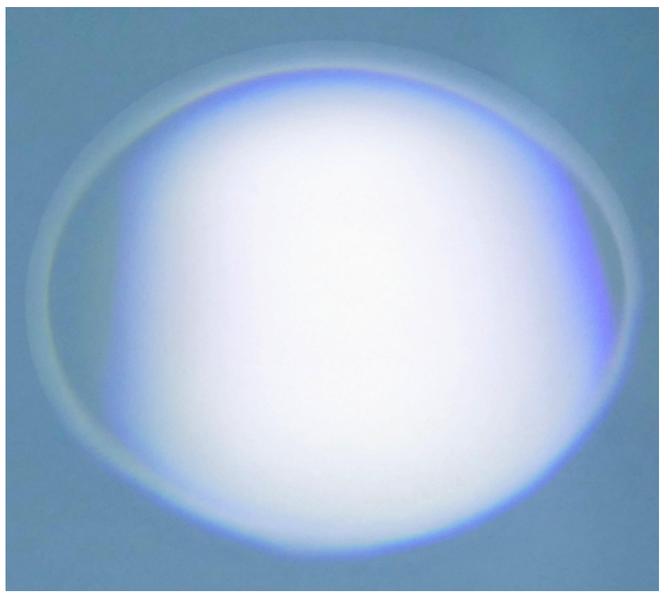


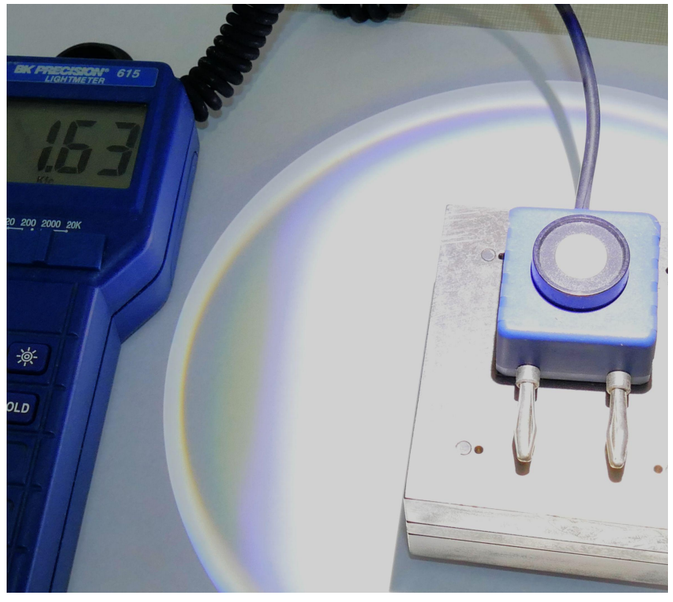


Far Left Image. Unit pulled out about 0.09 inch to produce the 6.0 inch diameter uniform circular pattern shown in the middle image.

Near left image. Illuminator adjustment same as far left. Note 0.98 Kfc light intensity.

Both at 12 inch spacing, microscope to lighted surface.





Far Left Image. Unit pushed in all the way to produce a slightly brighter but much smaller uniform lighted oblong of about 2.0 to 2.5 inch wide by 3 to 4 inch high.

The actual uniform area does not show well in the photo due to over exposure of the lighted area. It is smaller than it looks like from the photo.

Near left image. Illuminator adjustment same as far left. Note 1.63 Kfc light intensity.

Adjusting the illuminator position is much less useful in adjusting the illumination that for the new OPMI X-FC.

Both at 12 inch spacing, microscope to lighted surface.

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Comparison Table - OPMI 1-FC, OPMI X-FC Low Power, OPMI X-FC High Power

Illuminator	Illuminator Position	Description of Illuminated Area Size and Shape	Illumination Intensity at Center (Kfc)	Brighter than OPMI 1-FC by:
OPMI 1-FC (Low Power)	Pulled out 0.09 inch	6 inch diameter circle, good uniformity	0.98	
	All the way in	Fair uniformity over 2 to 3 in by 3 to 4 in area	1.63	
OPMI X-FC (Low Power)	Pulled out 0.14 inch	3.3 inch diameter circle, uniformity looks perfect by eye	2.37	2.42X
	All the way in	Good uniformity over 1.6 by 1.8 inch area (with rounded corners)	4.36	2.67X
OPMI X-FC (High Power)	Pulled out 0.14 inch	3.3 inch diameter circle, uniformity looks perfect by eye	4.07	4.15X
	All the way in	Good uniformity over 1.6 by 1.8 inch area (with rounded corners)	8.35	5.12X

Notes:	The Low Power and High Power X-FC now use the same LED so the light pattern is the same. Only the light intensity is different.
	The 0.14 inch pull out is just a suggestion. You can set it for what works best for you.
	All measurements taken at 12 inches from the microscope objective.

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