

RICOH

imagine. change.

About us

With over 60 years of experience in the manufacture of Machine Vision lenses it is our goal to always offer our machine vision customers the best lens with which to meet the technical constraints of an application. Your system and our lenses will ensure you stay at the forefront of the global market on a long term basis.

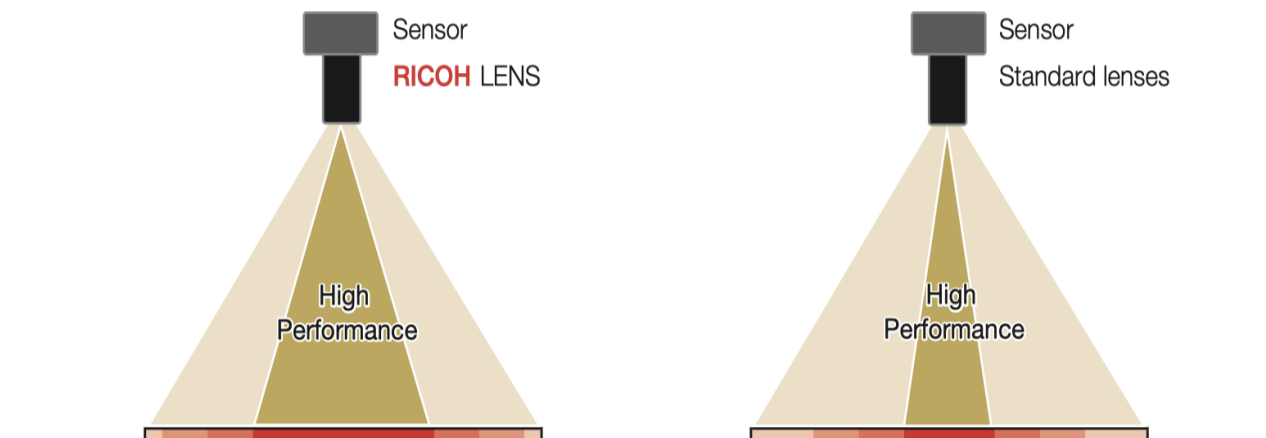
Ricoh products manufactured in Vietnam, Philippines and Japan are ISO 9001 and ISO14001 certified to guarantee the best quality and environmental safety.

- ISO 9001: Our quality management and quality assurance states that all Ricoh lenses are manufactured according to the highest quality standard. The ISO9001 defines the quality assurance of product development and manufacturing.

- ISO 14001: Our environmental management system is ISO14001 certified in Vietnam and Japan. Ricoh is committed to developing a long-term, responsible environmental management and development scheme.

Ricoh's advantage

Ricoh technology has developed excellent optical characteristics even at the periphery, despite the problems with resolution, contrast, distortion and vignetting that competitor's lenses suffer from.

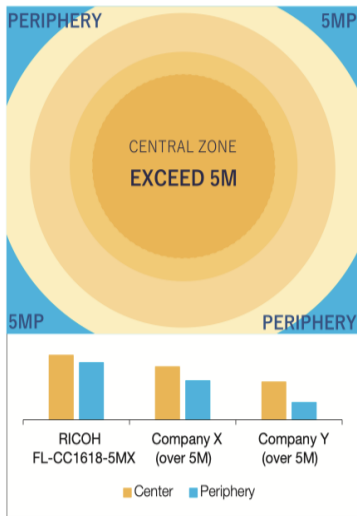


- You can obtain high quality images over a wider viewing area.
- Inspection systems have improved performance due to Ricoh lenses high performing peripheral imagery.

Report 1. Ricoh's optical design, based on machine vision's demand.

Clear images to the periphery

2/3" format 5 Mega-pixel lens



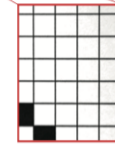
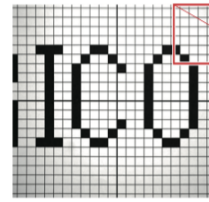
■ 5MP at all distances, maintains 5MP even at the periphery.

WD : 250 mm
investigated by RICOH

■ The quality is better than competitor's higher resolution lenses.

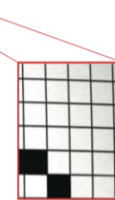
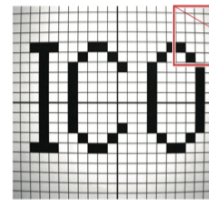
[Extremely low distortion]

FL-CC1218-5MX (w.d.100 f1.8)



■ Low distortion achieves low image degradation at the corners.

Sensor Standard lenses (w.d.100 f1.8)



■ Larger distortion at the corner.

Report 2. Providing the market with high performance lenses

1. Optical simulation technology supported by actual results

To realise this product, we shared information on our vital optical design technology with other products in the Ricoh Group and are always introducing new technology. We introduced Ricoh original algorithms for resolution and ghost analysis, and in post-design trials, we confirmed the characteristics on actual equipment were the same as in our simulation. These results are fed back into the simulation, which in turn helps us improve our technology to ensure performance and build on pre-existing technology.

2. Tolerance accumulation technology with due attention to variations during mass production

Ricoh has created a parts tolerance accumulation system that is replete with our inherent knowledge of optical units, maintaining part processing precision and yield. We establish the required precision at part level in accordance with Ricoh's original algorithms and verify them.

3. Precision adjustment technology during mass production

We have introduced adjustment technology to precision lens processing and assembly to our production process, concentrating the precision adjustment technology created by the Ricoh Group to produce lenses that are even more advanced.