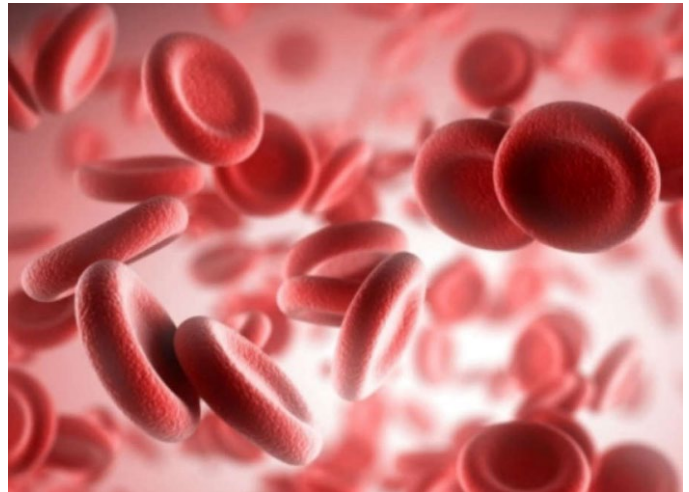


CORNING

Varioptic® Lenses



Liquid lens solution for microscopy



The Corning® Varioptic® business has helped a company developing a portable microscope for red blood cell analysis and monitoring. The challenge of imaging at the microscopic scale relies in the difficulty to capture sharp images due to the narrow depth of field. The liquid lens integrated inside their system allows to refocus at different depth without any moving part, thus improving the analysis of red blood cell samples in remote locations.

Customer's expectations

Our customer's request was to adapt their existing microscope with the integration of a variable focus element:

- Focusing range of a few millimeters
- High image quality
- Automatic best focus image extraction

An additional request was to have a solution that maximizes light throughput since dark field imaging could be considered for future versions.

Selection of a liquid lens optical module

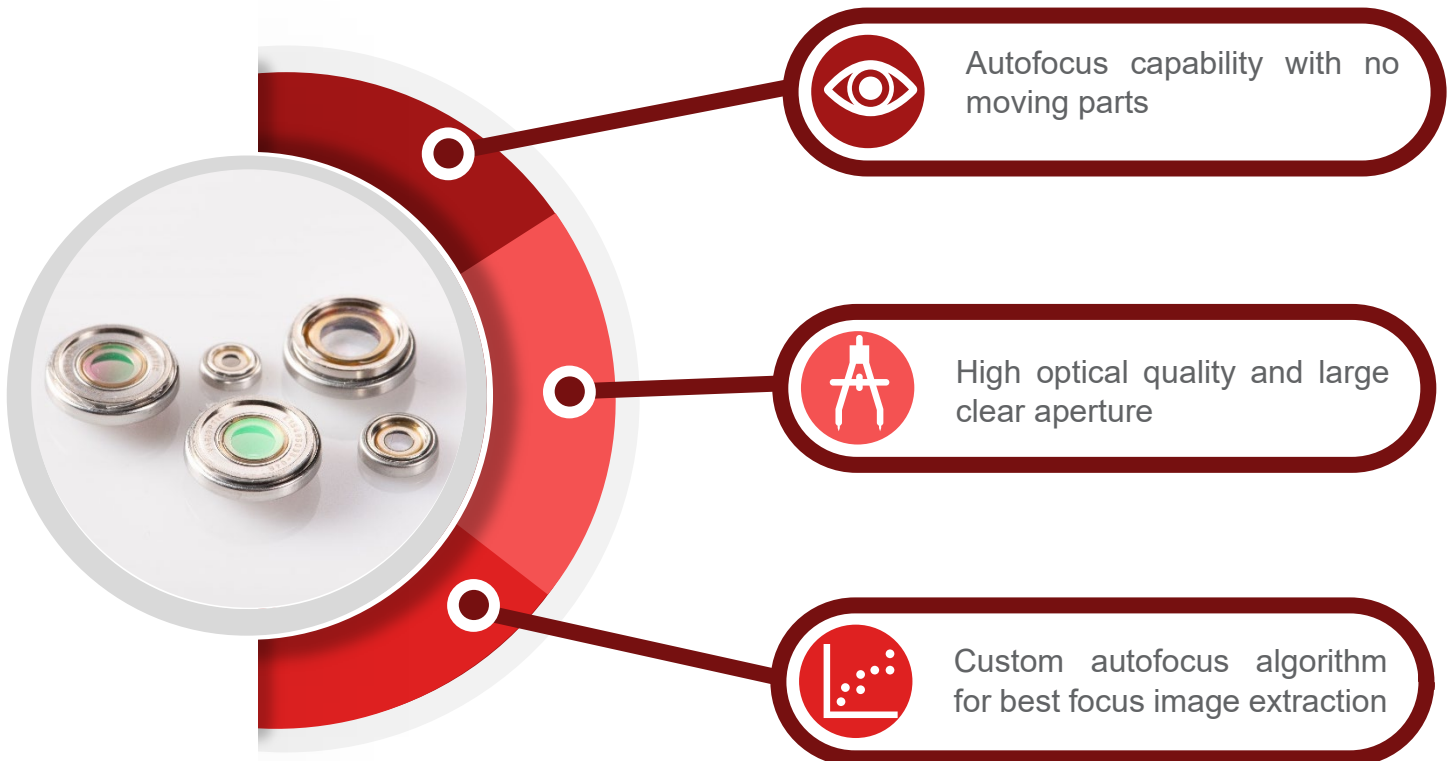
Based on the customer's optical requirement, Corning Varioptic was able to provide an off-the-shelf liquid lens that fitted the technical specifications: the A-58N0. This lens has a clear aperture of 5.8 mm and a dynamic range of 15 diopters.

The compliance with the range of focus was possible thanks to the optical dynamic range of the liquid lens integrated in their microscope. Without moving parts, the focus can be shifted at different depth of the biologic sample.

Thanks to the low wave front error of liquid lenses, the optical system can capture high quality images at the cellular level. The large clear aperture of the liquid lens also allows plenty of light to reach the sensor.

The automatic best focus image extraction is made possible thanks to the dedicated electronics provided by Corning Varioptic. A ramp focus algorithm has been optimized for this specific use-case which scans the entire depth of the sample. A sharpness detection algorithm was developed by the company to extract the sharpest image for his use-case.

Key solution highlight



Contact us

You would like to know more about our products, or you have a specific use-case in mind?

Please visit our website: [Corning® Varioptic® Lenses](https://www.corning.com/varioptric)

Or contact us at varioptric@corning.com

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