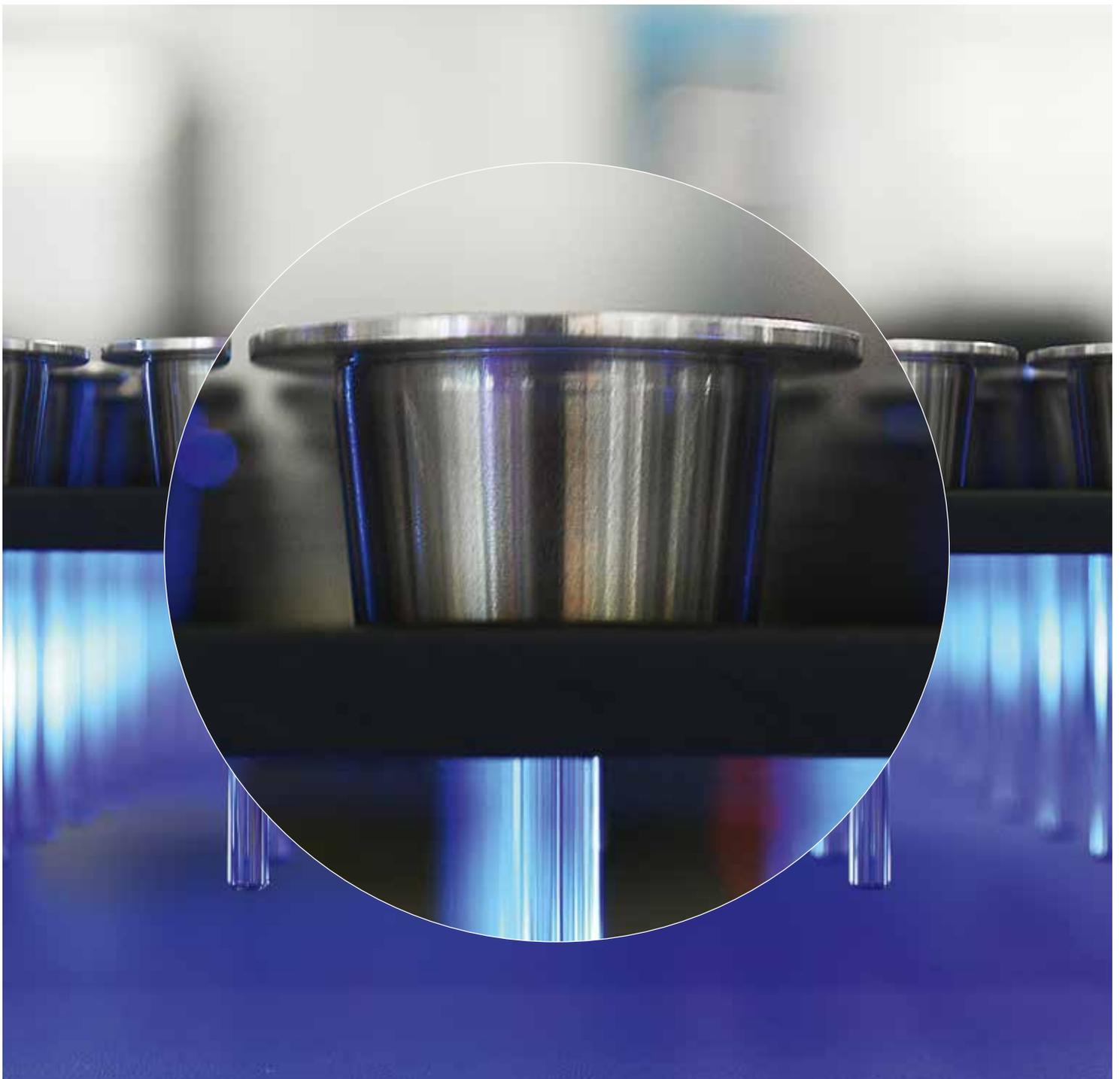
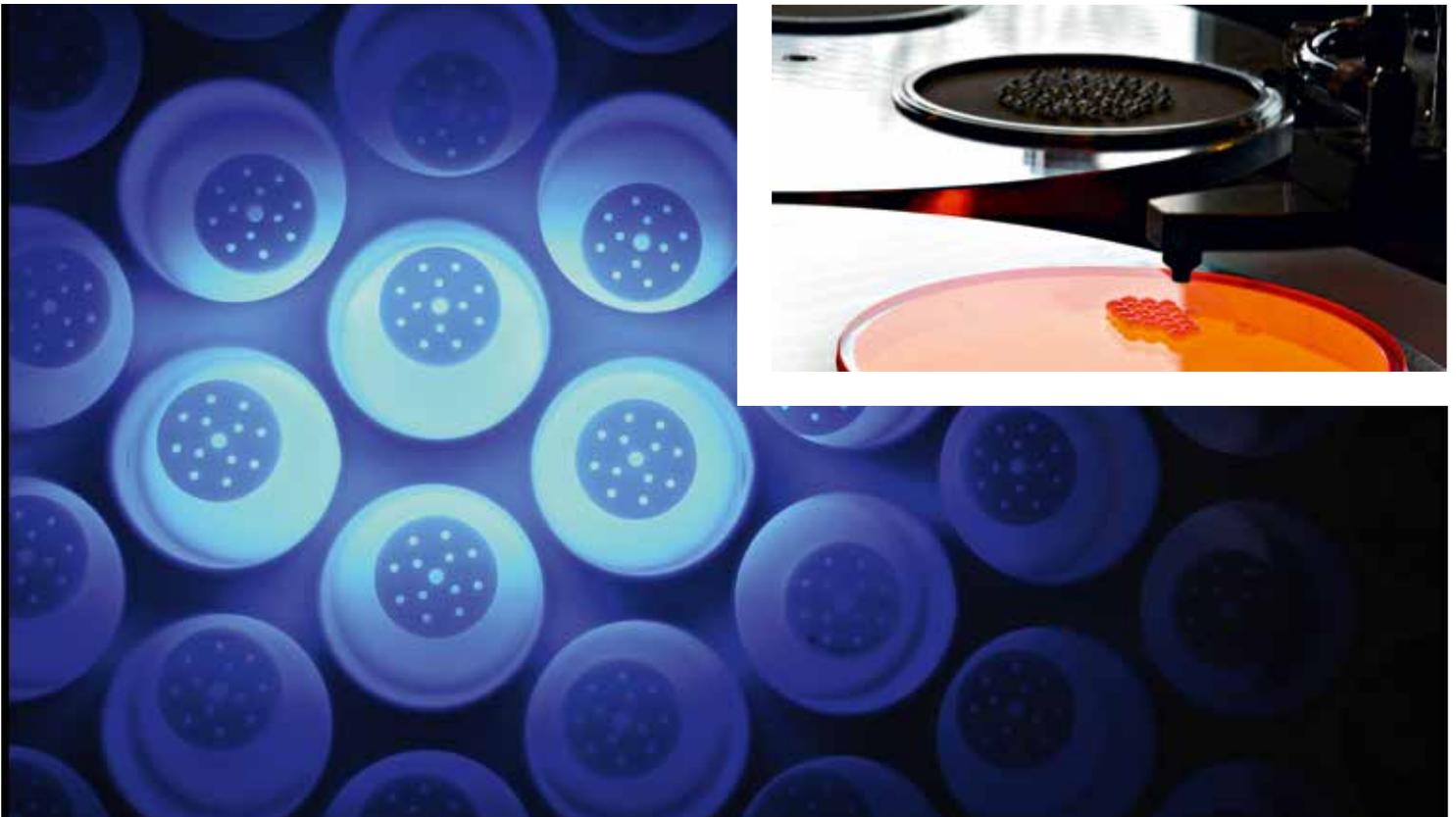


# COMPONENTS FOR FLUID- HANDLING APPLICATIONS

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# COMPONENTS FOR FLUID-HANDLING APPLICATIONS



Ceramaret designs and manufactures components from ultra-hard materials such as advanced ceramics (alumina  $Al_2O_3$ , zirconium oxide  $ZrO_2$ , silicon nitride  $Si_3N_4$  and silicon carbide  $SiC$ ), synthetic sapphire and ruby.

Components for precision pumps and dispensing devices such as pistons, valves and check valves require a high degree of accuracy. Ceramaret excels in this domain, regardless of the hard materials used.

In the analytical systems sector, Ceramaret has provided components of various ultra-hard materials, chemically inert, and resistant to the harshest solvents.

At Ceramaret, each project is analyzed by a team of experienced technicians who will carefully examine your requirements. A solution will then be proposed, often consisting of several stages, whether it be for your prototypes, pre-series, or series production.



## ROTORS AND STATORS

High-quality ceramic rotors and stators (aluminium oxide  $\text{Al}_2\text{O}_3$  99.9%, 99.7% and 96% and zirconium oxide  $\text{ZrO}_2$ ) are used in low and high pressure injection valves. These elements are also a vital part of any other switching valve system where inert materials resistant to the harshest solvents are required.



## BALL VALVES

Ball-type check valves are essential to the proper functioning of HPLC and U-HPLC pumps, flow meters, homogenizer systems, and other pipettes. The tightness performance of the ball valve guarantees the quality and precision of the instruments into which they are installed. The materials selected for manufacturing the valves depend on the specific application. Material combinations for the ball and seat can be chosen in accordance with the requirements, from the following materials: zirconia, alumina, sapphire, and ruby. These materials are inert and resistant to the harshest solvents.



## CARTRIDGES

An instrumentation check valve may be installed as is or encapsulated in a cartridge offering superior leak tightness and ease of handling. Ceramaret has developed many different cartridge types, some of a generic nature for common applications, others of a customized nature to meet specific client requirements.



## PISTONS

Sapphire or ceramic pistons (aluminium oxide  $\text{Al}_2\text{O}_3$ , zirconium oxide  $\text{ZrO}_2$  and silicon carbide  $\text{SiC}$ ) are essential parts for precision HPLC and U-HPLC pumps and dispensing devices. The extreme hardness of the materials used, combined with the exceptional component geometry and surface finishes, give HPLC pumps unmatched performance and durability. The selected materials are inert and resistant to the harshest solvents.



## CERAMIC PISTON & CYLINDER SETS

After a very high-precision geometric and dimensional machining process, piston & cylinder sets are matched in order to achieve strict ceramic sealing requirements. This type of pump is used in the precision dispensing sector as well as in the pharmaceutical and medical industry.

## COMPONENTS FOR FLUID- HANDLING APPLICATIONS



For over a century, Ceramaret has dedicated itself to shaping, machining and polishing hard materials. Founded during the industrialization of the watchmaking industry, Ceramaret has been successful in opening itself up to new technologies thanks to a visionary development strategy.

The expertise of our employees and state-of-the-art production facilities are key elements in meeting our clients' needs. Our ISO certifications (9001: 2015, ISO 14001: 2015, OHSAS 18001: 2007 and ISO 13485: 2012), coupled with our continuous improvement policy guarantee our success.

## CONTACT US

