



## CASE STUDY 201

# Aseptic quick connector for a safe transfer of valuable media



### Background

Quattroflow displacement pumps with a 4-piston diaphragm technology are used for biopharmaceutical applications, which always require a very high degree of purity, product safety and purification capacity. The pump operation enables safe pumping of shear sensitive products in aqueous solutions. The design does not require any mechanical shaft seals and product-contacted rotating parts. This ensures a high degree of product safety without abrasion or particle formation. Other features are risk-free dry running, low pulsation and automatic suction. The choice between the Multiple-Use-and Single-Use designs allows consideration of the process-related requirements.

Quattroflow has been integrated in the Almatec Maschinenbau GmbH portfolio since 2012. It is part of the American PSG, which combines several international pump companies among themselves.

### Challenge

The Quattroflow Single-Use pump chamber is used as a single-use pump in biopharmaceutical processes. In order to offer users a flexible option to integrate the gamma-irradiated pump chambers under aseptic conditions in the process, and to connect it with other pre-irradiated components (bags, filters, etc.), a suitable connector had to be found.

In order to find the right product, different vendors were initially contacted, wherein the search focused on aseptic quick-connect couplings.

### PROBLEM:

Users of the “single-use” Quattroflow pump should have the opportunity to easily integrate the gamma-irradiated pump chambers into the process under aseptic conditions and to flexibly and safely connect it with other components.

### REQUIREMENTS:

- A design that is easy to operate
- Safe and reliable connections
- Maximum flexibility when connecting into single use systems

### SOLUTION:

In day-to-day production, the AseptiQuik® G connectors by CPC ensure safe and reliable sterile connections for the transfer of valuable media and enable simple and flexible aseptic integration of pre-sterilized Quattroflow pump chambers into biopharmaceutical processes.





AseptiQuik® connector with a sanitary connection



#### About CPC

CPC is the leading designer and manufacturer of quick-connect couplings, fittings and connectors for the medical, biotechnology, industry and chemistry fields. The innovative coupling and connection technology by CPC allows a quick and safe connection and disconnection of flexible tubes for a wide range of applications.

**Smart fluid handling to take you forward, faster.**

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“Ultimately, we chose the connectors of the AseptiQuik® G series. Previously, we had none of the manufacturer’s products in use, but the quality of the connectors and the ease of application convinced us from the beginning,” says Andreas Frerix, Quattroflow Product Manager. “In particular, the ‘genderless design’, i.e., the connection of two identically shaped connectors is successful and provides the end user with maximum flexibility when using bags or the like.”

#### Solution

The products of CPC allow easy connections in different application scenarios and attest to good quality. In day-to-day production, the Quattroflow demonstrates quickly that the solution is technically mature, and safe and reliable connections can be established quickly and easily. The AseptiQuik G connectors ensure sterile connections when transferring valuable media, even in a non-sterile environment. The easy-to-use design of the AseptiQuik G series is compatible with every connector of the G series and offers biopharmaceutical manufacturers simplified system integration and greater process flexibility.

#### Result

Using aseptic connectors by CPC, enables a simple and flexible aseptic integration of Quattroflow pump chambers treated with gamma rays in biopharmaceutical processes. This allows users to flexibly and aseptically connect the pump chambers depending on process requirements with bags, tubes and filters, which are also equipped with matching aseptic connectors. In principle, an aseptic connection can now be established anywhere. For the user of the Quattroflow pump this means a significant simplification of pump handling and the user ultimately saves resources, which can be efficiently used elsewhere. Where it is technically feasible, CPC products will be included in the project planning phase of Quattroflow pump applications in the future.

