

Operating Instructions / Handling QC2 / G-Series

Before using, read carefully and store in a safe location



QC2 connector series DK / RK / JK / AK * Material PE-HD / PVDF / PP conductive, G-Series connector series GH-DK / GH-RK / GH-AK * Material PE-HD / PVDF



QC head
standard

QC head
conductive

QC head
G series

The standard dispense heads / filling heads of the QC2 series DK / RK / JK / AK and the G series GH-DK / GH-RK / GH-AK are intended for the clean and safe dispensing / filling of inorganic chemicals; the conductive QC2 dispense head and filling head of the previously mentioned series are intended for the clean and safe dispensing and filling of organic chemicals. The dispensing from or filling into containers takes place in combination with the dip tube that is part of the system. The conductive version is electrostatically safe in accordance with Cenelec Technical Report TR 50404:2003 and can thus be used in zones 1 and 2 for liquids of the entire IIA explosion group. Filling heads are always marked with a red pin on the clamping ring.

Conditioning:

Cleaning was performed in an ultrasonic bath. During initial commissioning, the first litres of product are to be used as a washing chemical.

Safety precautions for connectors:

The general safety and occupational safety regulations of BG Chemie are to be observed. When working with chemical materials, safety clothing must be worn.

The standard dispense head that comes into contact with liquid is made of PE-HD; the conductive dispense head is made of conductive PP. Chemicals cause PE-HD and conductive PP to become brittle after years of use. The maximum period of use should not exceed three years. For oxidizing chemicals such as nitric acid, one year must not be exceeded. The dispense head is designed for pump systems. For new installation, a test run is to be performed with ultrapure water (do not confuse dispense head and RK recirculation). For the conductive version, grounding is to be tested prior to commissioning. Before using the connectors, the materials are to be checked for their chemical resistance.

A periodic check of the perfluoro-elastomer seal is recommended.



If necessary (loss of suction), this seal is to be replaced.



The gas connection is used exclusively for venting the container or package. Under no circumstances may it be used to recirculate liquids. Before commissioning the system, it must be ensured that no vibrations of the feed pump connected to the system are transferred to the connectors.

The hose connections must be mounted professionally and free of tension. When using conductive QC heads, use appropriate means to ensure grounding.

For connectors of the AK series (QC2, G-Series with shut-off valve - no check valve), the shut-off valve must be closed prior to decoupling (horizontal position)

The correct connection of the dispense / fill head and dip tube as well as the correct fit of the coding disc in the dip tube coding must be visually checked before starting each pumping process. When using high-performance pumps (flow rate approx. > 10 l / min), additional measures must be taken to prevent suction in the case of mismatched coding. When commissioning the system, check whether the pump output can lead to the possibility of suction due to incorrect coding.

Possible measures for double protection include the use of limit switches or bubble sensors in the dispense / fill heads, additional checks of the chemical, e.g. by RFIID or barcode alignment. During filling operations, these measures must be carried out independently of the pump capacity.

Safety precautions for dip tubes:

The maximum period of use of Quick Connect dip tubes should not exceed two years. Particularly when using with hydrogen peroxide, one year is not to be exceeded; for nitric acid and nitric acid mixtures, it is six months.

Maintenance:

The connector is to be visually inspected at regular intervals - at least 1x per month - for damages and discolourations. In particular, the O-rings and the function of the check valve (check for leaks) are to undergo periodic checks 1x per month.

Coding:

The dispense head can optionally be operated with a pin-hole coding system. To use, please refer the list of *chemical codes*.

For chemicals not listed here, please contact the chemical manufacturer.

Dismounting the coding disk:

The coding disk can be removed after pulling off the black O-ring.

Technical details:

Tightening torque:

Nm 6,5 (hand-tight)

Check valve:

QC2: opening pressure 0.1 bar

G-Series - dispensing:
opening pressure 0.015 bar

G-Series - filling:
opening pressure 0.07 bar

Gas connection:

QC2: FNPT 3/8" (female)

G-Series: FNPT 1/2" (female)

(can be equipped with Flare hose connector or particle filter)

Flow rates:

QC2 Series DK / RK / JK
with check valve: max. 20 litres/min.

QC2 Series AK
without check valve: max. 55 litres/min.

G-Series
GH-DK / GH-RK: max. 100 litres/min.

G-Series GH-AK: max. 150 litres/min.

Liability:

AS Strömungstechnik GmbH can accept no liability for errors or damages that result from improper handling of the QC dispense heads. Improper handling includes, in particular, failure to observe the operating instructions. Testing the chemical resistance of the connectors and their operational life is the responsibility of the customer. In the interest of the further development of AS products, we reserve the right to make design changes.

Handling QC2 / G-Series
Dispense head - standard and conductive
Series QC2 DK / RK / JK / AK * G-Series GH-DK / GH-RK / GH-AK
 Read carefully before use and keep for later reference.



	In the first step , the packaging of foils and hoods is to be opened in the Clean room.
	2. After removing the dust cap...
	2.1 ... the drum is ventilated via the 3/4" plug with the QC tool. Escaping gases are to be removed with an exhaust ventilation system.
	3. The plug remains on the tool.
	4. The QC dispense head is inserted into the dip tube and positioned by aligning the coding disk.
	5. See coloured marking in the coding disk and dip tube.
	6. Hand-tighten the union nut to establish the connection between dip tube and dispense head. The correct connection of the dispense / fill head and dip tube as well as the correct seat of the code disk has to be checked every time prior to starting of the pumping process.
	7. After dispensing by means of a pump, the union nut is loosened and, after a short dwell time, ...
	8. ... it is moved to its system-side rest position. (docking station)
	9. The dip tube is closed hand-tight with the 3/4" plug...
	10. ... and fitted with the dust cap.
	Packages from 5 to 1,000 litres are operated with the QC-System.

