



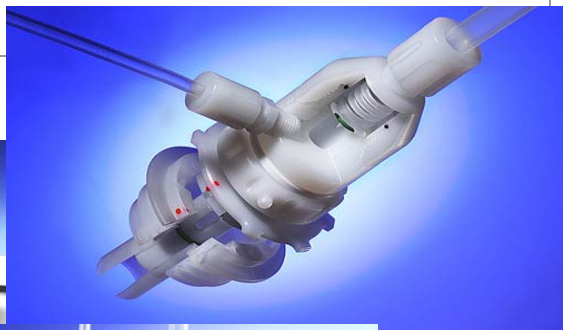
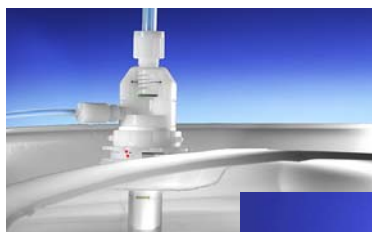
Strömungstechnik GmbH

High-Tech Products

version 07/2007

AS-QUICK CONNECT DISPENSE SYSTEM FOR LIQUID CHEMICALS

* QC-2 dispense head U.S. PAT.No. 6,357,494 *



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■ Information about the “AS-Quick Connect System”



1. Overview
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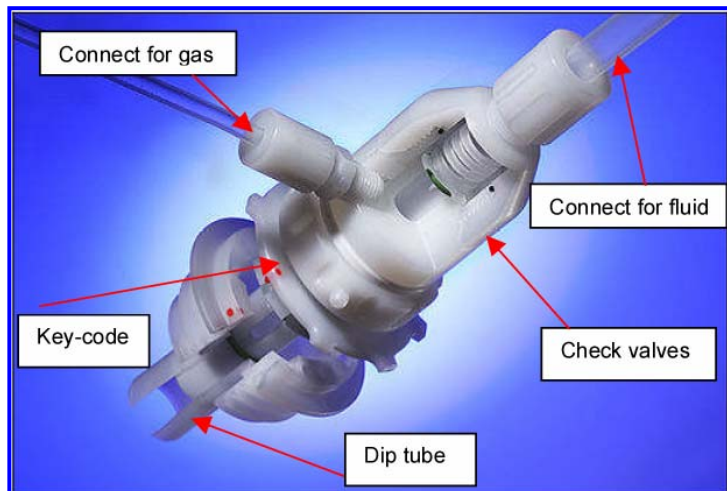


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1. Overview AS-Quick Connect Dispense System



New technologies change the way we deal with chemicals.

Safety and protection work two ways: We protect people and our environment from hazardous chemicals. On the other hand we protect our high quality chemicals from being contaminated by people. This two-fold protection works when using closed production cycles.

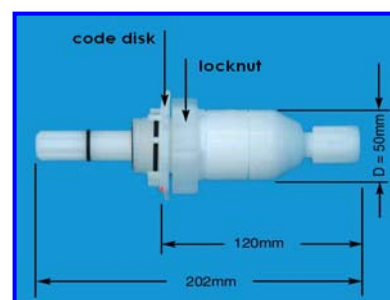
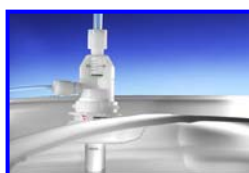
Here's where the Quick Connect System is the perfect fit for your needs.

The AS-Quick Connect (QC) System

is a discharging system for liquids. A fill or dispense head and a dip tube are needed for the system to work. The dip tube remains in the container, the dispense head is stored close to the reactor. For discharging the liquid the dip tube is joined with the dispense head via a quick connect docking device. The filling or dispensing process is done by pump.

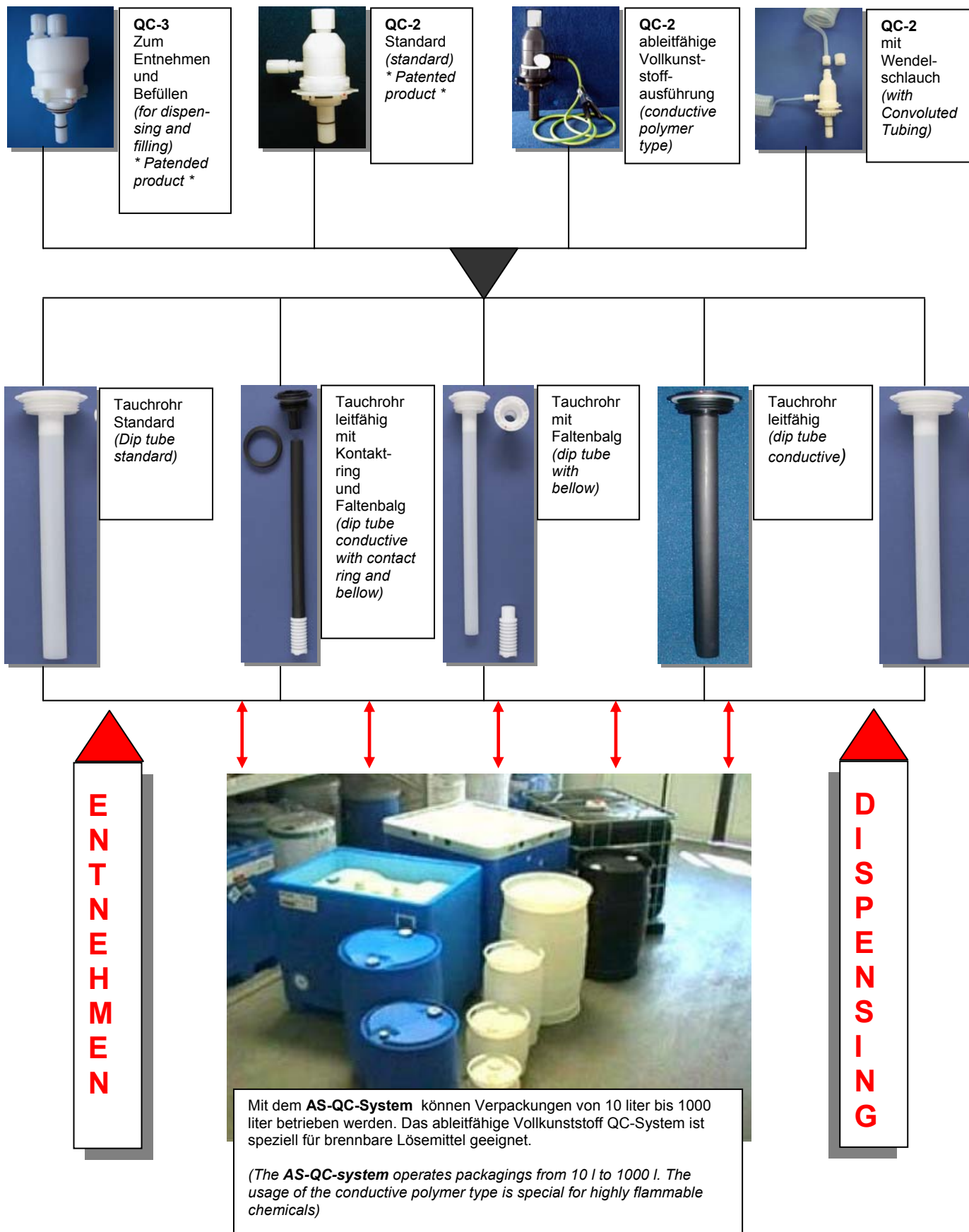
The special features of the AS-Quick Connect System - protected by patent – include:

- all components are made of plastic material
- the gaskets are made of high chemical resistant perfluoroelastomers
- back flow prevention by check valve
- coding to the corresponding chemical by pin setting without contact to the chemical
- standard size fittings to the threads
- the system is qualified for high purity electronic chemicals
- the dip tubes are manufactured by injection moulding and are priced for disposable use
- a connector is available to Fluoropure dispense head
- an electrically conductive version available for highly flammable chemicals



Quick Connect System
by
as Strömungstechnik GmbH

■ 1.1 AS-Quick Connect Dispense System for liquid chemicals



Diese Darstellung zeigt das Grundprinzip des QC-Systems. Die Abbildungen der einzelnen Systemkomponenten sind Beispiele und variieren nach Wunsch in Größe, Anschluss, Material und Zubehör.
(This representation shows the basic concept of the QC system. The illustrations of the individual system components are examples and vary as required in size, connection, material and accessories.)

■ 2. Quick Connect dip tube specification

DT - XXXX - XX - XXXX - XX

dip tube	thread/material of construction	chem.code	length dip tube from sealing surface (mm)	plug size/design	material dip tube
DT	56PP 70 PP 70x5PE (Kodama) 62 PE 62 CD(PP conductive) G2" G2"CD(PP conductive) K60PE Fl150 =flange150mm chemical 020 recirculation XXX without Code mm XXXX=1000mm	S = 3/4" standard V = 3/4" ventilation T = 42x2 standard W= 42x2ventilation	A = PE A-resin D = PE D-resin C = PE conductive F = flexible

Seals standard from PELD - Deviations, e.g. "FPM" show off with addition.

Example of code details. The lengths can vary at the manufacturers.

international Code	manufacturer	typ	filling amount
DT-56PP-020-0000-S		recirculation	
DT-56PP-XXX-0225-TD	Mauser	drum PE SVR	10l
DT-56PP-XXX-0489-TD		Composite drum sheet steel/PE	25l
DT-56PP-XXX-0495-TD		Composite drum sheet steel/PE	30l
DT-56PP-XXX-0650-SD	Duttenhofer	Composite drum sheet steel/PE	60l
DT-56PP-XXX-0635-TD	Mauser	Drum PE SVR	60l
DT-56PP-XXX-0715-TD	Mauser	L-Ring drum	120l
DT-56PP-XXX-0785-SD		Composite drum sheet steel/PE	120l
DT-56PP-XXX-0835-SD	Greif	Composite drum sheet steel/PE	200l
DT-56PP-XXX-0845-SD		Composite drum sheet steel/PE	200l
DT-56PP-XXX-0880-SD	Rikutec	PE drum 1	200l
DT-56CD-XXX-1000-SC	Schütz	IBC Ecobulk SX-Ex	1000l
DT-56PP-XXX-1010-TF	Mauser	composite IBC	1000l
DT-56CD-XXX-1030-FC	Schütz	IBC Ecobulk SX-Ex	1000l
DT-56PP-XXX-1030-SF	Schütz	IBC Ecobulk MX	1000l
DT-KS60-XXX-0372-SD		Can PE	30l
DT-62PE-020-0000-S		recirculation	
DT-62CD-020-0000-S		Recirculation conductive	
DT-62PE-XXX-0715-SD		Kombi-IBC COEX RR	500l
DT-62PE-XXX-0850-SD	Müller	Composite drum sheet steel /PE	200l
DT-62PE-XXX-0890-SD	Greif	PE drum	200l
DT-62PE-XXX-0896-SD	Fluoroware	PE drum	200l
DT-62PE-XXX-0905-SD	Rikutec	PE drum UC	200l
DT-62CD-XXX-0905-SC	Rikutec	PE drum CD conductive	200l
DT-62CD-XXX-0915-TF	Rikutec	PE drum CD conductive	200l
DT-62PE-XXX-0925-SD	Fluoroware	Asien PE drum	200l
DT-62PE-XXX-0992-SD	Hessentaler	IBC	500l
DT-G2"CD-XXX-1000-SC	Schütz	IBC Ecobulk SX-Ex	1000l
DT-62PE-XXX-1005-SD	Rikutec	Kombi IBC UC	1000l
DT-G2"CD-XXX-1030-SC	Schütz	IBC Ecobulk SX-Ex	1000l
DT-62CD-XXX-1030-SC	Rikutec	Kombi IBC CD conductive	1000l
DT-62PE-XXX-1040-SF	Rikutec	Kombi IBC UC	1000l

■ 3. AS-Quick Connect dispense head specification

DH – XX – XX – XXX – FX/X – FX/X

dispense head	function	gasket	Material of construction	Chemical code	Connector fluid	Connector gas
	<ul style="list-style-type: none"> ▪ dispense – D ▪ recirculation - R 	<ul style="list-style-type: none"> ▪ Kalrez - K 	<ul style="list-style-type: none"> ▪ PE ▪ CD 	<ul style="list-style-type: none"> ▪ ... (chemical) ▪ . 20 (recirculation) 	<ul style="list-style-type: none"> ▪ F1/2" Flaretek ▪ F3/4" Flaretek ▪ F1" Flaretek ▪ R1/2"R-thread ▪ 1/2" tube plug ▪ 3/4" tube plug 	<ul style="list-style-type: none"> ▪ F1/4" Flaretek® ▪ F3/8" Flaretek® ▪ P – plugged

Types:

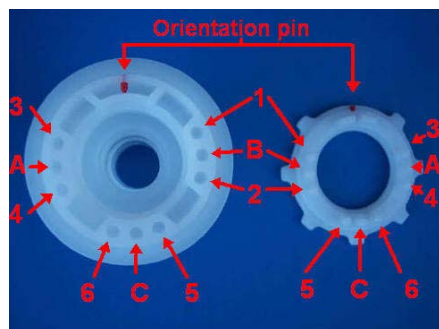
Hon.Pm.No.	International Code
89700	DH-DK-PE-XXX-F1/2"-F1/4"
89730	DH-RK-PE-020-F1/2"-F1/4"
89715	DH-DK-PE-XXX-F3/4"-F1/4"
89731	DH-RK-PE-020-F3/4"-F1/4"
89721	DH-DK-CD-XXX-F3/4"-F1/4"
89733	DH-RK-CD-020-F3/4"-F1/4"
89717	DH-DK-PE-XXX-F1"-P
89716	DH-DK-CD-XXX-F1/2"-F1/4"
89732	DH-RK-CD-020-F1/2"-F1/4"
89719	DH-DK-PE-XXX-T15mm-F1/4"



■ 4. Chemical code

Chemical coding list AS-Quick Connect System

(Thread BCS 56 x 2, BCS 62 x 5 and BCS 70 x 6)



Code No.	Dip tube bolts set in	Coding disk existing pins	Product
3	125	346ABC	Acetic acid (CH ₃ COOH)
63	46C	1235AB	Acetone (CH ₃ COCH ₃) Ex
5	134	256ABC	Ammonium fluoride solution (NH ₄ F)
47	56C	1234AB	Aluminium sulphate solution 2%
4	126	345ABC	Ammonium hydroxide solution (NH ₄ OH)
69	14A	2356BC	Ammonium hydroxide solution with 1% EDTA
65	25B	1346AC	B-6 positive developer
14	245	136ABC	BOE 1 (AF 500:1)
15	246	135ABC	BOE 2 (AF 9:1 und BOE 20:1)
61	45A	1236BC	BOE 3 (AF LST)
18	346	125ABC	BOE 4 (AFW) with water
62	46B	1235AC	BOE 5 (AFW LST) with water and surfactant
71	14C	2356AB	BOE 6 (AF 8:1)
44	4BC	12356A	Bulk SI-Etch BT (20-30% HNO ₃ /15-25% H ₂ SO ₄ /10-20% HF/ 10-20% H ₃ PO ₄)
64	46A	1235BC	Choline
13	236	145ABC	Chrome Etch
31	5AB	12346C	EBR 1 Ex
32	6BC	12345A	EBR 2 Ex
70	14B	2356AC	EKC 265
28	2AB	13456C	Etching mixture AWAp
52	23A	1456BC	not assigned
41	36C	1245AB	Etching mixture PWS (H ₃ PO ₄ /HNO ₃) Ex
27	2AC	13456B	Etching mixture SEF (HNO ₃ /CH ₃ COOH/HF)
60	45C	1236AB	Etching mixture SF (HNO ₃ /HF)
8	145	236ABC	Etching mixture SPE (HNO ₃ /H ₃ PO ₄ /CH ₃ COOH)

■ 4. Chemical code

16	256	134ABC	Etching mixture SPF (HNO ₃ /H ₃ PO ₄ /HF) and PESF (H ₃ PO ₄ /CH ₃ COOH/HNO ₃ /HF)
43	36B	1245AC	Ethylene glycol
68	12C	3456AB	HMDS
6	135	246ABC	Hydrochloric acid (HCl)
11	234	156ABC	Hydrofluoric acid < 20% (HF)
12	235	146ABC	Hydrofluoric acid 20% - 60% (HF)
59	45B	1236AC	Hydrofluoric acid 61% - 75% (HF)
67	25A	1346BC	Hydrofluoric acid alcohol mixture
7	136	245ABC	Hydrogen peroxide (H ₂ O ₂ +H ₂ O)
40	13B	2456AC	IPA/Amin/DPGME Ex
24	1AC	23456B	Isopropyl alcohol (Isopropanol) Ex
1	123	456ABC	Nitric acid (HNO ₃)
23	1BC	23456A	NMP
39	13A	2456BC	NMP/TMAH Ex
36	3AC	12456B	NOE-Etch
48	56A	1234BC	not assigned
49	56B	1234AC	not assigned
50	23B	1456AC	not assigned
51	23C	1456AB	not assigned
53	35B	1246AC	not assigned
54	35C	1246AB	not assigned
55	35A	1246BC	not assigned
56	26B	1345AC	not assigned
57	26C	1345AB	not assigned
58	26A	1345BC	not assigned
66	25C	1346AB	PGMEA Ex
10	156	234ABC	Phosphoric acid (H ₃ PO ₄)
25	1AB	23456C	Potassium dichromate solution
17	345	126ABC	Potassium hydroxide solution (KOH+H ₂ O) (Ca(OH) ₂)
20	456	123ABC	Recirculation
72	15A	2346BC	SI-Polish-Etch I (36-38% HNO ₃ / 9-13% H ₂ SO ₄ / 5-10% HF / 16-20% H ₃ PO ₄)



■ 4. Chemical code

9	146	235ABC	Sodium hydroxide solution (NAOH)
33	6AC	12345B	SOG
42	36A	1245BC	Solvent EG-APB
37	3AB	12456C	Solvent NMP-AE
45	4AC	12356B	Spin-Etch D (35-45% HNO3/ 10-20% H2SO4/1-7% HF/ 15-25% H3PO4)
46	4AB	12356C	Spin-Etch E (5-10% HNO3/ 75-85% H2SO4/1-5% HF%)
2	124	356ABC	Sulfuric acid (H2SO4)
19	356	124ABC	TMAH 1 with tenside
29	5BC	12346A	2,38% TMAH 2 with tenside
30	5AC	12346B	TMAH 3 with tenside
34	6AB	12345C	TMAH 4 with tenside
35	3BC	12456A	2,38% TMAH 5 without tenside
38	13C	2456AB	White Spirit
26	2BC	13456A	Wright Etch (HF+HNO3)

The chemical user, resp. operator, is responsible for not assigned coding used in his section.
The chemicals' supplier should be informed about actually/currently used coding.



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■ 5. Quick Connect Closure torques

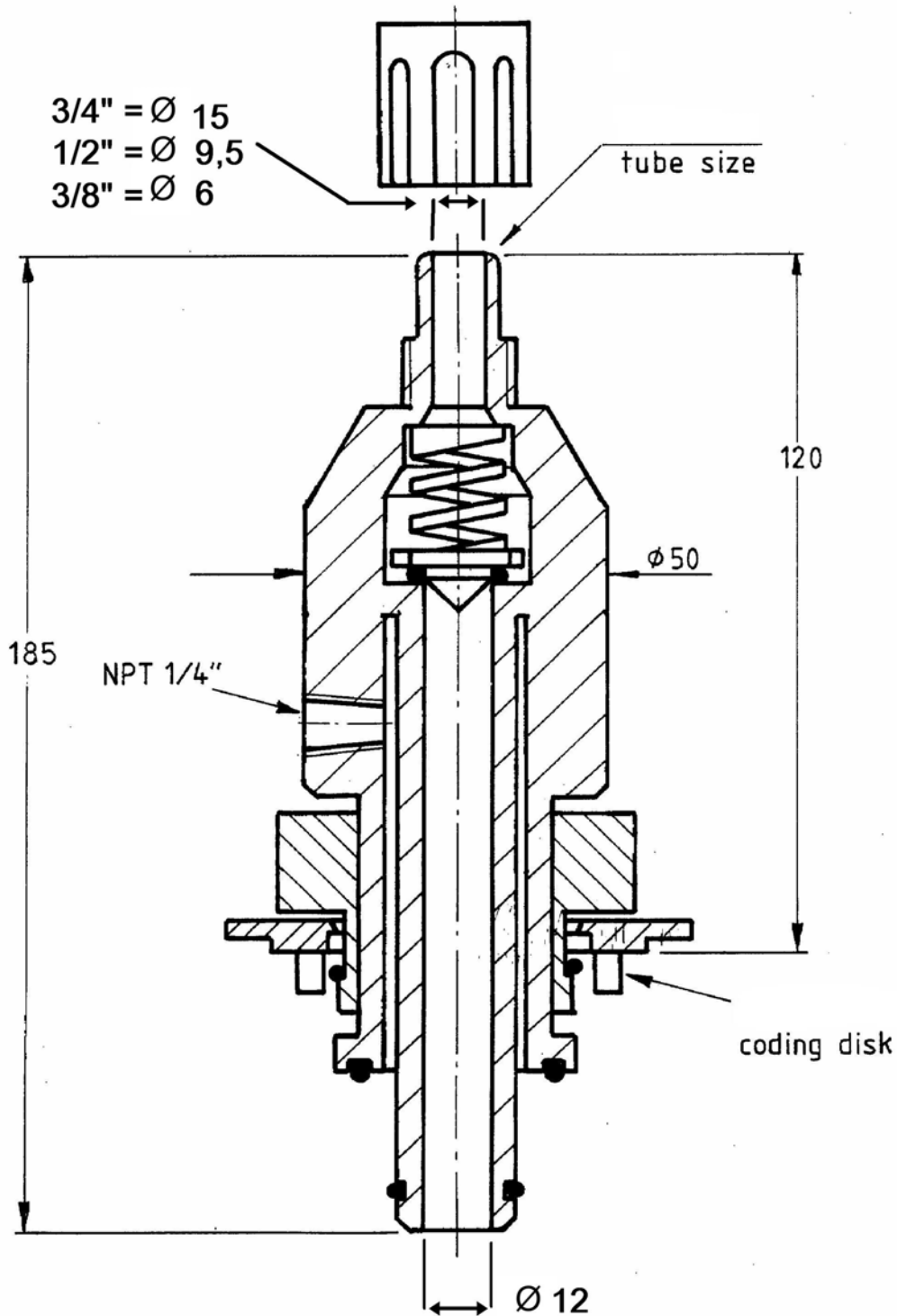
The supplier of chemicals is responsible for the safety of chemical transportation.

AS recommends the following closure torques for closing drums or containers with Quick Connect dip tubes, closure or adaptors:

Packaging type Packaging code UN	Steel plastic combination 1A1 / 6HA1	Plastic drums 1H1			Composite-IBC 31HA1 / 31HH1	
		56 x 4	62 x 5	70 x 6	62 x 5	70 x 6
Thread (BCS)	56 x 4	56 x 4	62 x 5	70 x 6	62 x 5	70 x 6
Torques [Nm]	30	30	30	35	30	35
	+5	+5	+5	+5	+5	+5
for the 3/4" closure (dip tubes and adaptor) generally 5-6 Nm						
for the QC 42 x 2 closure (dip tubes and adaptor) generally 6-8 Nm						

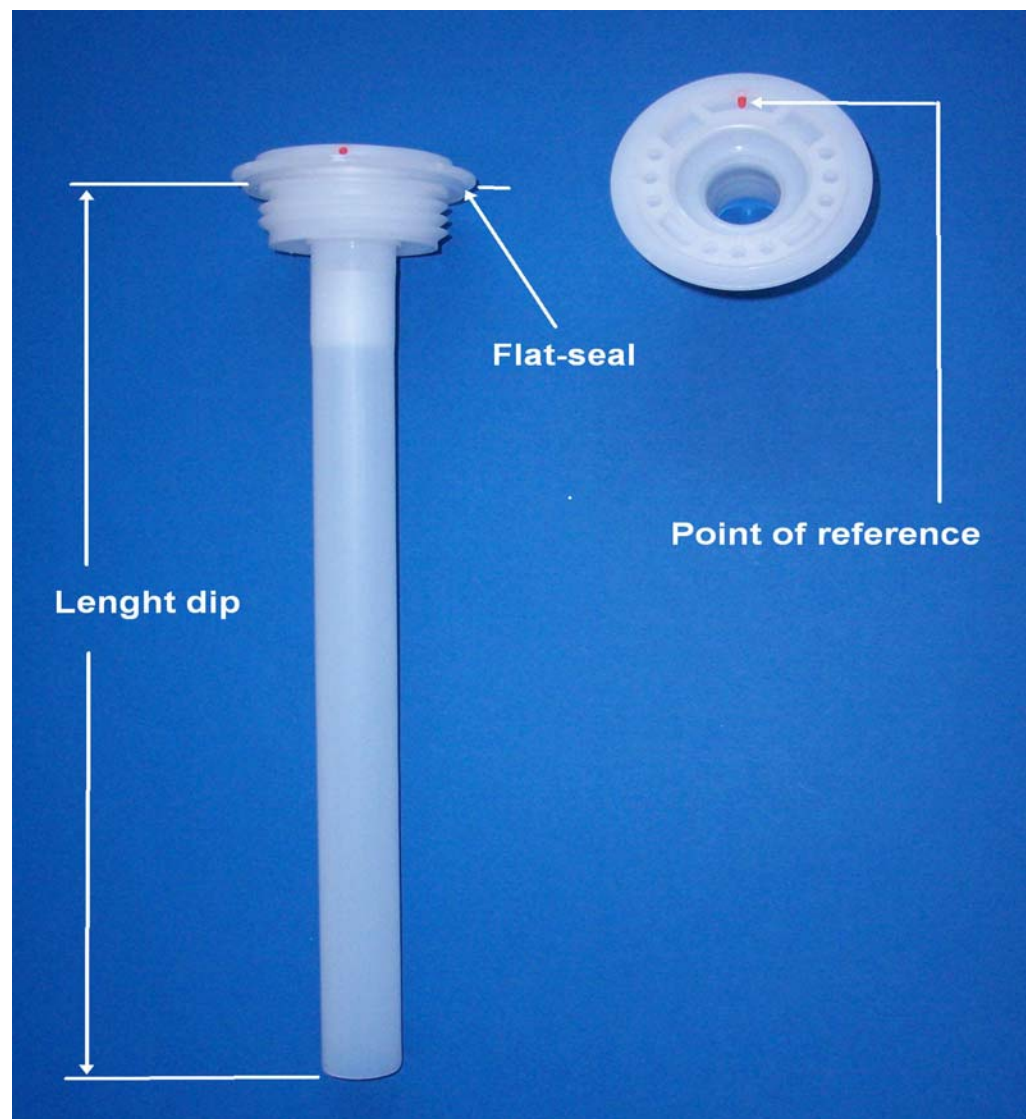


■ 6. Cross-section of AS- Quick Connect dispense head



■ 7. Quick Connect sectional view of dip tube

Dip Tube with chem.-code for Quick-Connect QC-2



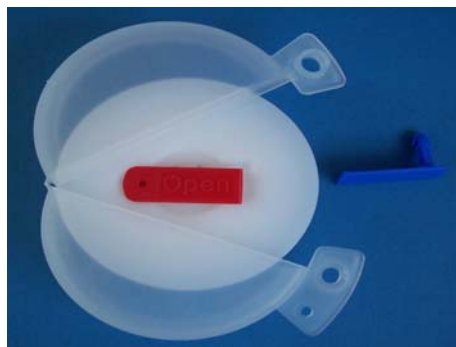
- description: look international Code of dip tube
- receptacle connection: S56 – S62 – S70 – S70 (Kodama) – G2” – KS60
- length dip: look international Code of dip tube or to instruction of container manufacturer.
- chemical Code: look code-list
- materials: dip tube PE – stopper PE/PP – seal PE

■ 8. Quick connect accessories



Seal cap

Originality safety mechanism S62
to secure barrel stoppers and dip - tubes
QC with thread S62
No. RDH-89740



Originality safety mechanism System QC

to secure dip - tubes QC S62; S70; S56
stopper 42 – RDH-69320
with ventilating fleece – RDH-69321
originality safety cap - RDH-69908
lead seal blue – RDH-69908-01
lead seal red – RDH-69908-02



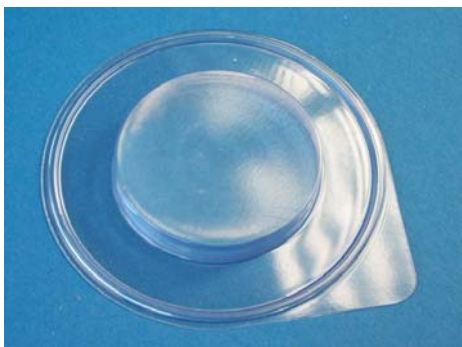
Drum Opener

(please request a separate data sheet)
to open and lock the barrel stoppers of the
QC System, AS stopper S62,
Fluoroware S62 and G3/4"-stopper
with 6-kt for torque key
No. RDH-79003



Particle filter 0,2µm

the filter only lets filtrated air to the
pressure balance into the container
No. RDH-89905



Dust protection cap

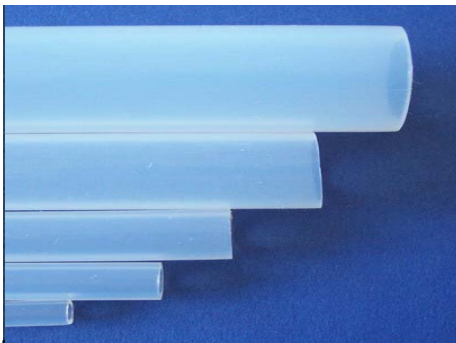
to protect the dip – tube from pollution
No. RDH-69913



Convolute Tubing

for an unstressed assembly of the QC head
1/4" usability length: 1500mm Nr.PFAW-06
3/8" usability length: 2400mm Nr.PFAW-09
1/2" usability length: 2200mm Nr.PFAW-12
3/4" usability length: 3000mm Nr.PFAW-19



8. Quick connect accessories

PFA – tube

NW 1/4" No. R12S119

NW 1/2" No. R12S121

NW 3/4" No. R12S122


Flaring Tools for Flaretek® connection

1/4" tube Nr. 13004-1/4"

3/8" tube Nr. 13004-3/8"

1/2" tube Nr. 13004-1/2"

3/4" tube Nr. 13004-3/4"

1" tube Nr. 13004-1"

1 1/4" tube Nr. 13004- 1 1/4"


Code - gaging

 For the safe coding of dip – tubes
for QC 2

No. RDH-89701-02


**Stopper with degassing valve
and Cover plate**

for the pressure balance in the container.

The Pressure compensation valve works:

- manual at excess pressure
- automatic at below atmospheric pressure

No. RDH-69314


Docking station

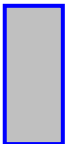
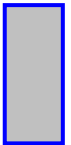
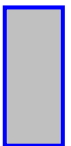
 (please request a separate data sheet)
for the secure and contamination free
rest of the QC – dispense head;
with rest possibility for barrel key etc..

No. RDC-89740


Flaretek® corner 90°

for parallel tube tracking vertical

No. E8-4FN-1

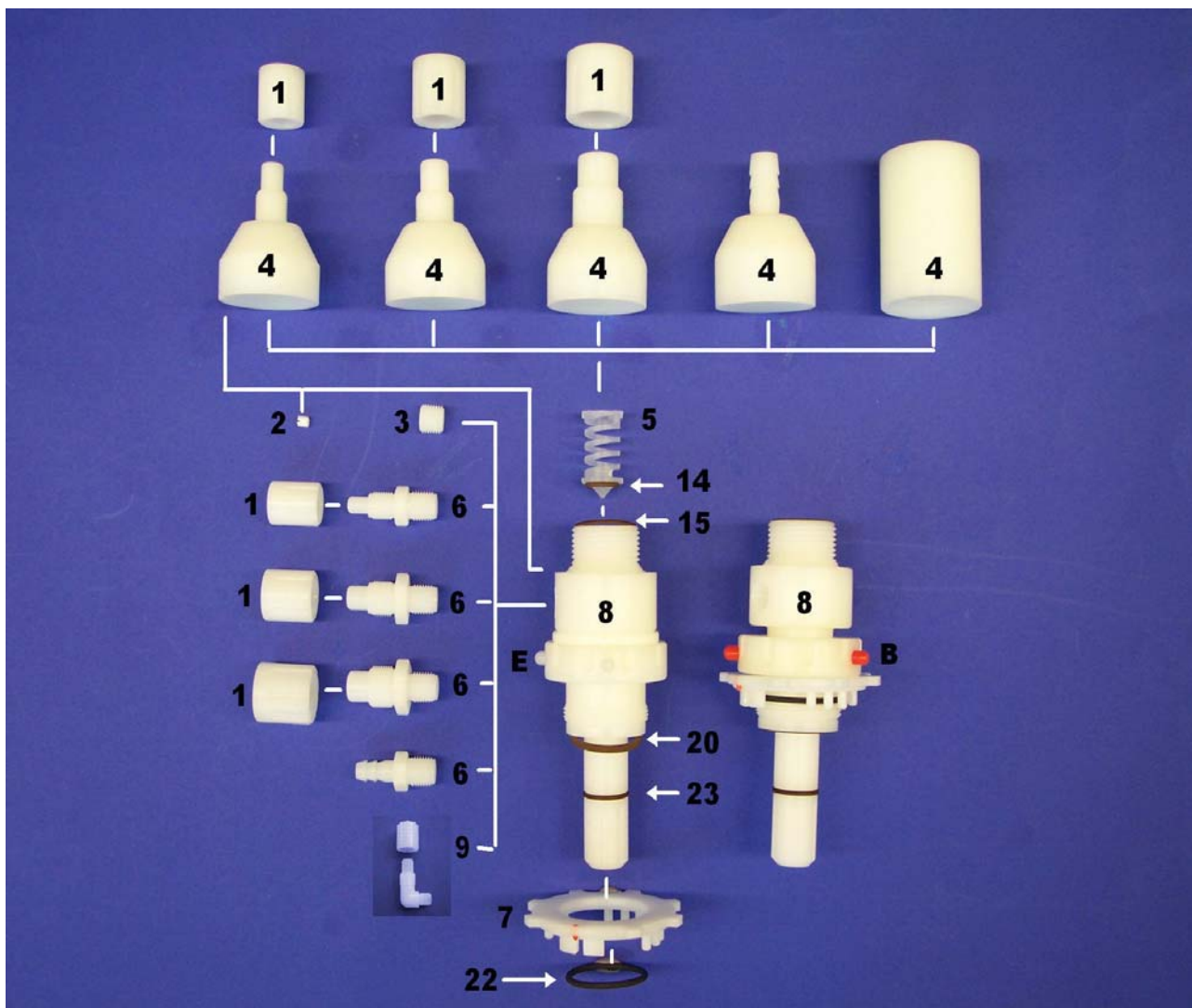


■ 9. Spare parts QC-2 AS-Quick Connect dispense head
(Ersatzteile QC-2 Kopf / AS-Quick Connect Entnahmesystem)















Explosions- Darstellung QC-2 Kopf (Exploded view of QC-2 dispense head)

Bitte bestellen Sie die benötigten Ersatzteile unter der jeweiligen Bestellnummer auf der nächsten Seite..
Weitere Anschlussoptionen jederzeit auf Wunsch möglich.

*(Please order the required spare parts under the respective order number on the next page.
Additional connection options any time on request possible.)*



■ Spare parts QC-2 AS-Quick Connect dispense head
 (Ersatzteile QC-2 Kopf / Quick Connect Entnahmesystem)

 <p>1 Mutter (nut) 1/4" Best. Nr/order No.: FL 4-1 PE Mutter (nut) 3/8" Best. Nr/order No.: FL 6-1 PE Mutter (nut) 1/2" Best. Nr/order No.: FL 8-1 PE Mutter (nut) 3/4" Best. Nr/order No.: FL 12-1 PE</p>	 <p>2 Gewindestift (thread pin) Best. Nr/order No.: E 12942</p>
 <p>3 Blindstopfen(dummy cover) Best. Nr/order No.: RDH-89708</p>	 <p>4 Anschlusszapfen (fitting) 3/8" Best. Nr/order No.: RDH-89700-12 Anschlusszapfen (fitting) 1/2" Best. Nr/order No.: RDH-89700-02 Anschlusszapfen (fitting) 3/4" Best. Nr/order No.: RDH-89700-11 Schlauchanschluss (Tube contact) 1/2" Best. Nr/order No.: RDH-89719-02 Anschlusszapfen innen (fitting inside) NPT 1/2" Best. Nr/order No.: RDH-89720-02</p>
 <p>5 Feder mit Ventilkegel (spring with valve cone) PFA Best. Nr/order No.: RDH-89700-05</p>	 <p>6 Flaretek® 1/4" Best. Nr/order No.: C4-4FN-PE Flaretek® 3/8" Best. Nr/order No.: C4-6FN-PE Flaretek® 1/2" Best. Nr/order No.: C4-8FN-PE Schlauchanschluss (Tube contact) 1/4" Best. Nr/order No.: RDH-89742</p>
 <p>7 Codierscheibe / encoder disc Best. Nr/order No.: RDH-89701</p>	 <p>8 Grundkörper E Entnahme(Basic model dispense) Best.Nr/order No.: RDH-89700-15 Grundkörper B Befüllung (Basic model filling) Best. Nr/order No.: RDH-89730-16</p>
 <p>9 Flaretek® Winkel 90° für parallele Schlauchführung vertikal (Flaretek® corner 90° for parallel tube tracking vertical) Best. Nr / order No.: E8-4FN-1</p>	 <p>14 O-Ring Kalrez #31018 Standard: Farbe/color: Schwarz/black Best.Nr./order No.: D11127</p>
 <p>15 O-Ring Kalrez #023 Standard: Farbe/color: Schwarz / black Best.Nr./order No.: D12618</p>	 <p>20 O-Ring Kalrez #216 Standard: Farbe/color: Schwarz/black Best.Nr./order No.: D22838</p>
 <p>22 O-Ring Viton 35x3 schwarz (black) Best.Nr/order No.: D13531</p>	 <p>23 O-Ring Kalrez #31022 Standard: Farbe/color Schwarz/black Best.Nr./order No.: D11626</p>