Cleaning and disinfection of Respiratory Equipment - a Step-By-Step Process



Call-out

Breathing apparatus (BA) equipment is contaminated after use



Storage and issue

Store in accordance with manufacturer's specifications / DIN 7716
Storage and issue of equipment



Return to base

Delivery of contaminated equipment

- Take personal safety precautions by using appropriate protective clothing and masks (see info box)
 Dispose of used respiratory filters
- · Prepare documentation



Admin

Filling of cylinders

Filling panel/rig, safety filling system

Accurate, verifiable records of all work performed



Preliminary cleaning

- Pre-clean contaminated BA masks, regulators and SCBA harnesses
- Take personal safety precautions by using appropriate personal protective clothing and masks



Dismantling

· Dismantle BA masks and SCBA sets

 Take appropriate personal safety precautions



Maintenance, repair, inspection

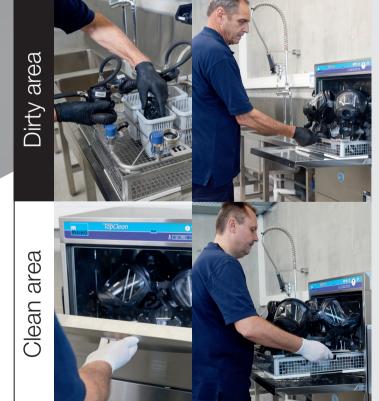
- · As per manufacturer's instructions and
- vfdb guideline 0840 (previously 0804)

 Store in proper hygienic packaging



Reassembling, replacing 6

As per manufacturer's instructions and vfdb guideline 0840 (previously 0804)



Closed-loop cleaning + disinfection

Place the equipment in TopClean M Take appropriate personal safety precautions

Close TopClean M door, start wash cycle

- Safety and reliability assured by automatic mechanical
- cleaningdisinfection
- · rinsing

Info box

Personal safety precautions:

this term refers to all the precautions taken by BA equipment managers/ technicians at work to protect them against contamination from internal sources (e.g. bacteria) and external sources (e.g. combustion by-products) on personal protective equipment. Information on the type of contamination can be obtained directly from the on-scene commander (e.g. what exactly burned in the fire?). This is the basis for choosing which personal safety precautions should be taken (more information is available (in German) at www.atemschutzlexikon.de).

1 Return to base

- Delivery of contaminated full face masks and SCBA sets to dirty area
- contamination from external sources, e.g. soot and smoke from firecontamination inside full face masks and
- regulators caused by exhaled air, secretions, saliva and dead skin from SCBA wearer.
- Risk of contamination faced by equipment managers/technicians may require them to wear personal protective equipment depending on type of hazard
- Prepare documentation for each piece of equipment
- Used respiratory filters must be disposed of as hazardous waste or returned to their respective manufacturers

2 Preliminary cleaning

- Heavily soiled equipment should be pre-cleaned by washing it off with clean water in the dirty area
- Risk of contamination faced by equipment managers may require them to wear personal protective equipment depending on type of hazard

3 Dismantling

In dirty area, separated into full face masks and SCBAs; equipment managers may need to wear personal protective equipment depending on type of hazard; safety gloves required as a minimum:

- Full face masks
- Disassemble prior to washing in the machine. Follow manufacturer's instructions (instructions on use and maintenance)
- Remove spectacle inserts and clean them separately
- Place the disassembled components into the appropriate small part baskets in the TopClean M to ensure they can be matched to the correct mask after washing
- SCBA regulator
 Detach the regulator's medium pressure connector from the complete medium pressure line
- Follow instructions for use and maintenance stipulated by SCBA manufacturer after disassembly, then place the small parts in the small parts basket
 Place items in the basket insert in the
- correct positions
 Connect the medium pressure hose to the ring line on the TopClean M basket insert.
 Set connection to medium pressure when inserting basket to prevent ingress of detergents, rinsing fluids and disinfectants
- SCBA harness with pneumatics assembly
 Seal pneumatics assembly (e.g. pressure regulator, manual connector for compressed air cylinder and safety valve) in accordance with manufacturer's instructions
- Secure SCBA harness in basket

4 Closed-loop cleaning + disinfection

- Observe dirty/clean area separation:
- Dirty area: insert loaded basket
 Clean area: close TopClean M, start
 TopClean M running through selected programmes, open machine when finished and remove decontaminated breathing apparatus equipment and its small disassembled parts
- TopClean M operates automatically.
 Depending on the selected program, it runs through a "thorough clean rinse disinfect rinse" cycle or a "thorough clean disinfect rinse" cycle at +60° C
- Clean, disinfect and rinse accessories such as mask cases

 Equipment manager should wear safety gloves to protect breathing apparatus equipment during handling

5 Drying

- Equipment manager should wear safety gloves to protect breathing apparatus equipment during handling
- Remove cleaned, disinfected and rinsed breathing apparatus equipment.
 Equipment does not need to drip-dry thanks to the effect of the residual +60° C heat
- Place BA equipment in drying cabinet while it is still warm from the residual heat
- Dry at maximum temperature of +60° C

6 Reassembling, replacing

- Equipment manager should wear safety gloves to protect breathing apparatus equipment during handling
- Replace SCBA components such as valve disks, exhalation valves, full face masks according to manufacturer's instructions for use and maintenance and vfdb guideline 0840 (previously 0804)
- Assemble set according to manufacturer's instructions for use and maintenance

7 Maintenance, repair, inspection

- Equipment manager should wear safety gloves to protect breathing apparatus equipment during handling
- Repair as required, components that operate under high pressure such as pressure regulators should be repaired by experts (e.g. manufacturer)
- Reassemble sets according to manufacturer's instructions for use and maintenance, guidelines on replacing parts, and vfdb guideline 0840 (previously 0804)
- After carrying out a proper inspection, seal full face masks and separate regulators in plastic bags to maintain hygiene, ensure air
- can enter bags (e.g. by cutting off corners)
 Regularly disinfect probes and work surfaces in BA equipment room, disinfect gel probes
- Regularly disinfect probes and work surfaces in BA equipment room, disinfect gel probes as per manufacturer's instructions, keep regular documentation of completed disinfection processes

8 Filling of cylinders

- Fill breathing air cylinders at filling panel/rig (use of safety filling systems is preferable)
- Ensure breathing air meets quality standards stipulated in DIN EN 12021, check and document on a regular basis
- Filling speed for carbon composite compressed air cylinders: see manufacturer's specifications

9 Admin

Document all work carried out in BA equipment records, including when work was performed and by whom

10 Storage and issue of equipment

- Store SCBA sets according to manufacturer's instructions for use and maintenance and vfdb guideline 0840 (previously 0804)
- Where possible, seal full face masks in plastic wrap (making sure air can still enter the bag) and store them in mask cases
- Storage conditions as per DIN 7716 and DIN ISO 8331 (Rubber products; requirements for storage, cleaning and maintenance)

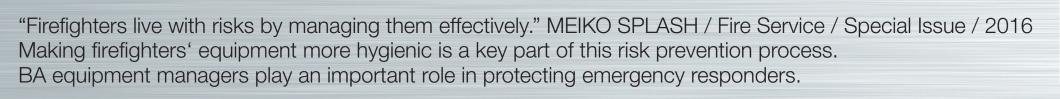


Drying

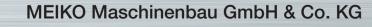
Place cleaned, disinfected and rinsed parts in drying cabinet
Dry at specified temperature for stipulated time



Professional warewashing systems, cleaning and disinfection technology







Englerstraße 3 77652 Offenburg Tel. 00 49(0)781/203-0 topclean-m@meiko.de

www.meiko.de
Find the right contact person
in your country

With the kind support of

Tel. 0049(0)35895/50285

wgabler@t-online.de

Dipl.-Ing. Wolfgang Gabler
Consulting engineer and expert in fire safety and PPE
Ernst-Thälmann-Str. 331
02943 Boxberg OT Jahmen

