

**Miele**

A systematic approach to the reprocessing  
of personal protective equipment

**Miele Professional. Immer Besser.**



# Proper reprocessing of protective apparel, breathing masks and anaesthetic material

*'We wash, disinfect, reproof and dry our protective gear in just 2½ hours – with Miele, we are always perfectly prepared for the next emergency call.'*

*Karl Wienand and Ralf Laubenstein, Boehringer plant fire brigade, Ingelheim, Germany*



The protective apparel and gear worn by fire-fighters is often highly contaminated. After dealing with an emergency call, the protective properties of clothing, breathing masks and other equipment must be fully reinstated fast. This challenge is best met in an on-premise reprocessing unit using machines from Miele Professional.

## **Quality**

Perfect cleaning results, a fast turnaround and reliability – these are the properties which earn on-premise cleaning its rightful place at a fire station. Miele confirms the great trust placed in it by users with a typical combination of high-quality materials, perfect workmanship, mature and sophisticated technology and practical innovations.

## **Performance**

Thanks to special-purpose wash cycles and hygiene programmes, protective apparel is ready for use again in only 2½ hours – washed, disinfected, reproofed and dried. During the entire process, Miele's patented honeycomb drum on both the washing machine and the tumble dryer guarantees that the value of expensive personal protective equipment is preserved. And anaesthetic equipment can be safely and efficiently reprocessed in a Miele washer-disinfector.

## **Efficiency**

Economy and ecology are closely related in today's fire services. In-house reprocessing dispenses with transportation costs and waiting times. Expensive protective gear is ready for use again at all times. And - often underestimated - on-premise machines also allow further items such as jeans, towelling and dress uniforms to be washed. The initial procurement costs of Miele machines and running costs are recuperated within just a short space of time.



With Miele Professional, you are committing to mature technology, smart innovations and many decades of experience in the development of commercial dishwashing systems for professionals. According to a market survey\*, 97% of Miele customers would buy again from Miele Professional next time.

**'Immer besser' - 'Forever better' has been Miele's promise of top-class products, safe processes and a sense of responsibility towards the environment for almost 120 years.**

- A family-run company now managed by the fourth generations of the founding families
- A product policy with a clear focus on quality, innovation and sustainability
- Heavy-duty commercial machines 'Made in Germany'
- Design prizes for innovative, functional and durable products
- Entire systems from a single supplier
- Lower operating costs over entire product life cycle (Total Cost of Ownership)
- Service excellence through service network providing blanket coverage

\* Survey conducted by independent 'Mercuri International' institute



# Washing machines and tumble dryers for personal protective equipment and breathing masks



## Washing machine load capacities

Load capacity [kg]	8	10	11–12	14–16	18–20	24	32
Drum volume [l]	80	100	110	140	180	240	320
Fire protection suits	1	1-2	1-2	2	3	4	5
Fire protection jackets	1-2	2	3	3	5	6	9
Breathing masks	4-5	7	10	13	15	19	26
Chemical protection suits	–	–	–	1	2	3	4

## Tumble dryer load capacities

Drum volume [l]	180	250	325	400	500	800
Fire protection suits	1	1-2	2	3	3-4	5-6
Fire protection jackets	1-2	2	3	4	5	9
Breathing masks	4	8	12	16	12	16

The load capacities listed below ensure optimum cleaning results!

Detailed technical specifications are available on the Internet:

[www.miele-professional.de](http://www.miele-professional.de)

Using a Miele commercial washing machine or tumble dryer, protective clothing is ready for use again in only 2½ hours. Depending on the machine capacity, up to 5 complete fire-fighters' suits can be cleaned, decontaminated, reproofed and dried in a single cycle. In the process, particular care and attention is paid to the reprocessing of multi-layer garments and the delicate retro-reflective strips by Miele's patented honeycomb drum.



#### **Wide range of applications**

The Miele laundry machines relevant to this application come replete with programme packages covering personal protective apparel, breathing masks and chemical protection suits. Further special-purpose programmes, for example for woollen blankets, leisure wear or smart uniforms, complete the range of uses to which machines in an on-premise laundry can be put. Machine operation is simplified by a text display providing instructions in the user's own language.

#### **Workflow according to DIN 14092-7**

In order to protect against cross-contamination within a fire or ambulance station and in the interests of protecting staff, Miele recommends a segregation of dirty and clean operations in the laundry. Miele's barrier washing machines for installation in a diaphragm wall are ideal for this purpose.

#### **Systematic solution for breathing masks**

In close cooperation with mask and detergent manufacturers, Miele has developed specialised washing and disinfection processes for a wide range of masks. The masks do not need to be dismantled for cleaning. To protect the visor, masks are placed in protective bags. During the wash process, the drum only rotates at 20 rpm. Disinfection in the washing machine takes place at 60°C with a temperature holding time of 20 minutes.



Depending on the size of the tumble dryer, Miele's patented mask braces can take up to 16 masks per cycle, allowing them to be dried in only 45 minutes – dispensing with the extremely long cycles associated with airing cupboards.

As an alternative to a washing machine, breathing masks can also be reprocessed in PG 8056 and G 7882 CD washer-disinfectors.



# PG 8063 Safety fresh water washer for the reprocessing of breathing masks and air regulators (lung-demand valves)



Fresh water washer	PG 8063 Safety (freestanding unit in stainless steel with lid, without baskets)
Cleaning capacity/cycle	12 air regulators or 6 air regulators and 6 breathing masks
Shortest programme cycle [mins.]*	24
Programmes	3
External dimensions with/without lid HWD [mm]	835/820, 600, 600
Water connections	CW/HW up to 60°C and DI water
Integrated water softener, max. 60°dH	•
Max. final rinse temperature [°C]	60
Electrical connection	3N AC 400 V, 50 Hz, convertible to 1N AC 230 V, 50 Hz
Total rated load [kW]	9.2
Accessories required	Undercarriage for A 101 upper basket, undercarriage for A 151 lower basket

\*Cycle time dependent on electrical connection and on temperature of water supply, in this case 15°C cold water connection and 3N AC 400 V

Special basket	APFD 200	APFD 201
Load	6 air regulators	6 breathing masks
Colour-coded small parts compartments	6	6
Compressed air connection	Fast-action coupling, Compatible with Parker Rectus 25, Recommended pressure: 4–6 bar	-
Connection for air regulators	Fast-action coupling, Compatible with Parker Rectus 25,	-
Compressed air indicator	•	-
Material	Stainless steel	Stainless steel

Technical specifications of the PG 8063 washer are available here:

[www.miele-professional.de](http://www.miele-professional.de)

The PG 8063 Safety washer allows breathing masks and air regulators to be gently but thoroughly cleaned on two levels. Water is replaced in each stage of a programme cycle. This ensures the reliable removal of soil and effectively reduces the risk of cross-contamination. An additional connection for fully demineralised water (DI water) enables residue-free rinsing.



#### **High-level process security**

This fresh water dishwasher is equipped with 3 programmes, perfectly geared to the specific nature of the application. In the interests of high-quality protective equipment, the water temperature and exposure to disinfectant is limited to 60°C and 5 minutes respectively. Any modifications to programme parameters require password authorisation. The use of tested chemicals which are approved by equipment manufacturers also guarantees the gentle treatment and protection of apparatus.



#### **Simple, intuitive loading using load-specific baskets**

The baskets enable the simple and secure positioning of load items. The focus is on the protection of materials and quality cleaning results. Each air regulator and each breathing mask has its own separate compartment for sundry small parts - colour-coded for ease of identification. This ensures that replacement cycles for individual components, e.g. the membranes in breathing masks, can be reliably observed, despite the requisite disassembly and reassembly.



#### **Basket with compressed air connection**

The load basket for air regulators incorporates a compressed air connection which connects to a supply of compressed air used during the reprocessing cycle. This prevents any ingress of water or wash liquor into the valves of the air regulators during reprocessing. An indicator on the basket indicates whether pressure was maintained throughout the entire reprocessing cycle.

After rinsing, the basket can once again be connected to compressed air. When the individual pressure valves are opened, the passage of air then reliably removes any lingering traces of liquid.

# PG 8592 washer-disinfector for anaesthetic equipment



Washer-disinfector	PG 8592
Width	600
Height, Depth [mm]	835 (820 height without lid), 600
Load capacity	6 DIN trays or 2 AN sets or 1-2 MIS sets
Programmes	14 (+2 vacant programme slots)
Integrated water softener, max. 70°dH	•
Integrated steam condenser	•
Integrated hot-air drying unit	•
Electrical connection	3N AC 400 V, 50 Hz
Total rated load [kW]	9.3

## Recommended machine configuration

A 201 load carrier for anaesthetic sets

Technical specifications of the PG 8592 washer are available here:

[www.miele-professional.de](http://www.miele-professional.de)



# Load carriers optimised for application in hand

Miele Professional offers the right accessories to reprocess anaesthetic material.



Illustrated: PG 8592



## Improved efficiency:

The load carriers from the PG 85 series make optimum use of the space available in the chamber, allowing more anaesthetic equipment to be washed in each cycle. Another benefit accrues from the redesigned water and air circuit: Wash liquor and drying air is fed along a shorter and streamlined circuit and with minimal pressure losses to the spray arms and injector nozzles. The A 201 load carrier is specifically designed for the reprocessing of anaesthetic material.

## A 201 load carrier

- For AN sets
- 8 nozzles with spring supports for breathing tubes with max. length of 1.5 m
- Spiral rack
- 15 injector nozzles for intubation material
- H 434, W 531, D 546 mm

## Supplied as standard with:

- 1 x E 430 mesh tray
- 1 x E 432 holder for 3 - 4 corrugated breathing tubes
- 2 x E 433 holders for 3 - 4 silicone breathing tubes
- 1 x E 434 holder for 3 - 4 paediatric breathing tubes
- 6 x E 466 injector nozzles for breathing bags, 8 x 333 mm
- 1 x E 431 injector nozzle for breathing bags, 8 x 193 mm
- 15 x E 496 injector nozzles, 4 x 120 mm
- 1 x A 3 cover net

Further information on inserts for anaesthetic equipment is available on the Internet:

[www.miele-professional.de](http://www.miele-professional.de)

**The machine-based washing and disinfection of anaesthetic material offers a high degree of security by standardising reprocessing and reducing the effort involved.**



# Ready for the next emergency call



Washer-disinfectors from Miele Professional are incredibly versatile when it comes to reprocessing protective equipment at fire and ambulance stations, producing perfect results in an extremely cost-efficient way. Perfect care is taken of expensive protective apparel, breathing masks, chemical protection suits and anaesthetic equipment to ensure long-lasting quality - and fire-fighters and paramedics alike have the peace of mind of knowing that their protective wear has been thoroughly cleaned and properly decontaminated.

Depending on the range of tasks with which a rescue service is commissioned and the space and facilities available at an ambulance station, machines with various load capacities can be tailored to meet individual needs:

- Washing machines for protective apparel, breathing masks or first-aid blankets
- Tumble dryers
- Barrier washing machines for maximum hygiene
- Dishwashers for breathing masks
- Washer-disinfectors for breathing masks and anaesthetic equipment

## **Always on the client's side**

You are urged to accept Miele's offer of free advice and an economic feasibility study. Please feel free to request an offer to meet your own particular requirements.

Fill in the response card and return it to Miele postage paid or by e-mail to the following address: [info@miele-professional.de](mailto:info@miele-professional.de)

Please do not hesitate to call us on 0800 22 44 644 for answers to your questions.



## **Immer Besser**

Since 1899, Miele - a family-run company - has subscribed to a clear corporate philosophy condensed into the two words 'Forever better'. This overarching claim is the foundation of Miele's proverbial quality and sustainability and the power of innovation of a brand 'Made in Germany'. A brand promise which gives commercial users the certainty of having chosen the right product.

## **Award-winning**

Uncompromising product reliability and service dependability is the reason why customers have repeatedly voted Miele the best and most trustworthy brand. Coveted awards such as the MX Award, the iF and reddot Design Awards and the German Sustainability Prize confirm the distinguished position Miele enjoys with respect to design, quality management and the sparing use of resources.

## **Proficient**

Miele Professional has been developing and manufacturing a broad range of high-quality laundry machines, dishwashers, washer-disinfectors and sterilisers for decades. Carefully selected accessories, comprehensive advisory services and a Miele factory service operation which guarantees a fast response and ensures that machines perform to perfection and offer the ultimate in performance and efficiency.