

## Perfect analytical-grade reprocessing of laboratory glassware



A clear decision in favour of Miele –  
a systematic approach from Miele Professional  
to laboratory glassware



In developing reprocessing solutions for laboratory glassware, Miele Professional has always placed its focus on close cooperation with the experts in industry, with research laboratories and with highly reputable glassware manufacturers. The result of this cooperation based on trust and innovation are machines and processes which convince discerning users all along the line.

Miele Professional is a decision in favour of top performance and quality. High-quality machines which rise to meet expectations each and every day are the key to the high trust commercial users place in Miele: 97% of all customers\* claim they would buy from Miele Professional again next time round.

**Quality**  
Reproducible analyses are built on quality – on the quality of laboratory glassware and on the quality of reprocessing. Miele’s proverbial standards of quality stand like a rock: A mature and sophisticated design and high-quality materials are the foundation for the first-class reputation of Miele Professional in laboratories. And this is equalled by the quality of Miele service which has won a multitude of awards over the years.

**Performance**  
Lab washers from Miele Professional have a proven ability to stand up to the stresses and strains of everyday laboratory life. Their insatiable appetite for work, a wide range of accessories and practical processes ensures perfect results and a high throughput capacity each time round, even when reprocessing special loads. Valuable laboratory glassware is ready for re-use again within next to no time.

**Efficiency**  
Profit daily from excellent efficiency: Machines from Miele Professional are thorough and fast, affording top-rate protection to materials in the process. Thanks to their high quality, they also require little maintenance and are highly durable, safeguarding your investments in many respects. The efficient use of water and chemicals also equates to low running costs.

**Dependability**  
As a company now run by its fourth-generation proprietors, Miele remains true to its responsibility to its products and processes, its employees and business partners and to natural resources.

- Product development consistently in tune with the goals of quality, durability and sustainability.
- Ground-breaking innovations “Made in Germany”
- Award-winning ergonomics, functionality and product design.
- Entire systems from a single supplier
- Lower operating costs over entire product life cycle (Total Cost of Ownership)
- Highly commended after-sales service offering blanket geographical coverage and a fast response



\*Survey conducted by independent “Mercuri International” institute



## Miele advantages which pay their way

Lab washers from Miele Professional represent a commercial-grade solution for laboratory glassware for analytical experiments. This approach is particularly gentle on materials and is recommended by leading manufacturers of laboratory glassware such as the DURAN Group.



### Greater capacity

- High capacity (e.g. up to 130 injector nozzles in combination with the modules for pipettes and laboratory glassware), achieved through optimised chamber dimensions and a completely redesigned range of load carriers, saves time, storage space and costs.
- Rear basket docking enables full use of space in load carriers
- Laboratory glassware turnaround is increased and work is speeded up at peak hours.



### Greater purity

- Excellent cleaning performance
- Variable-speed pump for perfect spray pressure in all programme phases
- Laser technology is used to weld the chamber sections to give a perfectly smooth, crevice-free finish for the ultimate in hygiene.
- No more heater elements in the wash chamber
- Multi-stage filtration system is highly efficient in removing particulate soil from water in circulation.
- Spray pressure and spray arm monitoring detects any loss in pressure as well as load items preventing spray arm rotation
- Conductivity monitoring ensures required water quality



### Greater flexibility

- A new, modular basket concept offers maximum flexibility and intuitive operation as modules can be used in different combinations and can easily be reconfigured.
- Wide range of combination options guarantees flexibility in catering for different loads
- Reduction in number of load carriers needed saves both on investments and storage space
- In addition to a broad selection of standard programmes, client-specific programmes ensure that reprocessing suits the type of soil and the type and quantity of laboratory glassware

The new lab washers  
PG 8583, PG 8593 and PG 8583 CD

Programmes, cycle times, consumption



Lab washers (left to right)	PG 8583	PG 8593	PG 8583 CD
Width	600	600	900
Height, Depth [mm]	835 (820)*, 600	835 (820)*, 600	820*, 600**
Shortest cycle*** [mins.]	19	19	19
<b>Cycle capacity</b>			
Laboratory phials	128	128	128
Pipettes	98	98	98
Mixed load consisting of laboratory phials and pipettes	130	130	130
<b>Drying</b>			
Integrated dispenser pump	EcoDry	DryPlus	DryPlus
Drawer for 5 l supply canisters	–	–	•
Electrical connection 3N AC 400 V, 50 Hz	•	•	•
Total rated load [kW]	9.3	9.3	9.3

\* Undercounter units  
\*\* Freestanding unit H 835, D 700 mm  
\*\*\* Cleaning and (where applicable) disinfection

PG 8583	Cleaning				Drying		
	Cycle time [mins.]	CW [l]	HW [l]	AD [l]	Energy [kWh]	Cycle time [mins.]	Energy [kWh]
Universal	33	4.5	31.5	18.5	1.7	3	–
Standard	28	5.0	14.0	18.5	1.7	2	–
Intensive	35	4.5	23.5	27.5	1.9	3	–
Anorganica	37	5.0	24.0	27.5	1.8	2	–
Organica	39	0.0	37.0	18.5	2.0	3	–
Injector Plus	38	6.0	42.0	24.0	1.8	3	–
Pipettes	41	7.5	37.5	45.0	1.8	2	–
Plastics	33	36.0	0.0	18.5	1.5	–	–
Mini	19	0.0	19.0	9.5	0.8	–	–
Oils	40	0.0	47.0	18.5	1.9	3	–
Special 93°C-10'	51	11.9	29.6	14.0	3.3	3	–
Demin. rinse	6	–	–	10.0	–	–	–
Rinse	4	10.0	–	–	–	–	–
PG 8593							
Universal	33	4.5	31.5	18.5	2.1	37	0.7
Standard	28	5.0	14.0	18.5	2.8	37	0.7
Intensive	35	4.5	23.5	27.5	2.3	37	0.7
Anorganica	36	5.0	24.0	27.5	2.4	37	0.7
Organica	38	–	37.0	18.5	1.8	37	0.7
Injector Plus	38	6.0	42.0	24.0	2.0	37	0.7
Pipettes	40	7.5	37.5	45.0	2.3	47	0.6
Plastics	33	36.0	–	18.5	1.6	52	0.7
Mini	18	–	19.0	9.5	2.3	37	0.7
Oils	39	–	47.0	18.5	1.6	37	0.7
Special 93°C-10'	51	11.9	29.6	14.0	1.5	79	1.4
Demin. rinse	6	–	–	10.0	1.6	–	–
Rinse	4	10.0	–	–	3.0	–	–
Drying	–	–	–	–	–	40	0.7
PG 8583 CD							
Universal	33	4.5	31.5	18.5	2.1	37	0.7
Standard	28	5.0	14.0	18.5	2.8	37	0.7
Intensive	35	4.5	23.5	27.5	2.3	37	0.7
Anorganica	36	5.0	24.0	27.5	2.4	37	0.7
Organica	38	–	37.0	18.5	1.8	37	0.7
Injector Plus	38	6.0	42.0	24.0	2.0	37	0.7
Pipettes	40	7.5	37.5	45.0	2.3	47	0.6
Plastics	33	36.0	–	18.5	1.6	52	0.7
Mini	18	–	19.0	9.5	2.3	37	0.7
Oils	39	–	47.0	18.5	1.6	37	0.7
Special 93°C-10'	51	11.9	29.6	14.0	1.5	79	1.4
Demin. rinse	6	–	–	10.0	1.6	–	–
Rinse	4	10.0	–	–	3.0	–	–
Drying	–	–	–	–	–	40	0.7

Heating: 8.5 kW (EN AC 400V 50Hz), connection to cold water (15°C), hot water (60°C) and demineralised water (15°C)

Competent and innovative

 DURAN GROUP

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recommends

 Miele

PROFESSIONAL

- Intensive development work and close cooperation
- Trend-setting process development and product specifications

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Convenience and ergonomics



**Design and user interface**  
The modern design and the intuitive user interface make for the incredibly simple use of lab washers in the day-to-day running of laboratories.

- The new control panel is the central design element and represents an intelligent combination of door handle and control panel. It consists of a single, flush stainless-steel surface with embedded "touch-on-steel" controls.
- Inclined control panel for improved legibility
- 3-line text display and intuitive user interface for hassle-free operation
- Programmes catering for all types of glassware and soils and vacant programme slots for user-specific programmes
- Freely assignable direct-access buttons and individually selectable programme names for fast access to routine tasks
- Flush, smooth control panel and handle surfaces for simple wipe cleaning



**Ergonomics**  
An easily accessible salt container in the door and the AutoClose functions simplify the work of those operating these machines.

- The patented door salt container has a capacity of approx. 2 kg. Replenishing the salt no longer requires bending or stooping as the job can be performed standing upright. Similarly, there is no longer any need to remove heavy baskets and load carriers to access the salt container.
- AutoClose: Gentle pressure against the door is sufficient for it to be drawn closed and locked automatically. As a result, only a minimum of effort is required to reliably close and lock the door.



**Highly efficient drying**  
Depending on the model, the new lab washers feature DryPlus hot-air drying or EcoDry to assist drying by releasing steam.

- EcoDry: The machine door automatically opens at the end of a programme once the temperature in the cabinet has dropped below 70°C. Hot, moisture-laden air is released, allowing the load to dry and cool down faster.
- DryPlus hot-air drying on the PG 8593/PG 8583 CD represents an ideal solution when dealing with intricate and narrow-lumened laboratory glassware and equipment. An upstream Class H13/ H14 HEPA filter ensures the reliable removal of particles from the air taken in for drying. The filter is easily accessible via a hatch in the front plinth (PG 8593) or in a side unit (PG 8583 CD).

High-performance technology for safe reprocessing



**Hygienic chamber**  
A completely redesigned chamber on the new lab washers enables high standards of hygiene and purity for analytical experiments.

- Laser technology is used to weld the chamber sections to give a perfectly smooth, crevice-free finish offering no nooks or crannies where blood or soil can accumulate.
- The removal of heater elements from the chamber removes a further potential source of a build-up of contamination and eliminates the risk of damage to plastic items.
- Greater space in the chamber facilitates a higher capacity per cycle (e.g. 128 laboratory phials or 98 pipettes together with other laboratory glassware)



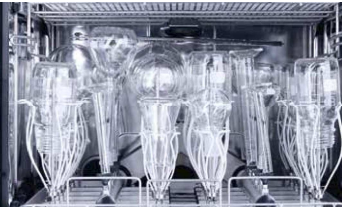
**Rear basket docking system**  
The relocation of the docking system for upper and lower baskets and load carriers to the rear of the chamber guarantees a more streamlined water and air circuit and improves the use of resources.

- Shorter circulation paths help minimise pressure losses and reductions in water temperature.
- Automatically self-sealing valves when not in use ensure uniformly high spray pressure.
- Use of same docking system to supply load carriers with water and hot air for internal drying.



**Optimised spray arms**  
The new spray arm design consistently improves on progress made on previous model series and ensures the ultimate in reprocessing reliability.

- Different nozzle forms ensure the forceful removal of persistent soil and the uniform wetting of wash loads.
- Full spray jet coverage thanks to new arrangement of nozzles on spray arms.
- Lower water consumption per cycle without any trade-off in terms of cleaning performance.



**Safety through constant checks**  
The new lab washers feature spray pressure and spray arm monitoring and some models also monitor water conductivity. These advanced sensors make a considerable contribution towards ensuring the reliability of reprocessing.

- Blockages caused by protruding load items are immediately detected
- Spray pressure losses as a result, for example, of excessive foaming is reliably detected.
- Deviations from the selected conductivity level in the final rinse water are reliably detected.
- Thanks to integrated sensors, deviations from the programme parameters are immediately recognised, allowing rapid intervention on the part of users.

Load carriers and inserts offering improved efficiency

Sample configurations



In the interests of safety and retaining the value of laboratory glassware and equipment, Miele Professional offers a wide range of accessories, consisting of upper and lower baskets, load carriers and inserts for a variety of glassware types. With the introduction of the PG 85 series, the entire load carrier system has undergone thorough reappraisal and improvement.

**Great efficiency and versatility**  
The new load carriers utilise the available space in the chamber to a higher degree, allowing more laboratory glassware and equipment and other load items 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 on the way to the spray arms and injector nozzles. Optimum pressure conditions are also created by the automatically self-sealing docking valves when not occupied. The modular nature of the new load carriers represents a further product benefit, facilitating future extensions.



**Laboratory glassware, basic**  
A 101 upper basket/open front  
A 150 lower basket for modules  
2 x A 300 modules/laboratory glassware 2 x 4  
Optional: A 802 nozzle  
for models with powder dispensing



**Laboratory glassware, high throughput**  
A 100 upper basket for modules  
2 x A 302 modules/laboratory glassware 4 x 8  
A 150 lower basket for modules  
2 x A 301 modules/laboratory glassware 3 x 6  
Optional: A 802 nozzle  
for models with powder dispensing



**Pipettes and other laboratory glassware**  
A 150 lower basket for modules  
A 303 module for pipettes  
A 301 module for laboratory glassware 3 x 6  
Optional: A 802 nozzle  
for models with powder dispensing



**Measuring cylinders and other laboratory glassware**  
A 150 lower basket for modules  
A 306 module for measuring cylinders  
A 301 module for laboratory glassware 3 x 6  
Optional: A 802 nozzle  
for models with powder dispensing

Accessories for PG 8583, PG 8593 and PG 8583 CD:  
Upper and lower baskets, load carriers



**A 100 upper basket for modules**

- Upper basket with two docking pipes
- For the connection of up to two injector modules or inserts
- Automatically self-sealing docking valves
- H 141, W 528, D 525 mm



**A 101 upper basket/open front**

- Open front
- For various inserts
- Height-adjustable
- Vertical clearance 160 +/-30 mm
- Built-in spray arm
- H 206, W 528, D 527 mm



**A 102 upper basket/open front**

- Open front
- For various inserts
- Height-adjustable
- Vertical clearance 205 +/-30 mm
- Built-in spray arm
- H 206, W 528, D 527 mm



**A 103 upper basket/open front**

- Open front
- For various inserts
- Vertical clearance 95 mm
- Built-in spray arm
- Particularly suitable for the reprocessing of shallow loads in combination with A 202 load carrier.
- H 133, W 528, D 528 mm



**A 150 lower basket for modules**

- Lower basket with two docking pipes
- For the connection of up to two injector modules or inserts
- Automatically self-sealing docking valves
- H 154, W 529, D 546 mm
- Loading dimensions: H 235, W 490, D 435 mm



**A 151 lower basket/open front**

- For various inserts
- Clearance dependent on type of upper basket used
- H 88, W 529, D 110 mm



**A 202 load carrier**

- For inserts on 2 levels
- Built-in spray arm
- Loading dimensions, lower level: H 95, W 519, D 485 mm or H 135, W 494, D 500 mm (with/without rack inserts)
- Loading dimensions, upper level: H 135, W 516, D 462
- 6 additional LuerLock connections
- H 223, W 529, D 542 mm



**E 802 nozzle**

For use with lab washers with powder dispensing (door)

- For use with injector modules to rinse out powder residue from door dispenser
- H 187, W 30, D 15 mm

Injector modules for laboratory glassware  
For use with A 100 upper basket and A 150 lower basket



- A 300 module  
for laboratory glassware 2 x 4**
- For laboratory glassware, e.g. Erlenmeyer flasks, round flasks, laboratory bottles, measuring flasks and measuring cylinders
  - 8 x E 352 injector nozzles (6 x 220 mm)
  - 8 x E 354 spring clips for nozzles
  - H 241, W 200, D 479 mm
  - Vertical clearance:  
Upper basket 165 mm  
Lower basket 165 mm



- A 300/1 module  
for laboratory glassware 2 x 4**
- For laboratory glassware, e.g. Erlenmeyer flasks, round flasks, laboratory bottles, measuring flasks and measuring cylinders
  - 8 x ID 220 injector nozzle with plastic support (6 x 220 mm)
  - H 242, W 178, D 479 mm
  - Vertical clearance:  
Upper basket 186.5 mm  
Lower basket 186.5 mm



- A 301 module  
for laboratory glassware 3 x 6**
- For laboratory glassware, e.g. Erlenmeyer flasks, round flasks, laboratory bottles, measuring flasks and measuring cylinders
  - 6 x ID 110 injector nozzles with plastic supports (2.5 x 110 mm)
  - 6 x E 351 injector nozzles (4 x 160 mm)
  - 6 x E 353 nozzle supports
  - 6 x E 352 injector nozzles (6 x 220 mm)
  - 6 x nozzle supports for E 354
  - H 241, W 232, D 471 mm
  - Vertical clearance:  
Upper basket 165 mm  
Lower basket 165 mm



- A 301/1 module  
for laboratory glassware 3 x 6**
- For laboratory glassware, e.g. Erlenmeyer flasks, round flasks, laboratory bottles, measuring flasks and measuring cylinders
  - 18 x E 351 injector nozzles (4 x 160 mm)
  - 18 x nozzle supports for E 353
  - H 181, W 216, D 479 mm
  - Vertical clearance:  
Upper basket 160 mm  
Lower basket 160 mm



- A 301/2 module  
for laboratory glassware 3 x 6**
- For laboratory glassware, e.g. Erlenmeyer flasks, round flasks, laboratory bottles, measuring flasks and measuring cylinders
  - 18 x ID 160 injector nozzle with plastic support (4 x 160 mm)
  - H 181, W 220, D 479 mm
  - Vertical clearance:  
Upper basket 186.5 mm  
Lower basket 186.5 mm



- A 301/3 module  
for laboratory glassware 3 x 6**  
(not illustrated)
- For butyrometers
  - 18 x SD-B injector nozzles for butyrometers
  - H 132, W 215, D 479 mm
  - Vertical clearance:  
Upper basket 191 mm  
Lower basket 191 mm



- A 302 module  
for laboratory glassware 4 x 8**
- For laboratory glassware, e.g. Erlenmeyer flasks, round flasks, laboratory bottles, measuring flasks and measuring cylinders
  - 32 x ID 110 injector nozzles with plastic supports (2.5 x 110 mm)
  - H 181, W 235, D 479 mm
  - Vertical clearance:  
Upper basket 160 mm  
Lower basket 160 mm

- A 302/1 module  
for laboratory glassware 4 x 8**
- For laboratory glassware, e.g. Erlenmeyer flasks, round flasks, laboratory bottles, measuring flasks and measuring cylinders
  - 32 x E 351 injector nozzles (4 x 160 mm)
  - 32 x nozzle supports for E 353
  - H 181, W 235, D 479 mm



Injector modules and load carriers for pipettes and phials



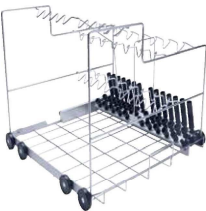
- A 303 module for pipettes**
- For e.g. 98 measuring and full pipettes
  - Height of retaining frame 150 mm
  - H 185, W 225, D 471 mm
  - Vertical clearance without upper basket: 450 mm (with A 150 lower basket)
  - Vertical clearance with A 102 upper basket: Depending on height setting 165 to 285 mm



- A 304 module for phials**
- For 98 tubes, e.g. centrifuge tubes, phials, test tubes or autosampler tubes
  - H 130, W 222, D 471 mm



- A 306 module for measuring cylinders**
- For laboratory glassware, in particular large measuring cylinders
  - Capacity: four 1-2 l measuring cylinders
  - Contact surfaces plastic coated
  - H 418, W 235, D 471 mm



- A 200 load carrier**
- For 38 pipettes in 3 rows
  - 1st row: 10 pipettes, 100 ml, holder spacing 20 mm
  - 2nd row: 14 pipettes, 25 ml, holder spacing 26 mm
  - 3rd row: 14 pipettes, 10 ml, holder spacing 26 mm
  - H 397, W 529, D 546 mm



Accessories  
for reprocessing with fully demineralised water



**PG 8595**  
**Aqua Purificator**  
Housing unit for 2 water demineralisation cartridges VE P 2000 / VE P 2800

- Compatible with PG 8583, PG 8593, PG 8583 CD
- Generally recommended quality for final rinse < 19 µS/cm
- H 835 (820), W 300, D 600 mm
- Freestanding unit, can be built under
- Outer panelling in stainless steel or white



**CM ConductivityMeter**  
Conductivity module for water demineralisation cartridges VE P 2000 and VE P 2800

- Single-line, illuminated display
- 10-point measurement in 0 - 199.9 µS/cm range
- Optical and acoustic "change cartridge" indicator
- Optical and acoustic fault indicator
- Wall bracket
- Connection to external LED (optional)
- The device comes with a sensor cell and 3/4" hoses for connection to the cartridge and the machine.
- H 116, W 235, D 110 mm
- Input: 100 - 240V, 50/60 Hz, 85 mA;
- Output: 9V, 400 mA, 3.6 VA



**VE P 2000**  
**Water demineralisation cartridge, charged**

- Pressure-proof stainless-steel cartridge
- H 410, Ø 230 mm
- Complete with vent and pressure relief valve
- Contains 12.5 l of mixed, reactivatable resin



**VE P 2800**  
**Water demineralisation cartridge/charged**

- Pressure-proof stainless-steel cartridge
- H 570, Ø 230 mm
- Complete with vent and pressure relief valve
- Contains 19 l of mixed, reactivatable resin



**LP 2800**  
**Water demineralisation cartridge, empty**

- Can be charged with 19 l of single-use resin

**E 315 disposable resin**

- 20 l homogenous, mixed-bed resins for LP 2800
- Box with 2 x 10 l bags, vacuum-sealed in plastic bags
- Replacement filter bag

**E 316 refill set**

- Plastic barrel with lid and funnel for 30 l of disposable resin

**SK fast-action coupling for water demineralisation cartridges**

- Conversion kit for simple replacement of cartridges consisting of:
- 2 x VA adapters from 3/4" to fast-action for direct connection to cartridge
- 2 x fast-action couplings with 3/4" PVC double nipple including gaskets for existing set of hoses.

**UIZ conversion kit for spare cartridges**

- If two cartridges are used, the 2 x VA 3/4" connections can be screwed onto the second cartridge. This obviates the need to disconnect the connections from the first cartridge.

Accessories  
for dispensing process chemicals



**PG 8596 dispenser unit**  
Housing unit for process chemicals and dispenser modules

- H 835 (820), W 300, D 600 mm
- Compatible with PG 8583, PG 8593
- Freestanding unit, can be built under
- Unit with removable door
- Outer panelling in stainless steel or white
- Interior dimensions:  
H 690 / 380 / 285 mm  
(top drawer removed / lower / upper drawer), W 250 mm, D 555 / 425 mm  
(without / with drip tray and dispenser modules)

**2 levels:**  
Removable telescopic drawers with drip tray liners for canisters containing process chemicals

**Canister sizes**  
Accommodates a total of 6 x 5 l canisters (L 245 x W 145 x H 225 mm\*).

**Lower drawer offers space for larger canisters:**

- 2 x 10 l, 140 x 193 x 307 mm
- 2 x 10 l, 223 x 203 x 321 mm
- 2 x 10 l, 229 x 193 x 323 mm
- 2 x 10 l, 194 x 204 x 353 mm
- 1 x 20 l, 289 x 233 x 396 mm
- 1 x 25 l, 288 x 234 x 456 mm

\* Only possible with DOS K 85/1 dispenser with short siphon.



**DOS K 85/1 dispenser module**

- For liquid alkaline detergents and chemical disinfectants, neutralising agent
- Peristaltic pump, adjustable via machine's electronic controls
- Integrated dispenser monitoring function ensuring high level of process security
- Short siphon (200 mm) for 5 l canister, incl. level fill monitoring
- Length of connection cable: 3.00 m
- Length of suction hose: 1.80 m



**DOS K 85 dispenser module**

- As DOS K 85/1
- But with long siphon (300 mm) for 5 l and 10 l canisters
- Option: Conversion kit, Part no. 5458034, for siphon (10-30 l containers) available from Spares.



**UG 30-60/60-85 plinth**

- For use on PG 8583 and PG 8593
- Stainless-steel plinth, bolted to machine
- H 300, W 600, D 600 mm



**UG 30-90/60-85 plinth**

- For use with PG 8583 and PG 8593 in combination with PG 8595 or PG 8596
- Stainless-steel plinth, bolted to machine
- H 300, W 900, D 600 mm



**UG 30-90/70-85 plinth**

- For use with PG 8583 CD
- Stainless-steel plinth, bolted to machine
- H 300, W 900, D 700 mm

Accessories  
Plinths