![Miele PROFESSIONAL]

Perfect analytical-grade reprocessing of laboratory glassware

Distributed by:

Lab Unlimited
CARL STUART GROUP

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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

5O YEARS Laboratory Technology

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

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
Cycle capacity			
Laboratory phials	128	128	128
Pipettes	98	98	98
Mixed load consisting of laboratory phials and pipettes	130	130	130
Drying	EcoDry	DryPlus	DryPlus
Integrated dispenser pump	1/2	1	2
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	CW	HW	AD	Energy	Cycle time	Energy
	[mins.]	[l]	[l]	[l]	[kWh]	[mins.]	[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 (3N AC 400V 50Hz), connection to cold water (15°C), hot water (65°C) and demineralised water (15°C)

Competent and innovative

DURAN GROUP — empfiehlt recommends — Miele PROFESSIONAL

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

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).

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
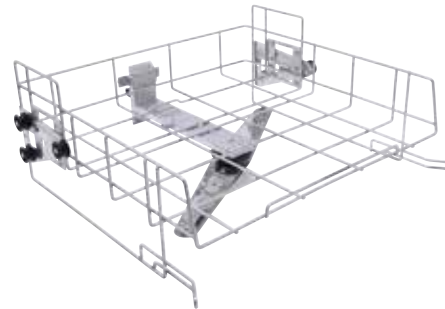Optional: A 802 nozzle
for models with powder dispensing

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
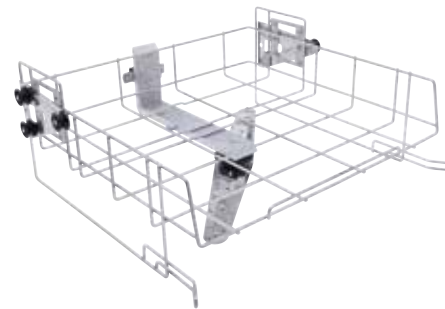for models with powder dispensing

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
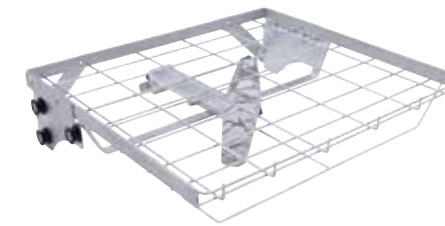- H 141, W 528, D 525 mm

A 101 upper basket/open front
- Open front
- For various inserts
- Height-adjustable
- Vertical clearance 160 +/-30 mm
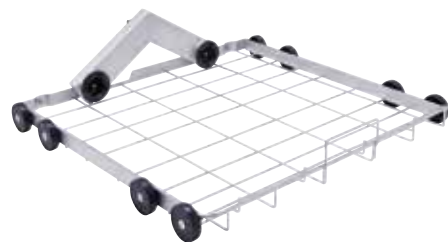- Built-in spray arm
- H 206, W 528, D 527 mm

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:
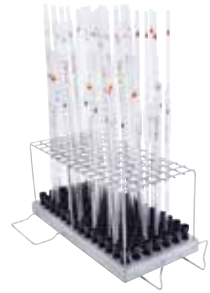 Upper basket 191 mm
  Lower basket 191 mm

A 302 module
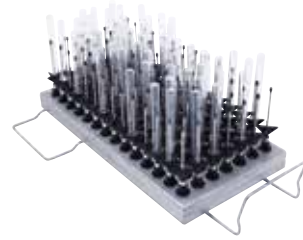**for laboratory glassware 4 x 8**
- For laboratory glassware, e.g. Erlenmeyer flasks, round flasks, laboratory bottles, measuring flasks and measuring cylinders
- 32 x ID 110 injector nozzles with plastic supports (2.5 x 110 mm)
- H 181, W 235, D 479 mm
- Vertical clearance:
  Upper basket 160 mm
  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
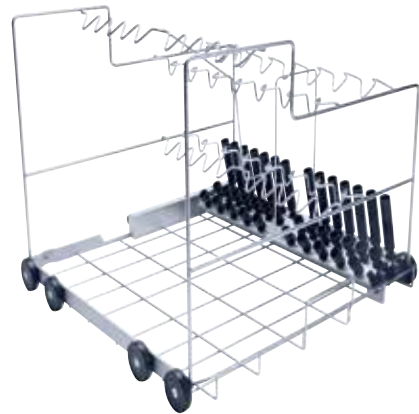
A 304 module for phials
- For 98 tubes, e.g. centrifuge tubes, phials, test tubes or autosampler tubes
- H 130, W 222, D 471 mm

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 118, 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.

UfZ 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

Accessories
Plinths

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

Lab washers
PG 8535 and PG 8536

Programmes, cycle times, consumption

Lab washers	PG 8535	PG 8536
Width [mm]	900	900
Height, Depth [mm]	820, 700	1175, 700
Duration / VarioTD** [mins.]	54	41
Load capacity		
Laboratory phials	128	128
Pipettes	98	98
plus other laboratory glassware	•	•
Drying	DryPlus	DryPlus
Integrated dispenser pump	2	2
Space in drawer for 5 l canisters	3	4
Electrical connection 3N AC 400 V, 50 Hz	•	•
Total rated load [kW]	9.7	10.2

PG 8535 with steam condenser	Cleaning					Drying	
	Cycle time	CW	HW	AD	Energy	Cycle time*	Energy
	[mins.]	[l]	[l]	[l]	[kWh]	[mins.]	[kWh]
SPECIAL 93°C-10′	41	14.7	16.8	11	2.5	39	0.7
DES-VAR-TD	41	23.7**	16.8	11	2.3	34	0.5
SHOE-TD-75/2	24	18.0	23.5	0	1.0	39	0.4
LAB-STANDARD	33	7.3	16.3	22	2.0	34	0.6
ORGANICA	41	2.0	32.0	25	2.1	34	0.6
ANORGANICA	39	2.0	32.0	34	1.5	34	0.6

* Programme duration with steam condensation pause and gentle start

** Starts with cooldown phase if initial temperature is above 35°C (CW: +4.5 l/Duration: +1.75 mins.)

Heating: 9 kW (3N AC 400 V, 9.7 kW)

Connection to cold water (15°C), hot water (65°C), demineralised water (15°C) and steam condenser water supply (approx. 20°C)

Note:

Model PG 8535 features the same programmes as the PG 8536.

Further information on programme durations, etc., on request.

PG 8536	Cleaning					Drying	
LAB-STANDARD	33	8.5	38.5	18	2.6	34.3	0.6
LAB-UNIVERSAL	35	8.5	55	21	2.3	34.3	0.6
LAB-INTENSIVE	43	8.5	40	48	2.7	34.3	0.6
LAB-PIPETTES	46	11.5	74.5	44	2.5	34.3	0.3
PLASTICS	38	62.5	-	20	2.5	44.6	0.4
ORGANICA	41	1	64	21	2.8	34.3	0.6
ANORGANICA	43	4	49	48	2.4	34.3	0.6
LAB-OIL	47	1	80.5	21	2.5	34.3	0.3
DES-VAR-TD	54	36.3	24.2	16	3.7	34.3	0.6
SPECIAL 93/10	48	22	25.5	15.5	3.97	39.3	0.7

* with 6-minute steam condensation pause (No. 48-50 4.33 mins.)

Heating: 9 kW (3N AC 400 V, 10.2 kW)

Connection to cold water (15°C), hot water (65°C), demineralised water (15°C) and steam condenser water supply (approx. 20°C)

Competent and innovative

DURAN GROUP — empfiehlt recommends — Miele PROFESSIONAL

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

Greater precision and security:
Innovations for perfect reprocessing

PerfectTouch Control
Simple to operate, easy to clean: PG 8535/PG 8536 lab washers feature a touch-sensitive display. All controls lie below a perfectly flush and chemical-proof glass screen embedded into the machine control panel. Its precise response characteristics facilitate programme selection at the touch of a fingertip, even when the user is wearing gloves. All messages appear in plain text which is user-definable.

PerfectPure Sensor
In laboratories, it is essential that chemical residue on loads is prevented as such residue would interfere with subsequent analytical results and cultures. To monitor residuals, the PG 8536 offers the option of PerfectPureSensor conductivity monitoring. This maintenance-free system represents a contact-free way of measuring conductivity in the wash liquor in the 5–40 µS/cm and 40 µS/cm – 100 mS/cm ranges. Undesirable substances, e.g. process chemical salts, are reliably detected and can be minimised by repeating the final rinse cycle until values drop once again to below permissible levels.
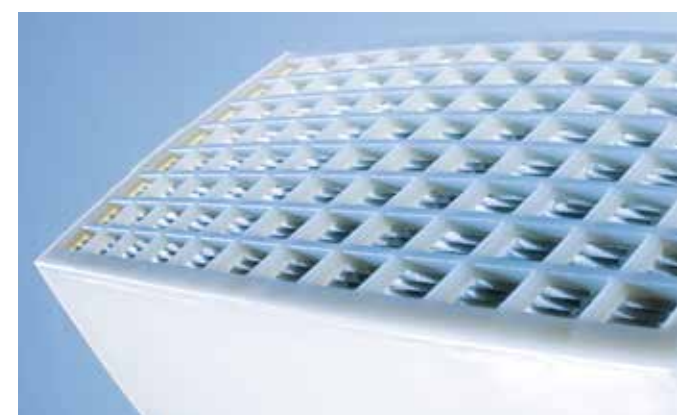
PerfectFlow
The precise dispensing of all process chemicals is a key factor in ensuring reliable, reproducible reprocessing results. Miele's new PerfectFlow sensor using ultrasound technology offers considerably greater safety margins than conventional systems. The PerfectFlow sensor is a standard feature on the PG 8536 and guarantees a hitherto unparallelled degree of precision in controlling and monitoring volumetric flow, independent of viscosity and ambient temperatures. It operates independently of the dispensing system itself, can be calibrated and adjusted, and is able to issue alerts or abort programmes in the event that prescribed tolerances are exceeded.

PerfectSpeed Sensor
Optimum cleaning and disinfection cannot be achieved if the proper functioning of the spray arms is impaired. The PerfectSpeedSensor, a standard feature on PG 8535 and PG 8536 models, monitors the rotation of each individual spray arm – from the arms in the machine to the ones on board baskets and load carriers, thereby ensuring reproducible results with a good margin of safety. The control unit makes use of a sensor strip outside the chamber to monitor the passage of spray arms, ensuring that speeds are within the prescribed range. If this is not the case, for instance when excessive foaming or dislodged load items cause a blockage or slow spray arms down, a display warning is issued or the programme cycle is interrupted.

PerfectHEPA Drying
Exceptional cleanliness, particularly in the drying phase, is guaranteed by PerfectHepaDrying, another standard feature on PG 8535 and PG 8536 models. The system relies on a HEPA-grade temperature-resistant Class 13 filter able to filter out more than 99.95% of particles. This filter is located directly upstream from the chamber and presents a highly effective barrier to undesirable particles entering the system together with drying air. Furthermore, the design of the air circuit has been optimised to ensure that all parts of the cabinet are reliably exposed to hot air.
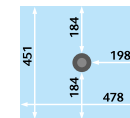
PerfectDoc
A network interface for process documentation is a standard feature on the PG 8535 and PG 8536. This PerfectDoc module is used to connect to process documentation software or, where applicable, to the laboratory's own network. This allows data to be captured and numerous process parameters, such as time/temperature charts to be plotted and complete process reports to be compiled, including A0 values, dispensed volumes, spray arm speeds and conductivity. Alternatively, documentation can be done using a printer connected to the machine's serial interface. Further information on process documentation is provided on Pages 66–71.
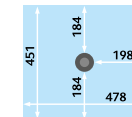
O 188/2 upper basket/open front
• Open front
• For various inserts
• Vertical clearance 165 mm
• Height adjustment range
  +/– 20 mm
• Built-in spray arm with magnetic
  tip for spray arm sensing
• H 215, W 531, D 475 mm

O 190/2 upper basket/open front
• As O 188/2
• Vertical clearance 215 mm
• Built-in spray arm with magnetic
  tip for spray arm sensing
• H 265, W 531, D 475 mm

**O 175 upper basket/injector unit
with drying connector**
• For narrow-necked laboratory
  glassware
• 33 injector nozzles
• Vertical clearance 170 mm
• Connection for hot-air drying unit
• H 250, W 531, D 475 mm,
  H with drying connection 412 mm
• Powder dispensing not possible

Supplied as standard with:
• 33 nozzles (E 351), Ø 4 x 160 mm
• 33 clips for nozzles
  4 x 160 mm (E 353)

* Clearance may be less, depending on type
  of laboratory glassware

O 187 upper basket/injector unit
• For narrow-necked laboratory
  glassware
• 34 injector nozzles
• Vertical clearance 170 mm
• H 250, W 531, D 475 mm
• Powder dispensing not possible

Supplied as standard with:
• 34 nozzles (E 351), Ø 4 x 160 mm
• 34 clips for nozzles
  4 x 160 mm (E 353)

* Clearance may be less, depending on type
  of laboratory glassware

**O 184 upper basket/injector unit
with drying connector**
• For items such as centrifuge
  tubes, phials, test tubes for
  fraction collectors or autosampler
  tubes
• 96 injector nozzles
• Vertical clearance 170 mm
• Connection for hot-air drying unit
• H 260 (468 with drying
  connector), W 531, D 475 mm
• Powder dispensing not possible

Supplied as standard with:
• 96 nozzles, Ø 2.5 x 110 mm with
  plastic support

U 874/1 lower basket/open front
• Open front
• For various inserts
• Clearance heights in combination
  with upper basket:
  O 175 TA approx. 230 mm
  +/– 20 mm
  O 184 approx. 205 mm
  +/– 20 mm
  O 187 approx. 225 mm
  +/– 20 mm
  O 188/2 approx. 270 mm
  +/– 20 mm
  O 190/2 approx. 220 mm
  +/– 20 mm

**U 175/1 lower basket/mobile
injector unit**
• For narrow-necked glassware
• 33 injector nozzles
• Vertical clearance approx.
  170 mm
• Only in conjunction with
  O 175/O 187/O 184
  upper baskets
• H 250, W 531, D 475 mm

Supplied as standard with:
• 33 nozzles (E 351), Ø 4 x 160 mm
• 33 X clips for nozzles (E 353),
  4 x 160 mm
• 1 irrigation nozzle

**U 184/1 lower basket/mobile
injector unit**
• For items such as centrifuge
  tubes, phials, test tubes for
  fraction collectors or autosampler
  tubes
• 96 injector nozzles
• Only in conjunction with

  O 175/O 187/O 184 upper
  baskets
• Vertical clearance 170 mm
• H 250, W 531, D 515 mm

Supplied as standard with:
• 96 nozzles 2.5 x 90 mm with
  plastic supports

E 103/1 insert 1/4
- For approx. 200 test tubes, max. 12 x 75 mm
- 6 compartments, incl. A 13 lid
- Mesh size 8 x 8 mm
- H 102 (122), W 200, D 320 mm

E 104/1 insert 1/4
- As E 103, but for test tubes, max. 12 x 105 mm, incl. A 13 lid
- Mesh size 8 x 8 mm
- H 132 (152), W 200, D 320 mm

E 105/1 insert 1/4
- As E 103, but for test tubes, max. 12 x 165 mm, incl. A 13 lid
- Mesh size 9 x 9 mm
- H 192 (212), W 200, D 320 mm

E 139/1 insert 1/4
- As E 103, but for test tubes, max. 12 x 200 mm, incl. A 13 lid
- Mesh size 9 x 9 mm
- H 223 (243), W 200, D 320 mm

E 149 insert 1/4
- For 80 test tubes, max. 16 x 105 mm, incl. A 13 lid
- 80 compartments, 18 x 18 mm
- Mesh size on base 8 x 8 mm
- Lid available from Spares Mat. no.: 05618390
- H 132 (152), W 200, D 320 mm

A 13 lid
- As replacement for E103, E104, E105 and E139 inserts
- Stainless steel
- 1 mm wire mesh 8 mm mesh gauge 4 mm all-round frame

E 106 insert 1/2 (illustrated)
- For wide-necked glassware, measuring cylinders, etc.
- 10 spring hooks, H 175 mm
- 16 spring hooks, H 105 mm, spacing approx. 60 mm
- H 186, W 195, D 430 mm

E 106/1 insert 1/2
- 26 small spring hooks, H 105 mm, spacing approx. 60 mm
- H 116, W 195, D 410 mm

E 106/2 insert 1/2
- 13 large spring hooks, H 175 mm, spacing approx. 85 mm
- H 186, W 180, D 420 mm

E 109 insert 1/2 (illustrated)
- For 21 beakers up to 250 ml
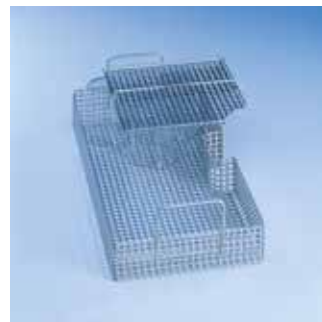- 21 x 3 spikes
- H 155, W 230, D 460 mm

E 110 insert 1/2
- For 10 beakers, 250 ml to 600 ml
- 10 x 3 spikes
- H 175, W 230, D 460 mm

E 111 insert 1/2
- For 8 beakers, 600 to 1,000 ml
- 8 x 3 spikes
- H 205, W 230, D 460 mm

E 144 insert 1/2
- For 18 beakers up to 250 ml
- 18 x 3 spikes
- H 131, W 200, D 445 mm

AK 12 insert 1/2
- For funnels, beakers, wide-necked glassware, etc.
- H 67/127, W 225, D 442 mm

A 14 1/4 lid
- For AK 12 insert
- Stainless steel
- 7 x 7 mm perforations, 3 mm ridge
- H 20, W 210, D 210 mm

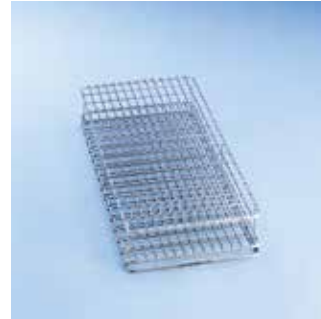# Inserts for Petri dishes, watch glasses, micro-titre plates, etc.

Injector mobile unit for pipettes

E 118 insert 1/1
• For 38 Petri half-dishes, 100 mm
• 38 holders, Height 70 mm
• Spacing approx. 26 mm
• H 120, W 460, D 445 mm

E 136 insert 1/1
• For 56 Petri half-dishes, 100 mm
• 56 holders, Height 70 mm
• Spacing approx. 26 mm
• H 145, W 485, D 445 mm

E 137 onsert 1/1 for E 136
• For 56 Petri half-dishes, 100 mm
• 56 holders, Height 70 mm
• Spacing approx. 26 mm
• H 95, W 485, D 445 mm

E 134 insert 1/2
• For 210 slides
• 210 compartments 26 x 11 mm
  Wire gauge 3 mm
• H 73, W 200, D 445 mm

E 404/1 mobile injector unit
• For 38 pipettes in 3 rows:
  Row 1: 10 pipettes 100 ml
  (length up to 550 mm),
  Spacing 20 mm,
  Row 2: 14 pipettes 25 ml,
  Spacing 26 mm
  Row 3: 14 pipettes 10 ml,
  Spacing 26 mm
• Without holder for ML/2 magnetic
  strip for automatic mobile unit
  recognition/spray arm sensing

E 405/1 mobile injector unit with drying connection
• As E 404/1
• Connection for hot-air drying unit
• With holder for ML/2 magnetic
  strip for automatic mobile unit
  recognition/spray arm sensing

E 406 mobile injector unit
• For 116 pipettes up to 450 mm
• Compartment size 16 x 16 mm
• Complete with retaining frame,
  height 150 mm
• Without holder for ML/2 magnetic
  strip for automatic mobile unit
  recognition/spray arms sensing

E 408 mobile injector unit with drying connection
• As E 406 but for 96 pipettes
• Connection for hot-air drying unit
• With holder for ML/2 magnetic
  strip for automatic mobile unit
  recognition/spray arm sensing

E 402 insert 1/2
• For 44 Petri dishes, 80-125 mm
• 23 supports, distance between
  supports 15 mm
• H 53, W 200, D 445 mm

E 403 insert 1/2
• For 105 Petri dishes, 50-60 mm
• 36 supports, distance between
  supports 9 mm
• H 35, W 200, D 445 mm

E 493 load carrier
• For use in PG 8536
• For 8 x E 494 inserts for micro-
  titre plates on 4 levels
• To ensure optimum wash results,
  the lower spray arm should be
  replaced with the enclosed flange
• Clearances from bottom:
  Level 1: 70 mm
  Level 2: 85 mm
  Level 3: 85 mm
  Level 4: 90 mm

E 494 insert 1/2
• For 5 micro-titre plates
• H 35, W 205, D 440 mm

Inserts for narrow-necked glassware

E 355 mobile injector unit 1/2
• For narrow-necked glassware
• 16 injector nozzles
• One half vacant for other inserts

Supplied as standard with:
• 7 x E 351 injector nozzles,
  Ø 4.0 x 160 mm
• 7 x E 353 clips for nozzles,
  4.0 x 160 mm
• 9 x E 352 injector nozzles,
  Ø 6.0 x 220 mm
• 9 x E 354 clip for nozzles,
  6.0 x 220 mm
• 1 x rinse nozzle for door powder
  dispenser

E 385 mobile injector unit 1/2 with drying connection
• As per E 355, but with connection
  for hot air drying unit
• 16 injector nozzles
• Holder for ML/2 magnetic
  strip for automatic mobile unit
  recognition

Supplied as standard with:
• 7 x E 351 injector nozzles,
  Ø 4.0 x 160 mm
• 7 x E 353 clips for nozzles,
  4.0 x 160 mm
• 9 x E 352 injector nozzles,
  Ø 6.0 x 220 mm
• 9 x E 354 clip for nozzles,
  6.0 x 220 mm
• 1 x rinse nozzle for door powder
  dispenser

E 340 mobile injector unit 1/2
• For narrow-necked glassware
• 19 injector nozzles
• One half vacant for other inserts

Supplied as standard with:
• 3/3/3 nozzles,
  Ø 4.0 x 140/160/180 mm
• 3/3/4 nozzles,
  Ø 6.0 x 200/220/240 mm
• 1 x rinse nozzle for door powder
  dispenser

E 350 mobile injector unit 1/1
• For narrow-necked glassware
• 33 injector nozzles

Supplied as standard with:
• 15 x E 351 injector nozzles,
  Ø 4.0 x 160 mm
• 15 x E 353 clips for nozzles, 4.0
  x 160 mm
• 18 x E 352 injector nozzles,
  Ø 6.0 x 220 mm
• 18 x E 354 clips for nozzles, 6.0
  x 220 mm
• 1 x rinse nozzle for door powder
  dispenser

E 380 mobile injector unit 1/1 with drying connection
As E 350 but with 32 nozzles/clips
• Connection for hot-air drying unit

Supplied as standard with:
• 14 x E 351 injector nozzles,
  Ø 4.0 x 160 mm
• 14 x E 353 clips for nozzles,
  4.0 x 160 mm
• 18 x E 352 injector nozzles,
  Ø 6.0 x 220 mm
• 18 x E 354 clips for nozzles,
  6.0 x 220 mm
• 1 x rinse nozzle for door powder
  dispenser

E 329 mobile injector unit 1/1
• For narrow-necked glassware
• 39 injector nozzles

Supplied as standard with:
• 4/5 nozzles, 2.5 x 90/110 mm
• 5/5/5 nozzles,
  Ø 4.0 x 140/160/180 mm
• 5/5/5 nozzles,
  6.0 x 200/220/240 mm
• 1 x rinse nozzle for door powder
  dispenser

E 414 mobile injector unit 1/1 with drying connection
As E 329, but with 37 nozzles
• Connection for hot-air drying unit
• With holder for ML/2 magnetic
  strip for automatic load carrier
  recognition/spray arm sensing

Supplied as standard with:
• 4/3 nozzles, 2.5 x 90/110 mm
• 5/5/5 nozzles,
  Ø 4.0 x 140/160/180 mm
• 5/5/5 nozzles,
  6.0 x 200/220/240 mm
• 1 x rinse nozzle for door powder
  dispenser

E 331 mobile injector unit 1/1
• For butyrometers
• 39 injector nozzles

Supplied as standard with:
• 39 SD-B injector nozzles for
  butyrometers
• 1 x rinse nozzle for door powder
  dispenser

Accessories

E 336 irrigation sleeve
• Plastic, with screw fitting
• For pipettes (max. length
  445 mm) in injector mobile units
• Ø 11 mm
• Length 121 mm

E 351 injector nozzle
• For injector mobile unit
• For combination with E 353
• Ø 4 x 160 mm, screw thread
E 352 injector nozzle
• For injector mobile unit
• For combination with E 354
• Ø 6 x 220 mm, screw thread
E 353 clip for nozzle
• For E 351 injector nozzle
• Height-adjustable
• Ø 4 x 160 mm
E 354 clip for nozzle
• For E 352 injector nozzle
• Height-adjustable
• Ø 6 x 220 mm
E 470 injector nozzle with clip
• For injector mobile unit
• Ø 2.5 x 90 mm, screw thread

Injector nozzle with plastic support
ID 90
• Ø 2.5 x 90 mm
ID 110
• Ø 2.5 x 110 mm
ID 140
• Ø 4 x 140 mm
ID 160
• Ø 4 x 160 mm
ID 180
• Ø 4 x 180 mm
ID 200
• Ø 6 x 200 mm
ID 220
• Ø 6 x 220 mm
ID 240
• Ø 6 x 240 mm

SD-B injector nozzle for butyrometers
• For E 331 mobile unit
• L 240 mm incl. thread,
  4 x 140 mm plus welded,
  compressed nozzle,
  1.5 x 100 mm

E 362 blanking screw
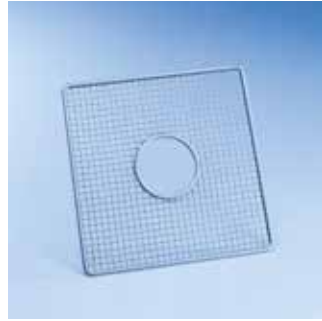• M 8 x 1 thread, to close
  connectors on load carriers

TK/1 test kit
• Test to detect protein and verify
  cleaning results
• Contents sufficient for 48 tests
• With code strips for reflectometer
  (reflectometer not provided)
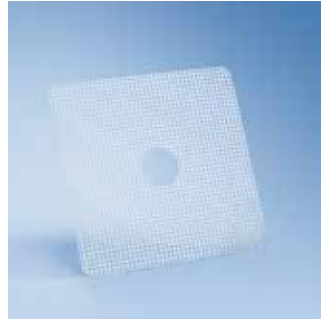• Via Spares (Part no. 6157330)

Accessories

A 2 cover net 1/2
- Plastic-coated metal frame with plastic netting
- For 1/2 inserts
- 216 x 456 mm

A 3 cover net 1/4
- Plastic-coated metal frame with plastic netting
- For 1/4 inserts
- 206 x 206 mm

A 6 cover net 1/2
- Stainless-steel frame with polyamide mesh
- Particularly resilient and durable
- 215 x 445 mm

A 5 cover
- Stainless-steel frame with plastic net (material quality PA 12)
- For O and U 184, E 747, E 947
- H 8, W 280, D 280 mm

A 11/1 insert 1/1 Underframe
- With perforations 7 x 7 mm
- For upper or lower basket
- Stainless steel
- W 429, D 429 mm

A 12/1 insert 1/2 sub-frame
- With perforations 7 x 7 mm
- For upper or lower basket
- Stainless steel
- W 429, D 224 mm

E 319/3 insert 1/1
- Surface filter for coarse soil
- Contains soiling e.g. labels from laboratory glassware, glass splinters etc.
- W 500, D 488 mm

Retrofittable accessories

Retrofittable spray arm with magnet
- To use spray arm sensing, spray arms with magnetic tips can be retrofitted

ML/2 magnetic strip
- Magnetic strip for automatic load carrier recognition
- Pre-condition for use of spray arm sensing
- 5 magnets, configurable
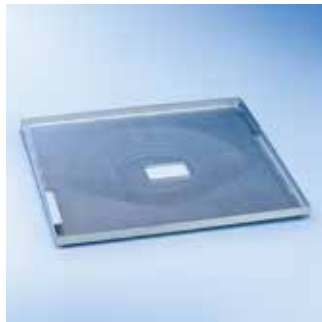- 15 possible combinations

Ethernet module XKM 3000 L Med
- Communication module for connection to Segosoft Miele Edition or other process documentation software
- Ring buffer for up to 30 process protocols and 2 graphic protocols
- No additional components needed for direct or network connection
- Supports DHCP (Dynamic Host Configuration Protocol) facilitating automatic selection of network parameters
- Ready for Remote Vision (automatic reporting of faults)
- Baud rate: 10/100 Mbit/s
- Length of supply lead: 1.5 m
- Cable can be extended
- Optional for models PG 858x, PG 859x and PG 858x CD.

Serial module XKM RS232 10 Med
- Standard communication module for connection to Segosoft Miele Edition USB kit or PRT 100 protocol printer
- Ring buffer for up to 25 process protocols
- Adapts protocol length between short and long to customer requirements
- Baud rate: max. 38 kBit/s
- Length of supply lead: 1.5 m
- Cable extension to total length of 15 m possible
- Optional for models PG 858x, PG 859x X and PG 858X CD.

MT Mieltrans trolley
- Trolley for storing and transporting baskets and inserts
- 4 levels, each height-adjustable by 102.5 mm
- 4 lockable wheels
- Loading dimensions: 549 x 599 mm
- H 1985, W 616, D 662 mm

MC/1 Mielcar, supply and disposal trolley
- For loading lab washers and handling baskets and inserts
- 4 wheels, of which 2 are lockable
- Infinitely height-adjustable
- 2 shelves (trough design), handles and docking panel
- Docking height: H 640–885 mm, infinitely adjustable
- For G 7882, G 7882 CD, G 7892 and PG 8535 only in combination with plinths (H 30 cm)
- H 1000, W 630, D 814 mm (with docking plate raised D 960 mm)

UC 30–90/70–78 box plinth, stainless steel
- Can be bolted to machine
- H 300, W 900, D 700 mm

DOS G 60/1 dispenser module
- For liquid alkaline detergents and chemical disinfectants
- Peristaltic pump, adjustable via machine controls
- Short siphon (200 mm) for 5 l canister incl. level monitoring
- Length of connection lead: 1.90 m

DOS G 60 dispenser module
- As DOS G 60/1
- But with long siphon (300 mm) for 5 l and 10 l canisters

DOS G 10 dispenser module
- For liquid dispenser (surfactant, neutralisation agent)
- Peristaltic pump, adjustable via machine controls
- Siphon with magnetic float switch for level-fill indicator for 5 l and 10 l containers
- Conversion kit for longer siphon (10-30 l containers) available via Spares, Mat. no. 5458030.
- H 118, W 235, D 115 mm

DOS S 20
- Bellows-type dispenser pump, retrofittable by Service
- For liquid acidic agents (surfactant, neutralising agent)

DOS NA 120
- Bellows-type dispenser pump incl. ultrasound flow control, retrofittable by Service
- For chemical disinfectant/liquid detergent (chemical disinfectant, liquid detergent, emulsifier)

Systematic process documentation

Miele Professional offers a flexible and holistic approach to the documentation of laboratory glassware reprocessing. The system comprises Segosoft Miele Edition documentation software as well as tailored communication modules and accessories. The documentation of reprocessing, including all relevant parameters, represents a clear quality benefit – and offers a wide range of opportunities to optimise both processes and costs.

Comprehensive
The user-friendly Segosoft Miele Edition allows full traceability and secure documentation of washing and disinfection.
- Automatic recording of process protocols, routine checks and maintenance work
- Digital and conventional records
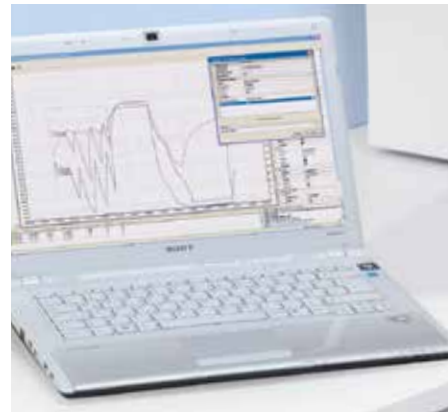- Legally compliant documentation

Flexibility
Depending on the requirements of the installation location, documentation can be performed using two different communication modules.
- RS 232 module: Basic solution for small installations, connection of the PRT 100 protocol printer and connection of the Segosoft Miele Edition via USB
- Ethernet module: Standard communication module with extended functionalities (auto-configuration, graphic protocols, update-enabled) and hence particularly suited to direct connection to a PC or a network.

Process documentation options

Lab washers from Miele Professional offer a range of approaches to documentation, allowing adaptation to existing infrastructure and documentation requirements in a broad range of laboratories.

Segosoft®
Miele Edition

1. Direct link to a PC
A Miele lab washer is connected direct using the Ethernet module to a computer running the Segosoft Miele Edition. In this case, cable lengths of up to 13 m are possible, allowing the PC to be installed either in the laboratory or in a neighbouring room.
• Short distances and simple handling by approving loads on-site.
• Most flexible approach to connecting two or more units in hygiene room.
• Automatic data transfer from machine to software.

2. Network connection
A lab washer is linked up to the laboratory's own computer network via an Ethernet module. This allows data to be processed on a central PC.
• Use of existing computer for documentation
• Automatic data transfer from machine to software

3. Documentation via USB
Process data is saved on a USB flash memory connected to a lab washer via the RS232 communication module. Data can later be read out on a PC using the Segosoft Miele Edition for further processing.
• Reduced investment in computer and network infrastructure
• Use of existing laboratory computer

4. Process documentation via printer
Process data printouts via PRT 100 protocol printer connected via RS 232 communication module. Printouts are collected for manual filing and evaluation.
• Particularly simple approach
• Paper-printed protocols
• Long or short protocol format

SegoSoft Miele Edition 7
Apart from the Ethernet module, no further hardware is required to connect a machine to the Segosoft Miele Edition 7, (e.g. converters or adapters, etc.). Alongside the online activation of licences and automatic configuration of software for fast and simple commissioning, automatic signature updates are also possible during operation.
• Use with initial or additional licence
• Documentation in PDF/A1 format
• Long-term archiving according to ISO 19005-1:2005
• Level of security certified by BSI (German Office of Data Security)

XKM RS 232 10 Med
• RS 232 module
• Basic USB solution for printer connection
• Memory for up to 25 short/long protocols, no graphic protocols

XKM 3000 L Med
• Ethernet module
• Universal solution for PC and network connection
• Extended functionalities (updates)
• Ring buffer for up to 30 process protocols and 2 graphic protocols

Bundesamt für Sicherheit in der Informationstechnik

Deutsches IT-Sicherheitszertifikat

Zertifikat Nummer:
BSI-DSZ-CC-0930-2014

bis EAL 4

Comparison of documentation options

	Direct PC connection	Network connection	Documentation via USB	Printer
Documentation: Process protocol	•	•	•	•
Documentation: Temperature/pressure charts	•	•	–	–
Documentation: Routine checks	•	•	•	–
Documentation: Maintenance	•	•	•	–
Advanced digital signature with reference to user	•	•	•	–
Manual approval with signature	–	–	–	•
Digital approval with user name/password	•	•	•	–
Convenience of short distances within laboratory	+++	++	++	+++
Paperless filing	•	•	•	–
Data backup function	•	•	•	–
Legal security	•	•	•	•
Initial outlay	+++	+++	++++	+

• = available – = not available + = evaluation scale

SegoSoft Miele Edition:
Process documentation software for use in direct PC connections or network connections
Scope
- Software CD*, Comfort Plus software package, installation instructions, licence card for 1 machine
- Optional: Additional licence for further units (cf.additional licence)
Max. number of connections
- Serial connection: 4 machines
- Network connection: Any number of machines
Data transmission
- Direct connection of machine and PC or machine and laboratory network
Machine compatibility:
- Miele Professional lab washers
- Machines from other manufacturers on request

Segosoft Miele Edition: USB solution
Process documentation software for data transfer using USB stick
Scope
- Complete package for 1 machine: Software CD*, ComfortPlus software package, installation instructions, USB data logger module incl. 230 V converter, 1.4 m supply lead, serial interface cable for connecting machine and data logger (cable length: 3 m), USB flash memory
- Dimensions of data logger H 31, L 90, W 109 mm
Machine compatibility:
- Miele lab washers with Novotronic controls (G 7883, G 7893, G 7883 CD) and washer-disinfectors with TouchControl (PG 8583, PG 8593, PG 8583 CD)

Connection cable (Type 1)
3 m serial connection cable
For use on:
- PC direct connection via serial interface
- Network connection via serial interface with Net500 network converter
Machine compatibility:
- Miele Professional lab washers G 7883, G 7893, G 7883 CD, PG 8583, PG 8593, PG 8583 CD

Connection cable (Type 2)
3 m serial connection cable
For use on:
- PC direct connection via serial interface
- Network connection via serial interface with Net500 network converter

Net500 network converter
Connection of machines with serial interface to a laboratory network
- Conversion of serial data (RS 232) into network data (TCP/IP)
Scope
- Transformer/rectifier unit
- Supply lead length 1.4 m
- L 31, W 90, H 109 mm

Connection cable for Net500
- Machine-side: Serial connection cable (Type1 or 2, depending on machine type) for connection between machine and Net500
- Network-side: Network cable (Type 6 or 7, depending on required length) for connection between Net500 and laboratory network

Network cable Type 6 and Type 7 for network connection
For use on:
- For connection of Net500 network converter to laboratory network
- Connection of one machine with network interface to laboratory network
- Network cable 3 m (Type 6)
- Network cable 5 m (Type 7)

Network cable Type 8 and Type 9 for PC direct connection
Connection of machine with network interface to PC
- network cable, crossover, 3 m (Type 8)
- Network cable, crossover, 5 m (Type 9)

SegoSoft Miele Edition: Additional licence
- Process documentation, software package: ComfortPlus
- Additional licence for connection of 2 or more machines
Scope
- Licence card

Extension cable Types 3-5 for connection cable Type 1/2
- Extension cable, serial, 3 m (Type 3)
- Extension cable, serial, 5 m (Type 4)
- Extension cable, serial, 10 m (Type 5)
Machine compatibility:
- For use with all models with serial interface

PRT 100 protocol printer
Printer for printing process protocols
- Ink-jet printer with indelible ink
Machine compatibility:
- All Miele Professional lab washers
- PG 8583, PG 8593 and PG 8583 CD only in combination with XKM RS232 10 Med serial communication module

Printer cable for printer PRT 100
- Printer cable length: 15 m
- Cable not included with printer
Cartridges, paper rolls
- Printer cartridge for PRT 100
- Paper rolls, 5 off, for PRT 100

Serial Industrial Converter
- For serial connection of max. 2 Miele Professional lab washers
- USB connection between Serial Industrial Converter and PC
- Galvanic separation of all connections
- L 31, W 90, H 109 mm

Scope
- Transformer/rectifier unit
- Supply lead length 1.4 m
- USB cable 0.5 m

Machine compatibility:
- Miele Professional lab washers G 7883, G 7893, G 7883 CD
- Machines from other manufacturers on request

* System requirements for all software systems
- CPU rate of at least 1.6 GHz, 2,0 GHz or higher recommended
- SVGA graphics with 1024 x 768 pixels, 17" monitor or larger
- Memory at least 1 GB, 4 GB recommended
- 1 GB free memory, 10 GB or higher recommended
- CD/DVD-ROM drive for installation
- At least 2 USB ports, 3 recommended, network interface
Operating systems:
- Windows 7 Professional, Windows 8.1
- Adobe Acrobat Reader, Version 6.0.2 or higher, Version 9.0 or higher recommended

Additional services mandated by Miele Service Partner:
Service Card and appropriate services
- Update of digital signature extending legal validity by 2 years
- Telephone support, software updates for 1 year
- Flat-rate fee per surgery
Note: Legal validity of digital signature in Segosoft Miele Edition expires 2 years after installation. An extension of the legal validity of the digital signature is charged to clients (annual fee per laboratory computer: € 215).

NetBox.2
Process documentation system

The NetBox2 is a complete documentation system including pre-configured software. The system is connected via an interface to the lab washer and gathers relevant data from the current cycle. In normal mode, documentation is fully automatic without any intervention on the part of the user. This results in an increase in operational security as the NetBox.2 provides a good level of protection against user errors.

Once collated, process data remains in memory; the NetBox has the capacity to save up to 10,000 batch protocols. Later, data can be saved to a network or a storage device.

In network mode, the unit can be monitored and operated via a PC interface. A flat-screen monitor is also available to plot time/temperature charts. A further optional extra is a barcode scanner or RFID transponder to facilitate the fast and simple identification of loads. The user can also approve or lock batches, depending on process cycles.

Effective process documentation system requirements
- Complete system with high level of process security, including pre-installed and configurable software
- Manipulation-safe
- Simple operation without knowledge of PCs
- Extremely simple installation
- Process visualisation
- Batch-related documentation
- Documented load approval
- Optional long-term archiving as XML files
- Touch screen controls
- Scanner interface
- Machine status monitor
- Archiving of cycle data
- Transfer of load/approval data to EuroSDS©
- Provision of load / approval data for external documentation systems
- Web interface

System components
- NetBox2 with mouse/barcode (wired) as well as cables for connection to lab washers

Optional
- Flat screen for visualisation of process data and loads
- Barcode scanner (Bluetooth model) for optimum programme control and simple load data acquisition
- Transponder as alternative to barcode system
- Ethernet switch with 4 ports
- Network cable
- Memory extension for up to 100,000 cycles

Commissioning
The NetBox2 is connected by a Miele Service technician. An IT employee should be present to oversee integration into an on-site network.

Service excellence –
Functional safety and preservation of values

Miele Professional is synonymous with exceptional quality – not least when it comes to service. Blanket service coverage enables 24-hour service. And, thanks to on-board spares, first service visits result in around 90% first-time fixes. Miele's own service operation has repeatedly been awarded top marks for its service excellence.

Miele service contracts	Machine qualification
Inspection contract • Inspection	**Initial validation** • Installation qualification • Operation qualification • Performance qualification
Maintenance contract • Inspection • Maintenance	**Revalidation** • Renewed performance qualification
Full-service maintenance contract • Inspection • Maintenance • Repairs	**Performance inspections** • Performance qualification according to risk analysis

Comprehensive service from the very start
Even before a machine is installed, Miele's sales force is available to provide in-depth advice. Experienced experts assist in selecting the most suitable machines and configurations to suit individual needs. On request, feasibility calculations can be provided, along with tailored financing packages.

Miele also offers a series of process checks performed by highly qualified Miele medical product engineers in accordance with the relevant legislation and standards as well as national guidelines and good-practice recommendations.

Service to meet professional expectations
Highly qualified service engineers oversee the delivery and commissioning of machines and are available to perform various routine checks during the course of the machine's life time. This prevents faults occurring in the first place and offers an opportunity to optimise operating parameters on an ongoing basis. A further advantage: Regular checks and maintenance safeguards investments.
• Quality service through blanket network of expert service engineers (more than 180 technicians in Germany alone)
• Short response times and on-site servicing within 24 hours
• 90% of service calls result in first-time fixes
• Reliable spares service, key functional parts available for 15 years after series production ceases.

Customised service contracts and inspections
Miele Professional offers laboratories of all sizes tailored service contracts. In honouring these contracts, Miele service engineers regularly assess and evaluate the condition of machines. Depending on the contract concluded, this comprises an analysis of functionality and safety with respect to all key components, including replacement as and when necessary. Scheduled inspection and maintenance prevents breakdowns from happening in the first place, increases the life expectancy of machines and contributes towards safeguarding investments. This offer from Miele Service includes a whole range of performance and process checks which are performed at various points throughout the life of products.

Miele Professional –
Quality and service for professionals

Decades of experience, an unerring pursuit of perfection and the power of innovation means Miele sets standards. High-performance lab washers from Miele Professional are recommended by leading manufacturers of laboratory glassware. In combination with accessories specific to models and applications, machines from Miele Professional facilitate the fast and simple reprocessing of all types of glassware.

Performance
- Thorough yet gentle reprocessing with dependable results
- Process control perfectly matches machines and laboratory glassware
- All-in system from one single supplier consisting of perfectly matching components (machines, chemicals, software, service)

Quality and economic operation
- Highest-quality materials and workmanship
- Superior product longevity and reduced need for maintenance
- Short cycle times and sparing use of resources

Safety and convenience
- Ergonomic controls simplify everyday laboratory work
- Convenient navigation avoids mistakes on the part of the user
- Large-scale, easy-to-read text display
- Fully automatic protocolling and documentation of reprocessing

Service
- Excellent Miele in-house service operation offering blanket coverage.
- Comprehensive advisory services covering planning, requirement assessment and financing.
- Customised service contracts guaranteeing functional safety and preserving values.

Forever Better

Since 1899, Miele – a family run company – has subscribed to a clear corporate philosophy condensed into the two words "Forever better". This far-reaching claim is the bedrock 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

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 fast-acting Miele service department ensures that machines perform to satisfaction and offer the ultimate in performance and efficiency.

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