


**Miele**  
PROFESSIONAL

Perfection in  
Laboratory Glassware Reprocessing  
PG 8536



 GERMAN  
ENGINEERING



# Uncompromising Perfection

## The new PG 85 series from Miele Professional



In general, the more critical the research, the more likely a laboratory will employ an automated washing process. Today more regulated industries, such as pharmaceutical, biotech, testing and forensics labs are requiring a paper trail which provides proof of accuracy with their washing processes. A validated washer combined with Standard Operating Procedures provides a more consistent, traceable result than hand washing.

With these regulated industries and others that desire a validated process, Miele's PG 85 series offers uncompromising perfection in the delivery of clean glassware for analytical experiments. Not only do these systems reduce the daily workload and guarantee clean glassware for analytical experiments, but the "Perfect" features provide safeguards to ensure the consistent reproducible reprocessing of laboratory glassware.

Like all models from Miele's PG 85 range, the PG 8536 - as the first in the under-counter category - offers a wide range of innovations such as freely programmable PROFITRONIC+ controls. Perfect Speed spray arm monitoring, temperature-independent PerfectFlow dispensing control on the basis of ultrasound as well as Perfect-PureSensor conductivity metering.



red dot design  
winner 2009



product  
design  
award

2009 ■

# The new PG 8536 - Setting standards in category: thorough, safe and efficient.



## Perfect Performance

- Hygienic freshwater system with fresh water intake in each program stage
- High performance 600 circulation pump
- Perfect arrangement of spray arms (third spray arm on upper basket) for perfect cleaning of surfaces.
- Ideal arrangement of injector nozzles and regulateable spray arm speeds.
- Thorough cleaning of lumens with injector system.
- Direct docking of upper basket to water circuit.

## Perfect Safety

- Freely programmable PROFITRONIC controls with 64 program slots and 17 standard cleaning and disinfection programs. Additional slots for user-created programs.
- Special cleaning programs for lightly to heavily contaminated laboratory glassware.
- Organica Program for the thorough removal of residues from organic chemistry.
- Lab-Oil programs to remove liquid to highly viscous mineral oils
- Lab Pipette program for thorough internal cleaning of pipettes.
- Plastics program for cleaning temperature sensitive plastics
- Electric door lock
- Automatic mobile unit sensing
- Program continuation in event of a power outage
- Redundant temperature control and monitoring using two separate sensors.
- Access port for process validation
- Miele Waterproof system affords anti-flooding protection

## Perfect Economy

- Choice, durable materials
- Short cycle times
- Lower water and energy consumption
- Efficient use of chemicals.
- No manual pre- or post cleaning
- Gentle treatment of load secured in special baskets and inserts to prevent damage.
- Throughput per batch: 60 narrow-necked glasses or 96 pipettes.

The new PG 8536 reaches new levels in glassware reprocessing benchmarks in terms of performance safety and economy. With enhanced features such as more programs and inserts, separate modules for water treatment, delivery of chemicals and process documentation, this washer contributes towards achieving the perfect and systematic solution tailored for specific needs. Perfect for

- Forensic labs
- Pharmaceutical drug discovery
- Public health
- Biotech
- Food/Tasting (Pasteurization)





# PerfectTouchControl – Simple local-language controls



## PG85 PerfectTouchControl

- Optimum user convenience
- Reliable Hygiene
- Perfect Control

The PG 8536 features touch sensitive displays that are fully flush and chemical-proof for simple and effective wipe disinfection. This control is intuitive with simple user interface, yet contains tremendous flexibility behind the scenes. Programs are easily launched and each step of the process appears in the display in the user's own language with 20 languages available from which to choose. Actual temperatures, conductivity, countdown times and other protocol data can be defined individually and displayed in text providing further detail for critical research laboratories to assess the wash process and ensure its results

# PerfectSpeedSensor – Functional safety in the cleaning process



- Precisely defined reprocessing
- Effective protection against spray arm blockages
- Perfect washing and disinfection results.

## PG85 PerfectSpeedSensor

To guarantee safe cleaning results, the rotational speed of each spray arm must be within defined limits. With the new PerfectSpeed spray arm Sensor, the speed of each individual spray arm is precisely monitored and documented in the PG 85 series -- whether in the cabinet or on board baskets and mobile units. The spray arm monitoring feature uses a sensor strip located outside the cabinet to detect the passage of spray arms and to ensure the speeds are within range. Information shown in the display indicates whether the values are correct or whether the user must intervene, for example if something is blocking the arms or excessive foam is slowing the arm motion. In most cases, improper loading is the

typical problem of blocked spray arms, which goes undetected in most washers and causes cleaning problems. In the event of a deviation from target values, either an error message is issued on screen, or the program is interrupted immediately to allow the user to deal with the cause of the fault, depending on system parameters. Deviations can also be recorded in the automatic process documentation. Spray arm monitoring also provides an indication as to pressure conditions in the machine, in baskets and inserts and in the machine's hydraulic circuit. In short, the Perfect Speed Sensor ensures that the wash process is accurate and can be reproduced again and again with the same brilliant results.



# PerfectFlowSensor – Monitoring of chemical concentrations

## Continuous, precise, dependable.



### PG85 | PerfectFlowSensor

- Continuous monitoring of dispensed volumes
- Precise results
- High-fidelity dispensing

Good reprocessing results are dependent upon precise volumetric control of dispensed chemicals. The Perfect Flow Sensor employs ultrasound technology to produce precise readings. **Dispensing tolerances can be defined individually, chemicals are dispensed efficiently and reliably, irrespective of the type of product or surrounding conditions (continuous operation, fluctuating climatic conditions)**

Any deviation from target quantities are safely detected and the reproducibility of validated processes are guaranteed. An error message is issued and the program is aborted if values are outside the tolerance range.

The PerfectFlow Sensor is a standard feature on the PG 8536 guaranteeing an unparalleled degree of precision in controlling and monitoring volumetric flow, independent of viscosity and ambient temperatures. This eliminates human error in the chemical dosing process.





# PerfectHepaDrying – Pure drying air

## PerfectDoc -- Full, complete documentation

### PG85 | PerfectHepaDrying



- Optimized drying phase
- High level of air purity in cabinet
- Reduced need for maintenance

The PG 85 series washers are equipped with the new Class H 13 high temperature HEPA filter – (in accordance with DIN EN 1822-1). The filter is located directly upstream from the cabinet, preventing the admission of unwanted air-borne particles from contaminating the wash load. This ensures exceedingly high levels of air purity in the cabinet. thanks to the streamlined air ducting, PerfectHepaDrying also ensures excellent drying performance.

### PG85 | PerfectDoc

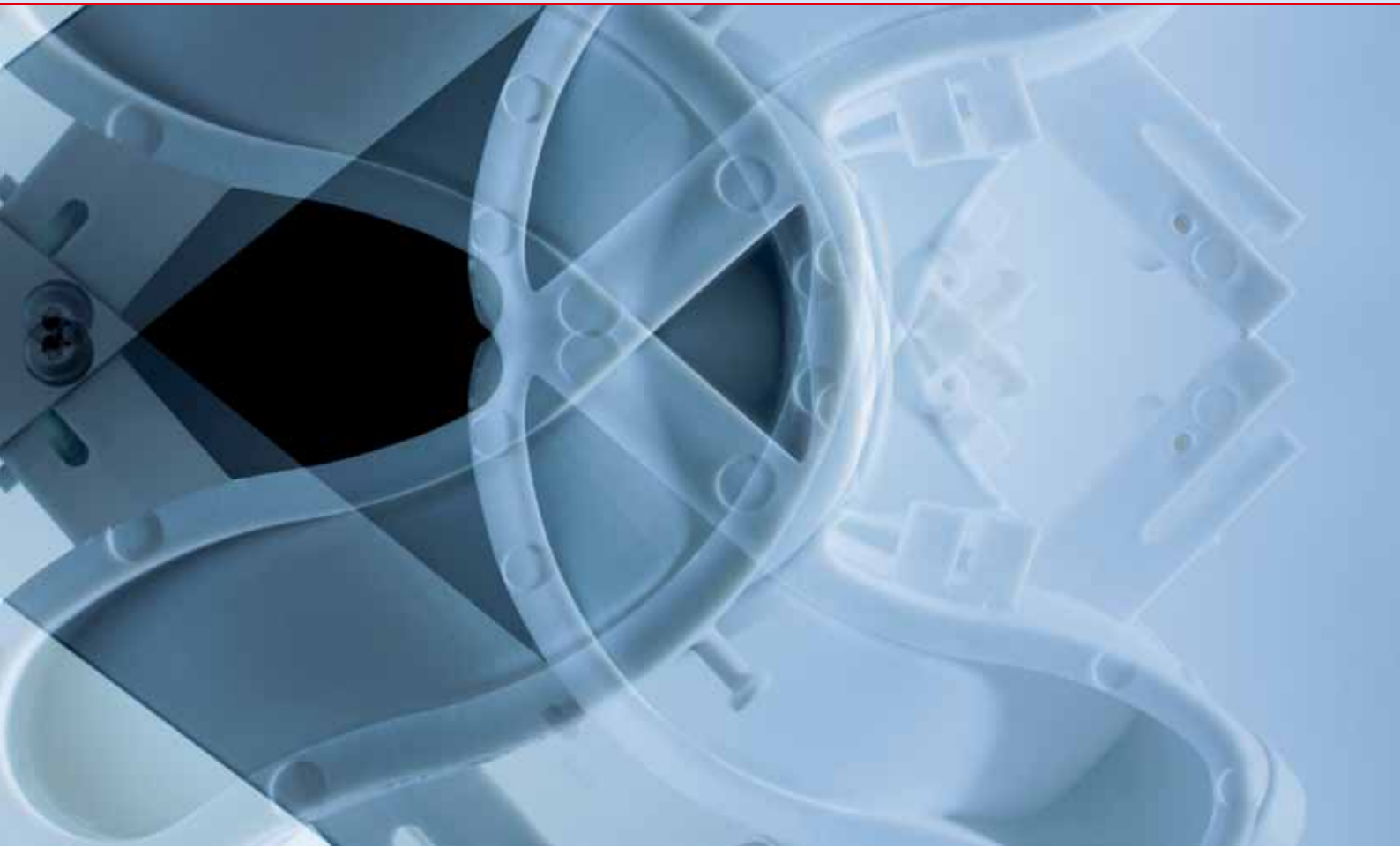
- Continuous process documentation
- Wide range of parameters documented
- Perfect process traceability

Like all other products from the PG 85 range, the PG 8536 comes respite with a network interface for process documentation. The PerfectDoc module allows data to be collected on a wide range of process parameters, for instance to plot temperature charts, as well as for the compilation of entire process protocols including dispensed amounts, spray arms, wash steps, error conditions, speeds, conductivity and all the critical parameters to ensure proper cleaning. This information can then be ported to a printer. Only complete process documentation can guarantee the reproducibility of processes.



# PerfectPureSensor

## Residual free rinal rinse



- Continuous conductivity monitoring
- Residue-free rinse quality
- Safe reprocessing.

### PG85 | PerfectPureSensor

Residue in the final rinse water can negatively impact reprocessing performance. The PG series offers a patented conductivity meter to ensure proper cleaning. The sensor detects undesirable substances in the rinse water, such as alkaline or acidic process chemicals – which are detected as a function of conductivity. This measuring is done through a contact-free – hence maintenance-free system, which is able to monitor conductivity conditions with exceptionally low tolerance levels in range from 5 – 40 mS/cm and 40 mS/cm – 100 mS/cm.

The Perfect Purse Sensor eliminates the service and calibration issues associated with traditional conductivity meters and offers better monitoring of the wash process. This means the critical research lab is assured residual free rinses with reliable repeatable results



Documented conductivity offers increased safety in ensuring the precise reproducibility of processes.

# Miele Professional PG 85 Products: Perfect Technology, Perfect Service

## PG85 | PerfectService



- Quality Products,
- High-End-Support

Products from Miele Professional's PG 85 range are uncompromising in their pursuit of perfection, setting new standards in the machine-based reprocessing of laboratory glassware washers. These precision products are backed by Miele Professional service -- which is as exceptional as the products themselves. Service means more than responsive technical assistance - its providing knowledgeable sales support and expertise that help products perform well past their planned life span.

The PG 85 series products are created in Miele's new development facility in Bielefeld, Germany, which is dedicated to the production of medical laboratory and commercial dishwashing products. In combination with Miele's legendary service quality, users can rely on Miele's perfect, exceptional cleaning and disinfection systems.



PG85

Perfection  
Guaranteed



# Technical Data

## PG 8536

Laboratory Glassware Washer	PG 8536
Front loading unit with bottom-hinged door, excluding baskets	•
Freestanding Unit with lid	•
Freshwater system. max. Temperature 199°F	•
Circulation Pump [Qmax. gal/min]	158
<b>Control Programs</b>	
PROFITRONIC freely programmable	•
64 program slots	•
Electric door lock	•
Peak-load negotiation	•
Sensors for automatic mobile unit recognition	•
Network interface for process documentation	•
Spray Arm Sensing	•
Conductivity Metering	•
<b>Water Connections</b>	
1x cold 0,5–10 bar flow pressure (50–1000 kPa)	•
1x cold for steam condenser (DK), 0,5–10 bar bar flow pressure (50–1000 kPa)	•
1x warm water, 0,5–10 bar flow pressure (50–1000 kPa)	•
1x De-ionized water, 0,5–10 bar flow pressure (50–1000 kPa)	•
Feed pump for un pressurized de-ionized water	Optional
4 inlet hoses 1/2" with 3/4"-threaded union approx: 1.7 m	•
Drain pump 7/8" ID flexible drainhoses, max height = 3 feet	•
Steam Condenser water drain (DN 22)	•
Waterproof System (WPS)	•
<b>Electrical Connection</b>	
3 AC 208 V 60Hz Supply lead approximately 6 feet	•
<b>Heating [kW]</b>	
Circulation pump [kW]	5.6
Total rated load [kW]	0.8
Fuse rating [A]	6.4



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