Miele
PROFESSIONAL

Hygiene · Safety · Efficiency
Systematic solutions for instrument reprocessing in clinics and operating theatres

Contents

Systematic solutions for the safe and efficient reprocessing of instruments

Validatable instrument reprocessing in Miele washer-disinfectors: High safety margins, optimum performance, low costs.

Manual cleaning involves considerable risks
Cleaning medical instruments manually requires considerable time and involves incalculable risks of contamination of staff. Many special-purpose instruments, for example lumened instruments, are simply not designed for manual cleaning. Cleaning and disinfection is hardly standardisable in manual processes. From an economical perspective, high water, detergent and disinfectant consumption results in increased costs and increases the burden on the environment.

Optimum safety with Miele System
Miele washer-disinfectors offer versatile and comprehensive solutions for the machine-based reprocessing of medical instruments and accessories. Thorough, gentle cleaning of inner and outer surfaces takes place in upper and lower baskets and in special mobile injector units designed to accommodate anaesthetic and theatre instruments and accessories. Miele's freshwater system guarantees excellent hygiene standards; water circulation rates of up to 600 l/min ensure high-level reprocessing in short cycles. Washing and disinfection programmes (pre-wash, main wash, interim rinse, disinfection/final rinse, drying) is controlled and monitored by sophisticated electronic controls.

Disinfection takes place at temperatures above 90°C with a temperature holding time in compliance with EN ISO 15883. Washing and disinfection temperatures can be adjusted to meet specific requirements – flexible resources for a wide range of applications.

Systematic instrument reprocessing solutions
With washer-disinfectors, special reprocessing methods and accessories tailored to the specific needs of applications, Miele offers a comprehensive and systematic approach to the safe and thorough reprocessing of a wide range of medical products. A systematic approach guarantees reproducible results in both routine and demanding applications in surgeries, outpatient units, clinics and CSSD units in hospitals.

The wide-ranging benefits of Miele's system

Flexible and economical
- Washer-disinfectors with the capacity to meet all requirements
- Modular machine concept with sound basic features and optional extras
- Efficient single-chamber system for cleaning, disinfecting and drying

Simple and intelligent
- Tried-and-tested standard programmes, innovative special and customised programmes
- Electronic controls offering excellent user convenience

Better be on the safe side!
- Serial interface for process documentation and optical interface for servicing
- Machines are built to comply with EN ISO 15883
- Automatic mobile unit recognition system automatically assigns programmes to loads

Highly competent and innovative
- Intensive development work and close cooperation with third-party scientists, hygiene specialists and users
- Trend-setting process development and technical features

All from a single source
- Miele offers its own advisory services and after-sales service network
- Validation
- Service contracts for peace of mind
- Attractive financing

Technical features vary according to the model

 The illustration shows: Washer-disinfector G 7892 – Mobile unit E 327 – DIN mesh trays E 142

Washer-disinfectors
G 7892, G 7882 CD

NEW
First 60 cm wide washer-disinfector with integrated hot-air drying

Washer-disinfector
G 7892
- Freestanding/built-under unit
- Only 60 cm wide H 850 (820), W 600, D 600 mm
- MULTITRONIC Novo Plus controls with 10 programmes
- Integrated dispenser pump for process chemicals (neutralising agent)
- Drying Plus: Integrated hot-air drying
- Capacity per batch: 4 DIN mesh inserts or 2 AN sets or 1–2 MIS sets

Washer-disinfector with integrated hot-air drying unit and drawer for supply containers

Illustration shows machine with lid

Washer-disinfector
G 7882 CD
- Built-under/freestanding unit
- Width 90 cm H 820 (850), W 900, D 700 mm
- MULTITRONIC Novo Plus controls with 10 programmes
- 2 integrated dispenser pumps for process chemicals (alkaline detergent/neutralising agent)
- Drawer with 2 x 5 l supply containers
- Integrated hot-air drying unit
- Capacity per batch: 4 DIN mesh inserts or 2 AN sets or 1–2 MIS sets

Miele washer-disinfectors
Washer-disinfectors from Miele are available both as freestanding and built-under units. Baskets and inserts to accommodate instruments are selected to meet individual reprocessing requirements. Useful add-on features, e.g. dispensers for liquid chemicals or washing and rinsing with demineralised water, can be found on Pages 62–65.

Hygiene, Safety, Efficiency
- Thorough cleaning and disinfection in a closed-circuit system
- Machine-based, automatic instrument reprocessing
- Thermal disinfection
- Certified medical product, MDD-compliant
- Reproducible results, validatable and qualifiable processes
- Process documentation interface
- Extensive safety features in accordance with EN ISO 15883
- Connection option for liquid dispensing systems

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Miele washer-disinfectors: Quality, inside and out

Illustr.: G 7892

Miele quality – Made in Germany
Machine-based instrument reprocessing systems covering the entire instrument spectrum are indispensible in enforcing quality control. Miele washer-disinfectors offer uncompromising quality and offer users maximum benefits in terms of hygiene, safety and economy.

Design
- Freestanding/built-under unit
- Double-skinned design, insulated door for excellent soundproofing
- Wash cabinet and spray arms in high grade stainless steel
- Fibre-reinforced hoses

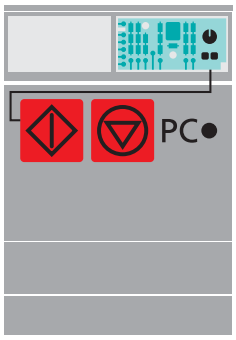
Washing technology
- Hygienic freshwater system with fresh water intake for each programme stage
- 2 spray arms (third spray arm in upper basket) for thorough cleaning of external instrument surfaces
- Optimum arrangement of spray nozzles and regulatable spray arm speed for best possible cleaning results
- Thorough cleaning of lumens with injector system
- Direct docking of upper baskets to water circuit for maximum utilisation of wash liquor

Standard features
- Profi-Monobloc water softener; Reactivation internalised into programme cycle with only low salt consumption; separate reactivation not required
- Powerful circulation pump
- 4-fold suds filtration system with wide area filter, coarse filter, glass splinter filter and micro-fine filter.
- Efficient steam condenser
- Flowmeter to monitor water intake quantities
- Integrated dispenser pump(s) for liquid products
- Connection option for liquid dispensing systems
- Hot-air drying for thorough drying of instruments

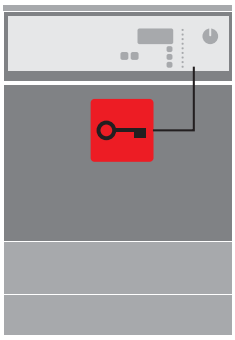
Interfaces
- Serial RS 232 interface for process documentation
- Optical interface for service and maintenance

Safety devices
- Electrical door interlock
- Programme continues when power is reapplied after power failure
- Optical and acoustic signal at end of programme
- 2 sensors, 1 each for temperature control and monitoring
- Port for simple positioning of sensors in the wash cabinet for process validation

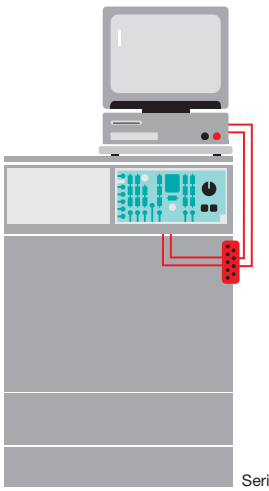
Miele washer-disinfectors
Certified MDD-compliant medical products



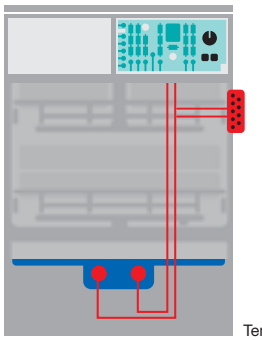
Electronic controls



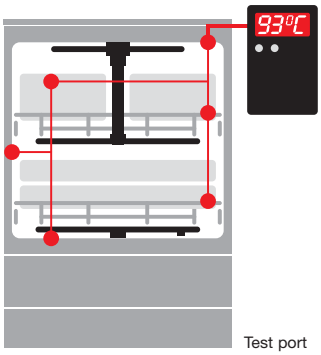
Door lock



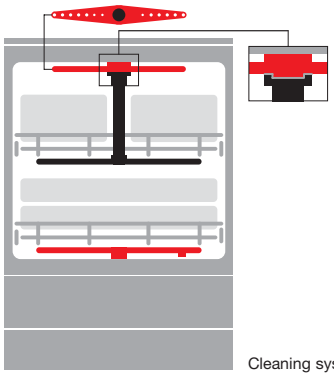
Serial interface (SST)



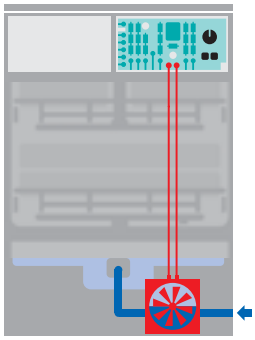
Temperature sensors



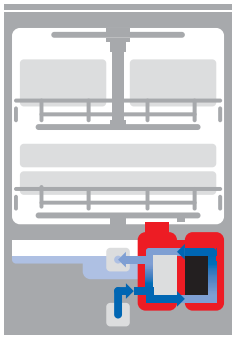
Test port



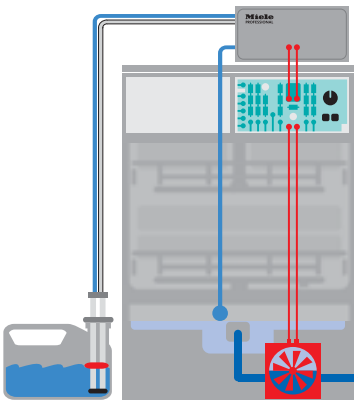
Cleaning system



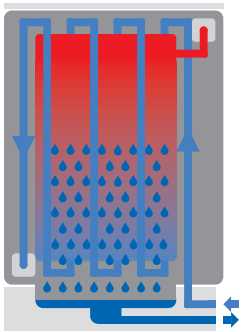
Flow meter



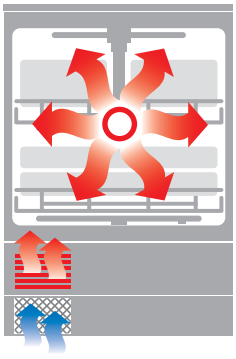
Water softener



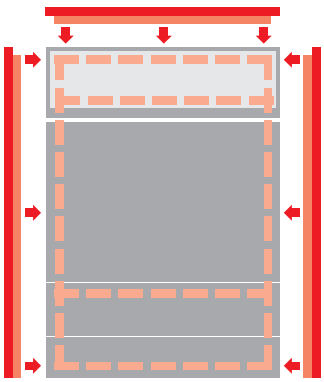
Liquid dispensing



Steam condenser
Heat exchanger



Hot-air drying



Spaceframe construction

8 The illustration shows: Washer-disinfector G 7892 – Mobile unit for anaesthetic instruments E 435/3

NEW: G 7892 washer-disinfector with **Drying Plus**

Miele, innovation leader in instrument reprocessing in surgeries, clinics and CSSD units, is the first manufacturer to offer a 60 cm wide washer-disinfector with integrated ‘Drying Plus’ hot-air drying. Miele’s new machine concept enables comprehensive instrument reprocessing comprising thorough cleaning, safe disinfection and effective drying. All mobile units with a drying unit connection support the drying of inner surfaces as well as external drying.

Even intricate instruments are properly reprocessed thanks to Miele’s hot-air drying. An integrated HEPA filter (S class EU 12) guarantees the purity of the air used for drying. Filters are replaced simply and conveniently by opening the service hatch at the front of the machine to remove the filter.

Miele’s new G 7892 washer-disinfector meets all requirements, guaranteeing Miele's proverbial quality – Made in Germany.

Air filter replacement

Wash cabinet with 2 wash levels

Wash cabinet with 2 spray arms

Water filtration system in cabinet

Direct docking onto water circuit

Direct docking onto water circuit

Hot-air drying

Controls · Programmes · Duration
G 7892, G 7882 CD

Illustration shows G 7892

Fully electronic controls, excellent process security
Programmes and functions on Miele washer-disinfectors G 7892 and G 7882 CD are reliably controlled and monitored by MULTITRONIC controls. The majority of routine reprocessing tasks are covered by standard washing and disinfection programmes. Process parameters, reprogrammable within the individual blocks that constitute a programme cycle, allow further customising to cater for individual needs. Two vacant programme slots are available for customer's own programmes. The serial RS 232 interface allows all process data to be ported to a printer or PC for documentation. The protocol contains key programme data such as running times, temperatures, dispensing and information on errors and manual intervention.

Excellent user convenience
Self-explanatory symbols on fascia panel. The machine status is indicated at any given time via control lamps. A 3-digit 7-segment indicator in the display with its own toggle switch can be used to display the remaining programme duration or the current washing/disinfection temperature. Status and control indicators monitor the process and inform of faults and the need for servicing.

Washer-disinfectors G 7892, G 7882 CD
Features and functionalities
- Electronic Multitronic Novo Plus controls
- 10 standard washing and disinfection programmes
- Parameters programmable in wash blocks
- 2 free programme slots for customised programmes
- Rotary programme selector switch
- Programme sequence indicator and fault and service indicators
- Temperature and programme duration indicator

G 7892	Washing/disinfecting					Drying
	Duration	Cold water	Hot water	AD	Energy	Energy
	[mins.]	[l]	[l]	[l]	[kWh]	[kWh]
SPECIAL 93°C-10'	43	25.5	–	9.5	2.9	1.0
SPECIAL AN 93°C-10 mins.	48	32.5	–	15.0	3.8	1.2
Vario TD	42	35.5	–	9.5	2.6	1.0
Vario TD AN	57	60.5	–	15.0	3.2	1.2
CHEM 60°C-5´	40	40.0	–	9.5	2.3	0.7
Combi CHEM 60°C-5'	34	29.5	–	9.5	1.8	0.7
A (free)						
Vario TD NR (b)	42	38.5	–	9.5	2.6	1.0
Universal	28	29.5	–	9.5	1.8	0.5
Rinse	3	10.0	–	–	0.02	–

G 7882 CD	Washing/disinfecting					Drying
	Duration	Cold water	Hot water	AD	Energy	Energy
	[mins.]	[l]	[l]	[l]	[kWh]	[kWh]
SPECIAL 93°C-10'	43	25.5	–	9.5	2.9	1.0
SPECIAL AN 93°C-10 mins.	49	31.5	–	15.0	3.8	1.2
Vario TD	42	35.5	–	9.5	2.6	1.0
Vario TD AN	57	57.5	–	15.0	3.2	1.2
CHEM 60°C-5´	40	40.0	–	9.5	2.3	0.7
Combi CHEM 60°C-5'	34	29.5	–	9.5	1.8	0.7
A (free)						
Vario TD NR (b)	42	35.5	–	9.5	2.6	1.0
Universal	32	29.5	–	9.5	1.8	0.5
Rinse	3	10.0	–	–	0.02	–

Heating: 9 kW (3N AC 400 V 9.7 kW),
excl. steam condenser
Connection to cold water (15°C) and demineralised water (15°C), CW = Cold water, HW = Hot water, AD = Aqua destillata

Excellent performance, efficient use of energy
Miele washer-disinfectors offer a large inner cabinet with 2 wash levels (upper and lower baskets) for instruments, accessories, mesh inserts and trays. Direct docking of the upper basket onto the water circulation system reduces water consumption per cycle. A flowmeter monitors water intake quantities and thereby ensures precise detergent concentrations. Water and effluent costs are therefore reduced accordingly.

Thorough cleaning, reliable disinfection
Machine-based instrument reprocessing is performed using standardised methods and programmes.

In the Vario TD programme, a pre-wash is performed at low temperatures to prevent blood from denaturing. The intensive main wash is followed by thermal disinfection at temperatures above 90°C and a temperature exposure time of 5 minutes. To protect for example surgical instruments, the final rinse is performed with demineralised water without surfactant. This programme is ideally suited to the routine reprocessing of thermally stable instruments in accordance with EN ISO 15883. The process is extremely gentle on materials. In the closing stages of the programme, hot-air drying ensures thorough drying of external instrument surfaces.

The **SPECIAL 93°C-10'** programme is used in the event of an outbreak of notifiable diseases and offers fungicidal, bactericidal and virus-deactivating action which includes HBV and HIV in accordance with the strict rules laid down by Germany's health authorities.

The illustration shows: G 7835 CD washer-disinfector – Basic mobile unit for anaesthetic equipment E 501 – Anaesthetics module E 502 – on machine: Anaesthetics module E 505

Washer-disinfectors
G 7835 CD, G 7836 CD

Illustration shows machine with lid

Washer-disinfector
G 7835 CD
- Built-under/freestanding unit
- Width 90 cm
- H 820 (850), W 900, D 700 mm
- Freely programmable Profitronic controls
- Special OxiVario programme for the reprocessing of critical instruments (depending on model)
- Water circulation 400 l/min
- 2 bellows-type dispenser pumps for liquid detergent and neutralising agent
- Drawer with 2 x 5 l supply containers
- Integrated hot-air drying unit
- Batch capacity: 2 AN sets or 4 DIN mesh trays or 1–2 MIS sets

Washer-disinfector
G 7836 CD
- Freestanding unit
- Width 90 cm
- H 1175, W 900, D 700 mm
- Freely programmable Profitronic controls
- Special OxiVario programme for the reprocessing of critical instruments (depending on model)
- Special ORTHOVARIO programme for orthopaedic instruments including drive systems and other medical products made from aluminium (depending on model)
- High-performance unit with 600 l/min water circulation
- 2 bellows-type dispenser pumps for liquid detergent and neutralising agent
- Drawer with 4 x 5 l supply containers
- Integrated hot-air drying unit
- Batch capacity: 3 AN sets or 7 DIN mesh trays or 1–2 MIS sets

Miele washer-disinfectors
The G 7835 CD can be installed as a free-standing unit or installed below a worktop. On account of its height of 1175 mm, the high-capacity G 7836 CD can only be used as a freestanding unit. Baskets and features to accommodate instruments are selected individually to cater best for individual requirements. Useful accessories and sub-systems, e.g. to dispense process chemicals or to wash and rinse with demineralised water, can be found on Pages 62–65.

Hygiene, Safety, Efficiency
- Thorough cleaning and disinfection in a closed-circuit system
- Machine-based, automatic instrument reprocessing
- Certified medical product, MDD-compliant
- Reproducible results, validatable and qualifiable processes
- Thermal disinfection
- Process documentation interface
- Extensive safety features in accordance with EN ISO 15883
- Connection option for liquid dispensing systems

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Washer-disinfectors
G 7835 CD, G 7836 CD

Illustration shows G 7835 CD

Miele quality – Made in Germany
Machine-based instrument reprocessing systems covering the entire instrument spectrum are indispensible in enforcing quality control. Miele washer-disinfectors offer uncompromising quality and offer users maximum benefits in terms of hygiene, safety and economy.

Design
- G 7835 CD = Built-under/freestanding unit G 7836 CD = Freestanding unit
- Double-skinned design, insulated door for excellent soundproofing
- Wash cabinet and spray arms in high grade stainless steel
- Fibre-reinforced hoses

Washing technology
- Hygienic freshwater system with fresh water intake for each programme stage
- 2 spray arms (third spray arm in upper basket) for thorough cleaning of external instrument surfaces
- Optimum arrangement of spray nozzles and regulatable spray arm speed for best possible cleaning results
- Thorough cleaning of lumens with injector system
- Direct docking of upper baskets to water circuit for maximum utilisation of wash liquor

Standard accessories
- G 7835 CD = Profi-Monobloc water softener
- G 7836 CD = High-capacity water softener
- Powerful circulation pump: G 7835 CD = Qmax 400 l/min G 7836 CD = Qmax 600 l/min
- 4-fold suds filtration system with wide area filter, coarse filter, glass splinter filter and micro-fine filter.
- Efficient steam condenser
- Flowmeter to monitor water intake quantities
- Integrated dispenser pumps for liquid process chemicals
- Connection option for external liquid dispensing systems
- Hot-air drying for thorough drying of instruments

Controls
- 64 programme slots
- Customer-specific programme compilation option (cf. Page 18)

Interfaces
- Serial RS 232 interface for process documentation
- Optical interface for service and maintenance

Safety devices
- Electrical door interlock
- Programme continues when power is reapplied after power failure
- Optical and acoustic signal at end of programme
- 2 sensors, 1 each for temperature control and monitoring
- Port for simple positioning of sensors in the wash cabinet for process validation

Quality, inside and out

Rear of G 7835 CD

Drawer for 2 supply canisters

Wash cabinet with 2 wash levels

Wash cabinet with 2 spray arms

Magnetic strip for automatic mobile unit recognition

Filtration system in cabinet

Direct docking onto water circuit

Hot-air drying

Controls · Programmes · Duration
G 7835 CD, G 7836 CD

Fully electronic controls,
high degree of process security
Miele's G 7835 CD and G 7836 CD washer-disinfectors are controlled and monitored by fully electronic PROFITRONIC controls. This set of freely programmable controls offers 64 programme slots. In addition to standard and service programmes, up to 40 programme slots are available for customers' own programmes. Depending on the model, machines can be fitted ex works with Miele's innovative OxiVario or OrthoVario programmes. OxiVario additionally dispenses hydrogen peroxide during the alkaline wash cycle. This optimises cleaning performance on critical, difficult-to-clean instruments such as those used in trauma surgery as well as high-frequency cauterising instruments.
OrthoVario, on the other hand, uses a mild detergent containing tensides to ensure optimum material compatibility. This allows the safe reprocessing of instruments susceptible to damage by alkaline detergents, such as drive systems or other medical products made from aluminium.

Excellent user convenience
During programme cycles, a large, user-friendly display provides the user with information on the programme number, programme name, programme block and target/actual process parameters (e.g. temperature, water intake volume, etc.). Users can choose from 6 pre-loaded languages and select 1 additional programmable language. Automatic mobile unit recognition assigns the correct reprocessing programme on the basis of load information provided by a magnetic strip on the mobile unit.

A serial RS 232 process documentation interface is a standard feature on these units. The optical interface facilitates service work.

Features and functions
- Freely programmable PROFITRONIC controls
- 64 programme slots with 11 standard washing and disinfection programmes
  6 special programmes
  7 service programmes
  40 vacant programme slots
- User navigation with local-language display
- Display of programme selection and programming dialogs, programme sequence, temperature, countdown time, faults, operating hours.
- Compilation of new programmes using machine controls or using PC/laptop via optical interface

G 7836 CD	Cleaning					Drying*	
	Duration	Cold water	Hot water	AD	Energy	Duration	Energy
	[mins.]	[l]	[l]	[l]	[kWh]	[mins.]	[kWh]
SPECIAL 93°C-10'	50	21.0	25.5	15.5	4.3	38	0.7
SPECIAL 93/10 AN	58	28.5	34.5	21.0	4.9	54	0.9
DES-VAR-TD	50	41.5	19.0	15.5	3.8	33	0.5
DES-VAR-TD-AN	61	49.0	33.5	21.0	4.0	50	0.8
VAR-TD-NR	44	29.5	18.5	15.5	3.6	33	0.5
SHOE-TD-75/2	27	26.5	21.0	15.5	1.3	38	0.4
LAB-STANDARD	36	8.5	38.5	16.0	2.8	34	0.7
LAB-UNIVERSAL	42	7.5	54.0	16.0	2.8	34	0.7
LAB-INTENSIVE	47	7.5	54.0	16.0	3.3	34	0.7
ORGANIC	47	–	63.0	16.0	3.4	34	0.7
INORGANIC	45	–	48.0	46.0	2.7	34	0.7
CHEM-DESIN	37	26.5	52.0	–	1.8	41	0.4
CHEM-DESIN	38	26.5	36.5	–	1.7	41	0.4
CHEM-DES-INTENS	40	26.5	53.0	–	1.6	41	0.4
OxiVario	66	43.5	35.5	31.5	4.8	33	0.5
OxiVario Plus	76	32.0	30.0	48.5	5.1	33	0.5

* incl. 6-minute steam condensation pause

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

Connection to cold water (15°C), hot water (65°C) and demineralised water (15°C)

G 7835 CD	Cleaning					Drying	
with steam condenser	Duration	Cold water	Hot water	AD	Energy	Duration*	Energy
	[mins.]	[l]	[l]	[l]	[kWh]	[mins.]	[kWh]
SPECIAL 93°C–10'	41	14.0	15.5	9.5	3.1	38	0.8
DES-VAR-TD	39	22.5	14.0	10.5	2.4	33	0.6
SHOE-TD-75/2	24	17.5	22.5	0.0	1.6	38	0.5
LABOR-STANDARD	32	10.5	28.0	9.5	1.8	33	0.7
ORGANIC	37	1.0	38.5	10.5	2.3	33	0.7
INORGANIC	38	1.0	38.5	18.5	1.8	33	0.7

*Programme duration with steam condensation pause and gentle start

Heating: 9 kW (3N AC 400 V 9.6 kW)

Connection to cold water (15°C), hot water (65°C) and demineralised water (15°C)

Note:

The G 7835 CD washer-disinfector features the same programmes as the G 7836 CD.

OxiVario cleaning process

Thorough cleaning is the basis for safe disinfection and sterilisation.

Cleaning performance must be standardisable at a high level and must be achieved using high-capacity, machine-based processes. Thermal disinfection methods should be given preference over chemo-thermal and chemical methods.
Even in cases where limits regarding residual protein contamination on instruments are unclear, the minimum requirement is the removal of visible contamination.
Even this relatively low standard stretched optimum processes and technologies to the limit in certain situations – an indication as to the need for enhanced levels of performance in machine-based reprocessing.

Miele Professional took up this cleaning challenge encountered in real-life hospital and operating theatre situations and has come up with innovative cleaning processes in response.

1994
VARIO TD

2004
OXIVARIO®
OXIVARIO PLUS®

2005
ORTHOVARIO

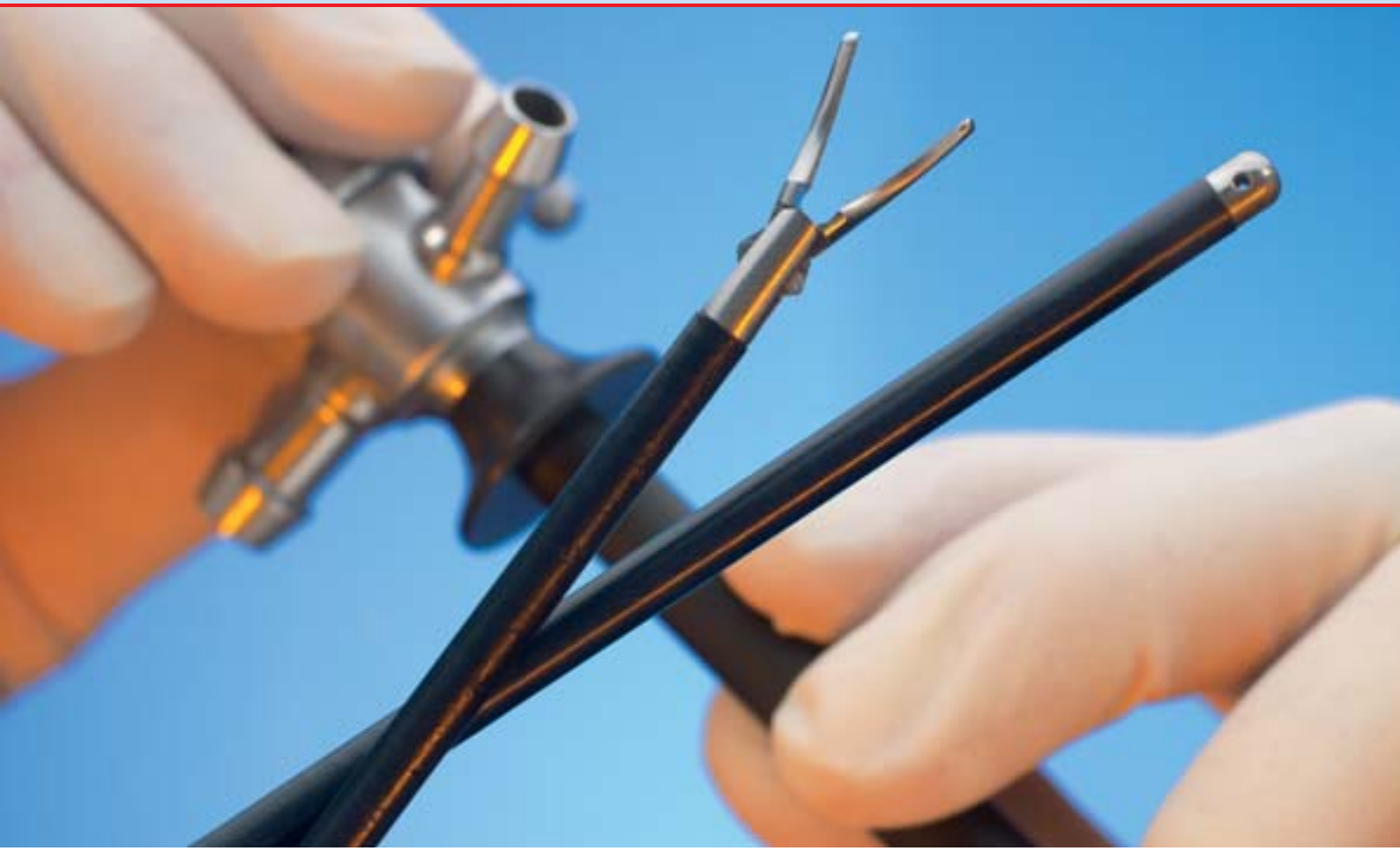
Further detailed information on Miele cleaning processes is available in the following brochure: Innovation for safe instrument reprocessing

The **Vario TD** method can now be seen as the standard programme for routine instrument cleaning and disinfection, achieving good removal of protein-based contamination (blood, secretion) from instruments which do not pose a particular challenge. Thermal disinfection is performed at temperatures above 90°C which are maintained for 5 minutes. In order to protect expensive instruments, the final rinse is ideally performed with fully demineralised water which does not contain surfactant. The Vario TD-AN programmme with its modified parameters is available to reprocess thermo-stable anaesthetic instruments.

– Intensive cleaning below protein denaturation temperature
– Disinfection according to EN ISO 15883
– Exceptional material compatibility

Standard on all Miele washer-disinfectors.

Cleaning process for all applications



With the **OXIVARIO** method, Miele offers an exceptionally efficient reprocessing method on G 7835 CD and G 7836 CD washer-disinfectors which is able to achieve excellent cleaning results on critical, difficult-to-clean instruments.

Awareness for the need for adequate cleaning of surgical instruments is growing. The limitations of conventional processes become apparent when contamination is left to dry onto instruments, particularly when instruments used in emergency operations at weekends are left to stand overnight. Similarly, the use of antiseptics can result in inadequate cleaning results. For years now, specialists have recommended that high-frequency coagulation instruments should be treated in hydrogen peroxide in the operating theatre after use. Such pre-treatment methods, which are difficult to standardise, followed by reprocessing in a washer-disinfector can now be replaced by a completely new reprocessing method.

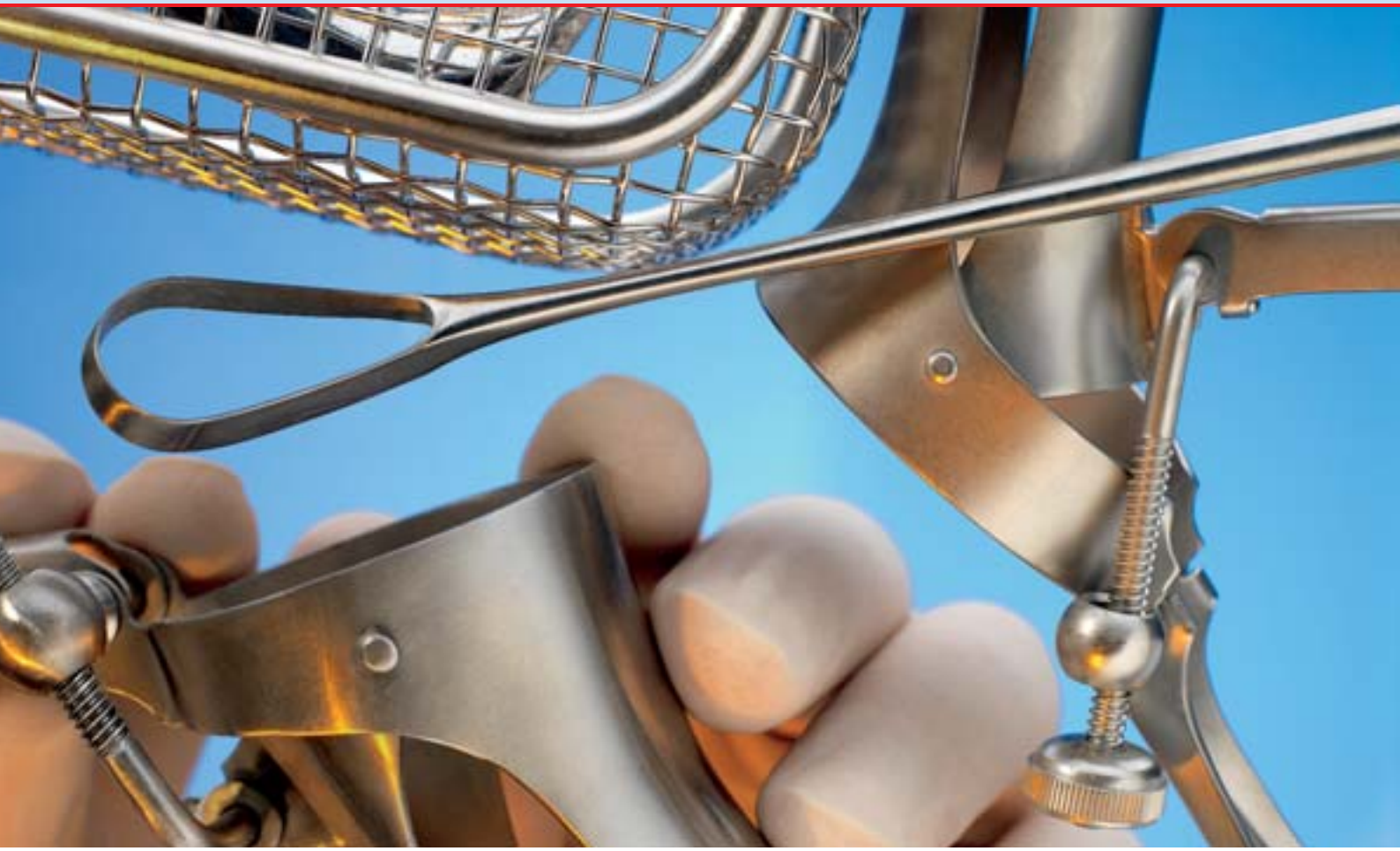
The OXIVARIO process, patents pending, is designed to considerably increase the performance of the alkaline wash in cleaning surgical instruments on which previous methods proved to be less effective and on instruments classified according to German health authority guidelines as critical and requiring improved removal of proteins.

OXIVARIO
Special programme for critical instruments requiring higher standards of cleaning, e.g. instruments used in trauma surgery as well as high-frequency cauterising instruments.

– Excellent cleaning and removal of organic soil
– Time-saving by dispensing with the need for pre- and post-treatment

Optional on Miele washer-disinfectors G 7835 CD and G 7836 CD.

OXIVARIO PLUS cleaning process



Reprocessing with OXIVARIO PLUS: Proven prion decontamination
In 2006, the Miele OXIVARIO PLUS reprocessing method used to produce high-performance cleaning and disinfection results in Miele decontamination units was proved in laboratory tests to be successful in decontaminating surface-adherent prions, the pathogen behind the Creutzfeld-Jacob disease. These results have since been confirmed by further 'in vivo' experiments performed by the Institute of Neuropathology at the University of Munich. This paves the way for a declaration of efficacy according to the criteria laid down by Germany's Robert Koch Institute.

Uncompromising and perfect instrument reprocessing is the key to prevent the iatrogenic transmission of Creutzfeld-Jacob. Consequently, OXIVARIO PLUS was introduced as an intensified programme to deal with poorly soluble proteins, for example fibrinaceous or denatured proteins. OxiVario Plus operates with higher concentrations of alkaline detergents and uses hydrogen peroxide in the second cleaning stage combined with extended exposure times.

High vCJD risk potential:
The use of the OXIVARIO PLUS programme is recommended for instruments posing an increased prion contamination risk.
This risk is highest on invasive instruments which come into direct contact with the central nervous system, with lymphatic tissue (tonsils, spleen, lymph nodes), in eye surgery (in particular the ocular fundus) and in neurosurgery.

OXIVARIO PLUS
Special programme to prevent the iatrogenic transmission of vCJD according to guidelines published by the task force set up by Germany's Robert Koch Institute.

– Excellent cleaning and removal of organic soil
– Time-saving by dispensing with the need for pre- and post-treatment

Optional on Miele washer-disinfectors G 7835 CD and G 7836 CD.

ORTHOVARIO cleaning process

OXIVARIO has its limitations in reprocessing instruments used in orthopaedic operations. Colour-coded implants cannot be reprocessed in an oxidative environment. Similarly, drive systems containing aluminium components cannot be reprocessed in an alkaline environment using hydrogen peroxide.

In response to these limitations, Miele developed the **ORTHOVARIO** process which now combines excellent cleaning performance with good material compatibility. The OrthoVario programme is gentle on aluminium and represents an optimum solution with respect to this type of critical surgical instrument.

ORTHOVARIO:
Special programme for orthopaedic instruments including drive systems and other medical products containing aluminium components

– Excellent cleaning performance
– Good material compatibility even on instruments sensitive to alkalines

Optional on Miele washer-disinfector G 7836 CD

Modern instrument reprocessing: The Miele System

Systematic cleaning, disinfection and sterilisation of instruments is essential in avoiding and minimising risks – to patients and health care workers alike.

With experience comes safety.
In surgeries, medical expertise and professional instruments ensure optimum patient care. The systematic cleaning, disinfection and, where appropriate, sterilisation of instruments is the key to avoiding risks to patients and health care workers.

Today, the machine-based reprocessing of medical instruments is an integral part of quality control in hospitals and surgeries. According to the Medical Device Directive, cleaning and disinfection must be performed using validatable processes.
A recommendation issued by the Robert Koch Institute also clearly gives machine-based processes preference over manual reprocessing.

Extract from the recommendation made by the Robert Koch Institute
"Requirements regarding hygiene in reprocessing medical products (Federal health bulletin 8/2001)"

5.1 Cleaning and Disinfection
"With respect to cleaning/disinfection, rinsing and drying, differentiation is made between manual and machine-based processes, whereby preference should be given to machine-based processes on account of improved standardisation and occupational safety."

Extract from the Medical Device Directive § 4 paragraph 2, according to the second amendment dd. 1.1.02
"Cleaning, disinfection and sterilisation of medical products must be carried out following the manufacturer's instructions using suitable validated processes in such a manner that the success of the process is reproducible without risking the safety and health of patients, users or third parties."

Validation, qualification and routine monitoring

Protection for patients, health care staff and third parties
In machine-based instrument reprocessing in a Miele washer-disinfector, instruments are cleaned and disinfected in a validatable process. Thermal disinfection provides fungicidal, bactericidal and virus-deactivating action and offers the best possible protection against the risk of infections. Only this process fulfils all the key criteria for professional instrument reprocessing in surgeries.
Safe, economical, validatable.

MDD-compliant
Washer-disinfectors from Miele guarantee optimum cleaning and thermal disinfection results in compliance with the international EN ISO 15883 standard. The Miele quality assurance system according to DIN ISO 13485 embraces all aspects of sales, service, R&D and production. These machines are certified as Class 2a medical devices according to 93/42/EEC and carry the CE 0366 mark of approval.

From Miele only
Miele machines feature numerous safety devices and systems such as redundant temperature monitoring to ensure high levels of process security. All stages of the washing and disinfection process can be documented simply using a printer or PC documentation software connected to the serial RS 232 interface.

One-stop shopping
Miele offers all-in, comprehensive solutions when it comes to instrument reprocessing in doctors' surgeries. After water and electricity supplies have been provided on-site by trained plumbers and fitters, Miele machines are installed and commissioned by Miele's own service engineers who have additional training as medical product advisers. This involves providing detailed explanations of machine use and functionalities. Miele service engineers are also specialists trained in process validation according to EN ISO 15883.

Peace-of-mind package for surgeries
A repair or full maintenance contract from Miele, regular process checks and routine inspections during operation ensure that instrument reprocessing guarantees a sufficient margin of safety.

Validation
In instrument reprocessing, both the cleaning and disinfection stages must be performed using validated methods. Practical recommendations are provided by a joint publication issued by the German Society for Hospital Hygiene (DGKH), the German CSSD Society (DGSV) and the Instrument Reprocessing Working Group (AKI). Its contents stipulate accepted methods of validation to ensure high standards of quality which can only be attained with the help of trained personnel. These include Miele's own specially trained after-sales service engineers.

Objective
Validation of reprocessing methods must provide proof that a cleaning process is always in full compliance with process specifications. Validation consists of Installation Qualification, Operating Qualification and Performance Qualification. This range of services can now be offered in its entirety by Miele's after-sales service team, who will perform validation working closely with the machine operator.

Installation and Operation Qualification
Installation Qualification documents that both the machines and peripheral units have been properly supplied, installed and connected to utility supplies. This includes an inspection of on-site supplies of electricity, water and chemicals. Operating Qualification includes function tests to ensure the integrity of heating and drying systems and the water circulation system. It also covers water quality and all relevant safety and alarm functions.

Performance qualification
Performance Qualification serves to furnish proof that a machine is able to produce reproducible results under specified conditions in compliance with the EN ISO 15883 standard. Here, the focus is above all on cleaning and disinfection performance. Cleaning performance is evaluated according to validation guidelines published by DGKH, DGSV and AKI. This involves contaminating special test instruments with a pre-defined test challenge and checking typical instruments for traces of residual contamination. Disinfection performance is checked by monitoring the disinfection temperature. The results of performance qualification are documented on specially prepared forms.
According to the above guidelines, performance tests and evaluations must be performed by qualified persons. The equipment operator can delegate this responsibility to Miele's after-sales service operation.

Visual aid
The validation process is explained in detail in a Miele video: Validation of machine-based cleaning and disinfection processes.

Process documentation options in outpatient surgeries

Machine-based reprocessing in washer-disinfectors is not only more economical and safer than manual reprocessing. It also offers the benefit of detailed documentation. This approach also complies with the requirements of the Medical Device Directive and RKI recommendations. Documented parameters include the programme, date, time, temperature, dispening data and references to a successfuly completed washing and disinfection process.
At the same time, proper documentation is an important aspect of quality assurance in hospitals and surgeries.
Process documentation can take the form of checklists, print-outs or digital documentation files.

Data transfer from machine to printer
- Connection of serial printer to serial interface (SST) for printing of cleaning and disinfection process data
- Data checked on print-out
- Manual signature on print-out
- Archiving of print-outs in files

A list of recommended printers is available on request from Miele.

Electronic documentation
Miele washer-disinfectors are equipped with a serial RS 232 interface (SST) as a standard feature. This can be used to port process data to process documentation software to facilitate the documentation process.

Data transfer from machine to USB stick
- Connection of data logger to serial interface (SST)
- Process data saved to USB stick

- Data transfer using USB stick to documentation software on computer
- Checking and approval of data at computer
- Digital signature
- Paperless, digital long-term archiving

Data transfer from machine to documentation software
- Use of documentation software (Laptop or PC)
- Direct data transfer to computer
- Automatic manipulation-proof documentation
- Checking and approval of data at computer
- Digital signature
- Paperless, digital long-term archiving

The following companies use the Miele washer-disinfector interface and offer special-purpose process documentation software:

- comcotec Messtechnik GmbH, Garching b. München
  www.comcotec.org
  www.segosoft.de

com|co|tec®

SEGO® | SOFT Process Documentation

- DIOS Daten-Informations- und Organisationssystem GmbH, Reken

dios MP steridat

www.dios.de

Sale and service is the responsibility of the above—mentioned companies.

Process documentation options in hospitals

Process documentation principles
A significant aspect of quality assurance in the reprocessing of medical devices is the documentation of process data. Washing and disinfection is performed using validatable processes, whereby validation includes the need for documentation. Proof that a validated process can be replicated with each batch is best achieved by recording and documenting the most important programme parameters. To facilitate process documentation on a PC, Miele has cooperated with IBH Data Technology GmbH in designing the NetBox documentation system, tailored to the needs of Miele washer-disinfectors. NetBox is a proprietary and comprehensive system consisting of both hard- and software. It allows process protocols from up to 4 washer-disinfectors to be processed and archived.

Effective process documentation system requirements
- Comprehensive system with high level of process security, including pre-installed and configurable software
- Manipulation-proof
- Simple operation without knowledge of PCs
- Simple installation
- Process visualisation
- Batch-related documentation
- Load recognition
- Documented batch approval
- Long-term archiving

The building blocks of the system
- NetBox with keypad and mouse plus cables for connection to washer-disinfector

Optional:
- Flat screen for process visualisation and load data capture
- Barcode scanner (with connection lead or wireless using Bluetooth technology) to simplify machine operation and load data capture
- RFID transponder as alternative to barcode system
- Network cable if documentation is to be installed in a network

Load assignment, data storage and archiving

NetBox protocols: Safe and convenient
The NetBox is a complete documentation system including pre-configured software. The system is connected via an interface with the washer-disinfector. The NetBox collects all relevant process data during washing and disinfection programmes. In standard mode, the unit harvests data fully automatically without any involvement on the part of the user. This means maximum operating safety as the NetBox provides considerable protection against operating errors. Once collated, process data remains in memory; the NetBox has the capacity to save up to 1000 batch protocols. Later, data can be saved to a network or a data storage device.

In network mode, the unit can be monitored and operated via a PC interface. A flat-screen monitor is also available as an optional extra to plot time/temperature curves. This also helps visualise the data contained in the wash protocol. 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 place embargos on batches, depending on process cycles.

As soon as data is received from a washer disinfector a batch number is automatically allocated and a report generated:
Depending on the machines, protocols can contain the following parameters:
- Batch no., date and Mach. no.
- Programme name
- Programme starting and ending time and times of individual programme blocks
- Dispenser pump (ID no.), chemical concentration, temperature and times
- Target temperature reached
- Disinfection temperature and holding time
- Faults (e.g. water inlet)
- Manual intervention and outages (e.g. programme aborted, power failure)

On washer-disinfectors with Profitronic controls, the intervals at which the time/temperature profile is plotted (e.g. every 5 secs.) can be defined by the user.

Clip with barcode attached to inserts

Scanning of barcode

Scanning of staff barcode after batch approval

Protocol administration
At the end of a programme, a batch protocol is added to the protocol database. All protocols can be called up at any time to check protocol parameters such as Batch no., Mach. no., user, etc. Data records are write-protected and cannot be modified. All persons authorised to access the process documentation programme are recorded in master records as authorised users. Access can also be password-protected. An access code determines the access rights of a user on the system.

Evaluations
NetBox represents an integrated approach to statistical programme evaluations. Saved data can also be made available to other programmes for further processing and data evaluation.

A key advantage of the NetBox in comparison to PC-based systems is the operational safety factor. NetBox process documentation also simplifies installation and operation, requires a minimum of space, is ventilator-free and low-cost.

The process documentation software is optionally available as a software-only solution for installation on a Windows PC.

Remote trouble-shooting with Miele Remote Services

In medical applications and laboratories, machine park uptime, economy and the reliability and reproducibility of washing and disinfection results is always of prime importance.

Miele Professional offers perfect solutions: Miele Remote Service – an investment in the future. An additional Remote Service Assistant module, developed by Miele, allows service engineers to establish remote contact with Miele washer-disinfectors to diagnose faults and decide on the necessary remedial action. This technology can be used both to update controls and for remote trouble-shooting. Benefits range from analysing technical problems and modifying individual programme parameters through to updating entire programmes.

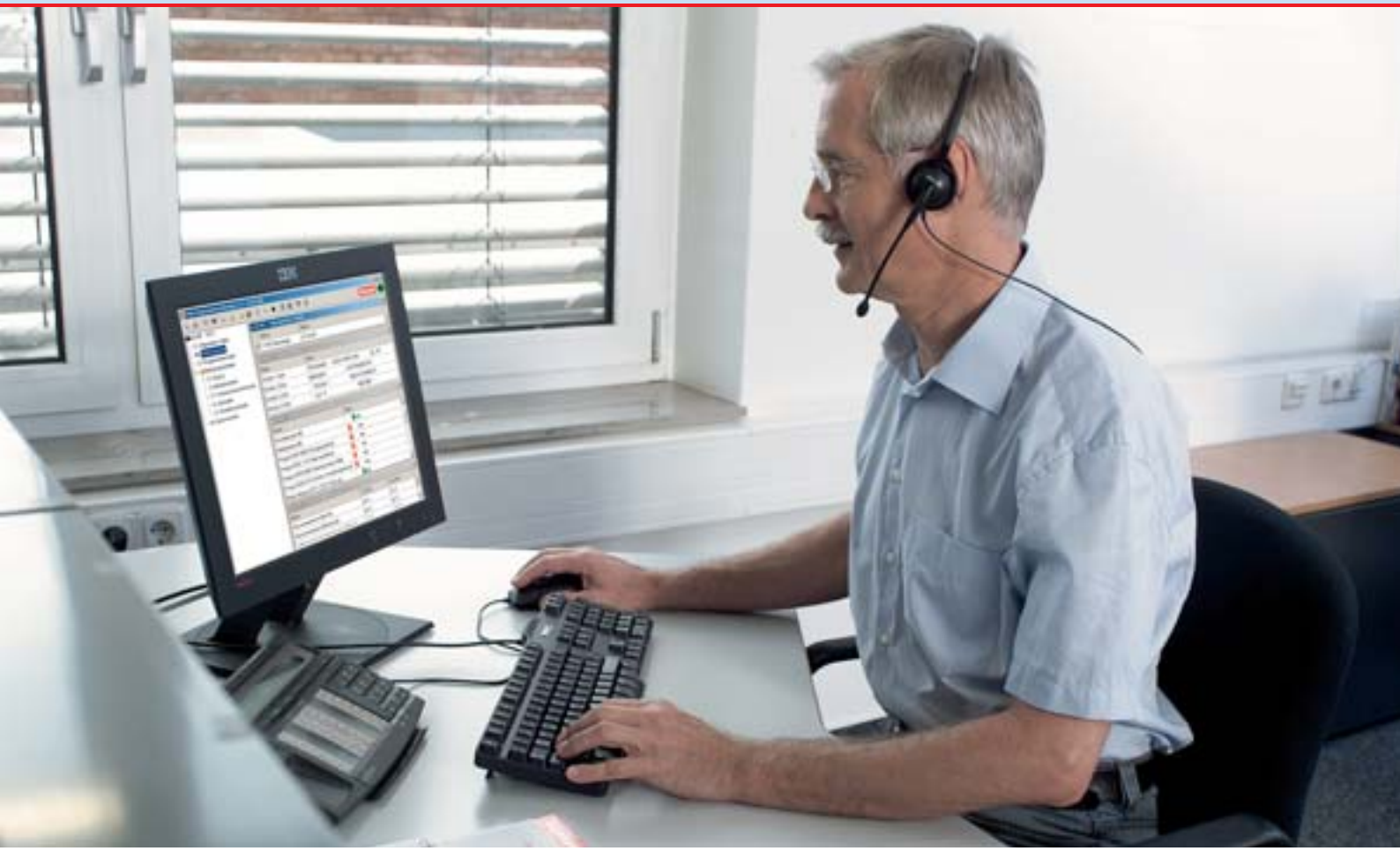
The option of analysing remote data allows remedial action to be taken faster and in a targeted manner.

The same technology also allows error messages to be automatically relayed by washer-disinfectors in the field to Miele's service centres. As a result, Miele Remote Service ideally complements Miele service contracts, offering added security:

Diagnosis systems designed by Miele for remote use allow access to all relevant control parameters on Miele washer-disinfectors.

RSA
Miele Remote Service Assistant
- Splash-proof wall-mounted housing unit
- Connection of up to 6 Miele machines via RS 232 interface
- Ethernet connection
- Available versions: analog, GSM, (IDSN on request)
- Dimensions: W 217 mm, H 130 mm, D 85 mm
- Weight 650 g

Installation requirements
Appropriate telecommunication connection boxes are required for use in an analog or ISDN network. A sufficiently stable network is required to operate the GSM version. Miele service engineers can provide assistance in selecting the appropriate connection set-up.



Optimum machine availability and economic operation thanks to reduced machine downtimes

- More effective communication when servicing is needed
- Call avoidance (reduction in service costs)
- Supports operating and technical staff in resolving problems
- Targeted availablility of spare parts through remote trouble-shooting

Remote Service – Time savings

In the event of unforeseen problems, specially trained Remote Service technicians from Miele can rapidly check the machine status and avoid unwanted machine downtimes. Should a service call-out be needed, the service engineer is already equipped with valuable information on the nature and extent of the fault. This information can also be used to pre-stock service vehicles with the spares most likely to be needed.

Remote Service – Safety

Combining remote servicing with repair and comprehensive maintenance contracts affords excellent protection and peace of mind. Machine uptime and reproducible results combined with good financial forward visibility! Miele Service is more than willing to provide further information.

Remote Service – Investment in the future

Fit for the future with Remote Service. Minor modifications through to complete control updates ensure the latest, state-of-the-art process technology.

Washer disinfectors
Large CSSD decontamination units

Alongside compact freestanding and undercounter models, Miele also manufactures high-performance units for central reprocessing of large quantities of instruments in central sterile supply departments. Large decontamination units are available as single-door and 2-door (barrier) models. The latter, installed in a diaphragm wall, allow the segregation of clean and contaminated operations. Here, too, the single-chamber principle adopted by Miele, allowing washing, rinsing, disinfection and drying in a single cabinet, has proved to be particularly flexible and economical.

G 7823 and G 7824 washer disinfectors

- G 7823: Single-door frontloading version with bottom-hinged door
- G 7824: Two-door barrier machine with bottom-hinged doors
- Useable cabinet dimensions: H 510, W 530, D 620 mm
- Useable cabinet volume: 168 l
- Freely programmable Profitronic controls
- Batch capacity: 3 AN sets or 8 DIN mesh trays or 2 MIS sets
- External dimensions: H 1928, W 900, D 768 mm (including plinth and top box panelling)

Washer-disinfectors G 7825 and G 7826

- G 7825: Single-door frontloading version with bottom-hinged door
- G 7826: Two-door barrier machine with bottom-hinged doors
- Useable cabinet dimensions: H 683, W 541, D 610 mm
- Useable cabinet volume: 225 l
- Freely programmable Profitronic controls
- Batch capacity: 4 AN sets or 10 DIN mesh trays or 2–3 MIS sets
- External dimensions: H 2404, W 900, D 750 mm (incl. plinth and drying unit)

PG 8527/PG 8528
A new majority for instrument reprocessing

Washer-disinfectors PG 8527 and PG 8528

- PG 8527: Single-door frontloading version with vertical sliding door
- PG 8528: Two-door barrier machine with vertical sliding doors
- Useable cabinet dimensions: H 675, W 650, D 800 mm
- Useable cabinet volume: 351 l
- Freely programmable PROFITRONIC+ controls
- Batch capacity: 7 AN sets or 15 DIN mesh trays or 3 MIS sets
- External dimensions: H 2420, W 1150, D 870 mm (incl. plinth and drying unit)

Perfect Miele

- Perfect Touch Control: User-friendly graphic interface with hygienic glass display
- Perfect Vision: Full-glass doors and cabinet lighting
- PerfectSpeed Control: Spray arm sensing
- Perfect Pure sensor: Monitoring of wash liquor conductivity
- Perfect Flow sensor: Dispensing volume control
- Perfect HEPA Drying: Optimum air circuit with HEPA Class EU 13 filter

For detailed description see the brochure: Washer-disinfectors for central sterilisation units

Anaesthetic instruments/Modular system

Modular basket concept
Miele offers a new modular basket concept for reprocessing anaesthetic instruments and accessories. This consists of a basic carriage and modules for anaestetic tubing and intubation material. This allows anaesthetic material and accessories to be reprocessed individually and flexibly to suit individual requirements. A further E 427 module for 6 laryngoscopes completes the system.

E 501 carriage
For use in G 7892, G 7882 CD, G 7835 CD
- For E 502, E 505 modules
- For approx. 2 AN sets in combination with E 502
- 6 injector nozzles for breathing bags, breathing masks
- 10 injector nozzles for intubation material
- With holder for ML/2 magnetic strip for automatic mobile unit recognition
- H 502, W 535, D 515 mm

E 503 carriage
As per E 501
- For use in G 7836 CD
- For E 504, E 505 modules
- For approx. 3 AN sets in combination with E 504

E 501, E 503 supplied with:
- 6 x E 466 injector nozzles for breathing bags, 8 x 333 mm
- 10 x E 496 injector nozzles for intubation material, 4 x 120 mm
- 1 x E 431 injector nozzle for breathing bag
- 1 x E 507 mesh insert for small items
- 8 x irrigation tubes for double-lumened laryngeal masks, 4 x 70 mm

E 502 module for breathing tubes
For use in E 501
- Module for 6 breathing tubes
- 6 nozzles with spring connectors
- Support for breathing tubes with max. length of 1.5 m
- Fitted on a spiral rack

Items supplied:
- 2 x E 433 holders for 3 silicone breathing tubes
- 1 x E 434 holder for 3 children's breathing tubes
- 1 x E 432 holder for 3 concertina breathing tubes

E 504 module for breathing tubes
For use in E 503
- Module for 8 breathing tubes
- 8 nozzles with spring connectors
- Support for breathing tubes with max. length of 1.5 m
- Fitted on a spiral rack

Items supplied:
- 2 x E 433 holders for 4 silicone breathing tubes
- 1 x E 434 holder for 4 children's breathing tubes
- 1 x E 432 holder for 4 concertina breathing tubes

E 505 module for intubation material
For use in E 501 and E 503
- Module for intubation material
- 30 injector nozzles to connect intubation material, e.g. laryngeal masks, breathing bags, Guedel tubes or endotracheal tubes

Items supplied:
- 30 x E 496 injector nozzles for intubation material, 4 x 120 mm

Anaesthetic instruments

Sample combination
E 501 carriage with E 502 tubing module

Sample combination
Basic carriage with E 505 module for intubation material

E 461/2 Mobile injector unit with drying connector
For use in G 7892, G 7882 CD, G 7835 CD, G 7836 CD
- For 12 breathing tubes up to 1.5 m long, fitted on a spiral rack
- 1 x E 432 holder for 4 breathing tubes
- 3 x E 433 holders, for 4 silicone tubes
- 1 x E 434 holder, for 4 paediatric breathing tubes
- 1 x E 430/1 mesh tray
- 1 x A 3 cover net
- Connection for hot-air drying unit
- With holder for ML/2 magnetic strip for automatic mobile unit recognition
- H 502, W 535, D 515 mm

Model	Anaesthetic instruments/Modular system			Mobile unit for anaesthetic instruments	
G 7892	E 501	E 502	E 505	E 435/3	E 461/2
G 7882 CD	E 501	E 502	E 505	E 435/3	E 461/2
G 7835 CD	E 501	E 502	E 505	E 435/3	E 461/2
G 7836 CD	E 503	E 504	E 505	E 436/3	E 461/2

E 435/3 Mobile injector unit with drying connector
For use in G 7892, G 7882 CD, G 7835 CD
- For approx. 2 AN sets
- 6 spring nozzles for breathing tubes with max. length of 1.5 m
- Fitted on a spiral rack
- With holder for ML/2 magnetic strip for automatic mobile unit recognition
- H 507, W 535, D 515 mm

E 436/3 Mobile injector unit with drying connector
For use in G 7836 CD
- For approx. 3 AN sets
- 8 spring nozzles for breathing tubes with max. length of 1.5 m
- Fitted on a spiral rack
- With holder for ML/2 magnetic strip for automatic mobile unit recognition
- H 507, W 535, D 515 mm

E 435/3 and E 436/3 supplied with:
- 1 x E 430 mesh tray
- 1 x E 432 holder for 3-4 concertina breathing tubes
- 2 x E 433 holders for 3–4 silicone breathing tubes[1])
- 1 x E 434 holder for 3-4 childrens' breathing tubes
- 6 x E 466 injector nozzles (8 x 333 mm) for breathing bags
- 1 x E 431 injector nozzle for breathing bags, 8 x 193 mm
- 10 x E 496 nozzles, 4 x 120 mm
- 1 x A 3 cover net
- Connection for hot-air drying unit

[1]) Fitted

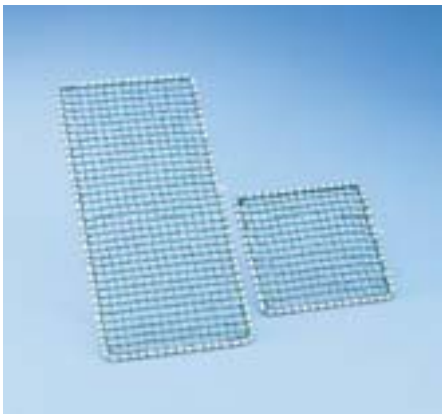
Anaesthetic instruments

E 381 Mobile injector unit with drying connector
For use in G 7892, G 7882 CD, G 7835 CD, G 7836 CD
- For intubation equipment
- 20 nozzles 4.0 x 30 mm with spring clips
- 5 nozzles, 2.5 x 30 mm
- 6 x E 466 injector nozzles for breathing bags, 8.0 x 333 mm
- 2 x E 431 injector nozzles for breathing bags, 8 x 193 mm
- Connection for hot-air drying unit
- With holder for ML/2 magnetic strip for automatic mobile unit recognition
- H 502, W 535, D 515 mm

E 367 Mobile injector unit with drying connector
For use in G 7892, G 7882 CD, G 7835 CD, G 7836 CD
- For intubation equipment
- 20 nozzles, 2.5 x 30 mm
- 25 nozzles, 4.0 x 30 mm (5 supplied separate)
- 40 spring clips for nozzles
- 1 x E 378 1/1 mesh insert H 80 + 30, W 460, D 460 mm
- Connection for hot-air drying unit
- With holder for ML/2 magnetic strip for automatic mobile unit recognition
- H 502, W 535, D 515 mm

E 368 mobile injector unit with drying connector for intensive care
For use in G 7892, G 7882 CD, G 7835 CD, G 7836 CD
- For narrow-gauge breathing tubes, fitted with:
- 10 nozzles 4.0 x 30 mm with spring clips
- 4 nozzles 6.0 x 220 mm with spring clips
- 2 x E 431 injector nozzles for breathing bags, 8 x 193 mm
- 1 instrument box H 93, W 102, D 180 mm
- Connection for hot-air drying unit
- With holder for ML/2 magnetic strip for automatic mobile unit recognition
- H 502, W 535, D 515 mm

U 167 Lower basket for anaesthetic instruments
For use in G 7892, G 7882 CD, G 7835 CD, G 7836 CD
- For 4 soda lime containers, 9 secretion jars and various other utensils
- 20 x 200 mm holders, spacing approx. 95 mm
- H 220, W 535, D 516 mm



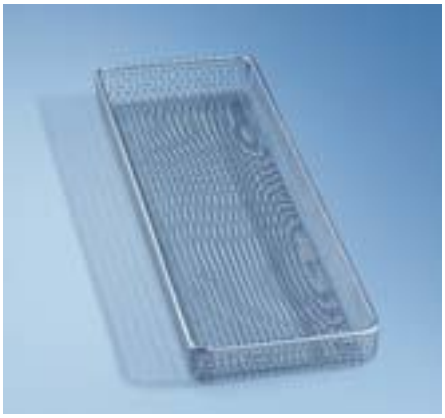
A3 1/4 cover net (illustration on right)
- 206 x 206 mm
- Plastic coated metal frame with plastic netting
- For 1/4 inserts

A2 1/2 cover net (illustration on left)
- 216 x 456 mm
- Plastic coated metal frame with plastic netting
- For 1/2 inserts

A6 1/2 cover net
- Stainless-steel frame with polypropylene threads (durable and stable)
- e.g for mesh insert E 142
- 215 x 460 mm

E 427 Modular insert
- Rack for 6 laryngoscopes
- H 92, W 210, D 134 mm

UTS Utensil box
- For sundry small items, with lid
- 3 compartments, compartment size 115 x 100 mm
- H 93, W 102, D 350 mm

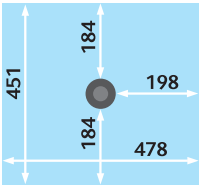


E 430/1 1/3 mesh insert
- Wire mesh, mesh size 5 mm
- H 40, W 150, D 445 mm

E 468 1/4 mesh insert with lid and compartments
- For various inserts
- Made from welded mesh/stainless steel with lid and compartments
- Mesh size 5 x 5 x 1 mm
- H 70/76, W 250, D 170 mm

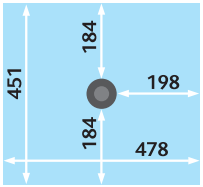
Upper baskets

O 188/1 upper basket/carrier
- Open front
- For various inserts
- Clearance 165 +/- 20 mm
- Built-in spray arm
- H 215, W 531, D 475 mm

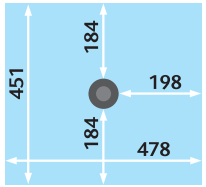


O 190/1 upper basket/carrier
- Open front
- For various inserts
- Clearance 215 +/- 20 mm
- Built-in spray arm
- H 265, W 531, D 480 mm

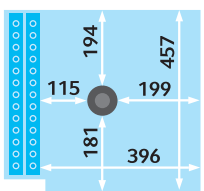
Powder dispensing only possible with O 190/1 in top position



O 191/1 upper basket/carrier
- Open front
- For mesh trays
- Clearance 115 +/- 20 mm
- Useable width 475 mm
- Useable depth 450 mm
- Built-in spray arm above basket
- H 180 +/– 20 mm
  W 531, D 475 mm



O 177/1 Upper basket/injector unit
For use in G 7892, G 7882 CD, G 7835 CD, G 7836 CD
- Built-in spray arm
- Right side free for inserts
- Left side with 26 silicone holders:
  26 nozzles Ø 4 mm, L 30 mm,
  7 funnels supplied, with height-adjustable support frame
- Clearance 230/205 mm
- Height-adjustable
  – 20/– 40 mm
- H 263, W 498,
  D 455 mm



O 176 Upper basket/injector unit with drying connector
For use in G 7892, G 7882 CD, G 7835 CD, G 7836 CD
- For MIS, arthroscopy and urology instruments
- Left side free for inserts
  Clearance 360 mm, 10 injector nozzles
- Right side for lumened instruments
  max. length 500 +/-30 mm,
  14 injector nozzles/funnels
- Connection for hot-air drying unit

Powder dispensing not possible

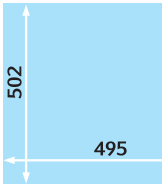
O 183 Upper basket/injector unit
For use in G 7892, G 7882 CD, G 7835 CD, G 7836 CD
- For MIS, arthroscopy and urology instruments
- Left side free for inserts
  Clearance 285 +/20 mm, 10 injector nozzles
- Right side for lumened instruments
  max. length 370 +/-30 mm,
  14 injector nozzles/funnels

Powder dispensing not possible

Lower baskets

U 874/1
For use in G 7892, G 7882 CD, G 7835 CD, G 7836 CD
- Open front
- For various inserts and mesh trays, e.g. E 142
- Clearance in combination with upper basket:
  O 176 approx. 110 mm +/– 20 mm
  O 177 approx. 220 mm + 20/+ 40 mm
  O 183 approx. 185 mm +/– 20 mm
  O 188/1 approx. 270 mm +/– 20 mm
  O 190/1 approx. 220 mm +/– 20 mm
  O 191/1 approx. 295 mm
- With holder for ML/2 magnetic strip for automatic mobile unit recognition
- H 50, W 534, D 515 mm

U 874/2
For use in G 7892 and G 7882 CD
- as per U 874/1
- For standard DIN mesh inserts (e.g. Aesculap) and Miele half-inserts
- Without holder for ML/2 magnetic strip



 The illustration shows: Washer-disinfector G 7835 CD – Mobile unit E 327 – E 142 DIN mesh trays

E 327 Mobile unit
For use in G 7892, G 7882 CD, G 7835 CD, G 7836 CD
- For 4 DIN mesh trays on 2 levels
- Built-in spray arm
- Clearance from bottom:
  Level 1: H 112, W 520, D 510 mm
  Level 2: H 105, W 512, D 480 mm
- With holder for ML/2 magnetic strip for automatic mobile unit recognition

E 439/2 mobile injector unit
For use in G 7836 CD
- For 7 mesh trays on 3 or 4 levels
- 2 built-in spray arms
- Second level up removable
- Clearance from bottom:
  Level 1: H 70, W 488, D 499 mm
  (without Level 2: H 155 mm)
  Level 2: H 70, W 509, D 510 mm
  Level 3: H 90, W 520, D 470 mm
  Level 4: H 90, W 490, D 460 mm
- With holder for ML/2 magnetic strip for automatic mobile unit recognition

Illustration shows: Washer-disinfector G 7892 – Upper basket O 190/1 – 2x Insert E 416 – E 379 – Lower basket U 874/1 – 4x Insert E 416 – Dispenser module DOS K 60

Inserts

E 417 Insert 2/5
- For approx. 30 ear and nose speculae
- 280 compartments, approx. 13 x 13 mm
- Mesh size of base: 1.7 mm
- For upper or lower basket
- H 63, W 173, D 445 mm

E 803 Insert 2/5
- For ear and nose speculae
- 160 compartments, approx. 13 x 13 mm
- Mesh size of base: 1.7 mm
- For upper or lower basket
- H 63, W 165, D 317 mm

E 374 Insert 2/5
- For ENT instruments such as inhalation connections, etc.
- 24 compartments, approx. 45 x 45 mm
- 27 compartments, approx. 12 x 12 mm
- Mesh size of base: 1.7 mm
- For upper or lower basket
- H 63, W 173, D 445 mm

E 416 Insert 1/4
- For 6 one- or two-part speculae
- 7 holders, spacing 40 mm
- For upper or lower basket
- H 157, W 178, D 279 mm

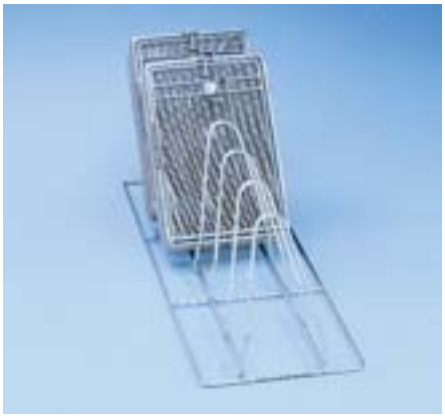
E 130 Insert 1/2
- For 10 trays
- 11 holders, H 170 mm, spacing 35 mm
- For lower basket
- H 180, W 180, D 445 mm

E 806 Insert
- For 11 tray bases/trays
- 12 holders (11 compartments), W 295, D 21.5 mm
- Max. tray size 290 x 20 mm
- For lower basket
- H 114, W 305, D 315 mm

E 338 Insert 3/5
- For 8 half trays
- 10 holders (8 compartments), W 295, D 33 mm
- Max. tray size 290 x 30 mm
- For upper or lower basket
- H 115, W 305, D 453 mm

E 805 Insert
- For 8 half trays
- 10 holders (8 compartments), W 295, D 33 mm
- Max. tray size 290 x 30 mm
- For lower basket
- H 114, W 305, D 353 mm

E 339 Insert 3/5
- For 16 tray bases/trays
- 17 holders (16 compartments), W 295, D 21.5 mm
- Max. tray size 290 x 20 mm
- For lower basket
- H 115, W 305, D 468 mm



E 131/1 Insert 1/2
- For 5 mesh trays/kidney dishes
- 6 holders, H 160 mm, spacing 80 mm
- For lower basket
- H 168, W 180, D 480 mm

E 800 Insert
- For 3 mesh trays/kidney dishes
- 4 holders, H 165 mm, spacing approx. 68 mm
- For upper or lower basket
- H 165, W 140, D 290 mm

E 492 Insert 1/2
- For 9 kidney dishes
- 9 holders, H 86 mm, spacing 49 mm
- For lower basket
- H 120, W 256, D 474 mm

E 146 Insert 1/6 (illustrated)
- Mesh size of base 3 mm
- Mesh size of sides 1.7 mm
- Mesh size of lid 8 mm
- 2 hinged handles
- For upper or lower basket
- H 55, W 150, D 225 mm

E 363 Insert 1/6
- Mesh size 1 mm, with lid
- For upper or lower basket
- H 55, W 150, D 225 mm

E 328 inlay rack
- For instruments in upright position
- For E 146/E 363

E 373 Insert 1/6
- For ENT instruments (e.g. ear specula).
- Wire mesh, mesh size:
  Base 3 mm,
  Sides 1.7 mm,
  Lid 3 mm
- 28 upright supports
- 2 hinged handles
- For upper or lower basket
- H 55, W 150, D 225 mm

E 441/1 Insert 1/4
- For micro instruments
- Mesh size of base 1.7 mm
- Solid sides, can be stacked
- Internal divisions with 6 adjustable supports provide the ideal storage for instruments
- For upper or lower basket
- H 60, W 183, D 284 mm

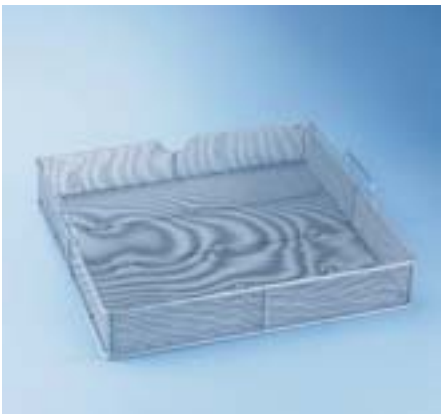
E 337 Insert 2/5
- For instruments arranged in an upright position
- 18 compartments, approx. 47 x 51 mm
- 75 compartments, approx. 14 x 14 mm
- 1 full-length tray in the middle section of the insert
- For upper basket O 190/1/O 177/1 or lower basket
- H 145, W 175, D 445 mm

E 802 Insert
- For instruments arranged in an upright position
- 4 compartments, approx. 47 x 51 mm
- 4 compartments, approx. 47 x 40 mm
- 2 compartments, approx. 42 x 51 mm
- 2 compartments, approx. 42 x 40 mm
- 48 compartments, 14 x 14 mm
- 1 full-length tray in the middle section of the insert
- For upper or lower basket
- H 133, W 163, D 295 mm

Mesh trays/baskets

E 142 Insert 1/2
- DIN mesh tray
- 1 mm wire mesh
- 5 mm mesh size
- 5 mm all-round frame
- 2 hinged handles
- Max. load 10 kg
- For O 191/1 upper basket
- H 45/55, W 255, D 480 mm

E 143 Insert 1/4
- Mesh tray
- 1 mm wire mesh
- 5 mm mesh size
- 5 mm all-round frame
- 2 hinged handles
- Max. load 5 kg
- For upper or lower basket
- H 45/55, W 255, D 230 mm

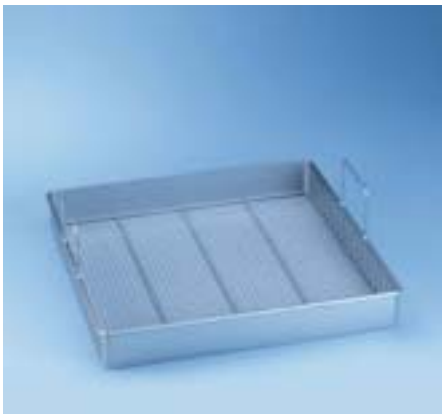


E 378 Insert 1/1
- For various inserts
- 0.8 mm wire mesh
- 1.7 mm mesh size
- 5 mm all-round frame
- 2 handles
- For lower basket
- H 80/110, W 460, D 460 mm

E 473/1 mesh insert with lid
- Mesh basket with lid for small instruments
- Hung into basket
- H 85, W 60, D 60 mm

E 379 Insert 1/2
- For various utensils
- 0.8 mm wire mesh
- 1.7 mm mesh size
- 5 mm all-round frame
- 2 handles
- For upper or lower basket
- H 80/110, W 180, D 445 mm

E 451 Insert 1/6
- Mesh tray with lid for small instruments
- Wire gauge:
  1 mm base
  0.8 mm sides
  1 mm lid
  Mesh size:
  3 mm base
  1.7 mm sides
  8 mm lid
- Removable internal dividers
- H 55, W 150, D 225 mm



E 484 Insert 1/1
- For various utensils
- Wire mesh: 1.4 mm
- Mesh size: 8 mm
- Can be fitted with holders
  4 x E 485 for 9 kidney dishes
  or
  4 x E 486 for 4 bowls
  or
  4 x E 487 for 16 theatre shoes
  or
  3 x E 488 for 9 breathing masks
  11 x E 489 universal holders for e.g. insoles
- H 65 (150), W 470, D 480 mm

Example:
E 484 1/1 insert with 4 x E 485 holders for 9 kidney dishes

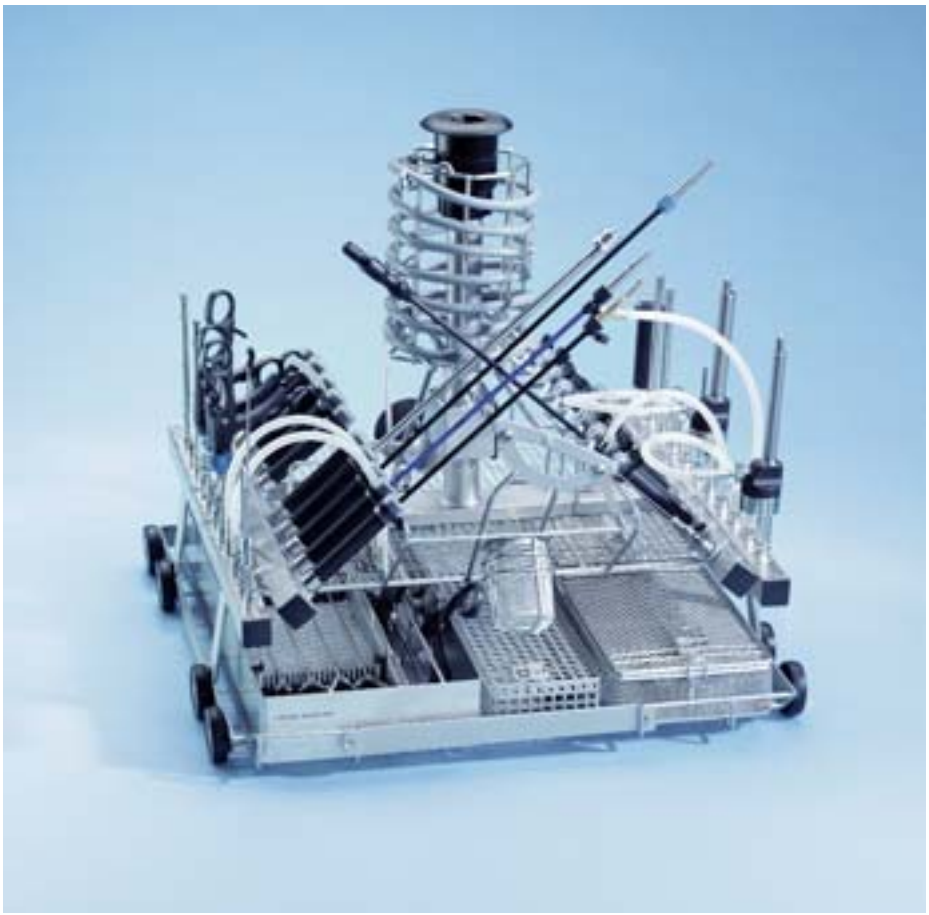
Example:
E 484 1/1 insert with 4 x E 486 holders for 4 bowls

Example:
E 484 with 4 x E 487 holders, long
- Equipped with 4 holders E 487 for 4 theatre shoes each, Height 280 mm
- Dimensions E 487
  H 280, W 464, D 10 mm

Example:
E 484 with 11 x E 489 universal holders
- Equipped with 11 x E 489 universal holders, e.g. for insoles, Height 60 mm
- Dimensions E 489
  H 60, W 464, D 10 mm

Examples:
E 484 1/1 insert with 3 x E 488 holders for 9 breathing masks

MIS instruments



Row of injector nozzles

E 450/1 Mobile injector unit with drying connection
For use in G 7892, G 7882 CD,
G 7835 CD, G 7836 CD

- For MIS instruments, max. length 550 mm
- E 451 mesh tray for small instruments
- 2 levels
- Connection for hot-air drying unit
- Can be fitted with
  E 451 mesh tray for small instruments
  E 457 insert for separable MIS instruments
  E 460 insert for rigid fibre optics
  E 473 mesh basket for small instruments
  E 444 insert for fibre optics and irrigation tubes
- With holder for ML/2 magnetic strip for automatic mobile unit recognition
- Clearance from bottom level upwards:
  Level 1 = H 110, W 480,
  D 500 mm (for inserts, e.g. 2 x E 457)
- Level 2 = H 360, W 350, D 200 mm
- H 502, W 535, D 515 mm

Items supplied:

- 3 x E 336 MIBO irrigation sleeves, 121 mm for pipettes/MIS instruments
- 2 x E 362 blind stoppers
- 15 x E 442 irrigation sleeves, 121 mm, for MIS instruments Ø 4–8 mm
- 5 x E 443 irrigation sleeves, 121 mm, for MIS instruments Ø 8–12 mm
- 1 x E 445 12 caps:
  6 mm for irrigation sleeve
- 1 x E 446 12 caps:
  10 mm for irrigation sleeve
- 3 x E 447 female adapter, for male Luer Lock
- 6 x E 448 silicone tube, 300 mm long, 5 x 1.5 mm
- 5 x E 449 male adapter, for female Luer Lock
- 1 x E 451 mesh insert 1/6, with lid
- 3 x E 452 nozzles, 2.5 x 60 mm
- 8 x E 453 injector nozzles, 4.0 x 110 mm with holding clip
- 6 x E 454 nozzles for trocar sleeves 10–15 mm
- 4 x E 456 spring stays for opening MIS instruments, e.g. forceps, scissors, etc.
- 3 x E 464 receptacle for E 454 injector nozzle
- 2 x E 472 spring clip for injector nozzle, Ø 4.0 mm

MIS instruments
Modular system for G 7836 CD

E 474/4 Basic injector carriage with drying connector
- Basic mobile unit for inserts
- Modular system for approx. 2 MIS OP sets
- For lumened instruments in 3 inserts with integrated nozzles/adapters
- Connection for hot-air drying unit
- Can be fitted with:
  E 903 modular insert for short MIS instruments/urology
  E 905 modular insert for short MIS instruments
  E 906 modular insert for long MIS instruments
  E 444 insert/spiral rack for fibre optics and irrigation tubes
  E 460 insert for rigid fibre optics
  E 457 insert for separable MIS instruments or
  E 142 DIN mesh tray
- With holder for ML/2 magnetic strip for automatic mobile unit recognition
- H 507, W 535, D 515 mm

Items supplied:
- 2 x E 362 blanking screws
- 3 x E 447 female adapters

MIS instruments
Modular system for the G 7836 CD

The optimum reprocessing of medical instruments is a central issue in quality assurance in surgeries and hospitals.

All lumens on transurethral resection instruments are heavily contaminated. These highly delicate and sophisticated instruments and the relatively short duration of urological operations represent a challenge with respect to instrument turnaround times and safe and fast reprocessing.
As in all other fields of medicine, the same premise applies: There can be no safe disinfection and sterilisation without thorough cleaning.

Miele has developed a system for minimally invasive instruments from the fields of, for example, urology, arthroscopy and laparoscopy which facilitates the efficient, gentle and safe decentral reprocessing of complete instrument sets. The G 7836 CD with freely programmable controls represents Miele's new high-performance washer-disinfector. The E 474/4 carriage and modular inserts for instruments offer particular benefits regarding handling, ergonomics, personnel safety and flexibility. The standardised method with documented programme cycles guarantees high-quality instrument reprocessing.

Modules can be specifically set up for surgical instrument sets or converted very quickly to take a wide range of surgical instruments by simply reconnecting the nozzles. For urology applications there is the E 903 modular insert which is designed to take TUR instruments sets. In the case of other OP sets, e.g. laparascopy, the E 905 or E 906 modular inserts for short and long instruments respectively are used. After loading, they are fitted into the E 474/4 mobile unit and connected.

Because of the many different ways in which the mobile unit can be equipped to suit specific applications it is supplied without inserts or other modules. This way the user is able to specify requirements and arrive at a system that provides troublefree processing of MIS instruments.

Note
Miele's systematic approach to reprocessing MIS and TUR instruments is the subject of the following video: 'Washing and disinfection of MIS/urology instruments, available on video and CD-ROM.

E 905/1 Modular insert
- For short MIS instruments
- 16 receptacles
- Sectioned for arthroscopes, laparoscopes, etc.
- H 40, W 461, D 510 mm

Supplied as standard with:
- 1 x E 336 MIBO injector sleeve for pipettes/MIS instruments
- 2 x E 362 blanking screws
- 1 x E 442 irrigation sleeve for MIS instruments, Ø 4–8 mm
- 2 x E 447 female adapters, for male Luer Lock
- 4 x E 448 silicone tube, 300 mm long, 5 x 1.5 mm
- 2 x E 449 male adapters, for female Luer Lock
- 4 x E 452 nozzles, 2.5 x 60 mm
- 3 x E 453 injector nozzles 4.0 x 110 mm with clamps
- 3 x E 454 nozzle for trocar sleeves, 10–15 mm
- 1 x E 464 receptacle for E 454 injector nozzle
- 1 x E 472 spring clip for injector nozzle, Ø 4.0 mm
- 1 x E 907 insert/mesh tray with lid for small instruments

E 903/1 Modular insert
- For TUR sets (transurethral resection)
- 10 receptacles
- H 40, W 461, D 510 mm

Supplied as standard with:
- 3 x E 442 irrigation sleeves, 121 mm, for MIS instruments, Ø 4–8 mm
- 1 x E 444 insert/spiral rack for fibre optic cables and irrigation tubes
- 1 x E 447 female adapter, for male Luer Lock
- 4 x E 448 silicone tubes, 300 mm long, 5 x 1.5 mm
- 3 x E 453 injector nozzles 4.0 x 110 mm with clamps
- 1 x E 454 nozzle for trocar sleeves, 10–15 mm
- 3 x E 467 injector sleeves, 205 mm for MIS instruments/forceps
- 3 x E 469 injector sleeves, 300 mm for MIS instruments/urology
- 1 x E 907 insert/mesh tray with lid for small instruments
- 2 m silicone tube, Ø 5 mm
- 2 plastic supports, for use in E 474/1, E 902/1 mobile units

E 906/1 Modular insert
- For long-shafted MIS instruments
- 10 receptacles
- Sectioned for arthroscopes, laparoscopes, etc.
- H 40, W 461, D 510 mm

Supplied as standard with:
- 1 x E 336 MIBO irrigation sleeve for pipettes/MIS instruments
- 2 x E 362 blanking screws
- 5 x E 442 irrigation sleeve for MIS instruments, Ø 4–8 mm
- 3 x E 443 irrigation sleeve for MIS instruments, Ø 8–12 mm
- 2 x E 448 silicone tube with Luer Lock, 300 mm, 5 x 15 mm
- 1 x E 454 nozzle for trocar sleeves, 10–15 mm
- 2 x E 456 spring stays for MIS instruments
- 1 x E 464 receptacle for E 454 injector nozzle
- 1 x E 908 insert for separable MIS-instruments/inserts

MIS accessories

E 451 Insert 1/6
- Mesh tray with lid for small instruments
- Wire gauge:
  1 mm base
  0.8 mm sides
  1 mm lid
  Mesh size:
  3 mm base
  1.7 mm sides
  8 mm lid
- Removable internal dividers
- H 55, W 150, D 225 mm

E 907/1 insert/mesh tray
- Mesh tray with lid for small instruments
- Mesh size 3 x 1 mm
- Hooks to slot into E 905
- H 46, W 129, D 170 mm

E 908/1 insert
- For separable MIS instruments/ inner shafts
- Mesh size 8 x 1 mm, closed sides
- Individual arrangements with 4 holders for securely positioning 8–12 shafts from disassembled MIS instruments
- Hooks to slot into E 906
- H 36, W 130, D 460 mm

E 142 Insert 1/2
- DIN mesh tray
- 1 mm wire mesh
- 5 mm mesh size
- 5 mm all-round frame
- 2 hinged handles
- Max. load 10 kg
- H 45/55, W 255, D 480 mm

E 473/1 insert/filter
- Mesh basket with lid for small instruments
- For hooking onto mesh trays
- H 85, W 60, D 60 mm

E 444 Insert/Central spiral rack
- For fibre optics and irrigation tubes
- Fibre optics and tubes wound spirally around central rack
- H 168 mm, with folding clip, 214 mm
- Ø 140 mm

MIS accessories

E 457 Insert 1/2
- For separable MIS instruments (e.g. 12 handles and inner shafts)
- Mesh base, mesh size 3 mm, solid sides
- Welded holders for 8–12 handles, variable arrangement, with 3 holders for storing and securing 8–12 shafts from disassembled MIS instruments
- H 62, W 192, D 490 mm

E 460 Insert 1/4
- For rigid fibre optics of varying lengths
- Mesh size, base 8 x 1 mm sides/lid 7 x 7 x 3 mm
- With 3 holders for 2 rigid fibre optics of varying length
- H 53, W 100, D 430 mm

E 362 blind stopper
- M 8 x 1 thread, to close connectors on mobile units

E 469 injector sleeve ①
- For MIS instruments/ Urology
- 300 mm long, Ø 11 mm
- Cap, 6 mm orifice (Mat. no. 4.174.960)
- Fixing clip (Mat. no. 4.174.850)

E 467 injector sleeve ②
- For separable MIS instruments/forceps
- 205 mm long, Ø 11 mm

E 336 injector sleeve MIBO ③
- 121 mm long, Ø 11 mm

E 442 injector sleeve ④
- For MIS instruments Ø 4–8 mm, screw thread
- 121 mm long, Ø 11 mm
- Cap, 6 mm orifice (Mat. no. 4.174.960)
- Fixing clip (Mat. no. 4.174.850)

E 443 injector sleeve ⑤
- For MIS instruments Ø 8–8.5 mm
- 121 mm long, Ø 11 mm
- Cap, 10 mm orifice (Mat. no. 4.174.970)
- Fixing clip (Mat. no. 4.174.850)

E 445 caps
- 12 caps for irrigation sleeves
- Orifice 6 mm

E 446 caps
- 12 caps for irrigation sleeves
- Orifice 10 mm

E 456 spring stay ①
- For long shafted MIS instruments

E 475 holder ②
- For MIS insert
- To stabilise irrigation sleeve (Mat. no. 4.692.440)

E 447 adapter, female ①
- For Luer Lock, male, screw-thread for E 450/1, O 176, O 183

E 449 adapter, male, without ridge* ②
- For Luer Lock, female, screw-thread for E 450/1, O 176, O 183

E 452 injector nozzle ③
- Length 60 mm, Ø 2.5 mm, screw-thread, for mobile injector unit

E 453 injector nozzle ④
- Holder
- Length 110 mm, Ø 4 mm, screw-thread, for mobile injector unit

E 448 silicone tube ⑤
- Luer Lock adapter, male
- 300 mm long, Ø 5 mm
- Injector nozzle, thread 8 x 1 mm

* Ridged adapter is available from Service, Mat. no. 4.224.230.

E 464 holder
- For injector nozzle E 454 13 x 65 mm
- Height-adjustment clip (Mat. no. 4.692.440)

E 454 injector nozzle
- For trocar sleeves with a diameter of 10–15 mm, 8 x 150 mm
- Height-adjustment clip (Mat. no. 4.692.430)

E 471 spring clip
- For injector nozzle Ø 2.5 mm, for E 452

E 472 spring clip
- For injector nozzle Ø 4.0 mm, for E 351, E 453

Micro-instruments for eye surgery

Geuder AG recommends that their current range of instruments should be reprocessed in a Miele washer-disinfector.

Geuder®
Precision made in Germany

E 429 Mobile injector unit
For use in G 7892, G 7882 CD, G 7835 CD

- For micro-instruments used in eye surgery
- For 2–4 OP sets
- Built-in spray arm
- With holder for ML/2 magnetic strip for automatic mobile unit recognition
- 2 levels
- Level 1: For inserts (e.g. E 441/1) or E 142
- Level 2, left-hand side: 20 connectors for lumened instruments (10 Luer Lock adapters, male, 10 Luer Lock adapters, female); connection for E 478 is located on feed pipe
- Level 2, right-hand side: 16 Luer Lock adapters, male, with horizonal tube arrangement

Supplied as standard with:

- 1 bag E 476 (50 off) as well as
- 1 bag E 477 (20 off)
- 8 x E 790 female/female Luer Lock adapters
- 8 x E 791 female/male Luer Lock adapters

Note:
The E 429 requires a second water feed pipe at the bottom. This requires the removal of the bottom spray arm in the machine.

Micro-instruments for eye surgery

E 790
Female/female Luer Lock adapter

E 791
Female/male Luer Lock adapter

E 792
Male Luer Lock connector with silicone tube

E 440/2 Mobile injector unit
For use in G 7836 CD
- For micro-instruments used in eye surgery
- For 4 OP sets
- Built-in spray arm
- With holder for ML/2 magnetic strip for automatic mobile unit recognition
- 3 levels
- Levels 1 and 2: For inserts (e.g. E 441/1 or E 142)
- Level 3, left-hand side: 20 connectors for lumened instruments (10 Luer Lock adapters, male, 10 Luer Lock adapters, female); connection for E 478 is located on feed pipe
- Level 3, right-hand side: 16 Luer Lock adapters, male, with horizonal tube arrangement

Supplied as standard with:
- 1 bag E 476 (50 off) as well as
- 1 bag E 477 (20 off)
- 8 x E 790 female/female Luer Lock adapters
- 8 x E 791 female/male Luer Lock adapters

Adapters available individually:
- Bag of 4 x E 790 female-female Luer Lock adapters
- Bag of 4 x E 791 female-male Luer Lock adapters
- Bag of 4 x E 792 Luer Lock adapters, male with silicone tube (160 mm)

Accessories: Micro-instruments

E 478 holder
- For 4 narrow-lumened cannulae (Sautter cannulae)

FP
- Filter plate for E 478
- Porosity 2
- Diameter 30 mm
- 20 per bag

E 441/1 Insert 1/4
- For micro instruments
- Mesh size of base 1.7 mm
- Solid sides, can be stacked
- Internal divisions with 6 adjustable supports provide the ideal storage for instruments.
- H 60, W 183, D 284 mm

E 142 Insert 1/2
- DIN mesh tray
- 1 mm wire mesh
- 5 mm mesh size
- 5 mm all-round frame
- 2 hinged handles
- Max. load 10 kg
- H 45/55, W 255, D 480 mm

E 476 receptacles
- For use in mesh trays with 5 mm mesh, e.g. E 142
- 50 per bag
- For instruments with a diameter of 4–8 mm

E 479 receptacles
- For use in mesh trays with 5 mm mesh, e.g. E 142
- 50 per bag
- For instruments with a diameter of up to 4 mm

E 477 stoppers
- For use in mesh trays with 5 mm mesh, e.g. E 142
- 20 per bag

Description – Baskets and inserts use spray arm technology and therefore are only suitable for low-level washing of infusion bottles.
– No direct injection of bottle cavities and not in compliance with GMP which require a two-fold spray system.

Baby bottles:
Reprocessing and transportation system

Baby bottles are generally reprocessed at ward level. Washer-disinfector models G 7892, G 7882 CD and G 7835 CD, with a height of 820 mm (excl. lid), are ideal for undercounter installation. Miele has developed a highly practical container system for transporting, handling, washing and disinfecting baby bottles. These containers are able to accommodate all common bottle sizes. Two each of these containers can be positioned in the upper and lower baskets of the washer-disinfector for reprocessing. This allows 76 baby bottles to be washed and disinfected in each cycle. Teats and screw-on bottle tops are reprocessed in the appropriate inserts.

1. Soiled, empty baby bottles are placed in the E 135 insert with the bottle neck facing upwards.

2. The container is covered with a mesh lid. The container is then turned upside down so that the bottle necks face downards and placed in the washer-disinfector.

3. Following cleaning and disinfection the lid is removed and the bottles can be refilled whilst still in the container.

4. Refilled bottles are sealed and stored in the refrigerator until required.

Inserts for baby bottles and accessories

E 135 Insert 1/2 container
- Container for 19 x 250 ml baby bottles
  Bottle size 56 x 56 mm
  Neck 49 x 49 mm
- H 194, W 192, D 447 mm incl. lid
- For upper or lower basket

E 135/1 Insert 1/2
- For 19 x 110 ml baby bottles
  Bottle size 51 x 51 mm
  Neck 45 x 45 mm
- H 135, W 192, D 447 mm
- For upper or lower basket

E 135/2 Insert 1/2
- For 19 x 90 ml baby bottles
  Bottle size 51 x 51 mm
  Neck 42 x 42 mm
- H 125, W 192, D 447 mm
- For upper or lower basket

E 135/3 Insert 1/2
- For 19 x 120 ml baby bottles
  Bottle size 56 x 56 mm
  Neck 49 x 49 mm
- H 135, W 192, D 447 mm
- For upper or lower basket

E 364 Insert 1/2 container
- Container for 36 wide neck teats
- 36 sections 41 x 41 mm
- Hinged, lockable lid
- H 77, W 215, D 445 mm

E 458 Insert 1/2 container
- Container for 36 screw-on caps
- 36 sections 29 x 29 mm
- Hinged, lockable lid
- H 63, W 215, D 445 mm

AK 12 Insert 1/2
- For breast pumps
- For various inserts
- H 67/127, W 225, D 442 mm

Insert for apothecary bottles

E 125 Insert 1/1* (illustrated)
- For 9 x 2000 ml bottles
- 9 bottle compartments, 125 x 125 mm (bottle)
- 55 x 55 mm (neck)
- H 224, W 460, D 460 mm

E 124 Insert 1/1*
- For 16 x 1000 ml bottles
- 16 bottle compartments, 100 x 100 mm (bottle)
- 48 x 48 mm
- H 148, W 460, D 460 mm (neck)

E 129 Insert 1/1
- For 20 x 500 ml bottles
- 20 bottle compartments, 84 x 84 mm (bottle)
- 46 x 46 mm
- H 113, W 445, D 445 mm (neck)

E 128 Insert 1/1
- For 24 x 250 ml bottles
- 24 bottle compartments, 71 x 71 mm (bottle)
- 46 x 46 mm
- H 103, W 445, D 445 mm (neck)

E 127 Insert 1/1
- For 44 x 100 ml bottles
- 44 bottle compartments, 57 x 57 mm
- 46 x 46 mm
- H 102, W 445, D 445 mm (neck)

E 126 Insert 1/1 (illustrated)
- For 48 x 50 ml bottles
- 48 bottle compartments, 45 x 45 mm
- 28 x 28 mm
- H 83, W 445, D 445 mm (neck)

Description
- Baskets and inserts only for simple cleaning of infusion bottles
- No direct injection and not in compliance with GMP

* Not for use in upper basket

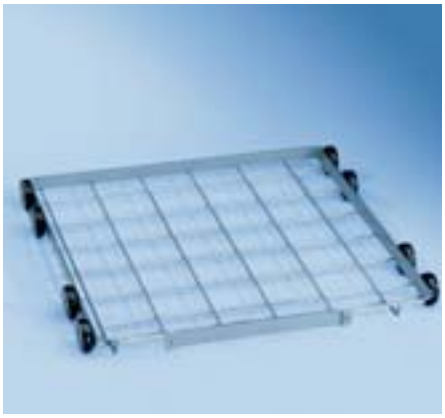
Theatre shoe insoles

Theatre shoes worn during operations should also be washed and disinfected thoroughly. In most cases, theatre shoes are made from polyurethane (PU). In machine-based reprocessing, heat-sensitive theatre shoes are often cleaned in a chemo-thermal process at a temperature of 60°C with a 5-minute exposure time. Chemical disinfectants pose significant problems and are also cost-intensive. After intensive research, Miele has now introduced a new process relying solely on thermal disinfection – a method for theatre shoes that has already been tried and tested under real-life conditions.
The reprocessing programme is available on models G 7835 CD and G 7836 CD.

After thorough cleaning at temperatures below 55°C, thermal disinfection takes place in the final stages of the programme at 75°C held for 2 minutes. At 22 minutes, the new process (excl. drying) is considerably shorter than the chemo-thermal process (lasting approx. 37 minutes). Dispensing with chemicals brings both economic and ecological benefits.

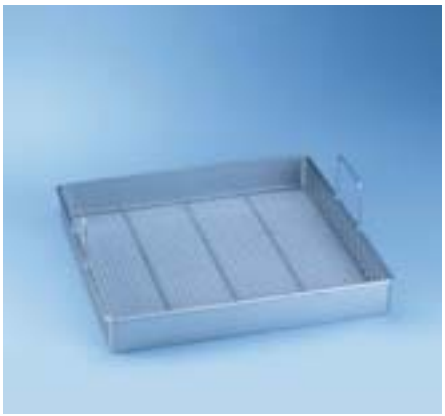
O 167 Upper basket
- For 28 theatre shoe insoles
- Built-in spray arm
- H 195, W 531, D 475 mm

O 173 Upper basket
- For 8 theatre shoes up to Size 41
- Built-in spray arm
- H 195, W 531, D 475 mm



U 874/1 Lower basket/Open front
- For E 484
- Open front
- For various inserts
- Clearance in combination with upper basket:
  O 176 approx. 110 mm +/– 20 mm
  O 177 approx. 220 mm + 20/+ 40 mm
  O 183 approx. 185 mm +/– 20 mm
  O 188/1 approx. 270 mm +/– 20 mm
  O 190/1 approx. 220 mm +/– 20 mm
  O 191 approx. 295 mm
- With holder for ML/2 magnetic strip for automatic mobile unit recognition
- H 50, W 534, D 515 mm

U 168/1 Lower basket
- For 20 theatre shoes up to Size 45
- 20 holders, 295 mm
- With holder for ML/2 magnetic strip for automatic mobile unit recognition
- H 315, W 535, D 515 mm



E 484 Insert 1/1
- For various utensils
- Wire mesh: 1.4 mm
- Mesh size: 8 mm
- Can be fitted with holders
  4 x E 487 for 16 theatre shoes
  or
  11 x E 489 multi-purpose holders for e.g.insoles
- H 65 (150), W 470, D 480 mm

E 484 with 4 x E 487 holders, long
- Can be fitted with 4 x E 487 holders, each for 4 theatre shoes, height 280 mm
- Dimensions E 487
  H 280, W 464, D 10 mm

E 484 with 11 x E 489 multi-purpose holders (not illustrated)
- With 11 x E 489 multi-purpose holders for e.g. insoles, height 60 mm
- Dimensions E 489
  H 60, W 464, D 10 mm

Accessories

MT Mieltrans trolley
- Trolley for storing and transporting baskets and inserts
- 4 height-adjustable levels
- Loading dimensions W 549 x D 599 mm
- Height-adjustment increments 102.5 mm
- 4 lockable rollers
- H 1985, W 616, D 662 mm

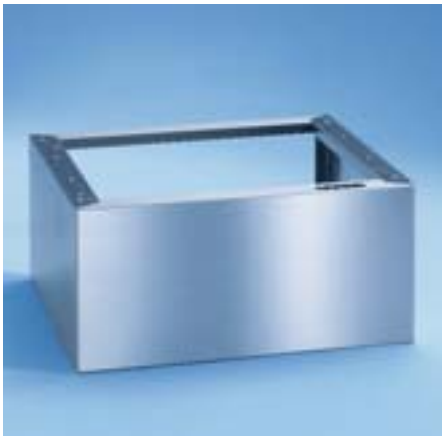
MC/1 Mielcar trolley
- For loading washer-disinfectors and handling baskets and inserts
- 2 levels (sloping towards centre)
- Rail handle and docking plate
- Docking height H 640–885 mm, infinitely adjustable
- 4 wheels, of which 2 are lockable
- H 1000, W 630, D 814 mm (D 960 mm with docking plate extended)

For use on G 7836 CD and washer-disinfectors installed on 30 cm plinth

Test Kit
- Tests the presence of proteins and monitors cleaning results
- Contents sufficient for 48 tests
- With coding strips for reflectometer

Post-reprocessing security
In collaboration with Merck, Miele has developed a protein test to provide a fast method of checking cleaning performance on instruments. This allows regular quality control of cleaning performance.

Plinths



UE 30-30/60-78 plinth (top illustration)
- For use with G 7895/1 and G 7896
- Stainless-steel plinth, bolted to machine
- H 300, W 300, D 600 mm

UE 30-60/60-78 plinth
(bottom illustration)
- For G 7892
- Stainless-steel plinth, bolted to machine
- H 300, W 600, D 600 mm

UC 30-90/60-78 plinth (Illustrated)
- For use with G 7892 in combination with G 7895/1 or G 7896
- Stainless-steel plinth, bolted to machine
- H 300, W 900, D 600 mm

UC 30-90/70-78 plinth
- For G 7882 CD and G 7835 CD
- Stainless-steel plinth, bolted to machine
- H 300, W 900, D 700 mm

Accessories for dispensing liquid products

G 7896 DOS chemical supply unit
- Housing unit for DOS modules and supply containers
- H 850 (820), W 300, D 600 mm
- Compatible with G 7892 and G 7835 CD
- Freestanding unit, can be built under
- Unit with removable outer door panelling available in stainless steel or white
- Internal dimensions:
  H 530, W 249, D 480 mm
- 3 levels
  Level 1: Pull-out drawer on telescopic runners for max. 3 DOS modules.
  Levels 2 and 3: Pull-out drawer on telescopic runners with drip tray and retainer for storage of supply containers.

- The following canister sizes can be used L x H x W:

  4 x 5 l: 245 x 145 x 225 mm*
  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 60/1 or DOS G 60/1 dispenser with short siphon

Illustration shows DOS K 60

DOS K 60 dispenser module
- For use on G 7892 and G 7882 CD
- For liquid alkaline detergents
- Peristaltic pump, adjustable via machine controls
- Integrated dispenser monitoring function ensuring high level of process security in compliance with EN ISO 15883
- Siphon (333 mm) with magnetic float switch for level-fill indicator for 5 and 10 l containers
- Conversion kit (No. 5 45 80 30) with long siphon tube (10–30 l container) available from Spares

DOS K 60/1 dispenser module
- For use on G 7892 and G 7882 CD
- Features as per DOS K 60, but with short siphon tube (200 mm) for 5 l container

DOS dispenser module G 60
- For G 7835 CD
- For liquid alkaline detergent
- Peristaltic pump, adjustable via machine controls
- Siphon (333 mm) with magnetic float switch for level-fill indicator for 5 and 10 l containers
- Conversion kit (No. 5 45 80 30) with long siphon tube (10–30 l container) available from Spares

DOS G 60/1 dispenser module
- For G 7835 CD
- Features as per DOS G 60, but with short siphon tube (200 mm) for 5 l container

DOS dispenser module G 10
- For G 7835 CD
- For liquid acidic products
- Feature as per DOS G 60

DOS 2
- For G 7836 CD
- For liquid acidic products (surfactant/neutralising agent)
- Bellows-type dispenser pump, retrofittable by Service

DOS 4
- For G 7836 CD
- For liquid products (disinfectants/alkaline detergents)
- Bellows-type dispenser pump, retrofittable by Service

Note
The use of liquid detergent is recommended in the DESIN vario TD programme.

Accessories for reprocessing with fully demineralised water

Illustration shows Miele washer-disinfector with RO-190 M2 reverse osmosis unit

Single-source supplier
Water quality plays a key role in instrument reprocessing. Raw water contains salts and minerals which can result in deposits on the load and on machine surfaces. Fully demineralised water is instrumental in preventing instrument corrosion. In installations requiring large volumes of water, reverse osmosis installations offer an economical alternative to demineralisation cartridges (cf. Chart on Page 67). Water pre-treatment can increase the economic efficiency of washer-disinfectors. Filtration protects against deposits likely to damage the machine, prevents downtimes and repairs and reduces detergent costs.

The Miele range now includes the RO-190 M1 and RO-190 M2 reverse osmosis systems from VEOLIA.

VEOLIA WATER
Solutions & Technologies

RO-190 M2 reverse osmosis system
- For a continuous supply of fully demineralised water
- Throughput: max. permeate capacity 190 l/h
- Reverse osmosis system in stainless-steel plinth with door and floor tray
  Installation of 2 x 5 l supply containers in plinth
- 2 status LEDs (conductivity/throughflow)
- Max. yield approx. 50%
  Salt filtration rate 96–98%
  Water quality approx. 5–100 µS/cm (dependent on raw water supply, typically 5–20 µS/cm)
  Water connection to RO 3/4"
  Permeate outlet 3/4"
  Concentrate outlet 8 mm water hose
  Water supply pressure 2–6 bar
  Electrical connection 230 V/50 Hz
  Rated load 1 kW, fuse rating 10 A
  indicators
  Electricity consumption: 0.6 kW/h
- Cold water max. 28°C
  max. raw water hardness 30°dGH, 15°dKH (carbonate hardness)
- Rehingeable door
- External dimensions:
  H 520, W 600, D 560 mm

RO-190 M1 reverse osmosis system
- For a continuous supply of demineralised water
- Throughput: max. permeate capacity 190 l/h
- Stand-alone solutions for installation in neighbouring unit
- Stainless-steel panelling
- External dimensions:
  H 380, W 543, D 302 mm
- Further features and technical data as per RO-190 M2

Optional for RO-190 M2 and RO-190 M1
(VEOLIA accessory list)
- Installation of pre-filter
- Additional connection, e.g. for connection of autoclave or water dispenser tap
- Pressure tank to store demineralised water
- Connection to water softener

Indicator lights

● ✓	**Status:** Ready or Stand by
● ⚠	**Conductivity and throughflow indicators:** Fault

Accessories for reprocessing with fully demineralised water

G 7895/1 Aqua Purificator
- For G 7892, G 7882 CD, G 7835 CD and G 7836 CD
- Housing unit for two E 310 or E 318 demineralisation cartridges
- Integrated conductivity meter
- General recommended quality for the final rinse < 15 mS/cm
- H 850 (820), W 300, D 600 mm
- Freestanding unit, can be built under
- Outer panelling in stainless steel or white
- Electrical connection AC 230 V 50 Hz
- Water connection:
  1 x Cold water 3/4" threaded union for connection of cartridge (hose approx. 1.2 m long)
  1 x connection of cartridge to machine with 3/4" threaded union (approx. 1.2 m long) 2.5–10 bar flow pressure to cartridge (pressure loss approx. 1 bar per cartridge)

E 310 Water demineralisation cartridge, pre-charged
- Pressure-proof stainless-steel cartridge
- H 570, Ø 240 mm
- Complete with vent and pressure relief valve
- Contains 20 litres of reusable mixed resin

Delivery capacity in litres depends on the salt content of the raw water and the max. acceptable conductivity.

Conductivity levels
5 µS/cm 10 µS/cm

5°dH	4.250	4500
10° dH	2.125	2250
15°dH	1.420	1500
20°dH	1.070	1125
25°dH	850	950
30°dH	710	750

The information given in this chart is intended only as a guide.

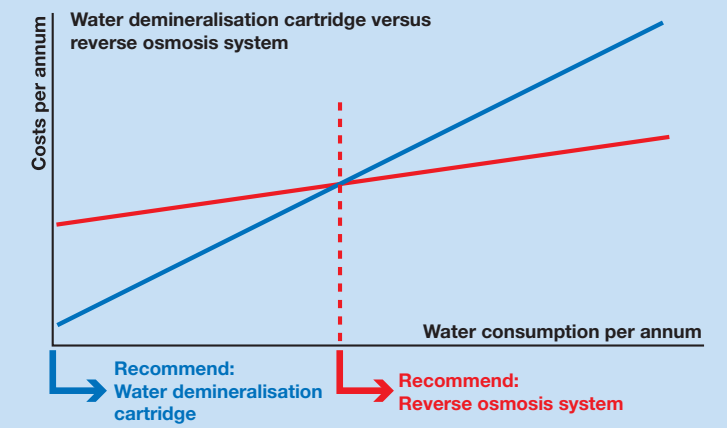
E 318 Water demineralisation cartridge, empty
- Charged with 20 l of single-use resin

E 315 Disposable resin
- 20 l homogenous, mixed-bed resins for E 318
- Box with two 10 l bags, vacuum-packed in plastic sacks
- Replacement filter bag

E 316 Refill set
- Plastic barrel with lid and funnel
- For 30 l disposable resin

LWM Module C conductivity meter
- For E 310/E 318 water demineralisation cartridges
- H 118, W 235, D 110 mm
- Electrical connection AC 230 V 50 Hz
- 2 hoses, approx. 1.9 m, 3/4" threaded union
- Integrated conductivity meter
  0–20 µS/cm
  1.5 µS/cm = Tridistilled water
  2.5 µS/cm = Bidistilled water
  20.0 µS/cm = Single-distilled water

Accessories for reprocessing with fully demineralised water
Accessories for reprocessing with softened water



E 313 Wall valve (above)
- For manual delivery of demineralised water
- Pressure hose approx. 1.5 m, pressure-proof to 10 bar

E 314 Cabinet mounted valve (below)
- For manual delivery of demineralised water
- Pressure hose approx. 1.5 m, pressure-proof to 10 bar

Demineralised water cartridge v. reverse osmosis

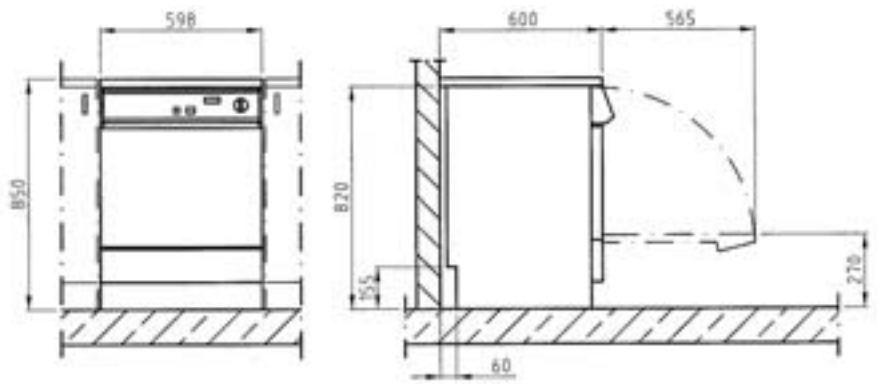
To protect instruments, Miele recommends the use of fully demineralised water in the final rinse cycle. Miele offers both water demineralisation cartridges and reverse osmosis systems. The relative benefits of the two systems depend largely on the number of washing and disinfecting programmes run per day. In general, the higher the requirements, the greater the likelihood of a reverse osmosis system being more economical than ion-exchange demineralisation cartridges.

PG 8597 Aqua Soft system, twin-tank water softener
- For continuous supply of softened water for supply hardness ranges of up to approx. 40°d (7.2 mmol/l)
- H 570, W 360, D 360 mm
- Weight (excl. salt) approx. 30 kg
- Freestanding unit on castors. Filled from top.
- Plastic housing unit
- Throughput: Constant supply 19 l/min, max. flow 30 l/min
- Level controlled twin tank system
- No electrical connection required
- Equipped with 2 x 4.5 l resin-filled containers and 1 container for 20 kg of salt
- Water connection:
  2 pressure hoses, approx. 1.5 m, 3⁄4" threaded union
  1 x Cold or hot water, max. 70°C, min. supply flow pressure 1 bar, max. static pressure 8 bar
  2.5 bar minimum flow pressure on machines without water softener, 3.5 bar min. flow pressure on machines with water softener
  1 x connection between system and machine
  2 hoses downstream, approx. 1.5 m (DN 8 for reactivated water and overflow, odour trap and non-return valve to be provided on site.
- Water consumption 19 l/Reactivation

Technical data
G 7892, G 7882 CD

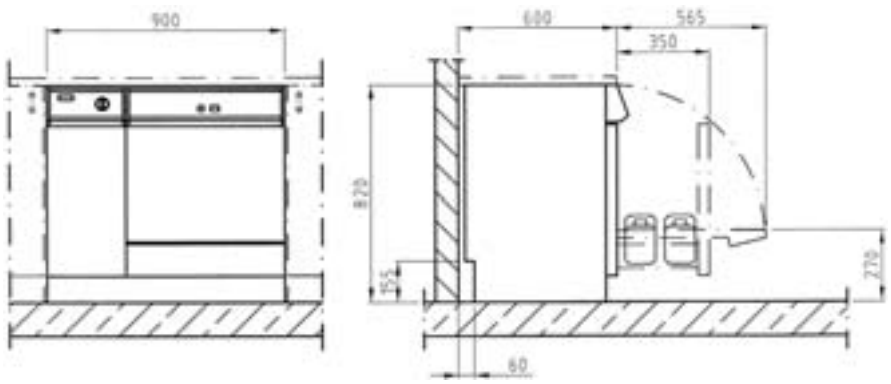
Washer disinfectors	G 7892	G 7882 CD
Frontloading unit with bottom-hinged door, excl. baskets	•	•
Freestanding unit with lid, can be built-under	•	–
Built-under/freestanding unit with lid	–	•
Freshwater system, max. temperature 93°C	•	•
Circulation pump [Qmax l/min]	400	400
Controls/programmes		
MULTITRONIC Novo plus/10 programmes	•	•
Electric door lock	•	•
Buzzer, acoustic signal at end of programme	•	•
Programme continuation in event of power outage	•	•
Serial interface for process documentation (SST)	•	•
Water supply connection		
1x Cold water, 0.5–10 bar flow pressure (50–1000 kPa)	•	•
1x Cold water for steam condenser, 0.5–10 bar flow pressure (50–1000 kPa)	•	•
1x demineralised water, 0.5–10 bar flow pressure (50–1000 kPa)	•	•
No. of inlet hoses ½" with ¾" threaded union, length approx. 1.7 m	3	3
Drain pump DN 22, head height 100 cm	•	•
Steam condenser water drain (DN 22)	•	•
Waterproof system (WPS)	•	•
Electrical connection, supply lead approx. 1.7 m, 5 x 2.5 mm²		
3 N AC 400 V 50 Hz	•	•
Heating [kW] (3 N/2 N)	9.0	9.0
Circulation pump [kW] (3 N/2 N)	0.7	0.7
Total rated load [kW] (3 N/2 N)	9.	9.7
Fuse rating [A] (3 N/2 N)	3 x 16	3 x 16
Dispenser systems		
1 door dispenser for powder detergent	•	•
1 door dispenser for liquid surfactant	–	•
1 DOS 10/30 dispenser pump for liquid acidic agents	•	•
1 DOS 60/30 dispenser pump for liquid detergent	–	•
Drawer with 2 x 5 l supply containers	–	•
Connection options		
DOS K 60 or DOS K 60/1 for liquid detergents/chemicals	2	1

G 7892



Washer disinfectors	G 7892	G 7882 CD
Water softener		
for cold and hot water to max 70°C, Monobloc	•	•
Steam condenser		
Aerosol	•	•
Drying unit/Radial fan		
Fan motor [kW]	0.3	0.3
Heater bank [kW]:	1.8	1.8
Total rated load [kW]:	2.1	2.1
Air throughput [m³/h]	63.4	55
Temperature selection in 1° increments [°C]	50–99	50–99
Time selection in 1-minute increments [min]	1–99	1–99
Particulate filter/HEPA filter H 12	•	–
Filtration rate >99.5% (DIN EN 1822)/filter life 100 h	•	–
Preliminary filter EU 4, filter rating > 95%, filter life 100 h	–	•
Particulate filter/HEPA filter H 13	–	•
Filtration rate >99.992% (DIN EN 1822)/life cycle 500 h	–	•
Dimensions, weight		
External dimensions H / W / D (excl. lid H 820 mm) [mm]	850/600/600	820/900/700
Cabinet dimensions H / W / D [mm]:	500/535/O=473 U=516*	500/535/O=473 U=516*
Weight [kg]:	78	108
External casing options:		
Stainless steel (AE)	•	•
Test certificates		
VDE, VDE-EMC, IP X1	•	•
MDD CE 0366	•	•
DVGW	–	•
*O = Upper basket, U = Lower basket		
• = standard, – = not available		

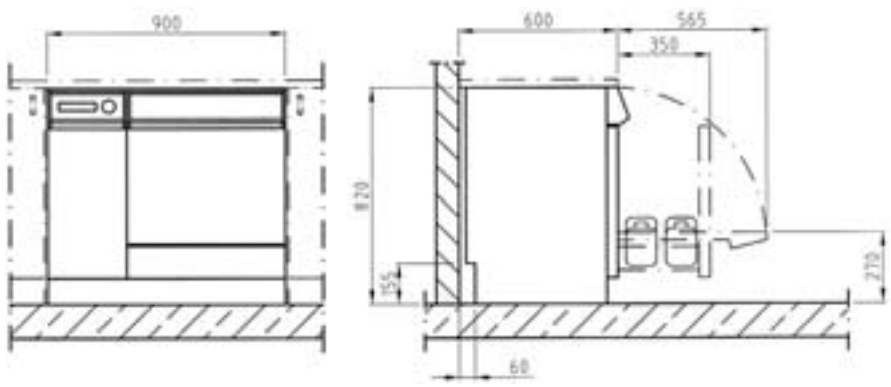
G 7882 CD



Technical data
G 7835 CD, G 7836 CD

Washer disinfectors	G 7835 CD	G 7836 CD
Frontloading unit with bottom-hinged door, excl. baskets	•	•
Built-under/freestanding unit with lid	•	–
Freestanding unit with lid	–	•
Freshwater system, max. temperature 93°C	•	•
Circulation pump [Qmax l/min]	400	600
Controls/programmes		
Freely programmable Profitronic controls	•	•
Electric door lock	•	•
Peak-load negotiation	•	•
Serial interface for process documentation	•	•
Magnetic strip for automatic mobile unit recognition	•	•
Water supply connection:		
1x Cold water, 0.5–10 bar flow pressure (50–1000 kPa)	•	•
1x Cold water for steam condenser, 0.5–10 bar flow pressure (50–1000 kPa)	•	•
1x Hot water, 0.5–10 bar flow pressure (50–1000 kPa)	•	•
1x demineralised water, 0.5–10 bar flow pressure (50–1000 kPa)	•	•
Feed pump for demineralised water (depending on model)	•	•
4 inlet hoses ½" with ¾" threaded union, length approx. 1.7 m	•	•
Drain pump DN 22, head height 100 cm	•	•
Steam condenser water drain (DN 22)	•	•
Waterproof system (WPS)	•	•
Electrical connection		
3 N AC 400 V 50 Hz, supply lead approx. 1.7 m, 5 x 2.5 mm²	•	•
Heating [kW]:	9.0	9.0
Circulation pump [kW]:	0.7	1.2
Total rated load [kW]:	9.7	10.2
Fuse rating [A]:	3 x 16	3 x 16
Dispenser systems		
1 dispenser pump for liquid acidic agents	• (peristaltic pump)	• (bellows-type pump)
1 dispenser pump for liquid detergent	• (peristaltic pump)	• (bellows-type pump)
Drawer for 2 x 5 l supply containers	•	–
Drawer for 4 x 5 l supply containers	–	•
Connections		
DOS G 10 dispenser for liquid agents (surfactant)	•	–
DOS G 60 or DOS G 60/1 dispenser for liquid detergent	•	–
DOS 2 dispenser pump for liquid agents (surfactant),	–	•
Bellows-type pump, retrofittable by Service	–	•
DOS 4 dispenser pump for liquid agents (disinfectant),	–	•
Bellows-type pump, retrofittable by Service	–	•

G 7835 CD

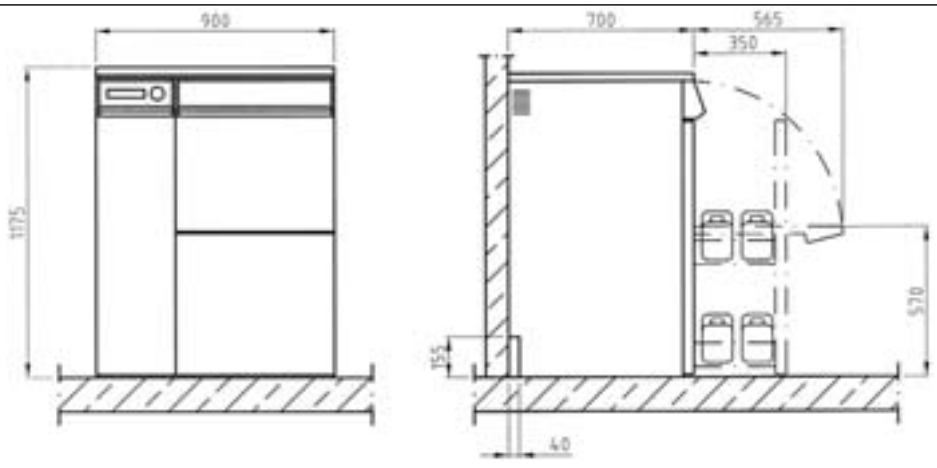


Washer disinfectors	G 7835 CD	G 7836 CD
Water softener		
for cold and hot water to max 70°C, Monobloc	•	–
for cold and hot water to max 70°C, large-capacity water softener	–	•
Steam condenser		
Aerosol	•	•
Drying unit/Radial fan		
Fan motor [kW]	0.3	0.3
Heater bank [kW]:	2.3	2.3
Total rated load [kW]:	2.6	2.6
Air throughput [m³/h]	55	55
Temperature selection in 1° increments [°C]	60–115	60–115
Time selection in 1-minute increments [min]	1–240	1–240
Preliminary filter EU 4, filter rating > 95%, filter life 100 h	•	•
Particulate filter/HEPA filter H 13, filter rating > 99.992% (DIN EN 1822), Filter life 500 h	•	•
Dimensions, weight		
External dimensions H / W / D [mm]:	820/900/700	1175/900/700
Cabinet dimensions H / W / D [mm]:	500/535/O=473 U=516*	500/535/O=473 U=516*
Weight [kg]:	114	192
Outer casing		
Stainless steel (AE)	•	•
Test certificates		
VDE, VDE-EMC, DVGW, MPG CE 0366, IP X1	•	•

*O = Upper basket, U = Lower basket

• = standard, – = not available

G 7836 CD



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