# G 7825 & G 7826 Medium Capacity Glassware Washers





# G 7825 & G 7826 Glassware Washers



# Features for efficiency and cleaning effectiveness

Miele USA is proud to introduce the G 7825 and G 7826 Medium Capacity Laboratory Glassware Washing Systems.

Several variations of the washing unit itself are available. These are:

#### G 7825 Single door model

Unit is convertible for steam or electric heating, convenient for facilities where the steam generator may occasionally be out of service. Available with or without HEPA filtered forced air drying.

#### G 7826 Pass-through model

Ideal for critical applications where a pass-through washer is necessary. This unit is also convertible for steam or electric heating. Available with or without HEPA filtered forced air drying.

#### Features

### Automatic Basket Recognition System

The Miele E-700 series mobile units include a unique magnetic sensor that can be coded to run the appropriate wash program. This feature helps to reduce the risk of improper wash program selection by only allowing the pre-determined wash program to be run when the basket is inserted. In critical applications where every step of a process must be scrutinized, this feature eliminates potential operator error. At the time of machine start-up, Miele can assist you with proper setting of this feature.

#### **Dual Circulation Pumps**

As always, Miele has designed these washers with pumps providing a high circulation rate combined with gentle spray pressure. This ensures that glassware will be thoroughly cleaned, but not damaged. Water is delivered to the chamber through the upper and lower spray arms (300 liters per minute), and direct injection units (400 liters per minute). A total of 700 liters of water per minute is circulated for extremely effective mechanical cleaning action. By using separate pumps for the spray arms and injectors, the Miele washer ensures adequate water flow regardless of the number of injection baskets inserted.

#### Fresh Water and Tank System

The system includes water inlet valves for hot tap water, cold tap water and DI water. Between each cleaning stage (pre-wash, wash, rinse or final rinse) water is drained and fresh water is introduced for the next stage. Each fill is 20 liters (5.2 gal) for economical water consumption (The water fill level is adjustable up to 30 liters per fill). In addition, the Miele system includes a 21 liter tank for pre-heating of DI water prior to the final rinse. These features help to ensure analytically clean results every time.

#### Hot Wash and Rinse Water

It is well known that hotter water generally provides for better washing and rinsing results. For this reason water temperatures (both tap and DI) in Miele washers are adjustable up to 95°C. Independent control of wash and rinse water temperatures provide for maximum flexibility in wash programming allowing the washer to meet even the most demanding cleaning protocols.

#### **Triple Filter System**

A triple filter system ensures that only clean water is introduced into the wash chamber. This system includes:

- Filters on all water inlet hoses to retain even the smallest particles before they enter the washer
- Filter in the base of wash chamber to capture residue so that it is not recirculated
- Filters upstream of circulation pumps to extend pump life

#### **Environmentally Friendly**

All Miele products are designed with the environment in mind.

• Water consumption – The Miele G 7825 features an adjustable fill volume. This enables you to reduce water consumption or increase the volume for difficult cleaning tasks. Standard water fill is 5.2 gallons (20 L) and is adjustable up to 7.8 gallons (29.5 L) or down to 3.4 gallons (13 L) The optional dual drain feature allows for even greater conservation by allowing re-use of water from one or more cycles.

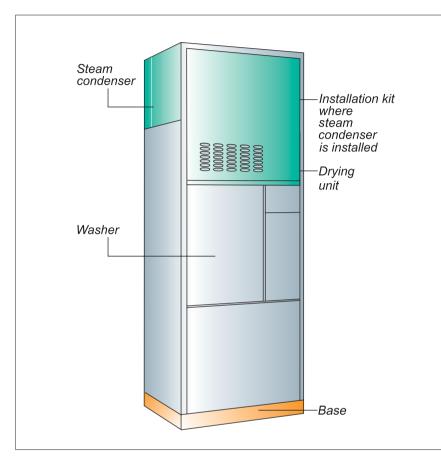
- Detergent consumption Low water consumption and high circulation rates enable these models to consume minimal amounts of detergent. Typical detergent amount dosed in a wash routine is 75 to 150 ml (2.5 to 5 fl ounces).
- Electrical efficiency- Double wall construction with thorough insulation contributes to the electrical efficiency of these systems.

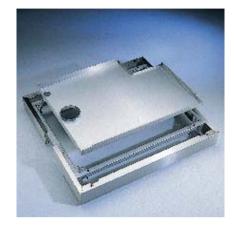
#### **Dual Drain Pumps**

The G 7825 is supplied with dual drain pumps and can be easily connected to either a floor drain or standpipe. Dual drain pumps also allow for recycling of water by enabling you to send water from specified cycles to a holding tank for re-use or pretreatment. For example, heavily soiled water from the pre-wash and main wash could be sent to drain, while relatively clean rinse water could be sent to a storage tank for use in the next pre-wash cycle. The drainage flow path is programmable directly from the control panel.

# G 7825 and G 7826 Modular Concept







#### The SBW/2 Base

- Simplifies machine installation
- Serves as a drip tray
- Cut-out for possible floor drain connection

The Miele system is designed with four primary components. These are:

- 1. Washer
- 2. Base
- 3. Drying Unit (optional)
- 4. Steam Condenser(optional)

#### **Optional Drying Unit**

- Contained within the upper cabinet portion of the washer
- Front and rear door access

#### **Optional Steam Condenser Unit**

- For use when no ventilation or an air conditioned ventilation system is used
- Condenses steam and sends it to the drain
- Cabinet included
- Raises washer height by 23.5"

### Various Features



#### **Transfer Cart**

- For safe and easy transfer of baskets
- Unique patented design suspends the mobile unit in the air, allowing the cart to load from the front or side saving valuable floor space
- Dimensions (H x W x D): 1260(+/- 100 mm) x 650 x 850 mm (49" x 25.25" x 33.25")



### Automatic Basket Recognition System

- Mobile units include a magnetic coding strip for automatic sensing of specified wash routines
- When the mobile unit is placed into the washer, the specified wash routine is automatically brought up
- No other wash routines can be run in this mode, eliminating potential operator error
- Basket can be coded to run programs 1-15



#### Inner cabinet

- 683 x 541 x 617 mm (H x W x D) (26.5" x 21" x 24")
- Electronic interlocking door
- Inner cabinet and spray arms constructed of 304 stainless steel
- Concealed heating elements
- Built-in upper and lower spray arms
- Inclined ceiling prevents moisture from dripping onto the wash load
- Triple filtration: 1 filter in cabinet, 2 upstream of circulation pumps
- Direct coupling systems for various mobile injector units



#### Drying unit

- For fast, efficient, particulate-free drying of glassware
- Adjustable temperatures from 60 to 115°C
- Adjustable time from 3 to 240 minutes
- Two time/temperature settings possible per dry cycle
- Cool down cycle for safe removal of the wash load
- Dual pre-filter rated 95% efficient for 200 hours
- S-Class HEPA filter rated 99.992% efficient for 500 hours
- Low speed motor for quiet operation (66 dBA)

#### **DI** water Pre-heater

- 21 liter tank located beneath the wash chamber
- Adjustable temperatures from 60 to 90°C
- Preheats DI water prior to the final rinse cycle
- Provides for shorter cycle times

# Profitronic Control System



#### **Profitronic Controls**

Miele's Profitronic Control System combines simple operation with full programmability. This allows for design of custom wash protocols while remaining simple to operate.

Among the systems many features are:

- 11 standard wash programs for laboratory glassware
- 8 service programs
- Ability to store up to 45 additional custom programs
- Full programming control of time, temperature, detergent/neutralizer dosing, and drying
- 4-line full-text navigation display with selection of six languages (Including English and Spanish)
- Direct or PC/laptop-controlled program compilation
- Service-friendly access to electronic components via a pull-out front
- Printer option for documentation of process parameters

- 3 potential-free contacts for vent control, peak-load cutout, external dosing systems or other applications
- Security Lock-Out allows four user access levels to be selected:
  - A Only selected programs are accessible
  - B All programs are accessible
  - C Automatic mobile unit sensor system
  - D Full access, including programming options

#### **Printer Module**

Miele meets the need for standardized cleaning performance by developing machine-based treatment methods and processes which provide repeatable and validatable results under practical working conditions. Essential prerequisites for such a system are:

- Monitoring and control of temperature and time
- Monitoring and control of water intake
- Monitoring and control of the detergent dispensing system

An optional printer module can be provided in order to document process parameters. This RS-232 serial interface records the following data:

- Date and machine number
- Program number, name, start and end times
- Detergent concentration, temperature, pump status
- Desired temperatures reached (cleaning/drying), including precise time
- All faults (e.g. "water intake failure") Manual intervention (start, stop, power outage)

### Mobile Units for use in G 7825/26



#### E 775 Mobile Unit

- With 2 levels for various inserts
- 400 x 530 x 600 mm (H x W x D)
- Built-in middle spray arm
- Magnetic coding strip for automatic mobile unit sensor (optional)
- Includes two E-750 units to secure and position inserts for optinal cleaning results
- Clearance:
- LL: H 304, W 482, D 590 mm
- UL: H 289, W 488, D 546 mm
- Article No. 69577501



#### E 702 Modular Unit

- For use with the E 701
- Creates removable 5th level
- Includes one E-750 unit to secure and position inserts for optional cleaning results
- Clearance of top level: H 160, W 530, D 560 mm
- Article No. 69570201



#### E 735 Mobile Unit

- With 3 levels for various inserts
- 552 x 530 x 660 mm (H x W x D)
- 2 built-in spray arms
- Magnetic coding strip for automatic mobile unit sensor (optional)
- Includes three E-750 units to secure and position inserts for optional cleaning results
- Clearance (Level 1= Lower Level)
- 1 & 2: H 203, W 482, D 590 mm
- 3: H 133, W 488, D 546 mm
- Article No. 69573501



#### E 701 Mobile Unit

- With 4 levels for various inserts
- 461 x 530 x 600 mm (H x W x D)
- 3 built-in spray arms
- Accepts the E 702 for opt. 5th level
- Magnetic coding strip for automatic mobile unit sensor (optional)
- Clearance (Level 1=Lower Level)
  1: H 87, W 482, D 590 mm
- 2 & 3: H 87, W 488, D 546 mm
- 4: H 87, W 488, D 546 mm
- Article No. 69570101



#### E 757 Mobile Unit

- For 1-6 large items (carboys)
- Includes six injector jets
- 10 x 1.5 x 300 mm and six plastic coated supports to secure glassware
- Height-adjustable holding frame with 6 short and 4 long struts to accommodate various glass diameters.
- Magnetic coding strip for automatic mobile unit sensor (optional)
- Article No. 69575701

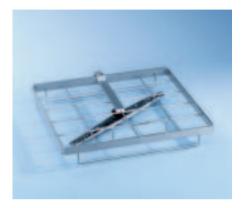


### Modular Basket System



#### E 741 Mobile Unit

- · Accepts 3 levels of modular inserts
- 680 x 530 x 600 mm (H x W x D)
- For single, double, or 3 level cleaning
- Allows injection, standard, or combination loads
- Magnetic coding strip for automatic sensing of a specific wash routine
- Two top level tracks allows flexibility per wash load
- Article No. 69574101



- E 742 Modular Support Frame
- Support frame with spray arm
- Standard cleaning frame for levels 2, 3 or 4
- Supports two half inserts such as the E 106 or AK 12
- H 112, W 492, D 496 mm
- Article No. 69574101



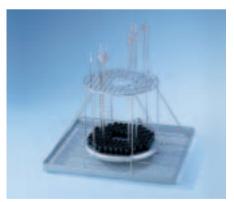
#### E 743 Modular Injector Insert

- For narrow neck items, (up to 500 ml)
- 195 x 492 x 496 mm (H x W x D)
- Injectors can be removed for custom configuration
- Connection for forced air drying through injectors
- 36 injectors (E 351), 160 mm
- 36 Mielava clips (E 353) for securing glassware in place
- Article No. 69574301

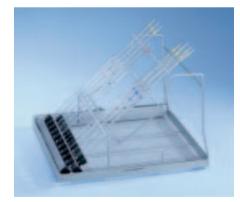


#### E 744 Modular Injector Insert

- For narrow neck items, 500–1000 ml
- 255 x 492 x 496 mm (H x W x D)
- Injectors can be removed for custom configuration
- Connection for forced air drying through injectors
- 16 injectors (E 352), 220 mm
- 16 Mielava clips (E 354) for securing glassware in place
- Article No. 69574401



- E 745 Modular Injector Insert
- Injector unit for 104 pipettes
- 290 x 492 x 496 mm (H x W x D)
- Each section is 16 mm x 16 mm
- Connection for forced air drying through injectors
- Support frame can hold additional wide mouth glassware
- Article No. 69574501



#### E 746 Modular Injector Insert

- Injector unit for 23 pipettes
- · Holds 10 pipettes up to 560 mm long
- Holds 13 pipettes up to 490 mm long
- Connection for forced air drying through injectors
- Support frame can hold additional wide mouth glassware
- Allows a second cleaning level
- Article No. 69574601

# Modular Basket System



#### E 747 Modular Injector Insert

- For use with E 741 mobile unit
- 104 injectors
- 170 x 492 x 496 mm (H x W x D)
- Ideal for cleaning centrifuge tubes, vials, test tubes, or other small items
- Connection for forced air drying through injectors
- Support frame can hold additional wide mouth glassware
- Article No. 69574701



#### E 755 Modular Injector Insert

- For use with E 741 mobile unit
- For narrow neck items, 25 100ml
- 130 x 492 x 496 mm (H x W x D)
- Injectors can be removed for custom configuration
- Connection for forced air drying through injectors
- 36 injectors, 90 mm
- Article No. 69575501



### Inserts for Beakers, Flasks and Wide-mouthed Glassware



Half inserts for narrow-necked glassware which do not require direct injection (e.g. flasks, graduated cylinders, bottles, etc.)

#### E 106 Half insert

- 28 spring clips to secure glassware:
- 10 spring clips 175 mm tall 18 spring clips 105 mm tall Distance between clips approx. 60 mm
- Insert measurements:
- 186 x 195 x 430 mm (H x W x D)
- For use in lower or half injector baskets
- Article No. 69510601

#### E 106/1 Half insert (not pictured)

- 28 small spring clips to secure glassware (105 mm tall)
- Distance between clips approx. 60 mmInsert measurements:
- 116 x 195 x 410 mm (H x W x D)
- For use in upper, lower or half injector baskets
- Article No. 69510602

#### E 106/2 Half insert (not pictured)

- 15 large spring clips to secure glassware (175 mm tall)
- Distance between clips approx. 85 mm
- Insert measurements:
- 286 x 180 x 420 mm (H x W x D)
- For use in lower basket or half injector baskets only
- Article No. 69510603



Half inserts for beakers, flasks and various other glassware which do not require direct injection

#### E 109 Half insert

- For 21 beakers (up to 250 ml) or other glassware
- · 3 rows of 140 mm tall paired holders
- Insert measurements:
- 155 x 230 x 460 mm (H x W x D)
- For use in lower or half injector baskets
- Article No. 69510901

#### E 110 Half insert (not pictured)

- For 10 beakers (250 to 600 ml) or other glassware
- 2 rows of 160 mm tall paired holders
- Insert measurements:
  175 x 230 x 460 mm (H x W x D)
- For use in lower or half injector baskets
- Article No. 69511001

#### E 111 Half insert (not pictured)

- For 8 beakers (600 to 1000 ml) or other glassware
- 4 rows of 190 mm holders (24 total)
- Insert measurements:
- 205 x 230 x 460 mm (H x W x D)
- For use in lower or half injector baskets
- Article No. 69511101

#### E 144 Half insert (not pictured)

- For 18 beakers (up to 250 ml)
- 3 rows of 120 mm tall paired holders
- Insert measurements:
- 131 x 200 x 445 mm (H x W x D)
- For use in upper, lower or half injector baskets
- Article No. 69514401



#### AK 12 Half insert

- Half insert basket with handles, for beakers, bottles and various other glassware which do not require direct injection.
  This insert is also ideal for miscellaneous labware (e.g. funnels, stirrers, stopcocks, etc.).
- Insert measurements:
- $67 \ x \ 225 \ x \ 442 \ mm$  (H  $x \ W \ x \ D).$
- Allow additional 60 mm for height of handles
- For use in upper, lower or half injector baskets
- Article 69501201

Note: If lid is desired, use two A14 1/4 lids

#### A 14 1/4 Lid (pictured w/ AK 12)

- Lid for insert AK 12, 210 x 210 mm
- Article No. 69745002

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#### **Drying Unit**

- For fast, particulate free drying of glassware
- Adjustable temperatures from 60 115°C
- Adjustable time from 3 240 minutes
- Two time / temperature settings per cycle
- Cool down step to make glassware safe to handle at the end of the cycle
- Dual pre-filters rated 95% efficient for 200 hours
- S-Class HEPA filter rated 99.992% efficient for 500 hours
- Quiet operation (66 dBA)
- Drying unit must be specified at the time of order.

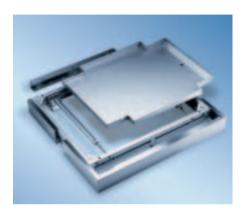
#### Steam Condenser

- For use when no ventilation, or air conditioned ventilation system is used
- Heat exchange system condenses steam, and sends it to the drain
- Requires the addition of an MAV/2 enclosure kit
- Raises washer height by 23.5"
- Article No. 69230002



#### MAV/2 Enclosure Kit

- For use with Steam Condenser
- Article No. 69210003



#### SBW/2 Base

- Simplifies machine installation
- Acts as a drip tray
- Cut out for possible floor drain connection
- Article No. 69371002

#### SBWR/2 Mobile Base (not pictured)

- Mobile base equipped with locking rollers
- Allows machine to be easily moved away from the wall for service access
- Simplifies machine installation
- Recommended if machine must be placed 18" or closer to wall
- Acts as a drip tray
- Article No. 69371004

G 7825 and G 7826 installations require either an SBW/2 or SBWR/2 base.



### Options and Accessories for G 7825/26



#### Transfer Cart

- For safe and easy transfer of baskets
- Unique patented design suspends the mobile unit in the air, allowing the cart to load from the front or side saving valuable floor space
- Dimensions (H x W x D): 1260 (+/- 100 mm) x 650 x 850 mm (49" x 25.25" x 33.25")
- Article No. 69200104



#### **Internal Printer Module**

- For machine and process documentation
- 6 pin printer with RS-232 interface
- Paper format: 58mm roll
- Article No. 69221102



#### **ML** Magnetic Strip

- Five magnet strip used on mobile units for interface with the Automatic Basket Recognition System
- Article No. 69745702



#### **Status Indicator Box**

- 3 or 5 light boxes interface with the Profitronic Control System to provide visual indication of machine conditions
- Article No. 78270021 (3 light)
- Article No. 78270022 (5 light)

# G 7825/26 Specifications

#### **Controls:**

Profitronic controls with user - friendly navigation

6 fixed languages (German, Spanish, French, English, Italian, Dutch)

8 service and 11 standard programs

Ability to store up to 45 additional custom programs

4 position key switch to limit/enable access to programs or programming function

Programming possible using a PC and Windows 3.1/Windows 95

Display warns of faults, malfunctioning and the need for maintenance

3 potential-free contacts

RS - 232 serial interface

#### Water Connections

1 inlet valve for cold water, supply pressure required: 30-147 PSI, 15 l/min

1 inlet valve for hot water, supply pressure required: 30-147 PSI , 15 I/min. (50-70°C)

1 inlet valve for DI water, supply pressure required: 30-147 PSI, 15 I/min.

Washer is supplied with four inlet hoses: one for hot water, one for cold water and two for DI water. A "Y" adapter is supplied to split the DI water line. All hoses are 5ft long,  $\frac{1}{2}$  ID pressure hoses with  $\frac{3}{4}$  female hose thread. Two 1" O.D. flexible drain hoses are provided for connection to minimum 2" I.D. floor drain or standpipe. One 3/8" flexible hose provided (to drain drip tray) for connection to minimum 2" I.D. floor drain or standpipe.

#### **Electrical connection**

Unit is convertible for steam or Electric heating. Hook-up requirements are as follows: 208 V, 60 Hz, 3 phase, 30 Amps

#### **Steam Connection**

Heating the machine with steam is more efficient than electrical heating and is recommended if steam is available. Steam requirements are: Pressure of 36 to 145 psi, with a return line. Two <sup>1</sup>/<sub>2</sub>" threaded connections are provided (one for steam, one for condensate/return)

#### **Compressed Air Connection**

Required only when steam is used to heat the machine. Compressed air powers the washer's steam valves. Compressed air pressure of 85 to 175 psi is required

#### **Drying Unit**

Forced hot air from 60 to 115°C for internal and external drying of the wash load includes:

- Adjustable time settings from 3 to 240 minutes.
- Two time/temperature settings per cycle possible
- Cool-down cycle, to make glassware safe to handle when cycle is complete
- EU-4-class pre-filter rated 95% efficient
- S-class HEPA filter rated 99.992% efficient

#### **Dispensing Systems**

2 pumps for detergents and neutralizing agents, each with a 10 liter container.

Ability to connect additional external dosing modules. System automatically stops wash

routine if detergent is not dosed.

Float switch monitors detergent level and displays warning on controller.

#### Dimensions

Exterior: H 1975 x W 900 x D 750 mm (77" x 35.25" x 29.25") Exterior Height with optional steam condenser: 2575 (8' 3.75") Can be installed without base, to fit within 8' tall room Chamber: H 683 x W 541 x D 617 mm (26.5" x 21" x 24")

#### Weight:

400 kg (884 lbs.)

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