

## GLASSWARE WASHER GW4190

GW4190 is a glassware washer designed to work from one to two independent and flexible washing levels. The washing chamber measures 530x510x620 mm (168l gross). Possibility for washing, thermic and chemical disinfection (up to 95°C) and forced-air drying system with filter. Integrated compartment for the detergents.



### LPV40DS

WASHING SOLUTION FOR 40 PIPETTES



### LM20DS

UNIVERSAL WASHING SOLUTION FOR NARROW-NECKED GLASSWARES - 24 POSITIONS



### LB32DS

WASHING SOLUTION FOR BOTTLES



### PD70I

WASHING SOLUTION FOR PETRI DISHES

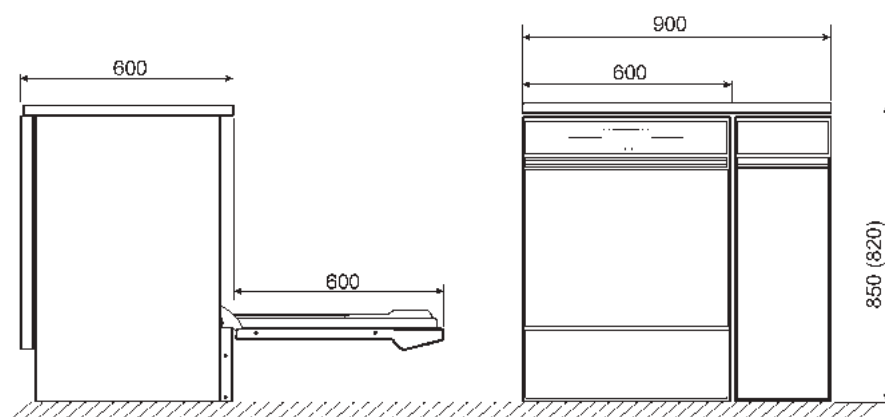


ERGONOMIC AND SAFETY WASHING  
SOLUTION **GW4190**

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<b>GW4190 TECHNICAL FEATURES</b>	All versions
Electronic control	microprocessor
Standard programs stored	9
Customisable programs	6
Display with segments and communication	yes, 4 digits
Clock and calendar	yes
Tank internal temperature	from room temperature to 95°C
Accuracy	0,1°C
Temperature sensors in tank	n° 1 x PT 1000 CLASS B IEC 60751
Detergent and agents dosing system	max. 1 powder dispenser, 1 pump for neutralizing agent and 2 other pumps as optional
Detergent level sensor	optional
Safety lock	yes, with electromagnetic release and automatic opening
Safety devices	safety thermostats, door interlock
Alarm display	30
Troubleshooting menu	yes, using PC connection
Programme editing	yes, using 6 customizable programs
<b>AUXILIARY FUNCTIONS</b>	
Storage of data for 250 most recently run programs	yes
RS232 serial port for PC connection	yes
RS232 serial port for printer	yes
Cycle storage	yes
Cycle file download	yes
<b>DRYING SYSTEM</b>	
Drying fan	yes
Drying heating element	0,8 kW
Prefilter class C 98%	yes
HEPA filter class S 99,999%	optional
<b>WATER SUPPLY (PRESSURE 1,5-5 BAR)</b>	
Cold water inlet	yes, hardness max 42°f
Demineralized water inlet	yes, < 30 µS/cm
Demineralized water booster pump	optional
Water softener incorporated	yes
Recirculation pump	400 l/min
<b>WATER HEATING</b>	
Electrical	6,3 kW on three-phase version, 2,3 kW on single-phase version
<b>STEAM CONDENSER</b>	optional
<b>DIMENSIONS LxDxH mm</b>	
Outside (with built-in top)	900x605x853 (830)
Inside (gross)	530x510x620
Net weight (Kg)	105
<b>STAINLESS STEEL</b>	
Wash tank	AISI 316L
Exterior covering	AISI 304
<b>ELECTRICAL POWER SUPPLY</b>	
Max. voltage/power	1/N/PE 230V ~ 50Hz 2,8 kW 3/N/PE 400V ~ 50Hz 7,0 kW
<b>NOISE LEVEL</b>	max 50 dB



COMPATIBLE  
GW0160  
GW2145  
GW1160  
GW4060  
GW4190  
GW3060  
GW4090



## D-CS1

### UPPER LEVEL BASKET

Basic upper basket with sprayer for the GW2145 series. Suitable for glassware treatment

## D-CS2

### LOWER LEVEL BASKET

Basic lower basket with sprayer for the GW2145 series. Suitable for glassware treatment



## CS1-1

### UPPER LEVEL BASKET

Basic upper basket with sprayer. Suitable for glassware treatment

## CS2

### LOWER LEVEL BASKET

Basic lower basket. Suitable for glassware treatment.



COMPATIBLE

GW0160  
GW2145  
GW1160  
GW4060  
GW4190  
GW3060  
GW4090



## SB9

9 POSITION INSERT

Made of stainless steel, it is suitable for washing beakers and cylinders of max. 100 ml and funnels. Occupies 1/2 of the D-CS1/D-CS2 baskets.

Dimensions: W x D x H = 420 x 145 x 160 mm

An insert for 14 positions is also available (**SB14**).

Dimensions: W x D x H = 422 x 146 x 184 mm

## SB15

15 POSITION INSERT

Made of stainless steel, it is suitable for washing beakers and flasks. For use in combination with standard CS1-1 and CS2 baskets of 16 items and is made of stainless steel.

Recommended for flasks with a capacity of up to 1000 ml.

Dimensions: W x D x H = 400 x 195 x 115 mm



## SB28

28 POSITION INSERT

Made of stainless steel, it is suitable for washing beakers and flasks. For use in combination with standard CS1-1 and CS2 baskets and IM20 insert.

It has a capacity for 16 items and is made of stainless steel.

Recommended for flasks with a capacity of up to 1000 ml.

Dimensions: W x D x H = 400 x 195 x 185 mm

## SB30

30 POSITION INSERT

Made of stainless steel, it is suitable for washing beakers of any size. For use in combination with standard CS1-1 and CS2 baskets and IM20 insert.

It has a capacity of 30 items and is made of stainless steel.

Recommended for flasks with a capacity of up to 500ml.

Dimensions: W x D x H = 400 x 195 x 150 mm

An insert for 25 positions is also available (**SB25**).





COMPATIBLE  
WITH ALL  
GLASSWASHERS



## CSK1

1-LEVEL SMALL GLASSES  
AND OBJECTS INSERT

It is suitable for washing  
glasses and objects of small  
dimensions. level

Dimensions: L x D x H 450 x 450 x 55mm, mesh 5 x 5mm  
Space needed: entire washer

## CSK2

½ LEVEL SMALL GLASSES  
AND OBJECTS INSERT

It is suitable for washing glasses and objects of  
small dimensions.

Dimensions : L x D x H 450 x 225 x  
55mm, mesh 5 x 5mm  
Space needed: half of a washer level



## SERIE "CP"

¼ LEVEL TEST TUBE INSERT

Compartment suitable for test tubes up to 160. Accessory  
composed by 3 compartments and a lid. Different sizes  
depending on the test tubes model.  
Space needed: 1/4 of a washer level

**CP105:** test tubes up to 75 mm in height  
**CP132:** test tubes up to 105 mm in height  
**CP192:** test tubes up to 165 mm in height  
**CP222:** test tubes up to 200 mm in height

## BOTTLE INSERT

### COMPATIBLE

GW0160  
GW1160  
GW4060  
GW4190  
GW3060  
GW4090



## PB50

### BOTTLE INSERT

Suitable for holding 56 50 ml wide-necked bottles (screw cap GL32 ISO4796 or ground cap DIN 12038 or non-standard cap).  
Max. bottle size: diam. 46 mm - h 87 mm.

**PB100** (not in photo) suitable for holding 32 100 ml wide-necked bottles (screw cap GL45 ISO4796 or ground cap DIN 12038 or non-standard cap).  
Max. bottle size: diam. 56 mm - h 100 mm.

## PB500

### BOTTLE INSERT

Suitable for holding 21 500 ml wide-necked bottles (screw cap GL32 ISO4796 or ground cap DIN 12038 or non-standard cap).  
Max. bottle size: diam. 86 mm - h 177 mm.

**PB250** (not in photo) suitable for holding 25 250 ml wide-necked bottles (screw cap GL45 ISO4796 or ground cap DIN 12038 or non-standard cap).  
Max. bottle size: diam. 70 mm - h 138 mm.



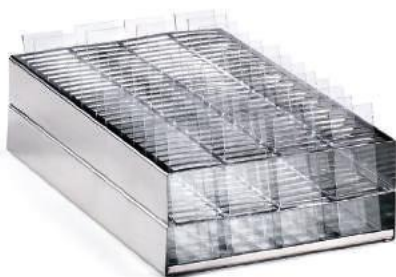
## PB1000

### BOTTLE INSERT

Suitable for holding 16 1000 ml wide-necked bottles (screw cap GL45 ISO4796 or ground cap DIN 12038 or non-standard cap).  
Max. bottle size: diam. 101 mm - h 225 mm.



COMPATIBLE  
WITH ALL  
GLASSWASHERS



## PV105

SLIDES INSERT

Microscope slide insert made of stainless steel. Suitable for positioning 105 standard microscope slides.

Dimensions l x d x h = 220x143x60 mm.

## SL6

PLATE INSERT

It is suitable for washing up to Olympus-type plate for optical recognition of the blood unit. Hinged lid included.

Dimensions l x d x h = 485x145x80 mm.



## SL9

CHROMATOGRAPHIC PLATES INSERT

Made of stainless steel, it is suitable for washing chromatographic plates. Capacity of 9 items. It takes up 1/2 the space of a standard basket.

## SL18

CHROMATOGRAPHIC PLATES  
INSERT

Made of stainless steel, suitable for washing 20x20 standard chromatographic plates. Capacity of 18 items. The guides are shaped in such a way that the support points are outside the working surface.



COMPATIBLE  
WITH ALL  
GLASSWASHERS

## SERIE "PD"

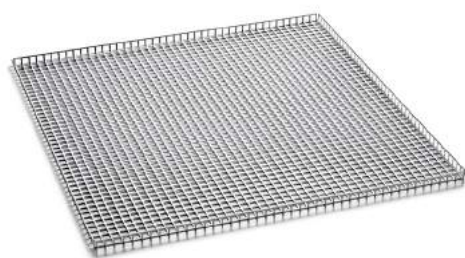
DIFFERENT DIMENSIONS PETRI DISH INSERT

**PD70S** - 40 items, 50-70 mm positioned on the upper level CS1-1.

**PD100S** - 38 items, 70-120 mm positioned on the upper level CS1-1.

**PD70I** 40 items, 50-70 mm positioned on the lower level CS2.

**PD100I** - 38 items, 70-120 mm positioned on the lower level CS2.



## SERIE "PF"

DIFFERENT DIMENSIONS  
MESHES

**PF1/2**, PF1/2, 1/2 space of CS2 or CS1-1

**PF1**, whole CS1-1

**PF2**, whole CS2

**D-PF1**, whole D-CS1-1

**D-PF2**, whole D-CS2

## SA3

DIFFERENT  
DIMENSIONS  
HOLDING NETS

**RC1** net covering a whole carrier,

**RC1/2** net covering 1/2 carrier,

**RC1/4** net covering 1/4 carrier



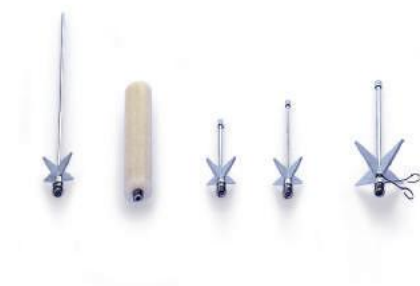
## SERIE "U"

SPIGOTS OF DIFFERENT  
DIMENSIONS

Injection spigots available in the following versions:

- spigot for 6% and 12% butyrometers
- Nylon spigot for pipettes
- Spigots for glassware with the following heights: 90, 110, 140, 160, 180, 220, 240, 260 mm.

Suitable as spare parts on carriers already in use or to equip customizable carriers.



## INJECTION CARRIER FOR NARROW-NECKED GLASSWARE

### COMPATIBLE

GW0160  
GW1160  
GW4060  
GW4190  
GW3060  
GW4090



## LM20DS

### UNIVERSAL FLASK WASHING CARRIER

Stainless steel carrier for washing and drying narrow-necked glassware up to 490 mm in height. Fitted with 20 nozzles and half the carrier space is free for mixed glassware suitable for a 1/2 basket accessory. Positioned on the lower level.

**LM20** (not shown in the photo): version without drying system connection.

## LM40DS

### UNIVERSAL NARROW-NECKED GLASSWARE WASHING CARRIER

Stainless-steel carrier for washing and drying narrow-necked glassware up to 490 mm in height, flasks, round-bottom flasks and graduated cylinders of various sizes. Positioned on the lower level.

**LM40** (not shown in the photo): version without drying system connection.



## LM40SDS

### UNIVERSAL NARROW-NECKED GLASSWARE WASHING CARRIER

Stainless-steel carrier for washing narrow-necked glassware up to 225 mm in height. Carrier with 40 spigots with the same height. Positioned on the upper level.

**LM40S** (not shown in the photo): version without drying system connection.



## LM80DS

### UNIVERSAL NARROW-NECKED GLASSWARE WASHING CARRIER

Stainless-steel carrier for washing narrow-necked glassware up to 225 mm in height. Carrier with 80 spigots with the same height.

Positioned on two levels.

**LM80** (not shown in the photo): version without drying system connection.



N.B. The models with drying system connection (DS versions) are specific for GW4090, GW4190 and GW4060 glassware washers.

## BOTTLE WASHING CARRIER

### COMPATIBLE

GW0160  
GW1160  
GW4060  
GW4190  
GW3060  
GW4090



### LB4BDS

#### BOTTLE WASHING CARRIER

Stainless steel trolley for washing large glass items with drying system connection. Suitable for washing 2 x 10 L bottles or 4 x 5 L bottles. Fitted with 8 special spigots. Positioned on the lower level.

**LB4** (not shown in the photo): version without drying system connection

### LBT5DS

#### BOTTLE WASHING CARRIER

Stainless steel carrier for large glass items washing with drying system connection.

Suitable for washing and drying of five 5-litre bottles (diam. 180 x h.500mm, max neck diameter 80 mm).

Fitted with 5 special spigots. Positioned on the lower level.

**LBT5** (not shown in the photo). Version without drying system connection.



### LB8DS

#### BOTTLE WASHING CARRIER

Stainless steel carrier for washing large glass items with drying system connection. Suitable for washing 8 bottles of maximum 50 cm in height. Fitted with 8 U6260 spigots and 8 special spigots.

Positioned on the lower level.

**LB8** (not shown in the photo): version without drying system connection.



### LB16DS

#### BOTTLE WASHING CARRIER

Stainless steel carrier for washing 16 narrow or wide-necked bottles of 250-1000 ml (max. diam. 101 mm, h 450mm) or graduated cylinders (diam. max. 101 mm - h 495 mm).

Positioned on the lower level.

**LB16** (not shown in the photo): version without drying system connection.



N.B. The models with drying system connection (DS versions) are specific for GW4090, GW4190 and GW4060 glassware washers.



## BOTTLE WASHING CARRIER

COMPATIBLE  
GW0160  
GW1160  
GW4060  
GW4190  
GW3060  
GW4090



### LB16SDS

BOTTLE WASHING CARRIER

Stainless steel carrier for washing 16 narrow or wide-necked bottles of 250-1000 ml (max. diam. 101 mm, h 250mm). Positioned on the upper level.

**LB16SDS** (Not shown in the photo): version without drying system connection. LB16I code: same carrier for the lower level

### LB32DS

BOTTLE WASHING CARRIER

Stainless steel carrier for washing large glass items with drying system connection. Suitable for washing 32 narrow or wide-necked bottles of 250-1000 ml, max. diam. 101 mm, H.245 mm. Positioned on 2 levels.

**LB32** (not shown in the photo): version without drying system connection.



### LB1-20DS

WASHING CARRIER FOR BOTTLE OR DRUM

Stainless steel carrier for washing universal large glass items and suitable for washing one large bottle and/or drum with drying system connection. Bottle maximum dimensions diameter 300 x h. 350 mm. Positioned on lower level.

N.B. The models with drying system connection (DS versions) are specific for GW4090, GW4190 and GW4060 glassware washers.

COMPATIBLE

GW0160  
GW1160  
GW4060  
GW4190  
GW3060  
GW4090



## LPM2010DS

MIXED INJECTION CARRIER FOR FLASKS, PIPETTES AND TEST TUBES

Stainless steel carrier for washing flasks, pipettes and test tubes with drying system connection. Suitable for washing and drying of 10 pipettes up to 55 cm + 20 narrow-necked glass items + ¼ free space to be filled with a CP series test tube basket.

Positioned on the lower level.

**LMP2010** (not shown in the photo): version without drying system connection.

## LPM2020DS

MIXED INJECTION CARRIER FOR FLASKS AND PIPETTES

Stainless steel carrier for mixed washing of flasks and pipettes with drying system connection.

Suitable for washing and drying 20 pipettes up to 550 mm in height and 20 narrow-necked glassware with a maximum height of 49 cm. Positioned on the lower level.

**LPM20/20** (not shown in the photo): version without drying system connection.



## LR4DS

REACTORS WASHING CARRIER

Stainless steel trolley for washing and drying four 3/5-way reactors of maximum 3 litres or up to 12 narrow-necked glass items. Fitted with 20 U6260 nozzles.

Positioned on the lower level.

**LR4** (not shown in the photo): version without drying system connection.

## LT20DS

WASHING CARRIER FOR FISCHER BOTTLES

Stainless steel carrier with drying system connection for washing and drying of 12 Fischer bottles and graduated cylinders with a maximum height of 55 cm. 6 positions for injection washing of narrow-necked glassware. Fitted with 18 spigots. Positioned on the lower level.

**LT20** (not shown in the photo): version without drying system connection.



N.B. The models with drying system connection (DS versions) are specific for GW4090, GW4190 and GW4060 glassware washers.



## MIXED WASHING CARRIER

### COMPATIBLE

GW0160  
GW1160  
GW4060  
GW4190  
GW3060  
GW4090



## LPV40DS

### PIPETTES WASHING CARRIER

Stainless steel carrier for washing and drying volumetric pipettes up to 55 cm in length. 20 positions for pipettes of 55 cm in height and 20 positions for pipettes and/or flasks of 45-49 cm in height.

**LPV40** (not shown in the photo): version without drying system connection.

## LPT100DS

### PIPETTES WASHING CARRIER

Stainless steel carrier for washing and drying 100 pipettes with a capacity of 1 to 20 ml and a height up to 450 mm. The pipette washing disc is fitted into the carrier to allow fast loading and unloading access.

**LPT100** (not shown in the photo): version without drying system connection.



## KP100DS

### TAPERED AND CYLINDRICAL TEST TUBE CARRIER

Stainless steel carrier with drying system connection for washing of tapered and cylindrical test tubes by internal injection. It has a maximum capacity of 100 test tubes. Positioned on the upper washing level.

**KP200DS** (not shown in the photo): same carrier on two washing levels with a maximum capacity of 200 test tubes.

**KP100** (not shown in the photo): version without drying system connection.

**KP200** (not shown in the photo): version without drying system connection.



## LB40DS

### BUTYROMETER WASHING CARRIER

Stainless steel carrier for butyrometer washing with drying system connection. Suitable for washing and drying of 40 butyrometers. Specify the type of butyrometer in the order. Positioned on the upper level.

**LB40** (not shown in the photo): version without drying system connection.



N.B. The models with drying system connection (DS versions) are specific for GW4090, GW4190 and GW4060 glassware washers.

## POSSIBLE CONFIGURATION

### COMPATIBLE

GW0160  
GW1160  
GW4060  
GW4190  
GW3060  
GW4090



## TWO SPRAYING LEVELS

This configuration has two washing levels with spray arms for different types of glassware.

Photo:

CS1-1 upper basket: it is fitted with RC1/2 net in the right side for the support of various glass items. On the left side: test tube accessory.

CS2 lower basket: SB28 insert on the right and SB30 on the left for washing beakers, flasks, plates and various other materials.

## ONE MIXED INJECTION LEVEL

This configuration has one mixed injection washing level suitable for washing narrow-necked glassware and pipettes.

Photo:

Carrier LPM2020: this system allows simultaneously washing narrow-necked glassware (flasks, beakers, round-bottom flasks) and 20 pipettes. Specific carriers for laboratories which clean many different types of glassware at the same time.



## ONE INJECTION LEVEL

This configuration has one injection washing level suitable for washing narrow-necked glassware.

Photo:

LM40 carrier: universal injection carrier as it optimises washing of narrow-necked glassware of different sizes.

It has a capacity of 40 items and can wash both large items and small flasks or bottles.

