

## Laboratory glassware

washing system





## Driven by customer needs

Steelco is a leading infection control solution provider, supplying the healthcare, laboratory research and pharma sectors. Active in over 100 countries, Steelco has equipped numerous world renown hospitals and counts among its customers household names in the laboratory, pharmaceutical and industrial sectors

Driven by customer feedback, Steelco develops, manufactures and supplies solutions that maximize infection control safety, optimize processes and minimize costs.

Our focus on innovation has led us to become leaders in areas such as automation, improving the efficiency and working environment of those that use Steelco products.

Whether you are just wishing to replace a single small machine or requiring assistance in designing and equipping your scientific or research laboratory, Steelco and it's factory trained dealers are here to help you make the best decision possible that works for you and then support you every step of the way.



*Steelco Headquarters - Italy*

*R&D Department*

*Scientific Laboratories*

*Pharmaceutical Laboratories*



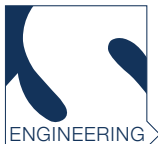
## Supporting you every step of the way

Steelco provides technical service and user training courses at the Steelco Academy as well as at customer sites. Our optional remote diagnostics capabilities and worldwide team of factory trained engineers ensure that you receive the service support you need to cost effectively maximize the uptime of your sterilizers.



# Laboratory glassware

## Washing systems



Our complete range of reliable washer disinfectors and automation solutions focuses on optimal cleaning results and operator safety.

Washing systems can be adapted to effectively decontaminate a wide range of different glassware and other materials of common use in laboratories.

Steelco experienced layout design team can help you plan your new or refurbished department and our process engineering team can develop cycles specifically to best meet your needs.

## Water and energy saving

### Unrivalled levels of efficiency

Steelco's washers are already efficient compared to equivalent competitor models.

Quality and speed of the washing process are of utmost importance as well as water, detergent and energy consumption. Our washing systems can be configured with pre-heating tanks with water and energy recovery systems.

## Acceptance Tests & on site activities

### Our reliability is unique: *Factory Acceptance Test and Site Acceptance Tests*

Steelco Group is available anytime to support customers during all acceptance on site including process development and mapping.

All on site activities undertaken to pre-agreed written protocols according to customer requirements. Steelco keeps records of the technical file of each machine to enable full access in case of third party inspection to verify compliance with directives and regulations currently in force.

Installation qualification (IQ), operational qualification (OQ), and performance qualification (PQ) are provided according to the final scope of supply.

Steelco range of **washing and sterilization systems** for life sciences

Washer disinfectors for  
life science applications



Steam Sterilizer  
for research laboratories



Pharmaceutical  
washing and  
sterilization systems



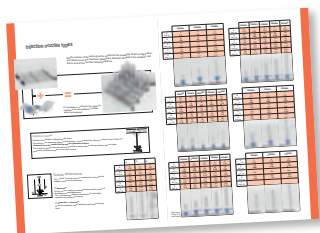


# Steelco LAB Series

## A full range for any size of facility

Hinged or sliding door, single and double door pass through models also with automatic loading/unloading options.

For each Steelco washing device, a wide range of wash carts is available for both standard or configurable solutions.



The final pages of the catalog are dedicated to choosing the most appropriate optimal accessories for convenient loading and to the selection of injection nozzles to set up configurable wash carts.



## Standard compliant

Steelco Laboratory glassware washers comply with the currents European directives and standards as follow: 2006/42/EC, 2014/35/EU, 2014/30/EU and 2011/65/EU Directives, EN 61010-1, EN 61010-2-040, EN 61326-1, EN ISO 15883-1 current standards.



## Machines baskets, inserts and accessories

*"Steelco's laboratory glassware washer range offers customers a large choice of machines, racks and inserts all specifically designed to meet the different needs of end users"*



## A complete range

racks, inserts, trays,  
and accessories





## Control system

Steelcotronic Control System, with its auto-diagnostic process, constantly monitors and displays current cycle status and alarms. It allows the operator to optimise the washing process and to personalise programmes on machines. Information can be exported via ethernet connectivity or a USB port.



Easy to manage, the touch control system with graphic colour LCD display can simplify the operator's job when using the machine.



LCD Control System



Steelcotronic control system with industrial PLC, 5,7" touch screen display.



The machine can be provided with a USB port that allows the downloading of historical cycle data and enables software upgrade.

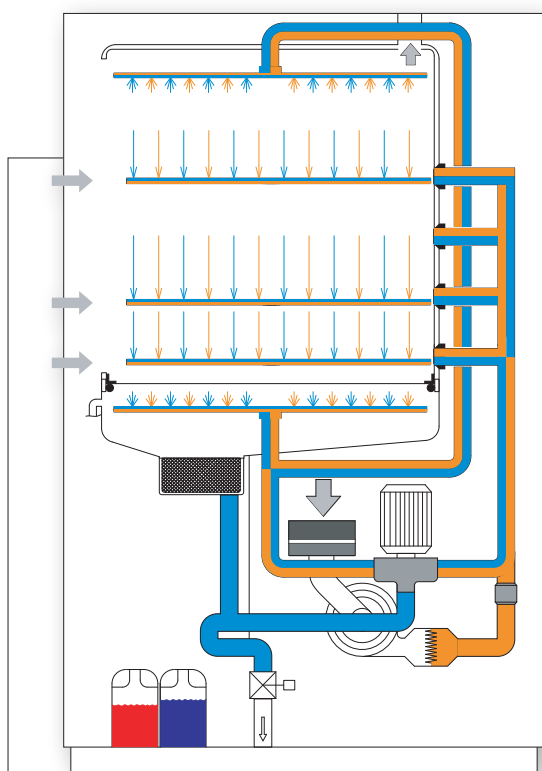
USB port allows an easy paperless document flow, documents can be opened directly by common office applications.

## Key features

- Up to four liquid detergent dosing pumps.
- Three water connections are available: cold, warm and DI water. Between each phase of a cycle, water is drained and clean water is introduced for the following phase. An additional tank for pre-heating DI water is optionally available.
- Double wall construction and washing chamber insulation in order to reduce heat loss and power consumption.
- Large capacity water softeners are available for a continuous supply of softened water.
- Water purificator system option.

## Cleaning effectiveness

Effective **Mechanical** action with complete coverage is of key importance and one of the main elements to assure an effective cleaning during the washing process. Steelco has customised washing pumps and circuits of each model to ensure a high flow rate combined with effective spray pressure.



Direct coupling system for various mobile injection washing carts.



The washing chamber and spray arms as well as tank filters are made of high quality AISI 316 L stainless steel (DIN 1.4404).

The washing chamber has rounded edges in order to avoid any dirt traps, minimizing the risk of microbial growth.

The external cabinet is made of AISI 304 stainless steel (DIN 1.4301). Water filtering system on three levels.



# LAB 500 Series

## Undercounter Glassware Washers

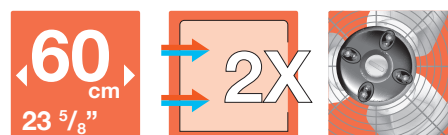


- Chamber volume ~171 lt / 6.04 ft<sup>3</sup>
- Basket volume ~151 lt / 5.33 ft<sup>3</sup>



### LAB 500 SC

- Washing system **on two independent levels**
- Chamber drying by electrical heating elements
- Stainless steel or high visibility full glass door



### LAB 500 CL

- Washing system **on two independent levels**
- Forced hot air drying system **on two independent levels**



Stainless steel door version **LAB 500 SC** only

#### Control panel

- LED display, 10 programs for laboratory glassware: 5 pre-programmed cycles, 5 customizable cycles.

#### Connections

- RS 232 port dedicated for printer or PC connection to monitor and validate the washing cycles and/or the data storage.



Stainless steel door version **LAB 500 SC** and **LAB 500 CL**

#### Control panel

- LCD display, 40 programs for laboratory glassware: 20 pre-programmed cycles, 20 customizable cycles.

#### Connections

- RS 232 port for printer or PC connection.
- USB port on front panel for cycle data storage and the program updating.



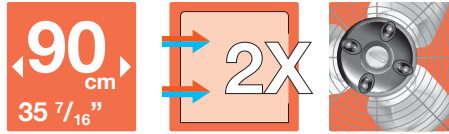
Full glass door version **LAB 500 SC**, **LAB 500 CL** and **LAB 500 DRS**

#### Control panel

- Full glass, soft touch control panel, LCD display, 40 programs for laboratory glassware: 20 pre-programmed cycles, 20 customizable cycles.

#### Connections

- RS 232 port for printer or PC connection.
- USB port on front panel for cycle data storage and the program updating.



## LAB 500 DRS

- Washing system **on two independent levels**
- **High power** - forced hot air drying system **on two independent levels**
- **Cabinet door** (300mm width) for:
  - storage of chemistries
  - direct access to drying filtering system
  - direct access to chemical dosing system



- Chamber volume ~171 lt / 6,04 ft<sup>3</sup>
- Basket volume ~151 lt / 5,33 ft<sup>3</sup>

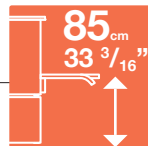


## Stands and side cabinets

Different models of 300mm/11.81" wide side cabinets allow to locate:

- Tank for preheated DI water
- Purification system for DI water
- Up to four 5 lt./1.32 Gal US chemical containers

Stands (600mm/23.62" height) equipped with doors for storage access and to improve ergonomics when machines are not undercounter installed.



## Choosing the right configuration and options

|                             | stand   |         | cabinet<br>left or right side |         | 900mm machine<br>cabinet on right side only |         |         | stand + 900mm<br>machine<br>cabinet on right side only |                |
|-----------------------------|---------|---------|-------------------------------|---------|---------------------------------------------|---------|---------|--------------------------------------------------------|----------------|
|                             | comb. 1 | comb. 2 | comb. 3                       | comb. 4 | comb. 5                                     | comb. 6 | comb. 7 | comb. 8                                                | comb. 9        |
| • = compatible function     |         |         |                               |         |                                             |         |         |                                                        |                |
| pre-heating tank            | •       | -       | -                             | -       | •                                           | -       | -       | • <sup>A</sup>                                         | • <sup>B</sup> |
| chemical storage            | •       | •       | •                             | -       | -                                           | •       | -       | • <sup>B</sup>                                         | • <sup>B</sup> |
| purification system         | -       | -       | -                             | •       | -                                           | -       | •       | -                                                      | • <sup>A</sup> |
| 4 <sup>th</sup> dosing pump | -       | -       | -                             | -       | -                                           | •       | -       | -                                                      | • <sup>B</sup> |
| integrated printer          | -       | -       | -                             | -       | •                                           | •       | •       | • <sup>A</sup>                                         | • <sup>A</sup> |

# LAB 500 Series - Washing carts

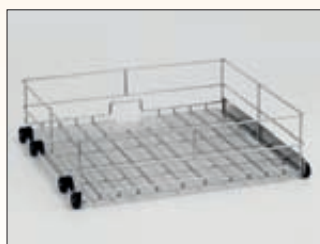
## Full loading space



**C721** - upper washing cart with spray arm, loading space 485x450mm (19 1/16"x17 3/4")



**C788** - support grid ensuring a flat surface on a C721, usable height reduced by 50mm (2")



**C52L** - lower washing cart, loading space 490x470mm (19 5/16"x18 1/2")

## With injection nozzles for glassware



example ❶

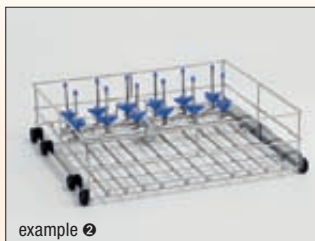
### Upper level suggested configuration

- A** 36 positions  
max glassware  $\varnothing$  74mm/2 15/16"  
max glassware h 160mm/6 5/16"  
C711E frame  
+ 36 nozzles C054924

### Lower level suggested configuration

- A** 39 positions,  
max glassware  $\varnothing$  70mm/2 3/4"  
max glassware h 200mm/7 7/8"  
C990E frame  
+ 39 nozzles C054904
- B** 39 positions,  
mixed nozzles  
average glassware  $\varnothing$  70mm/2 3/4"  
max glassware h 200...300mm  
C990E frame  
+ 10 nozzles C054905  
+ 29 nozzles C054904

## With half space + injection nozzles for glassware



example ❷

### Lower level suggested configurations

- A** 18 positions,  
mixed nozzles  
max glassware  $\varnothing$  62mm/2 7/16"  
max glassware h 200...300mm  
loading space 250x490mm  
(9 13/16"x19 5/16")  
C1197E frame  
+ 9 nozzles C054905  
+ 9 nozzles C054904
- B** 12 positions,  
mixed nozzles with supports  
max glassware  $\varnothing$  70mm/2 3/4"  
max glassware h 180...280mm  
loading space 290x490mm  
(11 7/16"x19 5/16")  
C717E frame  
+ 6 nozzles C054948  
+ 6 nozzles C054947

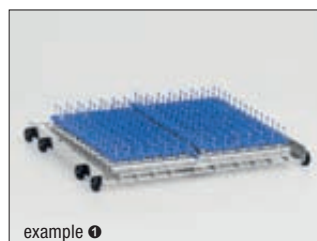
## With injection nozzles for vials



example ❶

### Upper level suggested configuration

- A** 210 positions,  
max glassware  $\varnothing$  30mm/1 3/16"  
max glassware h 35...65mm  
C1342E frame  
+ 210 nozzles C054953



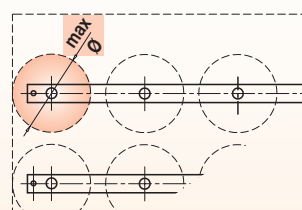
example ❶

### Lower level suggested configuration

- A** 210 positions,  
max glassware  $\varnothing$  30mm/1 3/16"  
max glassware h 35...65mm  
C1341E frame  
+ 210 nozzles C054953

## Glassware diam.

Top view of a portion of an injection washing cart showing the maximum glassware diameter.



The table shows the maximum glassware diameter in the washing cart frame and position options.

## Upper level empty racks

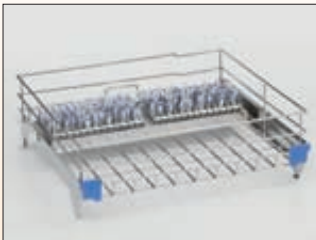
| empty rack code | max $\varnothing$ mm/in. | nr. of injection positions | Lev. | notes                                             |
|-----------------|--------------------------|----------------------------|------|---------------------------------------------------|
| C1342E          | 30 / 1 3/16              | 210                        | ❶ U  | only for mm 2,5/0.1" $\varnothing$ nozzles        |
| C1235E          | 25 / 1                   | 156                        | ❶ U  | only for mm 2,5/0.1" $\varnothing$ nozzles        |
| C1132E          | 40 / 1 9/16              | 110                        | ❶ U  | only for mm 2,5/0.1" $\varnothing$ nozzles        |
| C809E           | 50 / 2                   | 64                         | ❶ U  | only for mm 2,5/0.1" $\varnothing$ nozzles        |
| C815E           | 57 / 2 1/4               | 56                         | ❶ U  | only for mm 2,5-4/0.1-0.16" $\varnothing$ nozzles |
| C711E           | 74 / 2 15/16             | 36                         | ❶ U  |                                                   |
| C712E           | 90 / 3 9/16              | 25                         | ❶ U  |                                                   |
| C953E           | 105 / 4 1/8              | 18                         | ❶ U  |                                                   |
| C723E           | 70 / 2 3/4               | 18+121                     | ❶ U  | see C1086, C1061, C1105 accessories               |

U = Upper level, L = Lower level

## Lower level empty racks

| empty rack code | max $\varnothing$ mm/in. | nr. of injection positions | Lev. | notes                                             |
|-----------------|--------------------------|----------------------------|------|---------------------------------------------------|
| C1341E          | 30 / 1 3/16              | 210                        | ❶ L  | only for mm 2,5/0.1" $\varnothing$ nozzles        |
| C1133E          | 40 / 9/16                | 110                        | ❶ L  | only for mm 2,5/0.1" $\varnothing$ nozzles        |
| C810E           | 50 / 2                   | 64                         | ❶ L  | only for mm 2,5/0.1" $\varnothing$ nozzles        |
| C816E           | 56 / 2 3/16              | 56                         | ❶ L  | only for mm 2,5-4/0.1-0.16" $\varnothing$ nozzles |
| C990E           | 70 / 2 3/4               | 39                         | ❶ L  |                                                   |
| C716E           | 89 / 3 1/2               | 25                         | ❶ L  |                                                   |
| C954E           | 105 / 4 1/8              | 18                         | ❶ L  |                                                   |
| C1079E          | 110 / 4 5/16             | 16                         | ❶ L  |                                                   |
| C901E           | 150 / 5 15/16            | 9                          | ❶ L  |                                                   |
| C1197E          | 62 / 2 7/16              | 18                         | ❷ L  | mm 250x490 / 9 13/16"x19 5/16" space              |
| C717E           | 70 / 2 3/4               | 12                         | ❷ L  | mm 290x490 / 11 7/16"x19 5/16" space              |
| C718E           | 89 / 3 1/2               | 10                         | ❷ L  | mm 265x490 / 10 7/16"x19 5/16" space              |
| C804E           | 89 / 3 1/2               | 10+121                     | ❷ L  | see C1086, C1061, C1105 accessories               |

### With half space + injection nozzles for vials



#### Upper level suggested configuration C858

224 positions, useful  $\varnothing$  12mm/ $1/2$ " ,  
equipped with 19mm/ $3/4$ " height nozzles  
+ loading space 250x490mm  
(9  $13/16$ "x19  $5/16$ " )

#### Lower level suggested configuration C859

224 positions, max  $\varnothing$  12mm/ $1/2$ " ,  
equipped with 19mm/ $3/4$ " height nozzles  
+ loading space 270x500mm  
(10  $5/8$ "x19  $11/16$ " )

### With injection nozzles + nozzles for vials



example

#### Upper level suggested configuration

##### A 18 positions

max glassware  $\varnothing$  70mm/ $2 3/4$ "  
max glassware h 160mm/ $6 5/16$ "

##### 121 positions

max glassware  $\varnothing$  20mm/ $13/16$ "  
max glassware h 160mm/ $6 5/16$ "

C723E frame  
+ 18 nozzles C054924  
+ 121 nozzles C054903

#### Lower level suggested configuration

##### B 10 positions

max glassware  $\varnothing$  89mm/ $3 1/2$ "  
max glassware h 160mm/ $6 5/16$ "

##### 121 positions

max glassware  $\varnothing$  20mm/ $13/16$ "  
max glassware h 160mm/ $6 5/16$ "

C804E frame  
+ 121 nozzles C054903  
+ 10 nozzles C054905  
note: see also C1061, C1086  
and C1105 accessories

### Multipurpose with injection nozzles + pipettes



#### C1511

lower level:

5 positions for pipettes  
min pipette length 250mm/ $9 13/16$ "  
max pipette length 535 mm/ $21 1/16$ "  
2 nozzles h 220mm/ $8 11/16$ " and  
 $\varnothing$  max 130mm/ $5 1/8$ "  
4 nozzles h 220mm/ $8 11/16$ " and  
 $\varnothing$  max 98mm/ $3 7/8$ "  
3 nozzles (C054922) h 175mm/ $6 7/8$ "  
and  $\varnothing$  max 60mm/ $2 3/8$ " + additional  
loading space 260x230mm  
(10  $1/4$ "x9  $1/16$ " )

### Injection washing for pipettes



#### C759

lower level, max 48 positions.

Minimum pipette length  
250mm/ $9 13/16$ " and 300mm/ $11 13/16$ "  
Maximum pipette length 535mm/ $21 1/16$ "



#### C719

lower level, max 121 positions.

Min. pipette length 135mm/ $5 5/16$ " ,  
Max. pipette length 470mm/ $18 1/2$ "

### Immersion washing for pipettes



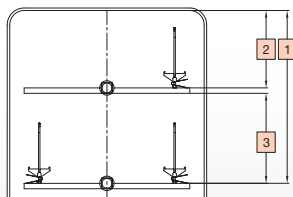
#### C720

lower level, with 2 pipette cassettes.  
Maximum pipette length 290mm/ $11 7/16$ " .

Pipettes must be fully covered by  
water and fully immersed within the  
cassette.

### Level positions

|   |                      |
|---|----------------------|
| 1 | 480 mm / 18 $7/8$ "  |
| 2 | 210 mm / 8 $1/8$ "   |
| 3 | 250 mm / 9 $13/16$ " |



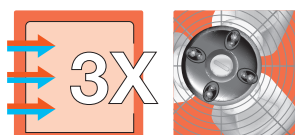
The use of an upper level washing cart fitted with rotating spray arm  
reduces the useful height of the level placed below by 40mm (1  $9/16$ " ) and  
allows a gain of 15mm ( $9/16$ " ) on top.

# LAB 600 - LAB 610 - LAB 610 SL

## Freestanding Glassware Washers

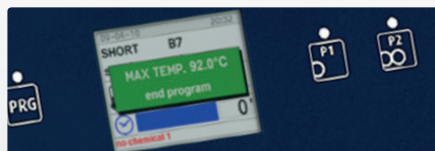


- Chamber volume ~200 lt / 7.06 ft<sup>3</sup>
- Basket volume ~170 lt / 6.04 ft<sup>3</sup>



### LAB 600

- Washing and forced hot air drying system **on three independent levels**  
The upper level can be connected at two different water/air connections depending on the height of the loaded glassware.
- High visibility **hinged** full glass door
- Sliding drawer for storage of chemical containers (up to three 5 lt/1.32 Gal US)



#### Control panel

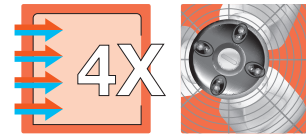
- Full glass, soft touch control panel, LCD display, 40 programs for laboratory glassware: 20 pre-programmed cycles, 20 customizable cycles.

#### Connections

- RS 232 port dedicated for printer or PC connection to monitor and validate the washing cycles and/or the data storage.



- Chamber volume ~250 lt / 8.83 ft<sup>3</sup>
- Basket volume ~220 lt / 7.77 ft<sup>3</sup>



## LAB 610

- Washing and forced hot air drying system **on four independent levels.**  
The two upper levels can be placed at either one of three different water/air connections depending on the height of the loaded glassware.
- High visibility **hinged full glass door**
- Sliding drawer for storage of chemical containers (up to three 5 lt/1.32 Gal US)



## LAB 610 SL

- Washing and forced hot air drying system **on four independent levels.**  
The two upper levels can be placed at either one of three different water/air connections depending on the height of the loaded glassware.
- Vertical **sliding down** high visibility **full glass door**
- Hinged door for access to storage of chemical containers (up to three 5 lt/1.32 Gal US)



### High capacity

LAB 610 and LAB 610 SL models can be used to clean large bottles of up to 60 lt, 15.85 Gal US

| Dimensions |        | LAB 600                         | LAB 610                         | LAB 610 SL                      |
|------------|--------|---------------------------------|---------------------------------|---------------------------------|
| Width      | mm     | 650                             | 650                             | 685                             |
|            | inches | 25 <sup>9</sup> / <sub>16</sub> | 25 <sup>9</sup> / <sub>16</sub> | 27                              |
| Depth      | mm     | 660                             | 687                             | 667                             |
|            | inches | 26                              | 27 <sup>1</sup> / <sub>16</sub> | 26 <sup>1</sup> / <sub>4</sub>  |
| Height     | mm     | 1685                            | 1840                            | 1960                            |
|            | inches | 66 <sup>5</sup> / <sub>16</sub> | 72 <sup>7</sup> / <sub>16</sub> | 77 <sup>3</sup> / <sub>16</sub> |

# LAB 600 - LAB 610 - LAB 610 SL Series - Washing carts

## Full loading space



**C728** - upper washing cart with washing arm, loading space 485x525mm (19 1/16" x 20 11/16")

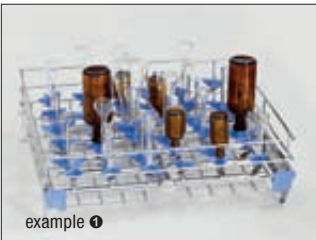


**C788** - support grid ensuring a flat surface on a C736, usable height reduced by 50mm (2")



**C736** - lower washing cart, loading space 490x470mm (19 5/16" x 18 1/2")

## With injection nozzles for mid size glassware

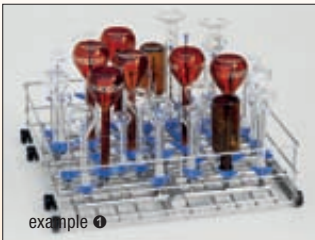


example 1

### Upper level suggested configuration

- A 42 positions**  
max glassware  $\varnothing$  70mm/2 3/4"  
max glassware h 160mm/6 5/16"  
C724E frame  
+ 42 nozzles C054924
- B 20 positions**  
max glassware  $\varnothing$  100mm/3 15/16"  
max glassware h 230mm/9 1/16"  
C725E frame  
+ 20 nozzles C054922
- C 42 positions, mixed nozzles**  
average glassware  $\varnothing$  70mm/2 3/4"  
max glassware h 200...300mm  
C724E frame  
+ 10 nozzles C054922  
+ 32 nozzles C054924

## With injection nozzles for mid size glassware

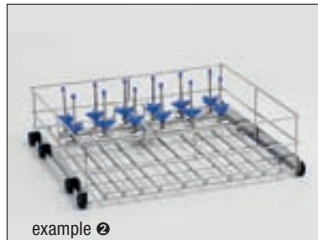


example 1

### Lower level suggested configurations

- A 42 positions,**  
max glassware  $\varnothing$  70mm/2 3/4"  
max glassware h 230mm/9 1/16"  
C729E frame  
+ 42 nozzles C054904
- B 20 positions**  
max glassware  $\varnothing$  100mm/3 15/16"  
max glassware h 300mm/11 13/16"  
C730E frame  
+ 20 nozzles C054905
- C 42 positions, mixed nozzles**  
average glassware  $\varnothing$  70mm/2 3/4"  
max glassware h 200...300mm  
C729E frame  
+ 10 nozzles C054922  
+ 32 nozzles C054924
- D 42 positions, mixed nozzles with supports**  
average glassware  $\varnothing$  70mm/2 3/4"  
max glassware h 180...280mm  
C729E frame  
+ 12 nozzles C054948  
+ 30 nozzles C054947

## With half space + injection nozzles for glassware



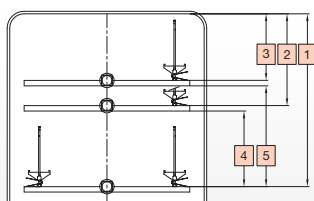
example 2

### Lower level suggested configurations

- A 24 positions, mixed nozzles**  
max glassware  $\varnothing$  70mm/2 3/4",  
max glassware h 200...300mm  
loading space mm 230x490  
(9 1/16" x 19 5/16")  
C731E frame  
+ 12 nozzles C054905  
+ 12 nozzles C054904
- B 12 positions, mixed nozzles with supports**  
max glassware  $\varnothing$  100mm/3 15/16"  
max glassware h 180...280mm  
loading space mm 220x490  
(8 11/16" x 19 5/16")  
C732E frame  
+ 6 nozzles C054948  
+ 6 nozzles C054947

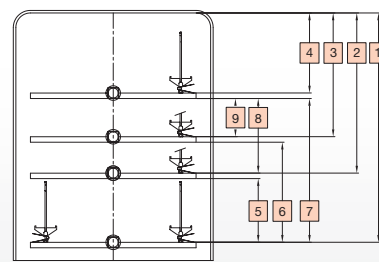
## Level positions

|   |                   |
|---|-------------------|
| 1 | 480 mm / 18 7/8"  |
| 2 | 250 mm / 9 13/16" |
| 3 | 180 mm / 7 1/16"  |
| 4 | 210 mm / 8 1/4"   |
| 5 | 280 mm / 11"      |



LAB 600

|   |                    |
|---|--------------------|
| 1 | 630 mm / 24 13/16" |
| 2 | 440 mm / 17 5/16"  |
| 3 | 340 mm / 13 3/8"   |
| 4 | 220 mm / 8 11/16"  |
| 5 | 170 mm / 6 11/16"  |
| 6 | 270 mm / 10 5/8"   |
| 7 | 390 mm / 15 3/8"   |
| 8 | 200 mm / 7 7/8"    |
| 9 | 100 mm / 3 15/16"  |



LAB 610 - LAB 610 SL

The use of an upper level washing cart provided with spray arm reduces the useful height of the level placed below by 40mm/1 9/16" but allows a gain of 15mm/9/16" on top.

### With injection nozzles for large size glassware



#### Lower level

##### C1039

up to 4 items Ø max 240mm/9 <sup>7</sup>/<sub>16</sub>"  
up to 5 items Ø max 190mm/9 <sup>1</sup>/<sub>2</sub>"

##### C1040

up to 2 items Ø max 280mm/11"

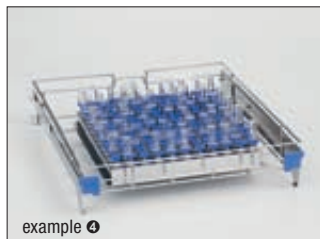
##### C1121

for 50 lt carboy.  
Only for LAB 610 model

##### C1160

for 1500ml graduated cylinders  
up to 9 positions  
max Ø 100mm/3 <sup>15</sup>/<sub>16</sub>" body  
max Ø 160mm/6 <sup>5</sup>/<sub>16</sub>" base

### With injection nozzles for vials



example ④

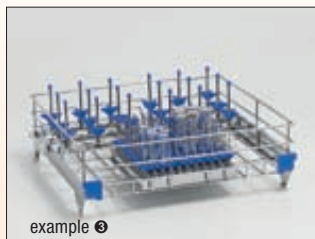
#### Upper level suggested configurations

- A** 121 positions,  
max glassware Ø 25mm/1"  
max glassware h 90mm/3 <sup>9</sup>/<sub>16</sub>"  
C1148E frame  
+ 121 nozzles C054953  
note:  
see also C1150 accessory

#### Lower level suggested configurations

- B** 121 positions,  
max glassware Ø 25mm/1"  
max glassware h 140mm/5 <sup>1</sup>/<sub>2</sub>"  
C1149E frame  
+ 121 nozzles C054953  
note:  
see also C1150 accessory

### With injection nozzles + nozzles for vials



example ⑤

#### Upper level suggested configurations

- A** 121 positions  
max glassware Ø 20mm/<sup>13</sup>/<sub>16</sub>"  
max glassware h 160mm/6 <sup>5</sup>/<sub>16</sub>"  
24 positions  
max glassware Ø 75mm/2 <sup>15</sup>/<sub>16</sub>"  
max glassware h 160mm/6 <sup>5</sup>/<sub>16</sub>"  
C746E frame  
+ 121 nozzles C054903  
+ 24 nozzles C054924  
note: see also C1061, C1086  
and C1105 accessories

#### Lower level suggested configurations

- B** 121 positions  
max glassware Ø 20mm/<sup>13</sup>/<sub>16</sub>"  
max glassware h 160mm/6 <sup>5</sup>/<sub>16</sub>"  
24 positions  
max glassware Ø 75mm/2 <sup>15</sup>/<sub>16</sub>"  
max glassware h 300mm/11 <sup>13</sup>/<sub>16</sub>"  
C836E frame  
+ 121 nozzles C054903  
+ 24 nozzles C054905  
note: see also C1061, C1086  
and C1105 accessories

### Injection washing for pipettes



#### C989

lower level, max 56 positions.  
Min. pipette length 250mm/9 <sup>13</sup>/<sub>16</sub>" and  
300mm/11 <sup>13</sup>/<sub>16</sub>". Max. pipette length:  
760mm/29 <sup>15</sup>/<sub>16</sub>" on LAB 610 model,  
535mm/21 <sup>1</sup>/<sub>16</sub>" on LAB 600 model.



#### C733

lower level, max 121 positions.  
Min. pipette length 135mm/5 <sup>5</sup>/<sub>16</sub>".  
Max. pipette length 470mm/18 <sup>1</sup>/<sub>2</sub>" on  
LAB 600, 620mm/24 <sup>7</sup>/<sub>16</sub>" on LAB 610

### Immersion washing for pipettes



**C734** lower level, with 2 pipettes  
cassettes, for LAB 610  
max. pipette length 520mm/20 <sup>1</sup>/<sub>2</sub>",  
for LAB 600, max. pipette length  
290mm/11 <sup>7</sup>/<sub>16</sub>"

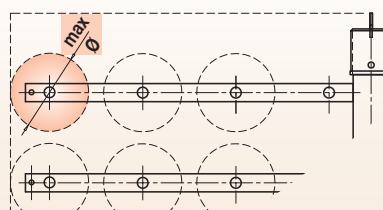
**C735** lower level, with 3 pipettes  
cassettes, for LAB 610 only. Max.  
pipette length 290mm/11 <sup>7</sup>/<sub>16</sub>"

Pipettes must be fully covered by water  
and fully immersed within the cassette.

| empty rack code | max Ø mm/in.                          | nr. of injection positions | Upper level | Lower level | notes                                                                                     |
|-----------------|---------------------------------------|----------------------------|-------------|-------------|-------------------------------------------------------------------------------------------|
| C1092E          | 32 / 1 <sup>1</sup> / <sub>4</sub>    | 156                        | ①           | U           | only for mm 2,5/ <sup>1</sup> / <sub>8</sub> " Ø nozzles                                  |
| C1192E          | 40 / 1 <sup>9</sup> / <sub>16</sub>   | 110                        | ①           | U           | only for mm 2,5/ <sup>1</sup> / <sub>8</sub> " Ø nozzles                                  |
| C837E           | 35 / 1 <sup>3</sup> / <sub>8</sub>    | 84                         | ①           | U           | only for mm 2,5/ <sup>1</sup> / <sub>8</sub> " Ø nozzles                                  |
| C724E           | 70 / 2 <sup>3</sup> / <sub>4</sub>    | 42                         | ①           | U           |                                                                                           |
| C1603E          | 80 / 3 <sup>1</sup> / <sub>8</sub>    | 36                         | ①           | U           |                                                                                           |
| C725E           | 100 / 3 <sup>15</sup> / <sub>16</sub> | 20                         | ①           | U           |                                                                                           |
| C838E           | 110 / 4 <sup>5</sup> / <sub>16</sub>  | 16                         | ①           | U           |                                                                                           |
| C1443E          | 75 / 2 <sup>15</sup> / <sub>16</sub>  | 27                         | ①           | U           |                                                                                           |
| C991E           | 20 / <sup>13</sup> / <sub>16</sub>    | 121                        | ②           | U           | mm 200x490 / 7 <sup>7</sup> / <sub>8</sub> "x19 <sup>5</sup> / <sub>16</sub> " space      |
| C746E           | 75 / 2 <sup>15</sup> / <sub>16</sub>  | 24+121                     | ③           | U           | see C1086, C1061, C1105 accessories                                                       |
| C1148E          | 25 / 1                                | 121                        | ④           | U           | only for mm 2,5/ <sup>1</sup> / <sub>8</sub> " Ø nozzles                                  |
| C1093E          | 40 / 1 <sup>9</sup> / <sub>16</sub>   | 110                        | ①           | L           | only for mm 2,5/ <sup>1</sup> / <sub>8</sub> " Ø nozzles                                  |
| C1570E          | 52 / 2 <sup>1</sup> / <sub>16</sub>   | 70                         | ①           | L           | only for mm 2,5-4/ <sup>1</sup> / <sub>8</sub> - <sup>3</sup> / <sub>16</sub> " Ø nozzles |
| C1127E          | 60 / 2 <sup>3</sup> / <sub>8</sub>    | 56                         | ①           | L           | only for mm 2,5-4/ <sup>1</sup> / <sub>8</sub> - <sup>3</sup> / <sub>16</sub> " Ø nozzles |
| C729E           | 70 / 2 <sup>3</sup> / <sub>4</sub>    | 42                         | ①           | L           |                                                                                           |
| C1604E          | 80 / 3 <sup>1</sup> / <sub>8</sub>    | 36                         | ①           | L           |                                                                                           |
| C730E           | 100 / 3 <sup>15</sup> / <sub>16</sub> | 20                         | ①           | L           |                                                                                           |
| C839E           | 110 / 4 <sup>5</sup> / <sub>16</sub>  | 16                         | ①           | L           |                                                                                           |
| C1442E          | 75 / 2 <sup>15</sup> / <sub>16</sub>  | 27                         | ①           | L           |                                                                                           |
| C885E           | 130 / 5 <sup>1</sup> / <sub>8</sub>   | 12                         | ①           | L           |                                                                                           |
| C1571E          | 160 / 6 <sup>5</sup> / <sub>16</sub>  | 9                          | ①           | L           |                                                                                           |
| C731E           | 70 / 2 <sup>3</sup> / <sub>4</sub>    | 24                         | ②           | L           | mm 230x490 / 9 <sup>1</sup> / <sub>16</sub> "x19 <sup>5</sup> / <sub>16</sub> " space     |
| C732E           | 100 / 3 <sup>15</sup> / <sub>16</sub> | 12                         | ②           | L           | mm 220x490 / 8 <sup>11</sup> / <sub>16</sub> "x19 <sup>5</sup> / <sub>16</sub> " space    |
| C836E           | 75 / 2 <sup>15</sup> / <sub>16</sub>  | 24+121                     | ③           | L           | see C1086, C1061, C1105 accessories                                                       |
| C1149E          | 25 / 1                                | 121                        | ④           | L           | only for mm 2,5/ <sup>1</sup> / <sub>8</sub> " Ø nozzles                                  |

## Upper and lower level empty racks

Top view of a portion of a injection washing cart showing the maximum glassware diameter.

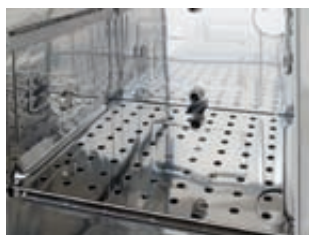


The table shows the maximum glassware diameter in the washing cart frame and position options.

## LAB dryer underbench glassware dryer compatible with LAB 500 Series washer loading racks



A compact device dedicated to the **drying of laboratory glassware**. When combined in the same facility ward with LAB 500 series washers, it allows to reach higher productivity levels.



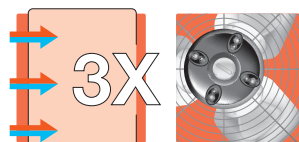
60 cm  
23 5/8"



2X

- High power forced hot air drying system on two independent levels

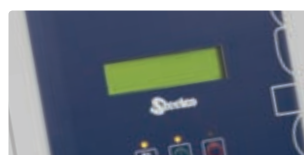
## LAB 660 Freestanding Glassware Washer



### LAB 660

- Washing and forced hot air drying system **on three independent levels**. The upper levels can be used simultaneously or individually by docking the washing carts to one of the connections suitable for the height of the loaded glassware
- **Hinged door** with glass window
- Sliding drawer for storage of chemical tanks (up to three 10 lt/2.64 Gal US)

- Chamber volume ~600 lt / 21.19 ft<sup>3</sup>
- Basket volume ~430 lt / 15.18 ft<sup>3</sup>



#### Control panel

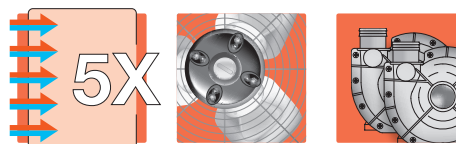
LCD display, 40 programs for laboratory glassware: 20 pre-programmed cycles, 20 customizable cycles.

## LAB 680

### Freestanding Glassware Washer



- Chamber volume ~600 lt / 21.19 ft<sup>3</sup>
- Basket volume ~430 lt / 15.18 ft<sup>3</sup>



## LAB 680

- **Two washing pumps** feeding washing circuits to ensure high flow rate combined with effective spray pressure
- Washing and forced hot air drying system **on five independent levels**. The upper levels can be used simultaneously or individually by positioning the washing carts on one of the connections suitable for the height of the loaded glassware
- **Hinged door** with glass window



- Sliding drawer for storage of chemical tanks (up to three 10 lt/2.64 Gal US)

| Dimensions |        | LAB 660                        | LAB 680                        |
|------------|--------|--------------------------------|--------------------------------|
| Width      | mm     | 1140                           | 1140                           |
|            | inches | 44 <sup>7</sup> / <sub>8</sub> | 44 <sup>7</sup> / <sub>8</sub> |
| Depth      | mm     | 930                            | 930                            |
|            | inches | 36 <sup>5</sup> / <sub>8</sub> | 36 <sup>5</sup> / <sub>8</sub> |
| Height     | mm     | 1975                           | 1975                           |
|            | inches | 77 <sup>3</sup> / <sub>4</sub> | 77 <sup>3</sup> / <sub>4</sub> |

#### Connections

RS 232 port dedicated for printer or PC connection to monitor and validate the washing cycles and/or the data storage.



## LAB 660 - LAB 680 Series - Washing carts

### Full loading space

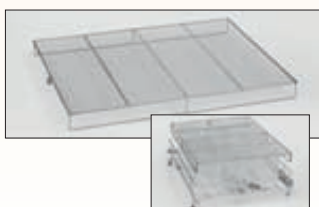


**C420** - upper washing cart with washing arm, loading space  
585x765mm (23"x30 1/8")

**C419** - lower washing cart without washing arm, loading space  
620x765mm (24 7/16"x30 1/8")

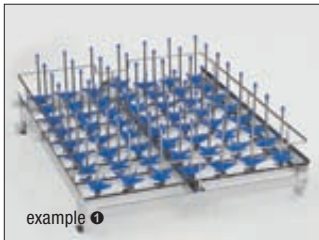


**C446** - grid to allow the loading of small object on std. washing carts  
dim. 752x582mm (29 5/8"x22 15/16")



**C447** - grid cover to be positioned over light object dim. 752x582mm (29 5/8"x22 15/16")

### With injection nozzles for mid size glassware



example ①

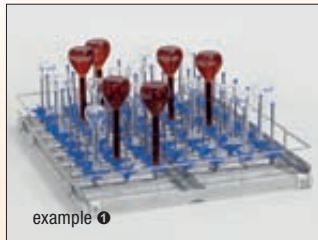
#### Upper level suggested configuration

**A** 72 positions  
max glassware  $\varnothing$  65mm/2 9/16"  
max glassware h 160mm/6 5/16"  
C410E frame  
+ 72 nozzles C054924

**B** 48 positions  
max glassware  $\varnothing$  90mm/3 9/16"  
max glassware h 230mm/9 1/16"  
C425E frame  
+ 48 nozzles C054922

**C** 72 positions, mixed nozzles  
average glassware  $\varnothing$  65mm/2 9/16"  
max glassware h 200...300mm  
C410E frame  
+ 18 nozzles C054922  
+ 54 nozzles C054924

### With injection nozzles for mid size glassware



example ①

#### Lower level suggested configurations

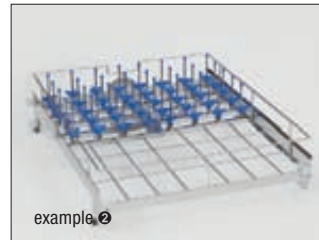
**A** 72 positions,  
max glassware  $\varnothing$  75mm/2 15/16"  
max glassware h 230mm/9 1/16"  
C414E frame  
+ 72 nozzles C054904

**B** 48 positions  
max glassware  $\varnothing$  90mm/3 9/16"  
max glassware h 300mm  
C424E frame  
+ 48 nozzles C054905

**C** 72 positions, mixed nozzles  
average glassware  $\varnothing$  75mm/2 15/16"  
max glassware h 200...300mm  
C414E frame  
+ 18 nozzles C054922  
+ 54 nozzles C054924

**D** 72 positions, mixed nozzles with supports  
average glassware  $\varnothing$  75mm/2 15/16"  
max glassware h 180...280mm  
C414E frame  
+ 18 nozzles C054948  
+ 54 nozzles C054947

### With half space + injection nozzles for mid size glassware



example ②

#### Upper level suggested configurations

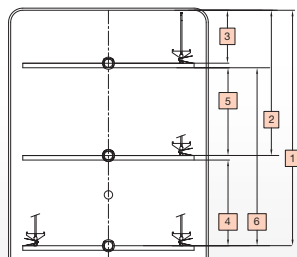
**A** 21 positions,  
max glassware  $\varnothing$  85mm/3 3/8"  
max glassware h 300mm/11 13/16"  
loading space mm 480x585  
(18 7/8"x23")

C413E frame  
+ 21 nozzles C054905

## Level positions

### LAB 660

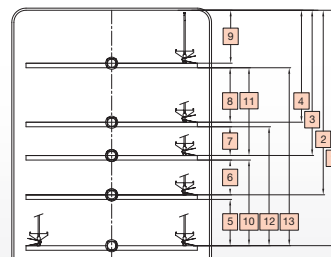
|   |                    |
|---|--------------------|
| 1 | 770 mm / 30 5/16"  |
| 2 | 480 mm / 18 7/8"   |
| 3 | 170 mm / 6 11/16"  |
| 4 | 280 mm / 11"       |
| 5 | 290 mm / 11 7/16"  |
| 6 | 580 mm / 22 13/16" |



The use of an upper level washing cart provided with spray arm reduces the useful height of the level placed below by 50mm/2" and allows a gain of 15mm/9/16" on top.

### LAB 680

|    |                    |
|----|--------------------|
| 1  | 770 mm / 30 5/16"  |
| 2  | 610 mm / 24"       |
| 3  | 480 mm / 18 7/8"   |
| 4  | 370 mm / 14 9/16"  |
| 5  | 150 mm / 5 15/16"  |
| 6  | 115 mm / 4 1/2"    |
| 7  | 90 mm / 3 9/16"    |
| 8  | 180 mm / 7 1/16"   |
| 9  | 170 mm / 6 11/16"  |
| 10 | 280 mm / 11"       |
| 11 | 290 mm / 11 7/16"  |
| 12 | 390 mm / 15 3/8"   |
| 13 | 580 mm / 22 13/16" |



### With injection nozzles for large size glassware



#### C1360

lower level, capacity:  
up to 4 items Ø max 240mm/9 <sup>7</sup>/<sub>16</sub>"  
1 item Ø max 315mm/12 <sup>3</sup>/<sub>8</sub>"

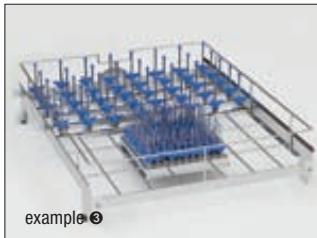
#### C1177

lower level, capacity:  
up to 4 items Ø max 300mm/11 <sup>13</sup>/<sub>16</sub>"

#### C1178

lower level, capacity:  
up to 2 items Ø max 400mm/15 <sup>3</sup>/<sub>4</sub>"

### With injection nozzles + nozzles for vials



#### suggested configurations

**A** upper level  
**121 positions**  
max glassware Ø 20mm/13/16"  
max glassware h 160mm/6 5/16"

**40 positions**  
max glassware Ø 75mm/2 15/16"  
max glassware h 230mm/9 1/16"

C421E frame  
+ 121 nozzles C054903  
+ 40 nozzles C054904

note: see also C1061, C1086  
and C1105 accessories

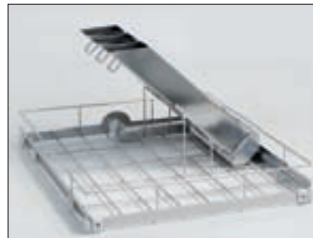
### Injection washing for pipettes



#### C416

lower level, max 88 positions.  
Min. pipette length 300mm/11 <sup>13</sup>/<sub>16</sub>"  
Max. pipette length 450mm/17 <sup>3</sup>/<sub>4</sub>"  
with 2 upper levels installed  
and 700mm/27 <sup>9</sup>/<sub>16</sub>" with 1 upper  
level installed.

### Immersion washing for pipettes



**C418** lower level, with 3 pipettes  
cassettes,  
Max. pipette length 520mm/20 1/2"

**C417** lower level, with 2 pipettes  
cassettes,  
Max. length 520mm/20 1/2"

Pipettes must be fully covered by  
water and therefore must stay within  
the cassette.

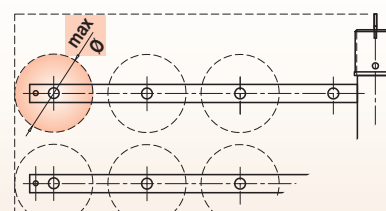
## Upper and lower level empty racks

### wash cart frame selection for custom configurations

Selection of an empty rack enables  
users to customize the wash cart  
frame using different nozzles and  
accessories. See final pages of the  
catalogue.

| empty rack<br>code | max Ø<br>mm/in. | nr. of injection<br>positions | Upper level<br>Lower level | notes                               |
|--------------------|-----------------|-------------------------------|----------------------------|-------------------------------------|
| C423E              | 25 / 1          | 330                           | 1 U                        | only for mm 2,5/1/8" Ø nozzles      |
| C410E              | 65 / 2 9/16     | 72                            | 1 U                        |                                     |
| C411E              | 84 / 3 5/16     | 56                            | 1 U                        |                                     |
| C425E              | 90 / 3 9/16     | 48                            | 1 U                        |                                     |
| C1238E             | 105 / 4 1/8     | 35                            | 1 U                        |                                     |
| C444E              | 150 / 5 15/16   | 18                            | 1 U                        |                                     |
| C413E              | 85 / 3 3/8      | 21                            | 2 U                        | mm 480x585 / 18 7/8"x23" space      |
| C421E              | 75 / 2 15/16    | 40+121                        | 2 U                        | see C1086, C1061, C1105 accessories |
| C414E              | 75 / 2 15/16    | 72                            | 1 L                        |                                     |
| C415E              | 85 / 3 3/8      | 56                            | 1 L                        |                                     |
| C424E              | 90 / 3 9/16     | 48                            | 1 L                        |                                     |
| C1239E             | 105 / 4 1/8     | 35                            | 1 L                        |                                     |
| C443E              | 150 / 5 15/16   | 18                            | 1 L                        |                                     |
| C426E              | 190 / 7 1/2     | 10                            | 1 L                        |                                     |
| C427E              | 250 / 9 13/16   | 6                             | 1 L                        |                                     |

Top view of a portion of a injection washing cart  
showing the maximum glassware diameter.



The table shows the maximum glassware  
diameter in the washing cart frame and position  
options.

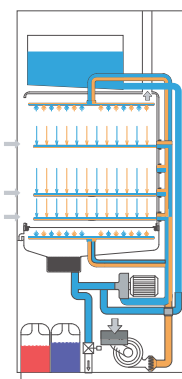
# LAB 640 SL

## Freestanding Glassware Washers



### LAB 640 SL

- Washing and forced hot air drying system on four independent levels. The upper levels can be docked to three different water/air connections depending on the height of the loaded glassware.
- **Vertical sliding down full glass door.**
- Steelcotronic control system with industrial PLC, 5,7" touch screen display. Up to 65 washing programs for laboratory glassware.
- Hinged door for access to storage of chemical tanks (up to two 10 lt/2.64 Gal US)



### Single pass final rinse

LAB 640 washer can be equipped with a non recirculated final rinse hydraulic circuit option.

- Chamber volume ~350 lt / 12.36 ft<sup>3</sup>
- Basket volume ~280 lt / 9.89 ft<sup>3</sup>

### Full loading space



**C1390** - upper washing cart with washing arm, loading space 570x600mm (22 7/16" x 23 5/8")



**C1502** - support grid to have a flat surface on a C1390, usable height reduced by 50mm/2"

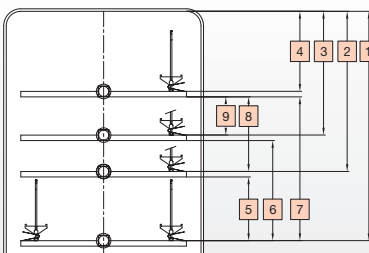


**C1389** - lower washing cart, loading space 570x600mm (22 7/16" x 23 5/8")

| Dimensions |        | LAB 640 SL |
|------------|--------|------------|
| Width      | mm     | 765        |
|            | inches | 30 1/8"    |
| Depth      | mm     | 800        |
|            | inches | 31 1/2"    |
| Height     | mm     | 1975       |
|            | inches | 77 3/4"    |

### Level positions

|   |                    |
|---|--------------------|
| 1 | 630 mm / 24 13/16" |
| 2 | 440 mm / 17 5/16"  |
| 3 | 340 mm / 13 3/8"   |
| 4 | 220 mm / 8 11/16"  |
| 5 | 170 mm / 6 11/16"  |
| 6 | 270 mm / 10 5/8"   |
| 7 | 390 mm / 15 3/8"   |
| 8 | 200 mm / 7 7/8"    |
| 9 | 100 mm / 3 15/16"  |



The use of an upper level washing cart provided with spray arm reduces the useful height of the level placed below by 40mm/1 9/16" but allows a gain of 15mm/ 9/16" on top.

## LAB 640 SL - washing carts

### Injection nozzles for small size glassware, upper/lower levels



#### suggested configurations

- A 208 positions**  
max glassware Ø 41mm/1 5/8",  
max glassware h 160mm/6 5/16"  
C1412E frame  
+ 208 nozzles C054903
- B 137 positions**  
max glassware Ø 51mm/2",  
max glassware h 180mm/7 1/16"  
C1411E frame  
+ 137 nozzles C054924
- C 90 positions,**  
max glassware Ø 60mm/2 3/8",  
max glassware h 230mm/9 1/16"  
C1408E frame  
+ 90 nozzles C054904

### Injection nozzles for mid size glassware, upper/lower levels



#### suggested configurations

- A 56 positions**  
max glassware Ø 76mm/3",  
max glassware h 230mm/9 1/16"  
C1407E frame  
+ 56 nozzles C054904
- B 35 positions**  
max glassware Ø 95mm/3 3/4",  
max glassware h 280mm/11"  
C1406E frame  
+ 35 nozzles C054905
- C 18 positions**  
max glassware Ø 120mm/4 3/4",  
max glassware h 330mm/13"  
C1405E frame  
+ 18 nozzles C054959

### Injection nozzles for large size glassware



#### C1404

upper/lower level, capacity:  
up to 8 items Ø max 200mm/7 7/8"

#### C1403

upper/lower level, capacity:  
up to 5 items Ø max 240mm/9 7/16"

#### C1515

upper/lower level, capacity:  
up to 4 items Ø max 280mm/11",  
7 measuring cylinders:  
- 4 x max Ø130mm/5 1/8"  
- 3 x max Ø 180mm/ 7 1/16"

#### C1455

upper/lower level, capacity:  
up to 4 items Ø max 280mm/11"  
1 measuring cylinder Ø max 95mm/3 3/4"

#### C1402

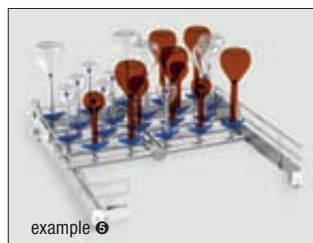
upper/lower level, capacity:  
up to 3 items Ø max 305mm/12"

### Injection washing for pipettes



#### C1409

lower level, max 200 positions.  
Min. pipette length 150mm/5 15/16"  
Max. pipette length 620mm/24 7/16"



#### C1410E

upper level, to be used combined  
with C1409 wash cart for pipettes

#### suggested configuration

- A 20 positions**  
max glassware Ø 95mm/3 3/4",  
max glassware h 280mm/11"  
C1410E frame  
+ 20 nozzles C054905

### wash cart frame selection for custom configurations

Selection of an empty rack enables  
users to customize the wash cart  
frame using different nozzles and  
accessories. See final pages of the  
catalogue.

### Upper and lower level empty racks

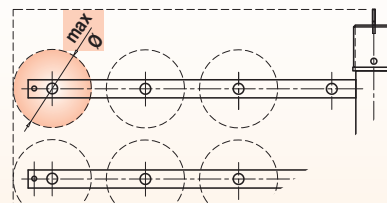
| empty rack<br>code | max Ø<br>mm/in. | nr. of injection<br>positions | Upper level<br>Lower level | notes                                     |
|--------------------|-----------------|-------------------------------|----------------------------|-------------------------------------------|
| C1412E             | 41 / 1 5/8      | 208                           | 1                          | U/L only for mm 2,5/0.1" Ø nozzles        |
| C1411E             | 51 / 2          | 137                           | 1                          | U/L only for mm 2,5/0.1" Ø nozzles        |
| C1408E             | 60 / 2 3/8      | 90                            | 1                          | U/L only for mm 2,5/0.1" Ø nozzles        |
| C1407E             | 76 / 3          | 56                            | 1                          | U/L only for mm 2,5-4/0.1-0.16" Ø nozzles |
| C1521E             | 80 / 3 1/8      | 36                            | 1                          | U/L                                       |
| C1406E             | 95 / 3 3/4      | 35                            | 1                          | U/L                                       |
| C1518E             | 110 / 4 3/16    | 22                            | 1                          | U/L                                       |
| C1405E             | 120 / 4 3/4     | 18                            | 1                          | U/L                                       |
| C1519E             | 135 / 5 5/16    | 14                            | 1                          | U/L                                       |
| C1520E*            | 180 / 7 1/16    | 8                             | 1                          | U/L                                       |
| C1410E             | 95 / 3 3/4      | 20                            | 5                          | U                                         |

\*Inserts for glassware alignment/support for C1520:

C1520900 max Ø 180mm / 5 7/8"

C1520901 max Ø 100mm / 5 7/8"

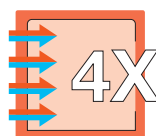
Top view of a portion of a injection washing  
cart showing the maximum glassware  
diameter allowed.



The table shows the maximum glassware  
diameter allowed in the washing cart frame and  
of the number related positions.

# LAB 900

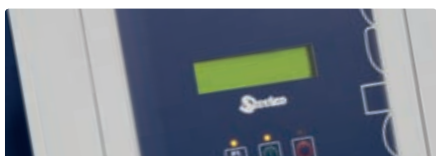
## High capacity Glassware Washers



### LAB 900

- Washing system **on four independent levels**  
The upper level can be docked to three different water/air connections depending on the height of the loaded glassware.
- Two automatic dispensers for liquid chemicals
- **Sliding up**, full glass door
- Storage space for chemical tanks (up to three 10 lt/2.64 Gal US)
- Chamber volume ~500 lt / 17.66 ft<sup>3</sup>
- Basket volume ~350 lt / 12.36 ft<sup>3</sup>

| Washer dimensions |        | LAB 900                          |
|-------------------|--------|----------------------------------|
| Width             | mm     | 1140                             |
|                   | inches | 44 <sup>7</sup> / <sub>8</sub>   |
| Depth             | mm     | 915                              |
|                   | inches | 36                               |
| Height            | mm     | 1900                             |
|                   | inches | 74 <sup>13</sup> / <sub>16</sub> |



#### Control panel

- LCD display, 40 programs for laboratory glassware: 20 pre-programmed cycles, 20 customizable cycles.

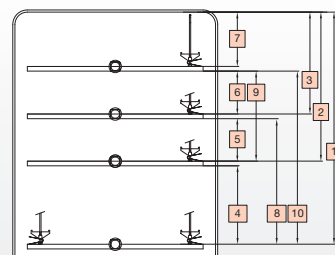
#### Connections

- RS 232 port dedicated for printer or PC connection to monitor and validate the washing cycles and/or the data storage.

### Level positions

The use of an upper level washing cart provided with spray arm reduces the useful height of the level placed below by 50mm/2" but allows a gain of 15mm/<sup>9</sup>/<sub>16</sub>" on top.

|    |                                            |
|----|--------------------------------------------|
| 1  | 585 mm / 23"                               |
| 2  | 345 mm / 13 <sup>9</sup> / <sub>16</sub> " |
| 3  | 235 mm / 9 <sup>1</sup> / <sub>4</sub> "   |
| 4  | 205 mm / 8 <sup>1</sup> / <sub>16</sub> "  |
| 5  | 75 mm / 2 <sup>15</sup> / <sub>16</sub> "  |
| 6  | 75 mm / 2 <sup>15</sup> / <sub>16</sub> "  |
| 7  | 125 mm / 4 <sup>15</sup> / <sub>16</sub> " |
| 8  | 315 mm / 12 <sup>3</sup> / <sub>8</sub> "  |
| 9  | 185 mm / 7 <sup>1</sup> / <sub>4</sub> "   |
| 10 | 425 mm / 16 <sup>3</sup> / <sub>4</sub> "  |



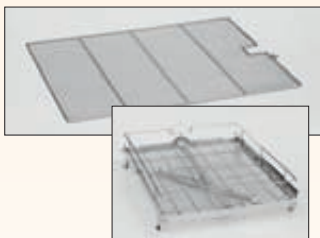
## LAB 900 - washing carts

### Full loading space



**C436** - upper washing cart with washing arm, loading space 585x765mm (23"x30 1/8")

**C1256** - lower washing cart without washing arm, loading space 620x765mm (24 7/16"x30 1/8")

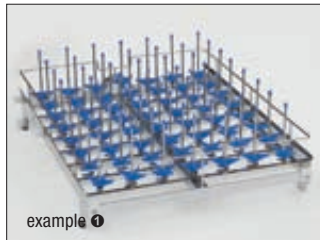


**C446** - grid to allow the loading of small object on std. washing carts dim. 752x582mm (29 5/8"x22 15/16")



**C447** - grid cover to be positioned over light object dim. 752x582mm (29 5/8"x22 15/16")

### Injection nozzles all levels



#### suggested configurations

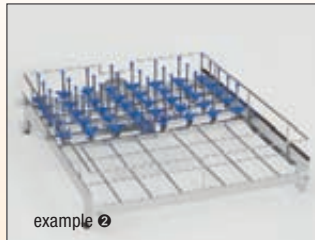
**A 72 positions**  
max glassware  $\varnothing$  75mm/2 15/16"  
max glassware h 160mm/6 5/16"  
C434E frame  
+ 72 nozzles C054924

**B 48 positions**  
max glassware  $\varnothing$  90mm/3 9/16"  
max glassware h 230mm/9 1/16"  
C440E frame  
+ 48 nozzles C054922

**C 72 positions, mixed nozzles**  
average glassware  $\varnothing$  75mm/2 15/16"  
max glassware h 200...300mm  
C434E frame  
+ 18 nozzles C054922  
+ 54 nozzles C054924

**D 72 positions, mixed nozzles with supports**  
average glassware  $\varnothing$  75mm/2 15/16"  
max glassware h 180...280mm  
C434E frame  
+ 18 nozzles C054948  
+ 54 nozzles C054947

### Half space + Injection nozzles all levels



#### suggested configuration

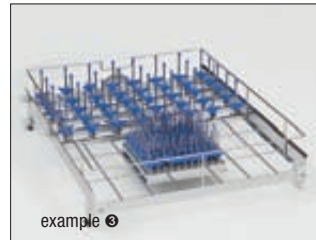
**A 21 positions,**  
max glassware  $\varnothing$  85mm/3 3/8"  
max glassware h 300mm/11 13/16"  
loading space mm 480x585 (18 7/8"x23")  
C450E frame  
+ 21 nozzles C054905

### Injection Washing for Pipettes



**C442**  
lower level, max 88 positions.  
Min. pipette length 300mm/11 13/16"  
Max. pipette length 500mm/19 11/16"  
with 1 upper level installed  
and 700mm/27 9/16" without upper levels installed.

### Injection nozzles + Nozzles for vials



#### suggested configurations

**A upper level**  
**121 positions**  
max glassware  $\varnothing$  20mm/ 13/16",  
max glassware h 160mm/6 5/16"

**40 positions**  
max glassware  $\varnothing$  75mm/2 15/16"  
max glassware h 230mm/9 1/16"  
C441E frame  
+ 121 nozzles C054903  
+ 40 nozzles C054904

note:  
see also C1061, C1086 and C1105 accessories

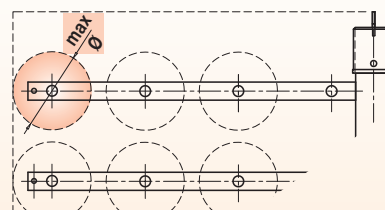
### wash cart frame selection for custom configurations

Selection of an empty rack enables users to customize the wash cart frame using different nozzles and accessories. See final pages of the catalogue.

### Empty wash racks

| empty rack code | max $\varnothing$ mm/in. | nr. of injection positions | Upper level | Lower level | notes                                      |
|-----------------|--------------------------|----------------------------|-------------|-------------|--------------------------------------------|
| <b>C439E</b>    | 25 / 1                   | 330                        | 1           | all         | only for mm 2,5/0.1" $\varnothing$ nozzles |
| <b>C434E</b>    | 75 / 2 15/16             | 72                         | 1           | all         |                                            |
| <b>C435E</b>    | 84 / 3 5/16              | 56                         | 1           | all         |                                            |
| <b>C440E</b>    | 90 / 3 9/16              | 48                         | 1           | all         |                                            |
| <b>C445E</b>    | 150 / 5 15/16            | 18                         | 1           | all         |                                            |
| <b>C1205E</b>   | 190 / 7 1/2              | 10                         | 1           | all         |                                            |
| <b>C450E</b>    | 85 / 3 3/8               | 21                         | 2           | all         | mm 480x585 / 18 7/8"x23" space             |
| <b>C441E</b>    | 75 / 2 15/16             | 40+121                     | 2           | all         | see C1086, C1061, C1105 accessories        |

Top view of a portion of a injection washing cart showing the maximum glassware diameter.

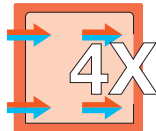


The table shows the maximum glassware diameter in the washing cart frame and position options.



## LAB 1000

### High capacity Glassware Washers



## LAB 1000

- Washing system with **washing carts composed of 4 removable injection cassettes on two levels.** The upper level can be removed depending on the height of the loaded glassware
- **Sliding down** full glass door, also available in double door **pass-through** version
- Storage space for chemical containers (up to three 10 lt/2.64 Gal US)



- Chamber volume ~500 lt / 17.66 ft<sup>3</sup>
- Basket volume ~350 lt / 12.36 ft<sup>3</sup>



#### Control panel

- Steelcotronic control system with industrial PLC, 5,7" touch screen display. Up to 65 washing and programs for laboratory glassware.

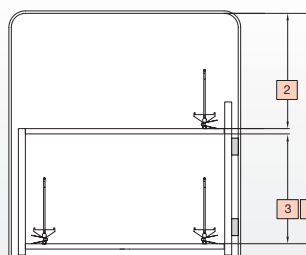
#### Connections

- RS 232 port for printer connection, Ethernet connection to general data system to monitor and validate the washing cycles and/or the data storage.

### Level positions

|   |                    |
|---|--------------------|
| 1 | 605 mm / 23 9/16"  |
| 2 | 275 mm / 10 13/16" |
| 3 | 315 mm / 12 3/8"   |

LAB 1000 washing cart system comprises a support washing cart that can be configured with removable cassettes on two levels. For injection nozzles details and cassette custom configurations, please refer to the final pages of the catalogue.



| Washer dimensions |        | LAB 1000 |
|-------------------|--------|----------|
| Width             | mm     | 1100     |
|                   | inches | 43 5/16  |
| Depth             | mm     | 960      |
|                   | inches | 37 13/16 |
| Height            | mm     | 1940     |
|                   | inches | 76 3/8   |

## LAB 1000 - washing carts

### Base injection washing cart



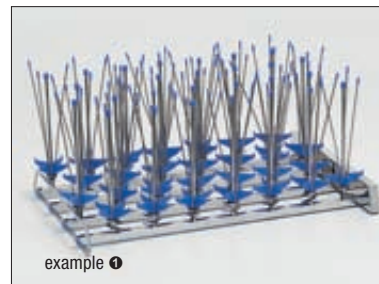
**C400W** - base injection washing cart  
suitable for removable cassettes on 2 levels

### Injection Washing for Pipettes



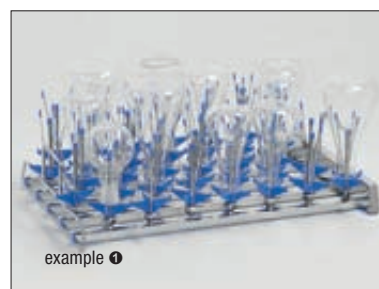
**C408**  
lower vertical pipettes cassette  
68 positions.  
Minimum pipette length 270mm/10 <sup>5</sup>/<sub>8</sub>" ,  
maximum pipette length 590mm/23 <sup>1</sup>/<sub>4</sub>" .

### Injection nozzles all levels



#### suggested configurations

- A** **34 positions**  
max glassware  $\varnothing$  75mm/2 <sup>15</sup>/<sub>16</sub>" ,  
max glassware h 160mm/6 <sup>5</sup>/<sub>16</sub>"  
  
composition:  
C402E frame + 34 nozzles C054924



- B** **24 positions**  
max glassware  $\varnothing$  98mm/3 <sup>3</sup>/<sub>8</sub>" ,  
max glassware h 230mm/9 <sup>1</sup>/<sub>16</sub>"  
  
composition:  
C406E frame + 24 nozzles C054922

### wash cart frame selection for custom configurations

Selection of an empty rack enables users to customize the wash cart frame using different nozzles and accessories. See final pages of the catalogue.

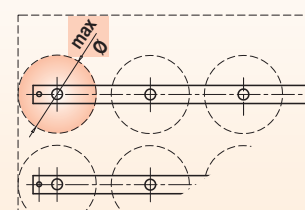
### Empty wash racks

| empty rack<br>code | max $\varnothing$<br>mm/in.          | nr. of injection<br>positions | Upper level<br>Lower level | notes                                              |
|--------------------|--------------------------------------|-------------------------------|----------------------------|----------------------------------------------------|
| <b>C409E</b>       | 40 / 1 <sup>9</sup> / <sub>16</sub>  | 99                            | 1 all                      | only mm 2,5/0.1" $\varnothing$ nozzles can be used |
| <b>C407E</b>       | 50 / 2                               | 76                            | 1 all                      |                                                    |
| <b>C402E</b>       | 75 / 2 <sup>15</sup> / <sub>16</sub> | 34                            | 1 all                      |                                                    |
| <b>C406E</b>       | 98 / 3 <sup>7</sup> / <sub>8</sub>   | 24                            | 1 all                      |                                                    |
| <b>C403E</b>       | 92 / 3 <sup>5</sup> / <sub>8</sub>   | 22                            | 1 all                      |                                                    |

The table shows the maximum glassware diameter in the washing cart frame and position options.

### Glassware diameter

Top view of a portion of a injection washing cart showing the maximum glassware diameter.





## Technical data

|                                                                                                                           | LAB 500 SC     | LAB 500 CL        | LAB 500 DRS       | LAB 600           | LAB 610           | LAB 610 SL        |
|---------------------------------------------------------------------------------------------------------------------------|----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| <b>Compliance with standards</b>                                                                                          |                |                   |                   |                   |                   |                   |
| EN 61010-1, EN 61010-2-040, EN 61326-1, EN ISO 15883-1                                                                    | •              | •                 | •                 | •                 | •                 | •                 |
| 2006/42/EC, 2014/35/EU, 2014/30/EU and 2011/65/EU                                                                         | •              | •                 | •                 | •                 | •                 | •                 |
| <b>Washing system</b>                                                                                                     |                |                   |                   |                   |                   |                   |
| Nr. of independent levels of the washing and/or drying system                                                             | 2              | 2                 | 2                 | 3                 | 4                 | 4                 |
| Nr. of levels that can be used simultaneously                                                                             | 2              | 2                 | 2                 | 2                 | 3                 | 3                 |
| Triple stage water filtering system                                                                                       | •              | •                 | •                 | •                 | •                 | •                 |
| Built-in water softener                                                                                                   | ○              | ○                 | ○                 | ○                 | ○                 | -                 |
| Boiler/tank for preheating DI water                                                                                       | ○ <sup>5</sup> | ○ <sup>5</sup>    | ○                 | ○                 | ○                 | ○                 |
| Adjustable water temperature (up to 93°C)                                                                                 | •              | •                 | •                 | •                 | •                 | •                 |
| Double PT 1000 probe for temperature check                                                                                | •              | •                 | •                 | •                 | •                 | •                 |
| <b>Chemicals</b>                                                                                                          |                |                   |                   |                   |                   |                   |
| Std equipment of chemical dosing pumps: nr.                                                                               | 2              | 2                 | 2                 | 2                 | 2                 | 2                 |
| Additional chemical dosing pumps: up to nr.                                                                               | 3              | 3                 | 4                 | 4                 | 4                 | 4                 |
| Storage of chemical tanks, nr. and capacity lt/Gal US<br>(capacity may vary depending on option configured in the washer) | -              | -                 | 2<br>5/1.32       | 3<br>5/1.32       | 3<br>5/1.32       | 3<br>5/1.32       |
| <b>Drying system</b>                                                                                                      |                |                   |                   |                   |                   |                   |
| Convection drying heated by electrical heating elements                                                                   | •              | -                 | -                 | -                 | -                 | -                 |
| Forced hot air drying system                                                                                              | -              | •                 | •                 | •                 | •                 | •                 |
| Pre filter 98%                                                                                                            | -              | •                 | •                 | •                 | •                 | •                 |
| Hepa H14 air filter                                                                                                       | -              | ○                 | ○                 | ○                 | ○                 | ○                 |
| Steam condenser                                                                                                           | •              | •                 | •                 | •                 | •                 | ○                 |
| <b>Device configuration</b>                                                                                               |                |                   |                   |                   |                   |                   |
| Stainless steel door                                                                                                      | •              | •                 | •                 | -                 | -                 | -                 |
| Stainless steel door with glass window                                                                                    | -              | -                 | -                 | -                 | -                 | -                 |
| Full glass door                                                                                                           | ○ <sup>2</sup> | ○ <sup>2</sup>    | ○ <sup>2</sup>    | •                 | •                 | •                 |
| Double door pass through version                                                                                          | -              | -                 | -                 | -                 | -                 | -                 |
| Light inside the chamber                                                                                                  | ○              | ○                 | ○                 | ○                 | ○                 | ○                 |
| <b>Control system and traceability</b>                                                                                    |                |                   |                   |                   |                   |                   |
| LED display control panel, 10 programs                                                                                    | •              | -                 | -                 | -                 | -                 | -                 |
| LCD display control panel, 40 programs                                                                                    | ○              | •                 | •                 | -                 | -                 | -                 |
| LCD display soft touch control panel, 40 programs                                                                         | ○ <sup>1</sup> | ○ <sup>1</sup>    | ○ <sup>1</sup>    | •                 | •                 | •                 |
| Touch screen display, 65 programs                                                                                         | -              | -                 | -                 | -                 | -                 | -                 |
| RS232                                                                                                                     | ○              | •                 | •                 | •                 | •                 | •                 |
| USB port                                                                                                                  | • <sup>7</sup> | •                 | •                 | ○                 | ○                 | ○                 |
| Ethernet connection                                                                                                       | -              | -                 | -                 | ○                 | ○                 | ○                 |
| External printer                                                                                                          | ○              | ○                 | ○                 | ○                 | ○                 | ○                 |
| Integrated printer                                                                                                        | -              | -                 | ○                 | ○                 | ○                 | ○                 |
| <b>Complements</b>                                                                                                        |                |                   |                   |                   |                   |                   |
| Integrated lateral compartment (300mm width)                                                                              | ○              | ○                 | •                 | -                 | -                 | -                 |
| Stands (600 mm height)                                                                                                    | ○              | ○                 | ○                 | -                 | -                 | -                 |
| <b>Utilities</b>                                                                                                          |                |                   |                   |                   |                   |                   |
| Electrical feeding                                                                                                        | •              | •                 | •                 | •                 | •                 | •                 |
| Steam feeding                                                                                                             | -              | -                 | -                 | ○                 | ○                 | ○                 |
| Standard electrical connection others available on request                                                                | 230V<br>1~50Hz | 400V<br>3~+N 50Hz | 400V<br>3~+N 50Hz | 400V<br>3~+N 50Hz | 400V<br>3~+N 50Hz | 400V<br>3~+N 50Hz |
| Total power W                                                                                                             | 3050           | 5600              | 5600              | 8250              | 8250              | 8250              |

note: 1) with glass door version only; 2) with LCD Soft touch only; 3) Preheating tank. Single pass final rinse option on LAB 640; 4) On removable cassettes; 5) Into side cabinet; 6) with forced hot air drying system; 7) when configured with LCD and LCD soft touch control panel

• = Standard      ○ = Optional      - = Not available

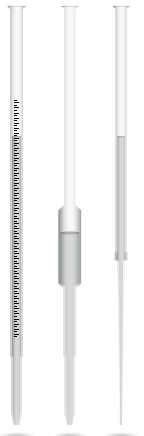
## washing system selection, injection nozzles, accessories and components

| LAB 640 SL     | LAB 660        | LAB 680        | LAB 900        | LAB 1000       | LAB DRYER |
|----------------|----------------|----------------|----------------|----------------|-----------|
| •              | •              | •              | •              | •              | •         |
| •              | •              | •              | •              | •              | •         |
| 4              | 3              | 5              | 4              | 4 <sup>4</sup> | 2         |
| 3              | 3              | 4              | 3              | 3              | 2         |
| •              | •              | •              | •              | •              | -         |
| -              | -              | -              | -              | -              | -         |
| ○ <sup>3</sup> | ○              | ○              | ○              | ○ <sup>3</sup> | -         |
| •              | •              | •              | •              | •              | -         |
| •              | •              | •              | •              | •              | •         |
| 2              | 2              | 2              | 2              | 2              | -         |
| 4              | 4              | 4              | 4              | 4              | -         |
| 2              | 3              | 3              | 3              | 3              | -         |
| 10/2.64        | 10/2.64        | 10/2.64        | 10/2.64        | 10/2.64        | -         |
| -              | -              | -              | -              | -              | -         |
| ○              | ○              | ○              | ○              | •              | •         |
| ○ <sup>6</sup> | ○ <sup>6</sup> | ○ <sup>6</sup> | ○ <sup>6</sup> | ○ <sup>6</sup> | •         |
| ○              | ○              | ○              | ○              | ○              | ○         |
| ○              | ○              | ○              | ○              | ○              | -         |
| -              | -              | -              | -              | -              | •         |
| -              | •              | •              | -              | -              | -         |
| •              | -              | -              | •              | •              | -         |
| -              | -              | -              | -              | ○              | -         |
| ○              | ○              | ○              | ○              | ○              | -         |
| -              | -              | -              | -              | -              | •         |
| -              | •              | •              | •              | -              | -         |
| -              | -              | -              | -              | -              | -         |
| •              | -              | -              | ○              | •              | -         |
| -              | •              | •              | •              | -              | ○         |
| -              | ○              | ○              | ○              | -              | -         |
| •              | ○              | ○              | ○              | •              | -         |
| -              | ○              | ○              | ○              | -              | ○         |
| ○              | ○              | ○              | ○              | ○              | -         |
| -              | -              | -              | -              | -              | -         |
| -              | -              | -              | -              | -              | -         |
| •              | •              | •              | •              | •              | •         |
| ○              | ○              | ○              | ○              | ○              | -         |
| 400V           | 400V           | 400V           | 400V           | 400V           | 230V      |
| 3~+N 50Hz      | 3~+N 50Hz      | 3~+N 50Hz      | 3~+N 50Hz      | 3~+N 50Hz      | 1~50Hz    |
| 13000          | 20000          | 20000          | 20000          | 20000          | 2000      |



# Washing system selection

## With preconfigured wash carts



Bulb, graduated, Pasteur pipettes

### Injection washing



### Immersion and flushing washing



Beakers



Jugs



Mugs



Buckets



Jars



Weighing bottles



Funnels



Powder funnels



Imhoff cones



Evaporating dishes



Weighing dishes



Petri dishes



Basins



Trays



Erlenmeyer flasks



Bottles



Beakers



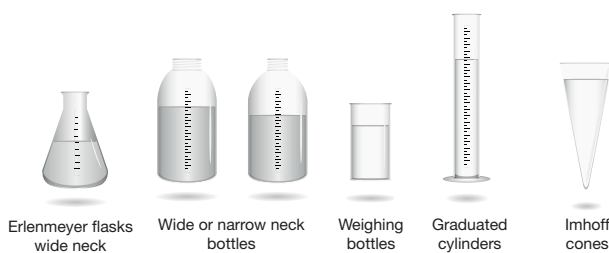
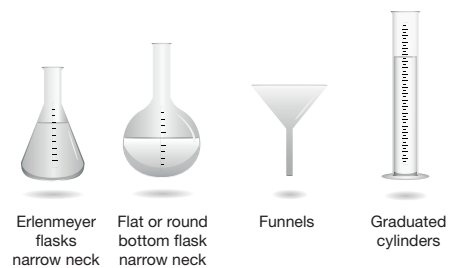
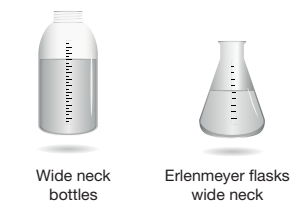
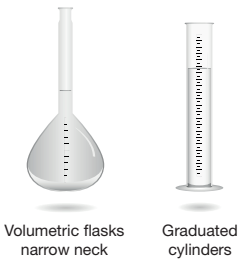
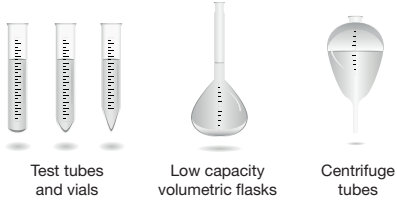
Weighing bottles



Test tubes

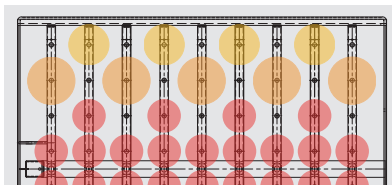


## With configurable wash carts





## Accessories, inserts and components



Example of configuration based on C414 washing cart for LAB 660 and LAB 680 glassware washer for simultaneous washing of  $\varnothing$  70mm/2  $\frac{3}{4}$ " ,  $\varnothing$  85mm/3  $\frac{3}{8}$ " , and  $\varnothing$  100mm/3  $\frac{15}{16}$ " glassware by the use of C057002 cap screws for closing injection nozzle seats.



**C61**  
insert with 28 spring hooks for  
laboratory glassware



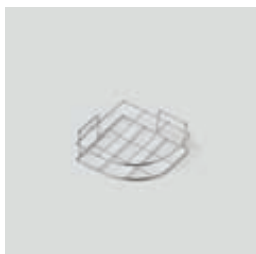
**C63**  
net basket mm.120x120x120  
4  $\frac{3}{4}$ "x4  $\frac{3}{4}$ "x4  $\frac{3}{4}$ "  
C64 cover for C63



**C97**  
26 positions insert for Petri  
dishes



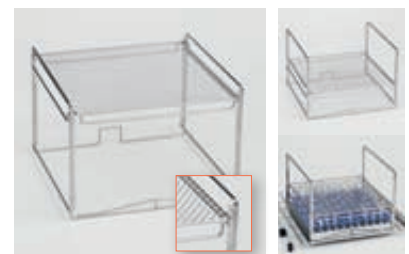
**C68** mm 100h/3  $\frac{15}{16}$ "h  
**C69** mm 130h/5  $\frac{1}{8}$ "h  
**C70** mm 200h/7  $\frac{7}{8}$ "h  
**C77** cover for C68/C69/C70



**C86**  
net separator for 1/4 net basket



Net cover for 121 positions test tubes wash carts  
(i.e. C421, C441, C723, C804.....)  
**C1061** 248x248x250h mm / 9  $\frac{3}{4}$ "x9  $\frac{3}{4}$ "x9  $\frac{13}{16}$ "h  
**C1086** 248x248x175h mm / 9  $\frac{3}{4}$ "x9  $\frac{3}{4}$ "x6  $\frac{7}{8}$ "h  
**C1105** 248x248x45h mm / 9  $\frac{3}{4}$ "x9  $\frac{3}{4}$ "x1  $\frac{3}{4}$ "h  
(C1105 to be laid directly on top of the test tubes)



**C1150**  
Adjustable height net cover for 121 positions  
test tubes washing carts (i.e. C1148, C1149)  
dim. 365x365x255h mm  
(14  $\frac{3}{8}$ "x14  $\frac{3}{8}$ "x10  $\frac{1}{16}$ "h)



Injection nozzle support

**C054925** Ø 6 mm / H. 140 mm

Ø 1/4" / H. 5 1/2"

**C054926** Ø 6 mm / H. 186 mm

Ø 1/4" / H. 7 5/16"



Gasket for pipette Ø max 14mm/<sup>9</sup>/<sub>16</sub>",  
min 4mm/<sup>3</sup>/<sub>16</sub>"

**C056005** Ø 20 mm / H. 21 mm

Ø 13/16" / H. 13/16"

Cap for closing unused holes

**C056001**



Injection nozzle bottle support

**C054915** Ø 6 mm / H. 200 mm

Ø 1/4" / H. 7 7/8"

**C054916** Ø 6 mm / H. 130 mm

Ø 1/4" / H. 5 1/8"



Support for injection nozzle Ø 2,5mm/<sup>1</sup>/<sub>8</sub>"

**C056004** Ø 25 mm / H. 13 mm

Ø 1" / H. 1/2"

Cap for closing unused holes

**C056001**



Injector sleeve with silicone guard for pipettes  
(max pipette Ø 11mm/<sup>7</sup>/<sub>16</sub>" )

**C058902**



Plastic cross Ø 32mm/<sup>1</sup>/<sub>4</sub>" for injection nozzle  
Ø 2,5mm/<sup>1</sup>/<sub>8</sub>"

**C054008**

Plastic cone Ø 15mm/<sup>9</sup>/<sub>16</sub>" for injection nozzle  
Ø 2,5mm/<sup>1</sup>/<sub>8</sub>"

**C057007**

Injection nozzle cap Ø 4mm/<sup>3</sup>/<sub>16</sub>" for injection  
nozzle Ø 2,5mm/<sup>1</sup>/<sub>8</sub>"

**C054006**



Bottle support Ø 28mm/<sup>1</sup>/<sub>8</sub>" for injection  
nozzle Ø 6mm/<sup>1</sup>/<sub>4</sub>"

**C054037**

Bottle support Ø 33mm/<sup>5</sup>/<sub>16</sub>" for injection  
nozzle Ø 6mm/<sup>1</sup>/<sub>4</sub>"

**C054038**

Bottle support Ø 45mm/<sup>3</sup>/<sub>4</sub>" for injection  
nozzle Ø 6mm/<sup>1</sup>/<sub>4</sub>"

**C054040**



Plastic cross Ø 54mm/<sup>2</sup>/<sub>8</sub>" for injection  
nozzle Ø 4mm/<sup>3</sup>/<sub>16</sub>"

**C054009**

Injection nozzle cap Ø 5mm/<sup>3</sup>/<sub>16</sub>" for injection  
nozzle Ø 4mm/<sup>3</sup>/<sub>16</sub>"

**C054005**



Plastic cross Ø 75mm/<sup>2</sup>/<sub>16</sub>" for injection  
nozzle Ø 6mm/<sup>1</sup>/<sub>4</sub>"

**C402001**

Injection nozzle cap Ø 10mm/<sup>3</sup>/<sub>8</sub>" for injection  
nozzle Ø 6mm/<sup>1</sup>/<sub>4</sub>"

**C054007**



Stainless steel cross Ø 87mm/<sup>3</sup>/<sub>16</sub>"  
for injection nozzle Ø 8mm/<sup>5</sup>/<sub>16</sub>"

**C054963**



Injection nozzle support for graduated  
cylinders

Ø 105mm/<sup>4</sup>/<sub>8</sub>" h=290mm/<sup>11</sup>/<sub>16</sub>"  
for injection nozzle Ø 8mm/<sup>5</sup>/<sub>16</sub>"

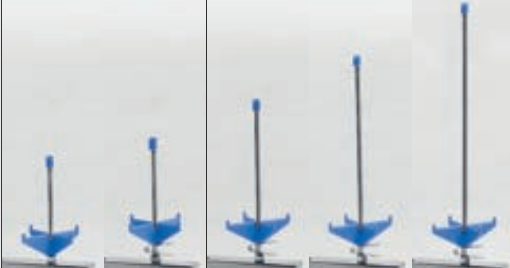
**C054946**

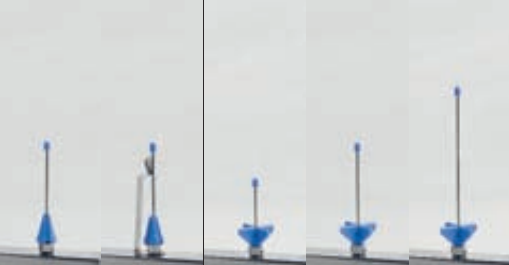


Ø 6mm/<sup>1</sup>/<sub>4</sub>" Adaptor nipple  
for injection nozzle Ø 8mm/<sup>5</sup>/<sub>16</sub>"

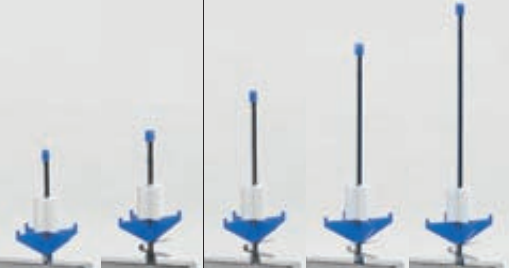
**C057013**

|                                                                                   | C054930       | C054924       | C054904        |
|-----------------------------------------------------------------------------------|---------------|---------------|----------------|
| A<br>mm / in.                                                                     | 4<br>3/16     | 4<br>3/16     | 4<br>3/16      |
| B<br>mm / in.                                                                     | 5<br>3/16     | 5<br>3/16     | 5<br>3/16      |
| C<br>mm / in.                                                                     | 54<br>2 1/8   | 54<br>2 1/8   | 54<br>2 1/8    |
| D<br>mm / in.                                                                     | 75<br>2 15/16 | 110<br>4 5/16 | 175<br>6 7/8   |
| E<br>mm / in.                                                                     | 50<br>2       | 80*<br>3 1/8* | 130*<br>5 1/8* |
|  |               |               |                |

|                                                                                    | C054921       | C054910       | C054922        | C054905        | C054959         |
|------------------------------------------------------------------------------------|---------------|---------------|----------------|----------------|-----------------|
| A<br>mm / in.                                                                      | 6<br>1/4      | 6<br>1/4      | 6<br>1/4       | 6<br>1/4       | 6<br>1/4        |
| B<br>mm / in.                                                                      | 10<br>3/8     | 10<br>3/8     | 10<br>3/8      | 10<br>3/8      | 10<br>3/8       |
| C<br>mm / in.                                                                      | 75<br>2 15/16 | 75<br>2 15/16 | 75<br>2 15/16  | 75<br>2 15/16  | 75<br>2 15/16   |
| D<br>mm / in.                                                                      | 115<br>4 1/2  | 135<br>5 5/16 | 175<br>6 7/8   | 225<br>8 7/8   | 275<br>10 13/16 |
| E<br>mm / in.                                                                      | 85<br>3 3/8   | 95*<br>3 3/4* | 130*<br>5 1/8* | 185*<br>7 1/4* | 235*<br>9 1/4*  |
|  |               |               |                |                |                 |

|                                                                                     | C054906       | C054914       | C054953      | C054903     | C054943       |
|-------------------------------------------------------------------------------------|---------------|---------------|--------------|-------------|---------------|
| A<br>mm / in.                                                                       | 2,5<br>1/8    | 2,5<br>1/8    | 2,5<br>1/8   | 2,5<br>1/8  | 2,5<br>1/8    |
| B<br>mm / in.                                                                       | 4<br>3/16     | 4<br>3/16     | 4<br>3/16    | 4<br>3/16   | 4<br>3/16     |
| C<br>mm / in.                                                                       | 15<br>9/16    | 15<br>9/16    | 32<br>1 1/4  | 32<br>1 1/4 | 32<br>1 1/4   |
| D<br>mm / in.                                                                       | 80<br>3 1/8   | 80<br>3 1/8   | 50<br>2      | 80<br>3 1/8 | 155<br>6 1/8  |
| E<br>mm / in.                                                                       | 75<br>2 15/16 | 75<br>2 15/16 | 30<br>1 3/16 | 60<br>2 3/8 | 135<br>5 5/16 |
|  |               |               |              |             |               |

|               | C054908                                                                              | C054911                                                                               | C054960                                                                               |
|---------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| A<br>mm / in. | 6<br>1/4                                                                             | 6<br>1/4                                                                              | 6<br>1/4                                                                              |
| B<br>mm / in. | 10<br>3/8                                                                            | 10<br>3/8                                                                             | 10<br>3/8                                                                             |
| C<br>mm / in. | 75<br>2 15/16                                                                        | 75<br>2 15/16                                                                         | 75<br>2 15/16                                                                         |
| D<br>mm / in. | 135<br>5 5/16                                                                        | 225<br>8 7/8                                                                          | 275<br>10 13/16                                                                       |
| E<br>mm / in. | 105<br>4 1/8                                                                         | 185*<br>7 1/4*                                                                        | 235*<br>9 1/4*                                                                        |
|               |  |  |  |

|                                                                                     | C054949       | C054950       | C054951        | C054952        | C054961         |
|-------------------------------------------------------------------------------------|---------------|---------------|----------------|----------------|-----------------|
| A<br>mm / in.                                                                       | 6<br>1/4      | 6<br>1/4      | 6<br>1/4       | 6<br>1/4       | 6<br>1/4        |
| B<br>mm / in.                                                                       | 10<br>3/8     | 10<br>3/8     | 10<br>3/8      | 10<br>3/8      | 10<br>3/8       |
| C<br>mm / in.                                                                       | 75<br>2 15/16 | 75<br>2 15/16 | 75<br>2 15/16  | 75<br>2 15/16  | 75<br>2 15/16   |
| D<br>mm / in.                                                                       | 115<br>2 1/2  | 135<br>5 5/16 | 175<br>6 7/8   | 225<br>8 7/8   | 275<br>10 13/16 |
| E<br>mm / in.                                                                       | 85<br>3 3/8   | 95*<br>3 3/4* | 130*<br>5 1/8* | 185*<br>7 1/4* | 235*<br>9 1/4*  |
|  |               |               |                |                |                 |

|               | C054947                                                                              | C054948                                                                               | C054962                                                                               |
|---------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| A<br>mm / in. | 6<br>1/4                                                                             | 6<br>1/4                                                                              | 6<br>1/4                                                                              |
| B<br>mm / in. | 10<br>3/8                                                                            | 10<br>3/8                                                                             | 10<br>3/8                                                                             |
| C<br>mm / in. | flex                                                                                 | flex                                                                                  | flex                                                                                  |
| D<br>mm / in. | 175<br>6 7/8                                                                         | 225<br>8 7/8                                                                          | 275<br>10 13/16                                                                       |
| E<br>mm / in. | -                                                                                    | -                                                                                     | -                                                                                     |
|               |  |  |  |

bottle support  
ø 28mm / 1 1/8"  
code C054037

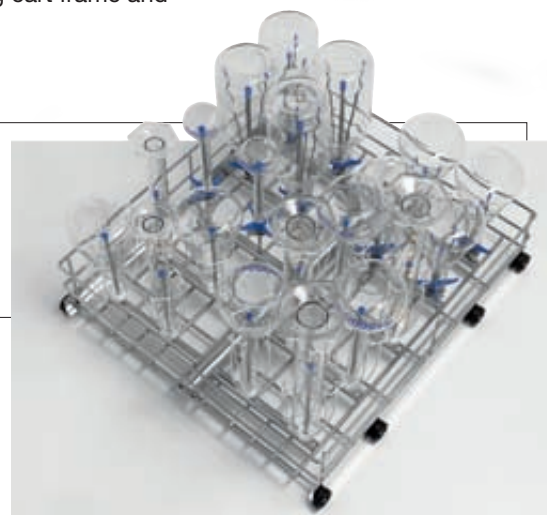
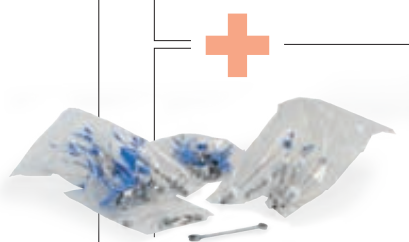
The \* indicates the maximum dimension for the height regulation of nozzles with spring.

# Injection nozzles types



Empty version of the racks give the customer the possibility of full configuration.

The tables show the maximum glassware diameter allowed in the washing cart frame and of the number related positions.



It is possible to customize the washing cart frame by using different nozzles and/or accessories.

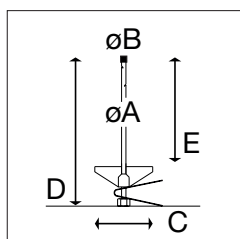
## Injection nozzles

Nozzles are available in different height sizes.

According to the glassware shape and dimension, nozzles should be chosen in order to have 10/90 mm **clearance from the nozzle final tip and the glassware bottom**.

Some kind of nozzles are endowed with adjustable spring retainer. Spring retainers allow to place glassware of different heights on the same nozzle.

10÷90 mm : 0,4"÷3,54"



## Nozzle dimensions

The "critical" dimensions to be considered in choosing the suitable nozzle are the following:

### E dimension:

for the correct coupling nozzle/glassware and the check of the distance nozzle/glassware. The \* indicates the maximum dimension for the height regulation of nozzles with spring.

### D dimension + clearance:

for the compatibility check washing machine/positioning level.

|               | C057911        | C057912         | C057913         |
|---------------|----------------|-----------------|-----------------|
| A<br>mm / in. | 8<br>5/16      | 8<br>5/16       | 8<br>5/16       |
| B<br>mm / in. | 17<br>11/16    | 17<br>11/16     | 17<br>11/16     |
| C<br>mm / in. | 87<br>3 7/16   | 87<br>3 7/16    | 105<br>4 1/8    |
| D<br>mm / in. | 255<br>10 1/16 | 320<br>12 5/8   | 320<br>12 5/8   |
| E<br>mm / in. | 235<br>9 3/4   | 300<br>11 13/16 | 300<br>11 13/16 |





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Flusher disinfectors

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Washer disinfectors for central of sterilization departments

Laboratory glassware washer disinfectors



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