Steelco

Laboratory glassware washing systems

High Capacity

Miele Group Member

ANIMA LAB

Customization.
Innovation.
Excellence.

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 renowned 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. Already a leader in innovation in areas such as automation, the integration within the Miele organization has provided additional boost in technological development.

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 equipment.

![Steelco logo]

Miele Group Member

Medium and Large Size Laboratories

Steelco's understanding of the requirements of modern biomedical research and laboratory facilities results in a wide selection of individually tailored solutions to meet the diverse needs of the Life Sciences industry.

Our laboratory washers and sterilizers are leaders in safety and contamination prevention, focusing on cleanliness, reliability, and consistency. Their versatility and automation guarantee workflow optimization at minimal costs.

Our range of high-capacity laboratory glassware washers and dryers provides fast, reliable, and efficient washing and drying results. Multiple chamber configurations, state-of-the-art technologies and machine integrations ensure excellent performance and workflow optimization.

LAB 640	**LAB 1000**	**LAB 660/680**	**LAB 1500**
350 lt / 12.4 ft^3	500 lt / 17.7 ft^3	600 lt / 21.2 ft^3	568 lt / 20 ft^3

Key Advantages
a winning combination

Our complete range of glassware washers and dryers, carefully designed to effectively treat daily use materials in scientific laboratories, provides optimum cleaning, HEPA 14 drying efficiency, and maximum safety, ensuring unrivaled levels of efficiency.

Tailor-made customization, combined with a wide selection of trolleys and accessories, meets the most diverse treatment needs.

Steelco Laboratory glassware washers comply with the current 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.

Optimized Process Speed

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 preheating tanks with water and energy recovery systems and ensure a high flow rate combined with adequate spray pressure.

Process Quality Focus

High-quality stainless steel AISI 316 washing chamber and washing arms for optimal performance, with washing and drying injection system integrated into the same circuit. Low friction bearings ease chamber and cart washing arms rotation for improved efficiency in water and air distribution.

Loading Configuration Flexibility

A comprehensive choice of racks and accessories to meet different capacity and cleaning demands, allowing to maximize the numbers of different utensils and glassware that can be washed, preventing movement and damage, and ensuring complete coverage of the loads.

Washing Carts Customizable

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.

LAB 640 SL

Freestanding Glassware Washer

The LAB 640 SL is a large capacity, fully automatic frontal loading laboratory glassware washer aimed to satisfy medium/large size facility needs.

Available in electrical or steam heated versions, this washer is equipped with a motorized vertical sliding down door thus allowing the reduction of the space needed in the laboratory.
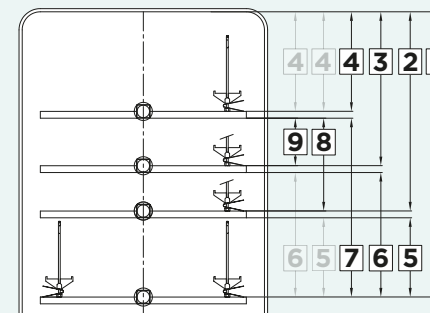
A pre-heating tank configured with electrical heating elements allows for a no-recirculate final rinse.

Key Features:

+ Single-pass final rinse option
+ Flow meter and conductivity sensor for quality process.
+ Triple water filtering system
+ Drying efficacy, powerful built-in HEPA filtered forced hot air drying system, with adjustable time and temperature.
+ Easy access to chemicals.
+ 5.7" user-friendly HMI, touch screen display, 65 programs.
+ USB port for the monitoring data download. On board integrated thermal printer for validating washing phases as an option.

4X Injection washing and drying on 4 independent levels with 3 possible rack locations

Overall Dimensions WxDxH:
765 x 800 x 1975 mm
$30 \frac{1}{8}$" x $31 \frac{1}{2}$" x $77 \frac{3}{4}$"

Chamber Volume
~350 lt / 12.36 cu ft

Basket Volume
~280 lt / 9.89 cu ft

Washing carts configurations LAB 640 L

Level positions

1	630 mm / 24 $\frac{13}{16}$''
2	440 mm / 17 $\frac{5}{16}$''
3	340 mm / 13 $\frac{3}{8}$'
4	220 mm / 8 $\frac{11}{16}$'
5	170 mm / 6 $\frac{11}{16}$'
6	270 mm / 10 $\frac{5}{8}$''
7	390 mm / 15 $\frac{3}{8}$''
8	200 mm / 7 $\frac{7}{8}$''
9	100 mm / 3 $\frac{15}{16}$''

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

### Upper and lower level empty racks

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

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

* Inserts for glassware alignment/support for C1520:
C1520900 max Ø 180mm / 7 $\frac{1}{16}$"
C1520901 max Ø 100mm / 3 $\frac{15}{16}$"

Right below you can find examples of configured washing carts and reference of the maximum glassware diameter and number of injection positions.
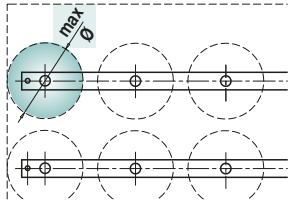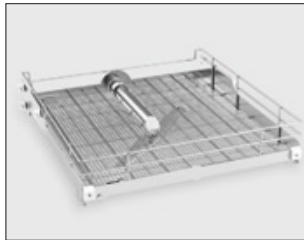

Glassware diameter
Top view of a portion of an injection washing cart showing the maximum glassware diameter.
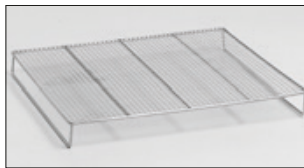
Wash cart frame selection for custom configurations
Selection of an empty rack enables users to customize the wash cart frame using different nozzles and accessories. See final pages of the catalogue.

Full loading space

C1390 Upper washing cart with washing arm, loading space 570x600mm (22 $\frac{7}{16}$"x23 $\frac{5}{8}$")

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 $\frac{7}{16}$"x23 $\frac{5}{8}$")

Injection nozzles for small size glassware

example ❶

Upper/lower levels
Suggested configurations

A **208 positions**
max glassware:
ø 41mm/1 $\frac{5}{8}$"
h 160mm/6 $\frac{5}{16}$"
C1412E frame
+ 208 nozzles C054544

B **137 positions**
max glassware:
ø 51mm/2"
h 180mm/7 $\frac{1}{16}$"
C1411E frame
+ 137 nozzles C054548

C **90 positions,**
max glassware:
ø 60mm/2 $\frac{3}{8}$"
h 230mm/9 $\frac{1}{16}$"
C1408E frame
+ 90 nozzles C054549

Injection nozzles for mid size glassware

example ❶

Upper/lower levels
Suggested configurations

A **56 positions**
max glassware:
ø 76mm/3"
h 230mm/9 $\frac{1}{16}$"
C1407E frame
+ 56 nozzles C054549

B **35 positions**
max glassware:
ø 95mm/3 $\frac{3}{4}$"
h 280mm/11"
C1406E frame
+ 35 nozzles C054551

C **18 positions**
max glassware:
ø 120mm/4 $\frac{3}{4}$"
h 330mm/13"
C1405E frame
+ 18 nozzles C054552

Injection nozzles for large size glassware

Upper/lower levels
Suggested configurations

C1404
Capacity: up to 8 items
Ø max 200mm/7 $\frac{7}{8}$"

C1403
Capacity: up to 5 items
Ø max 240mm/9 $\frac{7}{16}$"

C1515
Capacity: up to 4 items
Ø max 280mm/11"
7 measuring cylinders:
4 x max Ø130mm/5 $\frac{7}{8}$",
3 x max Ø 180mm/ 7 $\frac{1}{16}$"

C1455
Capacity: up to 4 items
Ø max 280mm/11"
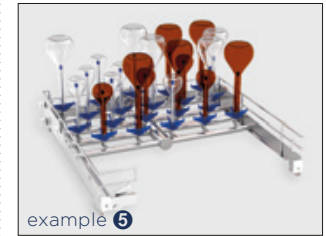1 measuring cylinder
Ø max 95mm/3 $\frac{3}{4}$"

C1402
Capacity: up to 3 items
Ø max 305mm/12"

C1670
Upper/lower-level washing cart for 2lt graduated cylinders, max 12 pcs

Injection washing for pipettes

C1409 lower level, max **200 positions**.
Min. pipette length 150mm/5 $\frac{15}{16}$"
Max. pipette length 620mm/24 $\frac{7}{16}$"

example ❺

C1410E upper level, to be used combined with C1409 wash cart for pipettes

Suggested configuration

A **20 positions**
max glassware:
ø 95mm/3 $\frac{3}{4}$"
h 280mm/11"
C1410E frame
+ 20 nozzles C054551

LAB 1000

High Capacity Pass-Through Double Door Glassware Washer

LAB 1000 is a large capacity glassware washer specially developed for laboratories that require to clean large quantities of items on a daily basis.

Steelco LAB 1000 ensures outstanding washing and drying results of all laboratory glassware thanks to the accurate distribution of the air on all the chamber zones and on the washing cart levels.

A built-in pre-heating tank is available upon request to perform faster washing cycles. In this configuration the washer can perform a complete cycle in less than 40 minutes.


LAB 1000 washing cart system comprises a support washing cart that can be configured with removable cassettes on two levels.

4X Injection washing and drying on up to 4 independent levels with 3 possible rack locations

Overall Dimensions WxDxH:
1100 x 960 x 1940 mm
43 $^5/_{16}$" x 37 $^{13}/_{16}$" x 76 $^3/_8$"

Chamber Volume
~500 lt / 17.66 cu ft

Basket Volume
~350 lt / 12.36 cu ft

Key Features:

+ Electrical or steam heated.
+ Single or double door pass through version.
+ Two standard peristaltic pumps. Additional dosing pump available as option.
+ Flow meter and conductivity sensor.
+ Powerful built-in HEPA filtered forced hot air drying system with adjustable time and temperature.

+ Triple water filtering system.
+ Easy access to chemicals.
+ 5.7" user-friendly HMI, touch screen display, 65 programs.
+ USB port for the monitoring data download. On board integrated thermal printer for validating washing phases as an option.
+ Loading and unloading washing carts by using manual or automatic transfer trolleys.

Washing carts configurations LAB 1000

Level positions
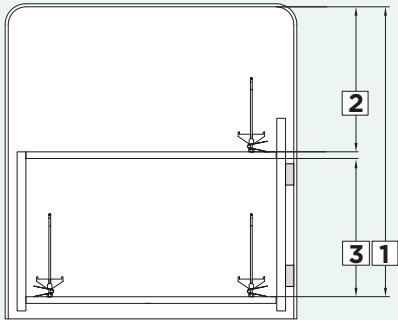
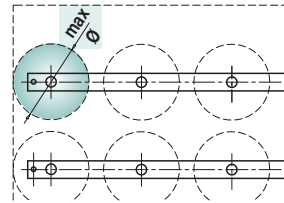|	
1	605 mm / 23 $^{13}/_{16}$"
2	275 mm / 10 $^{13}/_{16}$"
3	315 mm / 12 $^{3}/_{8}$"

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.

Upper and lower level empty racks

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

empty rack **code**	**max Ø** mm/in.	nr. of injection **positions**	**U**pper level **L**ower level
C409E	40 / 1 $^{9}/_{16}$	99	❶ all
Notes: only mm 2,5/0.1" Ø nozzles can be used			
C407E	50 / 2	76	❶ all
C402E	75 / 2 $^{15}/_{16}$	34	❶ all
C406E	98 / 3 $^{7}/_{8}$	24	❶ all
C403E	92 / 3 $^{5}/_{8}$	22	❶ all
C470E	104 / 4 $^{1}/_{16}$	18	❶ all
C469E	190 / 7 $^{1}/_{2}$	5	❶ all

Right below you can find examples of configured washing carts and reference of the maximum glassware diameter and number of injection positions.

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

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.

Base injection washing cart

C400W
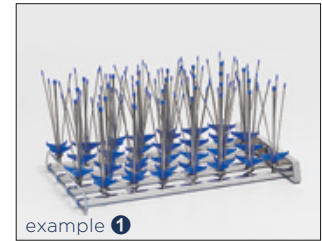Base injection washing cart suitable for removable cassettes on 2 levels

Injection Washing for Pipettes

C408
lower vertical pippettes cassette 68 positions.

Minimum pipette length 270mm/10 $^{5}/_{8}$"

Maximum pipette length 590mm/23 $^{1}/_{4}$"

Injection nozzles all levels

example ❶

Suggested configurations

A **34 positions**
max glassware:
ø 75mm/2 $^{15}/_{16}$"
h 160mm/6 $^{5}/_{16}$"

composition:
C402E frame
+ 34 nozzles C054548

example ❶

B **24 positions**
max glassware:
ø 98mm/3 $^{3}/_{8}$"
h 230mm/9 $^{1}/_{16}$"

composition:
C406E frame
+ 24 nozzles C054550

LAB 660 - LAB 680 Series

High Capacity Swing Door Glassware Washers

The LAB 660 and LAB 680 are high capacity frontal loading glassware washers designed to meet the needs of medium and large facilities, with the capacity of cleaning bottles for up to 100 lt / 22 Gal US.

Electrical or steam heated, the two washers are capable of injection washing on multiple levels providing maximum flexibility through multiple chamber configurations depending on the height of the loaded items. The drop down hinged door with glass window serves as a loading platform at convenient height for the bottom level.

Key Features:

+ **Electrical or steam heated**

+ **Chemical dosing**
  Two standard peristaltic pumps. Additional dosing pump available as option.

+ **Drying efficacy**
  Powerful built-in HEPA filtered forced hot air drying system. Adjustable time and temperature settings for the optimization of cycle duration and energy consumption.

+ **Easy access to chemicals**
  Frontal sliding drawer for storage of chemicals, up to three tanks of 10 lt / 2.64 Gal US.

+ **User friendly HMI**
  High safety and easy to use LCD display control system, 40 programs.

+ **Traceability**
  RS 232 dedicated port for printer or PC connection to monitor and validate washing/ disinfection cycles.

LAB 660 Series

3X Injection washing and drying on 3 independent levels with 3 possible rack locations.

Overall Dimensions WxDxH:
1140 x 930 x 1685 mm
44 $^7/_8$" x .3 $^5/_8$" x 77 $^3/$"

Chamber Volume
~600 lt / 21.19 cu ft
Basket Volume
~430 lt / 15.18 cu ft

LAB 680 Series

5X Injection washing and drying on 5 independent levels with 4 possible rack locations

Two washing pumps feeding washing circuits.

Washing Efficacy

Washing pumps feeding washing circuits to ensure high flow rate combined with effective spray pressure. The washing chamber and spray arms, as well as tank filters, are made of high quality AISI 316 L stainless steel (DIN 1.4404).

Smart Filtering System

Design quality and proper maintenance are critical to ensure compliance with standards, sustainability, and an enduring life cycle. Our Lab Series of glassware washers is equipped with a triple water filtering system. Ergonomically accessible from the washing chamber, it captures residues preventing their re-circulation, thus extending pump life.

Easy and safe loading/unloading

Ergonomic design of the door level height allows a convenient loading/unloading job to the user, with the additional support of a manual loading/unloading trolley upon request.

Telescopic bearing rails enable easy and safe loading/ unloading of the glassware. The upper levels can be removed depending on the height of the loaded glassware.
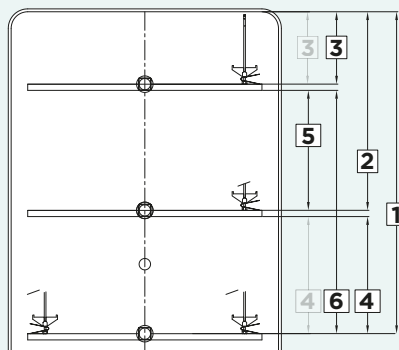
Easy maintenance and access to chemicals

The machine is developed considering technicians' access to the maintenance and service area – easy access to all components and electrical cabinet. Frontal sliding drawer for storage of chemical containers, up to three tanks of 10 lt / 2.64 Gal US.
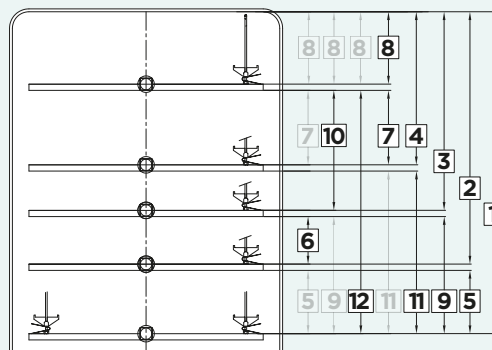
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Washing carts configurations
LAB 660-680

Right below you can find examples of configured washing carts and reference of the maximum glassware diameter and number of injection positions.

LAB 660 level positions

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" but allows a gain of 15mm/$^9/_{16}$" on top.

LAB 680 level positions

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	180 mm / 7 $^1/_{16}$"
8	170 mm / 6 $^{11}/_{16}$"
9	280 mm / 11"
10	290 mm / 11 $^7/_{16}$"
11	390 mm / 15 $^3/_8$"
12	580 mm / 22 $^{13}/_{16}$"

LAB 660 - LAB 680
Upper and lower level empty racks

The table shows the maximum glassware diameter in the washing cart frame and position options.
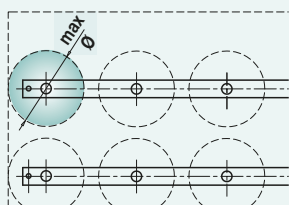
Glassware diameter
Top view of a portion of an injection washing cart showing the maximum glassware diameter.

empty rack code	max Ø mm/in.	nr. of injection positions	Upper level Lower level		notes
C423E	25 / 1	330	❶	U	only for mm 2,5/$^1/_8$" Ø nozzles
C410E	65 / 2 $^9/_{16}$	72	❶	U	
C411E	84 / 3 $^5/_{16}$	56	❶	U	
C425E	90 / 3 $^9/_{16}$	48	❶	U	
C1238E	105 / 4 $^1/_8$	35	❶	U	
C444E	150 / 5 $^{15}/_{16}$	18	❶	U	
C413E	85 / 3 $^3/_8$	21	❷	U	mm 480x585 / 18 $^7/_8$"x23" space
C421E	75 / 2 $^{15}/_{16}$	40+121	❸	U	see C1086, C1061, C1105 accessories
C414E	75 / 2 $^{15}/_{16}$	72	❶	L	
C415E	85 / 3 $^3/_8$	56	❶	L	
C424E	90 / 3 $^9/_{16}$	48	❶	L	
C1239E	105 / 4 $^1/_8$	35	❶	L	
C443E	150 / 5 $^{15}/_{16}$	18	❶	L	
C426E	190 / 7 $^1/_2$	10	❶	L	
C427E	250 / 9 $^{13}/_{16}$	6	❶	L	

### 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.
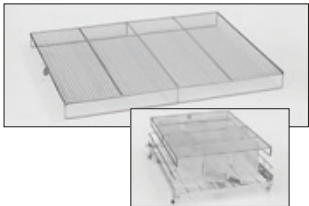
Full loading space

C420 Upper washing cart with washing arm, loading space 585x765mm (23"x30 $^1/_8$")

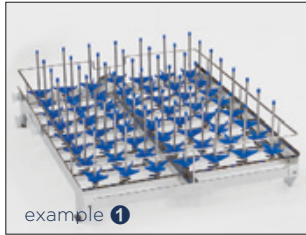**C419** Lower washing cart without washing arm, loading space 620x765mm (24 $^7/_{16}$"x30 $^1/_8$")
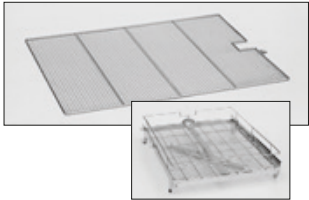
C446 Grid to allow the loading of small object on std. washing carts dim. 752x582mm (29 $^5/_8$" x 22 $^{15}/_{16}$")

C447 Grid cover to be positioned over light object dim. 752x582mm (29 $^5/_8$"x22 $^{15}/_{16}$")

Injection nozzles for small size glassware

example ❶

Upper levels
Suggested configurations

A | **72 positions**
max glassware:
ø 65mm/2 $^9/_{16}$"
h 160mm/6 $^5/_{16}$"

C410E frame
+ 72 nozzles C054548

B | **48 positions**
max glassware:
ø 90mm/3 $^9/_{16}$"
h 230mm/9 $^1/_{16}$"

C425E frame
+ 48 nozzles C054550

C | **72 positions**,
mixed nozzles,
max glassware:
ø 65mm/2 $^9/_{16}$"
h 200/300mm

C410E frame
+ 18 nozzles C054550
+ 54 nozzles C054548

Injection nozzles for mid size glassware
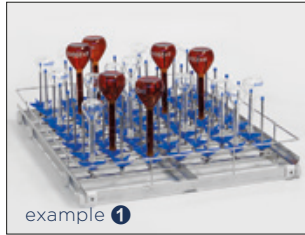
example ❶

Lower levels
Suggested configurations

A | **72 positions**
max glassware:
ø 75mm/2 $^{15}/_{16}$"
h 230mm/9 $^1/_{16}$"

C414E frame
+ 72 nozzles C054549

B | **48 positions**
max glassware:
ø 90mm/3 $^9/_{16}$"
h 300mm

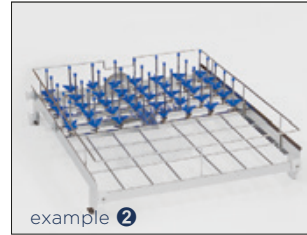**C424E frame**
+ 48 nozzles C054551

C | **72 positions**
mixed nozzles
average glassware:
ø 75mm/2 $^{15}/_{16}$"
h 200/300mm

C414E frame
+ 18 nozzles C054550
+ 54 nozzles C054548

D | **72 positions**
mixed nozzles
with supports,
max glassware:
ø 75mm/2 $^{15}/_{16}$"
h 180/280mm

C414E frame
+ 18 nozzles C054560
+ 54 nozzles C054947

With half space + injection nozzles for mid size

example ❷

Upper levels
Suggested configurations

A | **21 positions**
max glassware:
ø 85mm/3 $^3/_8$"
h 300mm/11 $^{13}/_{16}$"

loading space mm
480x585 (18 $^7/_8$"x23")

C413E frame
+ 21 nozzles C054551

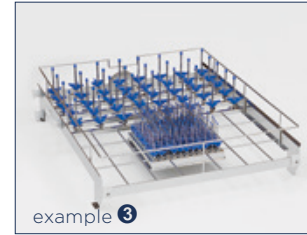## With injection nozzles for large size glassware

C1360 Lower level, capacity: up to 4 items
ø max 240mm/9 $^7/_{16}$",
1 item Ø max 315mm/12 $^3/_8$"

C1177 Lower level, capacity: up to 4 items
ø max 300mm/11 $^{13}/_{16}$"

C1178 Lower level, capacity: up to 2 items
ø max 400mm/15 $^3/_4$"

With injection nozzles + nozzles for vials

example ❸

Upper levels
Suggested configurations

A | **121 positions**
max glassware
ø 20mm/$^{13}/_{16}$"
h 160mm/6 $^5/_{16}$"

40 positions
max glassware:
ø 75mm/2 $^{15}/_{16}$"
h 230mm/9 $^1/_{16}$"

C421E frame
+ 121 nozzles C054544
+ 40 nozzles C054549

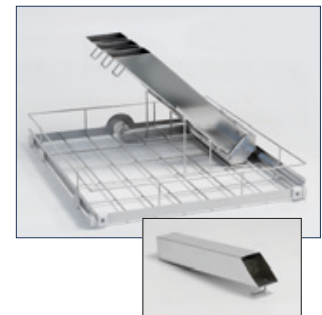note: see also C1061, C1086 and C1105 accessories

Injection washing for pipettes

C416 lower level
max 88 positions.
Min. pipette length 300mm/11 $^{13}/_{16}$"
Max. pipette length 450mm/17 $^3/_4$"
with 2 upper levels installed and 700mm/27 $^9/_{16}$" 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.

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LAB 1500

High Capacity Laboratory Glassware Washer and Dryer

The LAB 1500 is a high capacity glassware washer and dryer specially developed for laboratories that require to clean large quantities of items on a daily basis.

This lab washer features a full visibility motorized space-saving sliding down door.

Two heavy duty washing pumps dedicated to separate washing – providing a high water flow rate combined with adequate spray pressure – ensure outstanding glassware washing results.

As standard, two peristaltic pumps provide precise dosing of liquid chemical agents. A convenient hinged door allows for easy access to storage of up to two 10-liter / 2.64 Gal US chemical tanks.

4X 4X

Injection on up to 6 levels with 8 possible rack locations

Overall Dimensions WxDxH:
1350 x 840 x 1985 mm
53" x 33" x 78"
Chamber Volume
568 lt / 20 cu ft
Basket Volume
~ 369 lt / 13 cu ft

Key Features:

+ **Flexible solutions**
  The electrical or steam stainless steel heat exchanger provides rapid heating of water in washer sump.

+ **Drying efficacy**
  Built-in HEPA 14 filtered forced air drying with adjustable temperature and time settings.

+ **Easy loading/unloading**
  with fully extendable telescopic rails.

+ **Tank for no-recirculated final rinse**
  A pre-heating tank configured with electrical heating elements allows for a no-recirculate final rinse.

+ **Process quality**
  Flow meters for redundancy chemical dosing control and a conductivity sensor.

+ **7" user-friendly HMI**
  Industrial PLC with intuitive 7' touch-screen HMI, allowing for 65 programming options.

High and Flexible Capacity

With a chamber volume of ~ 484 lt / 19.95 cu ft, the LAB 1500 has the largest chamber capacity in the market within the smallest footprint. The device is capable of injection washing on up to 6 levels with 8 possible rack locations, providing maximum flexibility through multiple chamber configurations.

Washing Efficacy

High-quality AISI 316 L washing chamber and four rotatory spray arms, two on the bottom and two on the top of the chamber, ensure optimal washing performance. Additional spray arms are available on dedicated upper level wash carts.

Aquatic Tank Package

Specific kit designed for the reprocessing of the aquatic tank used in vivarium and research facilities. It includes three chemical dosage pumps, an upgrade to washing circuit, flow meters, and conductivity probe.

Complete Traceability

SteelcoData View software is designed to monitor, collect and record data and cycles parameters (time, temperature, cycle consumption, historical alarm data) from up to 15 Steelco devices to one computer. Information collected in real-time is traced and efficiently visualized for device monitoring and data management.

Washing carts configurations
LAB 1500

Level positions
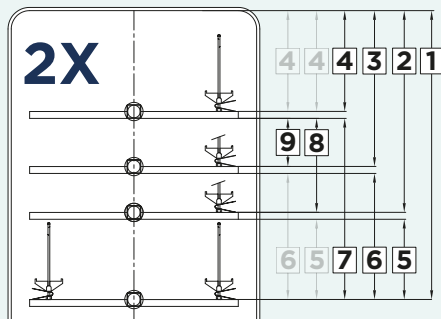
1	630 mm / 24 $^{13}/_{16}$''
2	440 mm / 17 $^{5}/_{16}$''
3	340 mm / 13 $^{3}/_{8}$'
4	220 mm / 8 $^{11}/_{16}$'
5	170 mm / 6 $^{11}/_{16}$''
6	270 mm / 10 $^{5}/_{8}$''
7	390 mm / 15 $^{3}/_{8}$''
8	200 mm / 7 $^{7}/_{8}$''
9	100 mm / 3 $^{15}/_{16}$''

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.

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

empty rack code	max Ø mm/in.	nr. of injection positions	Upper or Lower level	notes
C1092E	32 / 1 $^{1}/_{4}$	156 ❶	U	only for mm 2,5/$^{1}/_{8}$" Ø nozzles
C1192E	40 / 1 $^{9}/_{16}$	110 ❶	U	only for mm 2,5/$^{1}/_{8}$" Ø nozzles
C837E	35 / 1 $^{3}/_{8}$	84 ❶	U	only for mm 2,5/$^{1}/_{8}$" Ø nozzles
C724E	70 / 2 $^{3}/_{4}$	42 ❶	U	
C1603E	80 / 3 $^{1}/_{8}$	36 ❶	U	
C725E	100 / 3 $^{15}/_{16}$	20 ❶	U	
C838E	110 / 4 $^{5}/_{16}$	16 ❶	U	
C1443E	75 / 2 $^{15}/_{16}$	27 ❶	U	
C746E	75 / 2 $^{15}/_{16}$	24+121 ❸	U	see C1086, C1061, C1105 accessories
C1148E	25 / 1	121 ❹	U	only for mm 2,5/$^{1}/_{8}$" Ø nozzles
C1093E	40 / 1 $^{9}/_{16}$	110 ❶	L	only for mm 2,5/$^{1}/_{8}$" Ø nozzles
C1860E	52 / 2 $^{1}/_{16}$	70 ❶	L	only for mm 2,5-4/$^{1}/_{8}$-$^{3}/_{16}$" Ø nozzles
C1861E	60 / 2 $^{3}/_{8}$	56 ❶	L	only for mm 2,5-4/$^{1}/_{8}$-$^{3}/_{16}$" Ø nozzles
C729E	70 / 2 $^{3}/_{4}$	42 ❶	L	
C1604E	80 / 3 $^{1}/_{8}$	36 ❶	L	
C730E	100 / 3 $^{15}/_{16}$	20 ❶	L	
C839E	110 / 4 $^{5}/_{16}$	16 ❶	L	
C1442E	75 / 2 $^{15}/_{16}$	27 ❶	L	
C1862E	130 / 5 $^{1}/_{8}$	12 ❶	L	
C1863E	160 / 6 $^{5}/_{16}$	9 ❶	L	
C1864E	70 / 2 $^{3}/_{4}$	24 ❷	L	mm 230x490 / 9 $^{1}/_{16}$"x19 $^{5}/_{16}$" space
C1865E	100 / 3 $^{15}/_{16}$	12 ❷	L	mm 220x490 / 8 $^{11}/_{16}$"x19 $^{5}/_{16}$" space
C836E	75 / 2 $^{15}/_{16}$	24+121 ❸	L	see C1086, C1061, C1105 accessories
C1149E	25 / 1	121 ❹	L	only for mm 2,5/$^{1}/_{8}$" Ø nozzles

Full loading space

C728 Upper washing cart with washing arm, loading space 485x525mm (19 $^{1}/_{16}$"x 20 $^{11}/_{16}$")
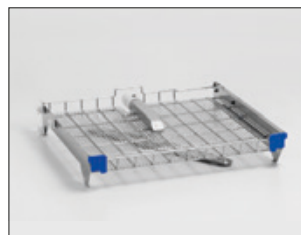
C1512 Upper level wash cart with washing arms

C1853 Upper/lower wash cart without washing arms, loading space 470x540mm (18 $^{1}/_{2}$"x21 $^{1}/_{4}$")

With injection nozzles for mid size glassware

example ❶

Upper level
Suggested configurations

A **42 positions**
max glassware:
ø 70mm/2 $^{3}/_{4}$"
h 160mm/6 $^{5}/_{16}$"

C724E frame
+ 42 nozzles C054548

B **20 positions**
max glassware:
ø 100mm/3 $^{15}/_{16}$"
h 230mm/9 $^{1}/_{16}$"

C725E frame
+ 20 nozzles C054550

C **42 positions**
mixed nozzles
average glassware:
ø 70mm/2 $^{3}/_{4}$"
h 200/300mm

C724E frame
+ 10 nozzles C054550
+ 32 nozzles C054548

With injection nozzles for mid size glassware
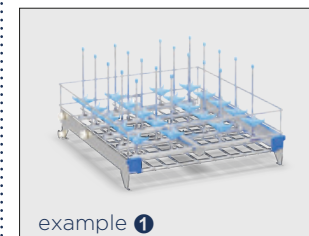
example ❶

Lower level
Suggested configurations

A **42 positions**
max glassware:
ø 70mm/2 $^{3}/_{4}$"
h 230mm/9 $^{1}/_{16}$"

C729E frame
+ 42 nozzles C054549

B **20 positions**
max glassware:
ø 100mm/3 $^{5}/_{16}$"
h 300mm/11 $^{13}/_{16}$"

C730E frame
+ 20 nozzles C054551

C **42 positions**
mixed nozzles
average glassware:
ø 70mm/2 $^{3}/_{4}$"
h 200/300mm

C729E frame
+ 10 nozzles C054550
+ 32 nozzles C054548

D **42 positions**
mixed nozzles
with supports,
average glassware:
ø 70mm/2 $^{3}/_{4}$"
h 180/280mm

C729E frame
+ 12 nozzles C054560
+ 30 nozzles C054947

With half space + injection nozzles for glassware

example ❷

Lower level
Suggested configurations

A **24 positions**
mixed nozzles,
max glassware:
ø 70mm/2 $^3/_4$"
h 200/300mm

loading space 30x490mm
(9 $^1/_{16}$"x19 $^5/_{16}$")

C1864E frame
+ 12 nozzles C054551
+ 12 nozzles C054549

B **12 positions**
mixed nozzles
with supports,
max glassware:
ø 100mm/3 $^{15}/_{16}$"
h 180/280mm

loading space 220x490mm
(8 $^{11}/_{16}$"x19 9 $^5/_{16}$")

C1865E frame
+ 6 nozzles C054560
+ 6 nozzles C054947

With injection nozzles for large size glassware

Lower level
C1854 up to 4 items Ø
max 240mm/9 $^7/_{16}$", up to
5 items Ø max 190mm/9 $^1/_2$"
C1855 up to 2 items Ø max
280mm/11"

C1856 for 50 lt carboy,
Ø max 400mm/15 $^3/_4$"

C1857 up to 16 positions
for graduated cylinders:
max ø 85mm/3 $^1/_3$"
max height 550mm/21 $^2/_3$",

With injection nozzles for vials

example ❹

Upper level
suggested configurations

A **121 positions**
max glassware:
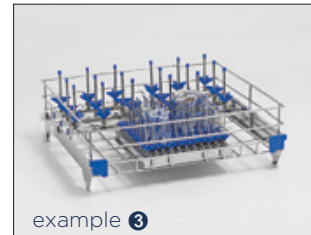**ø** 25mm/1"
h 90mm/3 $^9/_{16}$"

C1148E frame
+ 121 nozzles C054953
note: see also C1150
accessory

Lower level
suggested configurations

B **121 positions**
max glassware:
ø 25mm/1"
h 140mm/5 $^1/_2$"

C1149E frame
+ 121 nozzles C054953
note: see also C1150
accessory

With injection nozzles + nozzles for vials

example ❸

Upper level
suggested configurations

A **121 positions**
max glassware:
ø 20mm/$^{13}/_{16}$"
h 160mm/6 $^5/_{16}$"

24 positions
max glassware
ø 75mm/2 $^5/_{16}$"
h 160mm/6 $^5/_{16}$"

C746E frame
+ 121 nozzles C054544
+ 24 nozzles C054548

note: see also C1061, C1086
and C1105 accessories

Lower level
suggested configurations

B **121 positions**
max glassware:
ø 20mm/$^{13}/_{16}$"
h 160mm/6 $^5/_{16}$"

24 positions
max glassware
ø 75mm/2 $^5/_{16}$"
h 300mm/11 $^{13}/_{16}$"

C836E frame
+ 121 nozzles C054544
+ 24 nozzles C054551

note: see also C1061, C1086
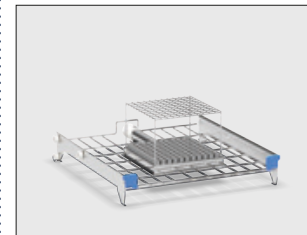and C1105 accessories

Injection washing for pipettes

C1858 lower level,
max 56 positions

Min. pipette length:
250mm/9 $^{13}/_{16}$" and
300mm/11 $^{13}/_{16}$"
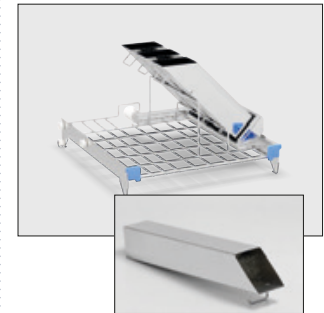
Max. pipette length:
760mm/29 $^{15}/_{16}$"

C1859 lower level,
max 121 positions

Min. pipette length:
135mm/5 $^5/_{16}$"

Max. pipette length:
620mm/24 $^7/_{16}$"

Immersion washing for pipettes

C1903 lower level, with 2
pipettes cassettes,
max. pipette length
520mm / 20 $^1/_2$"
C1904 lower level, with 3
pipettes cassettes,
max. pipette length
290mm / 11 $^7/_{16}$"

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

Technical Data

Device configuration	LAB 640 SL	LAB 1000	LAB 660	LAB 680	LAB 1500
Door opening	Vertical sliding down	Vertical sliding down	Hinged	Hinged	Vertical sliding down
Stainless steel door	-	-	-	-	-
Stainless steel door with glass window	-	-	•	•	-
Full glass door	•	•	-	-	•
Double door pass through version	-	○	-	-	-
Light inside the chamber	○	○	○	○	○
Nr. of independent levels of the washing and/or drying system	4	4[1]	3	5	8 (4x2)
Nr. of levels that can be used simultaneously	3	3	3	4	6 (3x2)
Triple stage water filtering system	•	•	•	•	•
Preheating boiler for DI water	-	-	○	○	-
Preheating tank DI water	○[2]	○	-	-	○
Adjustable water temperature (up to 93°C)	•	•	•	•	•
Double PT 1000 probe for temperature check	•	•	•	•	•
Chemicals					
Std equipment of chemical dosing pumps: nr.	2	2	2	2	2
Additional chemical dosing pumps: up to nr.	4	4	4	4	4
Storage of chemical tanks, nr. and capacity lt/Gal US (capacity may vary depending on option configured in the washer)	2 10/2.64	3 10/2.64	3 10/2.64	3 10/2.64	2 10/2.64
Drying system					
Forced hot air drying system	○	•	○	○	○
Pre filter 98%	○[3]	○[3]	○[3]	○[3]	○[3]
Hepa H14 air filter	○	○	○	○	○
Steam condenser	○	○	○	○	•
Control system and traceability					
LCD display control panel, 40 programs (20 pre-programmed, 20 user defined)	-	-	•	•	-
Touch screen display, 65 programs	•[4]	•[4]	-	-	•[5]
RS232	-	-	•	•	-
USB port	-	-	○	○	•
Ethernet connection	•	•	○	○	•
External printer	-	-	○	○	-
Integrated printer	○	○	○	○	•
Utilities					
Electrical feeding	•	•	•	•	•
Steam feeding	○	○	○	○	○
Standard electrical connection, others available upon request	400V 3~+N 50Hz	400V 3~+N 50Hz	400V 3~+N 50Hz	400V 3~+N 50Hz	400V 3~+N 50Hz
Total power kW	14.5	26	20	20	22

• = Standard   ○ = Optional   - = Not available

Notes:
1. On removable cassettes;
2. Preheating tank. Single pass final rinse option on LAB 640;
3. With forced hot air drying system;
4. 5.7" color touch screen display
5. 7" Industrial PLC with colour touch screen HMI

Capacity and dimensions

Device	Overall dimensions WxDxH mm/inches			Volume lt/ft^3	Basket volume lt/ft^3	Chamber dimensions WxDxH mm/inches		
LAB 640 SL	765	800	1975	350	280	636	650	825
	30 $^1/_8$	31 $^1/_2$	77 $^3/_4$	12.4	10	25 $^1/_{16}$	25 $^8/_{16}$	32 $^1/_2$
LAB 1000	1100	960	1940	500	350	715	815	940
	43 $^5/_{16}$	37 $^{13}/_{16}$	76 $^3/_8$	17.7	12.4	28 $^1/_8$	32 $^1/_{16}$	37
LAB 660	1140	930*	1975	600	430	710	810	1060
	44 $^7/_8$	36 $^5/_8$*	77 $^3/_4$	21.2	15.2	27 $^{15}/_{16}$	31 $^3/_8$	41 $^3/_4$
LAB 680	1140	930*	1975	600	430	710	810	1060
	44 $^7/_8$	36 $^5/_8$*	77 $^3/_4$	21.2	15.2	27 $^{15}/_{16}$	31 $^3/_8$	41 $^3/_4$
LAB 1500	1350	840	1985	568	369	1160	580	845
	53 $^1/_8$	33 $^1/_{16}$	78 $^1/_8$	20	13	45 $^{11}/_{16}$	22 $^{13}/_{16}$	33 $^1/_4$

*External with door opened +845mm/33 $^1/_4$"

How to configure your washing cart?

Example of configuration of a washing cart for simultaneous washing of ø 70mm/2 $^3/_4$", ø 85mm/3 $^3/_8$", and ø 100mm/3 $^{15}/_{16}$" glassware by the use of C057002 cap screws for closing injection nozzle seats.
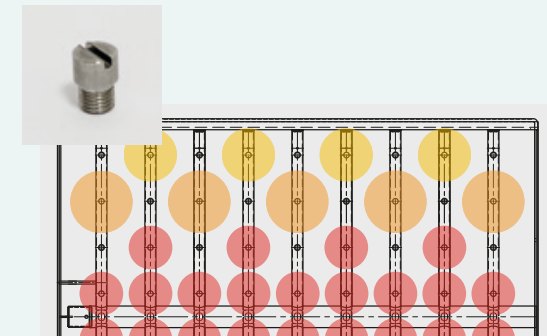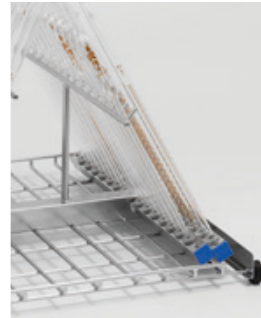
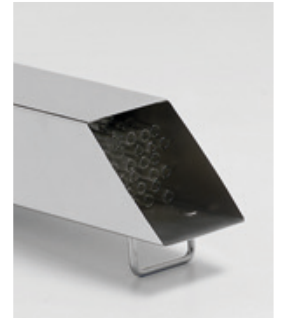# Supports configuration

Example of preconfigured supports

Bulb, graduated, Pasteur pipettes

Injection washing

Immersion and flushing washing

Beakers   Jugs   Mugs   Buckets   Jars   Weighing bottles   Funnels   Powder funnels   Imhoff cones
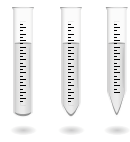

Test tubes

Evaporating dishes   Weighing dishes   Petri dishes   Basins   Trays

Erlenmeyer flasks   Bottles   Beakers   Weighing bottles
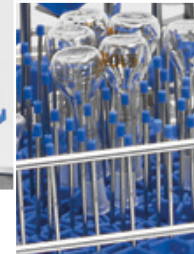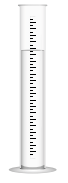
Example of configurable supports

Test tubes and vials

Low capacity volumetric flasks

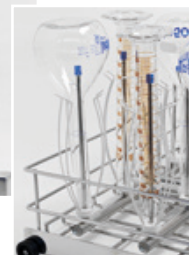Centrifuge tubes

Volumetric flasks narrow neck

Graduated cylinders

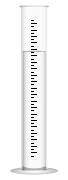Wide neck bottles

Erlenmeyer flasks wide neck

Erlenmeyer flasks narrow neck

Flat or round bottom flask narrow neck

Funnels
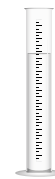
Graduated cylinders

Erlenmeyer flasks wide neck

Wide or narrow neck bottles

Weighing bottles

Graduated cylinders

Imhoff cones

Washing carts selection, injection nozzles, accessories and components

Each customer is given the possibility to fully customize the cart frame by using different nozzles and/or accessories.


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.
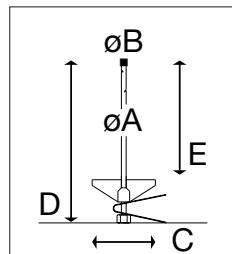

10-90 mm
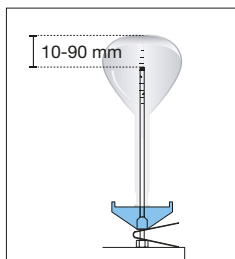
Nozzle dimensions

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.

D dimension + clearance:

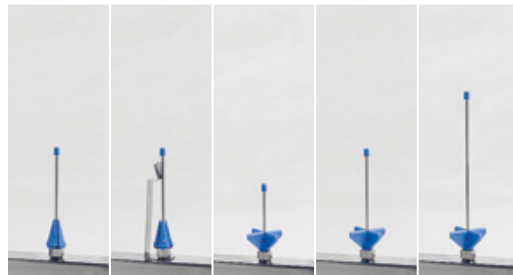for the compatibility check washing machine/ positioning level.

		C057911	C057912	C057914	C057915	C057917*	C057913	C054946
A	mm	8	8	8	8	8	8	8
	in.	5/16	5/16	5/16	5/16	5/16	5/16	5/16
B	mm	17	17	17	17	17	17	17
	in.	11/16	11/16	11/16	11/16	11/16	11/16	11/16
C	mm	87	87	105	105	105	105	105
	in.	3 7/16	3 7/16	4 1/8	4 1/8	4 1/8	4 1/8	4 1/8
D	mm	255	320	445	420	420	320	300
	in.	10 1/16	12 5/8	17 1/2	16 9/16	16 9/16	12 5/8	12 5/8
E	mm	235	300	425	400	400	300	280
	in.	9 1/4	11 13/16	16 3/4	15 3/4	15 3/4	11 13/16	11 1/32

* Radial holes on the total height nozzle

Injection nozzles types

		C054542	C054543	C054953	C054544	C054546
A	mm in.	2,5 1/8	2,5 1/8	2,5 1/8	2,5 1/8	2,5 1/8
B	mm in.	4 3/16	4 3/16	4 3/16	4 3/16	4 3/16
C	mm in.	15 9/16	15 9/16	32 1 1/4	32 1 1/4	32 1 1/4
D	mm in.	85 3 3/8	85 3 3/8	50 2	85 3 3/8	105 4 1/8
E	mm in.	80 3 1/8	80 3 1/8	30 1 3/16	65 3 1/8	85 3 3/8

		C054548	C054549
A	mm in.	4 3/16	4 3/16
B	mm in.	5 3/16	5 3/16
C	mm in.	54 2 1/8	54 2 1/8
D	mm in.	135 5 5/16	155 6 1/8
E	mm in.	105* 4 1/8*	110* 4 3/8*

		C054550	C054551	C054552
A	mm in.	6 1/4	6 1/4	6 1/4
B	mm in.	10 3/8	10 3/8	10 3/8
C	mm in.	75 2 15/16	75 2 15/16	75 2 15/16
D	mm in.	195 7 11/16	220 8 11/16	275 10 3/4
E	mm in.	150* 5 7/8*	180* 7 1/16*	235* 9 1/4*
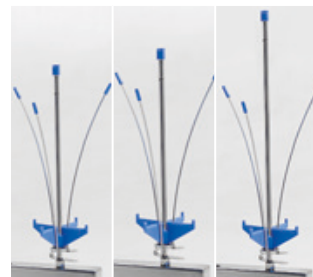
		C054553	C054554	C054555
A	mm in.	6 1/4	6 1/4	6 1/4
B	mm in.	10 3/8	10 3/8	10 3/8
C	mm in.	75 2 15/16	75 2 15/16	75 2 15/16
D	mm in.	195 7 3/4	220 8 11/16	275 10 13/16
E	mm in.	165 6 1/2	180* 7 1/16*	235* 9 1/4*

		C054947	C054559	C054560
A	mm in.	6 1/4	6 1/4	6 1/4
B	mm in.	10 3/8	10 3/8	10 3/8
C	mm in.	flex	flex	flex
D	mm in.	175 6 7/8	195 7 11/16	220 8 11/16
E	mm in.	-	-	-

Bottle support ø 28mm (1 1/8 in.) code C054037
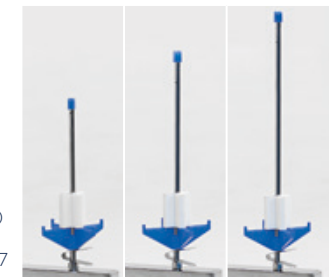
		C054556	C054557	C054558
A	mm in.	6 1/4	6 1/4	6 1/4
B	mm in.	10 3/8	10 3/8	10 3/8
C	mm in.	75 2 15/16	75 2 15/16	75 2 15/16
D	mm in.	195 7 11/16	220 8 11/16	275 10 13/16
E	mm in.	150* 5 7/8*	180* 7 1/16*	235* 9 1/4*

* indicates the maximum dimension for the height regulation of nozzles with spring.
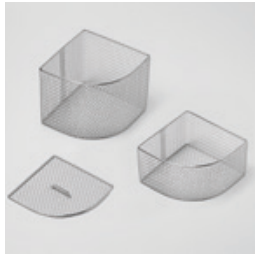
Accessories, inserts and components

C61 Insert with 28 spring hooks for laboratory glassware

C63 Net basket mm 120x120x120 4 $^3/_4$"x4 $^3/_4$"x4 $^3/_4$" C64 cover for C63

C1150 Adjustable height net cover for 121 positions test tubes washing carts (i.e. C1148, C1149) dim. 365x365x255 h mm 14 $^3/_8$"x14 $^3/_8$"x10 $^1/_{16}$" h

C68 mm 100h/3 $^{15}/_{16}$" h
C69 mm 130h/5 $^1/_8$" h
C70 mm 200h/7 $^7/_8$" h

C77 Cover for C68, C69 and C70

C97 26 positions insert for Petri dishes

C86 net separator for 1/4 net basket

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

Net cover for 121 positions test tubes wash carts (i.e. C421, C441, C723, C804.......)

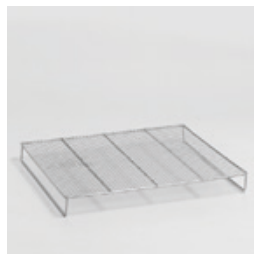**C1061** 248x248x250 h mm / 9 $^3/_4$"x9 $^3/_4$"x9 $^{13}/_{16}$" h
C1086 248x248x175 h mm / 9 $^3/_4$"x9 $^3/_4$"x6 $^7/_8$" h
C1105 248x248x45 h mm / 9 $^3/_4$"x9 $^3/_4$"x1 $^3/_4$" h
(C1105 to be laid directly on top of the test tubes)
Usable height reduced by 40mm (1 $^9/_{16}$")

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