

Laboratory glassware
washing system



Steelco
your partner in infection control



“For the Environmentally conscious”



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

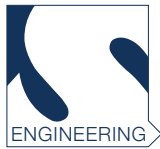
Pharmaceutical Laboratories

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.*

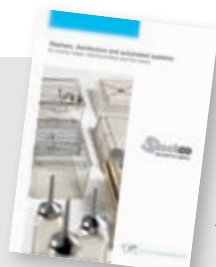
Steelco Group is available anytime to support customers during all acceptance on site including process development and mapping.

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



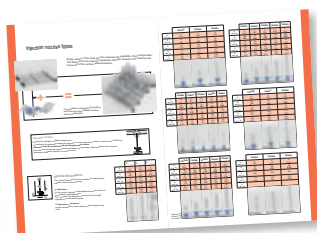


Steelco LAB Series

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.



Chamber volume
171 lt
6.04 ft³



Chamber volume
200 lt
7.06 ft³



Chamber volume
250 lt
8.83 ft³

Standard compliant

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.





“For the Environmentally conscious”

Constant improvements and innovation lead **Steelco** products to run economically and reach a higher level of environment compatibility.

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”



Chamber volume
350 lt
12.36 ft³

Chamber volume
500 lt
17.66 ft³

Chamber volume
600 lt
21.19 ft³

Chamber volume
500 lt
17.66 ft³

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.

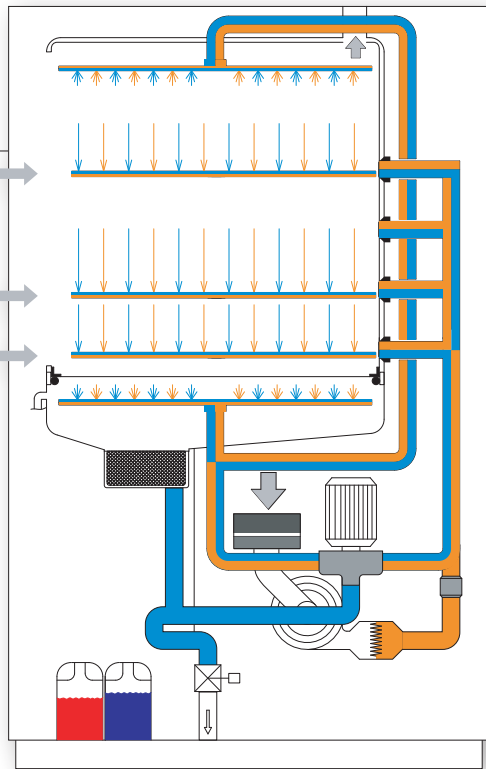
USB port allows an easy paperless document flow, documents can be opened directly by common office applications.

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

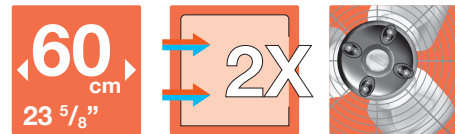


- Chamber volume ~171 lt / 6.04 ft³
- Basket volume ~151 lt / 5.33 ft³



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.



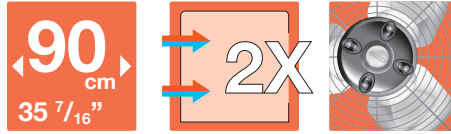
Full glass door version **LAB 500 SC**, **LAB 500 CL** and **LAB 500 DRS**

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 ft³
- Basket volume ~151 lt / 5,33 ft³

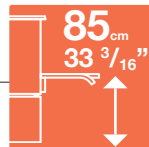


Stands and side cabinets

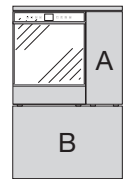
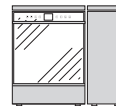
Different models of 300mm/11.81" wide side cabinets allow to locate:

- 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 left or right side		900mm machine cabinet on right side only			stand + 900mm machine 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	•	-	-	-	•	-	-	•A	•B
chemical storage	•	•	•	-	-	•	-	•B	•B
purification system	-	-	-	•	-	-	•	-	•A
4th dosing pump	-	-	-	-	-	•	-	-	•B
integrated printer	-	-	-	-	•	•	•	•A	•A

LAB 500 Series - Washing carts

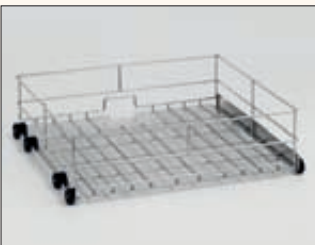
Full loading space



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

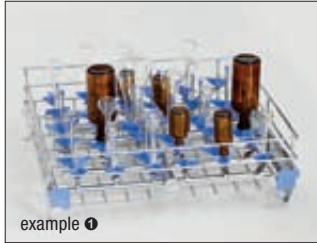


C788 - support grid ensuring a flat surface on a C721, usable height reduced by 50mm (2")



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

With injection nozzles for glassware



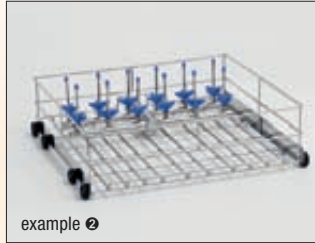
Upper level suggested configuration

- 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

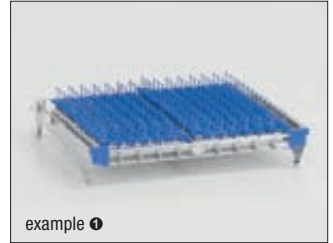
With half space + injection nozzles for glassware



Lower level suggested configurations

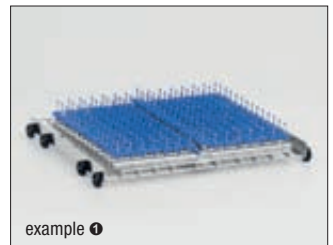
- A** 18 positions,
mixed nozzles
max glassware \varnothing 62mm/2 7/16"
max glassware h 200...300mm
loading space 250x490mm
(9 13/16"x19 5/16")
C1197E frame
+ 9 nozzles C054905
+ 9 nozzles C054904
- B** 12 positions,
mixed nozzles with supports
max glassware \varnothing 70mm/2 3/4"
max glassware h 180...280mm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

With injection nozzles for vials



Upper level suggested configuration

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

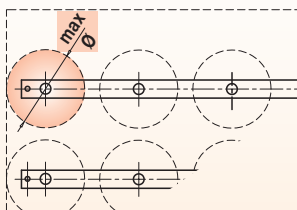


Lower level suggested configuration

- 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

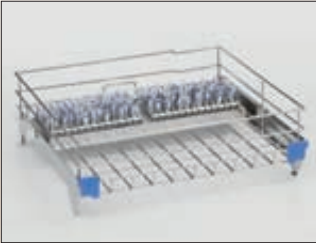
empty rack code	max Ø mm/in.	nr. of injection positions	Lev.	notes
C1342E	30 / 1 3/16	210	U	only for mm 2,5/0.1" Ø nozzles
C1235E	25 / 1	156	U	only for mm 2,5/0.1" Ø nozzles
C1132E	40 / 1 9/16	110	U	only for mm 2,5/0.1" Ø nozzles
C809E	50 / 2	64	U	only for mm 2,5/0.1" Ø nozzles
C815E	57 / 2 1/4	56	U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

U = Upper level, L = Lower level

Lower level empty racks

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

With half space + injection nozzles for vials



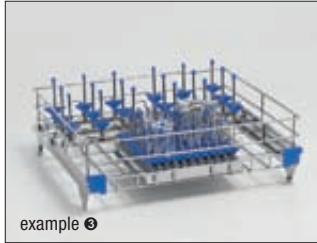
Upper level suggested configuration C858

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

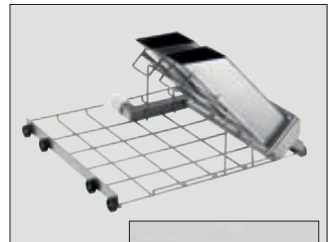


- C759**
lower level, max 48 positions.
Minimum pipette length
250mm/ $9 13/16$ " and 300mm/ $11 13/16$ "
Maximum pipette length 535mm/ $21 1/16$ "



- C719**
lower level, max 121 positions.
Min. pipette length 135mm/ $5 5/16$ "
Max. pipette length 470mm/ $18 1/2$ "

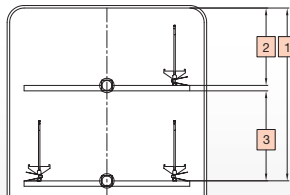
Immersion washing for pipettes



- 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

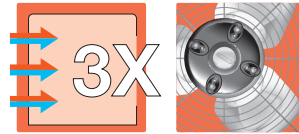
1	480 mm / 18 $7/8$ "
2	210 mm / 8 $1/8$ "
3	250 mm / 9 $13/16$ "



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



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)

- Chamber volume ~200 lt / 7.06 ft³
- Basket volume ~170 lt / 6.04 ft³



Control panel

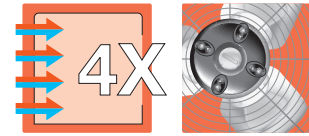
- Full glass, soft touch control panel, LCD display, 40 programs for laboratory glassware: 20 pre-programmed cycles, 20 customizable cycles.

Connections

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

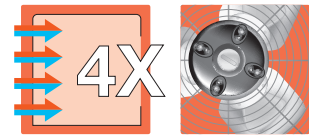


- Chamber volume ~250 lt / 8.83 ft³
- Basket volume ~220 lt / 7.77 ft³



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 ⁹ / ₁₆	25 ⁹ / ₁₆	27
Depth	mm	660	687	667
	inches	26	27 ¹ / ₁₆	26 ¹ / ₄
Height	mm	1685	1840	1960
	inches	66 ⁵ / ₁₆	72 ⁷ / ₁₆	77 ³ / ₁₆

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



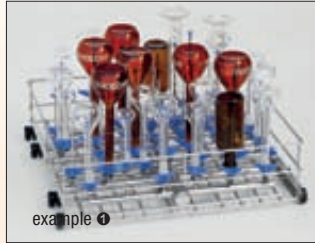
Upper level suggested configuration

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



Lower level suggested configurations

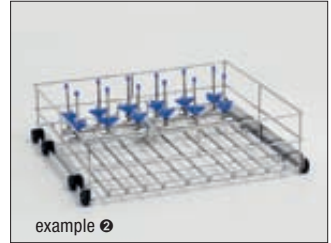
A 42 positions,
max glassware \varnothing 70mm/2 3/4"
max glassware h 230mm/9 1/16"
C729E frame
+ 42 nozzles C054904

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



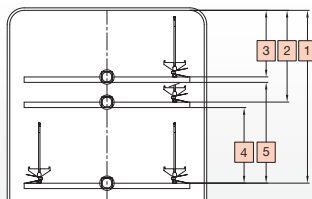
Lower level suggested configurations

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

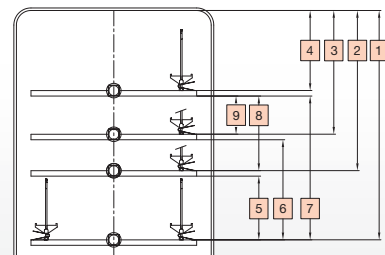
Level positions

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 / 24.80"
2	440 mm / 17.32"
3	340 mm / 13.38"
4	220 mm / 8.66"
5	170 mm / 6.69"
6	270 mm / 10.63"
7	390 mm / 15.35"
8	200 mm / 7.87"
9	100 mm / 3.94"



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 \varnothing max 240mm/9 ⁷/₁₆"
up to 5 items \varnothing max 190mm/9 ¹/₂"

C1040

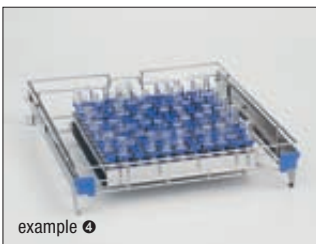
up to 2 items \varnothing max 280mm/11"



C1121

lower level, for 50 lt carboy.
Only for LAB 610 model

With injection nozzles for vials



example ④

Upper level

suggested configurations

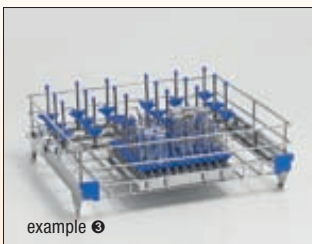
A 121 positions,
max glassware \varnothing 25mm/1"
max glassware h 90mm/3 ⁹/₁₆"
C1148E frame
+ 121 nozzles C054953
note:
see also C1150 accessory

Lower level

suggested configurations

B 121 positions,
max glassware \varnothing 25mm/1"
max glassware h 140mm/5 ¹/₂"
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 \varnothing 20mm/¹³/₁₆"
max glassware h 160mm/6 ⁵/₁₆"
24 positions
max glassware \varnothing 75mm/2 ¹⁵/₁₆"
max glassware h 160mm/6 ⁵/₁₆"
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 \varnothing 20mm/¹³/₁₆"
max glassware h 160mm/6 ⁵/₁₆"
24 positions
max glassware \varnothing 75mm/2 ¹⁵/₁₆"
max glassware h 300mm/11 ¹³/₁₆"
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 ¹³/₁₆" and
300mm/11 ¹³/₁₆". Max. pipette length:
760mm/29 ¹⁵/₁₆" on LAB 610 model,
535mm/21 ¹/₁₆" on LAB 600 model.



C733

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

Immersion washing for pipettes



C734 lower level, with 2 pipettes
cassettes, for LAB 610 only
Max. pipette length 520mm/20 ¹/₂"

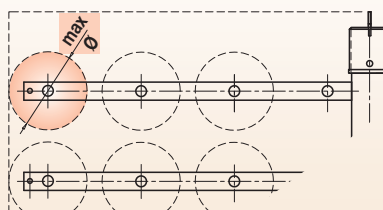
C735 lower level, with 3 pipettes
cassettes, for LAB 610 only. Max.
pipette length 290mm/11 ⁷/₁₆"

C1141 lower level, with 2 pipettes
cassettes, for LAB 600
Max. pipette length 290mm/11 ⁷/₁₆"
Pipettes must be fully covered by water
and fully immersed within the cassette.

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

Upper and lower level empty racks

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



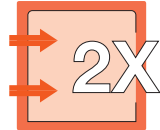
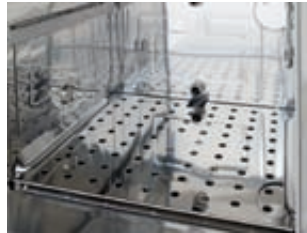
The table shows the maximum glassware diameter in the washing cart frame and position options.



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

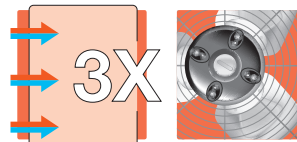


A compact device dedicated to the **drying of laboratory glassware**. When combined in the same facility ward with LAB 500 series washers, it allows to reach higher productivity levels.



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

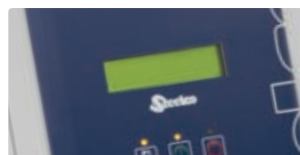
LAB 660 Freestanding Glassware Washer



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 ft³
- Basket volume ~430 lt / 15.18 ft³

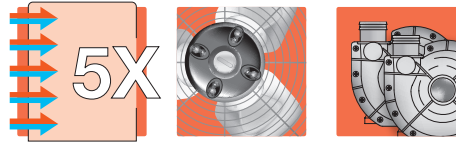


Control panel

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

LAB 680

Freestanding Glassware Washer



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

- Chamber volume ~600 lt / 21.19 ft³
- Basket volume ~430 lt / 15.18 ft³



- 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 7/8	44 7/8
Depth	mm	930	930
	inches	36 5/8	36 5/8
Height	mm	1975	1975
	inches	77 3/4	77 3/4

Connections

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



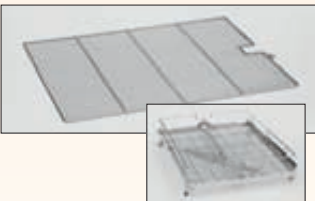
LAB 660 - LAB 680 Series - Washing carts

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")

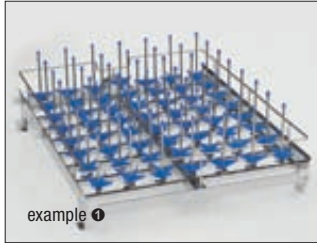


C446 - grid to allow the loading of small object on std. washing carts dim. 752x582mm (29 5/8"x22 15/16")



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

With injection nozzles for mid size glassware



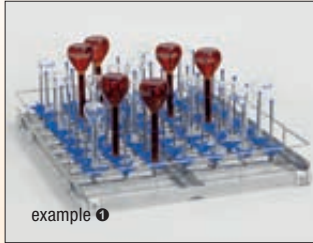
Upper level suggested configuration

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



Lower level suggested configurations

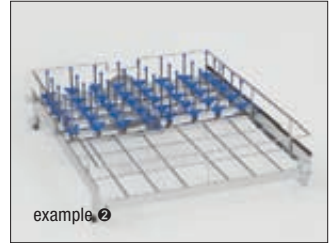
A 72 positions,
max glassware \varnothing 75mm/2 15/16"
max glassware h 230mm/9 1/16"
C414E frame
+ 72 nozzles C054904

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



Upper level suggested configurations

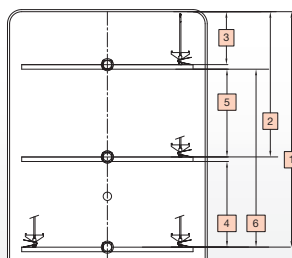
A 21 positions,
max glassware \varnothing 85mm/3 3/8"
max glassware h 300mm/11 13/16"
loading space mm 480x585 (18 7/8"x23")

C413E frame
+ 21 nozzles C054905

Level positions

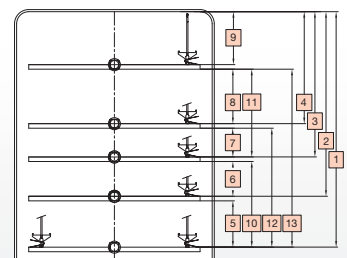
LAB 660

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"



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"



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.

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"

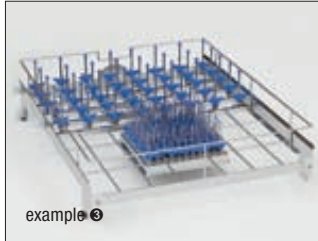
C1177

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 ©

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 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.

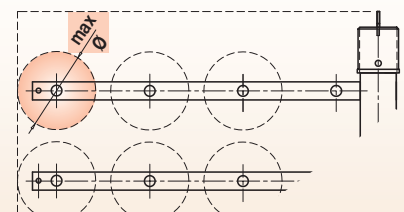
Upper and lower level empty racks

empty rack code	max Ø mm/in.	nr. of injection positions	Upper level	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	

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.

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.



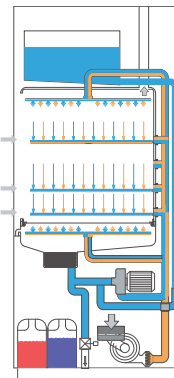
LAB 640 SL

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

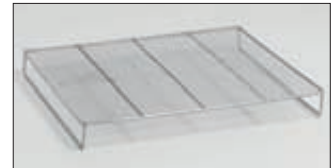
LAB 640 washer can be equipped with a non recirculated final rinse hydraulic circuit option.

- Chamber volume ~350 lt / 12.36 ft³
- Basket volume ~280 lt / 9.89 ft³

Full loading space



C1390 - upper washing cart with washing arm, loading space 570x600mm (22 7/16"x23 5/8")



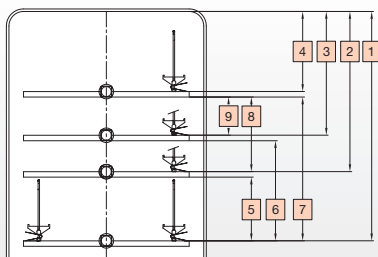
C1502 - support grid to have a flat surface on a C1390, usable height reduced by 50mm/2"



C1389 - lower washing cart, loading space 570x600mm (22 7/16"x23 5/8")

Level positions

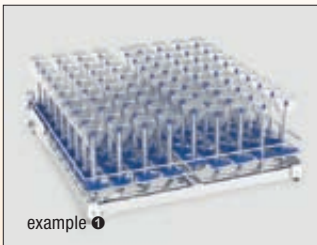
1	630 mm / 24 13/16"
2	440 mm / 17 5/16"
3	340 mm / 13 3/8"
4	220 mm / 8 11/16"
5	170 mm / 6 11/16"
6	270 mm / 10 5/8"
7	390 mm / 15 3/8"
8	200 mm / 7 7/8"
9	100 mm / 3 15/16"



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.

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"

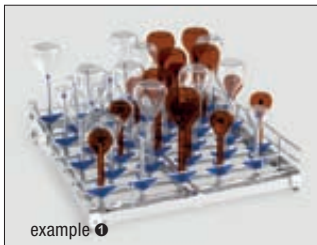
Injection nozzles for small size glassware, upper/lower levels



suggested configurations

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

Injection nozzles for mid size glassware, upper/lower levels



suggested configurations

- A 56 positions**
max glassware \varnothing 76mm/3"
max glassware h 230mm/9 $\frac{1}{16}$ "
C1407E frame
+ 56 nozzles C054904
- B 35 positions**
max glassware \varnothing 95mm/3 $\frac{3}{4}$ "
max glassware h 280mm/11"
C1406E frame
+ 35 nozzles C054905
- C 18 positions**
max glassware \varnothing 120mm/4 $\frac{3}{4}$ "
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 \varnothing max 200mm/7 $\frac{7}{8}$ "
- C1403**
upper/lower level, capacity:
up to 5 items \varnothing max 240mm/9 $\frac{7}{16}$ "
- C1515**
upper/lower level, capacity:
up to 4 items \varnothing max 280mm/11",
7 measuring cylinders:
- 4 x max \varnothing 130mm/5 $\frac{7}{8}$ "
- 3 x max \varnothing 180mm/7 $\frac{1}{16}$ "
- C1455**
upper/lower level, capacity:
up to 4 items \varnothing max 280mm/11"
1 measuring cylinder \varnothing max 95mm/3 $\frac{3}{4}$ "
- C1402**
upper/lower level, capacity:
up to 3 items \varnothing max 305mm/12"

Injection washing for pipettes



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



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

suggested configuration

- A 20 positions**
max glassware \varnothing 95mm/3 $\frac{3}{4}$ "
max glassware h 280mm/11"
C1410E frame
+ 20 nozzles C054905

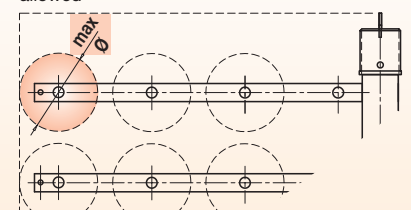
wash cart frame selection for custom configurations

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

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

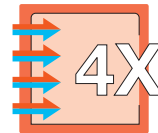


The table shows the maximum glassware diameter allowed in the washing cart frame and of the number related positions.



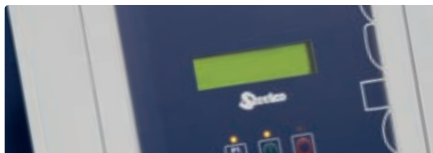
LAB 900

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 ft³
 - Basket volume ~350 lt / 12.36 ft³



Control panel

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

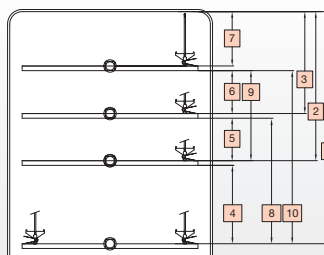
Connections

- 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 15mm³/_{16"} on top.

1	585 mm / 23"
2	345 mm / 13 ⁹ / _{16"}
3	235 mm / 9 ¹ / _{4"}
4	205 mm / 8 ¹ / _{16"}
5	75 mm / 2 ¹⁵ / _{16"}
6	75 mm / 2 ¹⁵ / _{16"}
7	125 mm / 4 ¹⁵ / _{16"}
8	315 mm / 12 ³ / _{8"}
9	185 mm / 7 ¹ / _{4"}
10	425 mm / 16 ³ / _{4"}



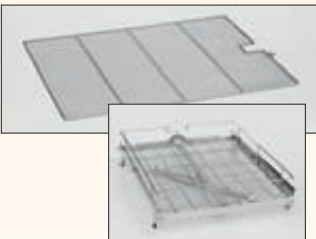
Washer dimensions		LAB 900
Width	mm	1140
	inches	44 ⁷ / ₈
Depth	mm	915
	inches	36
Height	mm	1900
	inches	74 ¹³ / ₁₆

Full loading space

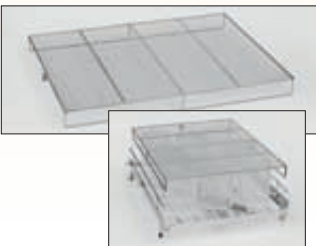


C436 - upper washing cart with washing arm, loading space 585x765mm (23"x30 1/8")

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

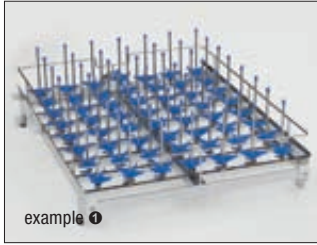


C446 - grid to allow the loading of small object on std. washing carts dim. 752x582mm (29 5/8"x22 15/16")



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

Injection nozzles all levels



suggested configurations

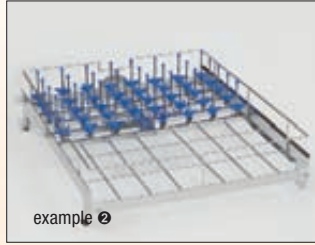
A 72 positions
max glassware \varnothing 75mm/2 15/16"
max glassware h 160mm/6 5/16"
C434E frame
+ 72 nozzles C054924

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

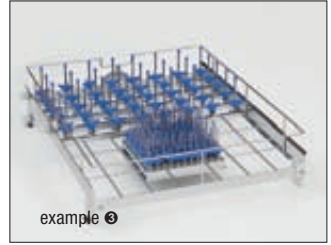
A 21 positions,
max glassware \varnothing 85mm/3 3/8"
max glassware h 300mm/11 13/16"
loading space mm 480x585 (18 7/8"x23")
C450E frame
+ 21 nozzles C054905

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

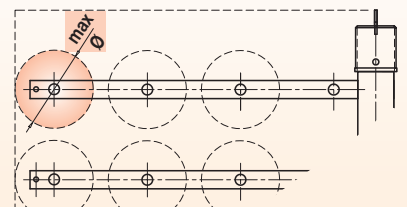
wash cart frame selection for custom configurations

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
C439E	25 / 1	330	1 all	only for mm 2,5/0.1" \varnothing nozzles
C434E	75 / 2 15/16	72	1 all	
C435E	84 / 3 9/16	56	1 all	
C440E	90 / 3 9/16	48	1 all	
C445E	150 / 5 15/16	18	1 all	
C1205E	190 / 7 1/2	10	1 all	
C450E	85 / 3 3/8	21	2 all	mm 480x585 / 18 7/8"x23" space
C441E	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.

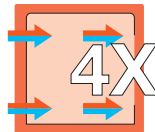


LAB 1000

High capacity Glassware Washers



- Chamber volume ~500 lt / 17.66 ft³
- Basket volume ~350 lt / 12.36 ft³



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)



Control panel

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

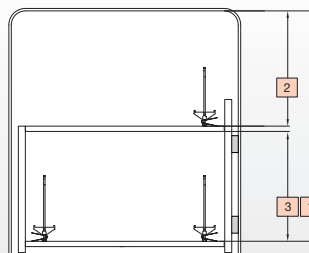
Connections

- 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 ¹³ / 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

Base injection washing cart



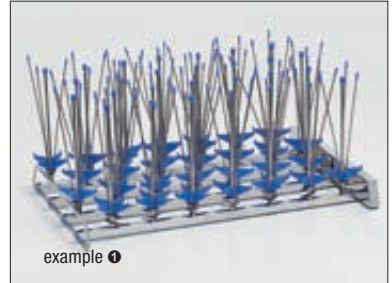
C400W - base injection washing cart suitable for removable cassettes on 2 levels

Injection Washing for Pipettes



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

Injection nozzles all levels



suggested configurations

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



- B 24 positions**
max glassware \varnothing 98mm/3 ³/₈" ,
max glassware h 230mm/9 ¹/₁₆"
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.

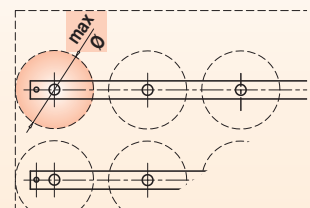
Empty wash racks

empty rack code	max \varnothing mm/in.	nr. of injection positions	Upper level Lower level	notes
C409E	40 / 1 ⁹ / ₁₆	99	❶ all	only mm 2,5/0.1" \varnothing 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 ³ / ₈	22	❶ 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	LAB 640 SL
Compliance with standards							
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	•	•	•	•	•	•	•
Washing system							
Nr. of independent levels of the washing and/or drying system	2	2	2	3	4	4	4
Nr. of levels that can be used simultaneously	2	2	2	2	3	3	3
Triple stage water filtering system	•	•	•	•	•	•	•
Built-in water softener	○	○	○	○	○	-	-
Boiler/tank for preheating DI water	○ ⁵	○ ⁵	○	○	○	○	○ ³
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	2	2
Additional chemical dosing pumps: up to nr.	3	3	4	4	4	4	4
Storage of chemical tanks, nr. and capacity lt/Gal US <small>(capacity may vary depending on option configured in the washer)</small>	-	-	2 5/1.32	3 5/1.32	3 5/1.32	3 5/1.32	2 10/2.64
Drying system							
Convection drying heated by electrical heating elements	•	-	-	-	-	-	-
Forced hot air drying system	-	•	•	•	•	•	○
Pre filter 98%	-	•	•	•	•	•	○ ⁶
Hepa H14 air filter	-	○	○	○	○	○	○
Steam condenser	•	•	•	•	•	○	○
Device configuration							
Stainless steel door	•	•	•	-	-	-	-
Stainless steel door with glass window	-	-	-	-	-	-	-
Full glass door	○ ²	○ ²	○ ²	•	•	•	•
Double door pass through version	-	-	-	-	-	-	-
Light inside the chamber	○	○	○	○	○	○	○
Control system and traceability							
LED display control panel, 10 programs	•	-	-	-	-	-	-
LCD display control panel, 40 programs	○	•	•	-	-	-	-
LCD display soft touch control panel, 40 programs	○ ¹	○ ¹	○ ¹	•	•	•	-
Touch screen display, 65 programs	-	-	-	-	-	-	•
RS232	○	•	•	•	•	•	-
USB port	• ⁷	•	•	○	○	○	-
Ethernet connection	-	-	-	○	○	○	•
External printer	○	○	○	○	○	○	-
Integrated printer	-	-	○	○	○	○	○
Complements							
Integrated lateral compartment (300mm width)	○	○	•	-	-	-	-
Stands (600 mm height)	○	○	○	-	-	-	-
Utilities							
Electrical feeding	•	•	•	•	•	•	•
Steam feeding	-	-	-	○	○	○	○
Standard electrical connection others available on request	230V 1~50Hz	400V 3~+N 50Hz	400V 3~+N 50Hz	400V 3~+N 50Hz	400V 3~+N 50Hz	400V 3~+N 50Hz	400V 3~+N 50Hz
Total power W	3050	5600	5600	8250	8250	8250	13000

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

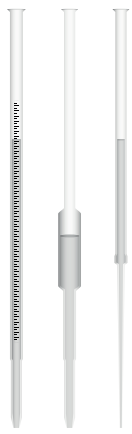
washing system selection, injection nozzles, accessories and components

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



Washing system selection

With preconfigured wash carts



Bulb, graduated, Pasteur pipettes

Injection washing



Immersion and flushing washing



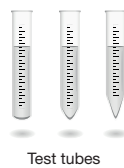
Beakers Jugs Mugs Buckets Jars Weighing bottles Funnels Powder funnels Imhoff cones



Evaporating dishes Weighing dishes Petri dishes Basins Trays



Erlenmeyer flasks Bottles Beakers Weighing bottles



Test tubes



With configurable wash carts



Test tubes and vials



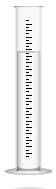
Low capacity volumetric flasks



Centrifuge tubes



Volumetric flasks narrow neck



Graduated cylinders



Wide neck bottles



Erlenmeyer flasks wide neck



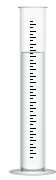
Erlenmeyer flasks narrow neck



Flat or round bottom flask narrow neck



Funnels



Graduated cylinders



Erlenmeyer flasks wide neck



Wide or narrow neck bottles



Weighing bottles



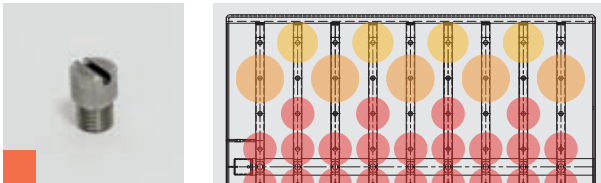
Graduated cylinders



Imhoff cones



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



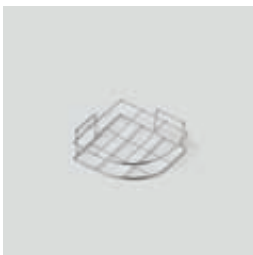
C63
net basket mm.120x120x120
 $4\frac{3}{4}$ "x $4\frac{3}{4}$ "x $4\frac{3}{4}$ "
C64 cover for C63



C97
26 positions insert for Petri dishes



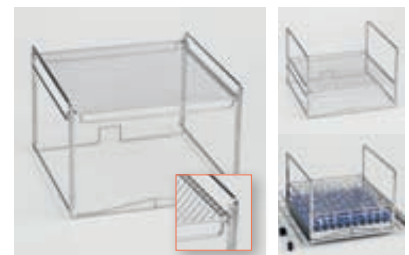
C68 mm 100h/ $3\frac{15}{16}$ "h
C69 mm 130h/ $5\frac{1}{8}$ "h
C70 mm 200h/ $7\frac{7}{8}$ "h
C77 cover for C68/C69/C70



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 / $9\frac{3}{4}$ "x $9\frac{3}{4}$ "x $9\frac{13}{16}$ "h
C1086 248x248x175h mm / $9\frac{3}{4}$ "x $9\frac{3}{4}$ "x $6\frac{7}{8}$ "h
C1105 248x248x45h mm / $9\frac{3}{4}$ "x $9\frac{3}{4}$ "x $1\frac{3}{4}$ "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
($14\frac{3}{8}$ "x $14\frac{3}{8}$ "x $10\frac{1}{16}$ "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^{9/16"},
min 4mm^{3/16"}

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^{1/8"}

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^{7/16"})

C058902



Plastic cross Ø 32mm/1 1/4" for injection nozzle
Ø 2,5mm^{1/8"}

C054008

Plastic cone Ø 15mm^{9/16"} for injection nozzle
Ø 2,5mm^{1/8"}

C057007

Injection nozzle cap Ø 4mm^{3/16"} for injection
nozzle Ø 2,5mm^{1/8"}

C054006



Bottle support Ø 28mm/1 1/8" for injection
nozzle Ø 6mm^{1/4"}

C054037

Bottle support Ø 33mm/1 5/16" for injection
nozzle Ø 6mm^{1/4"}

C054038

Bottle support Ø 45mm/1 3/4" for injection
nozzle Ø 6mm^{1/4"}

C054040



Plastic cross Ø 54mm/2 1/8" for injection
nozzle Ø 4mm^{3/16"}

C054009

Injection nozzle cap Ø 5mm^{3/16"} for injection
nozzle Ø 4mm^{3/16"}

C054005



Plastic cross Ø 75mm/2 15/16" for injection
nozzle Ø 6mm^{1/4"}

C402001

Injection nozzle cap Ø 10mm^{3/8"} for injection
nozzle Ø 6mm^{1/4"}

C054007



Stainless steel cross Ø 87mm/3 1/16"
for injection nozzle Ø 8mm^{5/16"}

C054963



Injection nozzle support for graduated
cylinders

Ø 105mm/4 1/8" h=290mm/11 7/16"
for injection nozzle Ø 8mm^{5/16"}

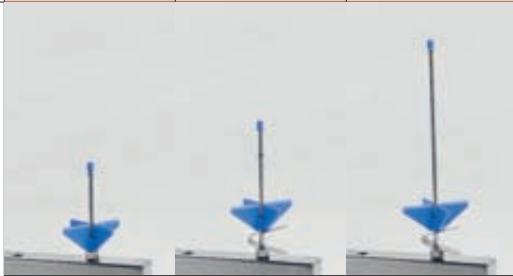
C054946



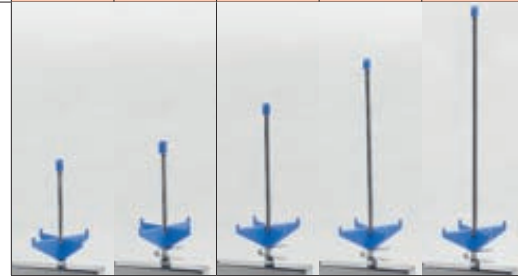
Ø 6mm^{1/4"} Adaptor nipple
for injection nozzle Ø 8mm^{5/16"}

C057013

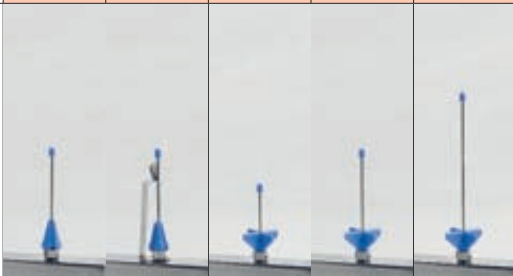
	C054930	C054924	C054904
A mm / in.	4 3/16	4 3/16	4 3/16
B mm / in.	5 3/16	5 3/16	5 3/16
C mm / in.	54 2 1/8	54 2 1/8	54 2 1/8
D mm / in.	75 2 15/16	110 4 5/16	175 6 7/8
E mm / in.	50 2	80* 3 1/8*	130* 5 1/8*



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



	C054906	C054914	C054953	C054903	C054943
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.	80 3 1/8	80 3 1/8	50 2	80 3 1/8	155 6 1/8
E mm / in.	75 2 15/16	75 2 15/16	30 1 3/16	60 2 3/8	135 5 5/16



	C054908	C054911	C054960
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.	135 5 5/16	225 8 7/8	275 10 13/16
E mm / in.	105 4 1/8	185* 7 1/4*	235* 9 1/4*



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



	C054947	C054948	C054962
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	225 8 7/8	275 10 13/16
E mm / in.	-	-	-



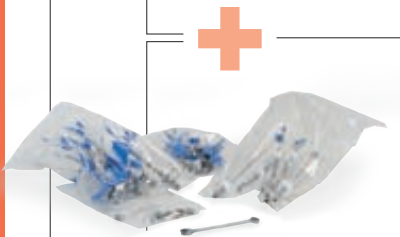
bottle support
ø 28mm / 1 1/8"
code C054037

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

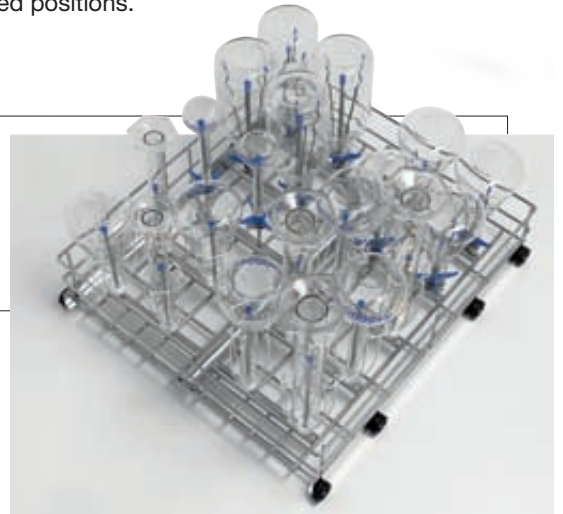
Injection nozzles types



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.



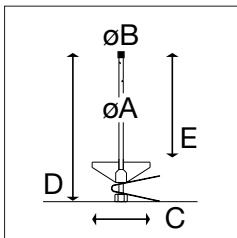
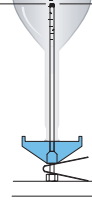
Injection nozzles

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 mm / in.	8 5/16	8 5/16	8 5/16
B mm / in.	17 11/16	17 11/16	17 11/16
C mm / in.	87 3 7/16	87 3 7/16	105 4 1/8
D mm / in.	255 10 1/16	320 12 5/8	320 12 5/8
E mm / in.	235 9 1/4	300 11 13/16	300 11 13/16





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