Laboratory glassware
washing system

Driven by customer needs

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

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

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

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

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 you 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 to 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 i according to the final scope of supply.

Steelco range of washing and sterilization systems for life sciences, laboratory applications and pharma industry:

Washer disinfectors and sterilizers for **life science** applications

Steam sterilizer for **research laboratories**

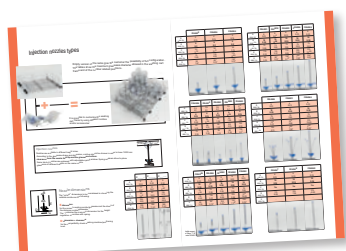**Pharmaceutical** washing and sterilization systems

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.

LAB 500 Series
Chamber volume
171 lt (6.04 ft³)

LAB 600
Chamber volume
200 lt (7.06 ft³)

LAB 610 - LAB 610 SL
Chamber volume
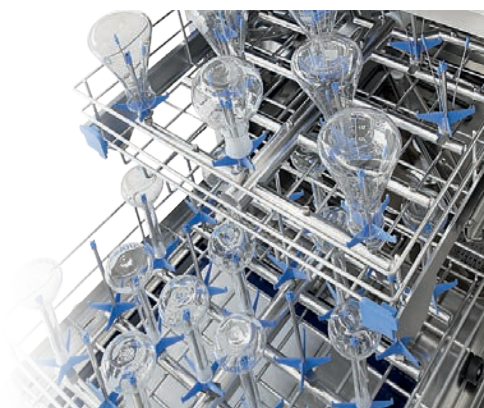**250 lt** (8.83 ft³)

Standard compliant

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

Machines baskets, inserts and accessories

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

LAB 640 SL	**LAB 900**	**LAB 1000**	**LAB 660 - LAB 680**
Chamber volume	Chamber volume	Chamber volume	Chamber volume
350 lt (12.36 ft^3)	**500 lt** (17.66 ft^3)	**500 lt** (17.66 ft^3)	**600 lt** (21.19 ft^3)

A complete range

racks, inserts, trays, and accessories
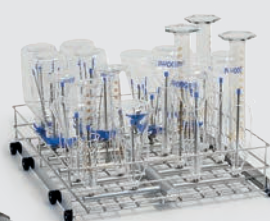
Control system

The 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.

LCD Control System

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

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.
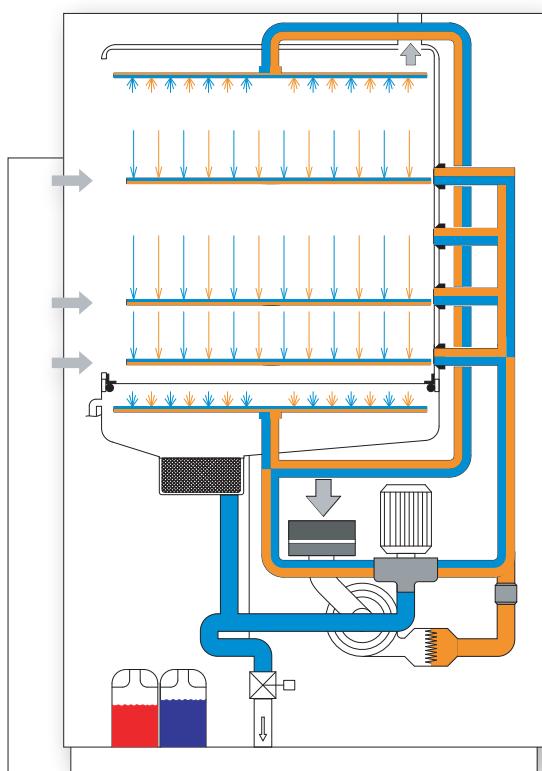
Direct coupling system for various mobile injection washing carts.
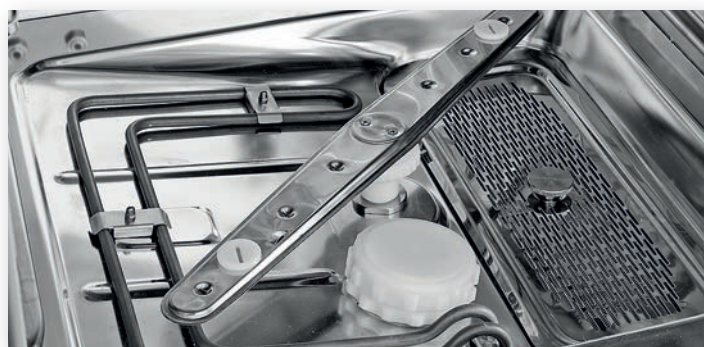
The washing chamber and spray arms as well as tank filters are made of high quality AISI 316 L stainless steel (DIN 1.4404).

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.
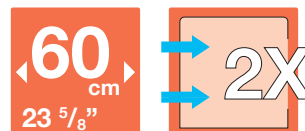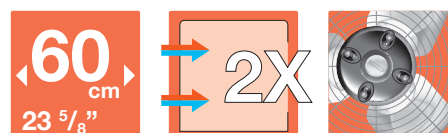
LAB 500 Series
Undercounter Glassware Washers

60 cm
23 ⁵/₈"

2X

LAB 500 SC

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

60 cm
23 ⁵/₈"

2X

LAB 500 CL

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

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

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.

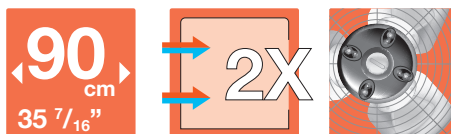Full glass door version **LAB 500 SC**, **LAB 500 CL** and **LAB 500 DRS**

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.

90 cm
35 7/16"

2X

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

85 cm
33 3/16"
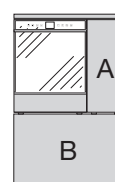
|	stand		cabinet left or right side		900mm machine cabinet on right side only			stand + 900mm machine cabinet on right side only	
• = compatible function	comb. 1	comb. 2	comb. 3	comb. 4	comb. 5	comb. 6	comb. 7	comb. 8	comb. 9
pre-heating tank	•	–	–	–	•	–	–	•A	•B
chemical storage	•	•	•	–	–	•	–	•B	•B
purification system	–	–	–	•	–	–	•	–	•A
4th dosing pump	–	–	–	–	–	•	–	–	•A
integrated printer	–	–	–	–	•	•	•	•A	•A
conductivity meter	–	–	–	–	•	•	–	•A	–
pressure booster pump for DI water	–	–	–	–	•	•	•	•A	•A

LAB 500 Series - Washing carts

Full loading space

C721 - upper washing cart with spray arm, loading space 485x450mm (19 $^1/_{16}$"x17 $^3/_4$")
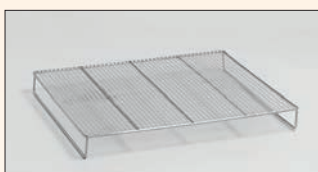
C788 - support grid ensuring a flat surface on a C721, usable height reduced by 50mm (2")
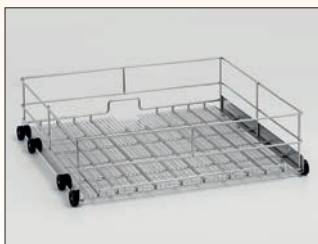
C52L - lower washing cart, loading space 490x470mm (19 $^5/_{16}$"x18 $^1/_2$")

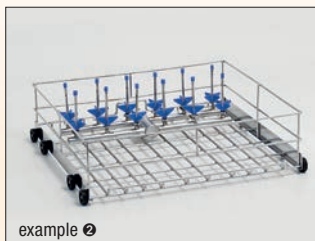## With injection nozzles for glassware

example ❶

Upper level suggested configuration

A | **36 positions**
max glassware ø 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 ø 70mm/2 $^3/_4$"
max glassware h 200mm/7 $^7/_8$"
C990E frame
+ 39 nozzles C054904

B | **39 positions, mixed nozzles**
average glassware ø 70mm/2 $^3/_4$"
max glassware h 200...300mm
C990E frame
+ 10 nozzles C054905
+ 29 nozzles C054904

With half space + injection nozzles for glassware

example ❷

Lower level suggested configurations

A | **18 positions, mixed nozzles**
max glassware ø 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 ø 70mm/2 $^3/_4$"
max glassware h 180...280mm
loading space 290x490mm
(11 $^7/_{16}$"x19 $^5/_{16}$")
C717E frame
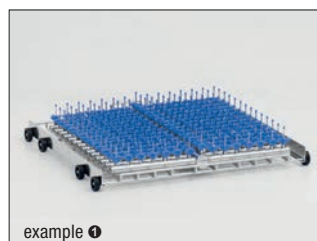+ 6 nozzles C054948
+ 6 nozzles C054947

With injection nozzles for vials
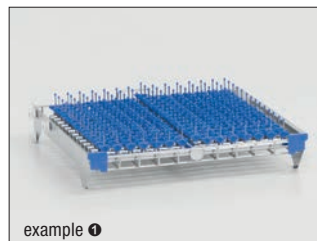
example ❶

Upper level suggested configuration

A | **210 positions**,
max glassware ø 30mm/1 $^3/_{16}$"
max glassware h 35...65mm
C1342E frame
+ 210 nozzles C054953

example ❶

Lower level suggested configuration

A | **210 positions**,
max glassware ø 30mm/1 $^3/_{16}$"
max glassware h 35...65mm
C1341E frame
+ 210 nozzles C054953

Upper level empty racks

| empty rack code	max Ø mm/in.	nr. of injection positions	Lev.		notes
C1342E	30 / 1 $^3/_{16}$	210	❶	U	only for mm 2,5/0.1" Ø nozzles
C1235E	25 / 1	156	❶	U	only for mm 2,5/0.1" Ø nozzles
C1132E	40 / 1 $^9/_{16}$	110	❶	U	only for mm 2,5/0.1" Ø nozzles
C809E	50 / 2	64	❶	U	only for mm 2,5/0.1" Ø nozzles
C815E	57 / 2 $^1/_4$	56	❶	U	only for mm 2,5-4/0.1-0.16" Ø nozzles
C711E	74 / 2 $^{15}/_{16}$	36	❶	U	
C712E	90 / 3 $^9/_{16}$	25	❶	U	
C953E	105 / 4 $^1/_8$	18	❶	U	
C723E	70 / 2 $^3/_4$	18+121	❸	U	see C1086, C1061, C1105 accessories

U = Upper level, **L = L**ower level

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

Lower level empty racks

empty rack code	max Ø mm/in.	nr. of injection positions	Lev.		notes
C1341E	30 / 1 $^3/_{16}$	210	❶	L	only for mm 2,5/0.1" Ø nozzles
C1133E	40 / $^9/_{16}$	110	❶	L	only for mm 2,5/0.1" Ø nozzles
C810E	50 / 2	64	❶	L	only for mm 2,5/0.1" Ø nozzles
C816E	56 / 2 $^3/_{16}$	56	❶	L	only for mm 2,5-4/0.1-0.16" Ø nozzles
C990E	70 / 2 $^3/_4$	39	❶	L	
C716E	89 / 3 $^1/_2$	25	❶	L	
C954E	105 / 4 $^1/_8$	18	❶	L	
C1079E	110 / 4 $^5/_{16}$	16	❶	L	
C901E	150 / 5 $^{15}/_{16}$	9	❶	L	
C1197E	62 / 2 $^7/_{16}$	18	❷	L	mm 250x490 / 9 $^{13}/_{16}$"x19 $^5/_{16}$" space
C717E	70 / 2 $^3/_4$	12	❷	L	mm 290x490 / 11 $^7/_{16}$"x19 $^5/_{16}$" space
C718E	89 / 3 $^1/_2$	10	❷	L	mm 265x490 / 10 $^7/_{16}$"x19 $^5/_{16}$" space
C804E	89 / 3 $^1/_2$	10+121	❸	L	see C1086, C1061, C1105 accessories

With half space + injection nozzles for vials
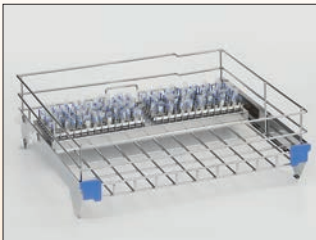
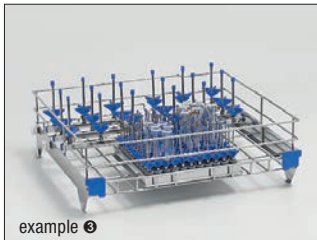**Upper level
suggested configuration
C858**
224 positions, useful ø 12mm/$^1/_2$",
equipped with 19mm $^3/_4$" height nozzles
+ loading space 250x490mm
(9 $^{13}/_{16}$"x19 $^5/_{16}$")

**Lower level
suggested configuration
C859**
224 positions, max ø 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 ❸

**Upper level
suggested configuration**

A **18 positions**
max glassware ø 70mm/2 $^3/_4$"
max glassware h 160mm/6 $^5/_{16}$"

121 positions
max glassware ø 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 ø 89mm/3 $^1/_2$"
max glassware h 160mm/6 $^5/_{16}$"

121 positions
max glassware ø 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
ø max 130mm/5 $^1/_8$"
4 nozzles h 220mm/8 $^{11}/_{16}$" and
ø max 98mm/3 $^7/_8$"
3 nozzles (C054922) h 175mm/6 $^7/_8$"
and ø 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 $^1/_{16}$
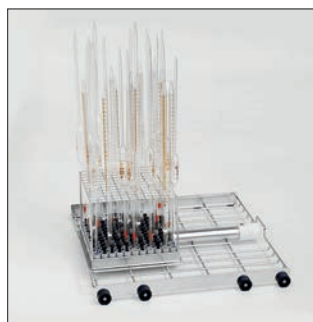
C719
lower level, max 121 positions.
Min. pipette length 135mm/5 $^5/_{16}$",
Max. pipette length 470mm/18 $^1/_2$"
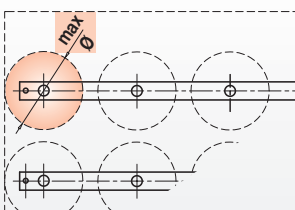
Immersion washing for pipettes

C720
lower level, with 2 pipette cassettes.
Maximum pipette length 290mm/11 $^7/_{16}$".

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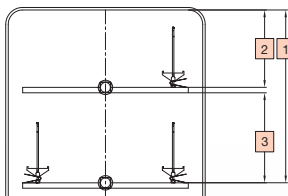water and fully immersed within the
cassette.

Glassware diam.

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

Level positions

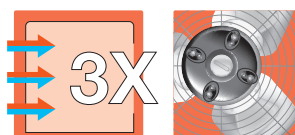|	
1	480 mm / 18 $^7/_8$"
2	210 mm / 8 $^1/_8$"
3	250 mm / 9 $^{13}/_{16}$"

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.

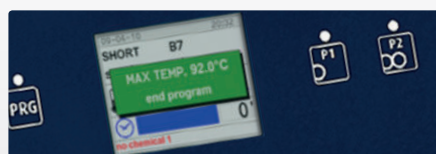# LAB 600 - LAB 610 - LAB 610 SL
Freestanding Glassware Washers

3X

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 ft^3
- Basket volume ~170 lt / 6.04 ft^3

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.
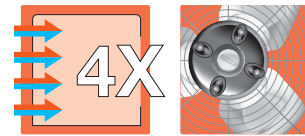
LAB 610

- 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)

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

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

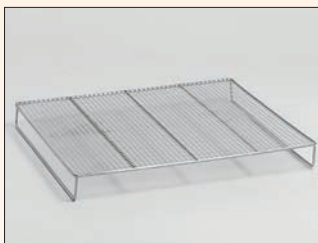| Dimensions		LAB 600	LAB 610	LAB 610 SL
Width	mm	650	650	685
	inches	25 $^9/_{16}$	25 $^9/_{16}$	27
Depth	mm	660	687	697
	inches	26	27 $^1/_{16}$	27 $^7/_{16}$
Height	mm	1685	1840	1960
	inches	66 $^5/_{16}$	72 $^7/_{16}$	77 $^3/_{16}$

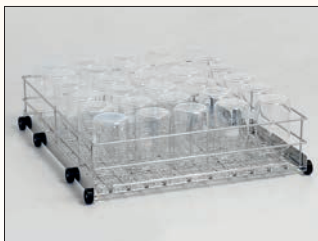# LAB 600 - LAB 610 - LAB 610 SL Series - Washing carts

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 470x540mm (18 $^1/_2$"x21 $^1/_4$")

With injection nozzles for mid size glassware

example ❶

Upper level suggested configuration

A **42 positions**
max glassware ø 70mm/2 $^3/_4$"
max glassware h 160mm/6 $^5/_{16}$"
C724E frame
+ 42 nozzles C054924

B **20 positions**
max glassware ø 100mm/3 $^{15}/_{16}$"
max glassware h 230mm/9 $^1/_{16}$"
C725E frame
+ 20 nozzles C054922

C **42 positions, mixed nozzles**
average glassware ø 70mm/2 $^3/_4$"
max glassware h 200...300mm
C724E frame
+ 10 nozzles C054922
+ 32 nozzles C054924

With injection nozzles for mid size glassware

example ❶

Lower level suggested configurations

A **42 positions**,
max glassware ø 70mm/2 $^3/_4$"
max glassware h 230mm/9 $^1/_{16}$"
C729E frame
+ 42 nozzles C054904

B **20 positions**
max glassware ø 100mm/3 $^{15}/_{16}$"
max glassware h 300mm/11 $^{13}/_{16}$"
C730E frame
+ 20 nozzles C054905

C **42 positions, mixed nozzles**
average glassware ø 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 ø 70mm/2 $^3/_4$"
max glassware h 180...280mm
C729E frame
+ 12 nozzles C054948
+ 30 nozzles C054947

With half space + injection nozzles for glassware
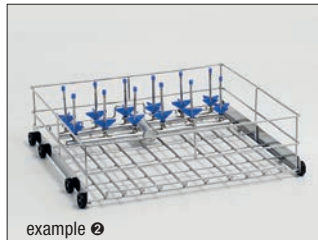
example ❷

Lower level suggested configurations

A **24 positions**,
mixed nozzles
max glassware ø 70mm/2 $^3/_4$",
max glassware h 200...300mm
loading space mm 230x490
(9 $^1/_{16}$"x19 $^5/_{16}$")
C731E frame
+ 12 nozzles C054905
+ 12 nozzles C054904

B **12 positions**,
mixed nozzles with supports
max glassware ø 100mm/3 $^{15}/_{16}$"
max glassware h 180...280mm
loading space mm 220x490
(8 $^{11}/_{16}$"x19 $^5/_{16}$")
C732E frame
+ 6 nozzles C054948
+ 6 nozzles C054947

Multipurpose with injection nozzles + pipettes

C1328
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 ø max 130mm/5 $^1/_8$"
4 nozzles h 220mm/8 $^{11}/_{16}$" and ø max 98mm/3 $^7/_8$"
3 nozzles (C054922) h 175mm/6 $^7/_8$" and ø max 60mm/2 $^3/_8$" + additional loading space 260x230mm (10 $^1/_4$"x9 $^1/_{16}$")

Upper level empty racks

empty rack code	max Ø mm/in.	nr. of injection positions	notes
C1092E	32 / 1 $^1/_4$	156	❶ only for mm 2,5/$^1/_8$" Ø nozzles
C1192E	40 / 1 $^9/_{16}$	110	❶ only for mm 2,5/$^1/_8$" Ø nozzles
C837E	35 / 1 $^3/_8$	84	❶ only for mm 2,5/$^1/_8$" Ø nozzles
C724E	70 / 2 $^3/_4$	42	❶
C1603E	80 / 3 $^1/_8$	36	❶
C725E	100 / 3 $^{15}/_{16}$	20	❶
C838E	110 / 4 $^5/_{16}$	16	❶
C1443E	75 / 2 $^{15}/_{16}$	27	❶
C991E	20 / $^{13}/_{16}$	121	❷ mm 200x490 / 7 $^7/_8$"x19 $^5/_{16}$" space
C746E	75 / 2 $^{15}/_{16}$	24+121	❸ see C1086, C1061, C1105 accessories
C1148E	25 / 1	121	❹ only for mm 2,5/$^1/_8$" Ø nozzles

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

Lower level empty racks

empty rack code	max Ø mm/in.	nr. of injection positions	notes
C1093E	40 / 1 $^9/_{16}$	110	❶ only for mm 2,5/$^1/_8$" Ø nozzles
C1570E	52 / 2 $^1/_{16}$	70	❶ only for mm 2,5-4/$^1/_8$-$^3/_{16}$" Ø nozzles
C1127E	60 / 2 $^3/_8$	56	❶ only for mm 2,5-4/$^1/_8$-$^3/_{16}$" Ø nozzles
C729E	70 / 2 $^3/_4$	42	❶
C1604E	80 / 3 $^1/_8$	36	❶
C730E	100 / 3 $^{15}/_{16}$	20	❶
C839E	110 / 4 $^5/_{16}$	16	❶
C1442E	75 / 2 $^{15}/_{16}$	27	❶
C885E	130 / 5 $^1/_8$	12	❶
C1571E	160 / 6 $^5/_{16}$	9	❶
C731E	70 / 2 $^3/_4$	24	❷ mm 230x490 / 9 $^1/_{16}$"x19 $^5/_{16}$" space
C732E	100 / 3 $^{15}/_{16}$	12	❷ mm 220x490 / 8 $^{11}/_{16}$"x19 $^5/_{16}$" space
C836E	75 / 2 $^{15}/_{16}$	24+121	❸ see C1086, C1061, C1105 accessories
C1149E	25 / 1	121	❹ only for mm 2,5/$^1/_8$" Ø nozzles

With injection nozzles for large size glassware

Lower level

C1039
up to 4 items Ø max 240mm/9 $^7/_{16}$"
up to 5 items Ø max 190mm/9 $^1/_2$"

C1040
up to 2 items Ø max 280mm/11"

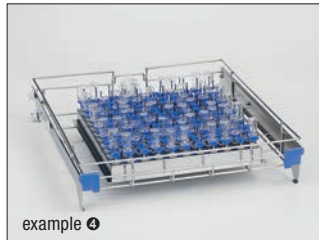**C1121**
for 50 lt carboy.
Only for LAB 610 model

C1160
for 1500ml graduated cylinders
up to 9 positions
max ø 100mm/3 $^{15}/_{16}$" body
max ø 160mm/6 $^5/_{16}$" base

With injection nozzles for vials

example ❹

**Upper level
suggested configurations**

A **121 positions**,
max glassware ø 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 ø 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
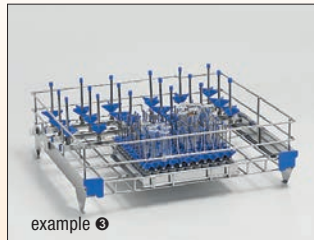
example ❸

**Upper level
suggested configurations**

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

24 positions
max glassware ø 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 ø 20mm/$^{13}/_{16}$"
max glassware h 160mm/6 $^5/_{16}$"

24 positions
max glassware ø 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.
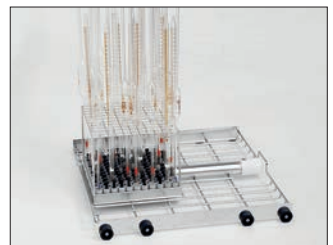
C733
lower level, max 121 positions.
Min. pipette length 135mm/5 $^5/_{16}$".
Max. pipette length 470mm/18 $^1/_2$" on
LAB 600, 620mm/24 $^7/_{16}$" on LAB 610

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 only
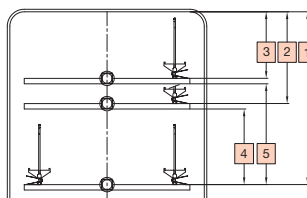Max. pipette length 290mm/ 11 $^7/_{16}$"

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

Level positions

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

LAB 600
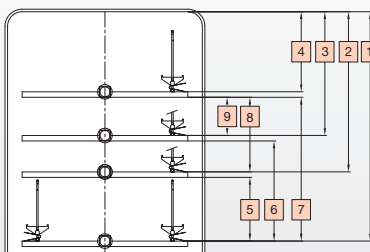
1	480 mm / 18 $^7/_8$"
2	250 mm / 9 $^{13}/_{16}$"
3	180 mm / 7 $^1/_{16}$"
4	210 mm / 8 $^1/_4$"
5	280 mm / 11"

LAB 610 - LAB 610 SL

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 $^{15}/_{16}$''

Glassware diameter

Top view of a portion of a injection
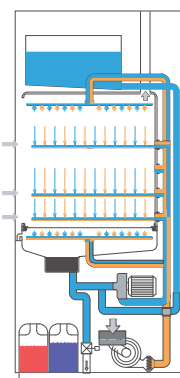washing cart showing the maximum
glassware diameter.
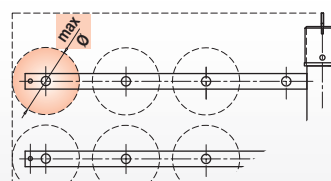
LAB 640 SL
Freestanding Glassware Washers

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)

C1390 - upper washing cart with washing arm, loading space 570x600mm (22 $^7/_{16}$"x23 $^5/_8$")
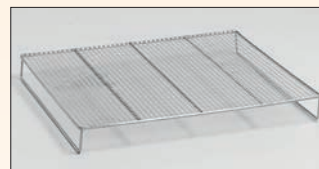
**C1502** - support grid to have a flat surface on a C1390, usable height reduced by 50mm/2"

Single pass final rinse

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

C1389 - lower washing cart, loading space 570x600mm (22 $^7/_{16}$"x23 $^5/_8$")

- Chamber volume ~350 lt / 12.36 ft^3
- Basket volume ~280 lt / 9.89 ft^3

Dimensions

Dimensions		LAB 640 SL
Width	mm	765
	inches	30 $^1/_8$"
Depth	mm	800
	inches	31 $^1/_2$"
Height	mm	1975
	inches	77 $^3/_4$"

Level positions

1	630 mm / 24 $^{13}/_{16}$''
2	440 mm / 17 $^5/_{16}$''
3	340 mm / 13 $^3/_8$'
4	220 mm / 8 $^{11}/_{16}$''
5	170 mm / 6 $^{11}/_{16}$''
6	270 mm / 10 $^5/_8$''
7	390 mm / 15 $^3/_8$'
8	200 mm / 7 $^7/_8$'
9	100 mm / 3 $^{15}/_{16}$''
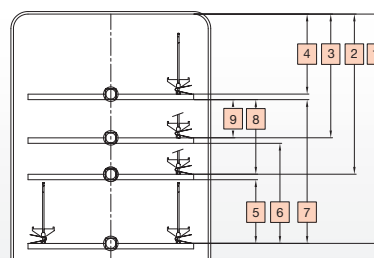
The use of an upper level washing cart provided with spray arm reduces the useful height of the level placed below by 40mm/1 $^9/_{16}$" but allows a gain of 15mm/ $^9/_{16}$" on top.

LAB 640 SL - washing carts

Injection nozzles for small size glassware

example ❶

upper/lower levels suggested configurations

A **208 positions**
max glassware ø 41mm/1 $^5/_8$",
max glassware h 160mm/6 $^5/_{16}$"

C1412E frame
+ 208 nozzles C054903

B **137 positions**
max glassware ø 51mm/2",
max glassware h 180mm/7 $^1/_{16}$"

C1411E frame
+ 137 nozzles C054924

C **90 positions**,
max glassware ø 60mm/2 $^3/_8$",
max glassware h 230mm/9 $^1/_{16}$"

C1408E frame
+ 90 nozzles C054904

Injection nozzles for mid size glassware

example ❶

upper/lower levels suggested configurations

A **56 positions**
max glassware ø 76mm/3",
max glassware h 230mm/9 $^1/_{16}$"

C1407E frame
+ 56 nozzles C054904

B **35 positions**
max glassware ø 95mm/3 $^3/_4$",
max glassware h 280mm/11"

C1406E frame
+ 35 nozzles C054905

C **18 positions**
max glassware ø 120mm/4 $^3/_4$",
max glassware h 330mm/13"

C1405E frame
+ 18 nozzles C054959

Injection nozzles for large size glassware

C1404
upper/lower level, capacity:
up to 8 items Ø max 200mm/7 $^7/_8$"

C1403
upper/lower level, capacity:
up to 5 items Ø max 240mm/9 $^7/_{16}$"

C1515
upper/lower level, capacity:
up to 4 items Ø max 280mm/11",
7 measuring cylinders:
- 4 x max Ø130mm/5 $^7/_8$"
- 3 x max Ø 180mm/ 7 $^1/_{16}$"

C1455
upper/lower level, capacity:
up to 4 items Ø max 280mm/11"
1 measuring cylinder Ø max 95mm/3 $^3/_4$"

C1402
upper/lower level, capacity:
up to 3 items Ø max 305mm/12"

Injection washing for pipettes

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

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 $^3/_4$",
max glassware h 280mm/11"

C1410E frame
+ 20 nozzles C054905

# Upper and lower level empty racks

empty rack code	max Ø mm/in.	nr. of injection positions	Upper level Lower level	notes
C1412E	41 / 1 $^5/_8$	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 $^3/_8$	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 $^1/_8$	36	❶ U/L	
C1406E	95 / 3 $^3/_4$	35	❶ U/L	
C1518E	110 / 4 $^5/_{16}$	22	❶ U/L	
C1405E	120 / 4 $^3/_4$	18	❶ U/L	
C1519E	135 / 5 $^5/_{16}$	14	❶ U/L	
C1520E*	180 / 7 $^1/_{16}$	8	❶ U/L	
C1410E	95 / 3 $^3/_4$	20	❺ U	

*Inserts for glassware alignment/support for C1520:
C1520900 max Ø 180mm / 5 $^7/_8$"
C1520901 max Ø 100mm / 5 $^7/_8$"

Glassware diameter

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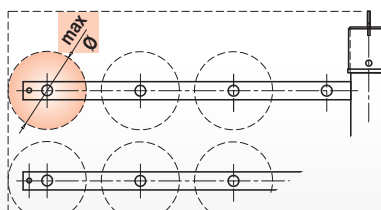

The table shows the maximum glassware diameter allowed in the washing cart frame and of the number related positions.

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.

LAB 900
Freestanding Glassware Washers

4X
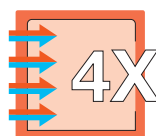
LAB 900

- Washing system **on four independent levels**
  The upper level can be docked to three different water/air connections depending on the height of the loaded glassware.
- Two automatic dispensers for liquid chemicals
- **Sliding up**, full glass door
- Storage space for chemical tanks (up to three 10 lt/2.64 Gal US)

- Chamber volume ~500 lt / 17.66 ft^3
- Basket volume ~350 lt / 12.36 ft^3

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.

Dimensions

Dimensions		LAB 900
Width	mm	1140
	inches	44 $^7/_8$
Depth	mm	915
	inches	36
Height	mm	1900
	inches	74 $^{13}/_{16}$

Level positions

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 $^3/_4$"
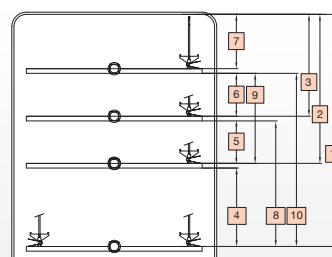
The use of an upper level washing cart provided with spray arm reduces the useful height of the level placed below by 50mm/2" but allows a gain of 15mm/$^9/_{16}$" on top.
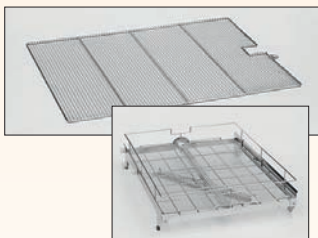
LAB 900 - washing carts
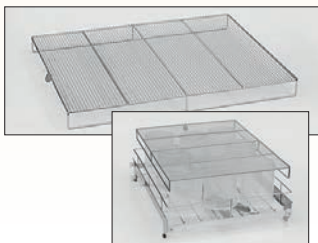
Full loading space

C436 - upper washing cart with washing arm, loading space 585x765mm (23"x30 $^1/_8$")

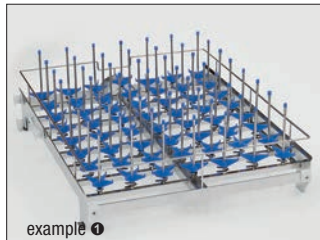**C1256** - lower washing cart without washing arm, loading space 620x765mm (24 $^7/_{16}$"x30 $^1/_8$")

C446 - grid to allow the loading of small object on std. washing carts dim. 752x582mm (29 $^5/_8$"x22 $^{15}/_{16}$")

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

Injection nozzles all levels

example ❶

suggested configurations

A **72 positions**
max glassware ø 75mm/2 $^{15}/_{16}$"
max glassware h 160mm/6 $^5/_{16}$"
C434E frame
+ 72 nozzles C054924

B **48 positions**
max glassware ø 90mm/3 $^9/_{16}$"
max glassware h 230mm/9 $^1/_{16}$"
C440E frame
+ 48 nozzles C054922

C **72 positions, mixed nozzles**
average glassware ø 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 ø 75mm/2 $^{15}/_{16}$"
max glassware h 180...280mm
C434E frame
+ 18 nozzles C054948
+ 54 nozzles C054947

Half space + Injection nozzles all levels

example ❷
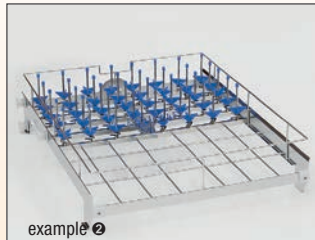
suggested configuration

A **21 positions**,
max glassware ø 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
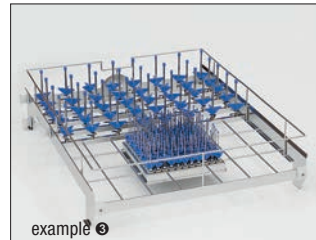
example ❸

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 $^1/_{16}$"
C441E frame
+ 121 nozzles C054903
+ 40 nozzles C054904

note:
see also C1061, C1086 and C1105 accessories

Empty wash racks

empty rack code	max ø mm/in.	nr. of injection positions	Upper level Lower level	notes
C439E	25 / 1	330 ❶	all	only for mm 2,5/0.1" Ø nozzles
C434E	75 / 2 $^{15}/_{16}$	72 ❶	all	
C435E	84 / 3 $^5/_{16}$	56 ❶	all	
C440E	90 / 3 $^9/_{16}$	48 ❶	all	
C445E	150 / 5 $^{15}/_{16}$	18 ❶	all	
C1205E	190 / 7 $^1/_2$	10 ❶	all	
C450E	85 / 3 $^3/_8$	21 ❷	all	mm 480x585 / 18 $^7/_8$"x23" space
C441E	75 / 2 $^{15}/_{16}$	40+121 ❸	all	see C1086, C1061, C1105 accessories

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.
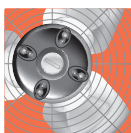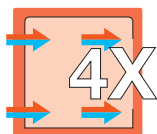
max ø
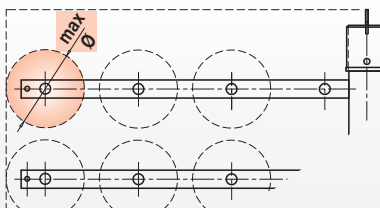
Wash cart frame selection for custom configurations

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

LAB 1000
Freestanding Glassware Washers

LAB 1000

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

- Chamber volume ~500 lt / 17.66 ft^3
- Basket volume ~350 lt / 12.36 ft^3

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.

Washer dimensions		LAB 1000
Width	mm	1100
	inches	43 $^5/_{16}$
Depth	mm	960
	inches	37 $^{13}/_{16}$
Height	mm	1940
	inches	76 $^3/_8$

Level positions

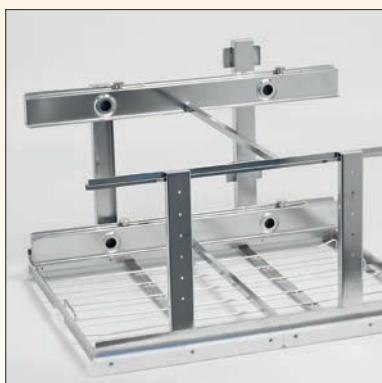|	
1	605 mm / 23 /9 $^{13}/_{16}$"
2	275 mm / 10 $^{13}/_{16}$"
3	315 mm / 12 $^3/_8$"

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.
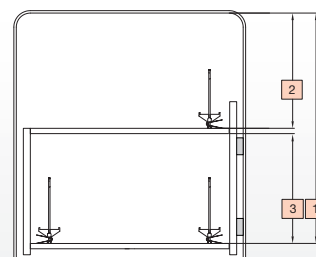
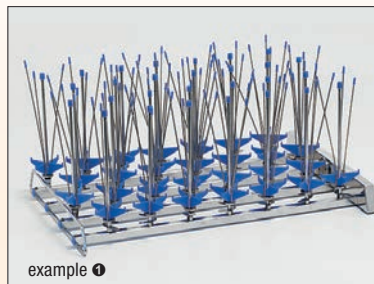# LAB 1000 - washing carts

Base injection washing cart

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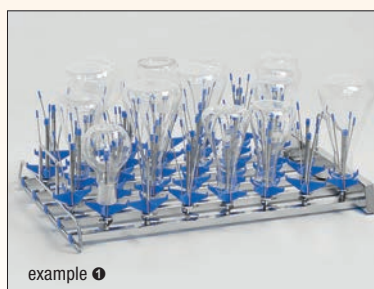
Injection Washing for Pipettes

C408
lower vertical 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 $^{15}/_{16}$",
max glassware h 160mm/6 $^5/_{16}$"

composition:
C402E frame + 34 nozzles C054924

example ❶

B **24 positions**
max glassware ø 98mm/3 $^3/_8$",
max glassware h 230mm/9 $^1/_{16}$"

composition:
C406E frame + 24 nozzles C054922

Empty wash racks

empty rack code	max Ø 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" 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	

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.
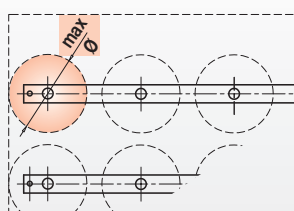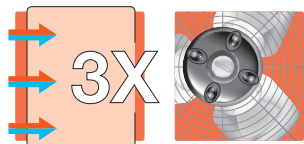

Wash cart frame selection for custom configurations

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

LAB 660 - LAB 680
## 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

- Chamber volume ~600 lt / 21.19 ft^3
- Basket volume ~430 lt / 15.18 ft^3

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

LAB 660/680 Control Panel
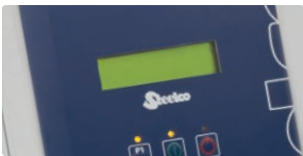
Control panel

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.

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 $^3/_4$

5X
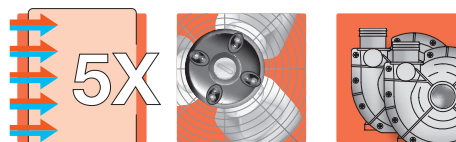
LAB 680

- **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 ft^3
- Basket volume ~430 lt / 15.18 ft^3

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

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

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

60 cm 23 $^5/_8$"

2X
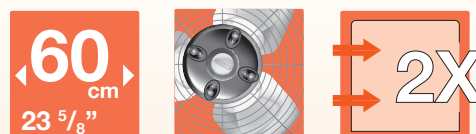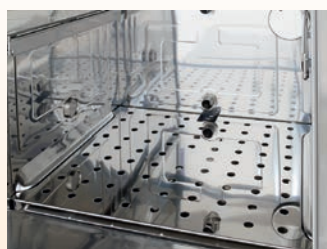
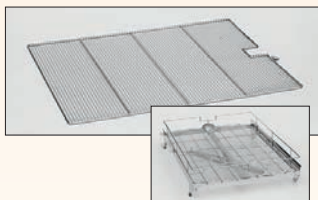- **High power forced** hot air drying system **on two independent levels**

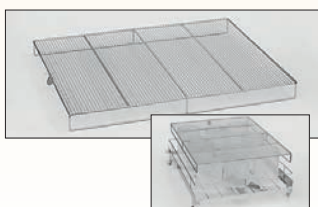# LAB 660 - LAB 680 Series - Washing carts

Full loading space

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

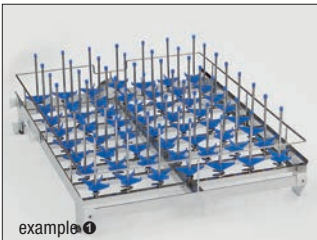**C419** - lower washing cart without washing arm, loading space 620x765mm (24 $^7/_{16}$"x30 $^1/_8$")

C446 - grid to allow the loading of small object on std. washing carts dim. 752x582mm (29 $^5/_8$"x22 $^{15}/_{16}$")

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


With injection nozzles for mid size glassware

example ❶

Upper level suggested configuration

A **72 positions**
max glassware ø 65mm/2 $^9/_{16}$"
max glassware h 160mm/6 $^5/_{16}$"
C410E frame
+ 72 nozzles C054924

B **48 positions**
max glassware ø 90mm/3 $^9/_{16}$"
max glassware h 230mm/9 $^1/_{16}$"
C425E frame
+ 48 nozzles C054922

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

With injection nozzles for mid size glassware
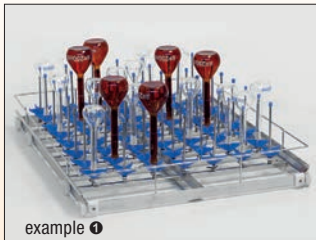
example ❶

Lower level suggested configurations

A **72 positions**,
max glassware ø 75mm/2 $^{15}/_{16}$"
max glassware h 230mm/9 $^1/_{16}$"
C414E frame
+ 72 nozzles C054904

B **48 positions**
max glassware ø 90mm/3 $^9/_{16}$"
max glassware h 300mm
C424E frame
+ 48 nozzles C054905

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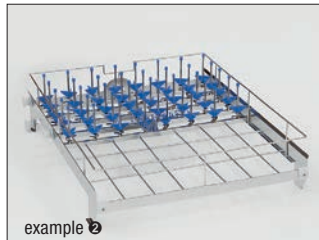C414E frame
+ 18 nozzles C054922
+ 54 nozzles C054924

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

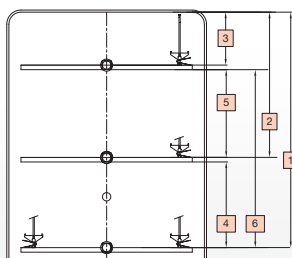### With half space + injection nozzles for mid size glassware

example ❷

Upper level suggested configurations

A **21 positions**,
max glassware ø 85mm/3 $^3/_8$"
max glassware h 300mm/11 $^{13}/_{16}$"
loading space mm 480x585
(18 $^7/_8$"x23")
C413E frame
+ 21 nozzles C054905

Level positions

LAB 660

1	770 mm / 30 $^5/_{16}$"
2	480 mm / 18 $^7/_8$"
3	170 mm / 6 $^{11}/_{16}$"
4	280 mm / 11"
5	290 mm / 11 $^7/_{16}$"
6	580 mm / 22 $^{13}/_{16}$"

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

LAB 680

1	770 mm / 30 $^5/_{16}$"
2	610 mm / 24"
3	480 mm / 18 $^7/_8$"
4	370 mm / 14 $^9/_{16}$"
5	150 mm / 5 $^{15}/_{16}$"
6	115 mm / 4 $^1/_2$"
7	90 mm / 3 $^9/_{16}$"
8	180 mm / 7 $^1/_{16}$"
9	170 mm / 6 $^{11}/_{16}$"
10	280 mm / 11"
11	290 mm / 11 $^7/_{16}$"
12	390 mm / 15 $^3/_8$"
13	580 mm / 22 $^{13}/_{16}$"
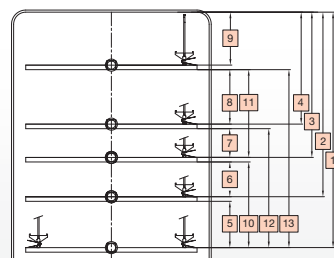
With injection nozzles for large size glassware

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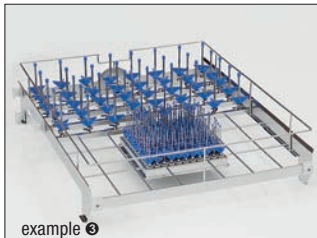up to 4 items Ø max 240mm/9 $^7/_{16}$"
1 item Ø max 315mm/12 $^3/_8$"

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

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
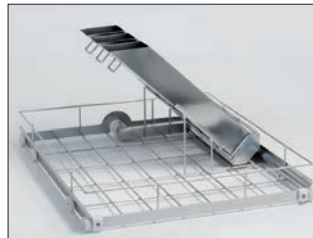
note: see also C1061, C1086 and C1105 accessories

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,
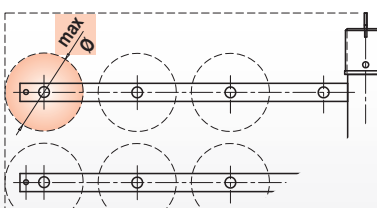Max. length 520mm/20 $^1/_2$"

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 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	

Glassware diameter

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.

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.

Technical data

	LAB 500 SC	LAB 500 CL	LAB 500 DRS	LAB 600	LAB 610
Dimensions					
External WxDxH mm/inches	600 x 630 x 850 — 23 5/8 x 24 13/16 x 33 7/8	600 x 630 x 850 — 23 5/8 x 24 13/16 x 33 7/8	900 x 630 x 850 — 35 7/16 x 24 13/16 x 33 7/8	650 x 660 x 1685 — 25 9/16 x 26 x 66 5/16	650 x 687 x 1840 — 25 9/16 x 27 1/16 x 72 1/4
External with door opened WxDxH mm/inches	600 x 1190 x 850 — 23 5/8 x 46 7/8 x 33 7/16	600 x 1190 x 850 — 23 5/8 x 46 7/8 x 33 7/8	600 x 1190 x 850 — 23 5/8 x 46 7/8 x 33 7/8	650 x 1230 x 1685 — 25 9/16 x 48 7/16 x 66 5/16	650 x 1402 x 1840 — 25 9/16 x 55 3/16 x 72 7/16
Door passage WxH mm	540 x 540 — 21 1/4 x 21 1/4	540 x 540 — 21 1/4 x 21 1/4	540 x 540 — 21 1/4 x 21 1/4	540 x 540 — 21 1/4 x 21 1/4	540 x 690 — 21 1/4 x 27 3/16
Chamber WxDxH mm	555 x 500 x 670 — 21 7/8 x 19 11/16 x 26 3/8	555 x 500 x 670 — 21 7/8 x 19 11/16 x 26 3/8	555 x 500 x 670 — 21 7/8 x 19 11/16 x 26 3/8	555 x 585 x 600 — 21 7/8 x 23 x 23 5/8	555 x 585 x 900 — 21 7/8 x 23 x 35 7/16
Chamber Volume (liter/ft³)	~171 / 6.04	~171 / 6.04	~171 / 6.04	~200 / 7.06	~250 / 8.83
Basket volume or useful volume (litert/ft³)	~151 / 5.33	~151 / 5.33	~151 lt / 5.33	~170 / 6.04	~220 / 7.77
Device configuration					
Door opening	Hinged	Hinged	Hinged	Hinged	Hinged
Stainless steel door	●	●	●	-	-
Stainless steel door with glass window	-	-	-	-	-
Full glass door	○ [2]	○ [2]	○ [2]	●	●
Double door pass through version	-	-	-	-	-
Light inside the chamber	○	○	○	○	○
Washing system					
Nr. of independent levels of the washing and/or drying system	2	2	2	3	4
Nr. of levels that can be used simultaneously	2	2	2	2	3
Triple stage water filtering system	●	●	●	●	●
Built-in water softener	○	○	○	○	○
Preheating boiler for DI water	○ [5]	○ [5]	○	○ [8]	○ [8]
Preheating tank DI water	-	-	-	-	-
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.	3	3	4	4	4
Storage of chemical tanks, nr. and capacity lt/Gal US (capacity may vary depending on option configurated in the washer)	-	-	2 5/1.32	3 5/1.32	3 5/1.32
Drying system					
Forced hot air drying system	-	●	●	●	●
Pre filter 98%	-	●	●	●	●
Hepa H14 air filter	-	○	○	○	○
Steam condenser	●	●	●	●	●
Control system and traceability					
LED display control panel, 10 programs	●	-	-	-	-
LCD display control panel, 40 programs (20 pre-programmed, 20 user defined)	○	●	●	-	-
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 feading	-	-	-	○	○
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
Total power W	3050	5600	5600	8250	8250
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	●	●	●	●	●

| LAB 610 SL	LAB 640 SL	LAB 900	LAB 1000	LAB 660	LAB 680	LAB DRYER
685 x 697 x 1960 27 x 27 7/16 x 77 3/16	765 x 800 x 1975 30 1/8 x 31 1/2 x 77 3/4 *including air exhaust	1140 x 915 x 1900 44 7/8 x 36 x 74 13/16	1100 x 960 x 1940 43 5/16 x 37 13/16 x 76 3/8	1140 x 930 x 1975 44 7/8 x 36 5/8 x 77 3/4	1140 x 930 x 1975 44 7/8 x 36 5/8 x 77 3/4	600 x 630 x 850 23 5/8 x 24 13/16 x 33 7/8
-	-	1140 x 915 x 2355 44 7/8 x 36 x 92 3/4	-	1140 x 1775 x 1975 44 7/8 x 69 7/8 x 77 3/4	1140 x 1775 x 1975 44 7/8 x 69 7/8 x 77 3/4	600 x 1190 x 850 23 5/8 x 46 7/8 x 33 7/8
540 x 690 21 1/4 x 27 3/16	620 x 690 24 7/16 x 27 3/16	665 x 675 26 3/16 x 26 9/16	660 x 670 26 x 26 3/8	665 x 835 26 x 32 7/8	665 x 835 26 x 32 7/8	540 x 540 21 1/4 x 21 1/4
555 x 585 x 780 21 7/8 x 23 x 30 11/16	636 x 650 x 825 25 1/16 x 25 9/16 x 32 1/2	710 x 800 x 900 27 15/16 x 31 1/2 x 35 7/16	715 x 815 x 940 28 1/8 x 32 1/16 x 37	710 x 810 x 1060 27 15/16 x 31 3/8 x 41 3/4	710 x 810 x 1060 27 15/16 x 31 3/8 x 41 3/4	555 x 500 x 670 21 7/8 x 19 11/16 x 26 3/8
~250 / 8.83	~350 / 12.36	~500 / 17.66	~500 / 17.66	~600 / 21.19	~600 / 21.19	~171 / 6.04
~220 / 7.77	~280 / 9.89	~350 / 12.36	~350 / 12.36	~430 / 15.18	~430 / 15.18	~151 / 5.33
Vertical sliding down	Vertical sliding down	Vertical sliding up	Vertical sliding down	Hinged	Hinged	Hinged
-	-	-	-	-	-	•
-	-	-	-	•	•	-
•	•	•	•	-	-	-
-	-	-	○	-	-	-
○	○	○	○	○	○	-
4	4	4	4 [4]	3	5	2
3	3	3	3	3	4	2
•	•	•	•	•	•	-
-	-	-	-	-	-	-
-	-	○	-	○	○	-
○	○ [3]	-	○	-	-	-
•	•	•	•	•	•	-
•	•	•	•	•	•	•
2	2	2	2	2	2	-
4	4	4	4	4	4	-
3	2	3	3	3	3	-
5/1.32	10/2.64	10/2.64	10/2.64	10/2.64	10/2.64	-
•	○	○	•	○	○	•
•	○ [6]	○ [6]	○ [6]	○ [6]	○ [6]	•
○	○	○	○	○	○	○
○	○	○	○	○	○	-
-	-	-	-	-	-	•
-	-	•	-	•	•	-
•	-	-	-	-	-	-
-	•	○	•	-	-	-
•	-	•	-	•	•	○
○	-	○	-	○	○	-
○	•	○	•	○	○	-
○	-	○	-	○	○	○
○	○	○	○	○	○	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
•	•	•	•	•	•	•
○	○	○	○	○	○	-
400V 3~+N 50Hz	400V 3~+N 50Hz	400V 3~+N 50Hz	400V 3~+N 50Hz	400V 3~+N 50Hz	400V 3~+N 50Hz	230V 1~50Hz
13000	13000	20000	20000	20000	20000	2000
•	•	•	•	•	•	•
•	•	•	•	•	•	•

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;
8) Not compatible with the storage of chemicals
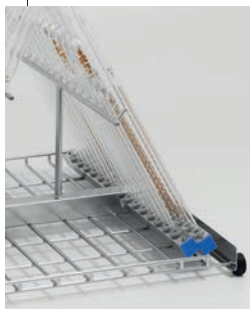
• = Standard
○ = Optional
- = Not available

Washing system selection, injection nozzles, accessories and components

With **preconfigured** wash carts
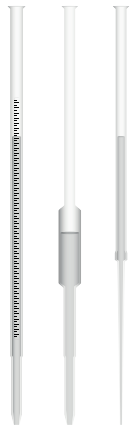
Bulb, graduated,
Pasteur pipettes

Injection washing

Immersion and flushing washing

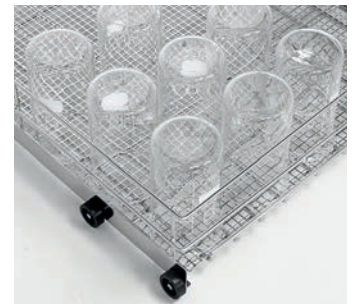| Beakers | Jugs | Mugs | Buckets | Jars | Weighing bottles | Funnels | Powder funnels | Imhoff cones |

| 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
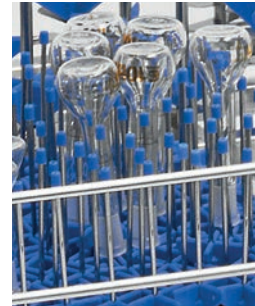
Volumetric flasks
narrow neck

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

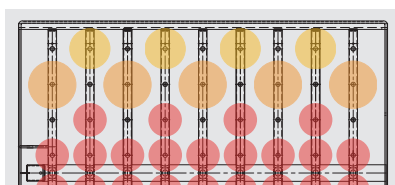Wide or narrow neck
bottles

Weighing
bottles
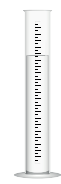
Graduated
cylinders

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 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.

C61
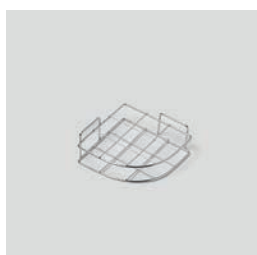insert with 28 spring hooks for laboratory glassware

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

C97
26 positions insert for Petri dishes
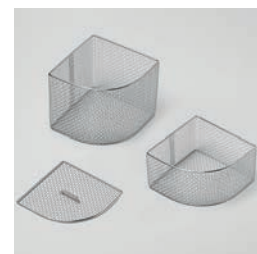
C68 mm 100h/3 $^{15}/_{16}$"h
C69 mm 130h/5 $^1/_8$''h
C70 mm 200h/7 $^7/_8$''h
C77 cover for C68/C69/C70

C86
net separator for 1/4 net basket

Net cover for 121 positions test tubes wash carts
(i.e. C421, C441, C723, C804.......)
C1061 248x248x250 mm / 9 $^3/_4$"x9 $^3/_4$"x9 $^{13}/_{16}$"h
C1086 248x248x175h mm / 9 $^3/_4$"x9 $^3/_4$"x6 $^7/_8$"h
C1105 248x248x45h mm / 9 $^3/_4$"x9 $^3/_4$"x1 $^3/_4$"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 $^3/_8$"x14 $^3/_8$"x10 $^1/_{16}$"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 $7/16$" for injection nozzle ø 8mm/$5/16$"
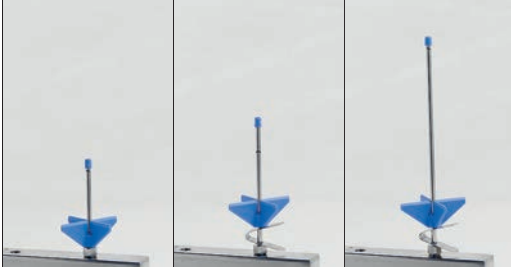**C054963**

Injection nozzle support for graduated cylinders
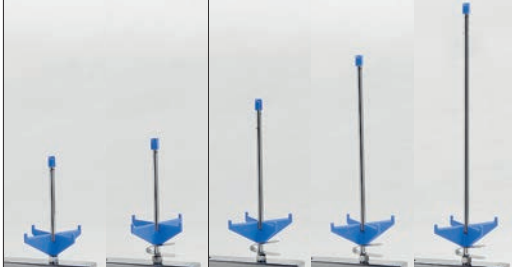ø 105mm/4 $1/8$" h=290mm/11 $7/16$"
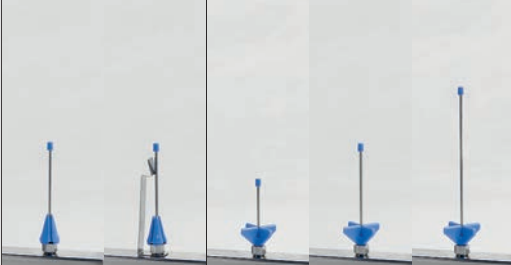for injection nozzle ø 8mm/$5/16$"
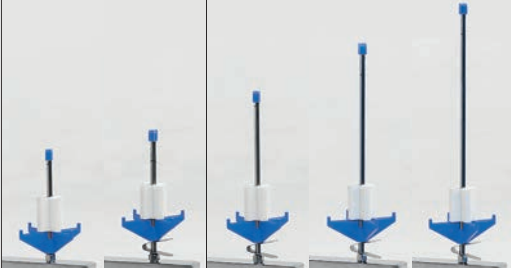**C054946**

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*

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

	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.	-	-	-

The * indicates the maximum dimension for the height regulation of nozzles with spring.
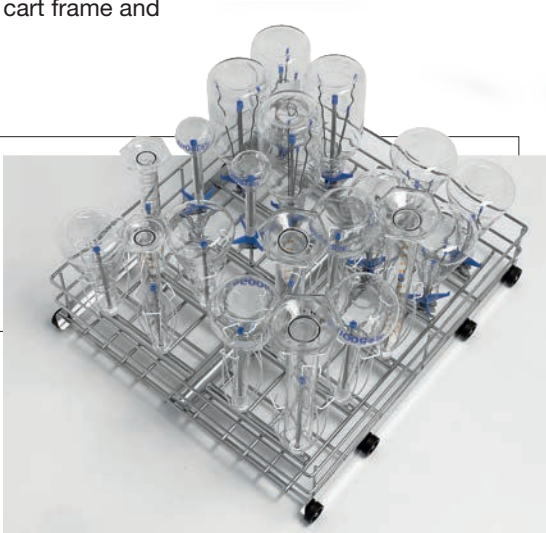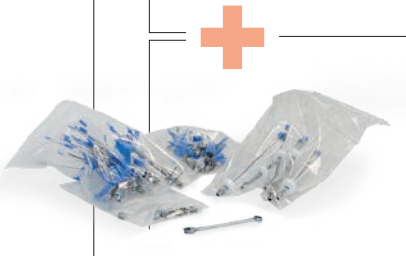
Injection nozzles types
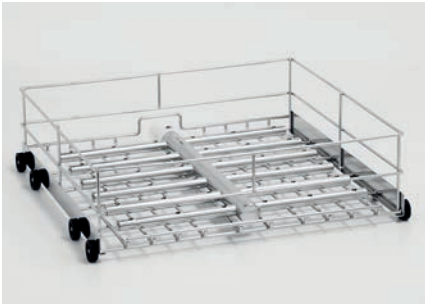
Empty version of the racks give the customer the possibility of full configuration.

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

10÷90 mm   0,4"÷3,54"

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.
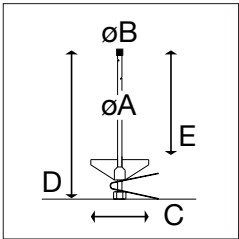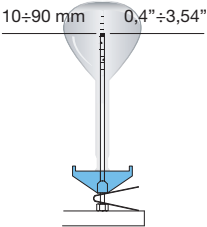
Nozzle dimensions

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 $11\,^{13}/_{16}$

steelco

Miele Group Member

Steam sterilizing autoclaves

ARES - flexible endoscope automated reprocessing system

Laboratory glassware washer disinfectors

Washer disinfectors for central of sterilization departments

Dental washer disinfectors

Flusher disinfectors

Washing and sterilizing systems for lifescience and pharmaceutical applications

Headquarters

STEELCO S.p.A.
Via Balegante, 27 - 31039 Riese Pio X (TV) - ITALY
Ph. +39 0423 7561 - Fax +39 0423 755528
info@steelcogroup.com
www.steelcogroup.com

Branches

STEELCO ASIA
Puchong, Malaysia
steelco-asia@steelcogroup.com

STEELCO BELGIUM
Mollem, Belgium
info-belgium@steelcogroup.com

STEELCO BENELUX
Vianen, Netherlands
steelco-benelux@steelcogroup.com

STEELCO FRANCE
Paris, France
steelco-france@steelcogroup.com

STEELCO GERMANY (DACH Area)
Gütersloh, Germany
steelco-germany@steelcogroup.com

STEELCO HUNGARY
Budapest, Hungary
steelco-hungary@steelcogroup.com

STEELCO MEXICO
CDMX, Mexico
steelco-mexico@steelcogroup.com

STEELCO NORDIC
Kgs. Lyngby, Denmark
info-nordic@steelcogroup.com

STEELCO NORGE
Nesbru, Norway
steelco-norge@steelcogroup.com

STEELCO SPAIN
Madrid, Spain
steelco-spain@steelcogroup.com

STEELCO USA
West Palm Beach, USA
steelco-usa@steelcogroup.com

CE

DC-PD-02-LAB EN Rev.09