Laboratory Glasswashers and Disinfectors

GW 3060 glassware washer

camlab
Washer Disinfect

Choice, Service and Trust

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CUB - Camlab Under Bench and
MAXI Tower Laboratory Washing Machines

The new generation of Camlab glassware washers CUB 3060, CUB EXTRA 4090 and MAXI 6090 may today be considered the technological benchmark in the glassware washing and disinfection sector.
Every laboratory has its own particular professional washing problems: all of them, be it in general chemistry or bacteriology, organic chemistry or petrochemistry, food or pharmaceutics, have residues that need to be treated in a different and appropriate way to achieve the required level of cleaning and disinfection.

AUTOMATIC WASHING

The fully automatic washing process of the Camlab glassware washers guarantees extremely high performance quality ensuring excellent controllable results, verifiable and repeatable over time. Automatic washing allows achieving impeccable results and the margin of error is reduced to a minimum.
The efficiency and thoroughness of automatic washing guarantees impeccable results and effective disinfection, even for the most complex and delicate materials. The risks of damaging the material are eliminated resulting in a longer life and guaranteeing perfect drying.

HUGE CHOICE OF ACCESSORIES

Camlab offers a vast range of specific trolleys and accessories for washing glassware in chemical, pharmaceutical and petrochemical laboratories. They are made of AISI 316L or 304 steel and of chemical refractory and heat-resistant materials. The combination and choice of the various accessories depend on the type and quantity of glassware to be washed. Particular attention has been paid to shapes and sizes in order to ensure that the accessories are easily interchangeable. The water intakes are automatically coupled to the internal drying air ducts when the door is closed. All the accessories are dimensionally compatible with the various models.

DISINFECTION

The Camlab disinfection machines guarantee impeccable washing and effective disinfection of complex and delicate instruments. The CUB 3060 and CUB EXTRA 4090 models are equipped with automatically regenerated washing water softeners and use freshly drawn water in every phase.

camlab

PROGRAMMABLE WASHING CYCLES

The heart of the new-generation Camlab disinfection machines is the ultra modern control system with 4 microprocessors that control every activity carried out and monitor (by means of redundant system) the entire flow of information processed by the machine. The entire GW series offers the possibility of programming all the washing parameters by means of a multifunction membrane keyboard or directly from the PC thanks to the USB, RS232 or LAN connections and the WD-TRACE ® registered software. All the most significant parameters can be set, for example: execution times, operating temperature, additive quantity, number of phases. Access to the control operations is protected by a system of four user passwords.

CONTROLLED DETERGENT DISPENSING

Washing effectiveness is first and foremost based on proper execution of the detergent and neutralising phases of the material treated.
The CUB 3060 and CUB EXTRA 4090 models have two peristaltic pumps, respectively dedicated to feeding alkaline detergent in the washing phase and acid-based neutraliser in the neutralisation phase. Each pump is equipped with a level sensor to be positioned directly in the can of the products used. The machines are designed to dispense up to 4 different additives. Liquid alkaline detergents, new enzyme-based detergents or acid-based neutralisers, caustic soda, disinfectants and/or defoaming additives can be used. The injection point and the quantity of additive to be injected are stored in the working programs.

WASTEWATER SEPARATION

The Camlab models can be equipped with a wastewater separation system.
This allows separating the washing wastewater full of potentially polluting substances from the rinsing water containing a negligible concentration of pollutants and can therefore be drained into the normal sewerage.

EXPERIENCE

Camlab have been providing and maintaining laboratory glasswashers for over 30 years. Over that time we have been instrumental in bringing new design concepts and features to our customers as providing customised solutions and adaptations. Camlab washing machines come with a number of enhanced programming options and we can offer customisation for you as part of the installation.

Our engineers are highly trained and more importantly experienced. Anyone can say they service washing machines by replacing expensive parts but at Camlab we keep you running with genuine engineering skills and repairs. Our customers stay with us and recommend us to others because we offer real service with our Service Contracts.

Our UK base in Cambridge offers full national coverage with engineers across the country to ensure a rapid response when you need us. Our engineers are able to effect most repairs at your premises due to their comprehensive parts kits and typically can be on-site with 24-48 hours.

EXPERTISE

With such a comprehensive range of machines, racks and accessories you can be confident that our experienced sales team will help you identify the right configuration for your application.

In addition our laboratory can test your cleaning samples to ensure we recommend the right combination of accessories, detergents and programs to deliver the perfect result. Our field based sales specialist will provide a free on-site survey to check services and installation requirements. Call 01954 233 110

Application Support
01954233120

Service Department
01954233130

Sales
01954233110

FREE f-TECH SUPPORT

For total peace of mind we issue all our Camlab washing machine customers with a free 12 month f-Tech service contract from day one. This fully comprehensive contract is not a cut down offering but provides all the benefits of our full chargeable contract. This means you are covered in the event of a breakdown. You will also get a free maintenance visit from one of our fully trained engineers and a host of other online benefits and support.

What's included?

- Preventative Maintenance Visit
- Calibration if required for sterilisation
- Priority Support Response
- 10% discount on spare parts
- Membership of Camlab Support Network
- Online Visibilty of service history
- FAQ's
- On-line access to calibration documentation

TRAINING

Training courses for your staff are available at our workshops or on your site. These cover basic wash theory, programming, care and maintenence and health and safety for users. For more details please call our Service Workshop on 01954 233 130.

PROGRAMMABLE

At the heart of the new generation of Camlab washers is a cutting edge software management system controlled by 4 microprocessors which can control all of the washing and disinfecting cycles as well as monitoring the entire information data flow processed by the equipment. The Camlab series allow operators to programme all washing parameters as they prefer, using the multi-function membrane keypad or the PC directly via the USB, RS232 or LAN connections and the WD-TRACE® software. All significant parameters can be set including: execution times, operating temperatures, quantity of additives, number of phases, etc. Access to the control operations is protected by a system of four user passwords.

DRYING SYSTEM

Forced air drying provides high perfomance rapid drying and has been significantly improved in this new CUB series. The system, comprised of an efficient hot air generator and a powerful fan, is directly managed by the programmer which allows both operating time and temperature parameters to be modified. The microprocessor assures "intelligent" management of the drying circuit by automatically adjusting fan speed (thereby reducing power consumption) according to the temperature measured in the washing chamber. The air intake passes through a class C filter with a 98% efficiency rating.

DETERGENT STORE

Ergonomics, reduced dimensions and practicality are indispensable requirements for all equipment used in busy professional surroundings. With these requirements in mind, Camlab has designed a detergent store located inside the reduced dimension of the glassware washer itself. It can contain up to four 2-litre containers for the CUB EXTRA 4090 series and four 5-litre containers for the MAXI 6090 series. No product feed pipes project from the body of the glasswasher.

STEAM CONDENSER

The optional steam condenser rapidly reduces the saturated steam from the washing water, especially during the thermal disinfection phases. This device eliminates the formation of condensation near the glassware washer and prevents humidity and smells from escaping into the air, especially in the versions positioned underneath worktops. In air-conditioned rooms moreover, limiting the dispersion of heat from the glassware washer reduces the work load of the air-conditioning system, considerably decreasing electricity consumption and unwanted temperature changes.

NEUTRALISER

Disinfection effectiveness mainly depends on the correct performance of the washing phases and the neutralisation of the treated material. Models CUB 3060 and CUB EXTRA 4090 feature two peristaltic pumps dedicated to dispensing the alkaline detergent during the cleaning phase and the acid neutraliser during the neutralisation phase respectively. Each pump can also equipped with an optional level sensor to be placed directly into the bottle of products used.

ADDITIONAL PERISTALTIC PUMPS FOR ADDITIVES

The new CUB models can have up to two additional peristaltic pumps dedicated to dispensing additives (caustic soda, defoamers, inhibitors, disinfectants). Each pump can be equipped with an optional level sensor to be placed directly into the bottle of the products used.

THE PARAMETER A_0

This allows you to set a numerical value derived from an equation that directly relates two fundamental parameters: temperature and thermal disinfection time. Basically, the value of A_0 defines the level of lethality of the process expressed in seconds. The value appears directly on the display and, if a printer is installed, it is also included in the end-of-cycle report.
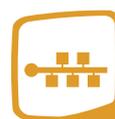
LAN CONNECTION

The new generation of Camlab disinfectors has an innovative optional "WD-LAN" This accessory comprises a data communication board which directly connects the glasswasher to the data network. Thanks to the LAN connection and the dedicated WD-TRACE® software it is possible to visualise each unit as though it were a terminal, thus being able to store all the machine data directly on PC. As information communication is two-way, it is possible to directly program and interogate the unit remotely, for example, in order to change the cycle parameters or display a chart of internal temperatures.

PRINTER

The traceability of the washing and thermal disinfection cycles performed in professional glassware washers is required in order to check the cycles have been successfully completed. The printer is an accessory which can provide a detailed report containing all information relative to cycle performance. In both the free-standing and panel versions, the thermal printers used in the CUB series provide complete supporting documentation for operators.

CONNECTIONS RS232 AND USB

A significant feature of the new-generation equipment is that it incorporates all the devices required for the complete communication of data relative to completed processes, two standard RS232 outputs, one for connection with the printer and the other for connection with the PC in order to download all the information relative to completed washing and disinfection programmes.

The range of professional Camlab washing and disinfection machines is manufactured according to specific projects using professional materials and special components in order to achieve the best results from a technological point of view. The wash chambers are made of AISI316L high quality stainless steel, resistant to strong acids (as used in the pharmaceutical and food industries).

Camlab CUB3060

The Camlab CUB is designed to operate with 1 or 2 levels for treating various types of substances. Standard washing chamber 520x515x545 mm. Possibility of washing, disinfecting and drying.

PROGRAMMABLE

ACID & NUETRALISER PUMPS

COMMUNICATION PORTS

PARAMETER A$_0$ FOR STERILISING

ADDITIONAL D.I. WATER PUMP

OPTIONAL OPTIONAL OPTIONAL OPTIONAL

Camlab CUB EXTRA 4090

The Camlab CUB EXTRA is designed to operate with 1 or 2 levels for treating various types of substances. Standard washing chamber 520x515x545 mm. Possibility of washing, disinfecting and drying with drying system.

DRYING SYSTEM

ACID & NUETRALISER PUMPS

DETERGENT STORE AREA

PROGRAMMABLE

COMMUNICATION PORTS

PARAMETER A$_0$ FOR STERILISING

ADDITIONAL D.I. WATER PUMP

OPTIONAL OPTIONAL OPTIONAL OPTIONAL

The plastic materials used are the result of more than 20 years of testing and direct experience in the most varied application fields. They are heat-resistant and inert and offer excellent resistance to corrosive substances and selected organic solvents. The range of machines meets the glassware decontamination requirements of laboratories operating in the general chemical, organic and petrochemical fields. For laboratories operating in the biological sector, Camlab guarantees complete biological decontamination (in accordance with BGVV standards).

Camlab MAXI 6090

The Camlab MAXI 6090 is a machine with a high loading capacity capable of handling large quantities of material in a short space of time and washing of large-sized instruments.

Washing chamber 670x650x835 mm (three times the useful volume of medium-sized machines). Able to load up to three direct injection glassware levels or 3 levels with rotating spray arms.

ACID & NUETRALISER PUMPS

DETERGENT STORE AREA

PROGRAMMABLE

PARAMETER A₀ FOR STERILISING

COMMUNICATION PORTS

OPTIONAL   OPTIONAL   OPTIONAL

Camlab CUB 3060

TECHNICAL DATA SHEET

CAMLAB CUB3060 TECHNICAL	All versions
Electronic control	3 microprocessors +1 (optional communication card)
Standard programs stored	20 + Two Special Camlab Cycles
Settable programs	10 (expandable to 50)
Backlit graphic LCD display	128 x 64 pixels
Clock and calendar	yes
Reprogrammable phases	10
Phase parameters	type of water, detergent quantity, target temperature, extension time in minutes, drying temperature and time
Tank internal temperature	5°C to 95° C
Accuracy	0.1°C
Temperature sensors in tank	PT 1000 CLASS B IEC 60751
Time display	5 digits
Feed pumps (50 ml/min)	4 max
Powder detergent dispenser	available on request if required (Versions BX, and BXC)
Safety lock	yes, with electromagnetic release
Safety devices	safety thermostats, door interlock
Alarm display	80
Troubleshooting menu	yes
Program editing	yes (via password)
Password	4 levels
Languages	4: Italian, English, French, German (on request: Spanish, Polish, Swedish, Russian, Japanese)
AUXILIARY FUNCTIONS	
External sensor duct	optional
Waste water separation solenoid valve control	optional
RS232 serial port for PC connection	yes
RS232 serial port for printer	yes
USB serial port	optional
LAN connection	optional
Cycle storage	yes
Cycle file download	yes
WATER SUPPLY (PRESSURE 1.5-5 BAR)	
Cold/hot water hardness	max 42° F
Demineralised water conductivity	<20µS/cm
Demineralised water pump	fitted as standard
Water softener incorporated	yes
Recirculation pump	400 l/min
WATER HEATING	
Electrical	6.3 kW max
Water pre-heating via boiler	optional
VAPOUR CONDENSER	available on request if required (Versions BXC, SC, and PC)
DIMENSIONS LxDxH mm	
Outside (with built-in top)	900x640x850 (830)
Inside	520x515x545
Net weight (kg)	120
STEEL	
Wash tank	AISI 316L
Exterior covering	AISI 304
ELECTRICAL POWER SUPPLY	
Max. voltage/power	1/N/PE 230V ~ 50Hz 2.8 kW
	3/N/PE 400V ~ 50Hz 7.0 kW
NOISE	50 dB
CONFORMITY	2006/95/EEC, 93/68/EEC, 2004/108/EEC
	EN61010-1, EN61010-2-040, EN61326:1997+A1:1998
MODEL	CUB 3060
PART NUMBER	1148278

CAMLAB CUB EXTRA 4090

TECHNICAL DATA SHEET

A₀ | RS232 USB

OPTIONAL | OPTIONAL | OPTIONAL | OPTIONAL

CAMLAB CUB EXTRA 4090 TECHNICAL FEATURES

Electronic control	3 microprocessors +1 (optional communication card)
Standard programs stored	20
Settable programs	10 (expandable to 50)
Backlit graphic LCD display	128 x 64 pixels
Clock and calendar	yes
Reprogrammable phases	10
Phase parameters	type of water, detergent quantity, target temperature, extension time in minutes,
drying temperature and time	
Tank internal temperature	5°C to 95° C
Accuracy	0.1°C
Temperature sensors in tank	PT 1000 CLASS B IEC 60751
Time display	5 digits
Feed pumps (50 ml/min)	4 max (2 are standard)
Safety lock	yes, with electromagnetic release
Safety devices	safety thermostats, door interlock
Alarm display	80
Troubleshooting menu	yes
Program editing	yes (via password)
Password	4 levels
Languages	4: Italian, English, French, German (on request: Spanish, Polish, Swedish, Russian, Japanese)
AUXILIARY FUNCTIONS	
External sensor duct	optional
Waste water separation solenoid valve control	optional
RS232 serial port for PC connection	yes
RS232 serial port for printer	yes
USB serial port	optional
LAN connection	optional
Cycle storage	yes
Cycle file download	yes
DRYING SYSTEM	
Drying fan	0.4 kW
Drying heating element	2 kW
Prefilter class C 98%	yes
HEPA filter Class S 99.999%	yes
Drying air temperature	75°C-100°C
WATER SUPPLY	**(PRESSURE 1.5-5 BAR)**
Cold/hot water hardness	max 42° F
Demineralised water conductivity	<20µS/cm
Demineralised water pump	Fitted as standard
Water softener incorporated	yes
Recirculation pump	400 l/min
WATER HEATING	
Electrical	6.3 kW max
Water pre-heating via boiler	optional
STEAM CONDENSER	optional (Version C)
DIMENSIONS LxDxH mm	
Outside (with built-in top)	900x640x850 (830)
Inside	520x515x545
Net weight (kg)	120
STEEL	
Wash tank	AISI 316L
Exterior covering	AISI 304
ELECTRICAL POWER SUPPLY	
Max. voltage/power	1/N/PE 230V ~ 50Hz 2.8 kW 3/N/PE 400V ~ 50Hz 7.0 kW
NOISE	50 dB
CONFORMITY	2006/95/EEC, 93/68/EEC, 2004/108/EEC, EN61010-1, EN61010-2-040, EN61326:1997+A1:1998
MODEL	CUB 4090
PART NUMBER	1172641

The machine bodies of the CUB 3060 and CUB EXTRA 4090 series must be equipped with trolley racks and supports most suited to the specific treatment requirements of the different types of glassware used in the laboratory.
The various possible machine/trolley configurations described below are meant as a guide to help you choose the most appropriate solution for the type of glassware used.

TWO SPRAYING LEVELS

Standard lower basket rack CS2 and upper basket rack with sprayer CS1-1. In this configuration there are two washing levels with rotary sprayers where all the supports for the various glass items can be positioned (it can be used for washing beakers, test tubes, flasks, plates and various other materials). The upper rack CS1-1 can be positioned on two levels to make better use of the space.

TWO SPRAYING/INJECTION LEVELS

Standard lower basket rack CS2 and upper injection rack. In this configuration there are two washing levels: a lower level with rotary sprayers to hold various supports (beakers, test tubes, flasks) and an upper level with a 40-position injection trolley LM40S (LM40SDS for machines with drying system).
This configuration allows simultaneous washing of narrow-necked and other types of glassware.

ONE SPRAYING/INJECTION LEVEL

LM20 trolley rack (LM20DS for machines with drying system) one half with a multi-spigots injection system and the other half to hold supports. In this case, narrow-necked glassware up to 500 mm in height can be washed at the same time as test tubes. Compared to the configuration with two spraying/injection levels, this one has the advantage that you can wash glassware more than 245 mm in height.

ONE INJECTION LEVEL

LM40 trolley (LM40DS for machines with drying system).
It may be considered as a universal injection trolley as it optimises washing of narrow-necked glassware of different sizes. It has a capacity of 40 items and can wash both large items and small flasks or bottles.

TWO INJECTION LEVELS

LM80 trolley jet-rack(LM80DS for machines with drying system) with two injection levels for a capacity of 68 items.
This version maximises the injection washing capacity.

ONE MIXED INJECTION LEVEL

LPM20/20 trolley jet-rack (LPM2020DS for machines with drying system): this system allows simultaneously washing narrow-necked glassware (flasks, beakers, round-bottom flasks) and 20 pipettes. It is a valid solution when needing to wash many different types of glassware at the same time without having to resort to a specific larger capacity trolley.

BASIC TROLLEY RACKS

CS1-1 Spray Rack

Upper trolley rack with sprayer. Suitable for positioning stainless steel baskets and supports.
1148275

CS2 Basic Rack

Basic lower trolley rack. Suitable for positioning stainless steel baskets and supports.
1148276

FLASK AND BEAKER SUPPORTS

SB15

16-position spring support to position flasks, beakers, etc. and to be used together with the standard racks CS1-1 and CS2 and the trolley LM20. It has a capacity of 16 items and is made of stainless steel. Recommended for flasks with a capacity of up to 1000 ml.
1170191

SB28 (not shown in the photo): 28-position spring support to hold flasks, beakers etc. and to be used with the standard racks CS1-1 and CS2 and the trolley LM20.
It has a capacity of 28 items and is made of stainless steel. Recommended for flasks with a capacity of up to 1000 ml.
1148314

SB30

30-position support to hold beakers of any size and to be used with the standard racks CS1-1 and CS2 and the trolley LM20. It has a capacity of 30 items and is made of stainless steel. Recommended for beakers with a capacity smaller than 500 ml.
1148315

SB25 (not shown in the photo): 28-position spring support to hold flasks and beakers and to be used with the standard racks CS1-1 and CS2. It has a capacity of 28 items and is made of stainless steel. Recommended for flasks with a capacity smaller than 500 ml.
1170192

PLATE AND SLIDE SUPPORTS

PV105 Microscope Slides

Microscope slide basket made of stainless steel. Suitable for positioning 105 standard microscope slides. Dimensions l x d x h = 220x143x60 mm. 1148314

SL6 Olympus Plates

Olympus type plate support for optical recognition of blood unit plates. Suitable for holding 6 plates. Hinged lid included. Dimensions lxdxh = 485x145x80mm
1177024
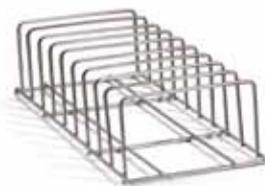
SL9 Chromotographic Plates

Universal support for chromatographic plates made of stainless steel. Holds up to 9 items. Suitable for positioning of flat materials it only takes up half the space of a standard basket.
1170193

SL18 Chromotographic Plates

Support for standard 20x20 chromatographic plates. Capacity of 18 items. The guides are shaped in such a way that the support points are outside the working surface.
1170194

2 = 2 supports will fit in the CS1-1 or CS2 racks

BOTTLE SUPPORTS

PB50

Support for 56 wide-necked bottles of 50 ml. 1177018
(screw cap GL32 ISO4796 or ground cap DIN 12038 or non-standard cap).
Max bottle dimensions: diam. 46 mm - H 87 mm.

PB100 for 32 wide-necked bottles of 100 ml. 1177015
(screw cap GL45 ISO4796 or ground cap DIN 12038 or non-standard cap). Max bottle dimensions: diam. 56 mm - H 100 mm.
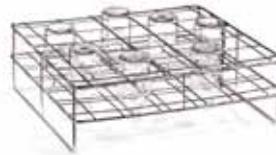
PB250

Support for 24 wide-necked bottles of 250 ml. 1177017
(screw cap GL45 ISO4796 or ground cap DIN 12038 or non-standard cap). Max bottle dimensions: diam. 70 mm - H 138 mm.

PB500

Support for 21 wide-necked bottles of 500 ml.
(screw cap GL45 ISO4796 or ground cap DIN 12038 or non-standard cap). Max bottle dimensions: diam. 86 mm - H 176 mm.

PB1000

Support for 16 wide-necked bottles of 1000 ml. 1177016
(screw cap GL45 ISO4796 or ground cap DIN 12038 or non-standard cap). Max bottle dimensions: diam. 101 mm - H 225 mm.)

TEST TUBE SUPPORTS

CP105 - CP132 - CP192 - CP222
Additional accessory for the standard baskets CS1-1 and CS2 and the trolley LM20 for washing test tubes. It has a capacity of approx. 160 standard test tubes with 3 removable compartments and lid. It takes up a quarter of the space of a standard basket and is available in four standard sizes:

CP105: test tubes up to 75 mm in height 1176994

CP132: test tubes up to 105 mm in height 1148271

CP192: test tubes up to 165 mm in height 1148272

CP222: test tubes up to 200 mm in height 1148273
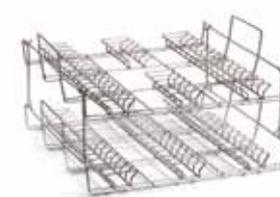
PETRI DISH SUPPORTS

PD70S - 40 items, 50-70 mm for upper level CS1-1. 1177021
PD100S - 38 items, 70-120 mm for upper level CS1-1. 1148305
PD70I - 40 items, 50-70 mm for lower level CS2. 1177020
PD100I - 38 items, 70-120 mm for lower level CS2. 1148304

BOTTOM RACKS FOR SMALL GLASSWARE, BASKETS AND HOLDING NETS

RC1/4 - RC1/2 - RC1

Holding nets with plastic-coated metal edges and nylon ties to hold small glass items in place in the standard racks CS1-1 and CS2;

Available in three models:
RC1/4 quarter basket. 1148312

RC1/2 half basket. 1148311

RC1 whole basket. 1148310
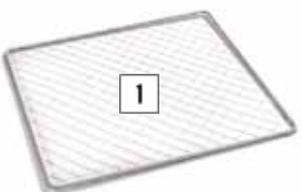
PF1/2 - PF1 - PF2

Accessory for the baskets CS1-1 and CS2 in flat AISI 304 stainless steel mesh with small mesh openings as rack to hold small glass items or as rigid rack as an alternative to the nylon holding nets.

Available in three versions:
PF1/2 (shown in the photo) half bottom rack for positioning on the top level only. 1148307
PF1 top rack with hole for positioning on the top level. 1148306
PF2 complete bottom rack for bottom level only. 1177022

BASKETS

CPF1

Complete bottom level basket with edging and handles.
Made of flat stainless steel mesh with mesh openings of 10x10 mm.
Dimensions l x d x h = 445x444x68 mm (height with handles 110 mm). Positioning on the lower trolley CS2. 1176998

| 2 | in CS1-1/CS2 racks |
| 6 | in CSK6L rack |

CPF1/2 (not shown in the photo): bottom level basket with edging and handles. Made of flat stainless steel mesh with mesh openings of 10x10 mm.
Dimensions l x d x h = 225x444x68 mm (height with handles 110 mm).
It takes up half the space of the lower trolley CS2. 1148274

CSK2

Baskets with stainless steel handles, suitable for medium-sized instruments.
Dimensions lxdxh = 450x225x50mm
Mesh openings of 5x5 mm.
1176999

| 2 | in CS1-1/CS2 racks |
| 6 | in CSK6L rack |

SPECIAL TROLLEY RACKS

CSK6L

Trolley with 3 washing levels.
Made of stainless steel and suitable for positioning specific supports and baskets.

Upper levels with spraying arm incorporated. Lower level with sprayer at the bottom of the machine. 1177000

Typical capacity:
6 baskets model CSK2.

CSK-C

Stainless steel trolley with 3 washing levels for butchery utensils available on request, suitable for positioning three **SCL-23** knife and utensil holders.

Upper levels with spraying arm incorporated. Lower level with sprayer at the bottom of the machine.
1177001

CPB1

Stainless steel upper trolley for wine-tasting glasses. Suitable for washing 14 wine-tasting glasses of max. 220 mm in height.
1176996

CPB2

Stainless steel lower trolley for wine-tasting glasses. Suitable for washing 14 wine-tasting glasses of max. 240 mm in height.
1176997

N.B. The models with drying system connection (DS versions) are specific for CUB EXTRA 4090 glassware washers.

PIPETTE WASHING

LPT100DS

Stainless steel pipette washing jet-rack with drying system connection for washing and drying of 100 pipettes with a capacity of 1 to 20 ml and a height up to 450 mm. The pipette washing disc is fitted in a trolley to allow fast loading and unloading access. 1488302

LPT100 (not shown in the photo): version without drying system connection. 1488301

LPV40DS

Stainless steel jet-rack for washing volumetric pipettes up to 55 cm in length. 20 positions for pipettes of 55 cm in height and 20 positions for pipettes and / or flasks of 45-49 cm in height. 1170180

LPV40 (not shown in the photo): version without drying system connection. 1488303

NARROW-NECKED GLASSWARE

LM20DS

20-position universal flask washing trolley in stainless steel with 20 spigots and drying system connection. Suitable for washing and drying narrow-necked glassware up to 490 mm in height. Half the trolley space is free for mixed glassware suitable for a ½ basket accessory. Positioning on the lower level. 1170172

LM20 (not shown in the photo): version without drying system connection. 1170171

LM40DS

40-position universal flask washing trolley in stainless steel with 40 spigots and drying system connection. Suitable for washing and drying narrow-necked glassware up to 490 mm in height, flasks, round-bottom flasks and graduated cylinders of various sizes. Positioning on the lower level. 1148297

LM40 (not shown in the photo): version without drying system connection. 1148296

LM40SDS

40-position flask washing trolley in stainless steel with forty U4140 spigots and drying system connection. Suitable for washing narrow-necked glassware up to 225 mm in height. Positioning on the upper level. 1177009

LM40S (not shown in the photo): version without drying system connection. 1170174

LM80DS

Two-level flask washing trolley with 68 U4140 spigots and 1 UC6 spigot and drying system connection. Suitable for internal injection washing of narrow-necked glassware with a maximum height of 225 mm. Positioning on two levels. 1148299

LM80 (not shown in the photo): version without drying system connection. 1148298

MIXED - PIPETTES + NARROW NECK)

LPM2020DS

Injection washing jet-rack with drying system connection for mixed washing of pipettes and flasks with 20 positions for pipettes up to 550 mm in height and 20 positions for narrow-necked glassware with a maximum height of 49 cm. Fitted with 38 spigots. Positioning on the lower level. 1170173

LPM20/20 (not shown in the photo) version without drying system connection. 1167105

LPM2010DS

20-position stainless steel jet-rack with drying system connection for mixed washing of flasks, pipettes and test tubes. Suitable for washing and drying of 10 pipettes up to 55 cm + 20 narrow-necked glass items + 25% free space to be filled with a CP series test tube basket. Fitted with the following spigots: 2 x U6260, 2 x U6240, 2 x U6220, 3 x U4180, 2 x U4160, 2 x U4140, 3 x U3110, 4 x U390, 1 x UC6, 10 x ULB40 for pipettes with a maximum height of 55 cm. For lower level. 1177011

LPM2010 (not shown in the photo): version without drying system connection. 1177010

REACTOR WASHING

LR4DS

Stainless steel trolley with drying system connection. Suitable for inside washing and drying of 3/5-way reactors of maximum 3 litres or up to 12 narrow-necked glass items. Fitted with 20 U6260 spigots Positioning on the lower level. 1170183

LR4 (not shown in the photo): version without drying system connection. 1170184

BOTTLE WASHING

LB4DS

Stainless steel jet-rack for washing large glass items with drying system connection. Suitable for washing two 10-litre bottles + two 5-litre Schott-type bottles. Fitted with 8 special spigots. For lower level. 1177006

LB4 (not shown in the photo): version without drying system connection. 1177003

LBT5DS

Stainless steel jet-rack for bottle washing with drying system connection. Suitable for washing and drying of five 5-litre bottles (diam. 180 x h.500mm, max neck diameter 80 mm). Fitted with 5 special spigots. 1177008 Positioning on the lower level.

LBT5 (not shown in the photo). Version without drying system connection. 1177007

FISCHER BOTTLE WASHING

LT20DS

Stainless steel trolley with drying system connection for washing and drying of 12 Fischer bottles and graduated cylinders with a maximum height of 55 cm. 6 positions for injection washing of narrow-necked glassware. Fitted with 18 spigots. Positioning on the lower level. 1170186

LT20 (not shown in the photo): version without drying system connection. 1170185

LB8DS

Stainless steel jet-rack for washing large glass items with drying system connection. Suitable for washing 8 bottles of maximum 50 cm in height. Fitted with 8 U6260 spigots and 8 special spigots. Positioning on the lower level. 1170182

LB8 (not shown in the photo): version without drying system connection. 1170181

LB32DS

Two-level stainless steel jet-rack for injection washing of bottles with drying system connection. Suitable for washing 32 narrow or wide-necked bottles of 250-1000 ml, max. diam. 101 mm, H.245 mm. Fitted with 32 U6170 spigots. Positioning on 2 levels. 1170178

LB32 (not shown in the photo): version without drying system connection. 1170179

VIALS AND CENTRIFUGE TUBES

KP100DS

Jet-rack with drying system connection for washing of tapered and cylindrical test tubes by internal injection. It has a maximum capacity of 100 test tubes. Positioning on the upper washing level. 1170187

KP100 (not shown in the photo): version without drying system connection. 1170188

BUTYROMETER WASHING

LB40DS

Stainless steel jet-rack for butyrometer washing with drying system connection. Suitable for washing and drying of 40 butyrometers. Specify the type of butyrometer in the order. Positioning on the upper level. 1177005

LB40 (not shown in the photo): version without drying system connection. 1177004

ACCESSORIES FOR CUB 3060 AND CUB EXTRA 4090

JET RACK SPIGOTS

ULB40

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

OPTIONS

B6040

Base for 60 cm wide models only. The frame allows bringing the machine loading level up to an ergonomic height approximately 70 cm from the ground. Entirely made of stainless steel. A detergent compartment with anti-drip bottom and front door with push-pull opening is integrated in the base. 1148308
Dimensions lxdxh = 600x530x400 mm

B9040 (not shown in the photo):
Base for 90 cm wide models only.
Dimensions lxdxh = 900x530x400 mm
1156378

B9040QWC

Base with integrated demineralised water boiler. For 90 cm wide models only. A boiler is housed in the base to preheat the demineralised water used by the instrument washer. 1176993
Dimensions: lxdxh = 900x530x400 mm

T9040

Frame for 90 cm wide models only. The frame allows bringing the machine loading level up to an ergonomic height approximately 70 cm from the ground. The frame also facilitates cleaning the machine underneath. Entirely made of stainless steel. 1177026
Dimensions lxdxh = 900x530x400 mm

T6040 (not shown in the photo): frame for 60cm models only.
Dimensions lxdxh = 600x530x400mm
1177025

CP3050
External storage unit for reagents or demineraliser cabinet. It can be installed next to the CUB 3060 glassware washer to house the cans of detergent or WP3000 demineralisation columns.
1176995

AD9

Additional peristaltic pump for feeding liquid additives (defoaming agents, disinfectants, inhibitors, caustic soda) complete with level sensor. The quantity of additive delivered by the pump is controlled directly by the machine microprocessor.
Versions available:
AD9 1176992   **AD10** 1176998
AD11 1176989   **AD12** 1176990

WD-VDS

Double discharge valve that allows separating and ducting the polluted wastewater from the first washing cycles from the final rinsing water. This wastewater separation device is composed of 1 and 1/2" valves with Viton membrane and valve opening is controlled by the machine microprocessor. 1177031

PAD

Booster pump for non-pressurised demineralised water. Allows feeding the machine with water drawn from a non-pressurised tank positioned at a minimum height of 85 cm from the ground. . 1157965

PAD 2

Booster pump for non-pressurised demineralised water. Allows feeding the machine with water drawn from a non-pressurised tank positioned on the ground. 1177014

WD-PRINTE

External 24-character impact matrix printer with real-time clock function. Complete with thermal paper roll.
1177029

WD-PAPER Thermal paper roll. Diameter 50 mm, width 57 mm.
1177028

CAMLAB MAXI 6090

TECHNICAL DATA SHEET

OPTIONAL   OPTIONAL   OPTIONAL

CAMLAB MAXI 6090 TECHNICAL FEATURES

Electronic control	3 microprocessors +1 (optional communication card)
Standard programs stored	20
Settable programs	10 (expandable to 50)
Backlit graphic LCD display	128 x 64 pixels
Clock and calendar	yes
Reprogrammable phases	10
Phase parameters	type of water, detergent quantity, target temperature, extension time in minutes, drying temperature and time
Tank internal temperature	5°C to 95° C
Accuracy	0.1°C
Temperature sensors in tank	1 PT 1000 CLASS B IEC 60751
Time display	5 digits
Feed pumps (50 ml/min)	4
Detergent level sensor	optional
Safety lock	yes, with electromagnetic release
Safety devices	safety thermostats, door interlock
Alarm display	80
Troubleshooting menu	yes
Program editing	yes (via password)
Password	4 levels
Languages	4: Italian, English, French, German (on request: Spanish, Polish, Swedish, Russian, Japanese)
AUXILIARY FUNCTIONS	
External sensor duct	optional
Waste water separation solenoid valve control	yes
RS232 serial port for PC connection	yes
RS232 serial port for printer	yes
USB serial port	optional
LAN connection	optional
Water quality check	optional
Cycle storage	yes
Cycle file download	yes
DRYING SYSTEM	**OPTIONAL**
Drying fan	0.8 kW
Drying heating element	4 kW
Prefilter class C 98%	yes
HEPA filter Class S 99.999%	yes
Drying air temperature	75°C-100°C
WATER SUPPLY (PRESSURE 1.5-5 BAR)	
Cold/hot water hardness	max 42° F
Demineralised water conductivity	<20µS/cm
Demineralised water pump	optional
Water softener incorporated	no
Recirculation pump	2 pumps of 400 l/min
WATER HEATING	
Electrical	18.5 kW max
Steam	optional (MAXI 6090DSV version)
Water pre-heating via boiler	optional
DIMENSIONS DxWxH mm	
Outside	801x902x2035 (MAXI 6090DS versions) and 801x902x1835 (MAXI 6090 version)
Inside	670x650x835 Useful Dimensions: 615x610x835mm dxwxh
Net weight (kg)	282
STEEL	
Wash tank	AISI 316L
Exterior covering	AISI 304
ELECTRICAL POWER SUPPLY	
Max. voltage/power	3/N/PE 400V ~ 50Hz 18.5 kW
NOISE	50 dB
CONFORMITY	2006/95/EEC, 93/68/EEC, 2004/108/EEC EN61010-1, EN61010-2-040, EN61326:1997+A1:1998
MODELS	MAXI 6090, MAXI 6090DS (DRYING)
PART NUMBERS	1172781, 1172780

MAXI 6090 WASHING CONFIGURATION

A major advantage of the Camlab MAXI 6090 washing system is that the direct injection systems can be exchanged with the rotating sprayer systems on all three washing levels. By placing the 6 available systems on different levels, many different configurations can be obtained, thus allowing loading capacity to by optimised according to washing requirements. Glassware of various sizes with heights up to 835 mm and volumes up to 25 litres can be washed.
See below for the setups possible with the available racks and injection systems. Examples of possible setups are then provided on the next pages.

|	DIRECT INJECTION SET UPS	MAXIMUM HEIGHT OF GLASSWARE (mm)				ROTATING SPRAYER SET UPS	MAXIMUM HEIGHT OF GLASSWARE (mm)			
TOP LEVEL	L690 + C63 Injection system on telescopic base	140	450	170		C62 Rotating sprayer with telescopic base	105	380	105	
MID LEVEL	L680 + C63 Injection system on telescopic base	210			720	C62 Rotating sprayer with telescopic base	195		640	835
BASE LEVEL	L685 + C61 Injection system on telescopic base utilising the rotating sprayer at the bottom of the wash tank	260	260	545		C61 Telescopic base using utilising the rotating sprayer at the bottom of the wash tank	365	365		

C61 BASE LEVEL . 1148267

Basic base level with grid. It is used on its own and is suitable for
positioning various glassware supports. Washing is performed by the internal
sprayer at the bottom of the machine.
The C61 basic trolley is also used to position the injection systems (L685/
L680/L690) on Top Level. The injector trolleys are inserted into the guide rails
of the C61.
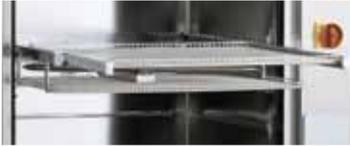
C62 MID AND TOP LEVEL SPRAYER 1148268

Basic trolley with rotating sprayer for base and mid levels.
It is used on its own and is suitable for positioning
glassware supports.
The system is divided into 2 parts:
1. Base with sprayer
2. Telescopic support with top.
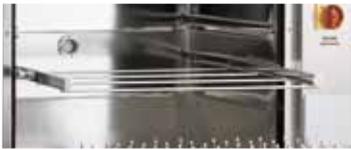
C63 MID AND TOP LEVEL SUPPORT 1148269

Telescopic support for injection systems. The support is used to
position the injection systems on the base and mid levels.
The C63 is inserted into guide rails of the machine.
The injector trolleys (L680/685/690) are inserted in turn into the guide rails
of the C63. The system allows the injection systems to be completely
removed in order to simplify loading the glassware.

L690 SMALL ITEM JET RACK 1148292
Injection system for small glassware with 86 spigots
at the same height of 110 mm.
This spigot configuration makes it suitable for use
on the top work level.
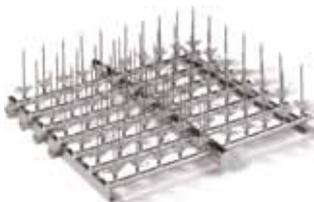
L680 MEDIUM ITEM JET RACK 1167487

Injection system for small and medium glassware
with 76 spigots at the same height of 140 mm.
This spigot configuration makes it suitable for preferential
use on the mid level.
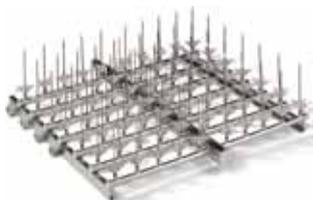
L685 LARGE ITEM JET RACK 1148291

Injection system for large, medium and small glassware
with 76 spigots of differing heights: 90/110/140/160/180/240 mm.
The differing spigot heights make it possible to optimise loading
of different sized glassware. This spigot configuration
allows the system to be used on the base and mid washing levels.

PB6000 BOTTLE SUPPORT 1177019
Support for wide-mouthed bottles. Capacity 25 flasks
from 1000 ml to 5000 ml and/or 1000 ml wide-mouthed bottles
(screw cap GL45 ISO4796 or ground cap DIN 12038 or non-standard cap).
Made of stainless steel.

THREE WASHING LEVELS

DIRECT INJECTION

Base Level: C61 basic trolley with L685 direct injection system.
Maximum useful height 260 mm 76 spigots.
Mid Level: C63 trolley with L680 direct injection system.
Maximum useful height 210 mm 76 spigots.
Top Level: C63 trolley with L690 direct injection system.
Maximum useful height 170 mm 87 spigots.

DIRECT INJECTION/ ROTATING SPRAYERS

Base Level: C61 basic trolley with L685 direct injection system.
Maximum useful height 325 mm 76 spigots.
Mid Level: C62 upper trolley with rotating sprayer.
Maximum useful height 150 mm, useful washing surface 625x625 mm.
Top Level: C63 telescopic support with L690 direct injection system.
Maximum useful height 170 mm 76 spigots.

ROTATING SPRAYERS

Base Level: C61 basic trolley . Maximum useful height 325 mm.
Mid Level: C62 upper trolley with rotating sprayer.
Maximum useful height 195 mm.
Top Level: C63 telescopic support with L690 direct injection system.
Maximum useful height 105 mm.
Washing surface 625x625 (1.18m² total).

TWO WASHING LEVELS

DIRECT INJECTION

Mid Level: C61 basic trolley with L680 direct injection system.
Maximum useful height 260 mm, 76 spigots.
Base Level: C63 telescopic support with L685 direct injection system.
Maximum useful height 440 mm, 76 spigots.

DIRECT INJECTION AND ROTATING SPRAYERS

Base Level: C61 basic trolley. Maximum useful height 330 mm.
Mid Level: C63 telescopic support with L685 direct injection system.
Maximum useful height 450 mm, 76 spigots.

DIRECT INJECTION AND ROTATING SPRAYERS

Base Level: C61 basic trolley with L680 direct injection system.
Maximum useful height 300 mm 76 spigots.
Mid Level: C62 upper trolley with rotating sprayer.
Maximum useful height 380 mm.

ROTATING SPRAYERS

Base Level: C61 basic trolley. Maximum useful height 365 mm.
Mid Level: C62 telescopic base with rotating sprayer.
Maximum useful height 385 mm.
Washing surface 625x625 (0.78m^2 total).

DIRECT INJECTION

Base Level: C61 basic trolley with L685 direct injection system.
Maximum useful height 545 mm 76 spigots.
Top Level: C63 telescopic support with L690 direct injection system.
Maximum useful height 170 mm, 87 spigots.

MAXI 6090 WASHING CONFIGURATION EXAMPLES

DIRECT INJECTION/ ROTATING SPRAYERS

Base Level: C61 basic trolley. Maximum useful height 605 mm.
Level 3: C63 telescopic support with L690 direct injection system.
Maximum useful height 170 mm, 87 spigots.

ONE WASHING LEVEL

INJECTION WASHING

Base Level: C61 basic trolley with L685 direct injection system.
Maximum useful height 720 mm, 76 spigots.

ROTATING SPRAYERS

Base Level: C61 basic trolley.
Maximum useful height 835 mm.

DIRECT INJECTION

This special C64 trolley can be used to wash drums with heights up to
530 mm and diameters up to 30 mm using spigots.
Trolleys can be developed for special applications on request.
Base Level: C64 basic trolley.
Maximum useful height 835 mm.

WD-PRINT INTERNAL

Printer for the MAXI 6090 integrated in the front panel. 1177030

WD-PAPER Thermal paper roll. Diameter 50 mm, width 57 mm.
1177028

WD-FLUX FLOW METER FOR PERISTALTIC PUMPS

Allows controlling the quantity of additive the peristaltic pumps deliver. Installed directly on the machine on each single detergent feed duct leading into the tank. It signals any feeding malfunctions or when the products run out by showing a warning on the display.

WD-LS6090

Detergent level sensor. Allows controlling the level of liquid additives and signals when the detergent has run out. Equipped with an adjustable drawing tube for cans of different heights.

AD13

Additional peristaltic pump for feeding an additional additive complete with level sensor. The quantity of detergent delivered by the pump is directly controlled by the machine microprocessor.
1176991

IC6000

Digital indicator to monitor wastewater conductivity. Particularly useful when using demineralised water for final rinsing. If the wastewater has high conductivity values it is suggested to execute further rinsing. Measuring range between 0 and 1000 µs/cm. Value reading shown on a backlit LCD display. Display of out-of-scale parameters. Built into the front panel of the machine. 1177002

WD-VDS

Double discharge valve that allows separating and ducting the polluted wastewater from the first washing cycles from the final rinsing water. This wastewater separation device is composed of 1 and 1/2" valves with Viton membrane and valve opening is controlled by the machine microprocessor. 1177031

WD-LAN

Communication card with LAN port to connect the glassware washer to the local area network. The connection allows remote communication with the machine via the WD-TRACE software and you can view all the information provided by the glassware washer on your PC. You can also change all the operating parameters without having to intervene directly on the machine. The WD-LAN communication card is also fitted with USB and RS232 ports to interface the glassware washer with a fixed PC station adjacent to the machine or with an external printer. 1177027

DETERGENTS AND ADDITIVES

To achieve excellent washing results and optimise the thermal disinfection of laboratory instruments, specific detergents should be used. Camlab has a specially formatted range of acid, alkaline and neutral detergents (for use during the washing phase) and neutralising agents (for use during the neutralisation phase) especially designed to guarantee efficient cleaning and optimise the efficiency of the final thermal disinfection phase. In addition we also carry the Neodisher range for machines with powder dispensers. The Camlab range of machines typically feature liquid dosing systems but are available with powder dispensers on request. Note that the concentrated forms require a lower dose rate. For details see the table opposite.

WATER TREATMENT

To obtain high quality washing standards, it is fundamentally important to use correctly treated water.
In the prewash, washing and neutralisation phases, softened water should always be used. Models CUB 3060 and CUB EXTRA 4090 have an efficient built-in decalcifier capable of reducing the hardness of the supply water so as to prevent the classic formation of lime scale inside the chamber and on the items being cleaned.
The MAXI 6090 series, on the contrary, uses large quantities of water during the cleaning phase and therefore requires an external treatment system. The WS range of water softeners feature high performance, compact size and ease of installation. Equally important is the rinsing of the instruments with demineralised water in order to eliminate any contaminants remaining in the washing chamber. For this purpose, Camlab has both the compact and efficient WP3000 mixed resin bed demineraliser and the RO series of reverse osmosis systems. Additionally we also carry other manufacturers brands.

WP3000
Resin column water purifier

The WP3000 water purifier can be used with CUB 3060 and CUB EXTRA 4090 to produce deionised water at 0.8-1 µS/cm, suitable for the final rinsing of instrument washers. The system uses mixed bed resins (disposable) which can also retain silica. When the resins run out, they can simply be replaced with the MI700WP kit.
The resin cartridge is made out of stainless steel, as is the entire machine.
Net capacity of cartridge: 15 litres
Dimensions: l x d x h = 300x600x850 mm.

MI700WP

Anion/cation mixed bed resins kit for the WP3000 water purifier.
Total exchange capacity 42700 litres below 5µS/cm hardness at end of cycle. Supplied with exhausted resin disposal bag.

Type	Description	Form	Ordering Info.	
ALKALINE DETERGENTS	CAMCLEAN ORIGINAL - Camclean alkaline detergent is specially formulated for difficult cleaning tasks and is designed specifically for use in Camlab's range of CUB and MAXI washing machines. It has wide temperature range and works seamlessly with Camlab washing machine programmes. It can be used in all makes of machine and has been developed for use with CAMACID neutraliser for perfect streak free results with laboratory glassware. Dose rate: 1.25% at 40-90°C	Liquid	5L 10L 25L 200L	1167322 1127874 1127873 1161474
	CAMCLEAN A10 UNIVERSAL CONCENTRATE- Mild alkaline universal cleaner suitable for most cleaning jobs. Perfect for glass, porcelain, metals and plastics. Powerful removal of fats, grease, labels and gum. Dose rate: 0.5% at 55°C only	Liquid	1L 10L	1178769 1178770
	CAMCLEAN A20SF PIPETTE CONCENTRATE- Mild alkaline cleaner specifically designed for cleaning pipettes. This product is tenside free which guarantees that there will be no residues after cleaning and allows excellent drying. Dose rate: 0.5% at 50-70°C	Liquid	1L 10L	1178777 1178778
	CAMCLEAN A25 MEDICAL CONCENTRATE- Strong alkaline cleaner designed for removal of blood, saliva, protein, bone, greases fats and oils. Ideal for medical instruments, alkali resistant glass, plastics and ceramics. NOT for aluminium, magnesium or light metal alloys. Dose rate: 0.5% at 55°C only	Liquid	1L 10L	1178775 1178776
	NEODISHER A8 - Alkaline cleaning agent with a high dirt suspending power. Extremely good cleansing power for laboratory glassware.	Powder	1KG 25KG	1153153 1153154
	NEODISHER F - Intensive cleaning agent with high cleansing power. Good sequestering and dispersion action. Phosphate free, tenside free.	Powder	3KG	1153155
	NEODISHER FA - Cleaning agent with good emulsifying and dispersing action and very gentle on the material. Free of tensides and oxidative additives.	Liquid	5L	1153159
	NEODISHER FLA - Intensive cleaning agent with a tenside-free formulation. Caustic alkaline, containing no phosphoric compounds or oxidising agents.	Liquid	5L 17.6L	1153159 1153161
	NEODISHER FT - Tenside-free cleaning agent. Specifically formulated for the microbiology sector.	Liquid	9.1L	1140233
	NEODISHER GK - Mildly alkaline cleaning agent. Specifically formulated for glassware with cell and tissue cultures, containing no tensides.	Powder	10KG	1153156
	NEODISHER LA - Intensive cleaning agent with powerful emulsifying, dispersing and defoaming action. Particularly suitable for removal of fats, oils and paraffins.	Powder	3KG	1153157
	NEODISHER UW - Mildly alkaline cleaning agent for cleaning laboratory glassware in water-analysis laboratories. Phosphate free.	Powder	10KG	1153158
NEUTRAL DETERGENTS	CAMCLEAN N10 SENSITIVE CONCENTRATE - Neutral cleaner designed for cleaning light residues, oils and markings from glass, ceramic, plastics and metals including aluminium and alloys. Dose rate: 0.5% at 55°C only	Liquid	1L 10L	1178773 1178774
ACIDIC DETERGENTS	CAMCLEAN S10 ACID CONCENTRATE - Acidic cleaner pH 2.5 suitable for cleaning aluminium and light metal alloys. This cleaner removes mineral deposits, lime, lime soaps and non ferrous heavy metal oxides. It is also good for removal of mineral fat and oil (not Vegetable or Animal). Dose rate: 0.5% at 55°C only	Liquid	1L 10L	1178771 1178772
	CAMCLEAN S20 HIGH ACID CONCENTRATE - Highly acidic cleaner pH <1 has been designed for the removal of very tenacious contaminations such as metal oxides (rust), fluxing agents, organic residues and mineral fat and oils. Not suitable for aluminium and light metal alloys. Dose rate: 0.5% at 55°C only	Liquid	1L 10L	1178767 1178768
	NEODISHER N - Acidic cleaning and neutralising agent on a phosphoric acid basis, providing neutralising action as an additive to the first after-rinse water afrer using alkaline agants. Tenside free.	Liquid	1L 5L 8.1L	1153162 1153163 1153164
	NEODISHER Z - Acidic cleaning and neutralising agent on the basis of organic acids. Free of tensides, phosphates and sequestering agents containing nitrogen. As a neutralising agent, it is particularly suitable for use as an additive added to the first after-rinse water after using mildly alkaline cleaning agents.	Liquid	1L	1153165
ANTIFOAM	CAMCLEAN ANTI FOAM - Defoaming Liquid. Antifoaming agent with an emulsified silicone oil base. Dose rate: 3-4 squirts per load if required.	Liquid	500ml	1127877
	NEODISHER S - Defoaming Liquid. Antifoaming agent with an emulsified silicone oil base. Only a very small quantity required to prevent foaming.	Liquid	1L	1153166

TECHNICAL INFORMATION

EXAMPLE PROGRAMMES

The following programmes show comparitive water use for a Quick and Standard wash. All models have 20 built-in programmes and can also be configured by the user. Please contact us for a full programme list.

CUB 3060 AND CUB EXTRA 4090

PROGRAMME N.	PROGRAMME NAME	PHASE 1	PHASE 2	PHASE 3	PHASE 4	PHASE 5	PHASE 6	WASHING TIME MIN.	DRYING	AF TOT [l]	AC TOT [l]	AD TOT [l]	KW/H TOT	WATER USED BY CONDENSER
Programme 3	QUICK WASH	wash	neutralisation	rinse	rinse in demin. water 75°C				drying					
	duration [m]	18	5	6	18			47	30					
	qty detergent [ml]	50	30	0	0									
	power consumption [kW/h]	1,79	0,01	0,01	1,79				0,5				4,10	
	water type AC/AF/AD	AC	AC	AF	AD					10	20	10		4
	temperature [°C]	75	T.amb	T.amb	75				100					
	hold time [m]	1	2	3	1									
Programme 5	STANDARD WASH	wash	neutralisation	rinse	rinse in demin.water	rinse in demin. water 75°C			drying					
	duration [m]	23	5	6	4	18		56	30					
	qty detergent [ml]	50	30	0	0	0								
	power consumption [kW/h]	2,40	0,01	0,01	0,01	1,79			0,5				4,72	
	water type AC/AF/AD	AC	AC	AF	AD	AD				10	20	20		20
	temperature [°C]	80	T.amb	T.amb	T.amb	75			100					
	hold time [m]	5	2	3	1	1								

MAXI 6090

| PROGRAMME N.	PROGRAMME NAME	PHASE 1	PHASE 2	PHASE 3	PHASE 4	PHASE 5	PHASE 6	WASHING TIME MIN.	DRYING	AF TOT [l]	AC TOT [l]	AD TOT [l]	KW/H TOT
Programme 3	QUICK WASH	washing	neutralisation	rinse	rinse in demin.water75°C				drying				
	duration [m]	17	7	8	17			49	30				
	qty detergent [ml]	50	30	0	0								
	power consumption [kW/h]	3,80	0,1	0,15	3,80				1				8,85
	water type AC/AF/AD	AC	AC	AF	AD					40	80	40	
	temperature [°C]	75	T.amb	T.amb	75				100				
	hold time [m]	1	2	3	1								
Programme 5	STANDARD WASH	washing	neutralisation	rinse	rinse in demin.water	rinse in demin.water75°C			drying				
	duration [m]	22	7	8	6	17		60	30				
	qty detergent [ml]	50	30	0	0	0							
	power consumption [kW/h]	5,30	0,1	0,15	0,05	3,80			1				10,40
	water type AC/AF/AD	AC	AC	AF	AD	AD				40	80	80	
	temperature [°C]	80	T.amb	T.amb	T.amb	75			100				
	hold time [m]	5	2	3	1	1							

AF = Cold water; **AC** = Hot water; **AD** = Demineralised water.

N.B.

The use of hot water in the washing and thermal disinfection phases with temperatures higher than 40°C reduces total cycle times by approximately 50%. Washing and thermal disinfection times are calculated according to an average supply water temperature of 10°C. Power consumption was calculated for three-phase machines. In the versions fitted with powder dispensers (CUB 3060BX and CUB 3060BXC), opening of the washing door can be programmed during washing.

DETERGENT DISPENSING SYSTEM STANDARD FITTINGS	CUB 3060BX and CUB 3060BXC	CUB 3060S and CUB 3060SC	CUB 3060P and CUB 3060PC	CUB EXTRA 4090 and CUB EXTRA 4090C	MAXI 6090
Powder dispenser	1	Not present	Not present	Not present	Not present
Pump P1 alkaline detergent	Not present	1	1	1	1
Pump P2 acid neutraliser	1	1	1	1	1
Pump P3 NaOH or auxiliary additive	Option	Option	1	Option	1
Pump P4 defoamer or auxiliary additive	Option	Option	1	Option	1

## CUB 3060 INSTALLATION DIAGRAM
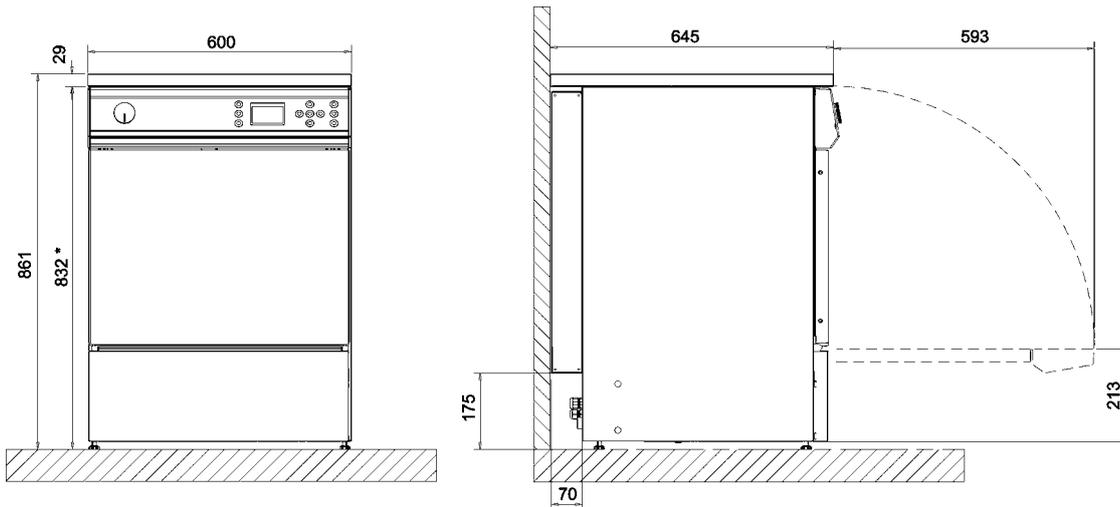
CUB EXTRA 4090 INSTALLATION DIAGRAM
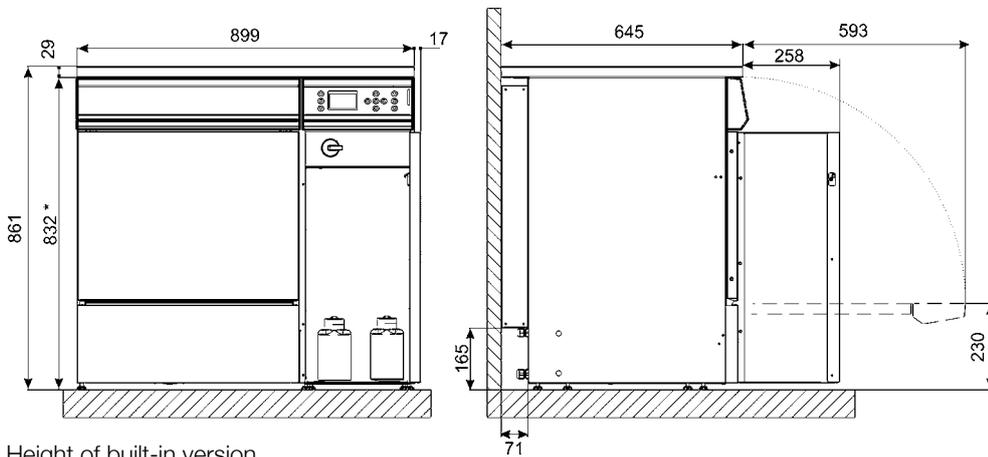
* Height of built-in version.

MAXI 6090 INSTALLATION DIAGRAM
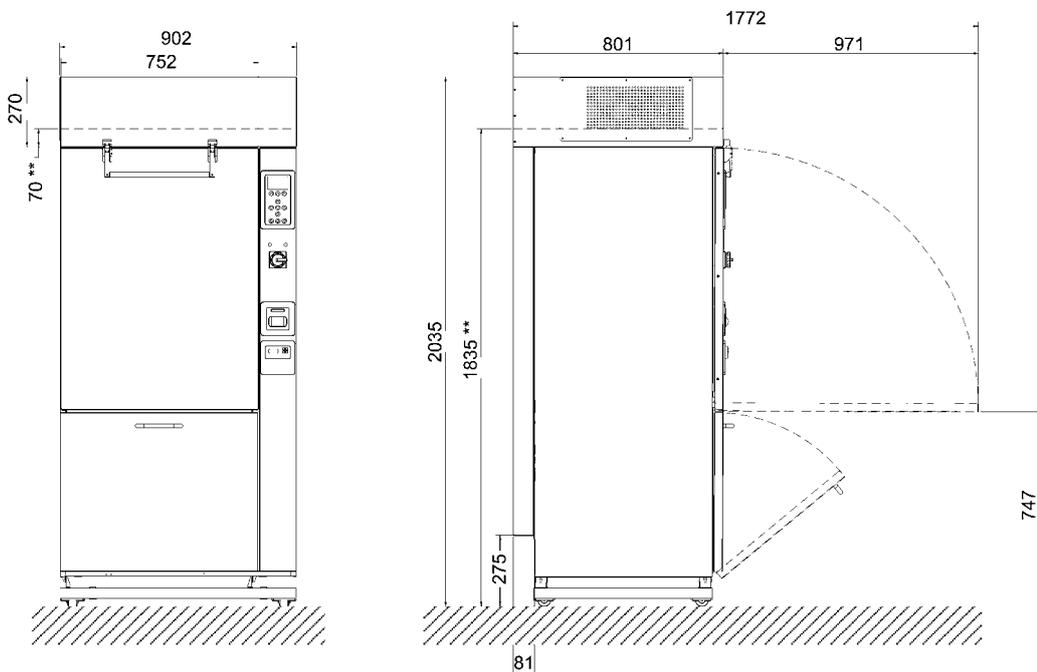
INSTALLATION INFORMATION

WATER CONNECTIONS

Supply	Model	pressure [bar]	flow rate [l/min]	temp [°C]	length] hose [mm]	hose type	connectors	hardness max.	conductivity max. [µS]	system filtration	position
Cold water	CUB3060	1,5-5	6,8	max. 40	1900	rubber	G 3/4"	40 F°	<1000	recommended	rear
	CUB4090	1,5-5	6,8	max. 40	1900	rubber	G 3/4"	40 F°	<1000	recommended	rear
	MAXI6090	2-5	8	max. 40	1900	flexible	G 3/4"	10 F°	<1000	recommended	rear
Hot water	CUB3060	1,5-5	6,8	max. 50	1900	rubber	G 3/4"	40 F°	<1000	recommended	rear
	CUB4090	1,5-5	6,8	max. 50	1900	rubber	G 3/4"	40 F°	<1000	recommended	rear
	MAXI6090	2-5	8	max. 70	1900	flexible	G 3/4"	10 F°	<1000	recommended	rear
Demineralised water	CUB3060	1,5-5	6,8	max. 50	1900	rubber	G 3/4"	5 F°	30	recommended	
	CUB4090	1,5-5	6,8	max. 50	1900	rubber	G 3/4"	5 F°	30	recommended	rear
	MAXI6090	2-5	8	max. 70	1900	flexible	G 3/4"	5 F°	30	recommended	rear
Cold water condenser	CUB3060	1,5-5	3.5	max. 20	1700	rubber	G 3/4"	40 F°	<2000	recommended	rear
	CUB4090C	1,5-5	3.5	max. 20	1700	rubber	G 3/4"	40 F°	<2000	recommended	rear
	MAXI6090	no									
	CUB3060	PAD pressure max 1bar	storage tank of 50l with connection 3/4' at the bottom	positioned at a 40cm height over machine							
	CUB4090	PAD pressure max 1bar	storage tank of 50 l with connection 3/4' at the bottom	positioned at a 40cm height over machine							
	MAXI6090	PAD2 pression max 1 bar	storage tank of 100 l with connection 3/4' at the bottom	positioned at a 40cm height over machine							

Drains	Model	flow rate capacity [l/min]	temperature	hose hose [mm]	hose type	hose connectors length	head [mm]	height min. [mm] against wall,	position on floor, under sink
Machine drain	CUB3060	18	95°c max	1500	corrugated flexible	Ø int 20	1000	400	not under sink
	CUB4090	18	95°c max	1500	corrugated flexible	Ø int 20	1000	400	not under sink
	MAXI6090	18	95°c max	1800	corrugated flexible	Ø int 20	1400	1000	not under sink
Condenser drain	CUB3060	18	70°c max	1700	corrugated flexible	Ø int 20	1000	650	not under sink
	CUB4090C	18	70°c max	1700	corrugated flexible	Ø int 20	1000	650	not under sink
	MAXI6090	-							
VDS dual drain	CUB3060	optional							
	CUB4090	optional							
	MAXI6090	optional							

ELECTRICAL CONNECTIONS

Supply	Model	frequency [HZ]	voltage [V]	cable type	plug	cable length [mm]
single-phase 1/N/PE	CUB3060	50	230	3x2.5mm^2 450/750V	to panel	2000
	CUB4090	50	230	3x2.5mm^2 450/750V	to panel	2000
	MAXI6090	-	-	-	-	-
three-phase 3/N/PE	CUB3060	50	400	5x2.5mm^2 450/750V	to panel	2000
	CUB4090	50	400	5x2.5mm^2 450/750V	to panel	2000
	MAXI6090	50	400	5x6mm^2 450/750V	to panel	2000
fuses/protection	CUB3060		250	5x20mm		
	CUB4090		250	5x20mm		

Pre-Order Installation Checklist

Our in-house service team is happy to provide you with detailed installation options for your laboratory glass washing requirements. Please use the following checklist to help you decide on the options you require and assist our engineers. When completed please submit with your enquiry.

Model required: ☐ CUB 3060 Underbench ☐ CUB EXTRA 4090 - Underbench with Drying ☐ MAXI 6090 Tower

Usage - Please provide a short description of the type of cleaning you will be doing. This should include the items you wish to clean, what they are likely to be contaminated with, the number of anticipated wash cycles per day and whether you wish to use disinfection cycles.

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[                                                                    ]
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Requirements - NOTE: All machines are supplied without jet racks, trolleys or spray arm trolleys but come with two peristaltic pumps for addition of detergent and neutraliser or other additive. All items are available as optional extras unless otherwise stated

Wash Type Required	☐ Spray Arm	☐ Jet Rack
Drying Type Required	☐ Convection (Std)	☐ Forced Air
Additive Pumps Required*	☐ A: Detergent	☐ B: Neutraliser
	☐ C:_____	☐ D: _____

* Note: 2 additive pumps are supplied as standard for CUB 3060 and CUB 4090. Please indicate above if additional pumps are required and what they will be used for. The MAXI 6090 is supplied with 4 additive pumps as standard and cannot accomodate any more. Please specify use.

Peripherals	☐ LAN Connection	☐ Printer	☐ USB Serial Port
Additional Items	☐ Detergent Store	☐ De-Ioniser	☐ Steam Condenser
	☐ Waste Solenoid	☐ Additive Pump Level Sensors	

Services Currently Available - Please indicate the services currently available to ensure we can configure your machine correctly for the power supply available and so we can arrange connection to services or supply of additional equipment if required.

Water Supply	☐ Hot	☐ Cold	Hardness:
De-ionised Water Supply	☐ None	☐ Supply line (>1 Bar)	☐ From Floor Tank
Power Supply	☐ 13 Amp, Single Phase - CUB 3060 and CUB EXTRA 4090 only ***		
	☐ 30 Amp, Single Phase - CUB 3060 and CUB EXTRA 4090 only		
	☐ 16 Amp, Three Phase - CUB 3060, CUB EXTRA 4090 and MAXI 6090		

*** Please note that although it is possible for us to configure the CUB 3060 and CUB EXTRA 4090 for connection to a standard 13 amp supply, this option is not recommended unless unavoidable. This is because it requires us to modify the heating set up by removing elements which will in turn increase run cycle times. Washers are supplied without any trays, spray arms or baskets to allow you to configure the washer to your individual washing requirements from the wide range of accessories available.

Company Name: **Camlab Account Number:**

Address:

Postcode:

Contact name:

Tel No: **Email :**

Action Required: ☐ Submitting with Order   ☐ Quotation Required

Please submit a copy of this completed form with your order or send to sales@camlab.co.uk for an instant quotation. Please call 01954 233 100 if you require any further information.

Grade AISI 316 L Stainless Steel

Forced Air Drying

Quality Construction

Customisable Wash Cycles

camlab