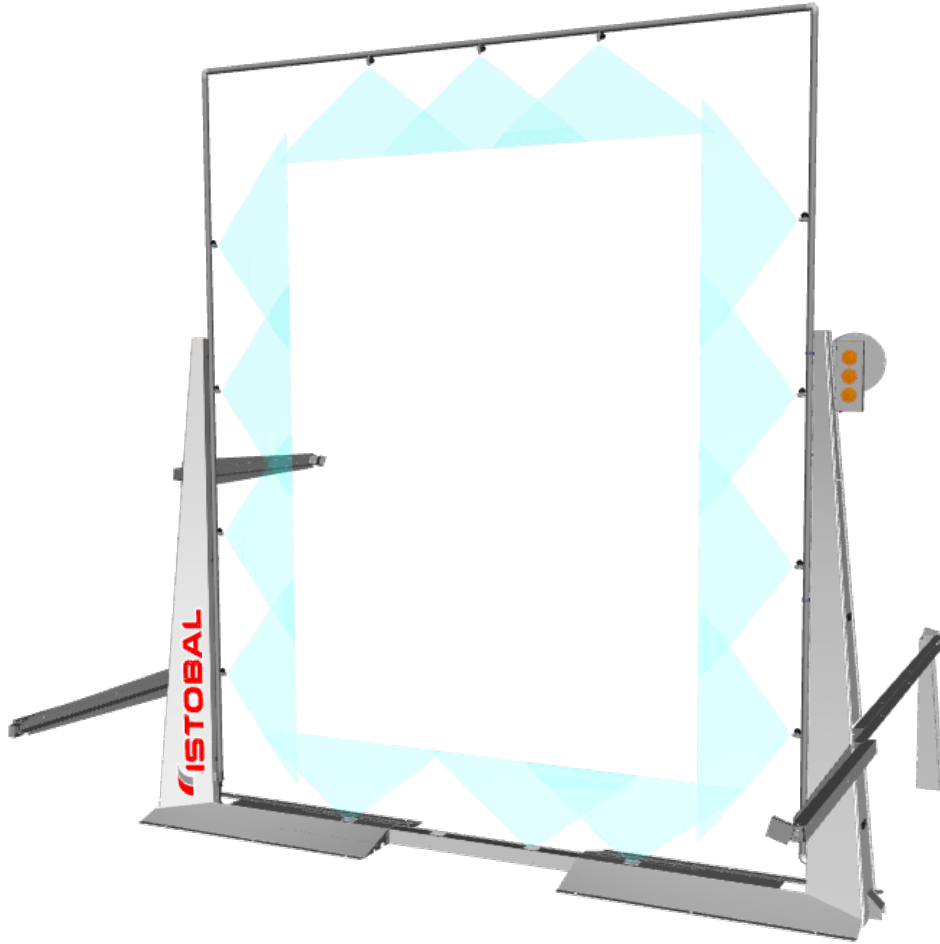




SPRAYING ARCH

MOD. 4HWA100



Documentación I+D+i V_ 10_20

ISTOBAL

ORIGINAL MANUAL

USER GUIDE



37CV400B

GB

USER AND MAINTENANCE GUIDE.

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PRESENTATION

The objective of this guide is to familiarize the users and supervisors of facilities with the basic operating features of the equipment, the maintenance requirements and the conditions required to be able to operate and interact with the equipment with maximum safety. Thus, the aforementioned personnel should read this guide in its entirety before performing any action.

If you have any doubts, please contact the representative for your area or ISTOBAL directly via istobal@istobal.com.

ISTOBAL reserves the right to make the modifications it considers opportune without prior notice, with no obligation to communicate such modifications and without thereby giving rise to the possibility of claims on the part of users whose facilities contain earlier versions to this edition.

Read these instructions carefully and keep them in a safe place for future reference.

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This user and maintenance guide is aimed at:

- **User.** Understood to mean the person who owns and runs the facility for business purposes.
- **Facility and/or maintenance supervisor.** The person who works directly with the equipment performing periodic maintenance.
- **Repair and/or maintenance engineer.** A qualified person who performs technical interventions which require specialized labour.
- **Assembly and disassembly engineer.** A qualified person who assembles and disassembles the equipment.

NOTICE

- » Any repair or action not described in this guide and not designed to be done by facility or maintenance supervisors must be solely performed by specialist technical engineers trained by ISTOBAL.
- » Assembly, disassembly or a change in the location of the equipment shall be performed solely by specialist technical engineers trained by ISTOBAL.

Symbols used in the user guide:

 DANGER	Non-observance of these rules may result in (irreversible) serious injury and even death.
 WARNING	Failure to comply with the indications may lead to serious harm to persons.
 CAUTION	Non-observance of these rules may result in (reversible) mild injury.
NOTICE	Failure to comply with the indications may lead to equipment damage.
	Contains important information.

Terms used in the user guide:

- **Consumables:** Includes products which may be replaced periodically.
- **Chemical products:** Consumables used in spraying the vehicle and which are applied by the equipment via a dosing pump.
- **Cleaning products for the equipment:** Consumables used to clean fairings, frames, screens, etc.
- **Maintenance products:** Consumables used to lubricate the different parts of the equipment.
- **Spare:** Part designed to replace another equivalent part on the equipment.

USE OF THE EQUIPMENT

Intended use

The drive-through arch is designed exclusively for spraying the chemical product over the surface of trucks and buses as indicated in this guide. Any other use of the unit will exempt the manufacturer of any responsibility.

Unintended use

The equipment is not designed to be used by vehicles which do not comply with the specifications of each individual model in such aspects as maximum permitted width and height, as described in "Dimensions", or vehicles different from those specified above.

The equipment is not designed or built to be installed in potentially explosive environments.

AVAILABLE DOCUMENTATION

Prior to the first start-up, all personnel, users and supervisors shall be given training by the official technical service, which will identify and clarify the obligations and risks involved in running the vehicle wash facility.

The equipment is supplied with a set of documents which together make up the instruction manual. The documents are:

- User guide ref. 37CV400
- Quick start guide ref. 37CV200
- Civil work and installation ref. 37CV300
- Circuit diagrams ref. 36TV800
- Start-up checks ref. 36ZY200
- CE Certificate

SAFETY INFORMATION

GENERAL INDICATIONS



DANGER

- » A non-existing or faulty earth connection on the equipment may result in electric shocks.
- » Opening an electrical box not provided with a switch may result in electric shocks.



WARNING

- » Before applying chemical products through the equipment, carefully read their technical data sheets; make sure application is carried out in a safe environment to preserve the health of equipment and installation users and personnel.
- » The speed of the vehicle inside the installation should not exceed 1 Km/h.
- » Take special care to avoid slipping when the bay is wet. The bay surface must be non-slip.
- » In case of dangerous or potentially dangerous situations, users or facility operators must stop the equipment immediately.
- » Before any repair or maintenance work, turn off the main power switch or the corresponding device, and work without current and water.
- » The staff should not be allowed in the disinfection area during the process.
- » Do not store chemical containers, products or aerosols with flammable or explosive substances near the equipment.
- » Chemical products must be stored in their original containers, closed and protected from sunlight and extreme temperatures. Under no circumstances should chemicals be mixed.

NOTICE

- » Removal of safety devices and unauthorized modification of the equipment automatically renders the guarantee null and holds the manufacturer unaccountable.
- » The equipment works correctly as long as the temperature remains between 2 and 45°C.
- » Average use of the electricity supply system should not differ $\pm 10\%$ of the rated voltage, according to IEC standard 38, equivalent to UNE 21301.

ADDITIONAL SAFETY STANDARDS RELATIVE TO THE LAWS OF EACH COUNTRY

CAUTION

- » If there is a direct connection to the public drinking water supply, the laws on prevention of water returning to (public or private) water networks must be observed.
- » The legal regulations in force in each country must be complied with in regard to occupational safety and health.
- » The subsidiary or the distributor must ensure compliance with the safety regulations specific to countries which are not covered by European regulations.
- » In case of an accident caused by product exposure, call the poisons information service of your country.

ENVIRONMENTAL STANDARDS

CAUTION

- » Residue generated by vehicle washing, and stored in settling and separating tanks, such as sludge, light hydrocarbons, etc., is to be treated as dangerous waste. This means that waste must be treated by a duly accredited waste management organization.
- » All the materials resulting from equipment maintenance and repairs must be handled by Authorized Waste Dealers in line with their nature, in compliance with local regulations.
- » All containers which have previously contained chemical products must be properly disposed of and never reused.
- » The legal regulations in force must be complied with in regard to environmental matters.

NOTICE

- » The vehicle wash facility must have the pre-treatment infrastructure required by standard UNE EN 858.1 and 858.2, as described in the civil works book.

WARNING

- » Equipment plates and stickers indicating hazards or prohibition must be considered to be part of the installation. Removing or damaging signs can jeopardize installation safety and people's safety.

CHEMICAL PRODUCTS

WARNING

- » Vehicle wash and maintenance supervisors and in general the personnel involved in running the operation must be aware of the risks associated with the chemicals used.
- » Please read the product's safety data sheet before handling chemicals.
 - Proceed with extreme caution.
 - Use personal protection equipment.

DELIMITING THE WORKING AREAS OF THE FACILITY

WARNING

- » This area determines the zone which is off-limits to all personnel during the washing process. When maintenance is required, access to the area is only permitted to authorized personnel.
- » The area off-limits must be clearly signalled on the ground and painted with warning stripes. The user is solely responsible for the upkeep of the warning signs. The recommended off-limits area is 1 metre around the car wash installation and safety and no-entry signs must be visible from any potential access.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

The provision of PPE is the responsibility of the user, who must ensure compliance in the use of such equipment both by car wash and maintenance supervisors and in general by any personnel involved in running the facility.

WARNING

- » Always make proper use of safety footwear and fluorescent vests while working on the facility. Always use chemical safety gloves and splash goggles when cleaning or maintenance products are used on the equipment.



DESCRIPTION AND OPERATION

The spraying arch applies the chemical product by spraying it automatically over the surface of trucks and buses, ensuring it is dosed in a controlled way. Thanks to material quality and structure robustness, the arch is suitable for all chemical applications, from disinfecting products to acid or alkaline pre-washes.

Chemical spraying is performed as the vehicle drives through; photocells detect the vehicle, the process starting and finishing automatically. During the service, the vehicle must not exceed 1 km/h inside the installation.

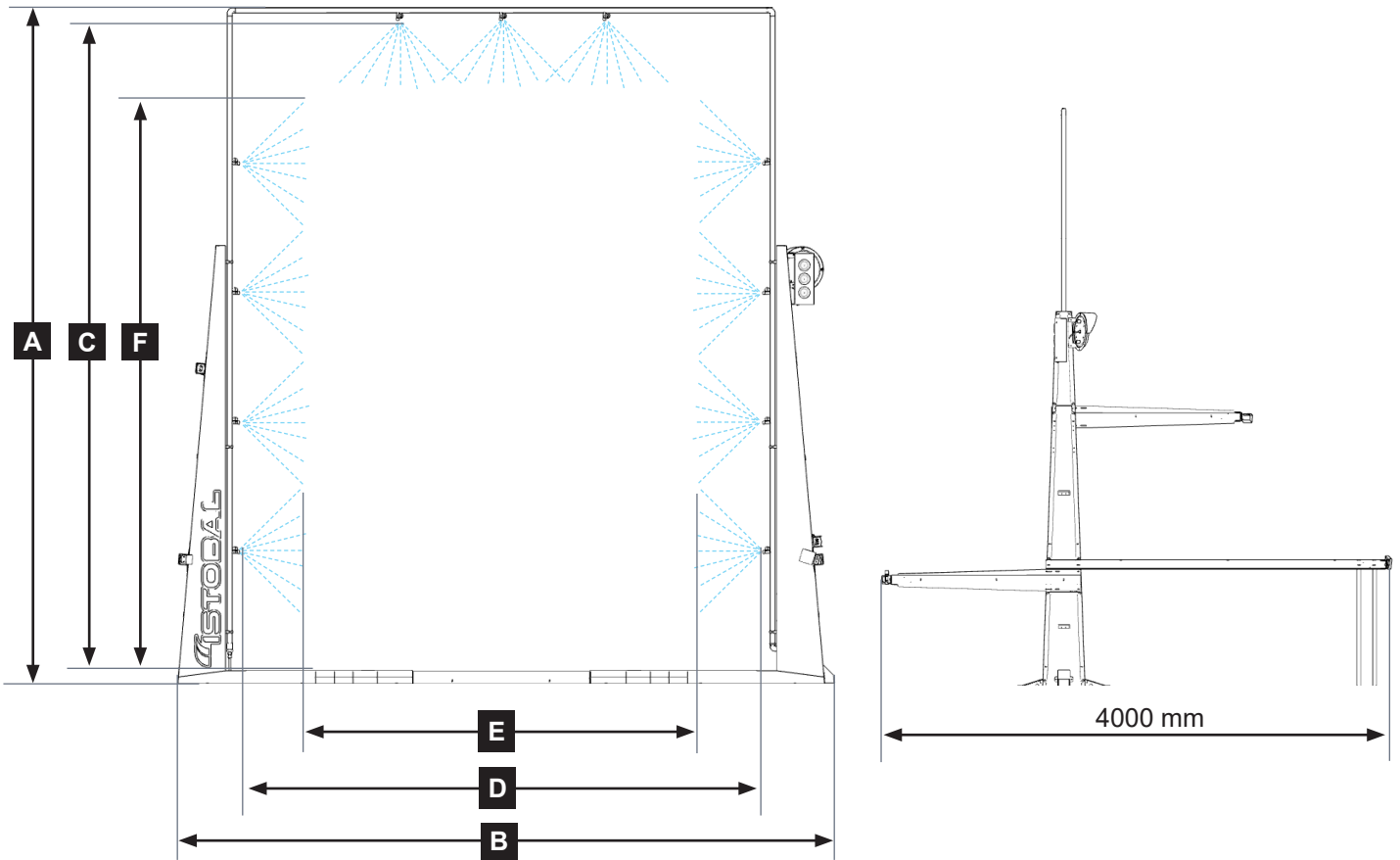
The chemical is dispensed by a dosing pump. A water pump pumps the mix into the arch to evenly spray the vehicle surface and underside by means of nozzles.

Operating modes:

- **Autonomous control (photocells):** the arch starts working automatically when it receives a photocell signal.
- **External control:** the arch starts working by means of an external signal from the wash equipment. The spraying starts after selecting a program including a chemical wash or disinfection.

The spraying arch is available in several heights: 3500 / 4000 / 4500 mm.

DIMENSIONS



		HEIGHT (mm)			
		3500	4000	4500	
A	Frame height	4085	4585	5085	
B	Frame width	4446			
C	Vehicle height (max.)	Without hump	3800	4300	4800
		With hump	3710	4210	4710
D	Vehicle width (max.)	3450			
E	Maximum spraying width	2600			
F	Maximum spraying height	3500	4000	4500	




Measures in mm.

NOISE CONTROL

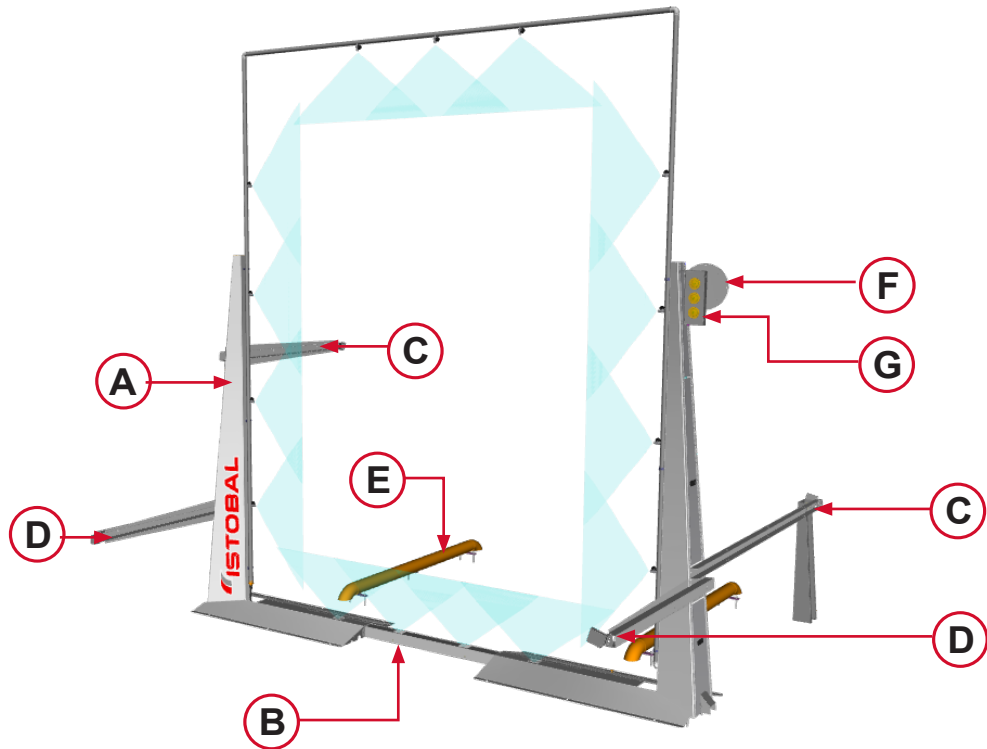
The level of sound pressure with equivalent weighing is less than 70 dB.

UNIT IDENTIFICATION

The data plate of the equipment is on the electrical cabinet exterior.

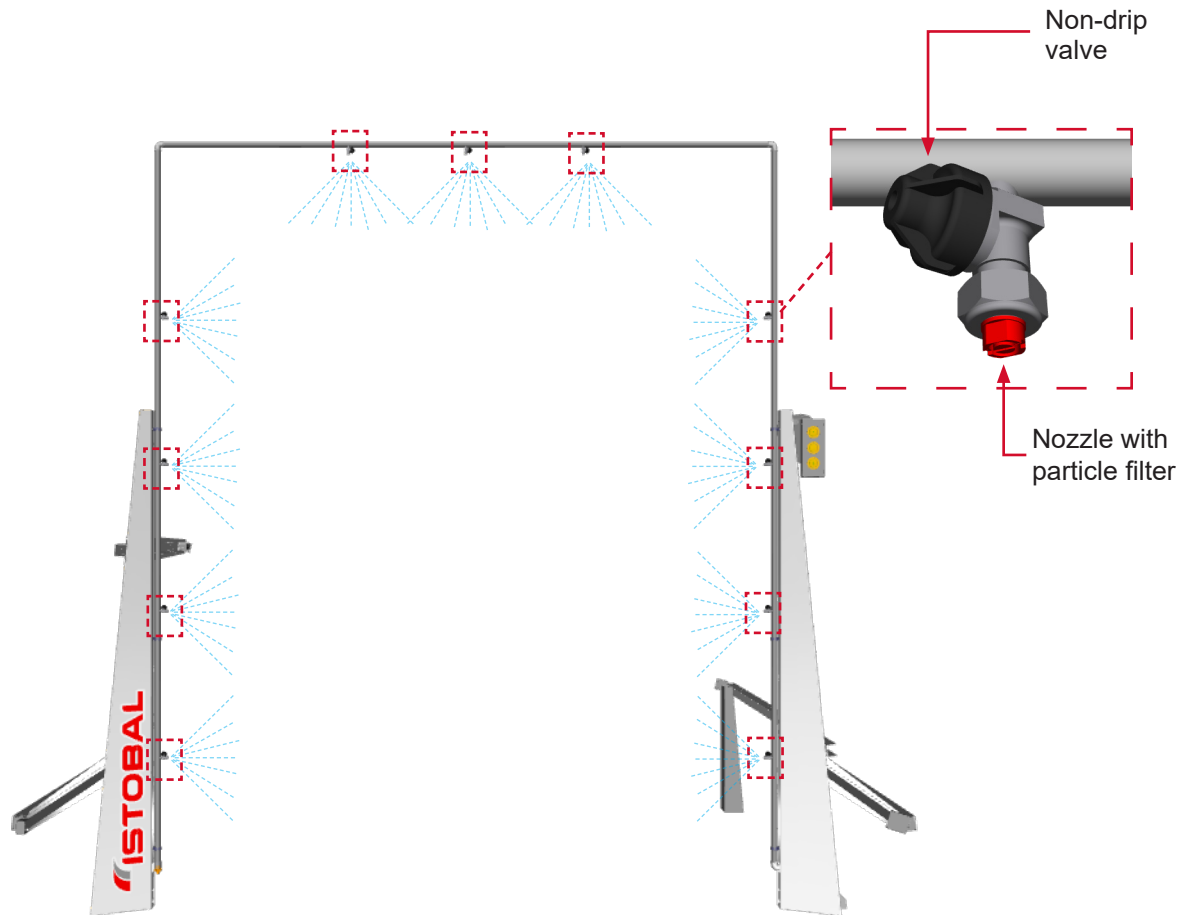
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MAIN ELEMENTS



	ITEM	DESCRIPTION
A	Spraying arch (side + top)	Sprays the vehicle bodywork.
B	Underchassis spray	Sprays the vehicle underside (optional).
C	Entry photocell	Detects vehicle driving through to start spraying (optional).
D	Exit photocell	Detects vehicle driving through to finish spraying (optional).
E	Centring guides	They centre up the vehicle (optional).
F	Entry traffic light	LED traffic light: GO and STOP (optional).
G	Exit traffic light	Traffic light with three orange LED lights (optional).

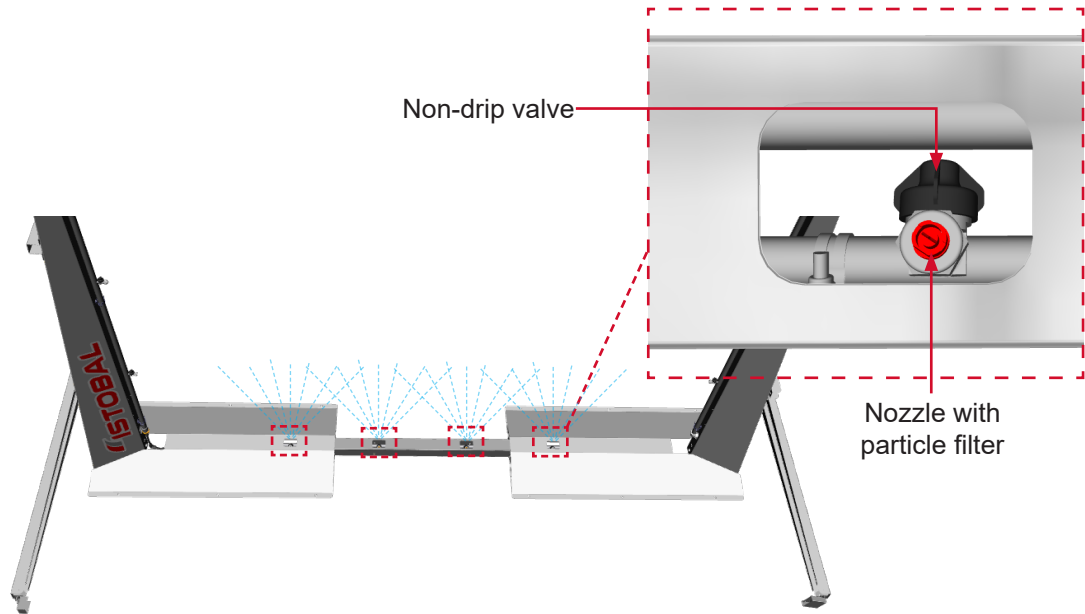
SPRAYING ARCH (SIDE + TOP)



The side and top spraying arch sprays the roof and sides of the vehicle. The number of nozzles depends on the installed height. Each individual nozzle is fitted with a non-drip valve and a particle filter to be cleaned based on the quality and hardness of the water used.

	HEIGHT (mm)		
	3500	4000	4500
No. of side nozzles	4 + 4		
No. of top nozzles	3		
Flow rate L/min	29.56		

UNDERCHASSIS SPRAYING



Composed of a lower pipe with nozzles, it is intended to spray the chemical on the lower part of the vehicle. Each individual nozzle is fitted with a non-drip valve and a particle filter to be cleaned based on the quality and hardness of the water used.

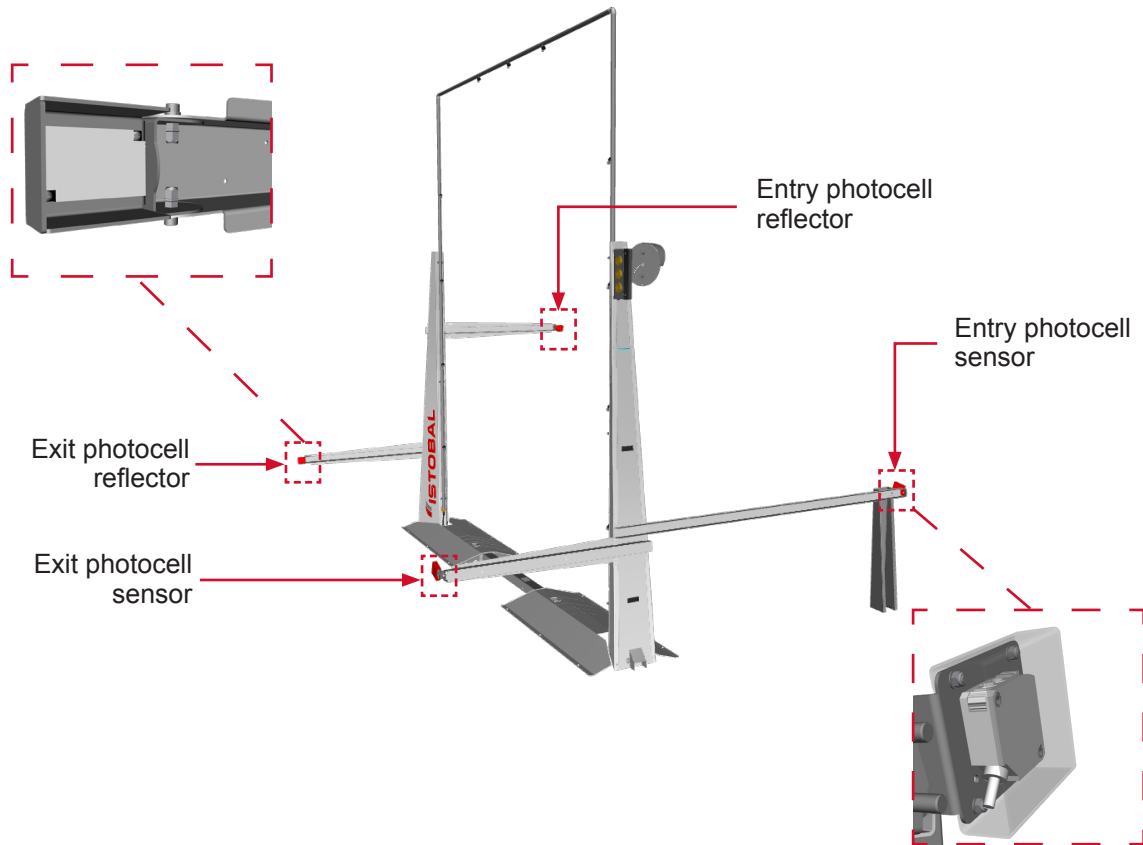
It has a hump for the vehicle to roll.

The number of nozzles depends on the arch height:

	HEIGHT (mm)		
	3500	4000	4500
No. of nozzles	4		
Flow rate L/min	10.75		

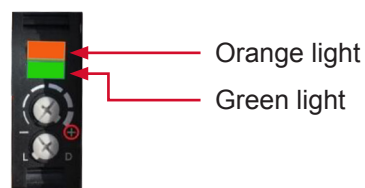
PHOTOCELLS

Photocells are located on the arch-support arms. They consist of a reflective photocell (a sensor and a reflector) that detects a vehicle coming in and starts the spraying process, and a reflective photocell to detect the vehicle coming out and to finish the process.



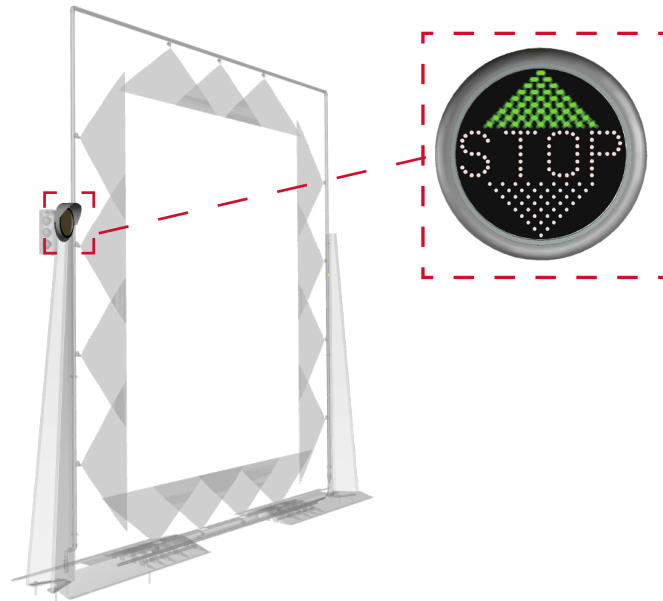
■ PHOTOCELL SENSOR

The sensor has lights that indicate sensor status.



- **Green light:** indicates that the sensor has voltage.
- **Orange light:** indicates the reflected signal from the photocell has been received.

ENTRY TRAFFIC LIGHT



The traffic light is located on the column of the arch and has two LED signs, GO and STOP, to inform on arch status.

■ OPERATION

Entry traffic light operating modes:



GO sign (green) permanently on: the unit is ready for a service.



GO sign (green) flashing: the spraying process has started.

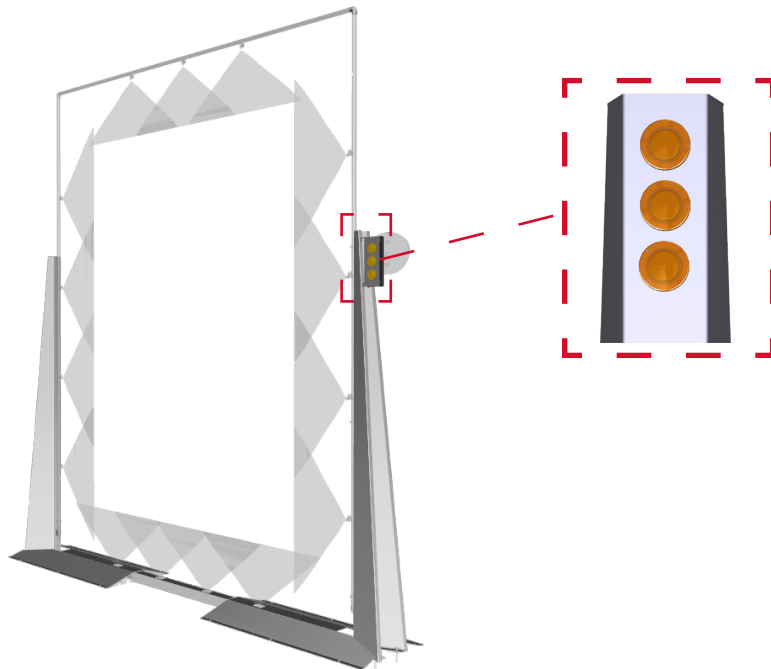


STOP sign (red) permanently on: during a service, the vehicle has reached the exit photocell, or a pipe emptying process has started (2 minutes).



STOP sign (red) flashing: continuous blinking is indicative of machine fault or maintenance status.

EXIT TRAFFIC LIGHT



The exit traffic light is located on the column of the arch and has three orange LED lights to indicate status for the spraying of the back of the vehicle. The driver can see the traffic light on his/her rear-view mirror and check the situation in which the service is.

■ OPERATION

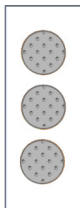
Exit traffic light operating modes:



Lights permanently on: the spraying process has started.

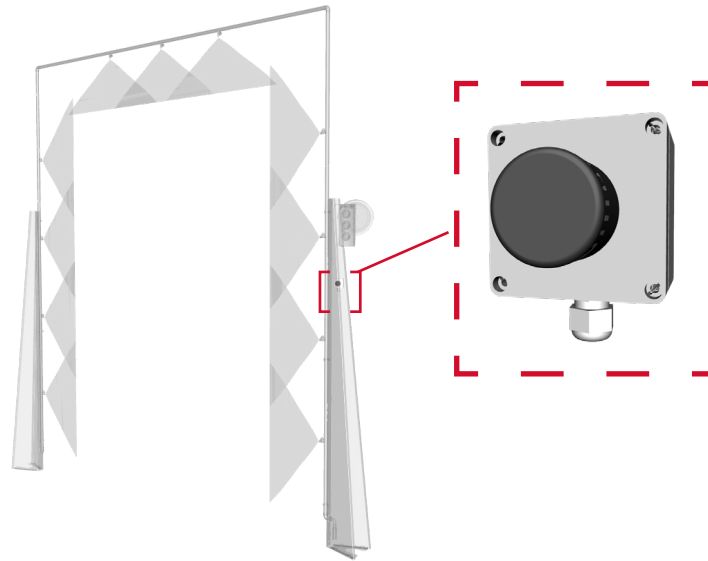


Lights flashing: the driver is informed the spraying process is about to end (the vehicle uncovers the entry photocell).



Lights off: when turned off during the spraying process, the vehicle can leave the facility.

SOUNDER (ALARM)

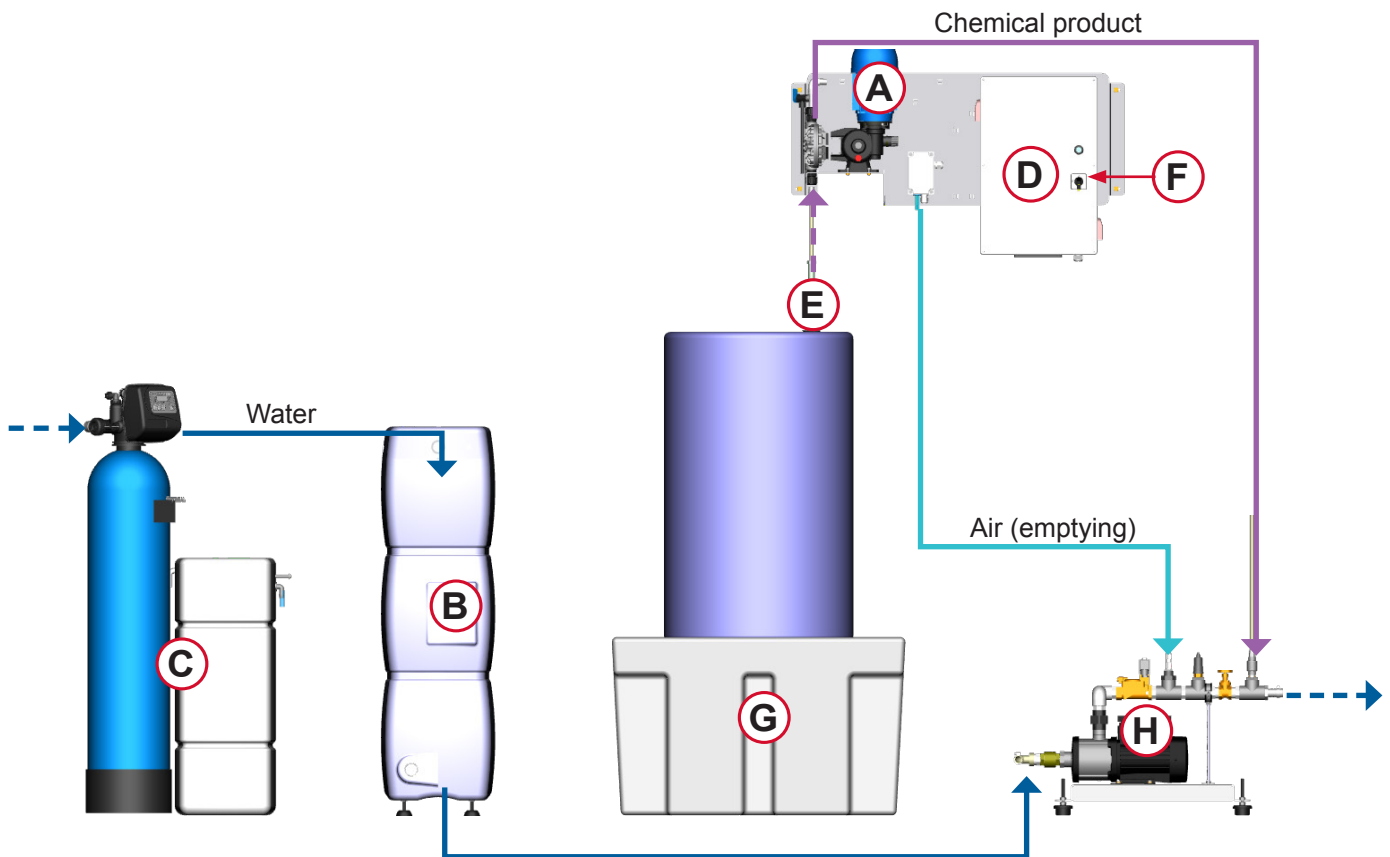


■ HOW IT WORKS

The sounder starts ringing to inform there is a problem. The sounders beeps if:

- Chemical product low (provided chemical level detector optional extra is installed).
- Fault due to motor overload or no water when water pump activated (pressure below 1 bar detected).
- Fault on a photocell.
- Entry and exit photocells detect a vehicle staying on the arch longer than 90 seconds.
- If travel time from the entry photocell to the exit one is less than 6 seconds, an alarm goes off to warn the driver he/she is driving too fast (for control by photocells only).

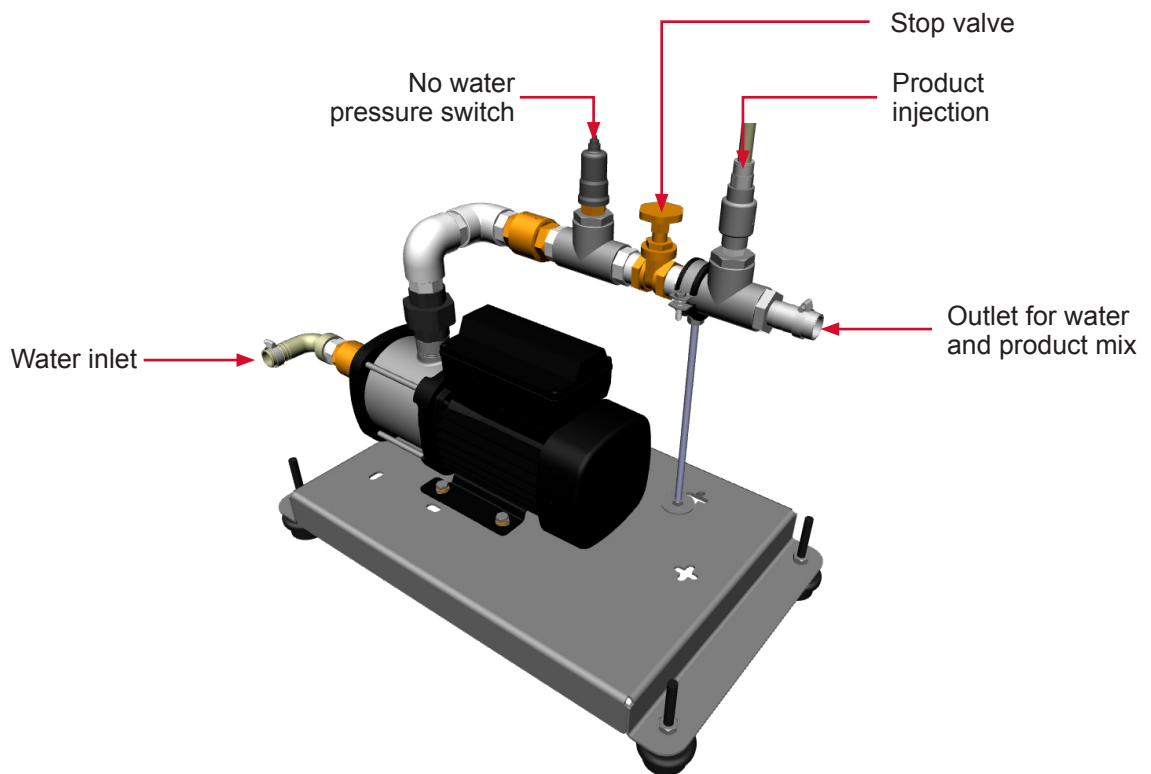
PLANT ROOM ELEMENTS



	ITEM
A	Chemical product dosing pump
B	Water tank 200 L (optional)
C	Volumetric water softener 10x44" with brine tank (optional)
D	Electrical cabinet
E	Chemical suction lance (chemical level detector optional)
F	Main switch
G	Drum spill tray and container (optional)
H	Water pump

WATER PUMP

It pumps the water and chemical product mix into the spraying arch.



■ TECHNICAL SPECIFICATIONS

Power	0.9 kW
Voltage	220 V / 50 Hz

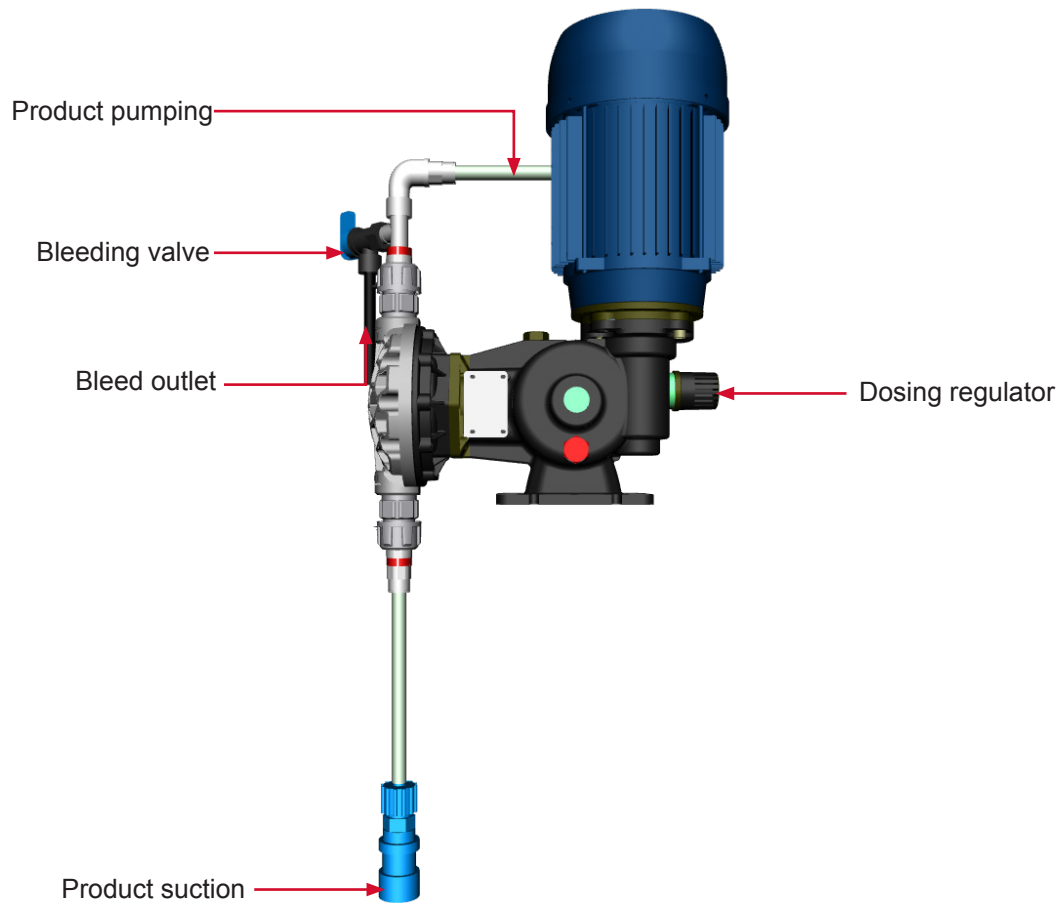
■ HOW IT WORKS

The water pump is supplied from a water tank. Chemical product is injected by a dosing pump, the resulting mix being sent to the arches whose nozzles spray the vehicle.

It is equipped with a pressure switch that detects the lack of water in the circuit.

DOSING PUMP

Chemical products are dispensed using a dosing pump which sucks product from the tank



■ TECHNICAL SPECIFICATIONS

Power	0.25 kW
Voltage	220 V / 50 Hz
Flow rate	120 L/H

■ SETTINGS



» The regulation of product to dispense is set by the Technical Service during the commissioning of the equipment.

■ CHEMICAL PRODUCT DOSING

WARNING

- » Please read the product's technical data sheet before applying chemicals.
 - 1) Proceed with extreme caution.
 - 2) Use personal protection equipment.



- » ISTOBAL recommends the use of original chemical products.
- » The amount of product to dispense is set by the engineer during the commissioning of the equipment.
- » It is important not to let the product tank run empty. Leave it at least 4 centimetres deep.

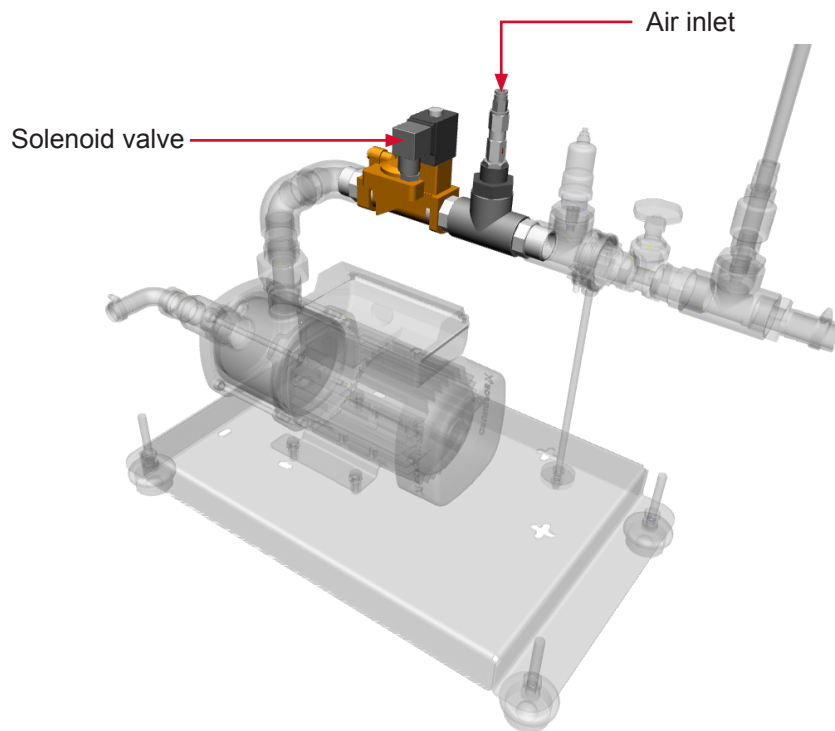
■ BLEEDING THE DOSING PUMP

Air in dosing pumps needs to be bled after a long period of inactivity or when the product tank has run dry.

- 1) Replace the empty tank.
- 2) Open the bleeding valve. The bleeding outlet is towards the tank to avoid product spillage.
- 3) Keep the valve open until product emerges without bubbles through the bleeding outlet.
- 4) Shut the bleeding valve when the product has no bubbles.

PIPE-EMPTYING FROST PREVENTION

This system allows pipes to be emptied to prevent the hydraulic circuit from freezing and breaking. Air inflow must be set between 4.5 and 6.5 bar.



■ HOW IT WORKS

The equipment includes a digital control thermostat to detect ambient temperatures. Two temperatures must be set on the thermostat to activate the pipe emptying process. Different functions are performed depending on the temperature reached:

- **Temperature 1 (T1):** when this temperature is detected, pipes are emptied* if the pump was previously working and after 10 minutes' waiting time. During the emptying process, the STOP sign on the entry traffic light stays on.
- **Temperature 2 (T2):** when this temperature is detected, the spraying process is disabled due to freezing hazard; pipes are emptied* if they were not emptied before when T1 was reached.

When pipe emptying is running for 2 minutes, the solenoid valve shuts the water outlet on the pump and empties the water circuit through the arch nozzles by injecting air.

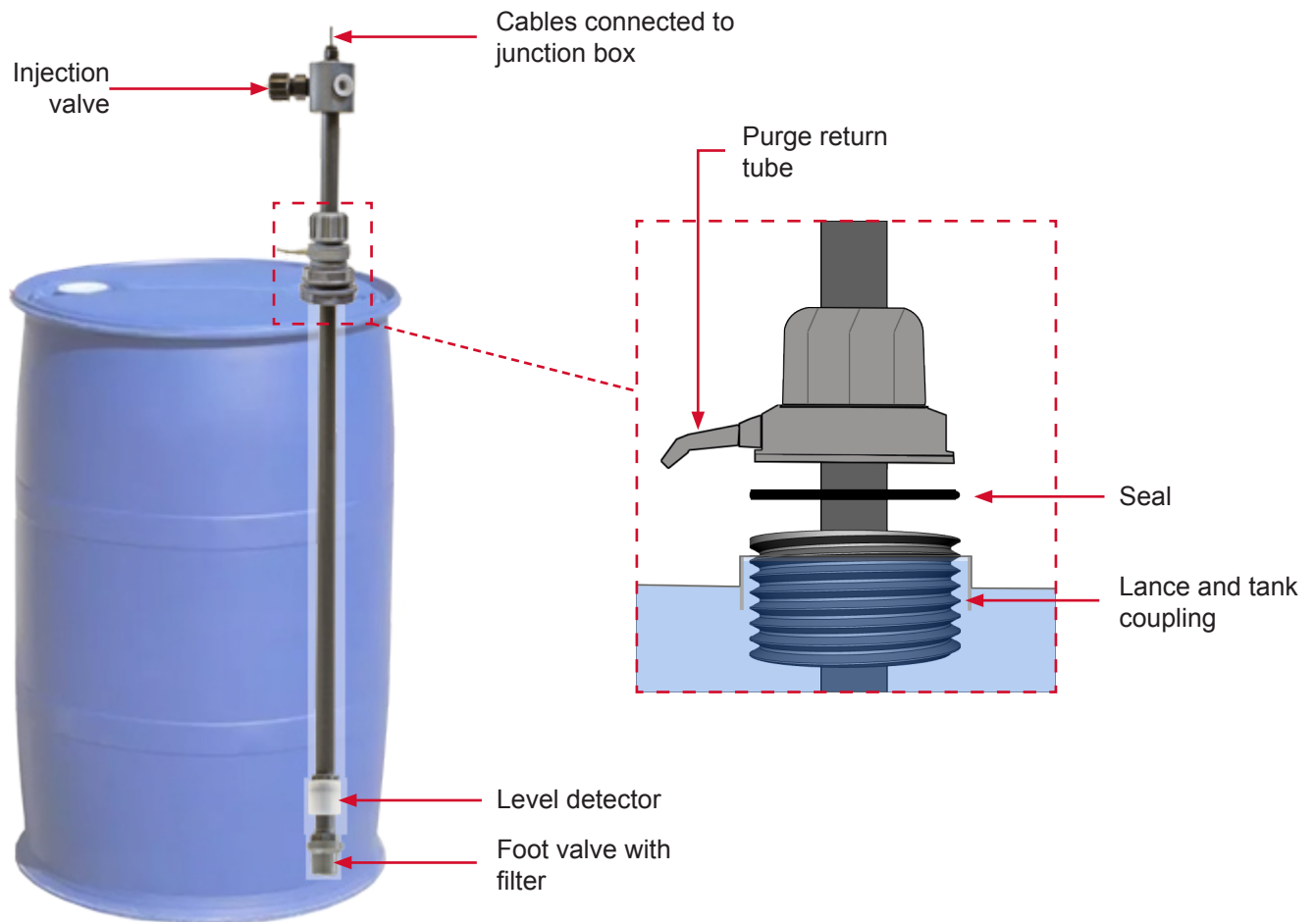


- » During equipment commissioning, Technical Service sets temperatures 1 and 2 for pipe emptying.

CHEMICAL PRODUCT LEVEL DETECTOR

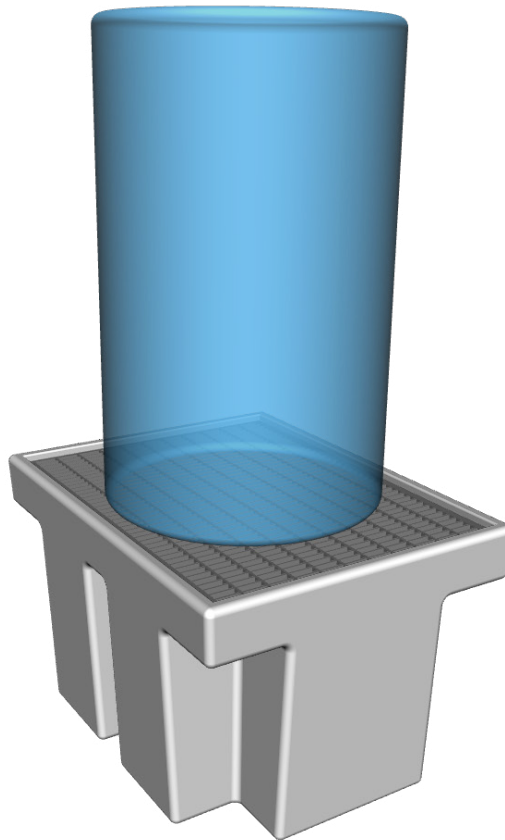
It consists of a suction lance for a 200 L tank, with a low-product level detector.

Lances are connected to a junction box, providing information on available levels.



DRUM SPILL TRAY AND CONTAINER

The drum spill tray and container is made of polyethylene and is intended to collect any chemical spills that would otherwise result in environmental contamination.



■ TECHNICAL SPECIFICATIONS

Retention capacity	225 L
Dimensions	900 mm (long) x 700 mm (wide) x 525 mm (high)

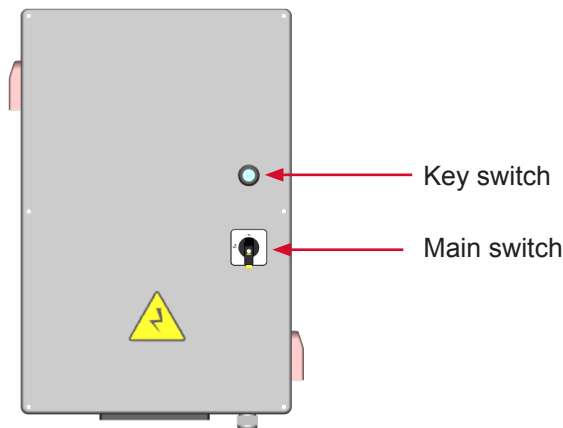
START-UP



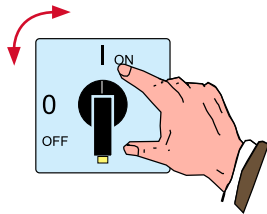
WARNING

» Take extra care when activating the main power switch.

CONNECTION



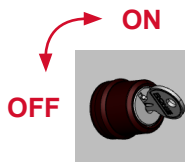
Main switch



The machine is turned on by putting the main switch in the “ON” position; after 5 minutes the equipment is ready to start the spraying process.

The switch is on the door of the electrical cabinet and has a mechanism which makes it necessary to switch off before the door can be opened.

Key switch



Enables/disables the spraying arch.

When it is enabled, it completes a check for 20 seconds, verifying that the arch is ready for service (the GO sign on the entry traffic light goes on).

Checks carried out: photocells, chemical product level, and right temperature for operation.

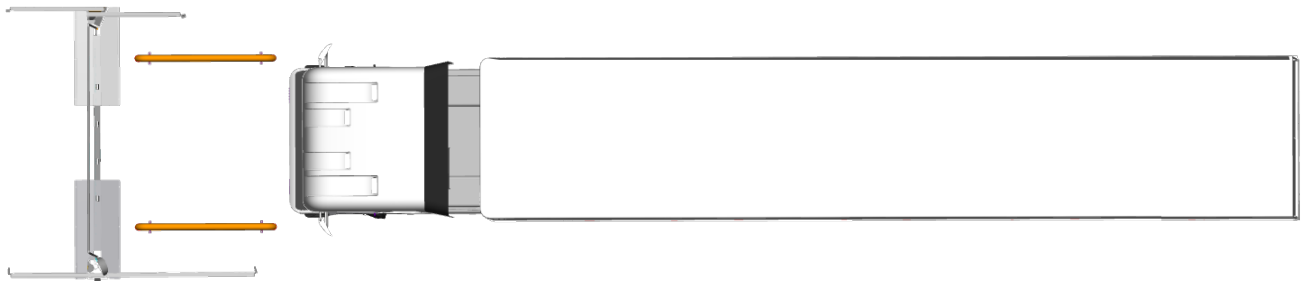
VEHICLE ACCESS AND POSITIONING

WARNING

- » Take special care to avoid slipping when the bay is wet. The wash bay surface must be non-slip.

The vehicle must enter slowly and move forward as centred up as possible on the centring guides. Remember that the speed should not exceed 1 Km/h throughout the spraying process so as to ensure an effective wash.

If the installation has an entry traffic light, before entering the arch, check that the traffic light is in the GO position (green light).



SPEED CONTROL

The equipment includes a speed control feature (photocell operating mode) that detects excessive speeds, activating a sounder that warns the driver.

SPRAYING PROCESS WITH PHOTOCELLS

The chemical spraying process is automatic following vehicle access detection by entry and exit photocells.

WARNING

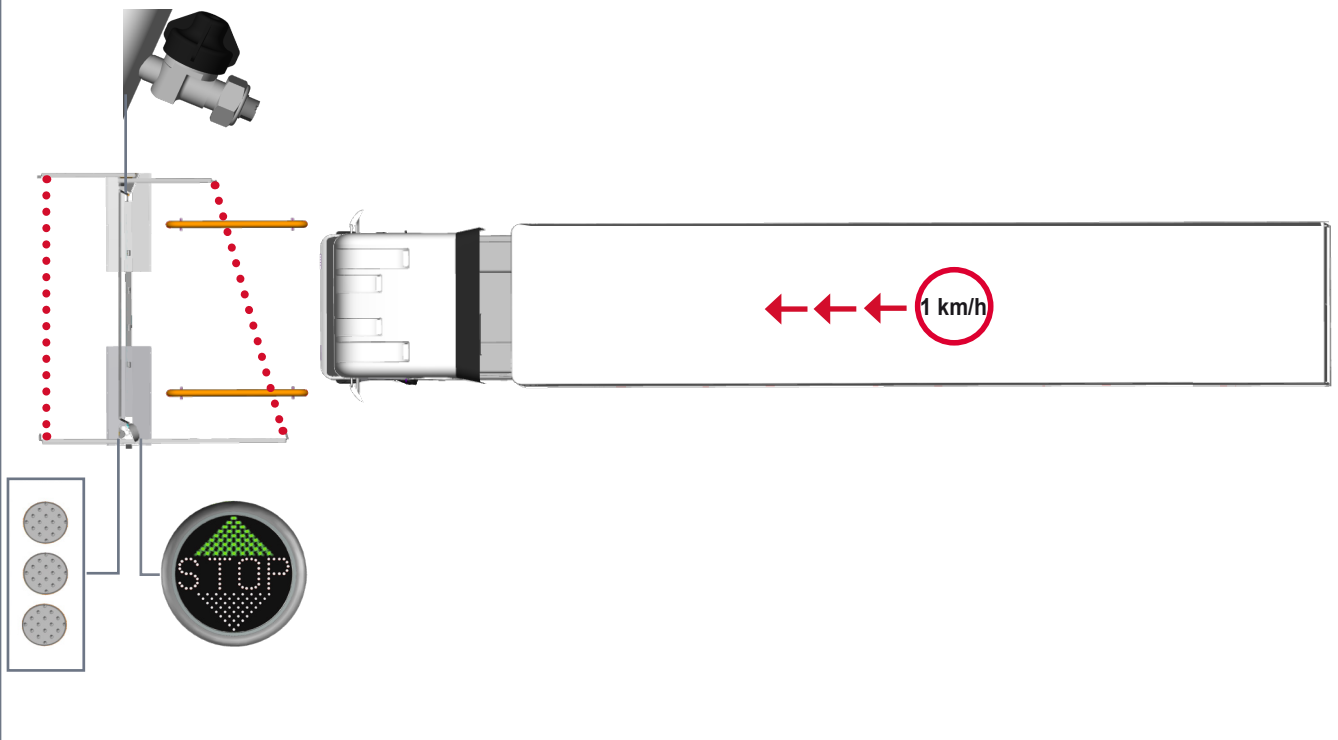
- » The staff should not be allowed in the spraying area during the process.
- » Vehicle speed while spraying should not exceed 1 Km/h.
- » Make sure the windows are totally closed before starting the chemical spray process.
- » Before starting the service, make sure the vehicle meets the maximum dimension requirements to gain access into the arch.

1

The unit is ready to start the process (initial phase).

The entry traffic light informs via the GO sign (green) that service can begin. Slowly drive in (1 Km/h) towards the arch.

If the vehicle enters from the opposite direction (exit), the program does not start.

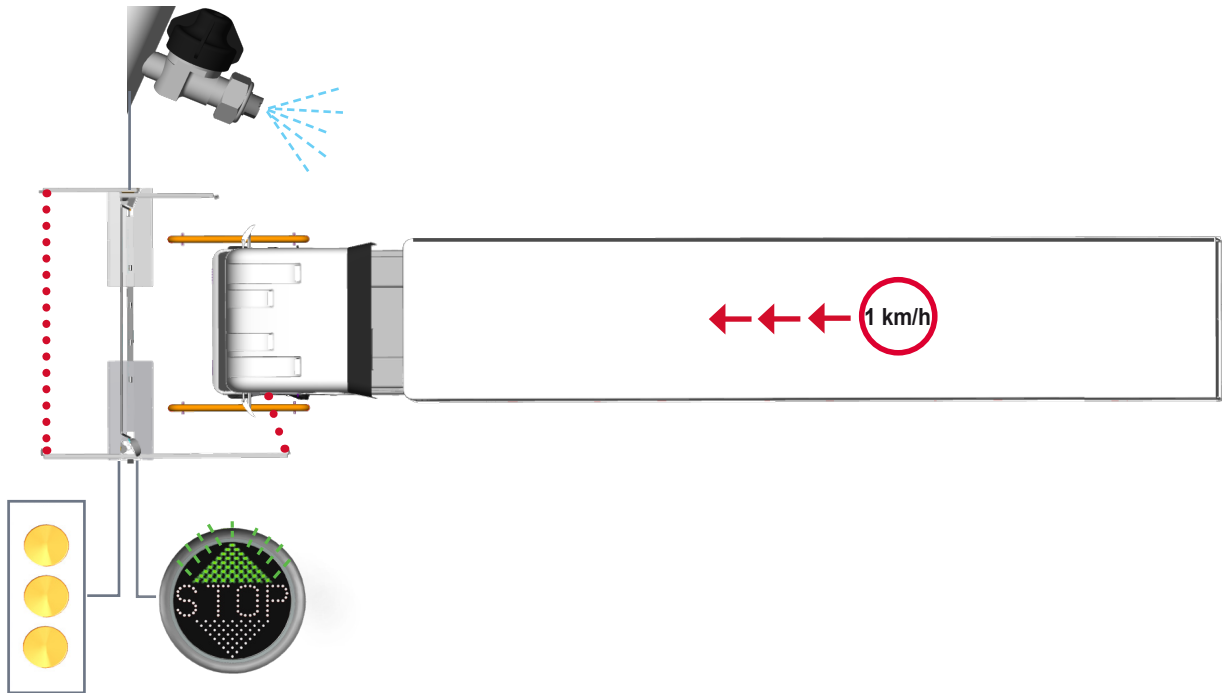


Entry photocells detect the vehicle.

2

The spraying process begins; the product is applied through the arch nozzles.

The GO sign (green) flashes and the exit traffic light goes on.

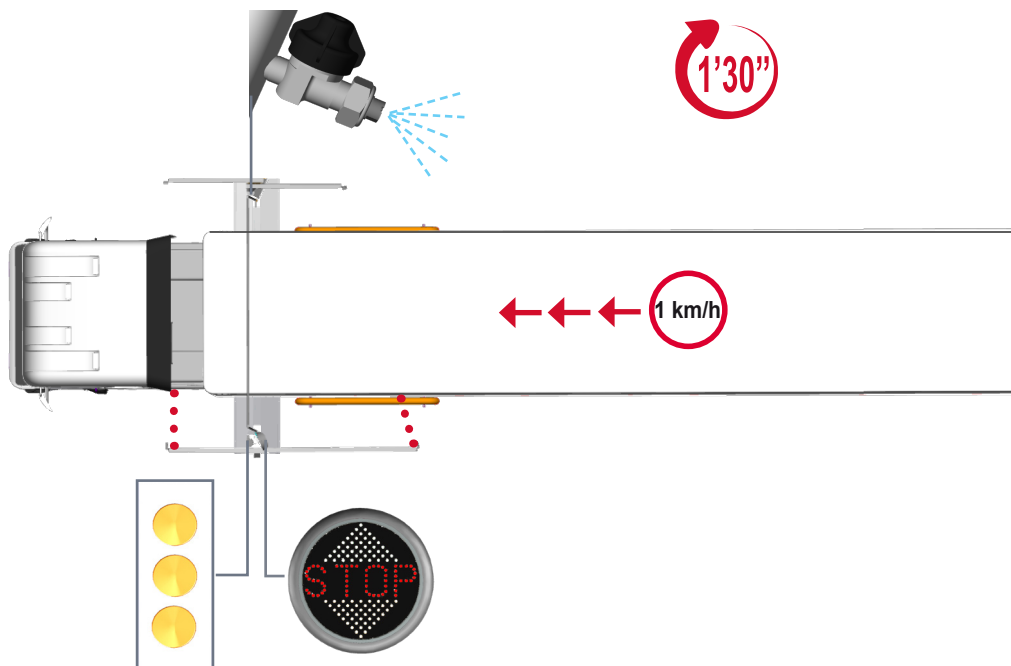


Exit photocells detect the vehicle.

3

During this phase, the equipment completes some checks: if vehicle speed is excessive, the alarm is turned on to warn the driver, and if the arch is spraying for more than 90 seconds the service is stopped.

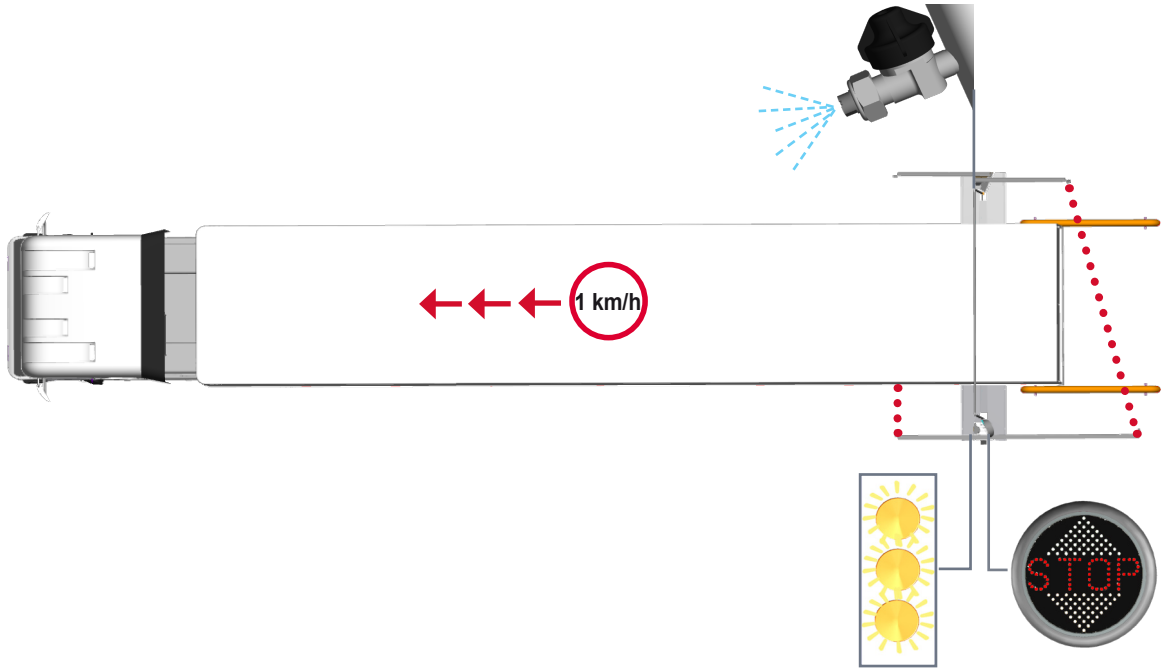
The entry traffic light turns the STOP sign on for vehicles not to enter the arch, and the exit traffic light stays on.



4

Entry photocells no longer detect the vehicle.

The exit traffic light starts flashing, informing the driver that the process is about to end. The STOP sign stays on.

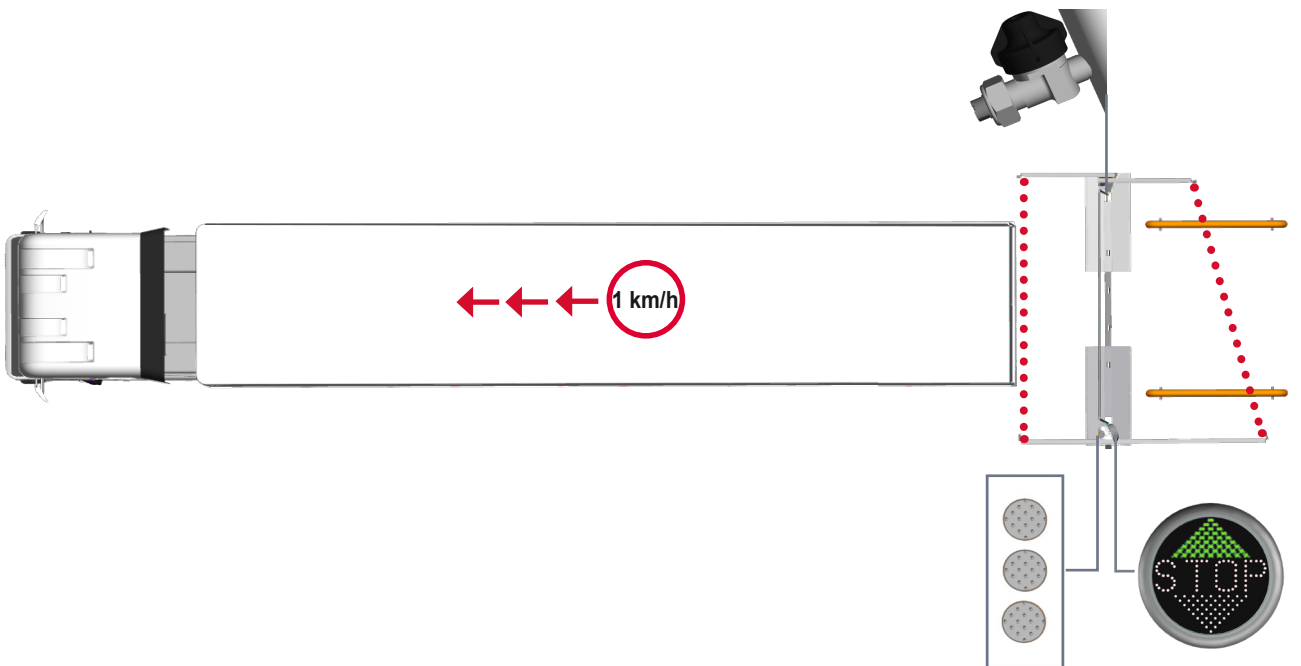


5

Exit photocells no longer detect the vehicle.

The process is finished.

The entry traffic light turns the GO sign on for another vehicle to enter.



MAINTENANCE

DANGER

- » Any maintenance and repair operation performed on the equipment with power and hydraulics turned on may be fatal or cause serious damage.
 - 1) Proceed with extreme caution.
 - 2) Cordon off the area to prevent access by any unauthorized person.
 - 3) Use personal protection equipment.



- » Only maintenance supervisors specifically trained for this purpose by members of the official technical service may perform these operations.



- » Use original spares only.
- » Maintenance can be more or less frequent, depending on the environment where the unit is installed.

MAINTENANCE TABLE

POINTS FOR MAINTENANCE	DAILY	WEEKLY	MONTHLY	YEARLY	RECOMMENDATIONS
Bay	●				Clean the bay.
Chemical product levels	●				Visually check the chemical product level on the tank. Replace the tank if necessary. If the optional chemical level detector is installed, the alarm goes off when a low level is detected on the tank.
Photocells		●			Clean all the photocells on the equipment. Clean with a soft cloth and water. Do not use chemical products or items that might scratch the lens.
Nozzle and filter cleaning		●			Dip the nozzles and filters into a scale preventer solution to remove any embedded dirt. Cleaning frequencies may vary depending on the quality and hardness of the water used.
Water softener		●			Make sure the level of salt in the brine tank is above the water level.
Suction lance			●		Clean the valves and remove any chemical deposits on them.
Cleaning the outside				●	Clean the structure and fairings especially in the area of the pipes. Use suitable products which do not contain components that could damage the arch.

CLEANING AND PROTECTION

WARNING

- » Please read the product's technical data sheet before applying chemicals.
 - Proceed with extreme caution.
 - Use personal protection equipment.



NOTICE

- » Washing fairings and the equipment chassis with pressurised water may damage the paintwork, structure or electrical components.
 - Use water with a maximum pressure of 3 bar.
- » ISTOBAL declines all responsibility for any damage caused by the use of cleaning products other than those indicated in these sections.

One of the last stages of maintenance is the application of protective agents.

From the moment they are installed, all pieces of equipment are continuously exposed to oxidizing agents and moisture in the air. It should be noted that the metal parts of the machine will also benefit from the use of a protective product as they are also affected by the adverse conditions in which they work.

In cold dry weather, corrosion rates are lower than in warm conditions, but in a marine climate -with heat and moisture- corrosion rates are much higher although considerable local variations might exist. Protection largely depends on air corrosiveness and must be adjusted to each specific situation.

Some cleaning and protection instructions are given next.

■ **CLEANING:**

Product to be used: aluminium and stainless steel cleaner "CLEAN MACHINERY".

REFERENCE	VOLUME
5288301	1 L
5288310	10 L
5288320	20 L

Cleaning frequencies depend on dirt levels. A monthly cleaning is generally recommended.

The product is applied as follows:

- 1) Spray the recommended product directly on metal surfaces. The product must be applied as described in the technical data sheet and the product label.
- 2) Let the product work on the surface for two minutes and then wipe it with a cloth or a soft brush for the desired finish.

■ PROTECTION:

Product to be used: ISTOBAL 'CLEAN INOX' stainless steel protector.

REFERENCE	VOLUME
5305101	1 L
5305110	10 L
5305120	20 L

The next table shows maintenance intervals for different air corrosiveness categories:

AIR CORROSIVENESS CATEGORIES: (CLASSIFIED AS PER ISO 12944)		STAINLESS STEEL PROTECTOR FREQUENCY
C1	Very low	Monthly
C2	Low	Monthly
C3	Medium	Fortnightly
C4	High	Fortnightly
C5-I	Very high (industrial)	Weekly
C5-M	Very high (marine)	* Weekly

* Inhibitors are needed to control the facility's air conditions. Humidity and temperature control is recommended, and adequate ventilation must be ensured.

The product is applied as follows:

- 1) Spray the recommended product directly on metal surfaces. The product must be applied as described in the technical data sheet and the product label.
- 2) Let the product work on the surface for one minute and then wipe it with a cotton or cellulose cloth. For a more homogeneous and even finish, always apply and rub in the same direction.

REFERENCE	VOLUME
5287801	1 L
5287810	10 L
5287820	20 L

The product is applied as follows:

- 1) Spray directly on the surface to be cleaned. The product must be applied as described in the technical data sheet and the product label.
- 2) Let the product work and then rub for the desired finish.
- 3) Rinse with water.

WATER QUALITY

WARNING

- » For the mixer to run smoothly, the water used must be softened or demineralized.
- » ISTOBAL declines all responsibility for any damage caused by the use of water with parameters which exceed the maximum values.

The following table shows the maximum allowable limits set by ISTOBAL:

MAXIMUM ALLOWABLE VALUES	
Parameter	Limit
Iron	<0.2 mg/L
Manganese	<0.05 mg/L
Ammonium	<4 mg/L
Chlorine	<0.25 mg/L
Turbidity	<10 NTU
Silica	<50 mg/L
Sulphate	<250 mg/L
pH	6.5 - 9
Nitrates	<100 mg/L
Hardness	<50° HF
Conductivity	<2500 microsiemens
Chlorides	<250 mg/L
COT	<10 mg/L

When the water is obtained from a non-public mains source, such as a well, the characteristics may be affected and thus a more exhaustive control is required, involving annual analyses.

When one or various parameters exceed the limits, you should contact ISTOBAL for a suitable pre-treatment system or systems.

TROUBLESHOOTING



WARNING

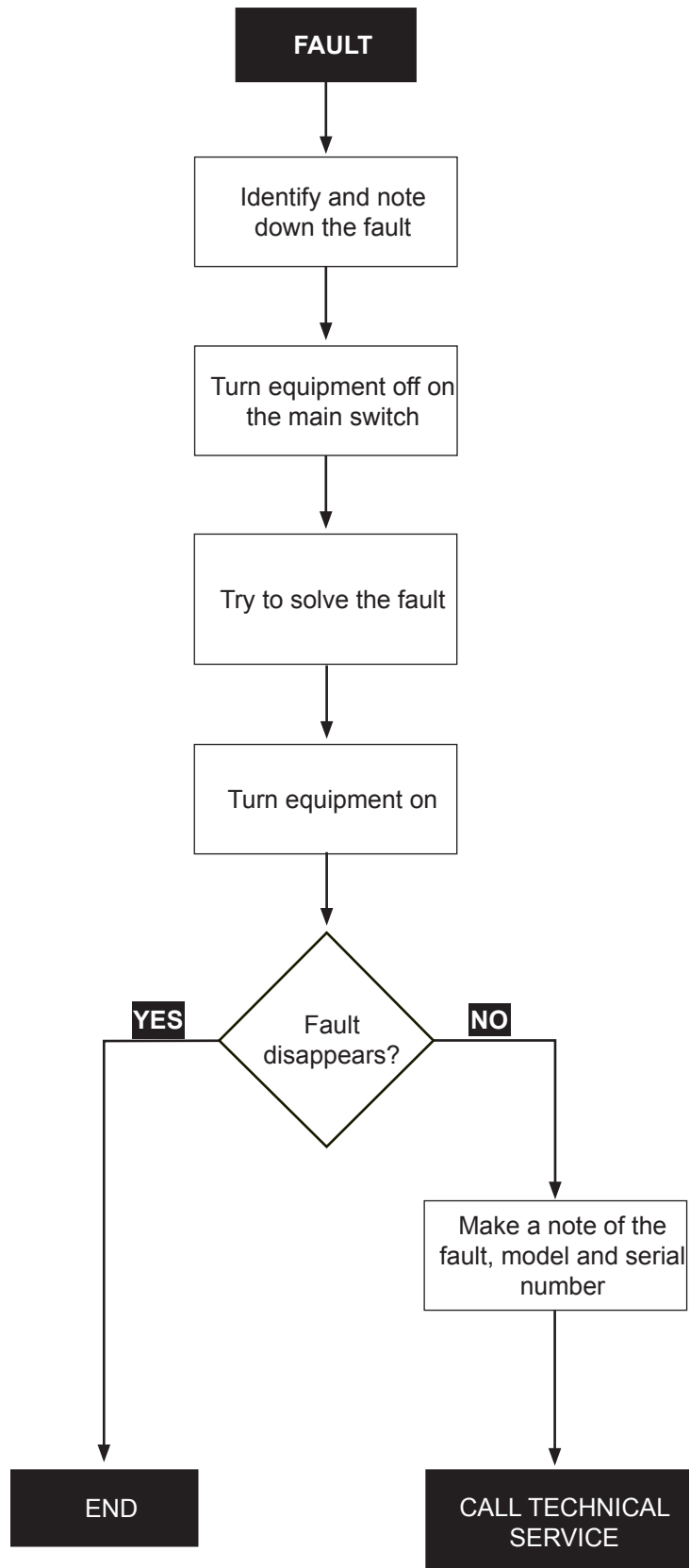
- » Reset and start-up operations on the equipment or its optional extras may result in serious damage.
- » To check the condition of the fuses, thermal relays and thermal magnetic relays, you must open the door of the main electricity box.
 - Before opening the door, switch off at the main power switch.
 - Only maintenance supervisors specifically trained for this purpose by members of the Official Technical Service may perform these operations.

The spraying process stops if a problem is detected on the equipment. The STOP sign on the entry traffic light flashes and the sounder beeps while the error persists.

Possible problems:

- Chemical product low (provided chemical level detector optional extra is installed).
- Fault due to motor overload or no water when water pump activated (pressure below 1 bar detected).
- Fault on a photocell.
- Entry and exit photocells detect a vehicle staying on the arch longer than 90 seconds.
- If travel time from the entry photocell to the exit photocell is less than 6 seconds, an alarm goes off to warn the driver he/she is driving too fast (for control by photocells only).

TROUBLESHOOTING FLOW CHART

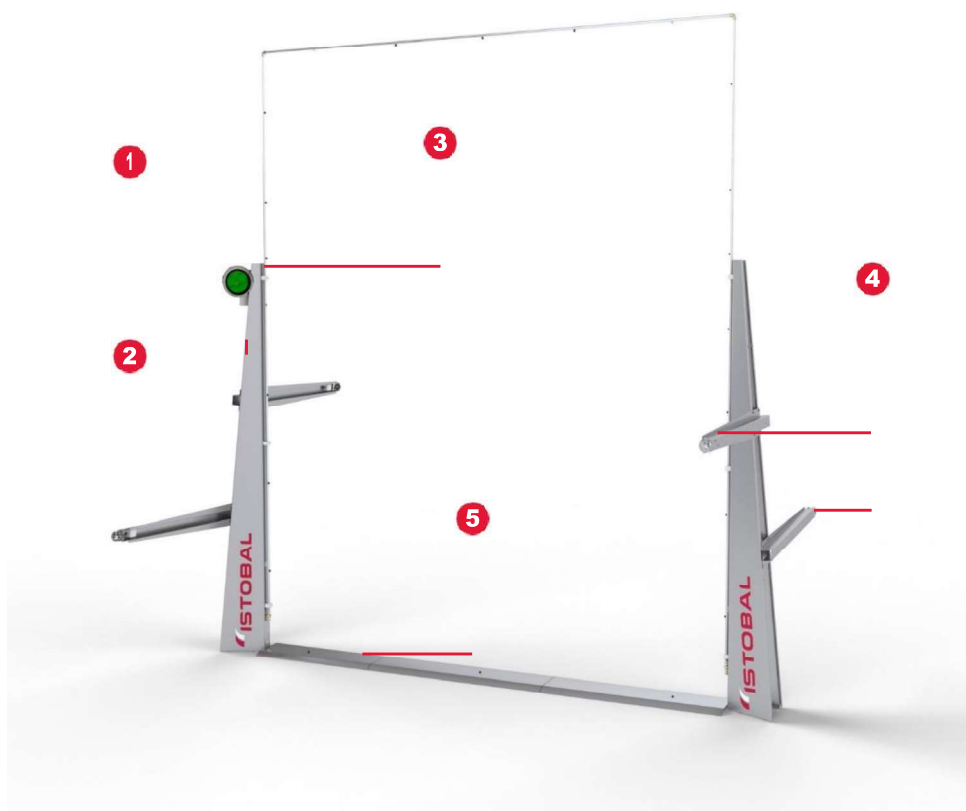




АРКИ ЗА ДЕЗИНФЕКЦИЯ И ХИГЕНИЗАЦИЯ НА ТОВАРНИ АВТОМОБИЛИ И СПЕЦИАЛИЗИРАНИ ПРЕВОЗНИ СРЕДСТВА

Автопаркът ви е напълно дезинфекциран.

Автономна арка с автоматично нанасяне на дезинфектант и/или химични продукти за хигиенизиране, при която превозни средства преминават на самоход. Осигурява правилно нанасяне по цялата повърхност на превозното средство и контролирано дозиране на химичните продукти. Благодарение на качеството на материалите и здравината на конструкцията, арката може да се използва за всички видове химически приложения, от дезинфектанти до киселинни или алкални химикали за предварителни измивания.



1. Входна светлина уредба : показва готовност за стартиране на дезинфекция.

2. Акустичен предупредителен сигнал: алармира водача при превишение на скоростта.

3. Изходна светлинна уредба : показва завършване на дезинфекцията в задната част на превозното средство.

4. Контрол на скоростта : автоматиката измерва скоростта на автомобила с помощта на фотоклетки.

5. Долен канал-измиване на подшаси : за 360° приложение без необходимост от изграждане на фундамент и допълнителни строителни дейности.

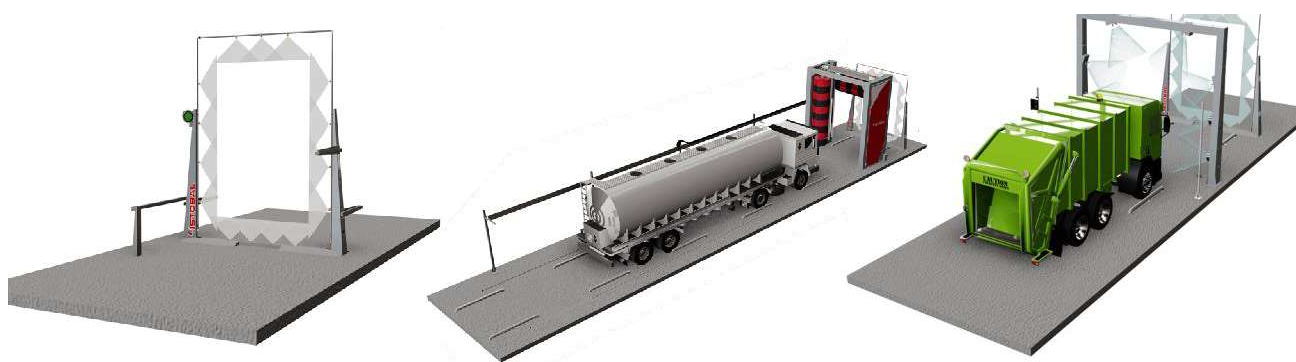
СТАНДАРТНО ОБОРУДВАНЕ

- Тръби от неръждаема стомана AISI 316.
- Носещи колони изработени от галванизирани и боядисани стомани.
- 11 PVDF дюзи, силно устойчиви на химикали, със система против капене и филтър за частици.
0.9 kW 220 V 50 Hz монофазна водна
- помпа от неръждаема стомана.
0.25 kW 220 V 50 Hz монофазна дозираща
- помпа за химични продукти
- Електро табло със автоматизация Siemens и интегрирано управление на
- водна помпа и помпа за химични продукти .
- Максимална височина на приложение 5 м
- Общ дебит: 40 л / мин.



Автономна или комбинирана

Може да работи автономно, без нужда от оператор, или да бъде координиран и/или комбинирана с нашите машини за измиване на товарни автомобили ISTOBAL модели HW'PROGRESS и ISTOBAL HW'ROTATORS, за да предложи цялостна услуга за измиване и дезинфекция .

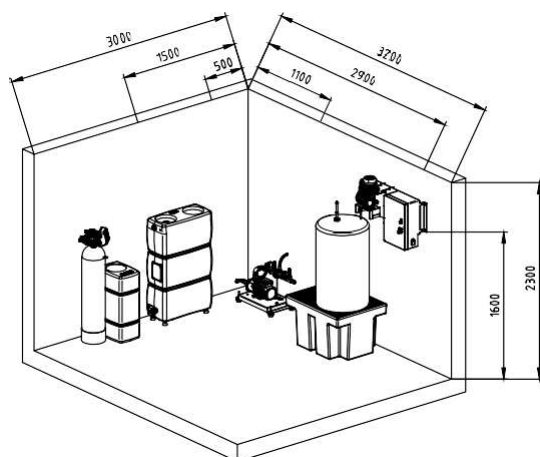


РАЗНООБРАЗИЕ ОТ ОПЦИИ

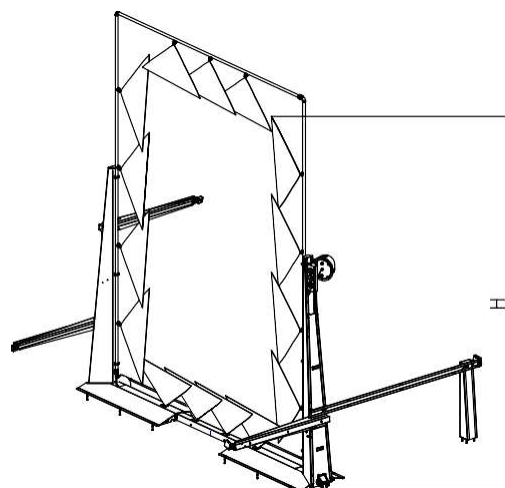
- 200 л воден резервоар Съхраняващ
- резервоар 200 л варел
- 10x44" воден омекотител
- 360° арка долни тръби
- изходен светофар
- входен светофар
- Противо-замръзваща система с изпразване на тръбите
- Центриращи водачи с дължина 2.3 м x 120 мм
- Звукова сигнализация
- Комплект засичащи фотоклетки
- 200 л резервоар с всмукателна тръба за химични продукти и нивомер за продуктите

ТЕХНИЧЕСКА СТАЯ И РАЗМЕРИ

Примерни размери за техническа стая.



Височина на приложение .



H (мм)	2,800	3,500	4,000	4,500
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ОФЕРТА № 00742 Т-2023

Дата : 05/09/2023

КЛИЕНТ : АЕЦ Козлодуй

АДРЕС ЗА ДОСТАВКА ГР. Козлодуй

Валидност на офертата : 60 дни

Ваше запитване : от



Производител : ISTOBAL S.A
Страна на произход : Испания
www.istobal.com



1. Автоматична дезинфекционна арка с работна височина 4.5м

Код	Описание	Брой	Единична цена без ДДС в Евро	Обща стойност без ДДС в Евро
4HWA100	Химична арка за дезинфекция с раб. височина 4.5м	1	6990,00	6990,00
RC108032	Комплект фото клетки за управление	1	1380,00	1380,00
RC084014	Устройство за дезинфекция на шасита и гуми 360 градуса	1	2210,00	2210,00
RC087041	Светофарна система за вход	1	600,00	600,00
RC087023	Светофарна система за изход	1	450,00	450,00
RC079004	Водачи за центриране на МПС - 2.3m x 120mm	1	450,00	450,00
RC016002	Автоматична противозамръзваща система	1	820,00	820,00
RC083004	Захранваща система за детергент	1	290,00	290,00
RC083004	Нивомерна система със смукател	1	310,00	310,00
RC058002	Воден резервоар 200л за детергент	1	390,00	390,00
RC061015	Автоматичен воден омекотител 10x44"	1	1440,00	1440,00
RC142081	Акустична предупредителна система	1	350,00	350,00
	Контейнер Д 2м x Ш 2м В2.45		2800,00	2800,00
	Междинна сума в ЕВРО без ДДС			18480,00
	Транспорт от Испания до България в ЕВРО без ДДС			2100,00
	Общо в ЕВРО без ДДС			20580,00

ТЪРГОВСКИ УСЛОВИЯ :

Цена на офертата	Цената на офертата се разбира без включен ДДС в размер на 20 %. ДДС се начислява при издаване на ДФ съгласно ЗДДС.
Условия на доставка	СРТ - обект клиент гр. Козлодуй
Срок за производство	До 7 (седем) работни седмици от датата на потвърждение на официална поръчка .
Срок за доставка	До 7(седем) дни от датата на експедиция .
Начини на плащане	Авансово плащане в размер на 50 (петдесет) процента от стойността на офертата с включен ДДС в срок до три календарни дни считано от датата на потвърждение на официална поръчка . Окончателно плащане в размер на 50 (четиридесет) процента от стойността на офертата с включен ДДС преди датата на доставка до обекта.
Инсталация	Срок за инсталация – до 14 (четиринадесет) работни дни от датата на доставка . Стойност на инсталация –включена в цената на офертата
Опаковка	Включена в цената на офертата
Гаранционен срок	24 (двадесет и четири) месеца от датата на инсталация и издаване на гаранционна карта .
Налични сертификати	CE, ISO 9001,ISO 14001

Приложени документи:

1. Търговски каталог

Изготвил офертата :

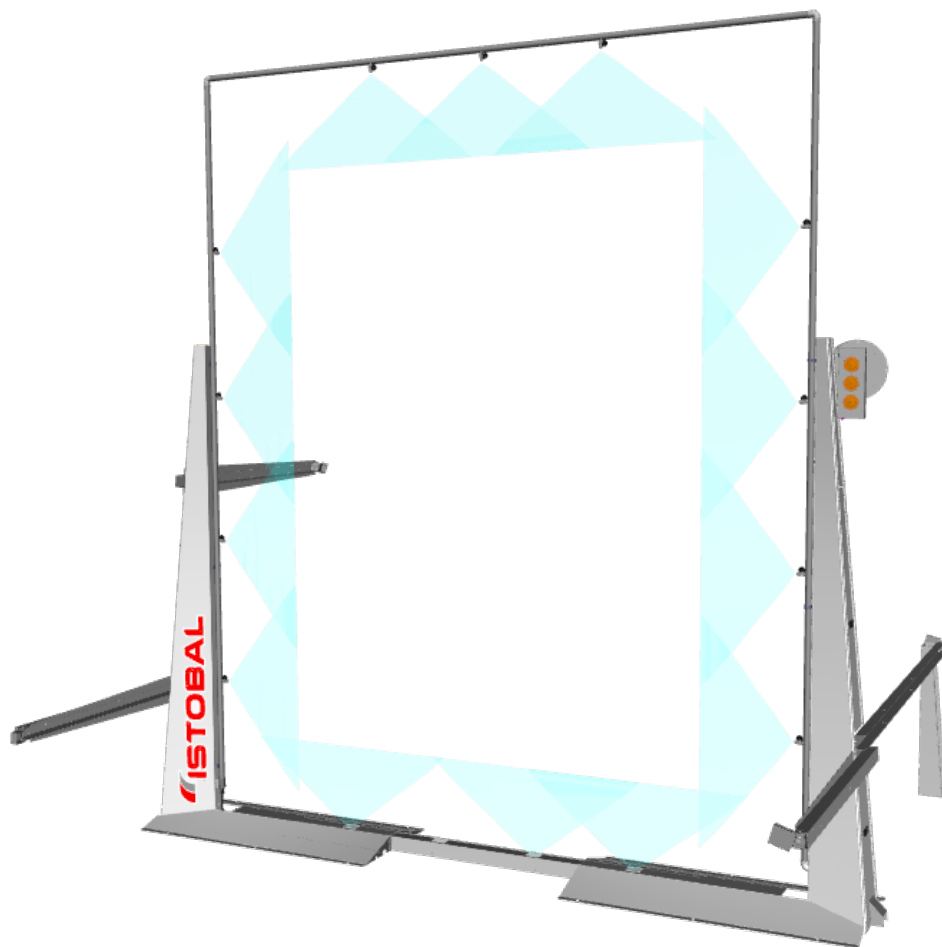
Мария Ангелова
Отдел продажби
ЕРМАНГ ООД

Утвърдил офертата :

Руслан Ангелов
Управител
ЕРМАНГ ООД

SPRAYING ARCH

MOD. 4HWA100



Documentación I+D+i V_09_20

ISTOBAL

ORIGINAL MANUAL



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SPRAYING ARCH - COMMERCIAL VEHICLES	8
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DETAILS	20
COMPONENT PARTS	21
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BUILDING SPECIFICATIONS

EXCAVATION WORK

Any vegetation will be cleared, and any elements or small infrastructures will be removed, should there be any.

The whole site will be cleared and the vegetation soil all over it will be removed.

Once the desired level has been reached, soil moisture and compaction will be checked.

FILLING WORK AND EMBANKMENT

'Esplanade' or 'embankment' is the finished excavated area where the paving layers (bed and slab) will be built.

The esplanade must be correctly compacted until it is totally even and homogeneous, which requires a number of roller operations.

- Minimum esplanade type E1 (5 < CBR < 10)

If the esplanade needs to be formed or if the features of the existing plot are not suitable, these can be either improved by means of stabilization, or replaced at an adequate depth by a bed with the right features.

- Materials to be used **Features:**
 - Minimum: Adequate ground (as per PPTG PG3)
 - Stones with max. diameter below 100 mm.
 - Sieved with sieve no. 200, 35% of weight.
 - LL < 40
 - Maximum density, normal Proctor test, 1,75 kg/dm³
 - CBR>5
 - Organic matter < 1%
 - Soluble salts (including gypsum) < 0.2%

In the esplanade work and the subsequent bed, please bear in mind that the work to be done shall cover an additional 3000 mm band parallel to the boundaries of the rollover area so as to allow for drainage and for a transition between the facility level and that of the adjoining areas.

BASE

Granular material layer between the esplanade and the slab, consisting of natural aggregates or aggregates derived from quarry stone grinding or natural gravel, or clay/marl-free selected soils.

To be compacted in a single layer (150 mm course minimum) until 97% PM is reached.

- Type - Graded crushed aggregate
- Thickness - See civil works ground plan.

- Granulometry
 - Fractions going through the 0.08 sieve will be smaller than half the fractions sieved with the 0.40 sieve. Measured by weight.
 - Maximum aggregate size will be smaller than half the compacted layer.
 - The fraction retained by Sieve 5 should at least have 50% (weight) elements with two or more fracture surfaces.
 - Abrasion measured by Los Angeles test should be lower than A 30.
 - The material must be non-plastic and the sand-content equivalent must be over A 35.
 - CBR > 80 for 100% compaction, Modified Proctor Test

- Compacted density
 - Over 100% of maximum density. Modified Proctor Test density, even in singular project areas (edges, meeting points, elements).

REINFORCED CONCRETE SLAB

- Thickness
 - See civil works ground plan.

- Reinforcement
 - Electro-welded mesh AEH 500 (fyk=5100 Kp/cm²)

- Slopes
 - See civil works ground plan.

- Contraction joints
 - every 5000 mm
 - width 4 mm
 - depth 40 mm

- Expansion joints
 - every 25000 mm
 - width 20 mm
 - filled and sealed

- Finishing process
 - Spreading and compacting with concrete screeder.
 - Surface smoothing by screeder.
 - Mechanical floating once concrete is resistant enough (helicopter, fixed flat propeller).
 - Repeat previous operations as many times as necessary until the desired finish is obtained. In our case, surface finish must be non-slip.
 - Curing by wax-based curing liquid (Bettocure-C).

CONCRETE SPECIFICATIONS

The slab concrete's corrosion exposure class is "IIa" (normal reinforcement for high moisture conditions). It is adequate for areas that are not by the sea. For other types of exposure, check regulations in force.

Concerning exposure relating to concrete degradation phenomena other than corrosion, the concrete is erosion-classed, "E".

If the area were affected by frost, no melting salts would be needed for the foreseen purpose. Designation would be "H" (frost exposure, no salt de-icing).

- Definition
 - with compression HM-30 / B / 20 / IIa+E
 - with frost risk: HM-30 / B / 20 / E+H

- Water/cement rate
 - (Table 37.3.2.a EHE-08)
 - Below 0.50 (Exposure class E)

- Minimum concrete strength
 - (Table 37.3.2.b EHE-08)
 - 30 N/mm²

- Cement
 - Portland cement EN 197-1 CEM I 32.5 N (APPENDIX 4. Tables A.4.2 and A.4.5 CE Marking EHE-08 and Appendix I RD 956/2008 RC-08)
 - (Table 37.3.2.a EHE-08)
 - Minimum content 325 kg/m³. (Do not exceed maximum cement content 375kg/m³).

- Consistency
 - Concrete slump test, base 60 to 90 mm.
 - (Art. 31.5 EHE-08) Consistency SOFT

- Coating
 - (Art. 37.2.4.1 EHE-08)
 - Without blinding concrete, minimum nominal coating 80 mm. .
 - With blinding concrete, nominal coating 40 mm. .

- Curing
 - (Art. 37.3.7 EHE-08)
 - Prolonged curing, at least 50% above normal, that is, 10 days approximately in normal conditions.

- Aggregates
 - (Art. 37.3.7 EHE-08)
 - Fine aggregates will be QUARTZ or a material with at least the same hardness.
 - Los Angeles coefficient for thick aggregates under 30.
 - (Table 28.4.1.a. EHE-08)
 - Thick aggregates: maximum % passing through sieve 0.063: 1.5 %.
 - Fine aggregates: maximum % passing through sieve 0.063: 6 %.

- Additives
 - Waterproofing liquid (Sika-1), 3% of cement weight.
 - In case of frost risk (exposure class "F"), minimum occluded air content 4.5%, as per UNE-EN 12350-7.

- Waterproofing
 - (Art. 37.3.3 EHE-08)
 - Concrete waterproofing must be tested according to UNE EN 12390-8, since the environmental exposure class is "E".

EARTHING

Earthing must conform to standard IEC 60364-5-54, adapting it to restrictions in each individual country.

DRAINAGE GUTTERS

To be made on site using concrete with the same specifications as the slab concrete and fitting a prefabricated PVC drainage gutter.

The gutters must be covered with perforated steel sheets seated on a 12 mm continuous profile on the gutter edge.

- Width
 - 240 mm minimum.

- Depth
 - 190 mm minimum.

- Slope
 - inner slope 1.0 % (minimum)

- Reinforcement
 - See civil works ground plan.

- Cover
 - Perforated steel sheet, thickness = 8 mm
 - Dimensions: depending on gutter type (see details).

DRAINAGE PIPING

Gutter and central trap drainage is via a number of pipes that run along the boundaries of the rollover.

The pipes are PVC, with connection boxes and pits at intersection points where necessary.

The pipework facilitates the drainage of water coming from the rollover, taking it to the sludge settler, where water treatment starts for water to be recycled and reused in new wash processes.

- Pipes - PVC 160 mm minimum diameter
- Slope - minimum 1.0%
- Connection pits - Perforated bricks, rendered and smoothed.

RAIN GUTTERS, WITH ENCLOSURE

Rain water is collected and channelled by separate gutters that run parallel to the drainage piping. As in the previous case, the pipes are arranged on the sides of the rollover.

For rollovers without an enclosure, rain water is collected together with that of the actual rollover.

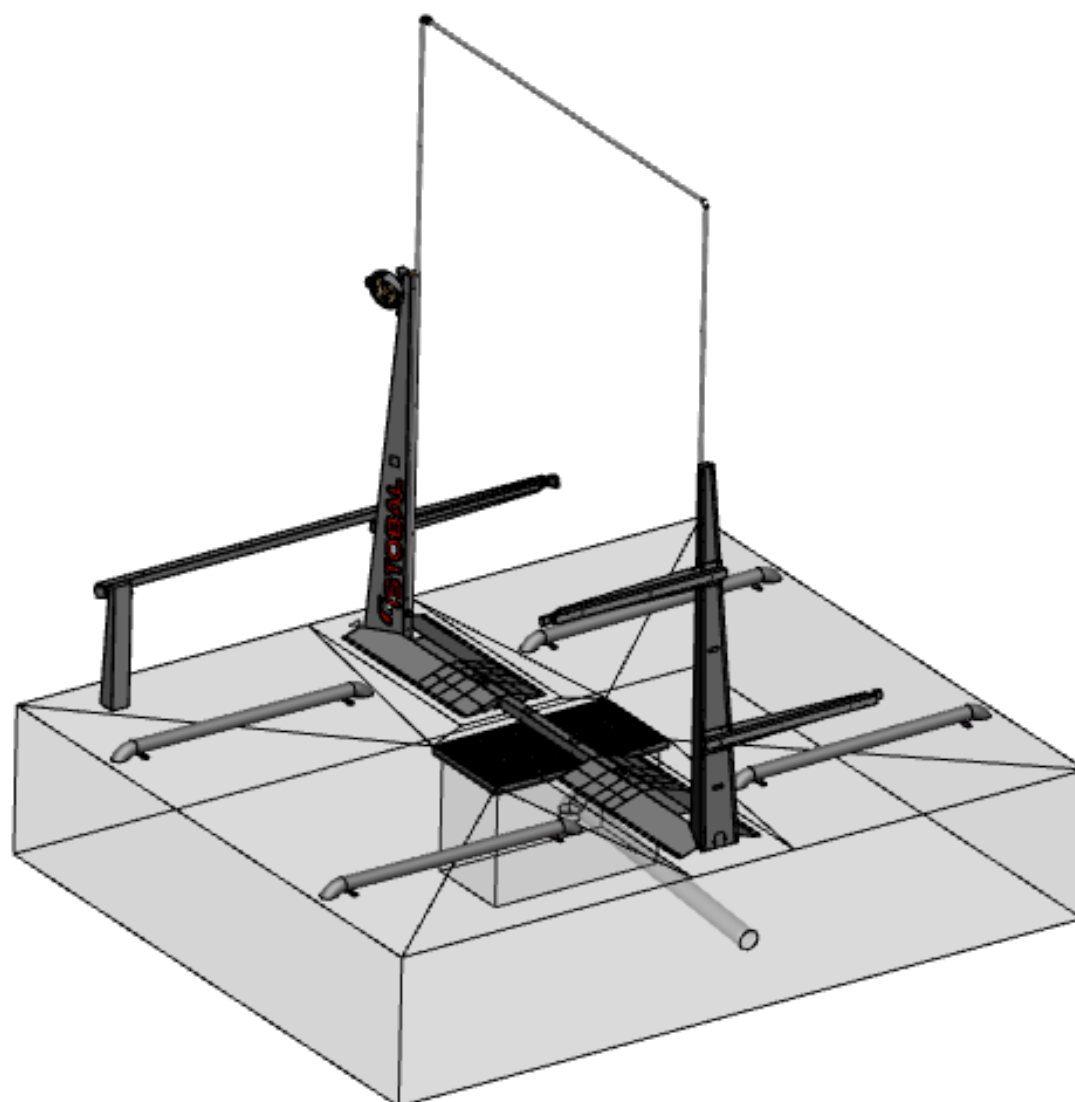
All pipes must be PVC, even the special parts.

Pipe slope should not be under 1.0%. Pipes must lean on a concrete or sand bed.

Couplings as per drawings, in connection boxes or pits built with bricks, rendered and smoothed. Pit dimensions are indicated in the corresponding drawings.

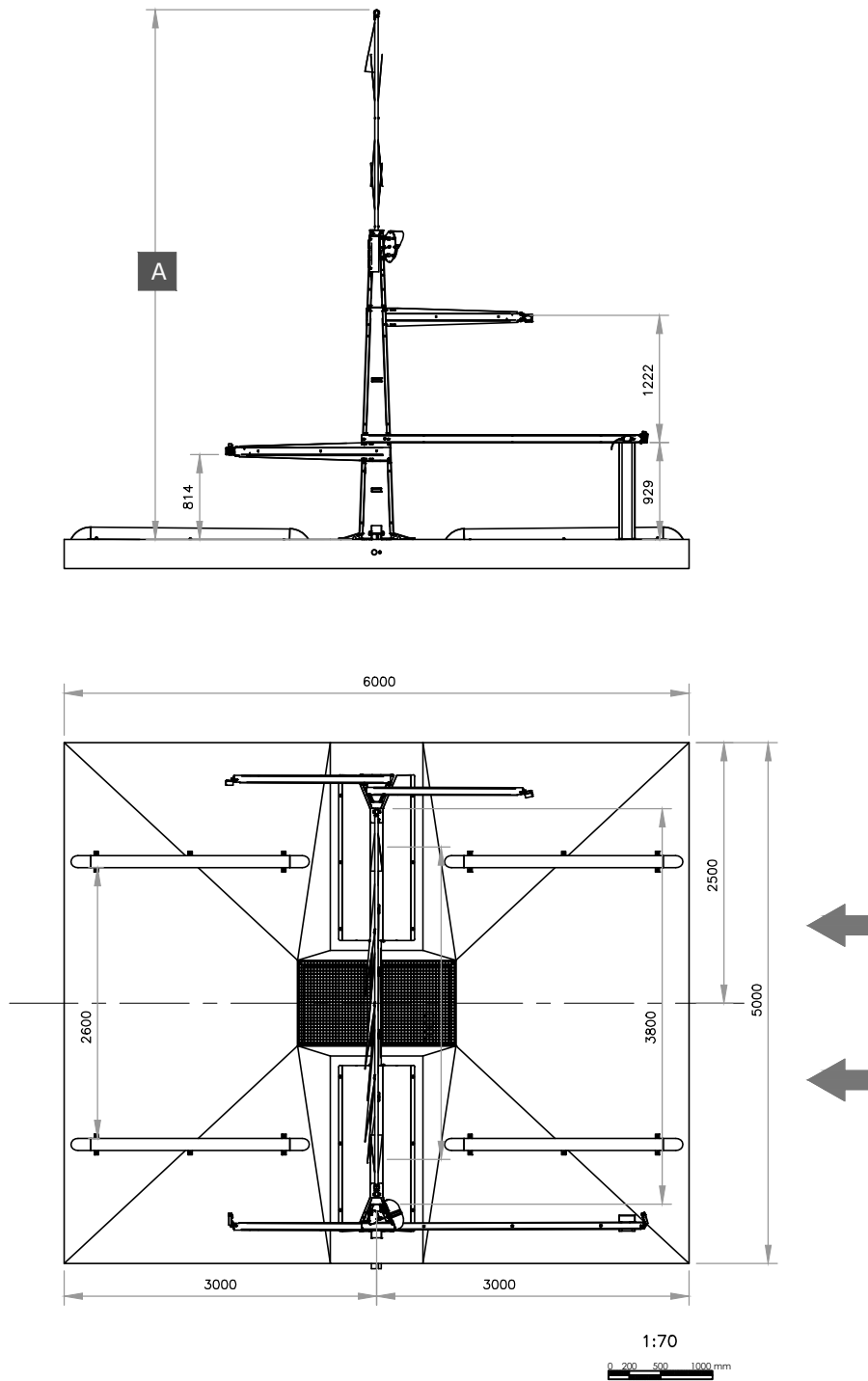
SPRAYING ARCH - COMMERCIAL VEHICLES

GENERAL VIEW



DIMENSIONS

Measurements in mm

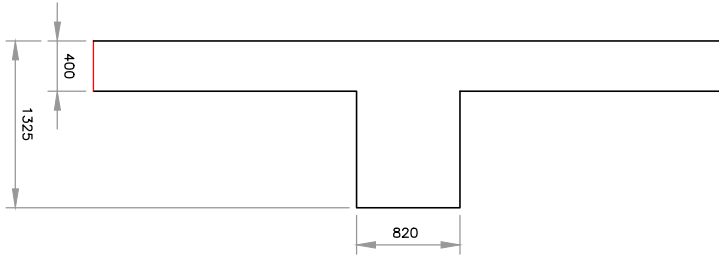


		HEIGHT (mm)			
		3500	4000	4500	
A	Chassis height	4085	4585	5085	
	Chassis width	4446			
	Vehicle height (max.)	Without hump	3800	4300	4800
		With hump	3710	4210	4710
	Vehicle width (max.)		3450		
	Maximum spraying width		2600		
Maximum spraying height		3500	4000	4500	

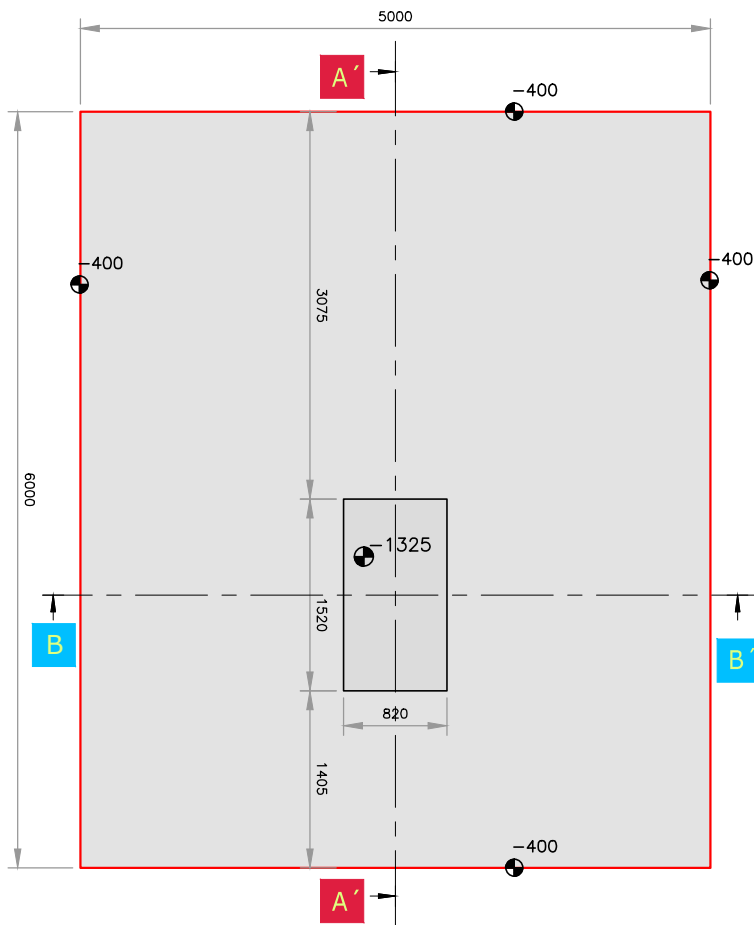
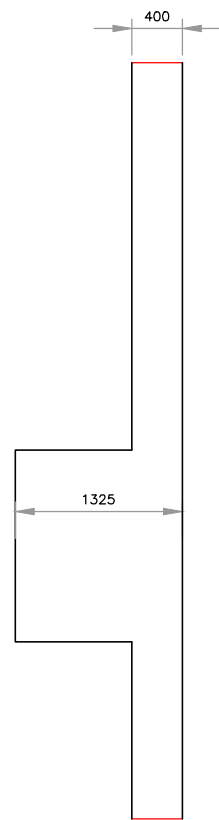
EXCAVATION PLAN

Measurements in mm

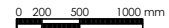
SECTION B - B'



SECTION A - A'

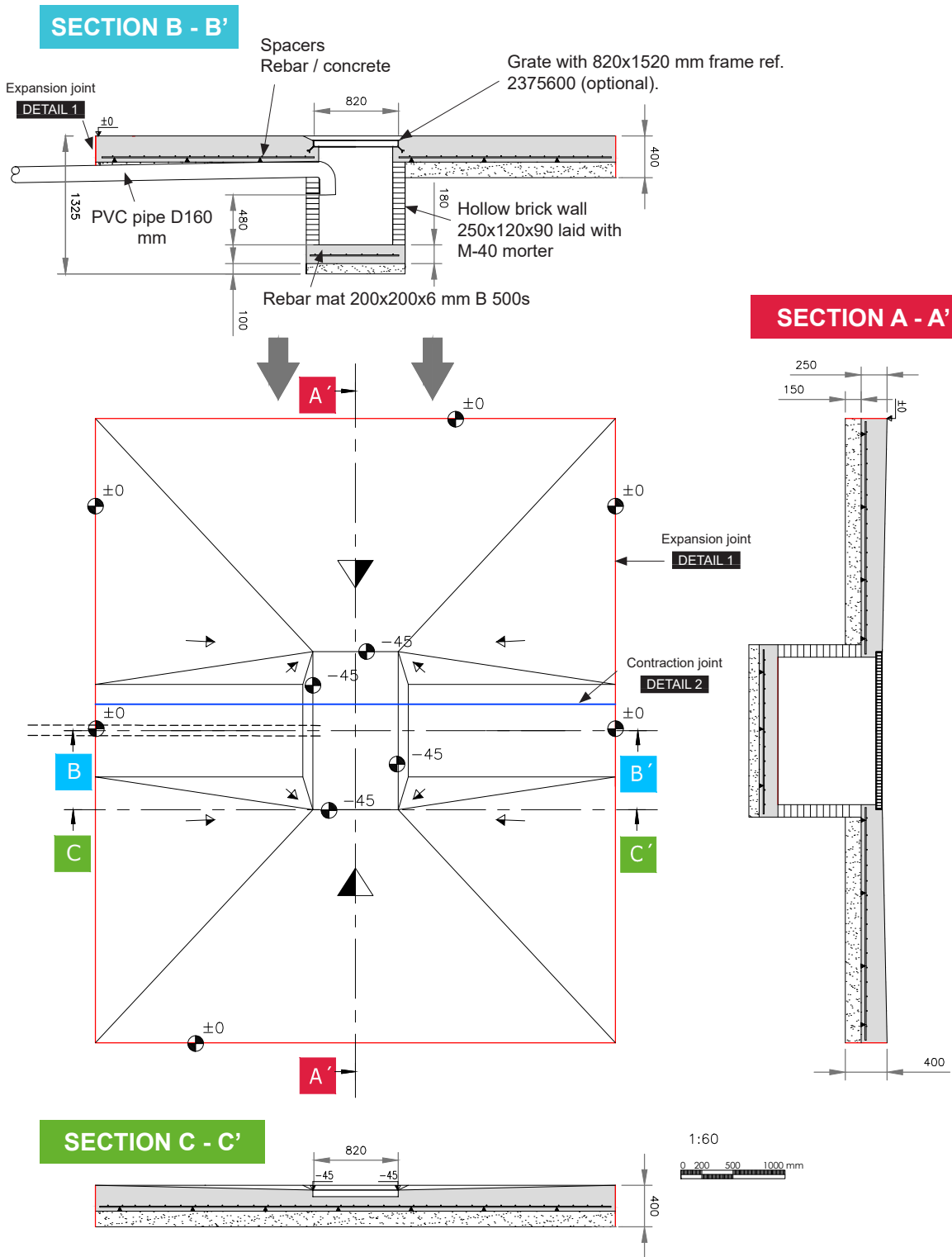


1:60



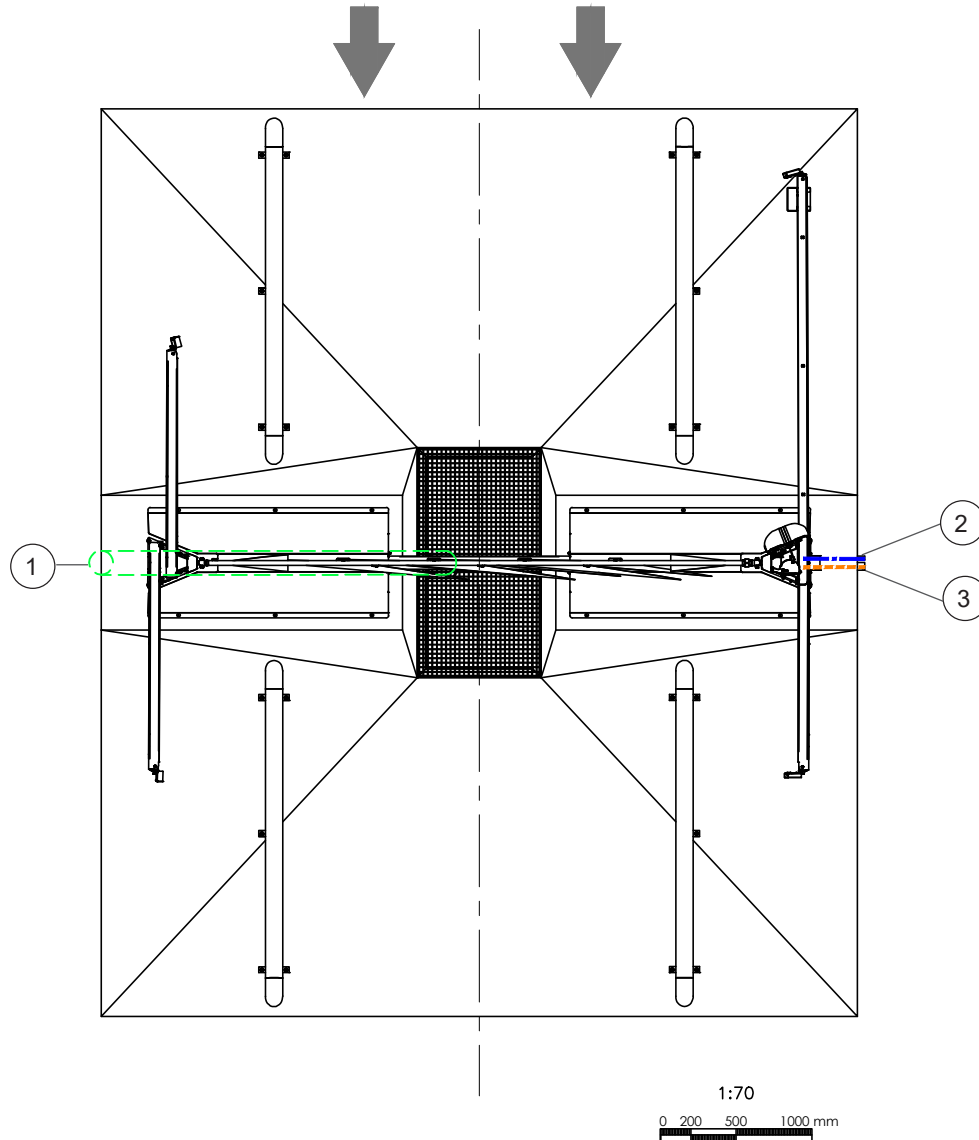
DESIGN MEASUREMENTS AND SECTIONS

Measurements in mm



Surface of bay treated with non-slip finish. Any guarantees as to the dimensions of the concrete beds depend on the floor being properly compacted.
Civil work details can be seen in the "Details" section.

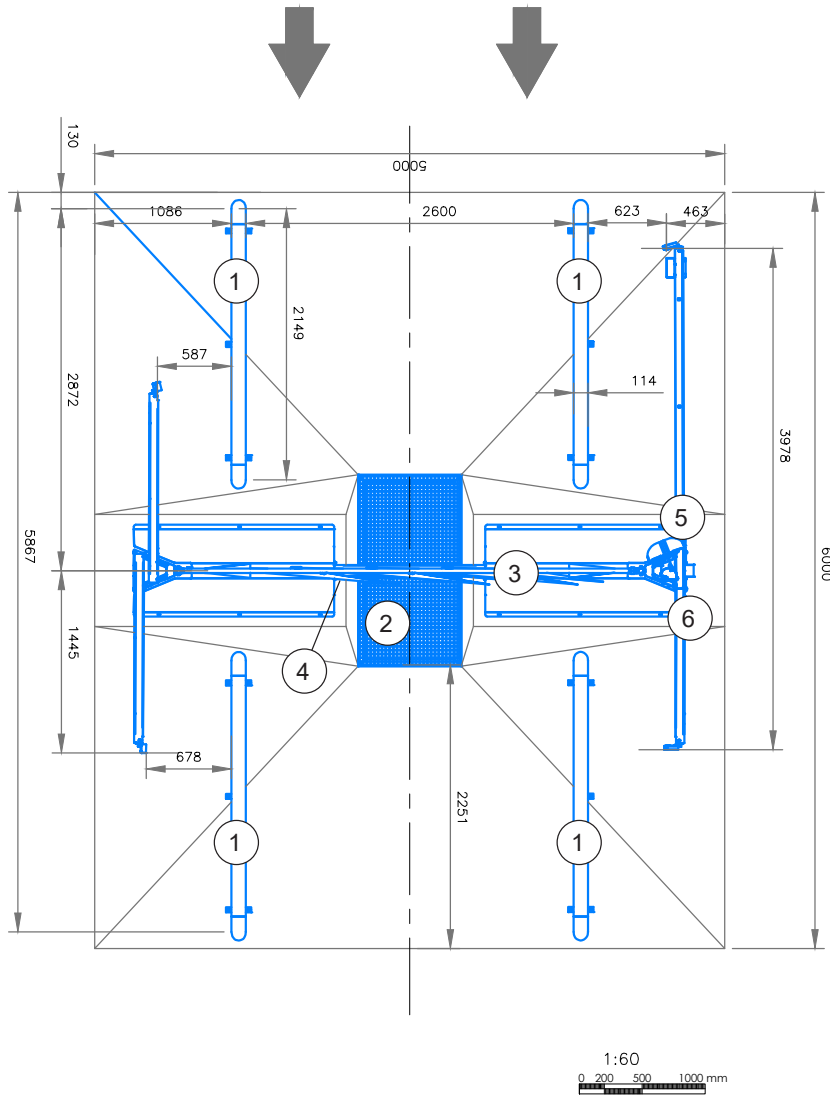
PIPING



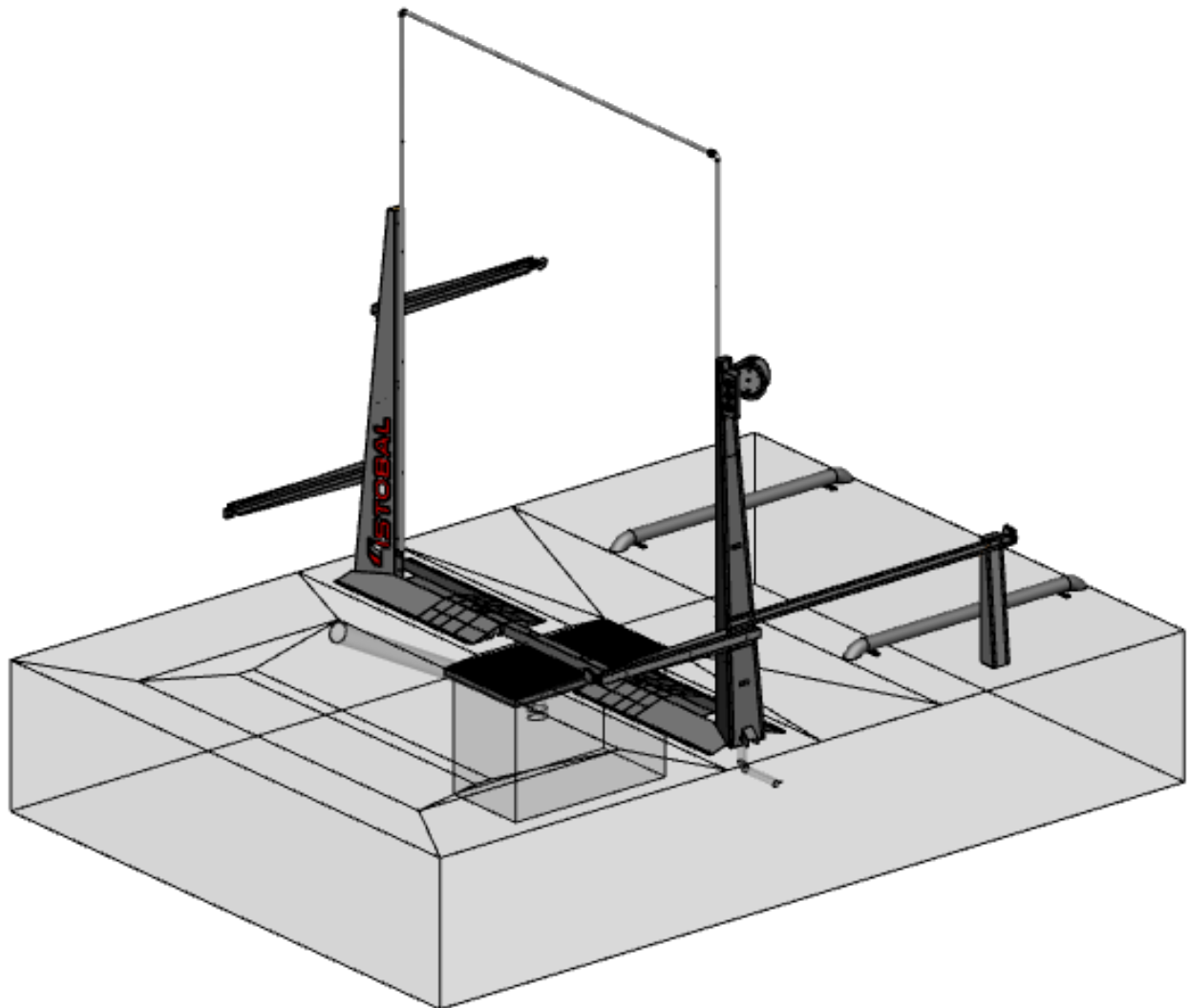
No.	Location	Underground pipework
①	Drain from sand settler to main drain.	PVC pipe D160 mm
②	Water pipework from plant room to rinsing arch	Polyethylene pipe D40 mm
③	Electrical cables from plant room to rinsing arch	Corrugated polyethylene pipe (TPC) D40 mm

PARTS

Measurements in mm

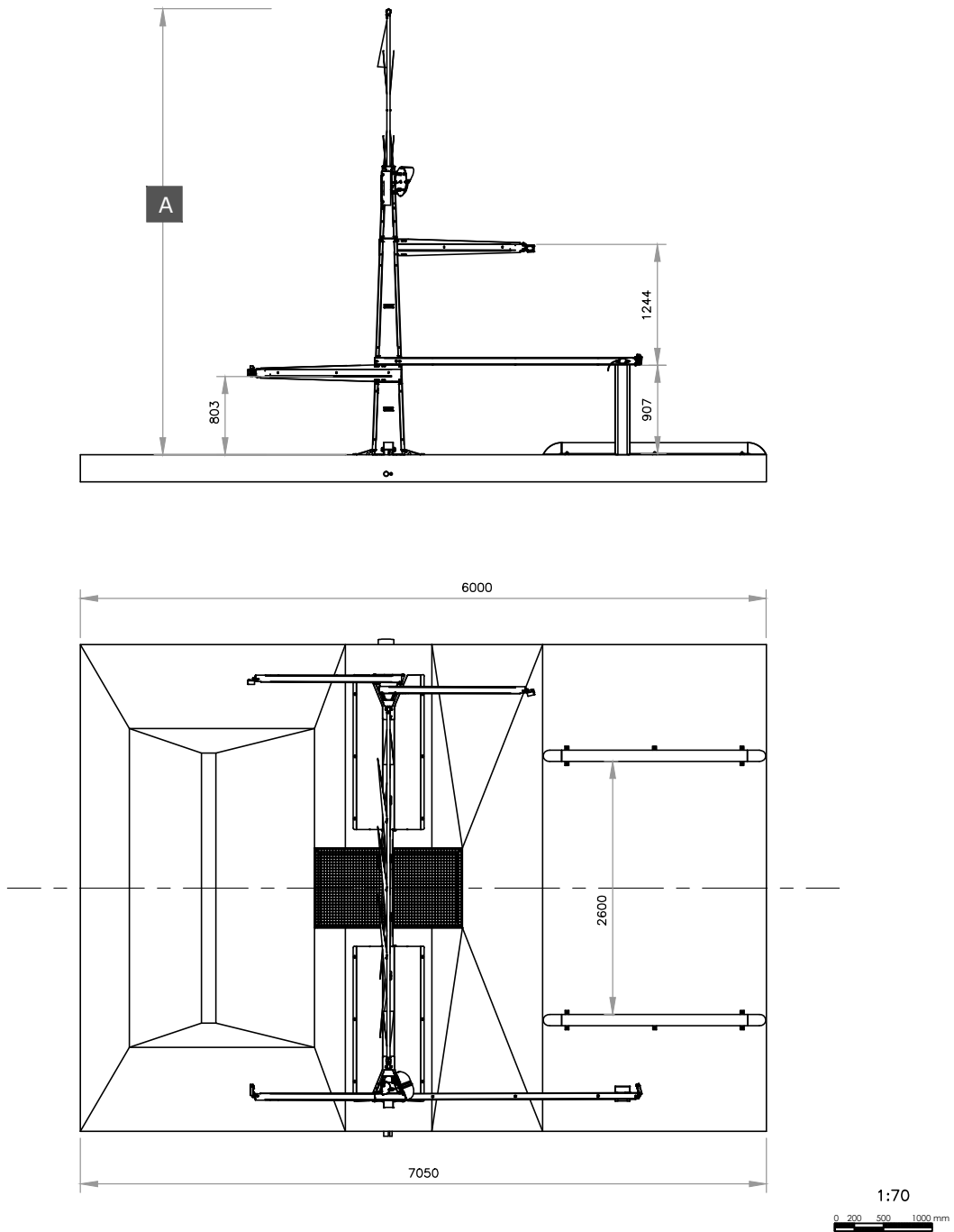


1	Centring guides	4	Underchassis wash (optional)
2	Sand pit	5	Entry traffic light (optional)
3	Spraying arch (side + top)	6	Exit traffic light (optional)

CHEMICAL SPRAY ARCH WITH PIT**GENERAL VIEW**

DIMENSIONS

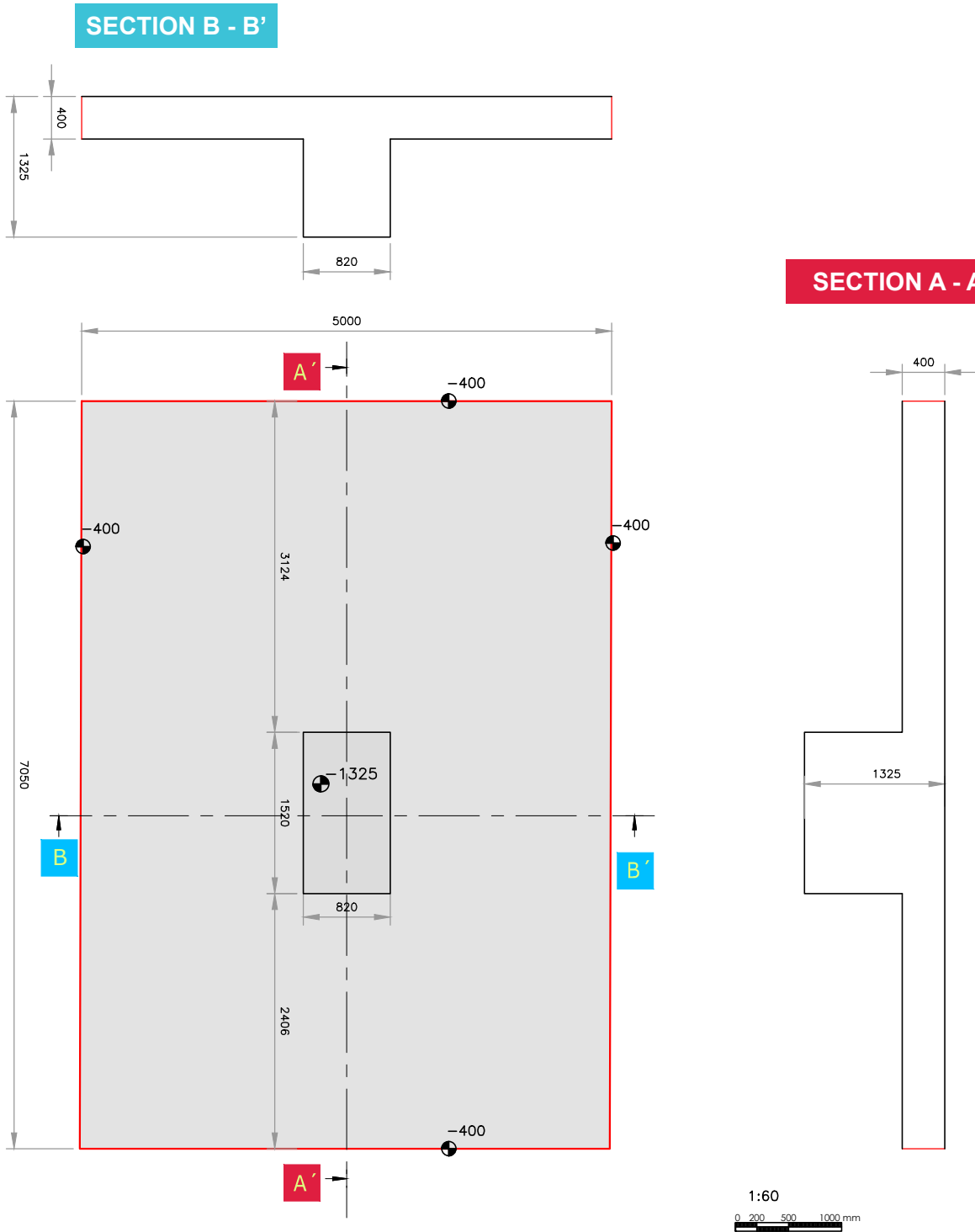
Measurements in mm



		HEIGHT (mm)		
		3500	4000	4500
A	Chassis height	4085	4585	5085
	Chassis width	4446		
Vehicle height (max.)	Without hump	3800	4300	4800
	With hump	3710	4210	4710
Vehicle width (max.)		3450		
Maximum spraying width		2600		
Maximum spraying height		3500	4000	4500

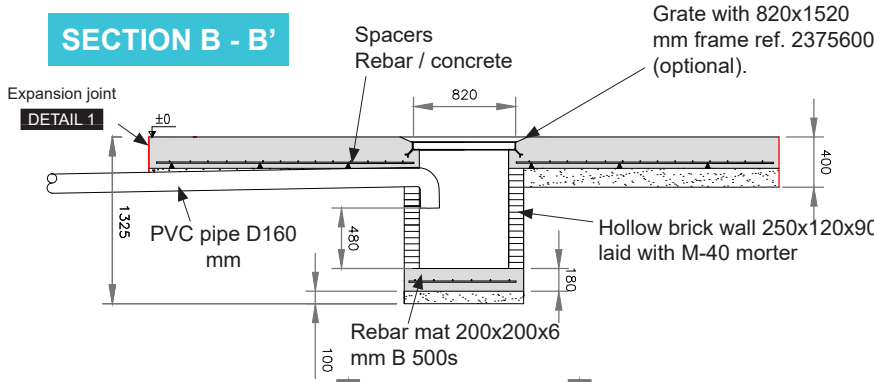
EXCAVATION PLAN

Measurements in mm



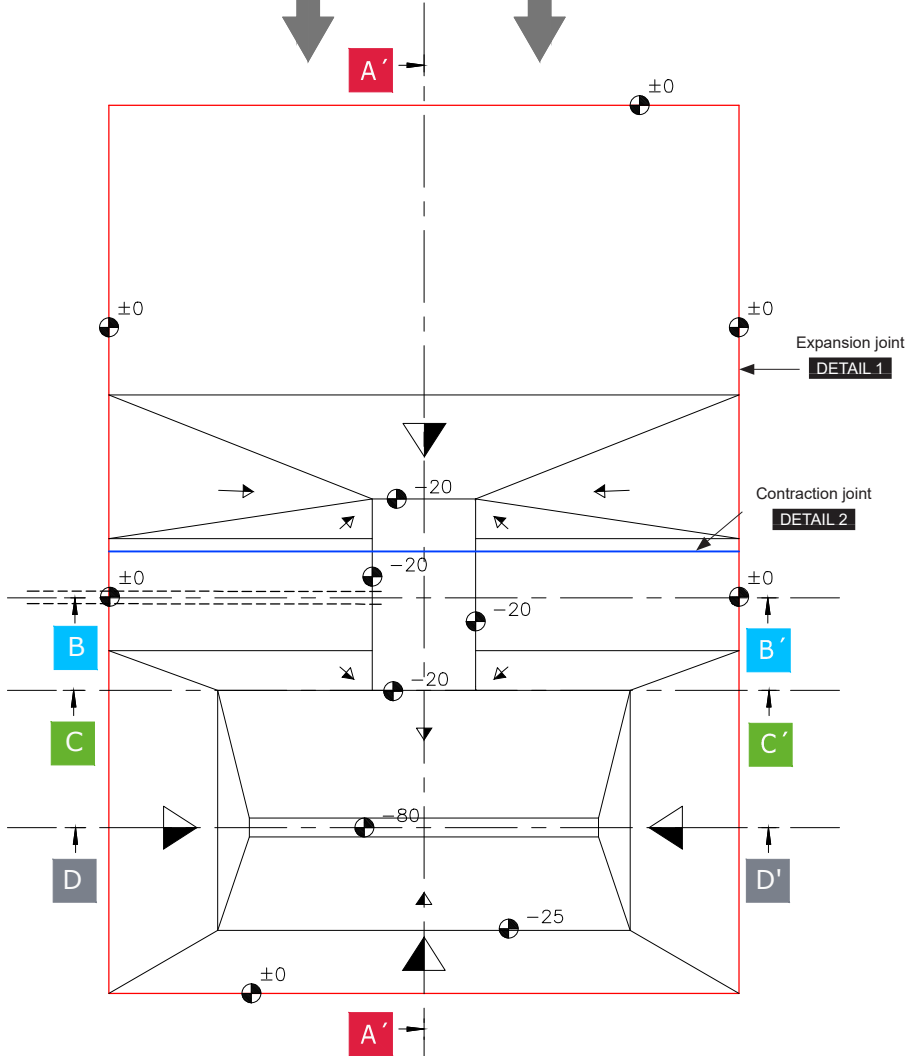
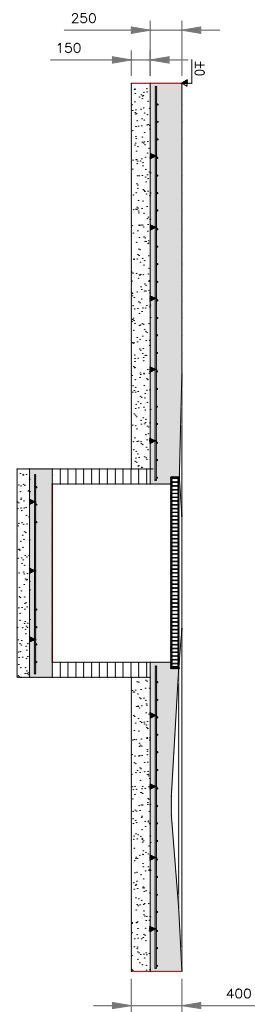
DESIGN MEASUREMENTS AND SECTIONS

Measurements in mm

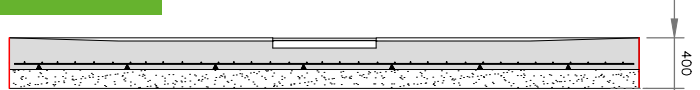


	Concrete FCK=25 n/mm ² and Rebar mat 200x200x6 mm B 500s
	Graded crushed compacted aggregate

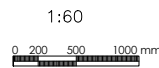
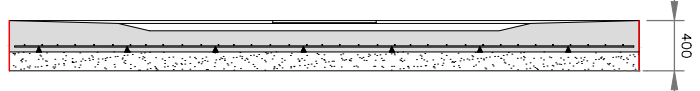
SECTION A - A'



SECTION C - C'

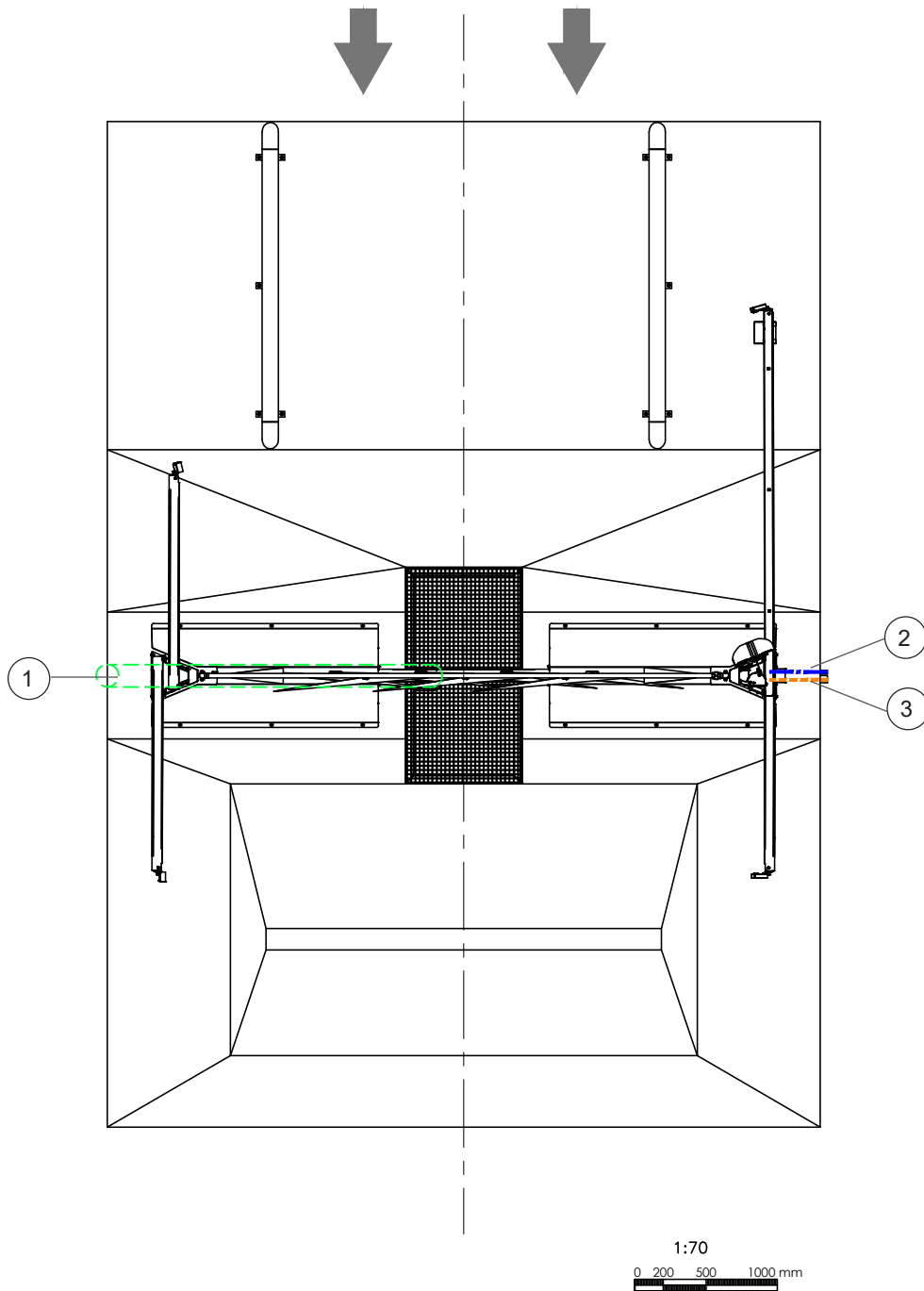


SECTION D - D'



Surface of bay treated with non-slip finish. Any guarantees as to the dimensions of the concrete beds depend on the floor being properly compacted. Civil work details can be seen in the "Details" section.

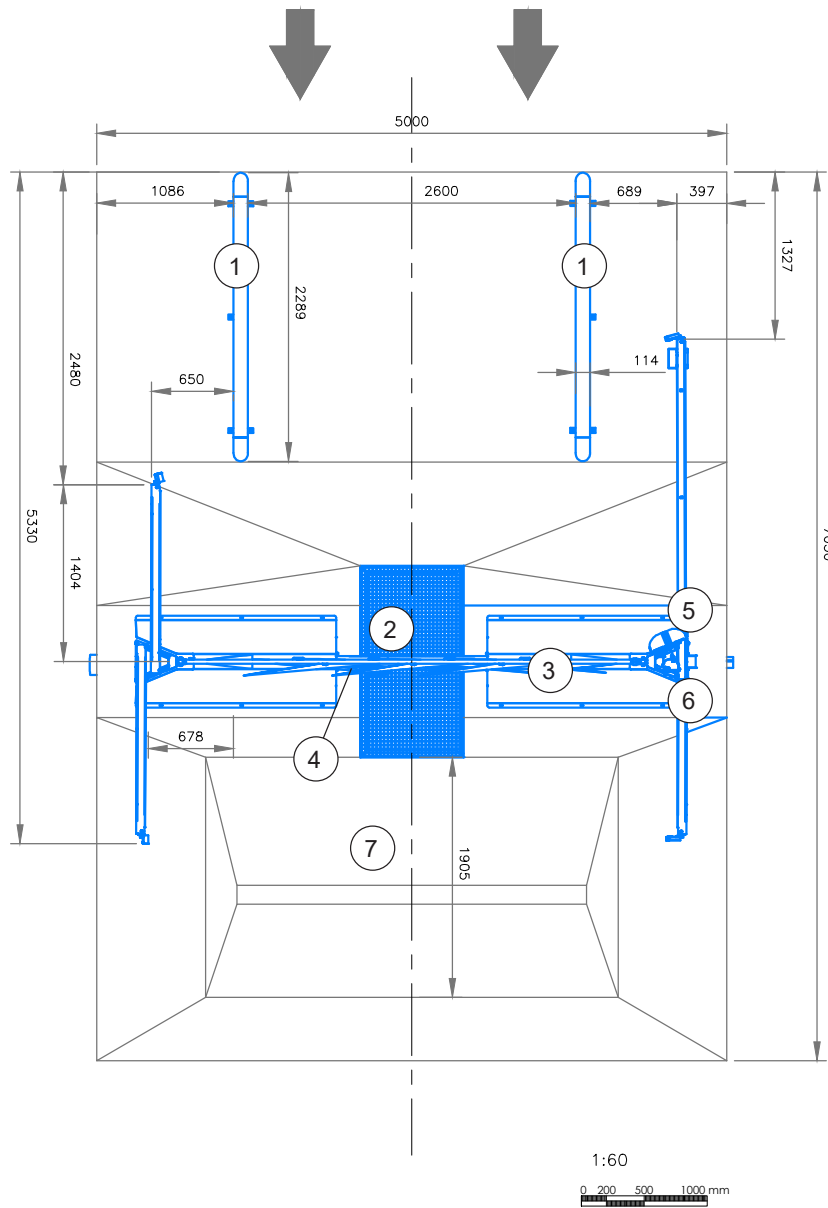
PIPING



No.	Location	Underground pipework
①	Drain from sand settler to main drain	PVC pipe D160 mm
②	Water pipework from plant room to rinsing arch	Polyethylene pipe D40 mm
③	Electrical cables from plant room to rinsing arch	Corrugated polyethylene pipe (TPC) D40 mm

PARTS

Measurements in mm

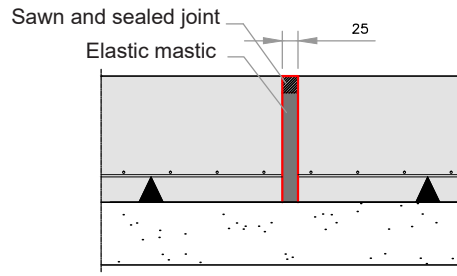


①	Centring guides	⑤	Entry traffic light (optional)
②	Sand pit	⑥	Exit traffic light (optional)
③	Spraying arch (side + top)	⑦	Pit
④	Underchassis wash (optional)		

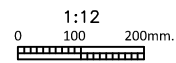
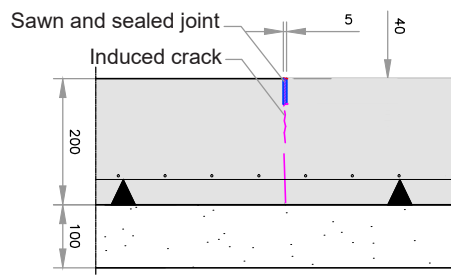
DETAILS

Measurements in mm

DETAIL 1



DETAIL 2

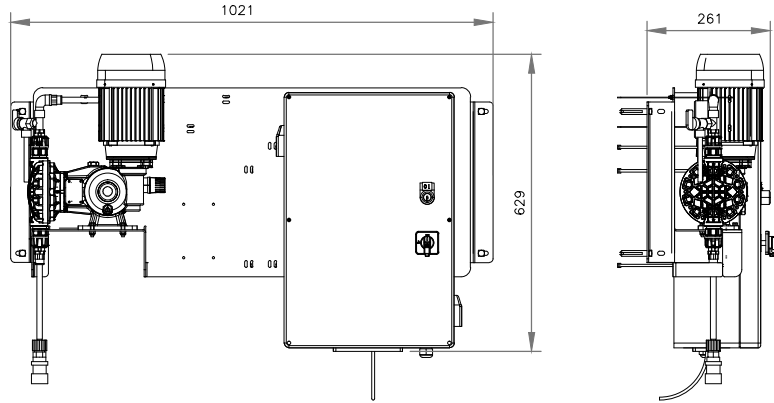


COMPONENT PARTS

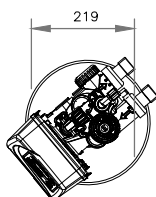
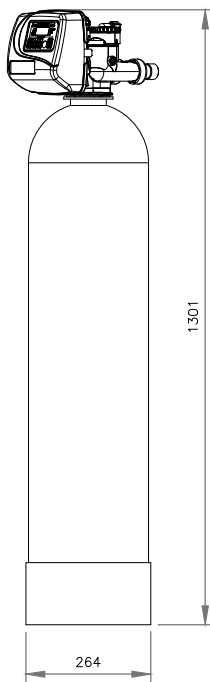
Measurements in mm

DIMENSIONS

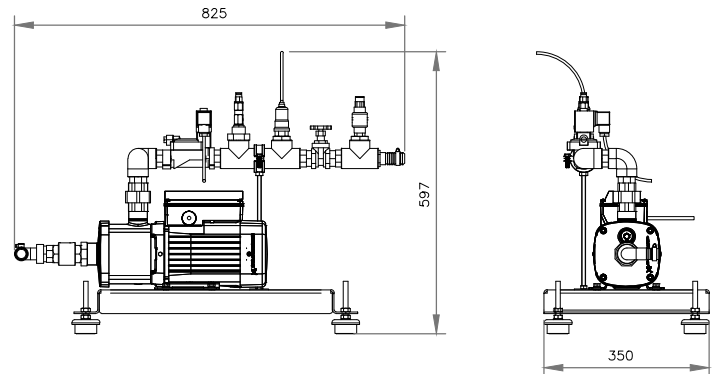
Dosing pump 120 L/h 10B 230 V 50 Hz



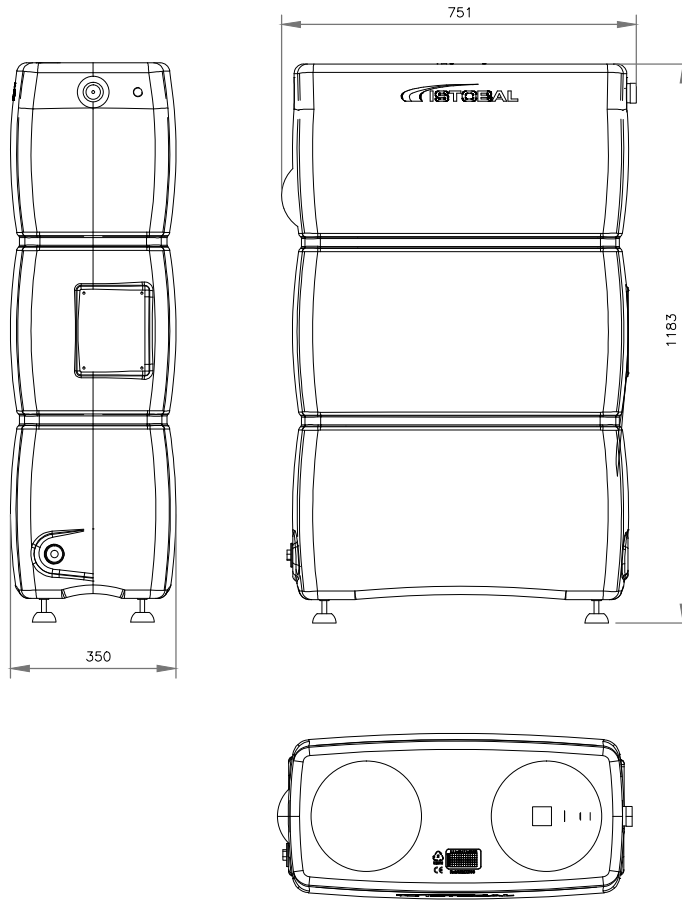
Volumetric water softener, delayed 10x44"



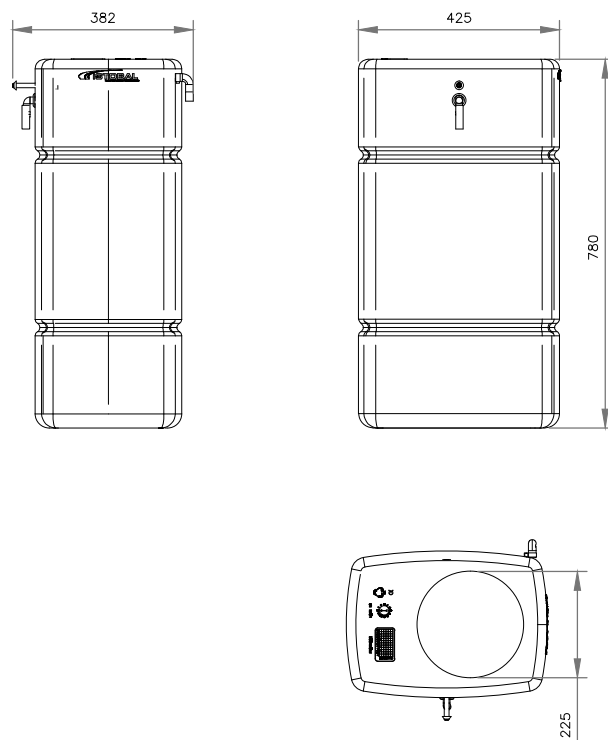
Pump 0.9 kW outlet 1" 230 V 50 Hz



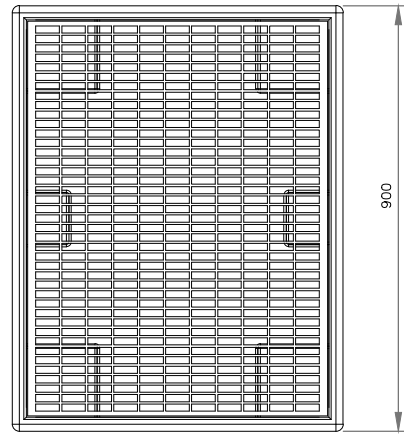
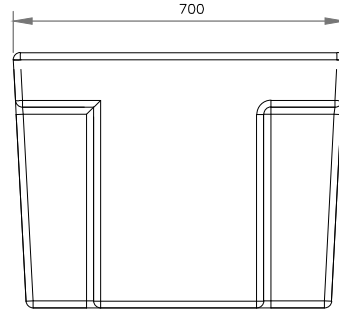
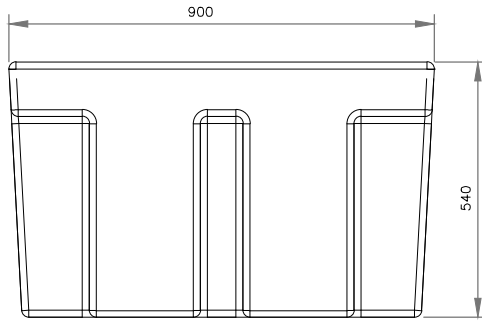
Water tank 200 L



Scale preventer tank 100 L

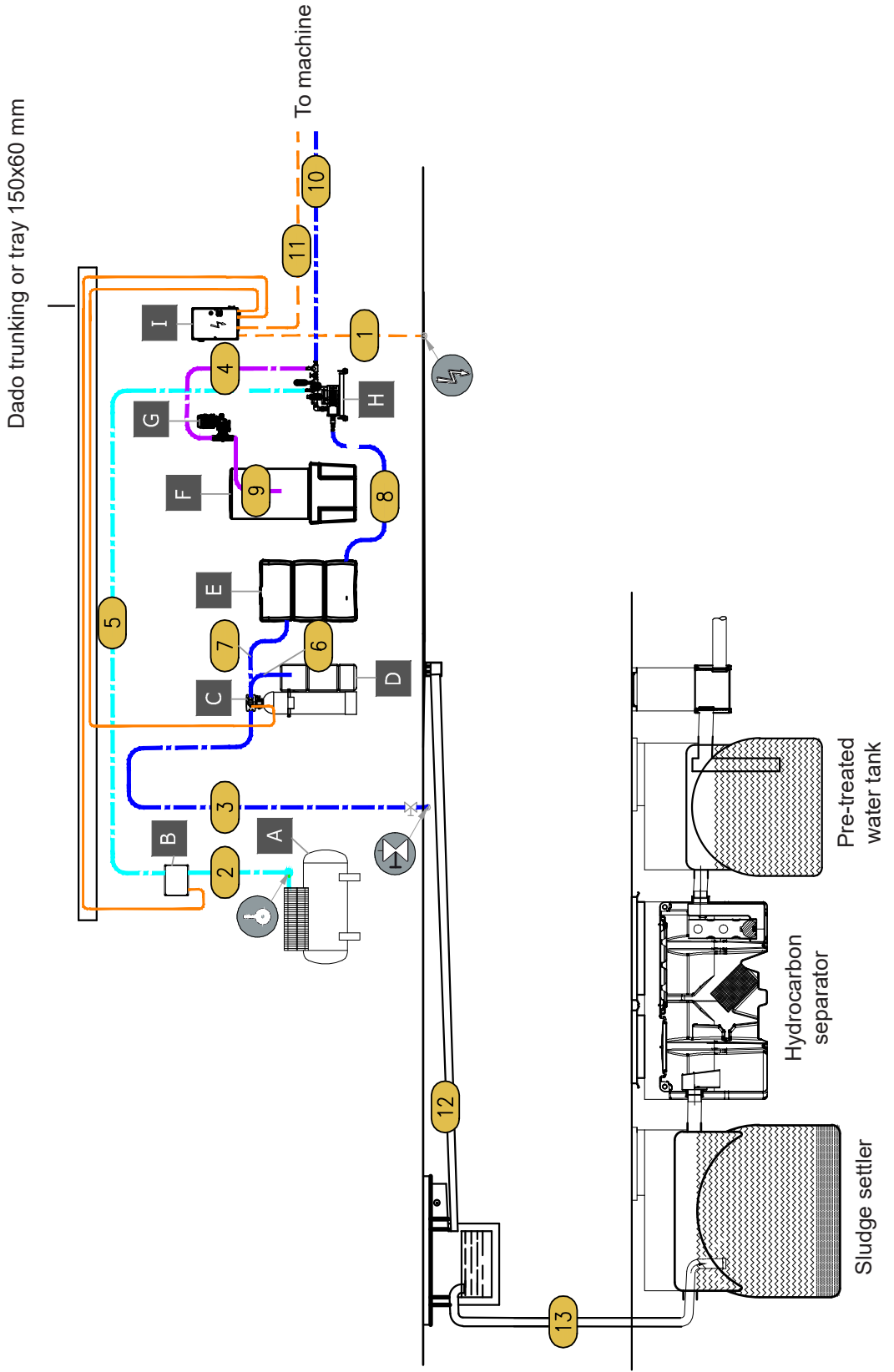


Spillage tray and container



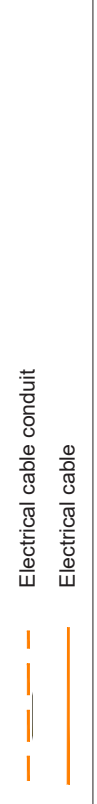
INSTALLATION

SERVICE LINES AND PIPES



Dado trunking or tray 150x60 mm




LAYOUT DEPENDS ON RECYCLER TYPE




This diagram only includes electrical cables run in underground conduit or on Dado trunking to the spraying arch.

A	Compressor (not supplied by ISTOBAL)
B	Box for pipe emptying
C	Volumetric water softener, delayed 10x44"
D	Scale preventer tank 100 L
E	Water tank 200 L
F	Spillage tray and container, and chemical bottle
G	Dosing pump 120 L/h 10B 230 V 50 Hz
H	Pump 0.9 kW outlet 1" 230 V 50 Hz
I	Control electrical box

1	Polyethylene pipe D25 mm (power cable)
2	Polyurethane pipe, blue 6x4 mm
3	Polyethylene pipe D40 mm
4	Polyamide pipe D12x10 mm
5	Polyurethane pipe, blue 6x4 mm
6	Flexible pipe, clear D12x16 mm
7	Polyethylene pipe D40 mm
8	Polyethylene pipe D32 mm
9	Polyamide pipe D12x10 mm
10	Polyethylene pipe D25 mm (Arch - vans)
	Polyethylene pipe D32 mm (Arch - commercial vehicles)
11	Polyethylene pipe D25 mm (electrical cable conduit to machine)
12	Drain, PVC pipe D100 mm
13	PVC pipe D160 mm

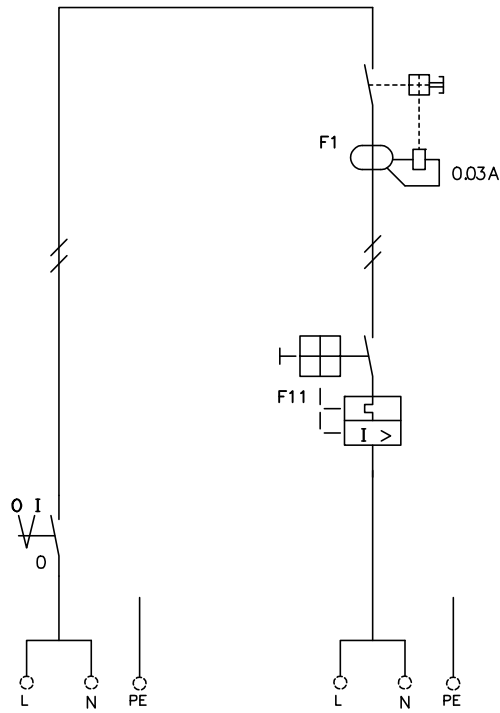
	Power line	Run the power line to the main distribution board through a D25 mm polyethylene hose (for electricity). The wire size of the power line is specified on the power data table; it consists of Phase+Neutral 230 VAC 50 Hz.
	Water supply	Run the mains water line underground through a D40 mm polyethylene pipe with a minimum flow rate of 3000 L/h and 3 to 6 bars of pressure. All polyethylene pipes and hoses must stand at least 6 bar pressure. The length of the suction pipe must not exceed 20,000 mm and the suction depth must not exceed 3,000 mm.
	Air supply	The compressor should be 2 HP minimum and have a 200L tank. Minimum pressure 8 bar, flow rate 50 L/m.
	Waste disposal stages	Recyclers and tank volumes must be dimensioned based on the number of washes during the busiest period and the number of rotator arches installed. For more details, see: <ul style="list-style-type: none"> • Waste disposal stage; see book ref: 32EB500. • Physical recycler; see book ref: 31NX000. • Biological recycler; see book ref: 30XE400.

ELECTRICAL DATA

Model	Description	230V			230V Simultaneous Simultaneous A
		Power kW	Section mm ²	 AGL	
	Electrical cabinet	1.3	2 x 2.5 + PE	16	8.2

ELECTRICAL DISTRIBUTION CABINET

Not supplied by Istobal.



230 V	GENERAL PROTECTION	
	F1	F11
230 V	25	16
Circuit breaker	0.03 A	C

