



# LABRADOR

*Self Service Washing Bays*



**LABRADOR IS A HIGH PRESSURE SELF SERVICE** washing bays system with cabinet or technical room, equipped with the same technical components:

LABRADOR TECHNICAL ROOM; with a technical room built-in into the machine structure.

LABRADOR WITH CABINET; the technical equipment is placed in a cabinet mounted between the wash bays, with maximum 6 bays.

**LABRADOR** washing system is a machine marked CE in compliance with the standards established by the European Union indicated in directive EEC/89/392 and successive modifications, as described in the declaration of conformity with which every machine is supplied. The unit can be divided into three parts, i.e. the structure, the technical equipment and the accessories of each wash bay.

## STRUCTURE

Structure is built with self supporting frame of tubular steel elements, hot dip galvanized and painted in the parts in sight with polyurethane powders.

The structure can be covered with a fascia of galvanized and painted steel sheet or a fascia of stainless steel, with the double function to integrate all the spray guns and coin box controls and to give the installation a more imposing look, which is very appealing for the wash customers.

The wash bays separation walls are made with thick, insulated and flame-proof panels.

The technical room, which is integrated in the structure, is accessible only through doors equipped with safety lock.

The roof is built with self supporting Greek fret elements, with counter ceiling staves and fascia.

## TECHNICAL ROOM

The main equipment for the operation of the system is installed in the technical room.

All technical equipment is designed in order to satisfy the demand of modularity.

Several groups are installed:

1. water treatment units (water softener and osmosis group),
2. high pressure units, with pumps and distribution collectors,
3. water heating group,
4. electric panel.

The stainless steel frames are standardized and can accommodate the equipment that is necessary to build up systems from two to six wash bays.

The elements and the main characteristics of the system are following:

- Separation tank with pump and press-control to keep the water supply under regular pressure (option).
- Water softener group, complete with duplex valve and with two resin bottles in order to guarantee a continuous supply of softened water.
- Osmosis group fed in medium pressure by a multistage centrifugal pump (15-12 bar) with potentiality 100 from 200-400-600 litres/hour related to the number of bays. The osmosis group includes a control system with pressure switch at the pump entry in order to divert, in case of malfunction, the soft water supply. System to recover the waste water for a better efficiency of the osmotic membranes (up to 50-60%). Reflux system to clean the osmotic membranes at the end of every production cycle.

- Osmosis water tank of plastic material, with submerged water delivery pump and press-control.
- Connection pipes manufactured with tubes in polypropylene, joined by melting the ends and connected with quick joints to facilitate maintenance on the machine.
- Standard solenoid valves, easy to find in the market and to replace.
- Dedicated dosing pumps (2 for each wash bay).
- Wash chemicals injection system fitted close to the aspiration side of each pump, with possibility to indifferently inject the chemical product in warm, osmotic or softened water.
- High pressure piston pumps (one for each bay) with motor of 2,2 kW - 6 poles mounted on anti vibrating supports, equipped with by-pass and safety valves.
- Foam production system to be used with the relevant brush, with pipes independent from the high pressure line; it can be fitted as an option.
- Anti freezing system with dropping water, for external temperatures around zero degrees; it allows washing by low temperatures; can be delivered as an option.
- Floor heating of the wash bay, using the boiler system; can be supplied as an option. Electric panel equipped with PLC for the control of all functions of the washing system and the connected accessories, such as token suction, lighting system, etc. Possibility to connect the PLC to a programming unit with display and to modem for remote control and diagnostics.
- Control panel on each bay, including electronic coin box, wash time display, program buttons, bay on/off pilot lamps, emergency STOP button.
- Centralized suction of the tokens or coins in the technical room (option).

### **EQUIPMENT OF EACH WASH BAY**

Each washing bay has following equipment:

Bay control panel with:

**Activation system** fitted either with coins and tokens acceptor or with mechanical or electronic coin box, with or without electronic key.

- Display showing the available wash time and its progressive decreasing.
- Pushbuttons to select the wash program.
- Pilot lamps showing if the bay is working or not.
- Emergency STOP button.

BY PRESSING THE STOP BUTTON, THE WASH TIME (CREDIT) IS SET TO ZERO.

- Stainless steel rotating wash arm (360°) with pull damper, equipped with shock protected lance and spray gun with automatic return trigger.
- Connection pipes in special anti-abrasive material with swivel unions to facilitate the washing operations.
- Collection of the used tokens in the technical room. Though a dedicated vacuum system and pipes, the tokens are drawn into stainless steel boxes (option).
- Frost protection system on the lances and brushes (if installed).

### **EXTERNAL (OPEN) WASH BAY**

The external wash bay is equipped with longer pipes and higher lances support structures to allow cleaning of large dimension vehicles, such as vans, caravans, small busses and trucks, and similar vehicles. The washing procedure and the equipment are the same as those of the covered wash bays.

## WASH BAY DIMENSION

The dimensions shown refer to standard structures.

	<b>covered</b>	<b>open</b>
width	m 5	m 5
length	m 6	m 7
drive-through height	m 2.7	m3.7

## WASH BAY CONTROL PANEL

The wash bay control panel is equipped with

- mechanical or electric operated coin box that can be programmed to accept token or coins,
- wash time display
- program selection buttons
- pilot lamps showing if the bay is operating or not
- emergency STOP button.
- A payment system with electronic key can be fitted to the panel as an option (only with electric operated coin box).

## WASHING PROGRAMS

Following standard washing programs are available:

- 1) Wheel rim wash (option): using the specific lance and special rim cleaner.
- 2) Washing: using the high pressure lance, softened hot water and shampoo.
- 3) Foam wash: using the brush and low pressure softened hot water with foam, shampoo and compressed air (optional program).
- 4) Rinsing with high pressure spray gun.
- 5) Waxing: using the spray gun with medium/high pressure water (with released gun trigger).
- 6) Final rinse with osmosis: using the spray gun at medium/high pressure and demineralized water obtained from the reverse osmosis system.

The washing steps can be selected by the wash customer when he is using the lances, also within the wash time allowed by a single token.

The wash time of each token/coin is electronically controlled by the machine program and can be modified, upon request, to suit specific needs.

## LIGHTING SYSTEM

The lighting system is controlled by the main electric panel and includes:

- Two lamps in the technical room
- Four lamps in each covered wash bay
- Two lamps in each open bay.

The waterproof lamps are in compliance with the norms.

The lighting is controlled by a twilight switch which automatically lights up the lamp closest to the wash bay payment station.

When the wash customer inserts a token/coin into the payment station, all other lamps of the concerned wash bay will be switched on and will automatically switch off when the wash bay is not operated for a certain time

## OPTIONS

### SEPARATION TANK

The separation tank provides a physical interruption between the water mains and the washing unit in order to assure a regular water supply.

It includes a tank equipped with a submerged pump delivering water to the washing unit. The pump is controlled by a pressure device on the supply line (press control) that switches off the pump if no water is needed.

### FOAM DEVICE WITH BRUSH

Further to the equipment installed in the technical room, this device consists of a swivel arm with a spray gun and bristle brush plus a container to house the brush, equipped with a self-cleaning device. Hot water is supplied at low pressure along with shampoo and compressed air.

### MONEY CHANGER - TOKEN DISPENSER

The unit is used to change banknotes into tokens or coins and is equipped with specific safety devices against breaking open.

Customised tokens may be used upon request. It is possible to program different types of bonuses and promotions. Internal bookkeeping of total revenues, partial revenues and number of tokens sold.



### TOKENS/COINS CENTRALISED SUCTION SYSTEM

This optional device allows to collect all tokens and coins that customers insert into the coin box of each wash bay. Through a under-floor tube, the chips are sucked and conveyed in a safe box made of stainless steel, placed inside the technical room.

### FLOOR HEATING SYSTEM

- The floor heating system is recommended for particularly cold zones. It grants access to the wash bay, avoiding the risk of slipping because of floor freezing. It includes a pipe made of special material, sunk in the wash bay floor, through which warm water is circulated.
- The system uses the same boiler which is heating the wash water. When installing the floor heating system, the power of the boiler must be opportunely increased so as to prevent without any problem any ice formation on the floor of the wash bays.
- This system is very efficient, safe and cost effective in comparison to other systems, like the electric heating.
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### WHEEL RIM WASHING DEVICE

It includes one separate lance in each wash bay, to spray on the wheel rims a specific chemical cleaner.



## WASH PROGRAMS

1. High pressure wash with hot softened water
2. Low pressure wash using softened water and brush / foam
3. High pressure rinse
4. Wax spreading
5. High pressure rinse with demineralised water

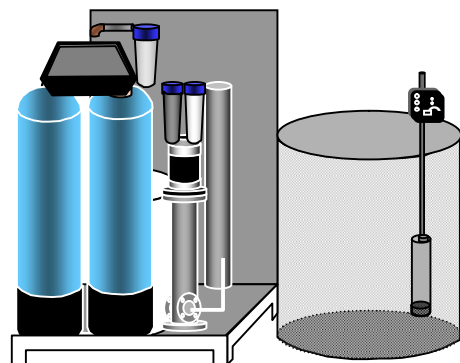
## Cabinet

Dimensions: 4.900mm x 900 mm x 2.290 mm (hight)  
Basement and racks in stainless steel. Hot galvanized panels.



## Technical equipment

- **Water breaker tank Cod.:008996** (optional)  
100-litre supply water accumulation tank, complete with a 0,9 kW submersible dispatch pump and pressure control devices. Necessary for guaranteeing that the unit is supplied at a constant pressure.
- **Softener group**  
Resin type, ionic exchange, with two alternate operation columns.  
Automatic resin regeneration "by volume" (more reliable than "timed" automatic regeneration).  
Complete with entry filter and vat for soaking.



Available water softeners			
Part number	Columns volume (lt)	Application	
		Water hardness < 50 °f	Hardness > 50 °f
00AD40	2 x 40	2, 3 e 4 bays	
00AD65	2 x 65	5 e 6 bays	3 e 4 bays
00AD100	2 x 100		5 e 6 bays

- **Reverse osmosis group**

Medium pressure type (15 bar) with partial recycling of the concentrate (production return bettered by approx. 50%). Complete with multistage vertical pump, 4" "Filmtec" osmosis membranes, stainless steel vessel, 2 flowmeters (for measuring the recycle and production),

Available osmosis group		
Part number	Osmosis production (l/h)	Standard application
00O200	200	2,3 bays
00O400	400	4, 5 bays
00O600	600	6 bays

activated carbon filter and cloth filter, radial gauges.

- **Osmosis water collecting tank (optional)**

200 litres polyethylene tank, positioned in the technical room, positioned in the technical room (Code 0089920007). A 0.9 kW submersible pump complete with pressure control device is supplied standard to dispatch the accumulated osmosed water.

- **High pressure pumps**

CAT Mod. 350, 90 bar- 11 l/min, coupled to a 2,2 kW 900 rev./min electric motor.

- **Product dosage**

Two pneumatic dosage pumps for each washing bay, one for the shampoo and one for the wax.

- **Command panel**

Electric panel with Siemens PLC, standard equipped with "TD 200 text display", a module with keyboard and display which makes it possible to interface with PLC (possibility of visualising and modifying the operative parameters). Modem connection for remote control (optional). Pre-set standard for washing bay illumination system.



- **Washing bay illumination system**

Two lights for each covered washing bay and two lights for each external washing bay (the lights with relevant electric cables are a part of the cover structure).

During the night, a twilight switch keeps one light on for the washing bay command panel of each box.

When a token is introduced, the remaining lights light up for a programmed time of 30" from when the wash finishes.

- **Heating unit**

Choice of supply with methane, GPL or diesel.

Primary exchanger with a water cooled heat recovery combustion chamber. Hygienic heat exchanger with internal and external walls that are waved along the whole length to prevent the formation of limestone.



## Washing bay on-board equipment

- **Ceiling arm**

Stainless steel arm that rotates through 360° with traction absorber, equipped with a lance that is protected against knocks.

The lance operates with a special by-pass that makes it possible to reach the maximum working pressure gradually.

- **Control panel**

Panel enclosed inside a stainless steel box for better protection against humidity.

Electronic token box which recognises different types of tokens and coins.

Display which shows the available time.

Emergency stop button.

Panel enclosed inside a stainless steel box, including:

- Electronic token box which recognises different types of tokens and coins..
- Display which shows the available time.
- Wash programs selection buttons
- Emergency stop button
- Stand-by light
- Out of order light



## Compressed Air Supply

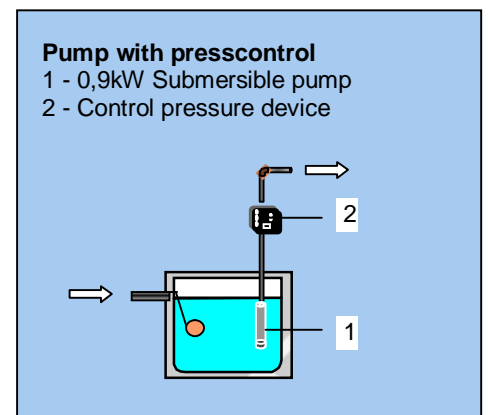
Compressed air must be used to operate the pneumatic dosage pumps and form the foam. A mono-cylinder 1.5HP compressor with 24-litre tank is available as an optional.

### Note:

It is advisable to prepare an underground tank, at the client's charge, for the following functions:

- Accumulation of the softened water
- Accumulation of the water discharged from the osmosis treatment (softened water)

A 0.9 kW submersible pump with pressure control device, code 008997, is available as an optional for delivering the accumulated water to the unit.

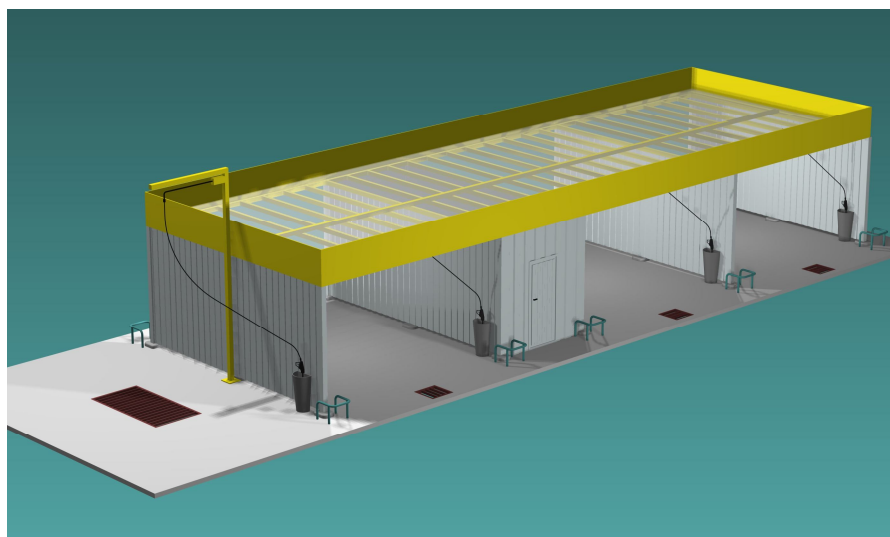




## COVERING STRUCTURES

### Metal flat-roofed cover ENTRY LEVEL

- Square pipe pillars, 150x150 mm.
- Hot galvanised support structure
- Stamped aluminium sheet pillar covers, pre-painted white
- Cover of pre-painted and galvanised sheet self-supporting fretted elements, width 8/10
- Pre-painted galvanised sheet staved roof, hooked and then snapped onto relevant crossbeams.
- 80 cm high aluminium modular element frame. Aluminium thickness 15/10, coloured white.
- Polycarbonate panels for the dividing walls, thickness 10, with aluminium frame.
- Roof lamp, 1x58 w



## TOP LEVEL

### COLUMN LINING (Optional)

Made of satined AISI 304 stainless steel, 4 m high.

This column lining, a part of distinguishing look, holds the token boxes and the lance holders, which makes it possible to have a wash area without obstacles.

