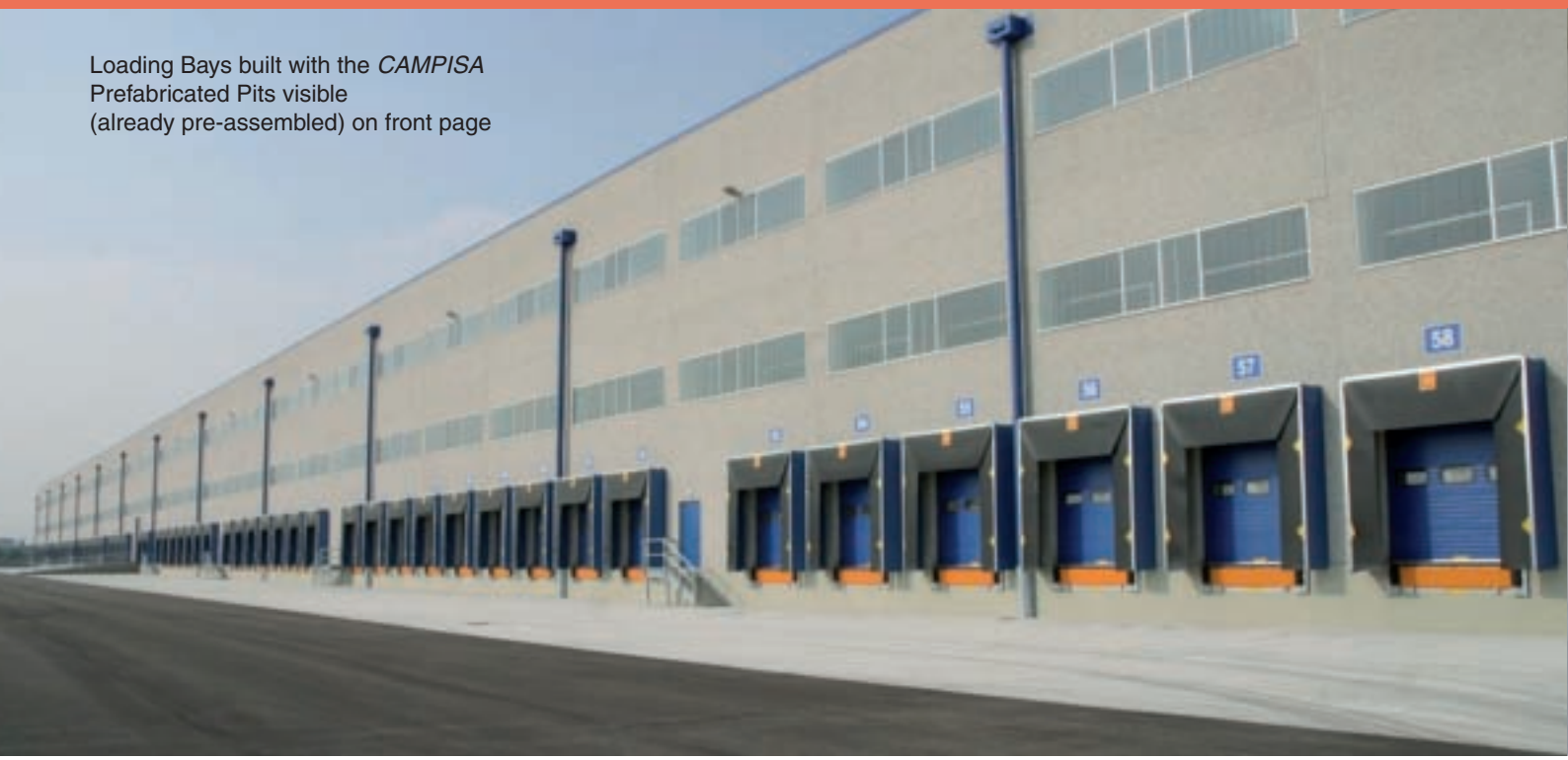
LOADING BAYS
GENERAL CATALOGUE

40°
1972-2012

CAMPISA

la certezza di una scelta sicura
the certainty of a sure choice
la certitude d'un choix sûr
die Sicherheit der richtigen Entscheidung
la certeza de una elección segura
η σιγουριά της σωστής επιλογής

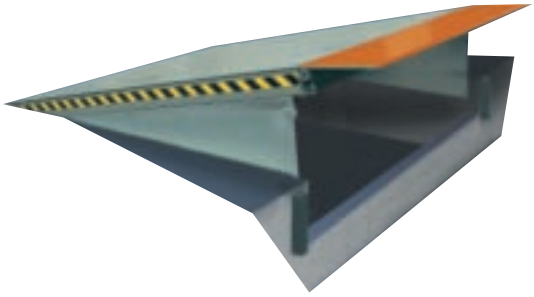
LOADING BAYS: a



Loading Bays built with the *CAMPISA* Prefabricated Pits visible (already pre-assembled) on front page

CAMPISA **manufactures Loading Bay Equipment since 1972,** and is aware of innovations and national and international patents that allowed it's customers to obtain operational savings, to speed-up services, reduce the costs of the goods, reduce the risks for the operators and offer energy savings.

Basic elements of the Loading Bays are the Dock Levellers, the Sectional Overhead Doors and the Dock Shelters. The Dock Levellers are steel platforms that connect the dock of the building to the vehicle truck-bed which allows the fork lifts to pass over the platforms enabling them to load goods. The electro-hydraulic motorization is the safest and most reliable method for carrying out this procedure.



The Swivelling lip Dock Levellers (left) are more economic, the vehicle docks to the loading bay and contacts the bumper, the leveller is raised, the lip is opened and laid onto the truckbed, and loading procedure starts. The Telescopic Dock Levellers (right) have extending lips and overlap the truck bed to suit special loading requirements; they are indispensable for the "Deep Cold Bays" (page 11).

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CE

CAMPISA specialty for forty years

Pre-mounted in an adjacent hall *CAMPISA* Prefabricated Pits, for the construction of the Loading Bays on front page

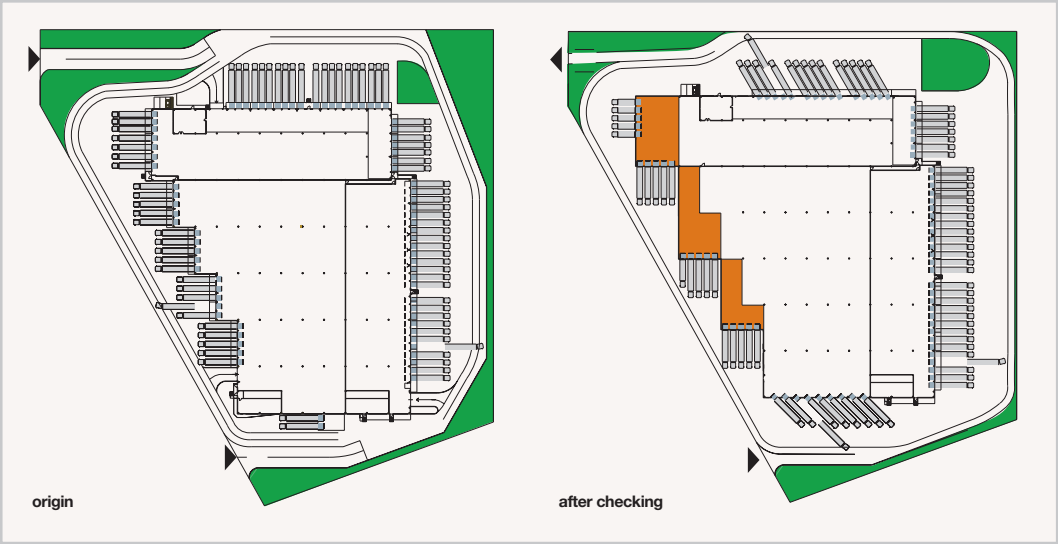
***CAMPISA* has always given primary importance to the convenience of constructing loading bays,** creating in 1983 the Prefabricated Pits and in 2001 the Prefabricated Docks. The installation of the levellers is done only at the end of the wet-trades, by doing this the construction time is rapidly decreased becoming much more economical. There are hundreds of logistic centres like those shown in these pages.

The success is the fruit of the trust that the trademark has on the market for forty years.

The "Project Assistant"

For the best design of the Loading Bays, *CAMPISA* has created in 2001 the "Project Assistant", service that verifies the lay-outs with the scope to suggest operational improvements and offers great savings. Well above 3000 projects are testament cases, with an improvement of the "Loading Bays Performance Index" that in some cases overtook the 60%. It means having terribly increased the pay-back of the Loading Bays, diminished the waiting times, reduced or nullified the accidents, safeguarded the ambience, increased the comfort of the operators, and often reduced the costs.

A typical example is the increase of the performance of 53% obtained in the following case where the traffic and the docking of the vehicles had been rationalized, and well 1570 sqm of store in excess of the original design had been created.



CAMPISA DOCK LEVELLERS,

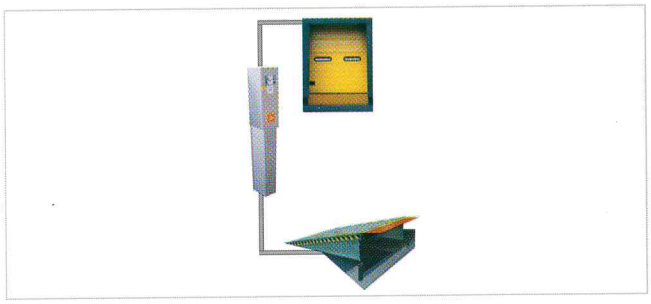
Dock Levellers are supplied in several versions, for the different building systems of the pits.
The best system is the prefabrication, that gives sure, rapid, economic results, avoiding mistakes.

• ***CAMPISA* Swivelling or Telescopic Leveller:** it is installed without welding at the end of all wet-trades, into the *CAMPISA* Prefabricated Pits and Docks. It is the best and quickest building option, that one that gives the cleanest result.
At page 2 and 3 an installation with Prefabricated Pits.

CAMPISA Leveller

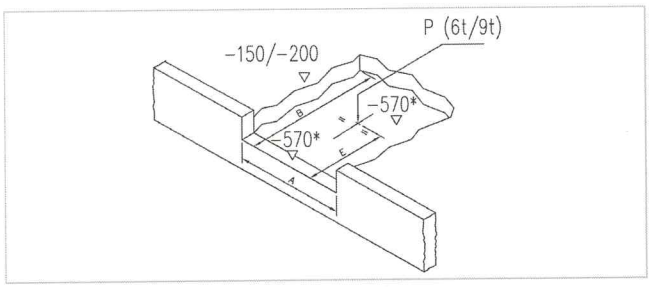
The SUPER Bumpers (150 mm wide x 130 depth x 400 h) are standard part of the Prefabrication. **The MEGA Bumpers** (250 mm wide x 150 depth x 450 h) can be chosen as option.

• **The electro-hydraulic powering** of the levellers can be with **400 V three-phased 50 Hz** powerpack, below leveller or into a multifunction external Consolle.



The multifunction 400 V three-phased 50 Hz Consolle(see scheme on the right) is a system installed on tenth of thousands of Dock Levellers and Fidelity Sectional Overhead Doors (see page 8). It has an electro-hydraulic motor actioning one Leveller and one Sectional Door.

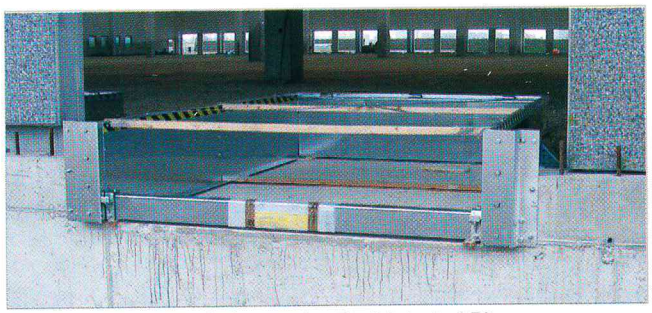
• **Commands:** the Swivelling Lip Leveller has a single button command, that lifts, extend the lip and lowers the leveller when left. The Telescopic Lip Leveller has separated commands for lifting and extending the lip and can also have the option of the automatic return to rest position.



The front wall

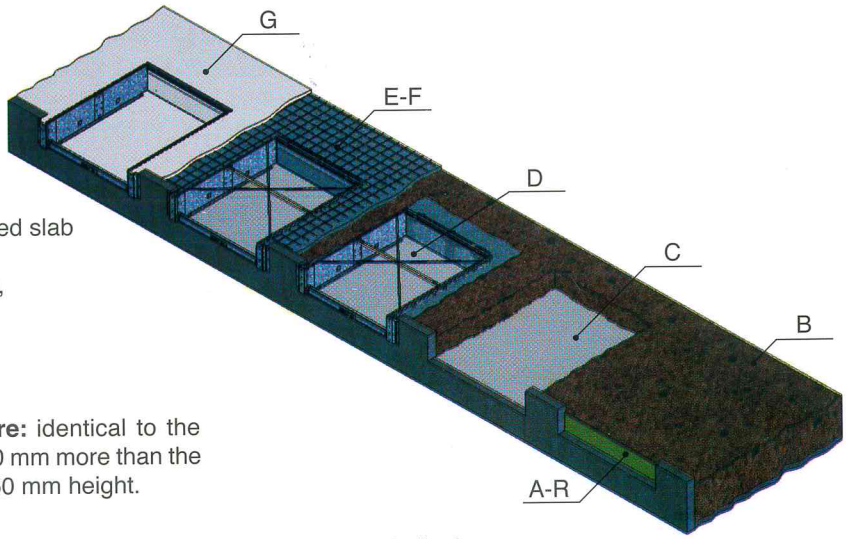
• ***CAMPISA* Prefabricated Pits** built with zinced sheets. They allow for a rapid and exact construction, starting from the front wall only (drawing on the right side).

Since 1983, more than fifteen thousands installations confirm the convenience of the system, with the present patented novelties: new rim fixation into the pavement (picture on page 5); assembly brackets on the front corners, cast manifolds for bumpers fixation (elementary substitution in maintenance); components compacting with volume reduction for overseas shipment.


Ready for pouring Prefabricated Pit

The steps of the Prefabricated Pit building are:

- front wall A) construction, that is closed by a recoverable shuttering R)
- compacted inert filling B) until about 20 cm below pavement
- shuttering R) recover and digging of the pit C) into the compacted, with construction of an armoured slab
- Prefabricated Pit D) installation, with squaring jig, levelling to the final pavement, nailing onto the slab, cement casting around
- cast E) until less about 15 cm, meshes laying F)
- laying of the final pavement G)



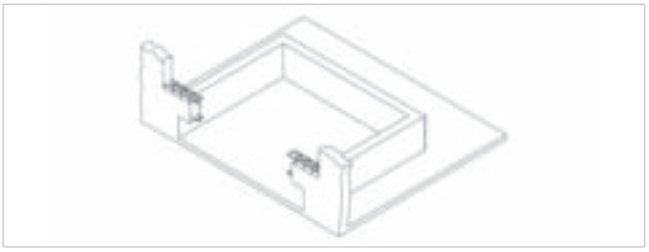
The dimensions for the Levellers Pits always are: identical to the chosen Leveller length (standard 2500 - 3000 mm), 40 mm more than the leveller width (2000 and 2200 mm wide Levellers), 550 mm height.

PREFABRICATED PITS AND DOCKS

- ***CAMPISA* Prefabricated Docks,** for building the entire dock with tail lifts reservations below the levellers pits. The front wall and the three perimeter walls of the tail lift reservation are built (drawing conform) on an armoured slab. The three walls can also be prefabricated and simply laid down. The execution is so quick and the cost so reduced that they can be compared to those of the Prefabricated Pit only.

Further to the new rim fixing design into the pavement (below picture), to the assembly brackets on the front corners, to the cast manifolds for bumpers fixation, there is a drastic reduction of the shipping volumes that closely stack now, that allows also overseas shipments.

With the Prefabricated Docks also two mill metrical adjustable front jacks are supplied, for a quick installation of the prefabrication. All material is zinced.



Front wall and three perimeter walls

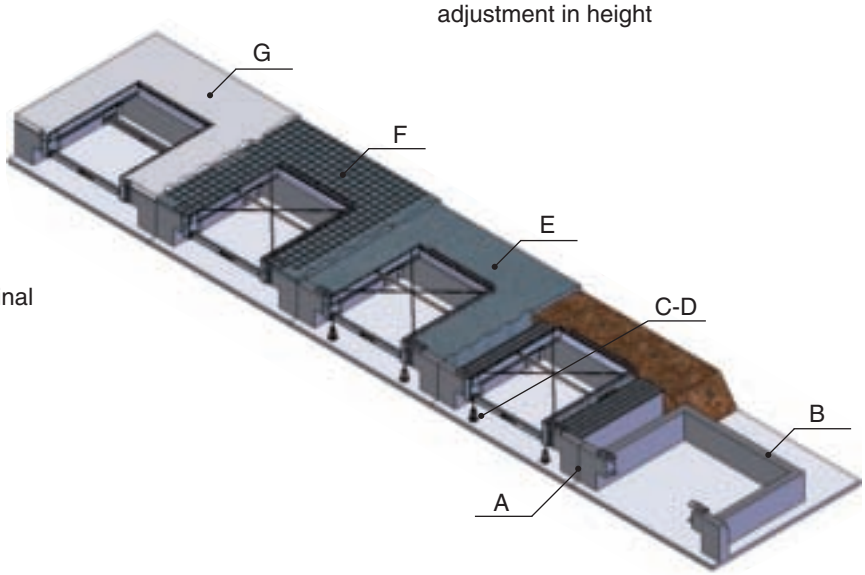
Here on the right the new patented system of anchoring the side rims into the pavement, that resists also to the sliding of pallets with protruding nails.

The new Prefabricated Dock also includes facilitating systems for positioning the armouring inside the front wall: all has been considered for speeding up the installation and obtain a perfect and quick result.

The Prefabricated Dock ready for the first pouring.
On the front the two jacks for mill metrical adjustment in height

The steps for the construction of the Prefabricated Dock are:

- the front wall A) is built with the facilitating system of positioning the armouring
- the three perimeter walls B) of the tail gate reservation are built or laid
- the prefabrication C) is mounted, levelled to the final pavement, helped by the front millimetre jacks
- the rear part D) is filled, (and the sides, if the step between docks is wide)
- casting until minus about 20 cm E)
- laying the under pavement meshes F)
- laying of the final pavement G)



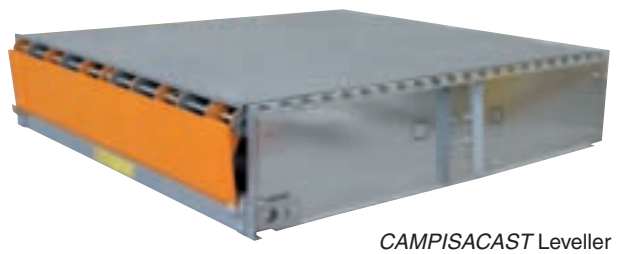
Prefabricated Dock cemented until minus about 20 cm, without squaring jig, ready for casting

Particular of the improved adherence graeque sheet for the construction of the overhangs

DOCK LEVELLERS FOR TRADITIONAL PITS

Dock Levellers are also supplied in one version adapt for the direct insertion into the building and two versions adapt for the installation into traditional pits.

• ***CAMPISACAST* Leveller:** finished leveller with pouring containment by perimeter sheets, to be laid into the dock with front wall and slab conform to drawing. To be levelled at final pavement and cast. The platform is protected from aggressives by a cover that is eliminated at the end of the wet-trades. They are supplied with full rubber bumpers 60 mm wide, 120 depth and 350 mm high. They demand the same building reservations of the Pre-fabricated Pits (see page 4). Commands: see page 4.
The *CAMPISACAST* Leveller is to be installed at the beginning of the wet-trades.



CAMPISACAST Leveller

• **CASTLE Leveller:** pre-mounted on a frame, to be laid on a slab built (as per drawing) on the bottom of the traditional pit. The system is the traditional original one, also if the ACCESSORY and *CAMPISA* systems represent today about the totality of the installations. The Leveller is welded at head and foot of the pit onto the foreseen profiles. The bumpers are separately installed onto the outside side walls of the pit. The traditional pit is the same of the ACCESSORY Levellers, see below.
The CASTLE Leveller is to be installed into the pit at the end of the wet-trades.

CASTLE Leveller

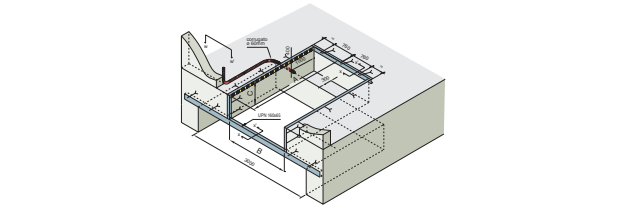
• **ACCESSORY Leveller:** leveller with Installation Accessories to be welded on the foreseen pit head and foot profiles, built in traditional way, as per drawing.

The bumpers are separately installed onto the outside side walls of the pit. CASTLE and ACCESSORY Levellers can also be served by multiple powering, as indicated at page 4.

The ACCESSORY Leveller is to be installed into the pit at the end of the wet-trades.

ACCESSORY Leveller

On the right the traditional pit to be foreseen, identical for, CASTLE and ACCESSORY Levellers in the version with bottom opening for tail lifts. The version without bottom opening has the same leveller pit dimensions.



IMPORTANT CHARACTERISTICS OF THE DOCK LEVELLERS

Important characteristics of the Dock Levellers are:

- for Swivelling Lip Levellers the self-cleaning lip that reduces the normally present dock debris, pallet pieces, nails, screws and bolts etc
- automatic side flaps for the reduction of the width of the lip, for narrow truck beds, automatically closing when the lip is extended and touches the sides of the van
- connection between dock and leveller without cutting points of the fork lift wheels: the Campisa patented system has a rounded connection, does no matter what is the leveller inclination
- leveller width as much wide as the truck bed (EN 1398 point 5.2.4.1). The standard widths are 2000 and 2200 mm
- such length as to remain within the working slopes that the fork lifts can climb (normally 8% and 4%)
- galvanized finishing in case of use in damp places, and where intensive wash downs are carried out.
- carrying capacity (concentrated on fork lift, as per Norm EN 1398) standardized at 6000 and 9000 kg (special).

“SUSPENDED” DOCK LEVELLERS

The Dock Leveller is also supplied in SUSPENDED version for industrially built docks.

• **“C” SUSPENDED Leveller:** pre-mounted on a frame leveller (picture on the right) to be welded to the rods cast into the cement all around the pit rim (below picture). The pit can have the bottom reservation for tail-lift, like the shown case, that requires the heavy reinforcements for sustaining the overhangs.

There is a risk of fractures into the pavement all around the pit, because of the different dilatation of the parts.

The “C” SUSPENDED Leveller is to be installed before the pavement casting, with all risks of dirtying it with aggressive.

With the “C” frame the construction comes in four times: building as per drawing, Leveller installation and levelling, welding of the Leveller, final pavement laying. In the picture at the right, the inside, before pavement is laid.

SUSPENDED Leveller

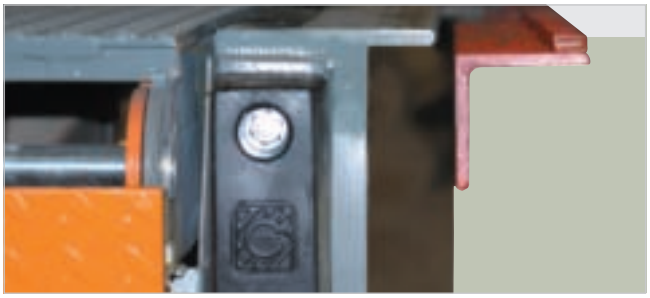
SUSPENDED "C" Leveller before pavement cast

• **“L” SUSPENDED Leveller:** it has an upside-down “L” frame (picture on the right) that requires a special counter-frame anchored into the pit-rim-construction, as per drawing, onto which the “L” is laid and fixed by welding that remain at sight with doubtful aesthetic. This system had been designed for avoiding the fractures into the pavement that often occur with the “C” Suspended Levellers.

With the “L” Suspended Leveller the construction comes in three times: building construction as per drawing with special frame fixed into the pit-rim, final pavement laying, leveller installation with welding.

The “L” SUSPENDED frame is to be installed at the end of all wet-trades, by welding (that remain at sight) to the counter-frame.

The bumpers shall be installed separately, on the building walls at the outside sides of the Leveller pit.



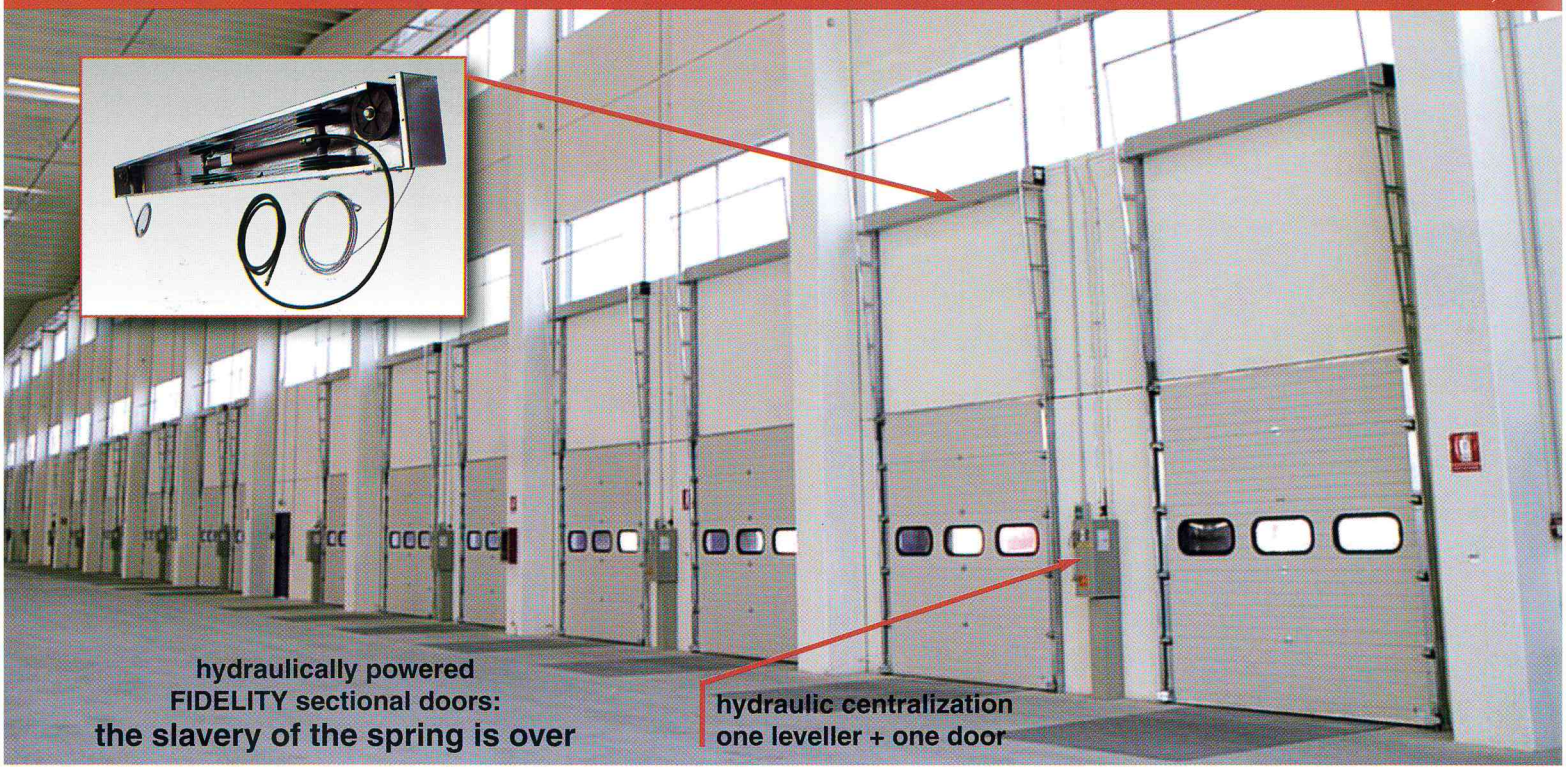
All tools pertaining to the Machine Directive 2006/42/CE are supplied with conformity certification and mark

COMPULSORY CHARACTERISTICS OF THE DOCK LEVELLERS

Other compulsory EN 1398 characteristics for the Dock Levellers are:

- twisting until 3% of the leveller width for levellers wider than 1900 mm
- ant tripping yellow-black stripes 50 mm high under the rim of the leveller and of the pit, for the whole length
- capacity on two prints at one metre distance (uniformly distributed capacity is outside the scope)
- inspection crank with positive retention (must not casually unhook)
- crossing of the leveller in rest position with full capacity
- automatic stop of the leveller until 6% of its length (and further lowering at less of 0,05 m/s), in case of accidental departure of the vehicle under load. The stop may operate between the 25% and the 100% of the nominal load
- the maximum slope established by the EN 1398 (12,5%) is that one that a person can climb without slipping
- side protection against sharing between platform and pit side
- disjoin able electric feeding as per EN 60204-1
- emergency stop of leveller lowering: available on demand because it presents more dangers than those safeguarded. As per point 1.2.4 of the Machine Directive 2006/42/CE it can be avoided
- structure calculation coefficients: they are certified by the manufacturer by the CE certification
- leveller width as much similar to the truck bed width (EN 1398 point 5.2.4.1)

THE SECTIONAL OVERHEAD DOOR



The Sectional Overhead door is a known element and its characteristics for Loading Bays for dry goods is standardized: insulated 40 mm thick panels one metre high for vertical installations or 610 mm for the others, light RAL 9002 colour, for avoiding heat accumulation, one sight view for outside control or more windows for the light, 3 metres high, 2,7 metres width, two parachutes at the sails in conformity to the Safety Norms, one handle.

• **The FIDELITY hydraulic opening system** (picture on the top) grant an unequalled lasting and total opening constancy of the door, proved by tenth of thousands installations. It puts free from the slavery of the periodical spring pulling and their greasing, combining to the clean aesthetic also the absence of polluting components that makes it to be the ideal solution for the food industry. Together with the optional interlock (the leveller operates only with door totally open) it avoids that the operators collide the bottom panel for insufficient opening of the door that happens with unloaded springs.

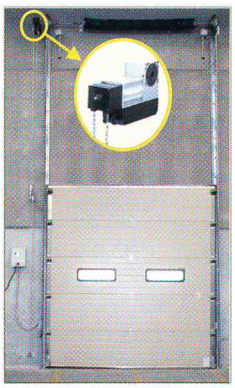
The convenience of the FIDELITY system is specially evidenced when it is centralized with dock leveller (picture on top). For centralization, see page 4.

The FIDELITY system solves at the best also all ant blast installation problems, ATEX, fire retardant, and allows the installation with widely different weights among panel and panel of the door (example pedestrian doors and full-vision) without out-of-balancing problems.

• **The SPRING opening system** is available as alternative, where the operating necessities allows to use this more economical system, also if much more expensive for the periodical maintenances and for the frequent damages to the bottom panels.

Also for the Spring Sectional Door sight-windows, full-vision panels, pedestrian doors are available. Different weights between panel and panel let an unsure balancing, and almost always demand the installation of a motorgear or of a winch.

Pictures on the right show Spring balanced Sectional Overhead Doors and the optional motorgear.



THE DOCK SHELTER

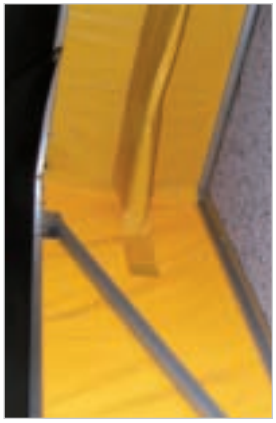
The Dock Shelter is the consolidated element of the Loading Bay that blocks the streams and transforms the inside of the van in extension of the inside ambience (picture on the right).

• Retractable Dock Shelters: it is used in almost the totality of the cases, it is composed by an external frame tied with a pantograph to an internal frame (that is fixed onto the building wall), as to retract in case the vehicle backs out of axel, and returns to its original state when the vehicle drives forward.

The external frame has three perimeter coats of double armoured PVC, straightened inwards as a flag, that are bent by the rear of the backing vehicle, that remain slightly compressed against it during the loading.

It is important that the depth of the dock shelter is at least of 700 mm, opposite case the coats remain vice between docking vehicle and bumpers and they are harmed.

It is important that the roof of the dock shelter has an internal water channel (picture on the right) for evacuating along one side coat the water from the roof, opposite case the water accumulates making a basin on the roof and falls inside as the vehicle docks.



Water drain channel
from the roof

The yellow coloured perimeter coat grants for a natural light. With the black perimeter coat (available as option) there is a big internal heat accumulation and also the necessity of artificial light also by day.

• Retractable Premium Dock Shelter: special, spring-reinforced front coat for exceptional winds.

• Cushion Dock Shelter: a great thermal insulation is obtained by this type (picture on the right) that is composed by three perimeter cushions. They are used only in the deep cold sector.

The horizontal cushion can be fix or adjustable, for sealing different heights of vans.

• Inflatable Dock Shelter: the top of the insulation is obtained by this type, composed by three inflatable cushions that lightly compress the roof and the sides of the van, granting for the maximum insulation.

Characteristic of primary importance for the Inflatable Dock Shelter is its capacity of quickly deflate and retract when off, as not to delay the vehicle departure.

The Inflatable Dock Shelter has insulated rigid side walls and the installation of wheel guides for protecting them is recommended.

On the right: a prefabricated Dock House with Sectional Door, Inflatable Dock Shelter and Swivelling Lip Dock Leveller.

Inflatable Dock Shelter
in rest position

Inflated Dock Shelter

DOCK HOUSES AND STEEL DOCKS

The Dock Houses are exterior prefabricated Docks, with Dock Leveller, covered with insulated panels 40 mm thick, with Retractable Dock Shelter and Sectional Overhead door. They are an outside prefabricated enlargement of the building, often not counted as built space because "dismountable". They do not call for space inside the building, they are rapidly installed at the end of all wet-trades in the court (slab or plinths). The Sectional Door can be installed on the building opening or as closure of the Dock House, for having inside this one the same temperature than in the inside of the building.

The inferior part of the Dock House can be used as outside Steel Dock (picture on the right), that can also be equipped with a Retractable Dock Tunnel for covering it during the bad weather conditions periods (last picture on the right).

Steel Docks and Dock-Houses can be orthogonal to the building or inclined at 30 - 45 - 60 degrees. They have as standard the bottom tail-lift reservation.

The Dock House for "Deep Cold" with Telescopic Dock Leveller, with 80 mm thick insulated panels and Inflatable Dock Shelters grant for the maximum energy savings.

Dock Houses and exterior Steel Docks are provided with bottom reservation for tail lifts

“DEEP COLD” LOADING BAYS

Already in April 2006 at the Cold Storage World Convention, *CAMPISA* presented the calculations of the thermal losses of the Loading Bays, and has offered top economic and energetic saving solutions, anticipating the European Norms that demand always bigger energy savings.

The calculations evidenced that the thermal transmittance of a Loading Bay with Dock Leveller and Sectional Door 2,5 x 3 m overtook the “K” value = 2,46 W/m2K, when with the proposed by CAMPISA “Deep Cold Loading Bay” the thermal transmittance was of only K = 0,63 W/m2K.

• The “Deep Cold *CAMPISA* Loading Bays”: the patented system includes a Telescopic Dock Leveller with a lip of one metre that remains - in rest position - closed by a Sectional Door that descends to cover the front of the whole Leveller.

The Sectional Door, that for the deep cold is 80 mm thick, has a trapeze and reduced-width bottom panel that enters and seals the inside of the pit, against special insulating parts. A horizontal insulating panel under the leveller pit insulates the tail-lift room (when existing).

The best is obtained by the option “automatic return to rest position” of the Dock Leveller.

In case of deep cold, the insulation can be increased by the use of Inflatable Dock Shelters, reaching the top of the energetic saving. For avoiding collisions to the rigid insulated panels of the Inflatable Dock Shelters, Vehicle Wheel Guides are used.

Also Dock-Houses can be supplied with the “recessed Loading Bay” system, for “fresh” and “deep cold”.

The Telescopic Dock Leveller remains in rest position about 15 cm inside the Door, that closes it completely

The maximum of the insulation: Deep Cold Bay and Inflatable Dock Shelter. Wheel Guides for protection of the Shelter sides

The insulating panel between Tail-lift room and Dock Leveller pit

Deep Cold Bays with Retractable Shelters for fresh” 0°C + 5°C.

The bottom panel of the Sectional Door has reduced dimensions for entering and sealing into the Leveller pit

COMPLEMENTARY PRODUCTS

Coordinated tools means aesthetic and also increased safety: this had always been *CAMPISA* target. Aesthetic is a Sectional Overhead Door of the appropriated to the building colour, safety is a galvanized dock leveller or a vehicle wheel guide system or INOX Sectional Doors in the food sector. *CAMPISA* always is the certainty of the sure choice.

Accordion doors

Automatic Sectional Doors with pedestrian door

Full Vision Sectional Doors

INOX doors for food industry

Traffic control systems. Vehicle wheel guides

Double and triple swivel lights

Free and anchored light alloy ramps

Balanced Gliss of aluminium and steel

Horizontally sliding Fire Doors EN 1634-1

Intensive use vertical opening Fire Doors EN 1634-1

ATEX Intensive use ant blast Doors and Levellers

Scissors tables also combined with Levellers

Flexible rapid roll-up Doors

Flexible rapid Pocket up-Doors

Bumpers elevations

Up-down fluctuating bumpers

05/10

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