# Product datasheet
## Dock leveler
## ASSA ABLOY DL6221TA

ASSA ABLOY
Entrance Systems

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# Technical facts

## Features

| | | |
|---|---|---|
| Sizes - leveler height | 700 mm | |
| Sizes - nominal length* | 2000, 2450, 3000 mm | |
| Sizes - nominal width | 3300, 3500, 3600, 3750 mm | |
| Vertical working range | Above dock:<br>Below dock: | 0 - 415 mm<br>0 - 430 mm |
| Platform tear plate | 8 mm S355 (8/10) | |
| Surface treatment | Standard:<br><br>Option: | RAL 5010<br>RAL 9005<br>RAL 3002<br>RAL 6005<br>Hot dip galvanised |
| Control unit | Leveler control<br>Door control<br>Shelter control<br>Fault & service indicator | |

* Other sizes are available on request

## Performance

| | |
|---|---|
| Load capacity | 100kN (10 tonnes) |
| Steel grade all steel parts | S355 |
| Motor hydraulic unit | 1,5kW |
| Mains supply | 400V 3-phase, 230V 3-phase |
| Control unit protection class | IP54 |
| Allowable oil types | ASSA ABLOY standard hydraulic oil (-15°C - +60°C)<br>ASSA ABLOY low temperature hydraulic oil (-30°C - +60°C) |
| Magnetic valves | 24V/DC 18W S1 |
| Surface treatment paint class 1 | 80 µm Corrosive Category C2 M acc. DIN EN ISO 12944-2 |
| Surface treatment paint class 3 | 160 µm Corrosive Category C3 M acc. DIN EN ISO 12944-2 |
| Surface treatment galvanised | Hot dip galvanised 80 µm Corrosive category C4 & C5-I M acc. DIN EN ISO 12944-2 |

ASSA ABLOY
Entrance Systems

# Contents

# 1 Description

## 1.1 General

### 1.1.1 Application

The ASSA ABLOY DL6221TA teledock autodock is a dock leveler based on a smarter design with less single steel components to secure highest quality and performance. The outstanding feature is that all steel parts are made of the high-strength steel grade S355 providing a solid construction without compromises. It is designed for the toughest loading operation with high frequency.

The ASSA ABLOY DL6221TA teledock autodock is an externally installed and self-supporting dock leveler that is ideal for applications where there are insufficient installation possibilities within the building. This model is equipped with a telescopic lip system. The ASSA ABLOY DL6221TA teledock autodock system meets the standard demands of most loading operations and fully complies with rules and regulations of the European Standard EN 1398.

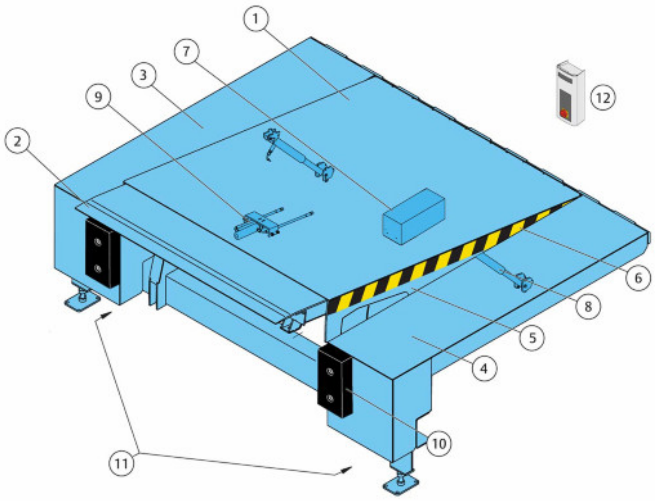
Integrated connectivity is available as an option to enable monitoring, controlling, and accessing door data via ASSA ABLOY Insight. For more information see: https://www.assaabloyentrance.com/en/service/assa-abloy-insight/.

### 1.1.2 Mode of operation

The operation of the ASSA ABLOY DL6221TA teledock autodock is based on an electro-hydraulic telescopic lip, controlled by a semi-automatic control unit.

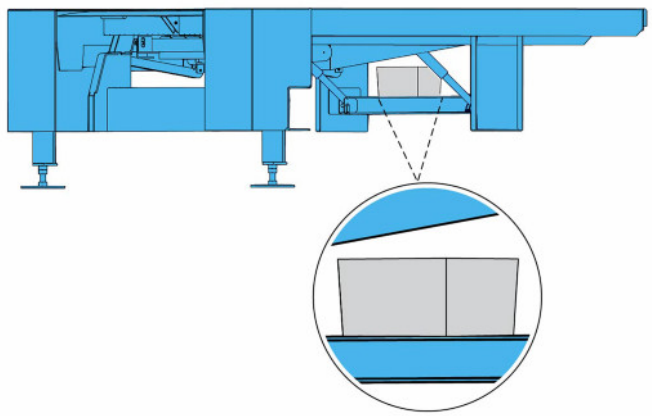
When the dock leveler is raised, the lip extends and the leveler lowers gently onto the lorry bed. After loading or unloading, the leveler is raised again, the lip retracts and the platform returns to its parking position.

### 1.1.3 Overview



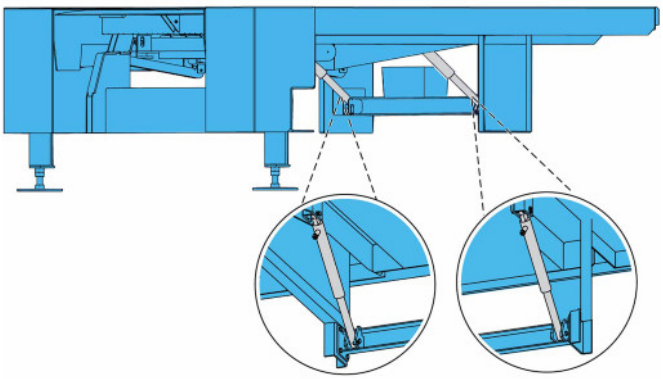

1. Leveler platform
2. Telescopic lip
3. Leveler frame
4. Leveler frame
5. Side plates
6. Warning stripes
7. Hydraulic unit
8. Lift cylinders
9. Telescopic lip cylinder
10. Buffers (optional)
11. Tail lift recess
12. Control unit

### 1.1.4 Hydraulic unit fixed to the top of the rear bottom frame



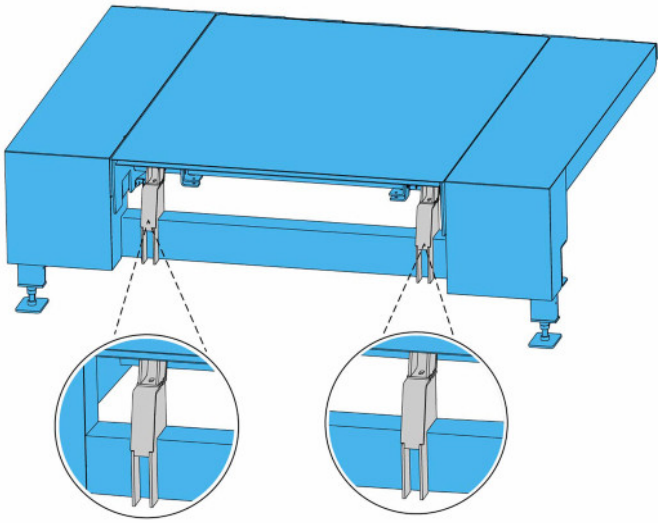
This position protects the hydraulic unit and is suitable for service inspections. During the movement of the leveler, the hydraulic unit is not moving up and down. and during the loading operation, there are fewer vibrations.

### 1.1.5 Lift cylinders

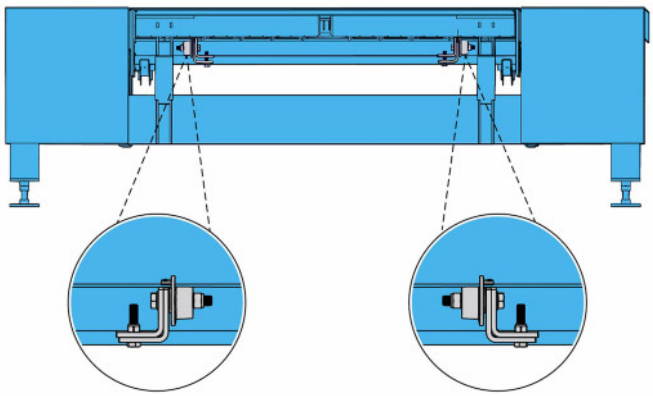


Robust cylinder fixation directly on the shaft to meet highest safety requirements and the lift cylinders are equipped with grease nipples.

### 1.1.6 Robust resting position support

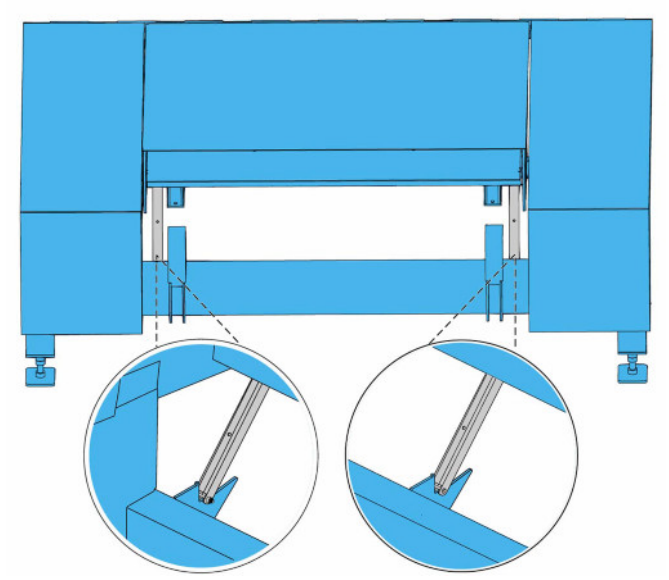


### 1.1.7 Guidance of the telescopic lip



Robust steel rollers secures smooth movement of the lip during extension and retraction.

### 1.1.8 Safety-prop left and right



Self-positioning safety-prop that can be put in position by one person in two steps: Move the two safety props, left and right, from the storage position to align them in front of the safety prop support brackets on the front beam. Then push the LIFT button to run the leveler to the top position - when lowering the leveler will be supported safely by the safety props.

### 1.1.9 Standard

| | |
|---|---|
| Surface | Painting RAL 5010 or RAL 9005 |
| Hydraulic Equip-ment | Low noise hydraulic unit<br>Two hydraulic lift cylinders<br>One hydraulic lip cylinder |
| Lip | Steel lip<br>Bevelled 80 mm<br>Lip length 500 mm |
| Installation angle | 90° |

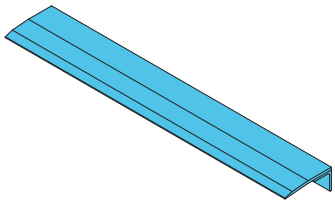
### 1.1.10 Options

| | |
|---|---|
| Surface | Painting RAL 3002 or RAL 6005<br>Hot dip galvanised |
| Hydraulic equip-ment | Low temperature oil |
| Lip options | Lip length 1000 mm<br>Tapered lip |
| Energy & Ergo-nomics | Slip protection / noise reduction |

## 1.2 Telescopic Lip

### 1.2.1 Lip material

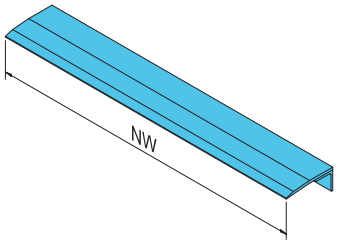
#### 1.2.1.1 Steel telescopic lip



The steel telescopic lip provides maximum comfort.

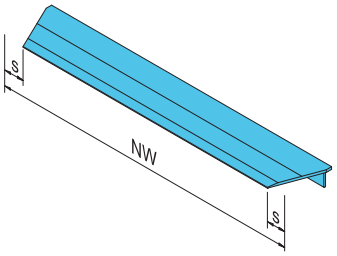
### 1.2.2 Lip shapes

#### 1.2.2.1 Standard telescopic lip




The standard telescopic lip is a single rectangular lip for use with a fleet of vehicles that is a standard size.

#### 1.2.2.2 Tapered telescopic lip

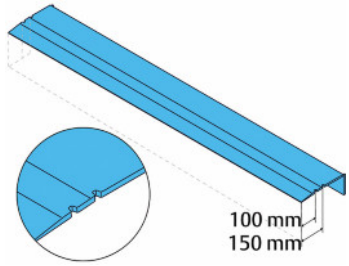



A tapered telescopic lip ensures that the lip reaches the lorry bed, even when the lorry is not parked in the exact centre position. Avoids damage to the truck and interruptions of the dock-in procedure.
s = 100 mm

### 1.2.3 Bevelled lip


The standard steel lip is 80 mm bevelled, designed to provide maximum comfort and smooth transition from the lip.

### 1.2.4 Safe contact area



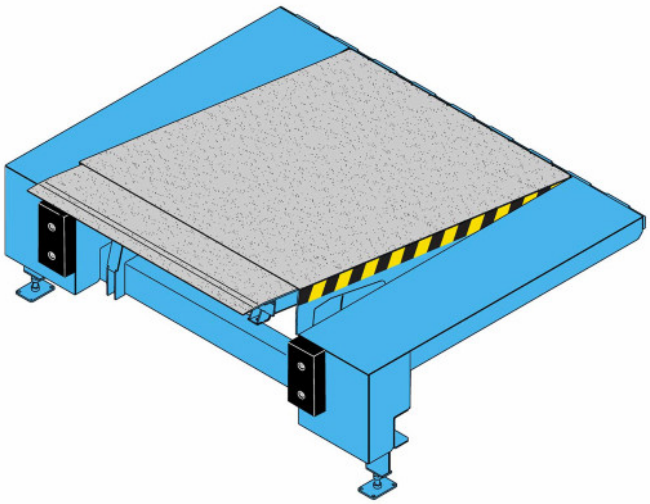

Notches on both sides at 100 mm and 150 mm shows the safe contact area of the lip on the truck bed.

## 1.3 Platform

### 1.3.1 Slip protection / noise reduction

Applying a polyurethane slip protection coating on the lip and platform ensures a durable non-slip (R11 according to DIN 51130) and noise reduction surface. The effect is a smooth and comfortable surface for handling equipment that is less receptive to wear and tear.

The PU coating material is resistant to impact, to thermal impact and most types of chemicals and it has a high loading capacity.



# 1.4 Surface

## 1.4.1 Painting

### 1.4.1.1 Colors

The dock leveler standard finish is painted. The standard colors are:

| | |
|---|---|
| | RAL 5010 |
| | RAL 9005 |

Colors available as option are:

| | |
|---|---|
| | RAL 3002 |
| | RAL 6005 |

### 1.4.1.2 Standard paint class

If the dock leveler is to be used in a rural area, the standard finish is:

- Paint class 1; 80 µm factory painted for corrosive category C2 M

### 1.4.1.3 Paint classes

If the dock leveler is to be used in an urban or industrial atmosphere, or in a coastal area, it may be appropriate to select an alternative paint class with increased resistance to corrosion C3 M.

- Paint class 3; 160 µm factory painted for corrosive category C3 M

## 1.4.2 Hot galvanising

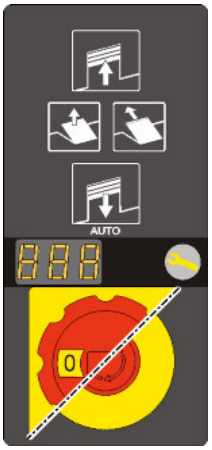
To increase corrosion protection to C4 for saline coastal areas or C5-I for aggressive or humid atmospheres, the dock leveler can be delivered with hot dip galvanised (80 µm) steel parts.

# 1.5 Docking control systems

## 1.5.1 950 Docking LA TD

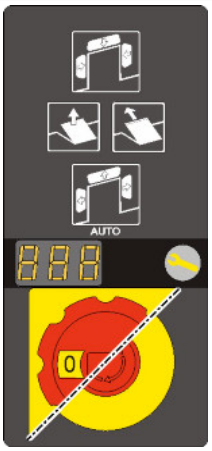

- Hold-to-run button to lift platform.
- Hold-to-run button to position the lip on the truck bed.
- Impulse auto button to put the leveler back in parking position.
- Mains isolator or emergency stop button.
- Interface to incorporate ASSA ABLOY wheel chock.

## 1.5.2 950 Docking DLA TD



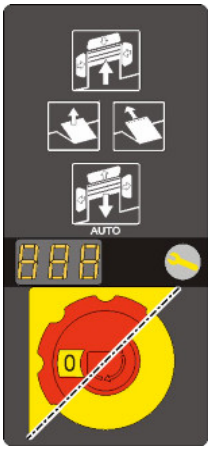

- Hold-to-run button to lift platform.
- Hold-to-run button to position the lip on the truck bed.
- Impulse auto button to put the leveler back in parking position.
- Mains isolator or emergency stop button.
- Interface to incorporate ASSA ABLOY wheel chock.
- Designed to operate an overhead sectional door in the docking station.

## 1.5.3 950 Docking LSA TD




- Hold-to-run button to lift platform.
- Hold-to-run button to position the lip on the truck bed.
- Impulse auto button to put the leveler back in parking position.
- Mains isolator or emergency stop button.
- Interface to incorporate ASSA ABLOY wheel chock.
- Designed to operate an inflatable shelter in the docking station.

## 1.5.4 950 Docking DLSA TD




- Hold-to-run button to lift platform.
- Hold-to-run button to position the lip on the truck bed.
- Impulse auto button to put the leveler back in parking position.
- Mains isolator or emergency stop button.
- Interface to incorporate ASSA ABLOY wheel chock.
- Designed to operate an overhead sectional door and an inflatable shelter in the docking station.

## 1.5.5 950 Docking power cable

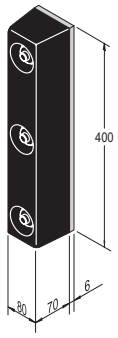
- Standard: 1,1 m power cable to connect to mains switch on the wall.
- Option: 1,5 m power cable with CEE-plug, pre-mounted.

# 1.6 Equipment

## 1.6.1 Buffers

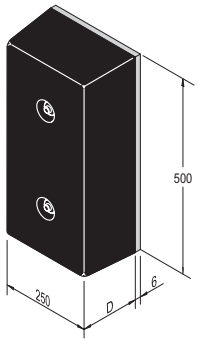
Buffers placed in front of the dock leveler absorb the energy of a vehicle that accidentally or intentionally hits the building. Buffers are available in various sizes, in fixed or moving models, and with rubber finishing or steel plate and spring function.

### 1.6.1.1 RS



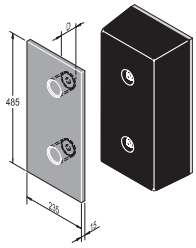

**Application**
The RS buffer is the economical solution for docking stations where vehicles of equal sizes load and unload.

### 1.6.1.2 RB



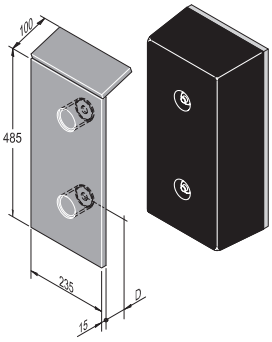

**Application**
The RB buffer is a large fixed rubber. It is the universal building and vehicle protection solution.
Available depths:
- 90 mm
- 140 mm

### 1.6.1.3 RB with steel front plate



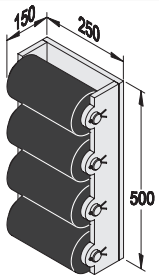

**Application**
The RB buffer with steel protection front plate increases the building protection and the buffer service life.
Available depths:
- 90 mm
- 140 mm

### 1.6.1.4 RB with steel front and top plate



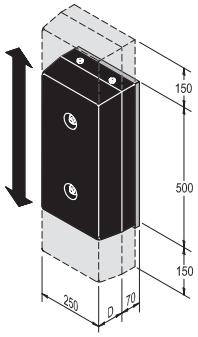

**Application**
The RB buffer with steel protection front and top plate is designed for vehicles with high lorry beds like interchangeable open bodies and containers.
Available depths:
- 90 mm
- 140 mm

### 1.6.1.5 Roller buffer



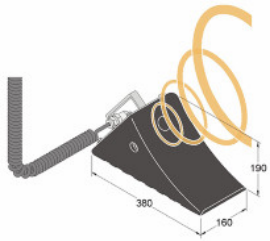

**Application**
The Roller buffer is a robust solution for docking stations where vehicles make notable vertical movements when loading or unloading. The Roller buffer is designed for vehicles without protruding elements below the rear door.

### 1.6.1.6 EBF




**Application**
The EBF buffer is the ideal solution for docking stations where vehicles are expected to make notable vertical suspension changes when loading or unloading.
This buffer follows vertical movements of the vehicle.
Available depths:
- 90 mm
- 140 mm

### 1.6.2 ASSA ABLOY DE6190WC Wheel chock



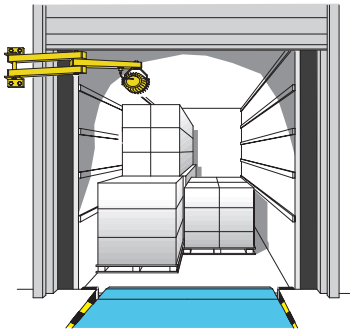

The wheel chock has a sensor to detect the presence and position of the vehicle and is connected to the dock leveler control panel. If no vehicle is detected, the docking station is blocked for safety reasons. Furthermore, the wheel chock prevents the vehicle from moving during loading/unloading.

### 1.6.3 ASSA ABLOY DE6090TLS Traffic light system

The traffic light system either has a sensor above the dock leveler that measures the presence of the vehicle or it is a wheel chock that detects the vehicle.

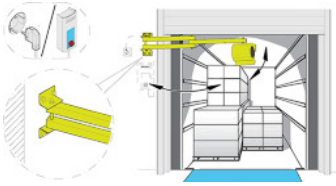
If there is no vehicle (dock leveler is free), the traffic light inside is red, outside is green.
The traffic light can also be combined with a wheel chock or door/leveler interlocking.

### 1.6.4 ASSA ABLOY DE6090DL Dock light Heavy Duty LED



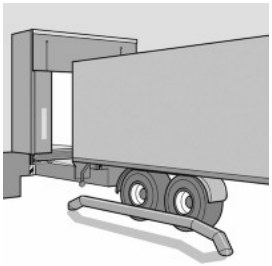
Where dock lights are often a vulnerable object in the docking area, the virtually indestructible Dock Light Heavy Duty LED is the perfect solution to bring light in the truck and docking area. It is designed for the most demanding environments and can withstand possible hard hits from a moving forklift without being damaged.

### 1.6.5 ASSA ABLOY DE6190FL Fan light



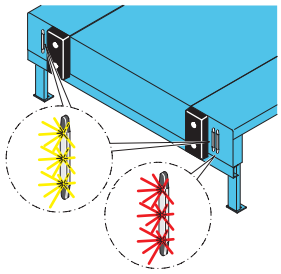
The compact fan light is a combined solution of a fan and a dock light in one system. The fan creates a continuous stream of fresh air that refreshes and cleans the air inside the trailer or container and the integrated dock light provides extensive light. It has a flexible solid arm that fits general industry and logistics applications, for an easy and fast docking process.

### 1.6.6 Parking guides



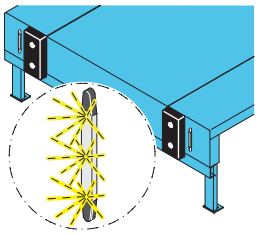
This visual aid makes it easier to park the vehicle and reduces the risk of collision. Especially advantageous for docking stations with wide leveler lips and cushion shelters. Parking guides can be bolted or cast in concrete on the floor before the leveler.

## 1.6.7 ASSA ABLOY DE6190DI Dock-IN Autodock



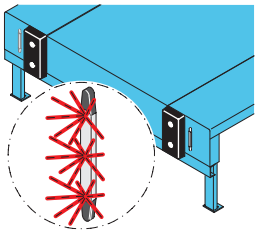
ASSA ABLOY Dock-IN offers a complete line of guide- and traffic lights that align the truck with the docking bay to make the dock-in procedure easy and safe. ASSA ABLOY Dock-IN is based on modern LED technology and stands for high reliability and low energy consumption.

### 1.6.7.1 Dock-IN White



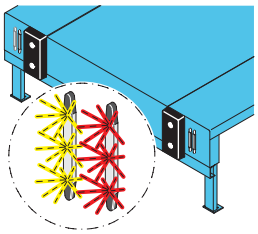
ASSA ABLOY Dock-IN White consists of two white LED light bars. It is designed to help guide a truck to the dock. ASSA ABLOY Dock-IN White offers much more visual aid than white stripes on the shelter or asphalt. Mounted on the wall they are always clearly visible, less exposed to wear and tear and not hidden by dirt and snow!

### 1.6.7.2 Dock-IN Red



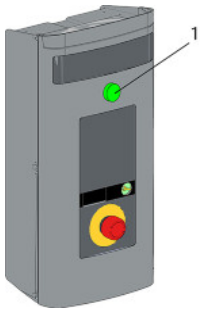
ASSA ABLOY Dock-IN Red is a traffic light system consisting of one red LED light bar, a sensor for truck detection and a traffic light control box. The sensor detects the truck when it is in the right position, very close to the dock. The red LED turns ON to give the signal to the truck driver to break and let the truck roll against the buffer at the lowest speed, without the risk of damage. The system includes interlocking of the loading bay control box functions which are only released when the truck is in place and the red LED is ON.

### 1.6.7.3 Dock-IN White & Red



ASSA ABLOY Dock-IN White & Red is the optimum combination of both systems for easy and safe docking. The white LEDs provide the visual target and the red LED positions the truck at the right distance to the dock. The white guiding LEDs turn off when the truck is detected and at the same time the red LED turns ON. Before the truck is leaving, the operator push the RESET button on the control box inside the building. Then the white LEDs turn ON and the red LED turns off as a signal to the truck driver that the loading is finished.

### 1.6.7.4 Standard




1. Indication light inside and RESET button

Indication Light Inside.
A Green LED light on the 950 control box to indicate that the control box functions are released. The operator of the loading bay equipment knows exactly when he can start loading or unloading. The green LED light will help to save energy and to control the complete loading process.

RESET button
The RESET function is activated from a push button on the control box inside the building before the truck is leaving. The white LEDs turn ON and the red LED turns OFF as a signal to the truck driver that loading is finished. For this function, the leveler must be in parking position, the sectional door closed and the inflatable shelter retracted.
For the activation of the RESET function, you push the button for 1 second. If you push the button for 3 seconds before the truck drives off, then the red LED turns ON again the white LEDs turn OFF. When the truck is leaving, the white LEDs turn ON and the Dock-IN system is ready for the next truck.

### 1.6.7.5 Available Options

- Dock-IN Green and Red.

Green LEDs instead of White. This version has the same function as Dock-IN White and Red.

- Indication Light Inside, built into the 950 control box

A Green LED light on the control box to indicate that the control box functions are released. The operator of the loading bay equipment knows exactly when he can start loading or unloading. The green LED light will help to save energy and to control the complete loading process.

- Second Red LED

A second Red LED bar can be added to have the red LED traffic light on both sides of the docking bay. This is an option for terminals with left and right hand drive international trucks.

- Wheel chock connection

To increase the safety it is possible to connect the ASSA ABLOY wheel chock to the traffic light function ASSA ABLOY Dock-IN Red or ASSA ABLOY Dock-IN White and Red. The control box will be interlocked until the truck is detected and the wheel chock is in place.

Note:

Make sure the LED bars will not be covered by the Dock shelter.

Lowest possible truck is max. 2000 mm below the sensor position.

# 2 Selection guide

## 2.1 Load capacity according to EN 1398

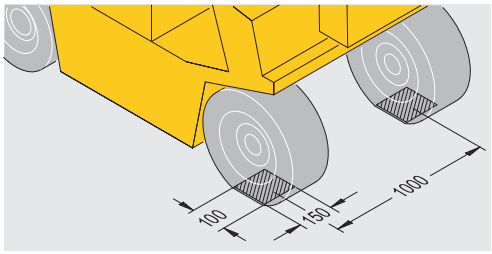
The EN 1398 describes 3 key definitions about loads.

### 2.1.1 Rated load

The rated load is the total weight of the goods, the forklift truck and the driver.

### 2.1.2 Axle load

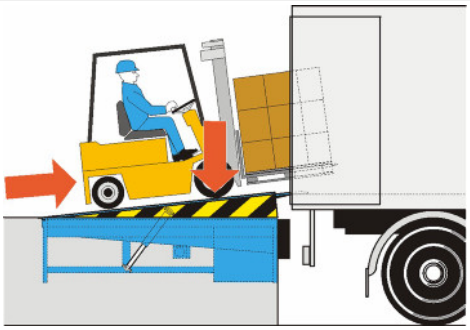
Axle loads shall be taken acting over two rectangular contact areas at 1 m lateral distance. These areas shall only apply if the actual conditions do not call for more severe loading. The size of the footprint [mm2] is derived from the wheel load [N] divided by 2 [N/mm2]. The ratio of the rectangular print is W:L = 3:2.




In the drawing measures for a leveler with a load capacity of 100kN or 150kN are shown.

### 2.1.3 Dynamic load

The dynamic load is the movement of the rated load and is the pressure on the leveler platform caused by the moving forklift truck.



## 2.2 Select the load capacity

The load capacity of a dock leveler must always be higher than the rated load.

### 2.2.1 Example

| | |
|---|---|
| Weight of forklift truck | 5000 kg |
| Weight of goods | 3500 kg |
| Weight of driver | 100 kg |
| Total weight/rated load | 8600 kg |
| Suitable load capacity of the leveler | 10000 kg/100kN |

## 2.3 Select the leveler length

When determining the leveler length, measure the maximum height difference between the truck bed and the dock level. Next, determine which vehicles will be used and lookup the maximum gradient the vehicles are allowed to be used on.

| **Vehicle** | **Max gradient** |
|---|---|
| Roll cage | 3% |
| Hand pallet truck | 3% |
| Electric pallet truck | 7% |
| Forklift truck (battery) | 10% |
| Forklift truck (gas / petrol) | 15% |

### 2.3.1 The calculation

Minimal leveler length = height difference / gradient (%)

### 2.3.2 Example

| | |
|---|---|
| Vehicle: | Electric pallet truck (max 7% gradient) |
| Truck height: | 1325 – 1000 mm |
| Dock height: | 1150 mm |

The difference between Truck height and Dock height = 175 mm

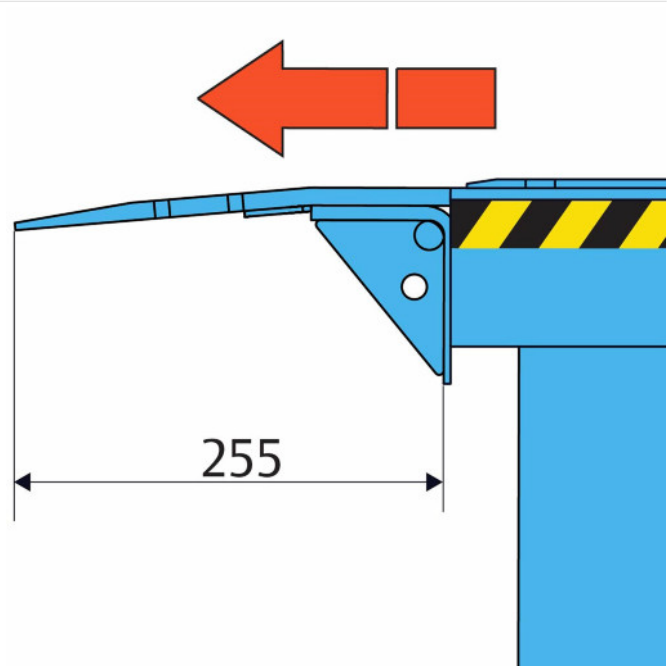
175 mm / 7% = 2500 mm leveler length

## 2.4 Nominal width

The ASSA ABLOY DL6221TA teledock autodock is available with a nominal width of 2000 or 2200 mm. The correct nominal width must exceed the widest loading vehicle by at least 700 mm.

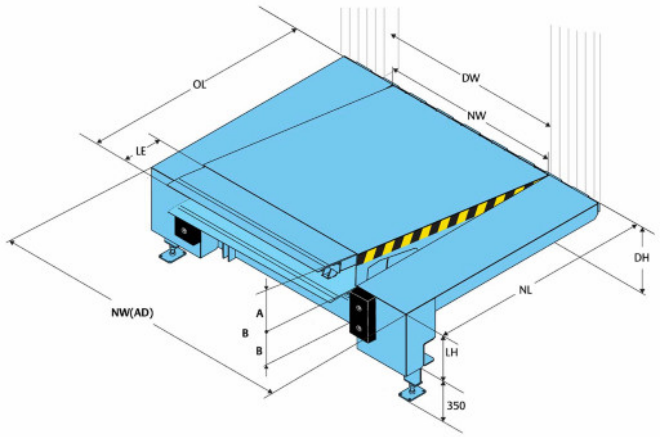
## 2.5 Free space under lip

### 2.5.1 Steel lip



# 3 Specifications

## 3.1 Dimensions




| | |
|---|---|
| NL | Nominal length |
| OL | Overall length (NL + LE) |
| NW | Nominal width |
| LE | Lip extension |
| LH | Leveler height |
| A | Working range above dock level |
| B | Working range below dock level |
| NW (AD) | Nominal width Autodock (incl. side tread panels) |
| L | Distance between plinths |
| OW (AD) | Overall width Autodock = NW(AD) - 20 |

| Dimensions | | | Vertical working range | |
|---|---|---|---|---|
| **NL** | **LH** | **Measures** | **500 mm** | **1000 mm** |
| 2000 | 700 | A | 330 | 415 |
| | | B | 370 | 430 |
| 2450 | 700 | A | 325 | 395 |
| | | B | 350 | 395 |
| 3000 | 700 | A | 310 | 365 |
| | | B | 335 | 375 |

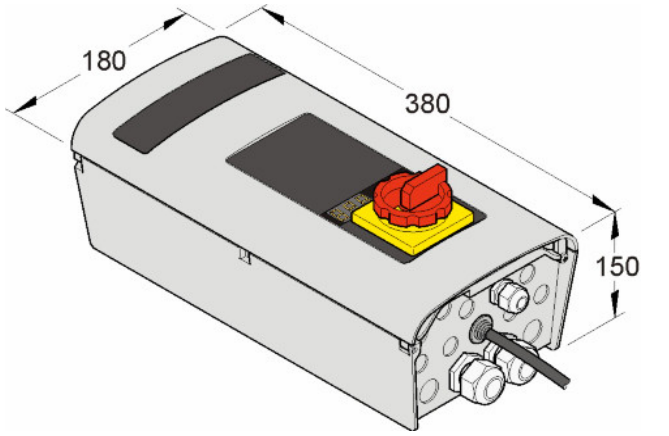
Nominal width (NW) 2000, 2200 mm for all sizes.

Nominal width (NW AD): 3300, 3500, 3600, 3750 mm

** In accordance with the EN 1398 standard, the leveler must not be used beyond the permissible gradient range of ± 12.5% (around ± 7°). The limits may only be exceeded if the operator ensures that the danger of slipping has been eliminated (e.g. due to dry and clean surfaces).

## 3.2 Control units

### 3.2.1 Dimensions




950 Series

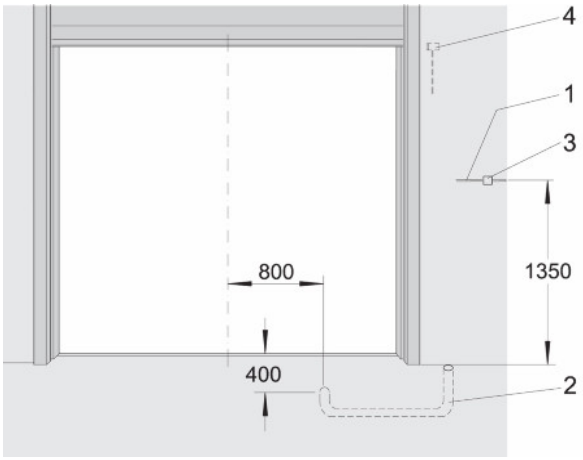
# 4 CEN Performance

## 4.1 Safety according to the European Standard EN 1398

- Emergency Stop Function.
  - Safety valves block lowering movement after max. 6% of the nominal length of the leveler.
  - Two lift cylinders make sure the leveler stops in a horizontal position.
- Free floating position.
- Platform torsion. Lateral deflection of at least 3% of nominal width.
- Toe guards cover gap between platform and pit in leveler´s highest position.
- Working range gradient max. 12,5% (~7°).
- Warning stripes on side plates and on frame (black/yellow).

# 5 Building and space requirements

## 5.1 Electrical preparations

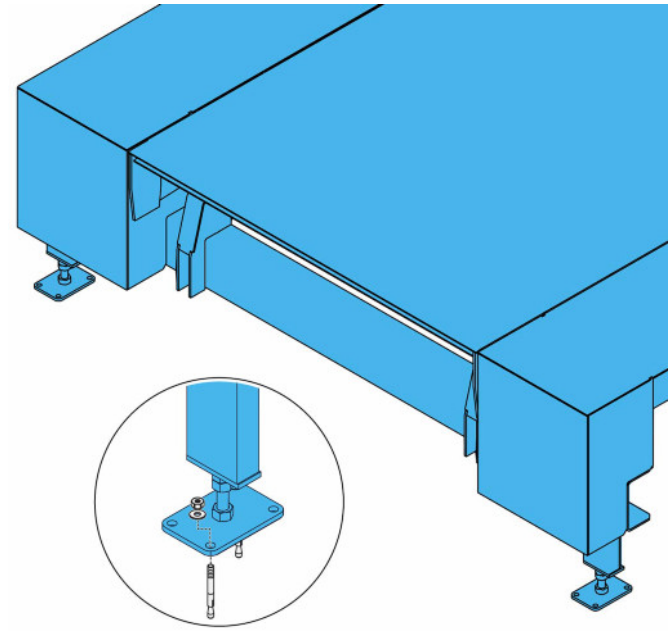



| | | |
|---|---|---|
| 1 | Mains supply:<br>Mains fuse:<br>Motor power: | 3/N/PE AC 50 Hz<br>400V 3-phase, 230V 3-phase<br>D0 10 A gL<br>1,5kW |
| 2 | Conduit for wiring internal diameter 70, angles <45° (by others) | |
| 3 | Mains isolator*: | Only for control box with emergency stop |
| 4 | Optional safety switch on sectional door to disable leveler when door is closed* | |

* non-standard

## 5.2 Ways of installation

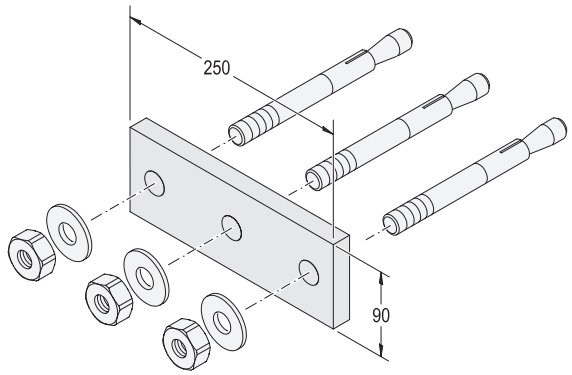
### 5.2.1 Steel plinths



# 5.3 Additional equipment of installation

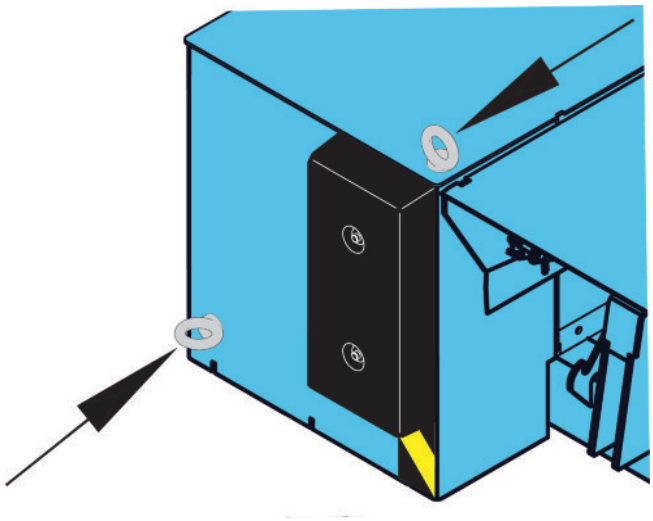
## 5.3.1 Support brackets

The optional brackets have to be used if it is not possible to weld the autodock side units on the whole width on the dock edge. The brackets support only the autodock side units. Chemical anchors M16 are delivered together with the brackets.




## 5.3.2 Eye bolt

The optional eye bolts are used to secure a demountable container or any other truck at the autodock with the aid of a tension strap.



# 6 Service tailored to your needs

Designing and fitting your teledock autodock is just the beginning. The most meaningful relationships are the ones built to last. We stay by your side long after installation, with service agreements specifically designed to ensure your ASSA ABLOY DL6221TA delivers the expected performance you deserve.

To choose the best service agreement for you, we first determine what your priorities are for your teledock autodock. Just preventive maintenance, or the opportunity to fully optimize its performance? Together, we can tailor your own service agreement to suit you.

**Whatever agreement you choose, one thing is certain – you will always be in good hands and completely taken care of, anytime, anywhere.**


With ASSA ABLOY Maintain you can focus on your core business. We provide preventive maintenance and safety check ups so that your entrance solution always lives up to the latest safety requirements, local regulations and operational guidelines.

You can also choose to have access to our digital connected solutions, which allow you to proactively monitor and control the teledock autodock and its maintenance requirements.

You can see the status, health and service needs of your ASSA ABLOY DL6221TA- all in real-time. You can also remotely monitor its performance and get personalized notifications of errors and alerts.


With ASSA ABLOY Optimize, we take full care and responsibility of the equipment, so you will never have to worry about your teledock autodock.

In addition to the preventive maintenance and safety check-ups offered by ASSA ABLOY Maintain, we also cover all repairs and parts*, ensuring stable maintenance costs and simplified admin.

It also includes digital solutions that allow us to safely and securely monitor your teledock autodock and act on the real-time data with planned maintenance or repairs before they become disruptive emergency repairs.

This data also enable us to pinpoint any errors and contact you for remote troubleshooting. If we can avoid sending out a technician, it is cost and time efficient for both parties, and it also helps reduce our carbon footprint.

In cases where we cannot remote troubleshoot, we ensure fast response, sending one of our experienced technicians with the right tools, resources and parts to fix the specific problem - potentially first time.

** excluding cases of misuse or collision*

For all your service needs, use our dedicated 24/7 service hotline. From there we can tailor your own service agreement together.

Learn more about ASSA ABLOY Entrance Systems at www.assaabloyentrance.com.

# Index

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Every day, we help billions of people to experience a more open world.

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