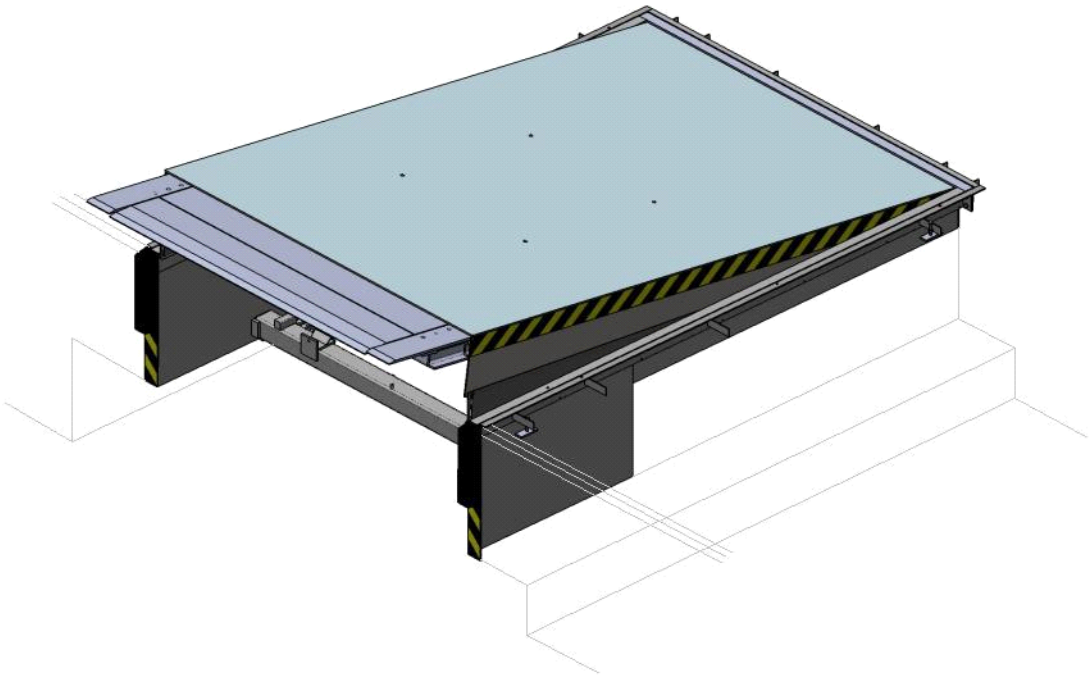
Product Datasheet

Hydraulic Dock Leveller with Telescopic Lip (PT)
Load capacity: 150 KN
ANSI NORM



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Contents

General information

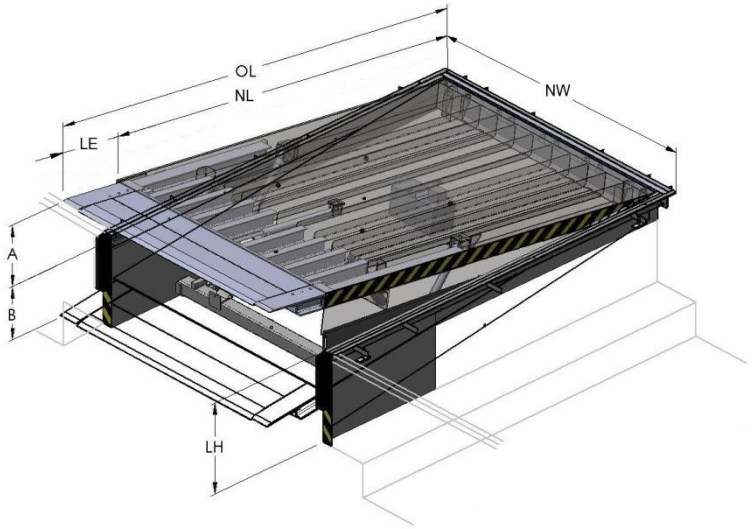
The PT stationary dock leveller with telescopic lip is a new product in the EBS product range. This top-quality leveller is a demonstration of the German precision engineering and manufacturing. The hydraulic version of the PT leveller is operated at the touch of a button. After exact positioning of the telescopic lip, the leveller automatically follows the movements of the vehicle during loading/ unloading (automatic floating position).

The big advantage of this type of dock leveller is the maximum flexibility of the lip length. Thanks to this feature, effective loading and unloading even of vehicles that are not completely correctly positioned can be guaranteed, and time-consuming and complicated repositioning of the vehicle is not necessary.

The PT dock leveller is supplied with the frame and installed in the pit as a compact unit in just one step. Additional supports are not necessary. Considerable savings in installation and its tail-lift recess, i.e. the possibility to accommodate tail lifts, are the biggest benefits of this type of installation. Alternative frame types are available depending on the individual building situation.

The load capacity corresponds to the axle load limit taking into consideration the most unfavourable loading case. The EBS dock levellers meet all requirements of the European standard Norm EN 1398 and have passed the GS safety tests.

Overview



NL Nominal length
NW Nominal width
OL Overall length [NL + LE]
LE Lip extension
LH Leveller height
A Level equalisation above dock
B Level equalisation below dock

In accordance with the EN 1398 standard, the leveller must not be used beyond the permissible gradient range of ± 12.5% (ca. ± 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).

Dock leveller		LE=500		LE=1000	
NL	**LH**	**A**	**B**	**A**	**B**
1750	700	250	350	-	-
2000	600	300	290	360	360
2000	700	315	405	390	480
2500	600	450	270	510	310
2500	700	470	400	555	460
3000	600	430	250	500	280
3000	700	450	400	520	450
3500	800	520	400	590	450
4000	800	500	410	560	450
4500	800	500	410	555	450
Nominal width (NW) 1750, 2000, 2100, 2200, 2250, 2400 for all sizes					All dimensions in mm.

Other load capacities and sizes on request.

Standard specifications

Lip (steel)	Lip length: 500 mm Chamfered section: 40 mm Tear-plate thickness: 13 mm/15 mm
Platform	Tear-plate thickness: 8 mm/10 mm
Frame	T frame (leveller frame to be embedded in concrete) W frame (in combination with a pre-frame) Pit frame (only for pits without tail-lift) NL ≤ 3000 mm
Surface	Painted, standard colours: RAL 5010, RAL 7016
Hydraulic unit	Hydraulic unit: (1.5 kW) - 2 lift cylinders with emergency stop valve - 1 lift cylinder for the telescopic lip
Control unit	Control unit with auto button

Optional specifications

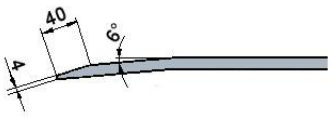
Lip (steel)	Lip length: 1000 mm (as of a nominal length of 2000 mm) Chamfered section: 100 mm Telescopic lip with tapered edges (125 mm on both sides) Telescopic lip with lateral retracting tongues (150 mm on each side, only for telescopic lip of 500 mm) with tear plate thickness 13mm/ 15 mm
Frame	F frame (flat-steel frame for leveller replacement) B frame (box) Stepped loading dock version
Surface	Painting in different RAL colours and various layer thicknesses Hot-dip galvanization
Hydraulic oil	Organic oil Low-temperature oil (- 30°C to + 60°C)
Control unit	Special control unit with additional options
Others	EPDM sealing Anti-slip coating Platform insulation: ISO panel (thickness: 40 mm, 60 mm) ISO KIT (40 mm/ 60 mm/ 80 mm panels) Front curtain

Design specifications

The PT telescopic lip leveller is provided with the CE and the GS (safety-tested) labels and meets all requirements of the EN 1398 standard. The standard load capacity of 60 kN (dynamic axle load) corresponds to the EN 1398 standard for a forklift wheel contact surface of 100x150 mm. Higher concentrated loads as well as higher load capacities are available on request.

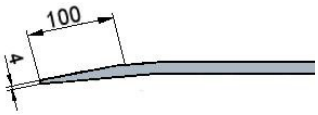
Telescopic lip

Standard telescopic lip



The telescopic lip is made of a 13/15 mm tear-plate. For ergonomic reasons, the front part of the lip is bent by 6° and has a 40 mm ground section so that even very low vehicles can be loaded and unloaded without any problems.

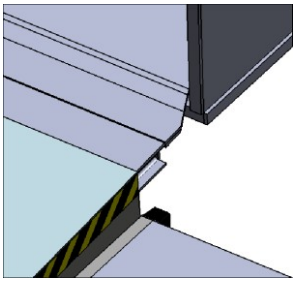
Telescopic lip options



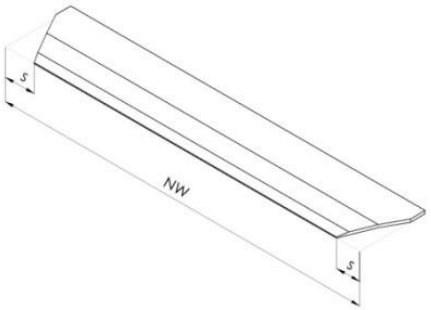
Chamfered section: 100 mm

The chamfered section of the lip can be extended to 100 mm for an even smoother transition from the telescopic lip to the truck bed.

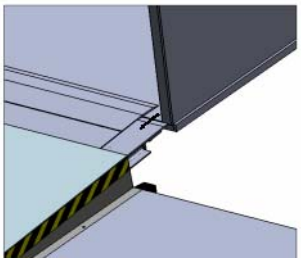
Tapered lip



The most cost-effective way to reduce the contact area of the telescopic lip is to provide it with tapered edges on both sides. This option comes with 125 mm bevels on both sides.
Recommended for NW > 2,200 mm.

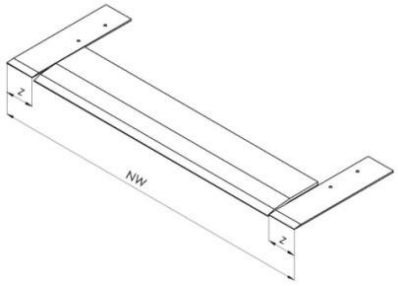


s (tapered; s = 125 mm)



Telescopic lip with lateral retracting tongues

The PT dock leveller can be manufactured with retracting tongues. In this case the lip consists of a central element and two side elements (located on left- and right-hand side). The side elements move backwards independently of the central element. This automatically reduces the lip so that vehicles with narrow beds can be loaded and unloaded. When the lip is fully retracted, the side elements are automatically locked in their original position so that the central and side elements are extended together again during the subsequent loading process.
Recommended for NW >2,200 mm.



retracting tongues
z = 150mm
(only for LE= 500)

Platform

Tear-plate thickness

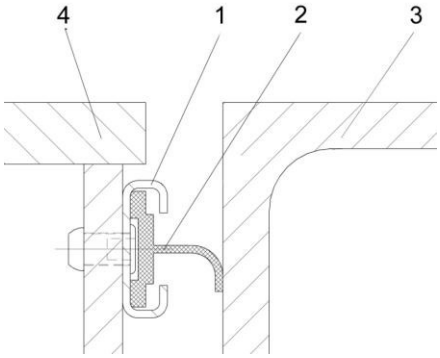
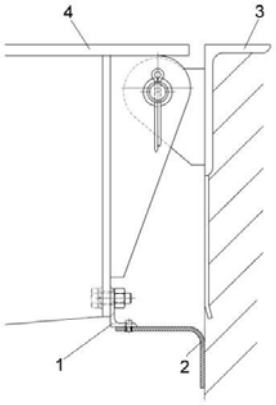
The platform is made of high-quality tear plate material (S235JRG2) and supplied with a thickness of 8/10 mm. It is strengthened by means of special reinforcements guaranteeing optimal stability as well as a sufficient transverse torsion strength of up to 10% of the platform width.

Toe guards

The PT dock leveller is always provided with lateral toe guards to prevent foot injuries when the leveller moves downwards.

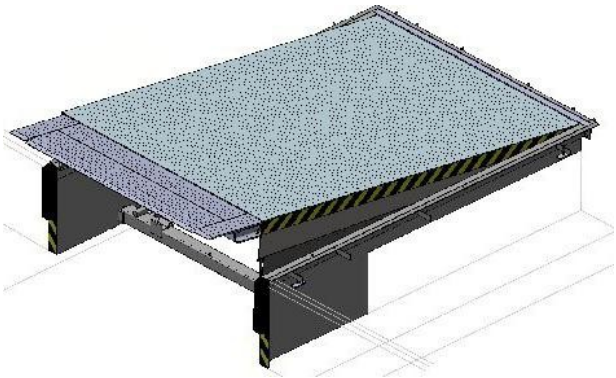
EPDM sealing

The EPDM sealing is used to seal the gap between the dock leveller and the pit, eliminating draughts in the warehouse building, improving the staff's working conditions and saving energy. The EPDM sealing is installed on three sides of the leveller.

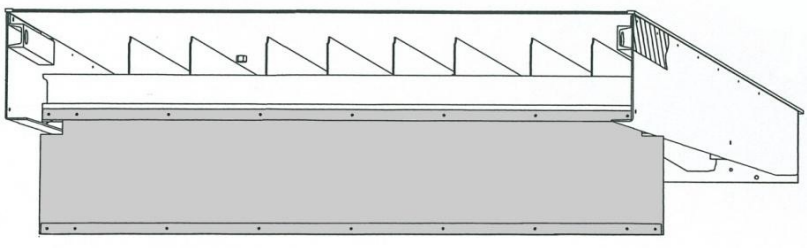
Lateral EPDM sealing	Rear side EPDM sealing
	
1 C profile 2 Sealing lip 3 Frame 4 Platform	1 Angular profile 2 Rubber section 3 Frame 4 Platform

Anti-slip / anti-noise coating (optional)

We can produce the platform and the telescopic lip with a special anti-slip / anti-noise layer. This coating consists of high-elasticity solvent-free polyurethane with a material thickness of 3-4 mm filled with sharp-edge broken basalt (grain size 1-1.6 mm).
This type of coating guarantees a high degree of anti-slip and anti-noise protection and material, even if the coating is damaged.



Front curtain

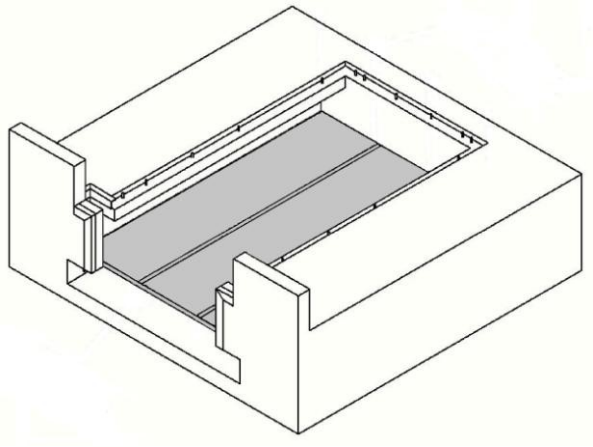


The PVC front curtain stops draughts and dirt getting under the dock leveller.

Platform insulation

Optimal insulation of the docking station is essential for energy saving. If the dock leveller is located outside the door opening, the platform insulation panel prevents cold or warm air from entering the warehouse inner area. The PT leveller platform is insulated with 40 mm or 60 mm insulation panels.

ISO-KIT



Although docking stations come equipped with internal dock levellers and external dock shelters with insulated sectional doors, a lot of energy can be lost via the dock leveller pits.

Installing ISO panels under the dock leveller minimizes temperatures losses, especially in temperature-controlled warehouses.

The ISO panel consists of two outer layers and an insulation layer made of PUR hard foam. This panel is available in thicknesses of 40 mm, 60 mm and 80 mm and provides excellent insulation.

Surface treatment

Painting

Before final assembly, the individual components of the dock leveller are sandblasted and coated with a 2-pack paint in standard colours RAL 5010 and RAL 7016 in a layer thickness of 80 µm. Further RAL colours and layer thicknesses of up to 160 µm are optionally available .
To increase corrosion protection, we can manufacture dock levellers with hot-dip galvanized steel parts.

Hydraulic unit

The dock leveller is operated by means of a tried and tested under-oil hydraulic unit (1,5 kW). The closed system stands out for its high reliability even under very difficult operating conditions. We offer special hydraulic oils for use with low-temperature applications.

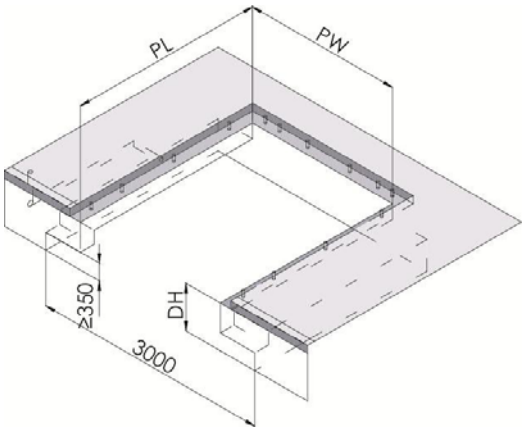
The dock leveller is lifted by means of two cylinders (Ø 45 mm) to ensure safe positioning even if the truck leaves the dock during loading or unloading. In this case the down movement of the leveller has to be stopped; this is guaranteed by using special emergency valves in the lift cylinders.

The telescopic lip is advanced by means of a cylinder with a piston rod of 22 mm in diameter (for a telescopic lip of 500 mm) and of 25 mm in diameter (for a telescopic lip of 1000 mm).

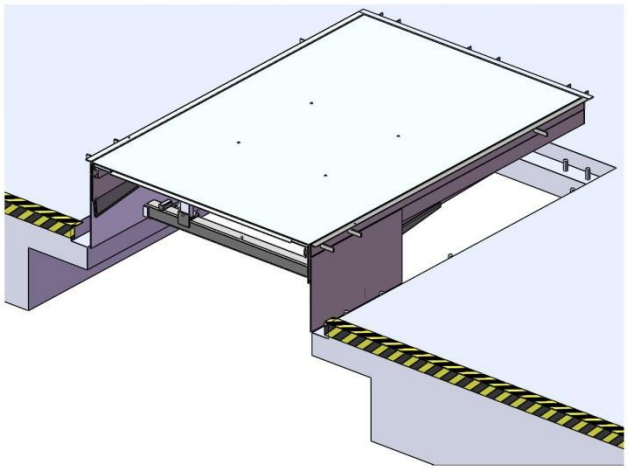
Frames / pits

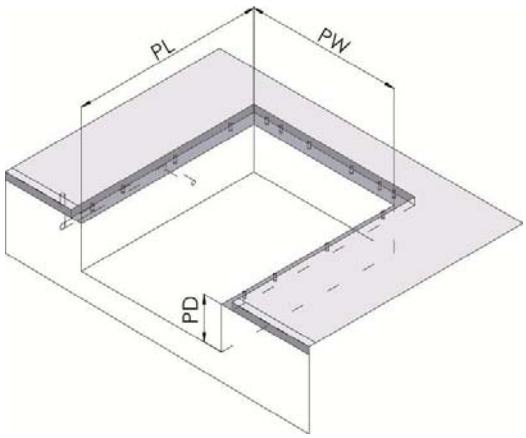
T frame (to be embedded in concrete)

The leveller is directly cast into concrete including its frame.
Advantage: fast and clean installation in one step.



Pit with tail-lift recess
PTE.00.00.04



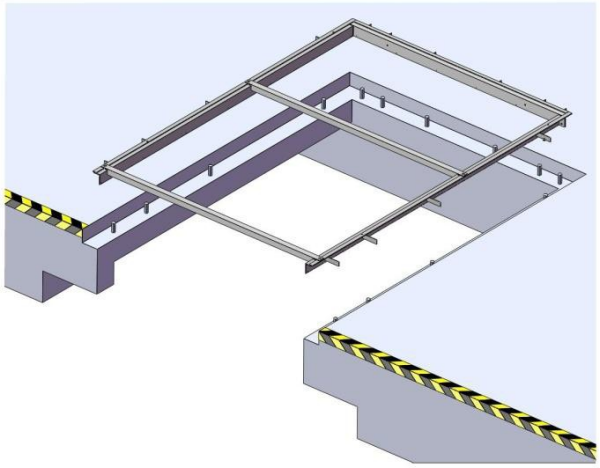


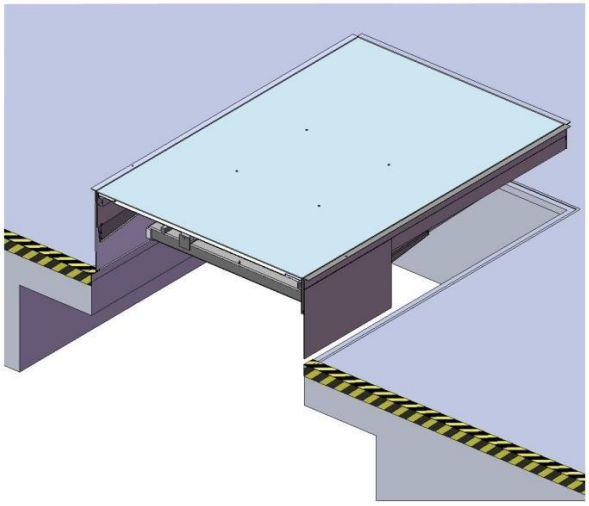
Pit without tail-lift recess
PTE.00.00.08

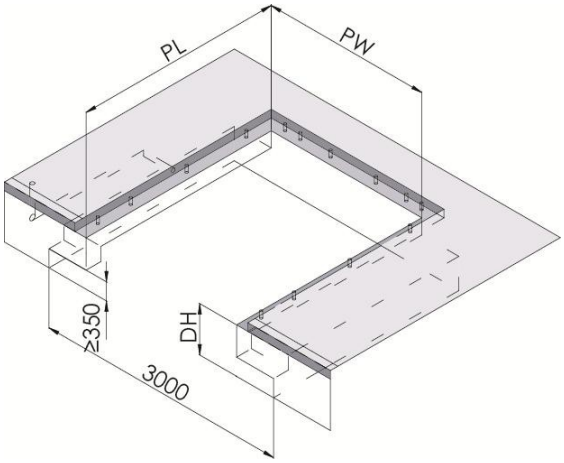
PL	Pit length	**DH**	Dock height
PW	Pit width	**PD**	Pit depth

W frame (in combination with a pre-frame)

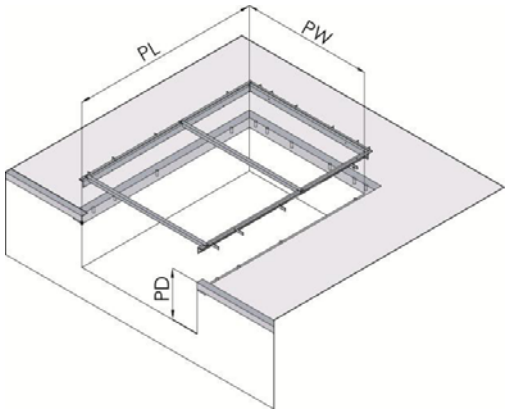
The frame can be mounted to the floor slab before installation of the dock leveller itself. The leveller is then welded to the pre-installed frame. Pit preparations are identical for T and W- type frames for maximum flexibility.







Pit with tail-lift recess
PTE.00.00.04

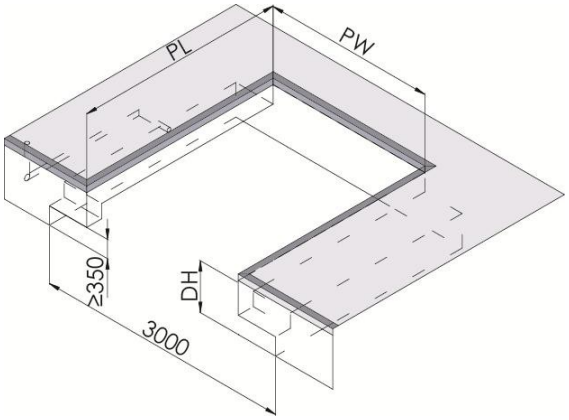


Pit without tail-lift recess
PTE.00.00.08

PL	Pit length	**DH**	Dock height
PW	Pit width	**PD**	Pit depth

F frame (flat steel frame for leveller replacement)

This type of frame is used for easy and fast replacement of existing dock levellers.
With the F-type frame, the existing leveller is cut out of the pit and replaced by a new one. The existing frame is used again if it is not damaged and if its load capacity is sufficient. Concrete work is not required.



Pit with tail-lift recess
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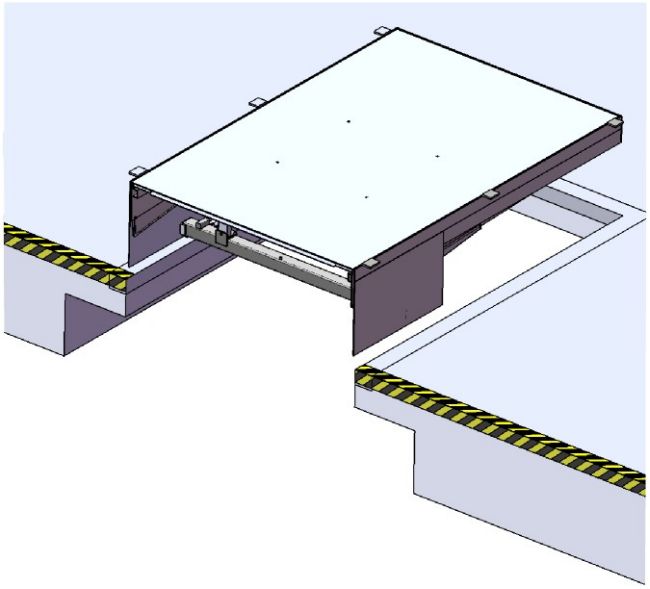
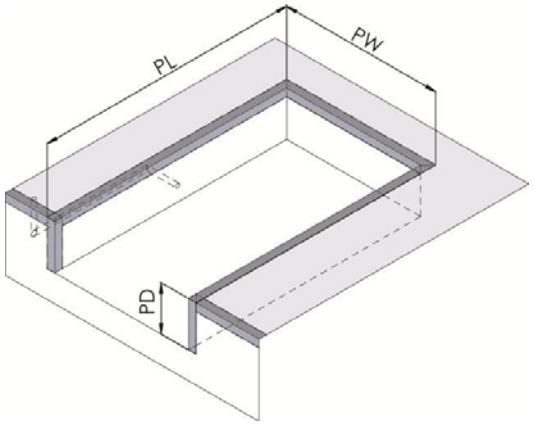


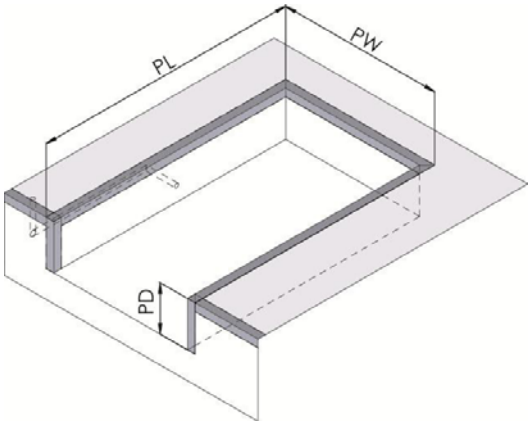


Pit without tail-lift recess
PTE.00.00.19

PL Pit length
PW Pit width
DH Dock height
PD Pit depth

P frame (mounted in the pit)

Fast and cost-effective installation of the leveller; only for pits without tail-lift recess



Pit without tail-lift recess
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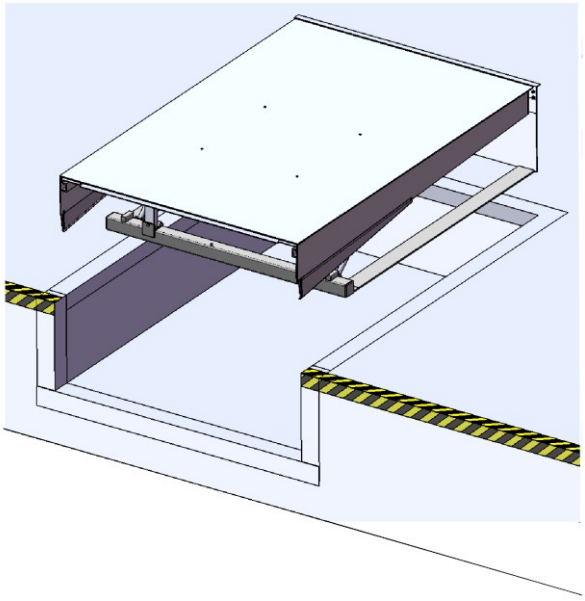
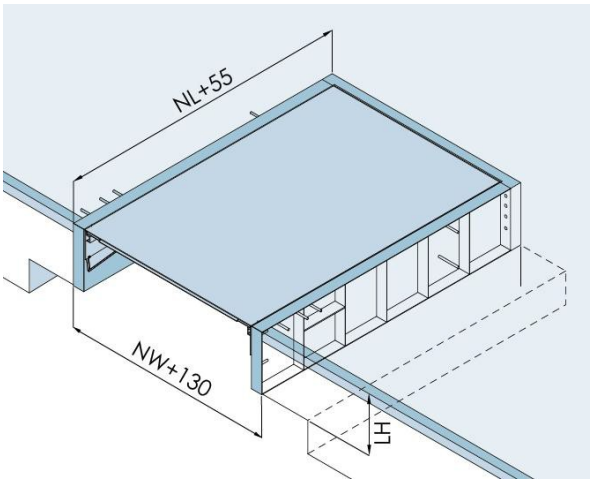


PL Pit length **PW** Pit width
PD Pit depth

B (box)

No need to prepare a standard installation pit. Preparation of the building floor slab is much easier as boarding work is not necessary.



Pit with tail-lift recess
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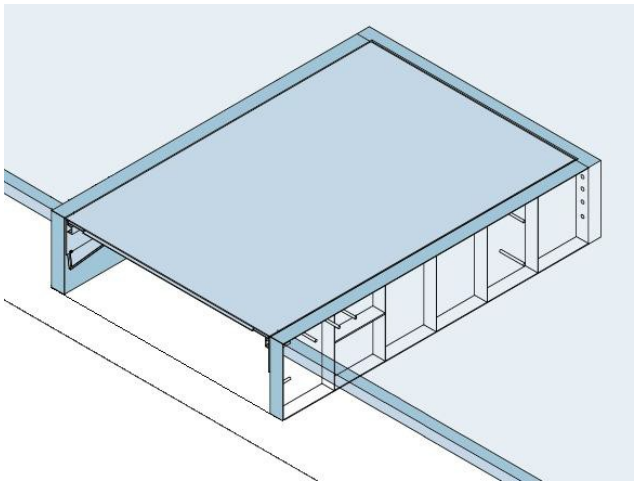
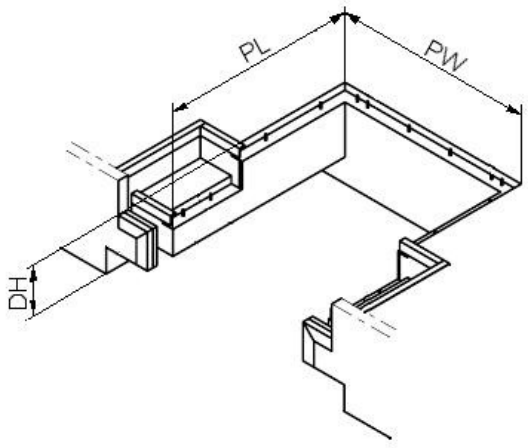


Pit without tail-lift recess
PTE.00.00.24

NL Nominal length
NW Nominal width
LH Leveller height

Stepped version

This option is used when the truck bed height is lower than the height of the ramp. To make the opening of the doors of the docked vehicle possible, the pit is provided with recesses on the right and on the left side of the leveller.



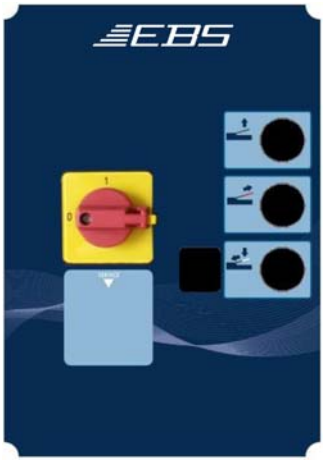
PL	Pit length	**DH**	Dock height
PW	Pit width		

Controller Options

Standard Controller (PBES 2 MV 16)

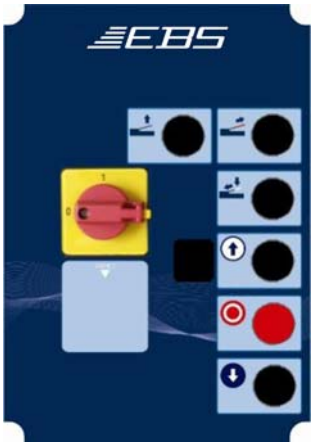
- Main switch
- "Lift" button to lift the platform
- "Extend" button to position the lip on the truck bed
- "Auto" button (to return the leveller to its resting position by shortly pushing this button)
- Connection possibility: leveller/door interlock / door/ leveller interlock

Option Controller PBES 2 MV 10 01 with easy programming and display



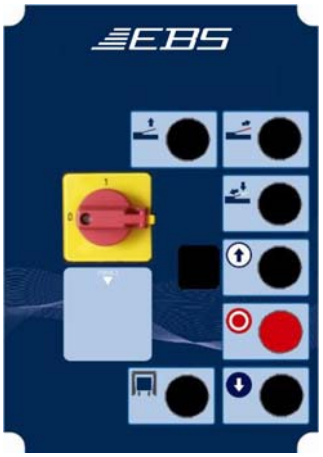
- Main switch
- "Lift" button to lift the platform
- "Extend" button to position the lip on the truck bed
- "Auto" button (to return the leveller to its resting position by shortly pushing this button)
- Possibility of connecting a wheel chock, a vehicle detection system, traffic lights, dock lights, a dock shelter and a door locking system

Option Controller PBES 2 MV 15 with easy programming, operating status and error code display



- Main switch
- "Lift" button to lift the platform
- "Extend" button to position the lip on the truck bed
- "Auto" button (to return the leveller to its resting position by shortly pushing this button)
- Possibility of connecting a wheel chock, a vehicle detection system, traffic lights, dock lights, a pneumatic dock shelter and a door locking system
- Includes door operation button

Option Controller PBES 2 MV 17
with easy programming, operating status and error code display



- Main switch
- "Lift" button to lift the platform
- "Extend" button to position the lip on the truck bed
- "Auto" button (to return the leveller to its resting position by shortly pushing this button)
- Possibility of connecting a wheel chock, a vehicle detection system, traffic lights, dock lights, a pneumatic dock shelter and a door locking system
- Includes door operation button and button for inflatable dock shelter

Option control unit (PBES 2 MV 01) - only for special sequences

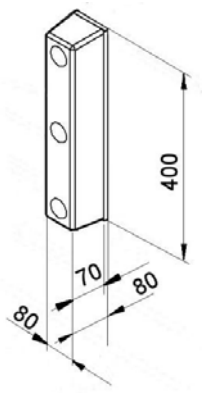
- Main switch
- "Lift" button to lift the platform
- "Extend" button to position the lip on the truck bed
- "Auto" button (to return the leveller to its resting position by shortly pushing this button)
- Possibility of connecting a wheel chock, traffic lights, dock lights and a door locking system

Accessories

Buffers

Fixed buffers as well as movable buffers are designed to absorb impact during the docking process protecting both the vehicle and the docking system. All rubber elements of the EBS buffer series are made of high-quality rubber ensuring a long service life.

Fixed-position buffers

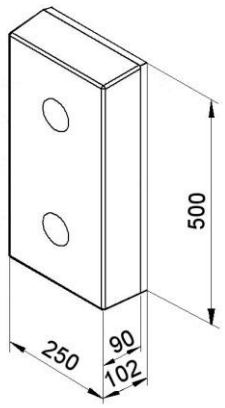


PGF 70

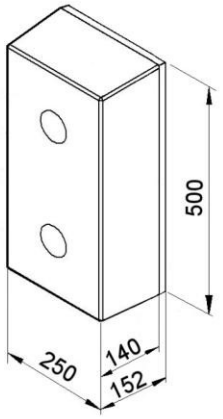
Rubber element (thickness 70 mm) with hot-dip galvanized plate.

Standard high-quality rubber buffer with a high resistance to wear and tear for lower loading frequencies.

PGF 90
Rubber element (thickness 90 mm) with hot-dip galvanized plate.



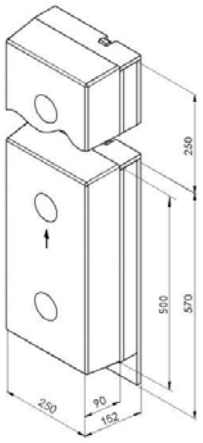
PGF 140
Rubber element (thickness 140 mm) with hot-dip galvanized plate



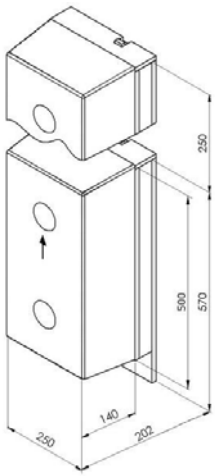
PGF 90 and PGF 140 are designed for extremely high impact forces

Height-adjustable buffers

PGV 90
Buffer with vertical guide
(rubber element: thickness 90 mm)



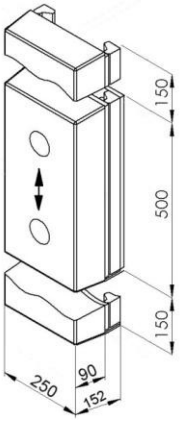
PGV 140
Buffer with vertical rail guide
(rubber element: thickness 140 mm)



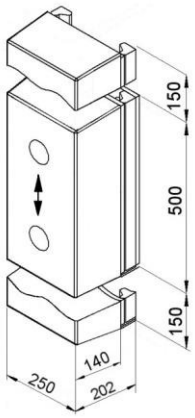
Height-adjustable buffers are used for loading and unloading of vehicles with beds higher than dock level. These buffers can be lifted by up to 250 mm above the dock edge. During loading and unloading, the buffer adjusts to the truck's vertical movements. It moves up to 50 mm upwards and 250 mm downwards. This minimizes the buffer's wear and extends its durability. After docking, the buffer can be fixed at dock level so that the truck tailgates can be opened.

Floating buffers

PGB 90
Buffer with vertical guide
(rubber element: thickness 90 mm)



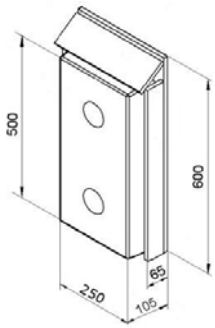
PGB 140
Buffer with vertical rail guide
(rubber element: thickness 140 mm)



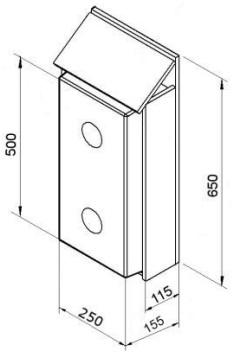
These buffers have the highest possible durability. They follow the truck's vertical movements by 150 mm upwards and 150 mm downwards so that the buffers' wear is reduced to practically zero.

Buffers with protective housing

PGFS 90
Buffer with protective housing
(rubber element: thickness 90 mm)



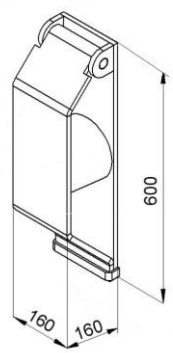
PGFS 140
Buffer with protective housing
(rubber element: thickness 140 mm)



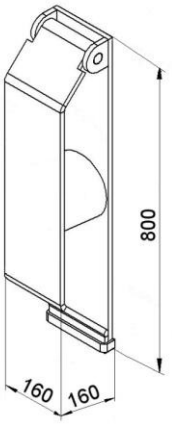
We recommend buffers with protective housing for higher impact loads. The sloped protective plate prevents the buffers from being heavily damaged.
Thanks to the lateral flat steel guides the fixing bolts of rubber buffers are optimally protected against shearing.

Spring-steel buffer

PGS 600
Spring-steel buffer with hot-dip galvanized plate; spring-steel plate t=15 mm, rubber buffer Ø 130 mm



PGS 800
Spring-steel buffer with hot-dip galvanized plate; spring-steel plate t=15 mm and rubber buffer Ø 130mm



Spring-steel buffers provide optimum protection for heavy-duty loading and unloading. These buffers stand out for their excellent shock-absorbing characteristics, maximum resistance to wear and long service life.
During loading/unloading only the steel plate of the buffer gets into contact with the vehicle. This helps to minimize the normal tear of the surface caused by the vehicle's vertical movements and to avoid costly buffer replacement, thus reducing operating costs.
Spring-steel buffers are either welded to the frame or dowelled to the leveller. As an option, we can mount the buffer 200 mm above the dock edge.

Wheel chock

The PZK wheel chock equipped with a position-dependent ultrasonic sensor and connected to the control unit via a robust cable guarantees safety during the whole loading and unloading process. As soon as one of the rear wheels of the truck is stopped by means of the wheel chock, the leveller control function is “released” and the dock leveller can start to operate.

Traffic lights

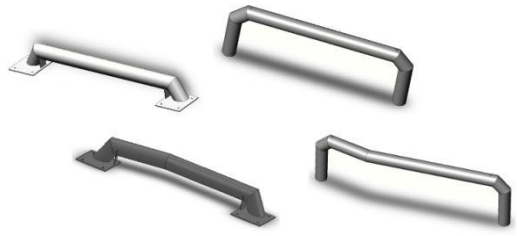
To complete the docking station, we recommend installing inside and outside traffic lights system as well as the wheel chock.

The PBEA traffic lights systems enable communication between the truck driver and the warehouse staff. They show the driver when the docking station can be approached and left safely. The traffic lights are connected to the dock leveller’s control unit; adjustments/programming can be adapted to your individual requirements.

Dock light

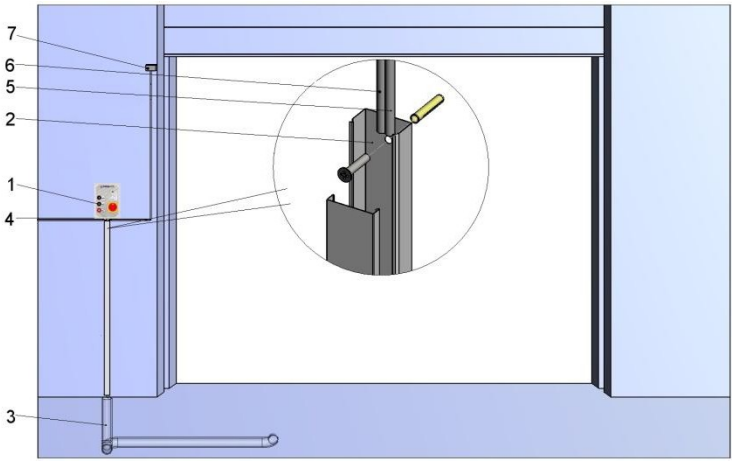
Bad lighting in the docking area can increase the risk of accidents during loading/unloading.
The EBS dock lights provide optimal solutions for lighting of the docking area and the truck bed.

Wheel guides



Wheel guides improve safety of the loading bay by helping the truck driver to reverse to the loading bay without any complicated maneuvering actions. The guides are installed on ground level, either by being cast directly into concrete (types PEK and PEKE) or by being bolted to the ground (types PEF and PEFE).

Electrical preparations (by others)



1 Electrical control unit (included in the scope of delivery)
2 Cable conduit (by others)
3 Wire conduit, min. internal diameter 50 mm, angled pipe ≤ 45° (by others)
4 Mains supply: : 3 / N / PE AC 50 Hz 400 V/ CEE 16 A
Mains fuse: D0 10 A gL
Motor power: 1,5 kW
5 Cable: 7 x 0,75 mm²
6 Motor cable: 4 x 1,5 mm²
7 Door/dock leveller light sensor *)

*) Option