Modern Logistics
with Intelligent Docking Systems

Loading Technology

Complete solutions for increased efficiency

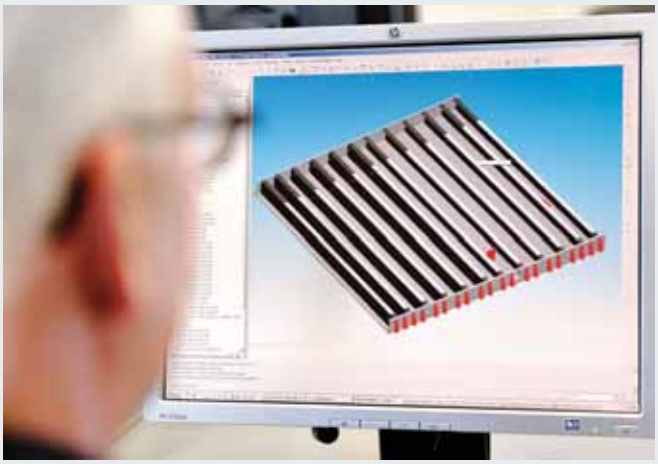
HÖRMANN


34

Image on left: dm distribution centre, Weilerswist

Brand quality from Hörmann
Reliable and oriented towards the future

Alnatura logistics centre in the city of Lorsch in the German state of Hesse



In-house product development

At Hörmann, innovation is produced in-house – highly qualified employees of the development department are in charge of product optimisation and new developments. This results in market-ready high-quality products that are very popular around the globe.

Modern manufacturing

Hörmann's high automation level ensures a consistently high quality level. All production processes are precisely calibrated and monitored by modern computer systems. This way, large quantities of dock levellers, shelters and seals are manufactured, all with equal precision. However, we also manufacture smaller quantities or customised special solutions according to customer specifications at the same high quality level.

Efficient service
Our extensive service network means that we are always nearby and at your service around the clock. This is a major advantage in terms of inspections, maintenance and repairs.

As Europe's leading manufacturer of doors, frames, operators and loading technology, we are committed to high product and service quality. This is how we set standards on an international scale.

Highly specialised factories develop and manufacture construction components that are distinguished by high quality, functional safety and a long service life.

Our presence in the global economy's key regions makes us a strong, future-oriented partner for industrial and public construction projects.

Protecting the environment

Hörmann shows respect for the environment not only when using PU rigid foam, but also with regard to its colour coating. Our high-tech regenerative exhaust air decontamination system substantially reduces energy requirements as compared to the previous methods. Tomorrow's more stringent limit values are already complied with today.

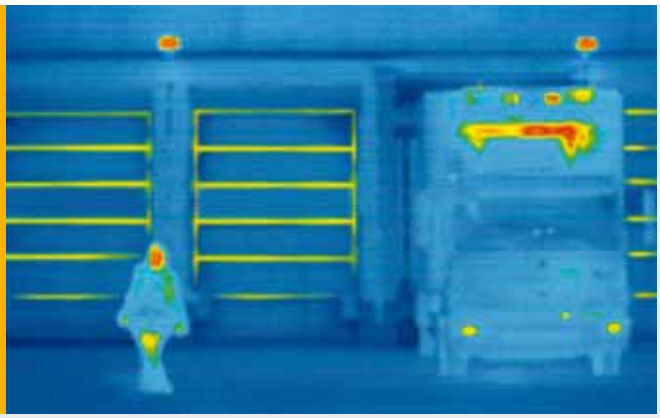
Competent advice

Experienced specialists within our customer-oriented sales organisation accompany you from the planning stage, through technical clarification up to the final building inspection. Complete working documentation, such as technical manuals, is not only available in printed form, but is always accessible and up-to-date at www.hoermann.com.

The right concepts
Efficient planning

Energy efficiency

Thermographic studies confirm that a building's openings are a particularly critical factor when it comes to energy efficiency. With proper planning and the proper equipment that matches the building's intended function, thermal loss can be kept at a minimum.



Safety

Workplace safety is quite rightfully a very important issue. Accident and health risks as well as damage to goods, vehicles and building equipment must be avoided. Especially at loading bays, where your own employees and external staff work together, suitable measures must be considered carefully.

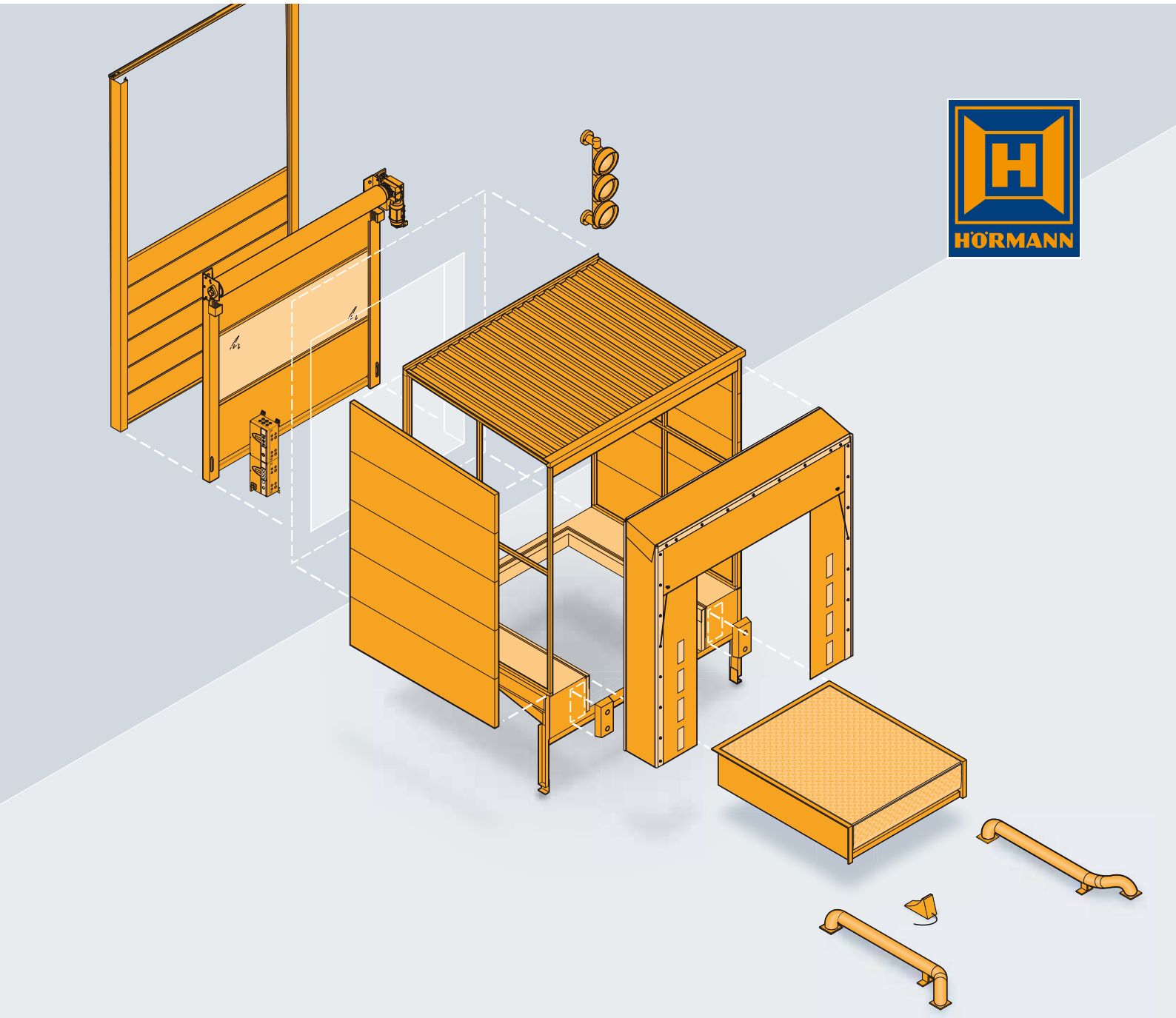
Longevity

The rough nature of daily use quickly leaves its mark on loading bays – quick wear and tear, collision damage and planning errors can require costly repairs and replacements within a very short period of time. High-quality materials, coupled with foresighted planning and the selection of suitable protection measures protect your valuable investment.

Increasing demands as to energy efficiency, safety and longevity require individually adjusted solutions. We advise you on site and recommend an economically efficient system which in terms of quality, function and reliability meets your requirements.

The right products

Developed and manufactured in-house



Optimally co-ordinated system

All components for your loading bay are available from a single source: Hörmann. Developed and manufactured in-house, Hörmann products are optimally co-ordinated, which ensures smooth loading and unloading at your loading bay.

Dock levellers
Loading houses
Dock seals/shelters
Industrial doors
Control systems
Dock and safety accessories

Proper planning

Loading technology inside the building or in front of it.

Loading technology inside the building

With interior solutions, energy is often lost through the dock leveller even when the door is closed. This leads to unnecessary energy loss in temperature controlled buildings, which can be prevented with the proper planning.

For such cases, Hörmann offers solutions with advance travel doors and insulated panels under the dock leveller. This minimises heat loss outside loading times.

For buildings that are not temperature controlled, the conventional fitting with a door mounted to the dock leveller is suitable.

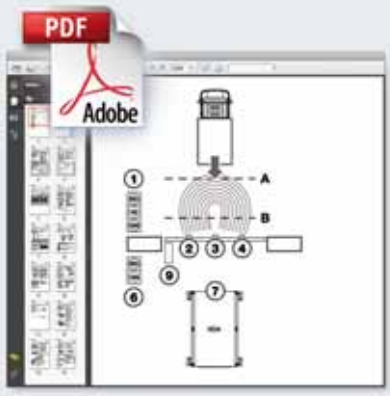
Loading technology in front of the building

In the external solution, the dock leveller is placed in front of the building in a loading house. The loading house acts as the door to the building, minimising energy loss, especially when no loading is in process.

A further advantage: The interior building space can be used entirely up to the door.
This solution is also suited for modernisation, as a complete loading bay can be added to the building without costly reconstruction measures.

Planning made simple with Hörmann

Hörmann offers you comprehensive planning aid – from detailed **planning documents** via the **energy savings compass**, up to descriptive **information and demonstrations** of special solutions on the Internet. Utilise the know-how of Hörmann to optimise your planning!



Planning documents with detailed information and drawings

Energy savings compass // NEW
Your interactive planning aid on the Internet at www.hoermann.co.uk

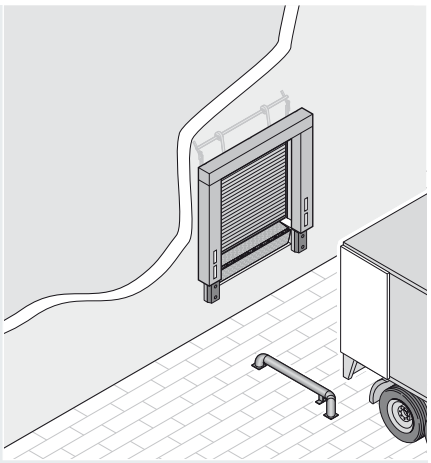
Information and demonstrations of special solutions such as the DOBO system are available on the Internet at www.hormann.co.uk

Logistics solutions inside the building

Example plans

Fleet with nearly equal loading heights.

Mechanical dock levellers are economic solutions whenever lorries with nearly identical loading heights are loaded and unloaded and no under-riding is required. In case of relatively low loading frequencies, we recommend using a manual rolling shutter as the buildingway door.

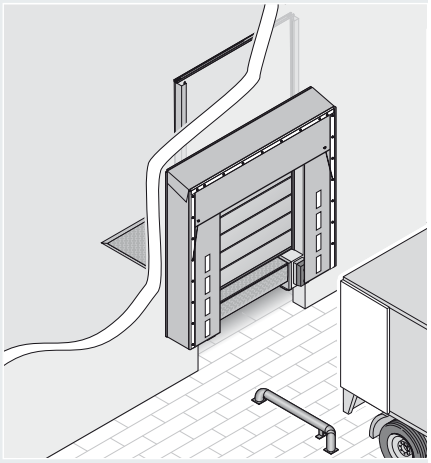


Recommended product

- Mechanical dock leveller MLS
- Manual rolling shutter
- Dock seal
- Buffer
- Wheel guide

Lorries with different loading heights.

If a loading bay is used by lorries with different loading heights, a solution with a hydraulic dock leveller is the best choice. A lorry tail lift can be moved underneath the dock leveller.

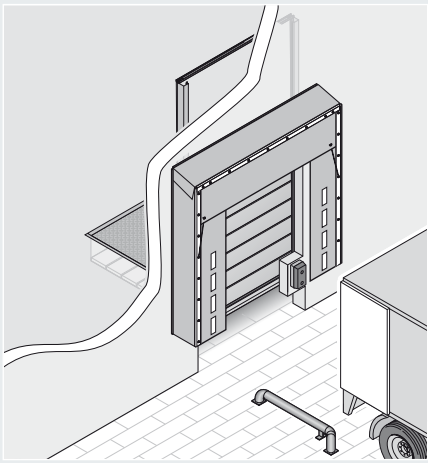


Recommended product

- Hydraulic dock leveller
- Industrial rolling shutter or sectional door
- Dock seal
- Buffer
- Wheel guide

Thermal insulation solution for temperature controlled buildings

Most of the time, goods are not being loaded at a loading bay and the door is closed. To minimise thermal losses during those periods, a double-skinned thermally insulated sectional door is positioned in front of the dock leveller and the dock leveller is additionally insulated on the underside by an insulation panel.

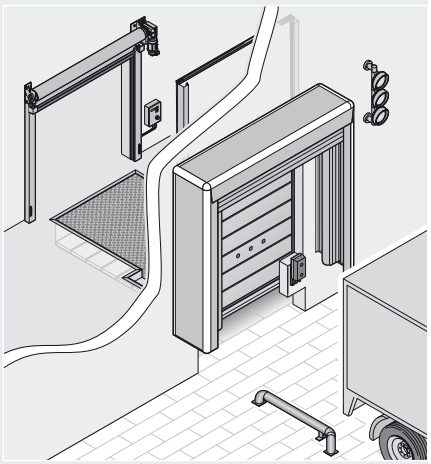


Recommended product

- Hydraulic telescopic lip dock leveller with extended lip
- Insulated dock leveller bottom side with insulated panel
- Industrial sectional door travelling in front of the dock leveller with a low U value
- Dock seal
- Buffer
- Wheel guide

DOBO system for refrigerated warehouses

To prevent any interruptions of the cold chain of refrigerated or frozen goods, the lorry doors are only opened after docking. The optimally co-ordinated Hörmann DOBO system offers a high degree of comfort and low energy loss. See page 39 for detailed information.



Recommended product

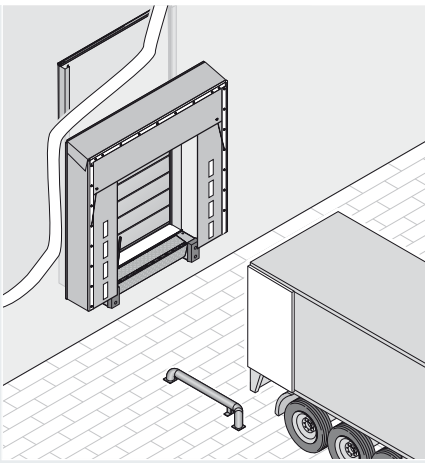
- Hydraulic telescopic lip dock leveller as DOBO version with extended lip
- Graduated ramp
- Insulated dock leveller bottom side with insulated panel
- Industrial sectional door travelling in front of the dock leveller with a low U value
- Flexible high-speed door
- Inflatable dock seal
- Height-adjustable buffer
- Docking Assistant HDA
- Wheel guide

Logistics solutions in front of the building

Example plans

Temperature controlled building and lorry with the same loading height

In this energy-efficient and inexpensive solution, the door travels down to the building floor and seals the door opening. The mechanical dock leveller is fitted in front of the building and bridges the difference to the lorry loading surface in case of small height differences.

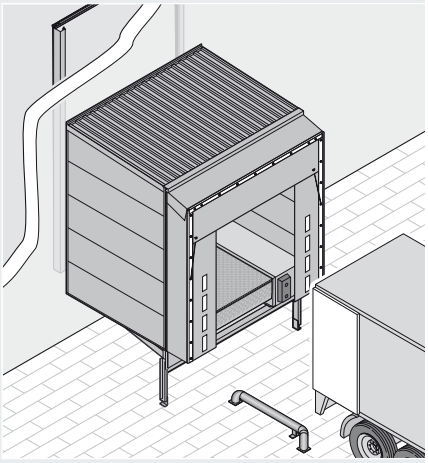


Recommended product

- Mechanical dock leveller MRS
- Industrial door with low U-value
- Flap dock shelter with 900 mm depth
- Buffer
- Wheel guide

Temperature controlled building with fully utilised space.

By moving the dock leveller in front of the building, the building can be completely utilised. The hydraulic dock leveller allows docking of lorries with different loading heights. In addition, the double-skinned insulated industrial door seals the building well.

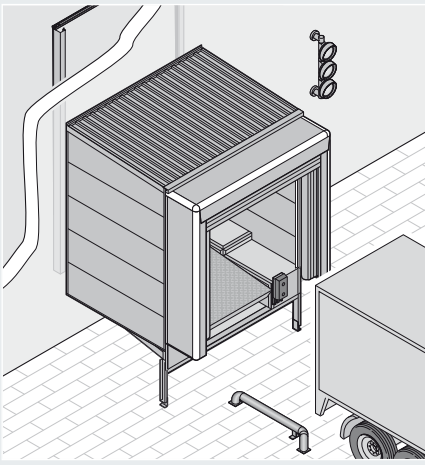


Recommended product

- Loading house with hydraulic dock leveller
- Industrial sectional door with low U-value as the door to the building
- Dock seal
- Buffer
- Wheel guide

DOBO system for safe loading

For customs goods and to prevent theft, with this system the lorry doors are only opened shortly before loading. The semi-trailer or swap trailer can remain docked to the loading bay unattended, e.g. overnight.

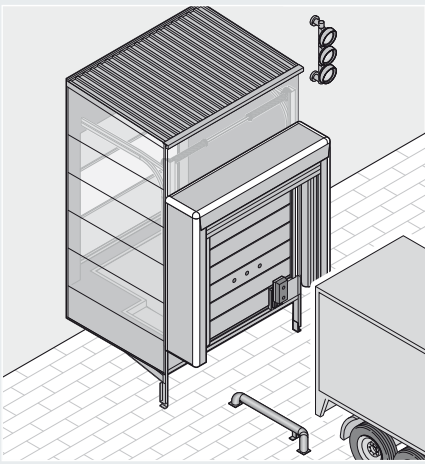


Recommended product

- Loading house with hydraulic telescopic lip dock leveller as DOBO version and with extended lip
- Graduated pedestal
- Industrial sectional door with low U-value
- Inflatable dock seal
- Height-adjustable buffer
- Wheel guide

DOBO system for refrigerated warehouses and effective building use

To fully utilise the floor space of a refrigerated warehouse, the DOBO system is combined with a thermal loading house. The industrial door closes the loading house from the outside. The expanded temperature controlled area is insulated efficiently through insulated panels on the exterior walls and under the pedestals, as well as the door travelling in front of the dock leveller.



Recommended product

- Thermal loading house with hydraulic telescopic lip dock leveller as DOBO version with extended lip
- Graduated pedestal
- Industrial sectional door with low U-value
- Flexible high-speed door
- Inflatable dock seal
- Height-adjustable buffer
- Docking Assistant HDA
- Wheel guide

Mechanical dock levellers

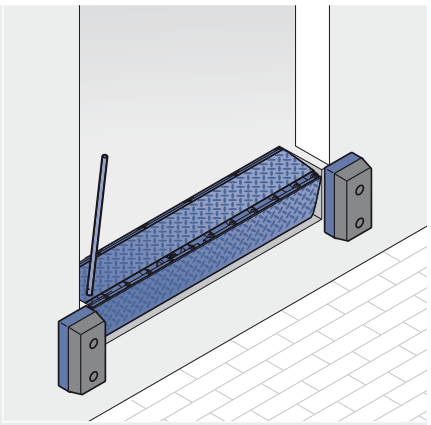
Manual operation with nearly identical loading heights.

In cases where lorries with almost identical loading heights are used, i.e. for uniform fleets, the proper planning of the dock height results in minimal height differences to the loading surface of the vehicles. With a standard rated load of 60 kN, the MLS and MRS mechanical dock levellers are able to meet most demands and are the most economic solution for such situations. They are simple to operate via a control bar and of course fulfil the requirements for dock levellers as stipulated in EN 1398.

Hörmann practical application tip: With MRS ramp houses, use a flap dock shelter (see model DSS) of at least 900 mm depth to bridge the depth of the side brackets and buffers.

Dock leveller MLS // NEW

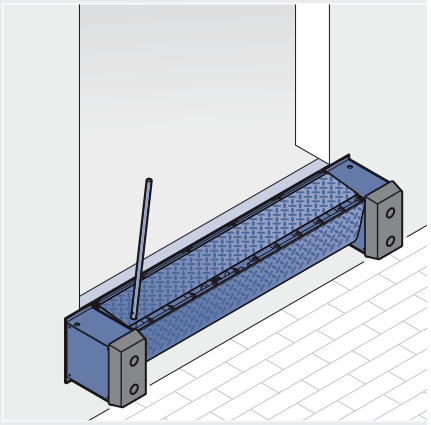
For fitting into a prepared pit recess in the building floor. The MLS dock leveller can be welded in quickly and easily. Optionally, it can be equipped with a cast box to be completely set in concrete during the construction phase.



Dock leveller MLS
Fitting in the building floor.

Ramp house MRS // NEW

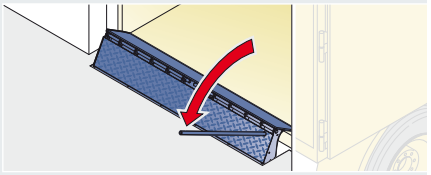
The entire ramp house with mechanical dock leveller and side brackets is simply positioned outside in front of the opening. It is quickly fitted without a recess in the building and can even be attached to existing ramps. The side brackets, arranged either vertically or horizontally, constitute the sub-construction for the buffer. They can be simply screwed onto the existing screw-in sleeves.



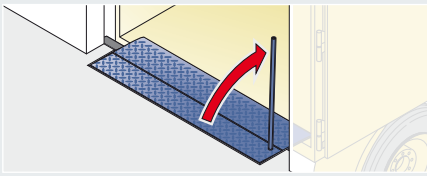
MRS dock leveller
Fitting in front of the building, either with vertical or horizontal buffer supports. Recommended dock shelter **DSS** with 900 mm depth

Working range

	MLS, MRS		
Ordering widths	1750 mm	2000 mm	2250 mm
Working range	With max. 12.5% gradient in accordance with EN 1398: 68 mm above dock level, 106 mm below ramp level		
Dock leveller length	approx. 735 mm		
Bearing surface	approx. 150 mm		
Support depth	Type MRS: 435 mm without buffers		

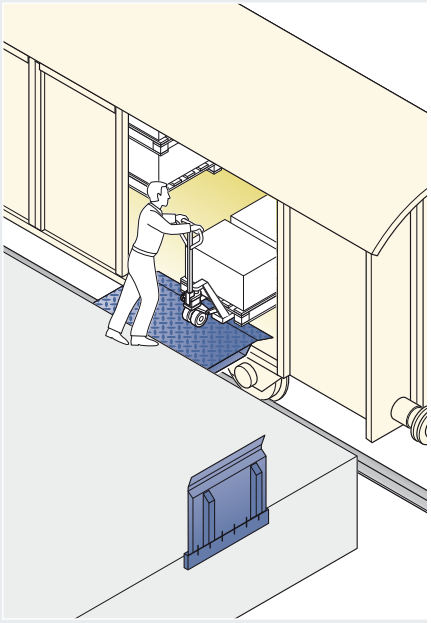


Easy operation via gas spring support



Bascule bridges

These dock levellers made of heavy duty corrosion-resistant aluminium are used for small to medium height differences and can be operated by a single person.
For side loading and unloading of lorries and railway cars, sideways shifting versions are available.



Bascule bridges
sideways shifting for fitting to ramps

Hydraulic dock levellers

Comfortable operation with great levelling

Hydraulic dock levellers are available as hinged lip or telescopic dock levellers. With a length of up to 5 metres, they can bridge large height differences between the ramp and the lorry loading level. Up to a size of 2000 × 3000 mm, the dock leveller platform is made of a single piece. Longer dock levellers are connected by a stable, continuous weld seam. **All Hörmann dock levellers comply with the requirements of EN 1398.**

Standard equipment

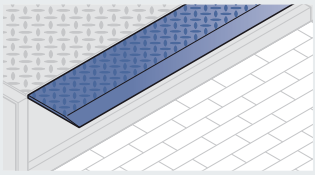
Rated load/carrying capacity
Hörmann dock levellers have a carrying capacity of 60 kN as standard (rated load according to EN 1398). Higher rated loads, even up to 180 kN for the HLS-2, are available upon request.

Gradient/slope
See “Determination of the levelling” on page 20
(acc. to EN 1398 max. 12.5% allowed).

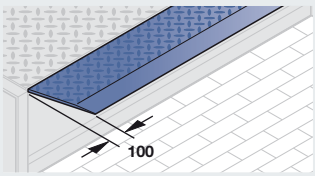
Surfaces
Moulded, slip-resistant steel, shot-blasted or anodised and coated with two-component PU varnish. Optionally also available completely galvanised.

Colours
Ultra marine blue (RAL 5002) or Traffic black (RAL 9017), other colours based on RAL available upon request.

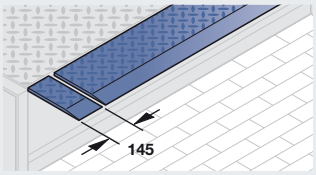
Lip shapes



Type R, straight
Standard for up to 2000 mm ordering width



Type S, angled
Standard for more than 2000 mm ordering width



Type SG, with separate lip segments to accommodate different lorry widths (for telescopic lip dock levellers 170 mm wide and retractable)

Special equipment

Anti-slip coating
For increased anti-slip requirements (class R11 according to DIN 51130). The anti-slip coating is applied on moulded material. This ensures that even in case of damage, the anti-slip requirements of EN 1398 continue to be complied with.

Noise reduction
This additional coating on the platform and lip reduces the contact noise and thus creates a pleasant work environment.

Gap sealing
For dock levellers that are fitted inside the building, we recommend gap sealing. When the dock leveller is not active, it seals the side gap and prevents drafts as well as the escape of warm air.

Quality features

Safety
2 hydraulic cylinders ensure the balanced, reliable and, most importantly, safe operation of the dock leveller. It comes equipped with emergency-stop valves.

Longevity
The combination of material thickness and reinforcement on the platform bottom prevents deformations (track grooves) beyond the degree required by EN 1398.

Constantly safe operation
The front beam not only constitutes a stable, self-supporting design but also protects the dock leveller technology in case of accidental imprecise underneath docking.

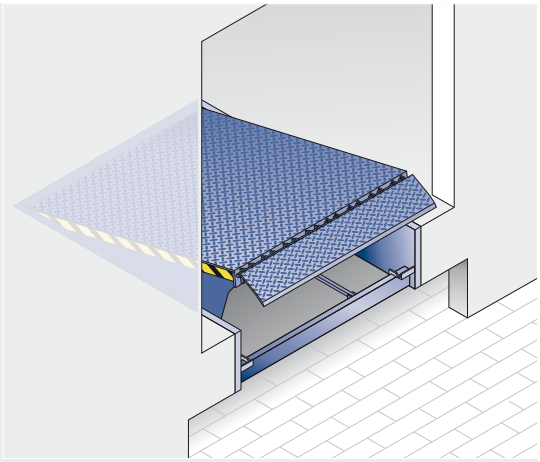
Hydraulic hinged lip dock levellers

Optimal height adjustment for goods of all kinds

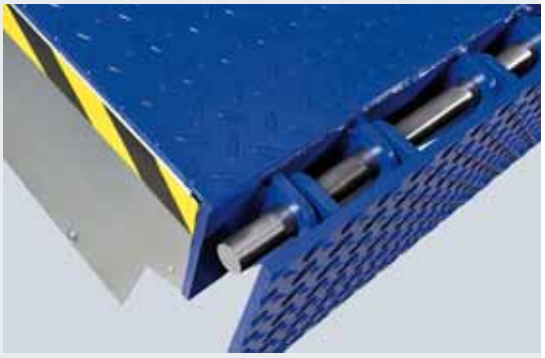
The electronic hydraulic system moves the platform to the highest position and then automatically extends the hinged lip. The platform is then lowered until the hinged lip is placed on the loading surface. Now the lorry can be quickly and safely loaded and unloaded. Particularly strong hinges and the continuous hinge band guarantee reliable functioning. The open design keeps the hinges free of dirt.

For especially heavy goods, for example when loading paper, the hinged lip dock leveller is also available for rated loads up to 180 kN.

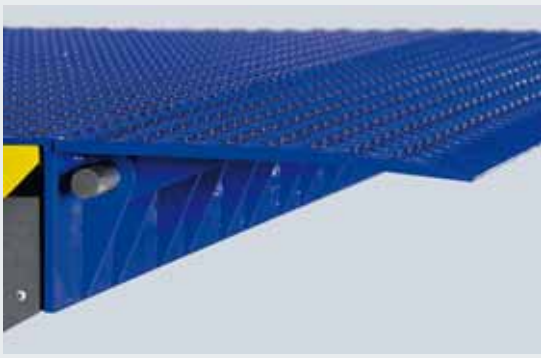
At least 100 mm of the lip must rest on the loading surface of the lorry, according to EN 1398. Due to their hinge design, the effective levelling of hinged lip dock levellers is lower than the lip length (e.g. 330 mm levelling with a 405 mm long standard lip). In addition, the positioning depth is also affected by the depth of the buffer and potential lorry buffers.



Hinged lip dock levellers
With 405 mm long lip as standard, optionally also up to 480 mm.
Rated loads up to 180 kN are available upon request.



Hinged lip hinge
The open construction prevents the accumulation of dirt, such as splints, in the hinge.



Flat transition
from the platform to the lip enables safe loading of shock-sensitive goods.

Sturdy steel construction
Anti-twist dock leveller design with 2-cylinder technology, platform and hinged lip made of moulded anti-slip steel.
Thickness:
Platform 6/8 mm, hinged lip 12/14 mm with gradient.

Hydraulic telescopic lip dock levellers

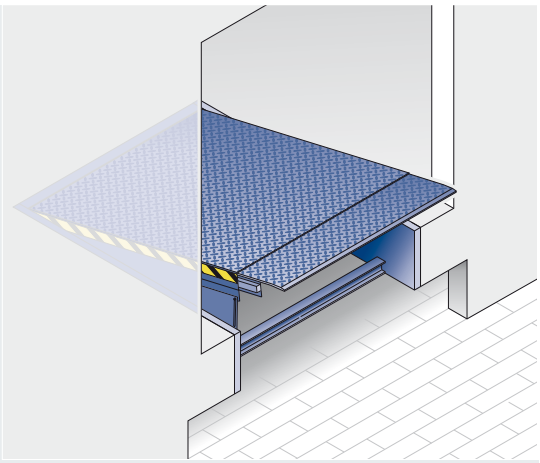
Precise levelling, even with great distances from the lorry loading area

The continuous and to the centimetre precise extending and lowering of the dock leveller's telescopic lip allows simple and safe unloading of even fully loaded lorries. This way, even pallets that are situated at the end of the vehicle's loading surface and thus only provide limited telescopic lip space, can be loaded.

The design with interleaved beams of the platform and telescopic lip as well as side plastic runners, ensures regular and reliable guiding.

The telescopic lip can be extended and retracted in a targeted manner via separate control buttons, and can be placed precisely and controlled on the loading surface. Marks on the telescopic lip indicate the minimum and maximum positioning depth.

The telescopic lip has a length of 500 mm as standard. Longer versions are also available. These are required, for example, when the dock leveller is located behind the door construction.



Telescopic lip dock leveller
With a 500 mm long telescopic lip as standard. On request, also available with 1000 mm or 1200 mm long telescopic lip.

Robust telescopic lip
The telescopic lip with a robust front lip is reinforced throughout. The contact surface is made of a single piece.

Flat transitions
from the platform to the telescopic lip and to the loading surface ensure safe loading.

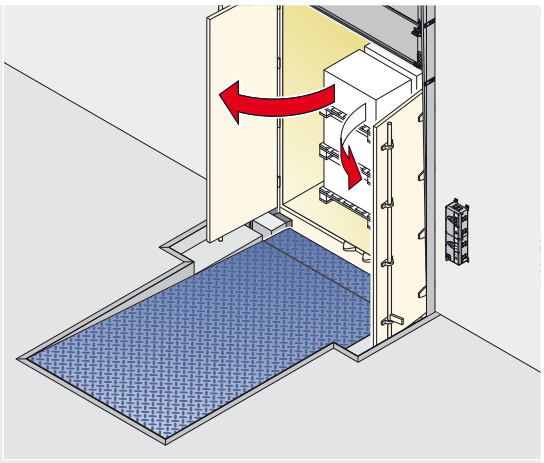
Sturdy steel construction
Anti-twist dock leveller design with 2-cylinder technology, platform and telescopic lip made of moulded anti-slip steel.
Thickness:
Platform 8/10 mm, telescopic lip 12/14 mm, with gradient.

Hydraulic telescopic lip dock levellers

For special requirements

Telescopic lip dock leveller, DOBO version

Dock first and then open the dock door and the lorry doors, that is the basic principle of the DOBO (docking before opening) system. The basis of the Hörmann DOBO system is a telescopic lip dock leveller with an 1000 mm long telescopic lip in a chamfered normal position. See page 39 for detailed information.



Telescopic lip dock leveller DOBO version

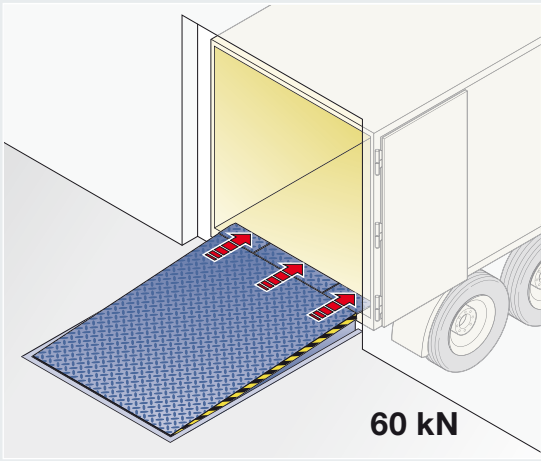
Dock leveller with 3-part telescopic lip for lorries and transit vans

The advantage of the HTLV-3 dock leveller with a 3-part telescopic lip: You can load and unload lorries and delivery vans at the same ramp.

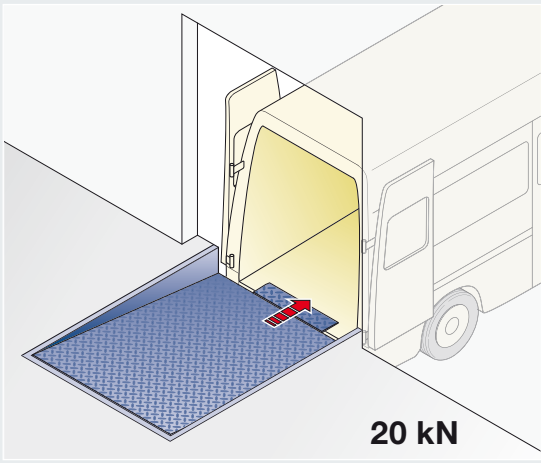
The entire width of the telescopic lip (approx. 2000 mm) can be continuously extended for lorries. With a rated load of max. 60 kN, the HTLV-3 can be used like a conventional dock leveller.

A simple switch on the control lets you extend the centre section of the telescopic lip, while the side parts remain mostly behind, making it ideal for delivery vans. An intelligent hydraulic system provides the necessary weight compensation to relieve the load on the van. The dock leveller follows the movement if the loading floor of the delivery van lowers during loading. This ensures proper positioning at every point. The dock leveller can be loaded by up to 20 kN in accordance with EN 1398.

Not every forklift is suitable for the resulting gradient. A longer dock leveller ensures a more favourable angle. Let us advise you!



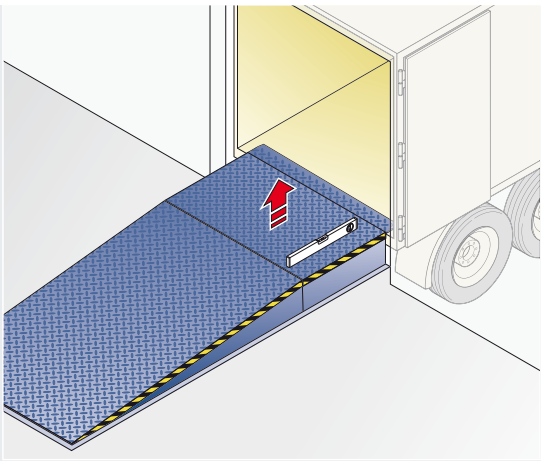
Telescopic lip dock leveller HTLV-3



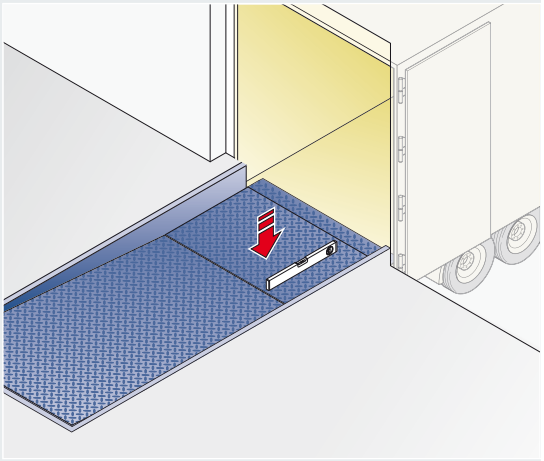
Telescopic lip dock leveller HTLV-3

Telescopic lip dock leveller with parallel joint

With this parallel joint in the front part of the dock leveller, the transport vehicle also moves horizontally into the lorry. This way, high goods can be loaded with a forklift or the first pallet be moved easily with a simple pallet jack.



Telescopic lip dock leveller HTLP-2



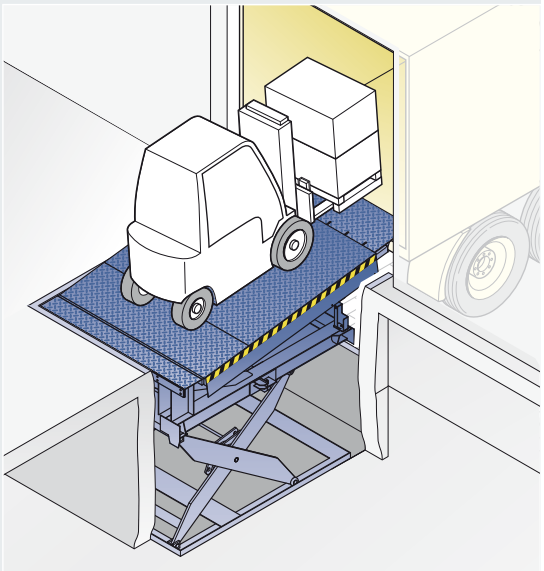
Telescopic lip dock leveller HTLP-2

Telescopic lip dock leveller combined with a scissors lift table

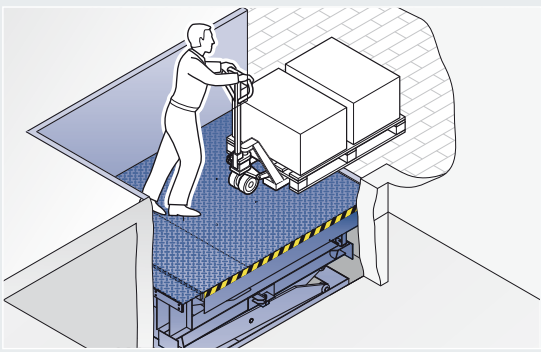
If there is insufficient space for a loading bay, a lift leveller can be the suitable solution to ensure quick and efficient loading processes.

For loading and unloading a lorry, the lift leveller functions like a conventional hydraulic telescopic lip dock leveller. The lift leveller is available with a 500 or 1000 mm telescopic lip.

With the scissors lift table, the dock levellers is lowered to roadway level, allowing the goods to be moved quickly and easily from this level to the building floor.



Lift leveller Telescopic lip dock leveller combined with scissors lift table

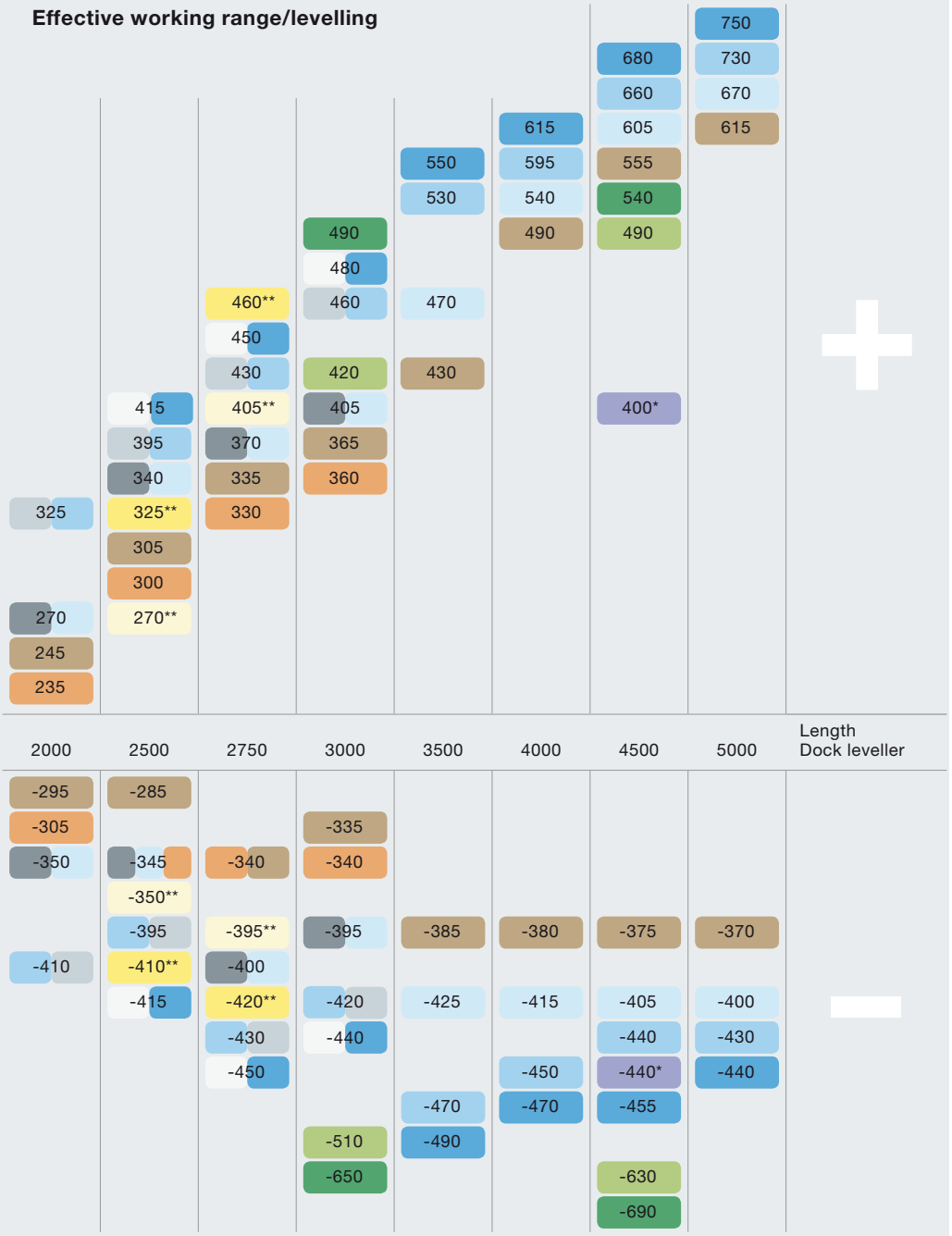


Hydraulic dock levellers

Working range, levelling, dimensions

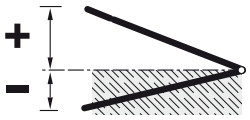
Hörmann practical application tip:
A slope below the level is always better than a slope above the level! Faster loading and unloading and lesser loads.

Effective working range/levelling



HTL-2 With telescopic lip 1200 mm
HTL-2 With telescopic lip 1000 mm
HTL-2 With telescopic lip 500 mm
HRT With telescopic lip 1200 mm
HRT With telescopic lip 1000 mm
HRT With telescopic lip 500 mm
HLS-2 With hinged lip
HLS/HRS With hinged lip
HLL With telescopic lip 1000 mm
HLL With telescopic lip 500 mm
HTLV-3 With telescopic lip 1000 mm
HTLV-3 With telescopic lip 500 mm
HTLP-2 With telescopic lip 500 mm

* Length 4700 mm



** Lift leveller HLL values and length based on its function as a dock leveller. Levelling as a scissors lift table 1250 mm, overall length: Length of dock leveller + 250 mm.

Dimensions

	Ordering size Dock leveller		2000	2500	2750	3000	3500	4000	4500	5000	Ordering width Dock leveller
Installation heights	Hinged lip dock levellers	HLS	**650**	**650**	**650**	**650**					**2000, 2100, 2250**
		HLS-2	**595**	**595**	**645**	**645**	**745**	**745**	**745**	**745**	
	Telescopic lip dock leveller	HTL-2	**595**	**595**	**645**	**645**	**745**	**745**	**745**	**745**	
		HTLV-3				**795**			**895**		**2000**
		HTLP-2							**900***		**2400**
	Lift leveller Total length: Dock leveller length + 250	HLL		**1085**	**1120**						**2000, 2100, 2250**
Ramp height	Hinged lip loading bay	HRS	**910 - 1350**								**2000, 2100, 2250 overall width 3500 mm**
	Telescopic lip loading bay	HRT	**1050 - 1425**								**2000, 2100, 2500 overall width 3500 mm**

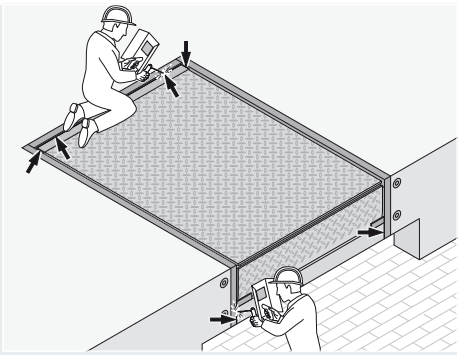
All dimensions in mm

Hydraulic dock levellers

Fitting variants in the building

Weld on the back and the front

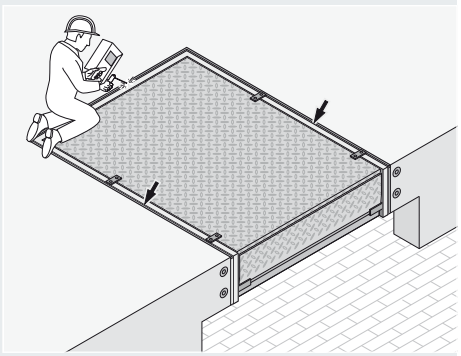
The dock leveller is placed in an existing concrete opening that is already equipped with edge brackets. This fitting variant is also suited for the renovation of loading bays.



Weld on the back and the front

3-sided welding in a preassembled frame

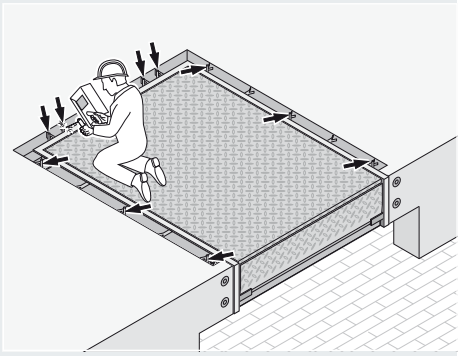
With this fitting variant, a so-called preassembled frame is cast in during the construction phase, into which the dock leveller is welded on 3 sides at a later date. The base frame of the dock leveller is equipped with an edge bracket for this purpose.



3-sided welding in a preassembled frame

Casting into a pit with a casting groove

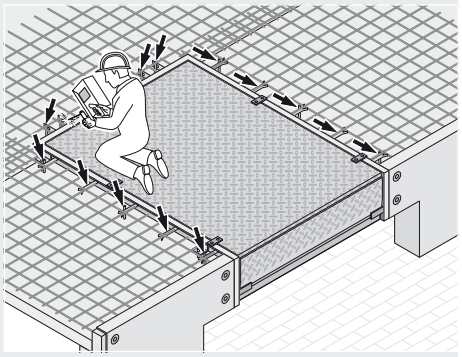
There are many methods for casting a dock leveller. One of them is fitting it into a pit with a casting groove. Hörmann dock levellers HLS-2 and HTL-2 are available with a base frame, which is equipped with the required edge bracket and anchors. The groove should not be too narrow in order to allow sufficiently stable anchoring, especially in the hinge area. Joint armouring can lead to a sufficient, stable joint to the neighbouring concrete surfaces.



Casting into a pit with a casting groove

Casting with prefabricated concrete elements

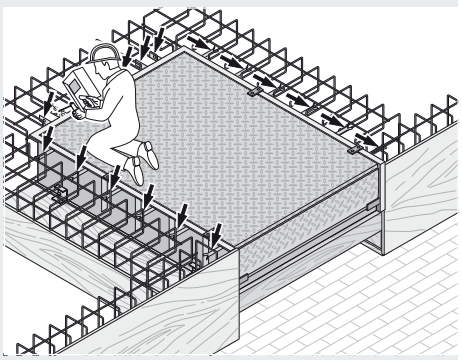
When constructing a building with many loading bays, it is common practice to use pre-fabricated concrete elements. In such cases, Hörmann dock levellers HLS-2 and HTL-2 can be easily fitted in the construction phase. For this purpose, the base frame of the dock leveller is equipped with an edge bracket and anchors. The anchors can be either welded to the armour or to rowlocks prior to casting the dock leveller. This results in a continuous concrete cover.



Casting with prefabricated concrete elements

Casting with timber base construction

The fitting of the dock leveller takes place via formwork. The dock leveller is delivered with a cast box, i.e. the self-supporting base frame is closed on 3 sides and equipped with edge brackets and anchors.



Casting with timber base construction

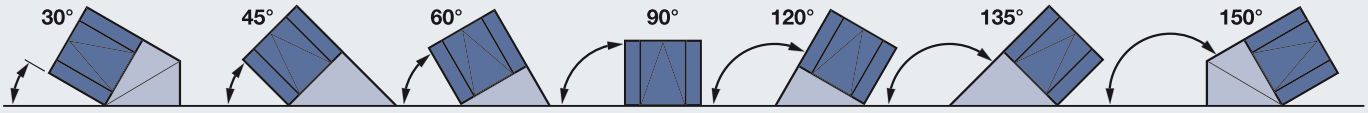
Loading houses

The loading unit in front of the building

Loading houses are placed in front of the building. This means that the entire building space can be used, right up to the exterior walls. The building door extends to the building floor not on top of the dock leveller, but behind it.
This way, the door opening is optimally insulated, especially outside loading times. Loading houses are also suited for modernisation, as a complete loading bay can be added to the building without costly reconstruction measures.

Loading houses can be used as single loading bays or as a series positioned in a 90° angle in front of the building. They are also available for arrangement at angles of 30°, 45°, 60°, 120°, 135°, 150° for more manoeuvrability.

Adjustable pedestal feet
Height-adjustable supports allow adjustment of the pedestal level, even subsequently (e.g. after lowering of the building). Pedestal feet are always galvanised.



Hörmann practical application tip: To determine the correct dimension of the design it is important that you provide us with the snow load for the construction location.

Loading house for on-site cladding

Any suitable cladding can be applied on the frame construction on-site, which is recommended when the building's facade should also determine the appearance of the loading house.

Loading house with 40 mm panels.

Cladding with double-skinned steel panels not only protects goods and staff from the adverse effects of the weather, but also decreases the noise transmission during loading, resulting in a better work climate.

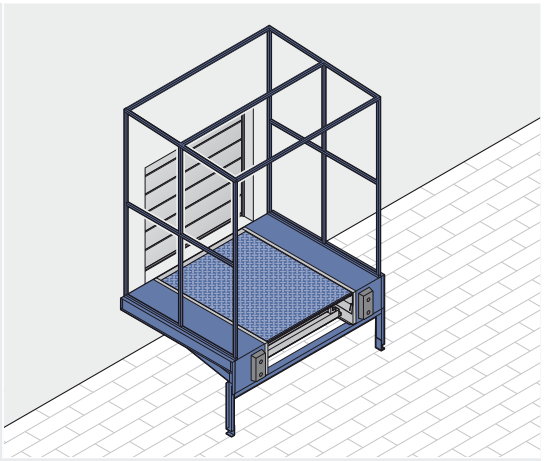
Thermal loading house with 80 mm panels

When the loading house is part of the cooling zone, special equipment is required. Hörmann thermal locks are equipped with 80 mm thick sandwich panels on the ceiling and walls as well as below of the dock leveller. In thermal locks, the external door, preferably a sectional door with maximum thermal insulation, is located inside the loading house. For the times between loading processes, a high-speed door is recommended for the building entrance.

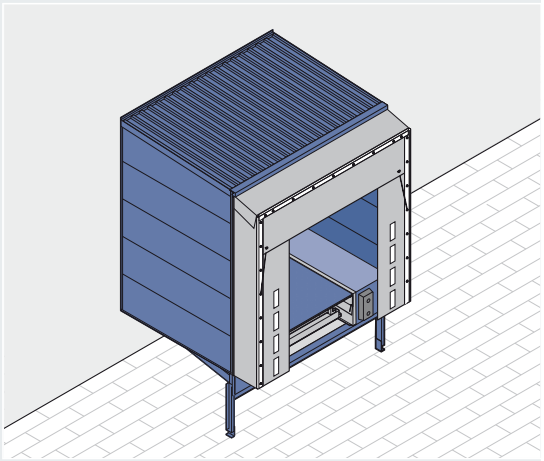
Thermal locks have to be de-humidified effectively. All gaps must be sealed. This should be handled by a specialist company for cooling and refrigeration technology.

Element assembly arrangement

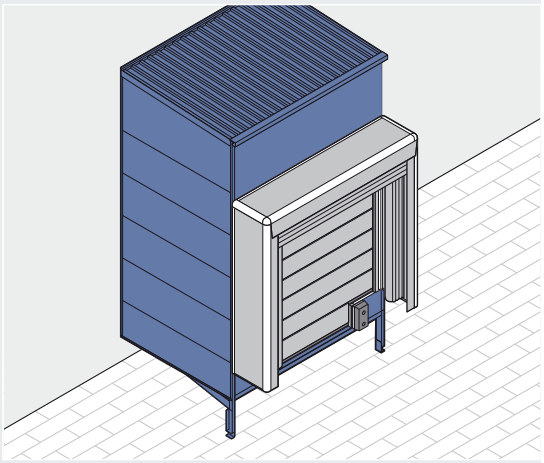
Arranged as a series with a 90° angle, several loading houses can be combined into a single compact space-saving unit.



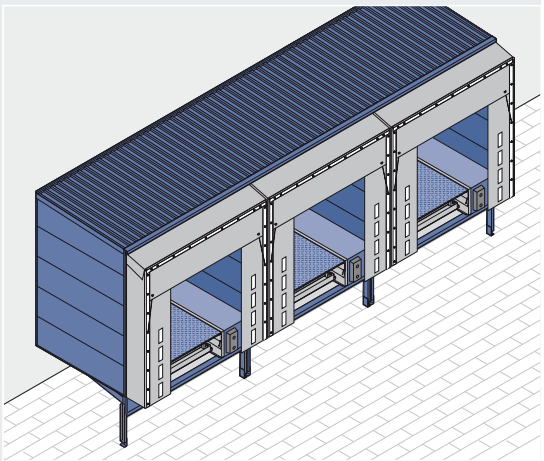
Loading house for on-site cladding made of steel for customized requirements



Loading house with 40 mm PU-foamed sandwich panels



Thermal loading house with 80 mm panels. Insulated all-round suitable for refrigeration warehouses



Element assembly arrangement, the space-saving solution

Flap dock shelters

Universally applicable

Hörmann flap dock shelters adjust to the lorry's size and can thus be used universally. They are available in many variations and can therefore be optimally customised to most situations. High-quality top and side flaps, mounted on a galvanized, compressible steel frame, result in a stable, flexible and tear-resistant construction.
Flaps and frame parts are manufactured as easy-to-assemble individual elements that can be screwed together. This also makes replacements simple and inexpensive.

Flap dock shelters

The lorry determines the dimensions

Ask yourself:

- How high is the loading bay?
- How wide and how high are the docking vehicles?
- Do different lorry sizes have to load at the same loading bay?
- What type of goods are loaded?

Use the table below to carefully determine the required size of the front opening. This is the only way to achieve optimal sealing.

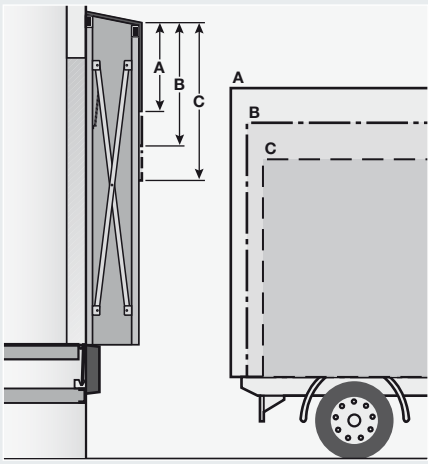
Ideally, the dock seal is 850 mm higher and 1000 mm wider than the lorry.

While a long top flap ensure good sealing even with smaller lorries, it hangs over the loading opening of high vehicles. An overlap of approximately 150 mm is ideal.

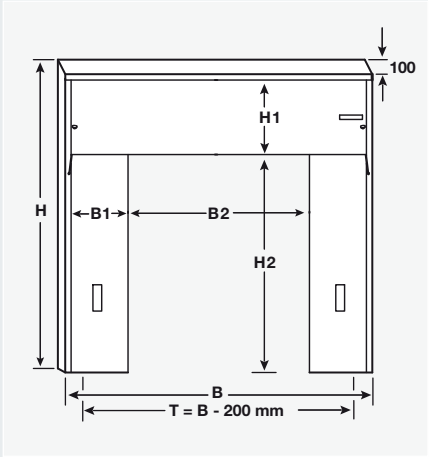
The correct combination of flap width and depth results in optimal sealing. In Hörmann dock seals, a depth of 500 mm has been tried and tested in practical application. If required by the customers, dock seals are also available with 600 mm depth, type DS even with a depth of 900 mm, which is ideal, for example, for MRS mechanical dock levellers that are fitted in front of the ramp.

Standard widths: 3350/3500 mm
Standard heights: 3500/3750 mm
(Roadway model 4500 mm high)

For fitting the dock seal, the door opening may have the following maximum dimensions:
Door width = Width of the dock seal – 200 mm
Door height = Height of the dock seal – 100 mm



A B C
Adjust the height of the top flap to the vehicle height. Optimal: 150 mm overlap.



B Width
B 1 Side flap
B 2 Front opening
T Door

H Height
H 1 Top flap
H 2 Front opening

B Dock shelter width		DS		DT	DDF
	B1 side flap	600	700	650	600
3300	B2 front opening	-	-	-	2100
3350		2150	1950	2050	-
3400		-	-	-	2200
3500		2300	2100	2200	-
Front opening width = dock seal width – (2× width of side flaps)					

H dock seal height		DS/DT			DT	DDF
	H1 top flap	900	1000	1200	1350	1000
3500	H2 front opening	2500	2400	2200	2050	2450
3750		2750	2650	2450	2300	-
4500*		3500	3400	3200	3050	-
Front opening height = Dock seal height – Top flap height – 100 (drainage)						

*Roadway model

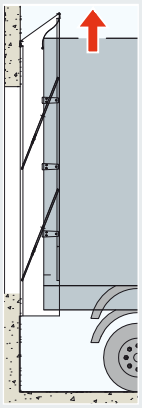
all dimensions in mm

Flap dock shelters

Flexible frame construction

Link arm design

Due to their special frame profiles, link arms are flexible both horizontally and vertically.



Only from Hörmann

Optionally, Hörmann offers a patented solution with telescopic link arms and flexible front frame (DSL-H).
This version minimises the risk of damage to the top edge of the dock seal, which may result from the raising of swap trailers during their placement or from high docking lorries whose loading surface or superstructure is raised during loading.

Scissors arm design

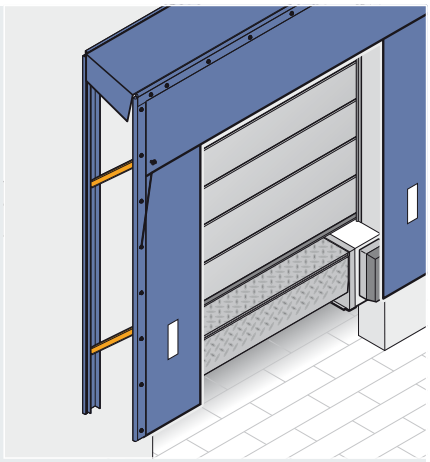
The particularly stable scissors arm design with tension springs is pressed in parallel and once more tightens the tension of the cladding after the loading process. It also enables driveway or recessed versions.

Reinforced top flaps

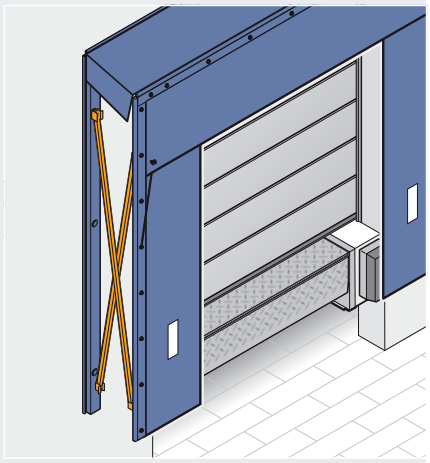
The top flap of the dock seal bears particularly heavy loads and is therefore reinforced. On request, you can also receive the top flap for the dock seal DS also with lateral cuts to reduce the load during docking. In the scissors arm design we also optionally provide the top flap sectioned with 100% overlap across the entire width.

Save energy with corner sealing cushions

To seal the bottom edge of the dock seal between the wall connection and flap, as a further option corner sealing cushions can be fitted.



Link arm design
Optional with telescopic link arms and flexible front frame.



Scissors arm design
Optionally also as a roadway or recessed model

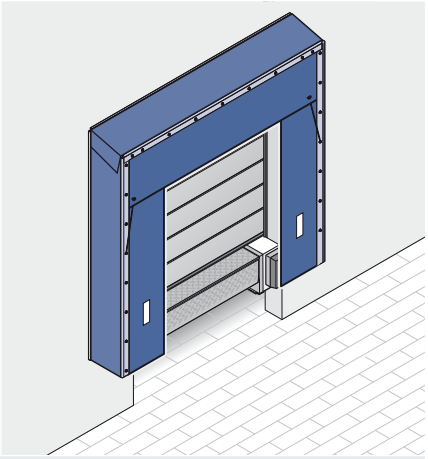
Optional:
Cut top flap

Optional:
Corner sealing cushions

Hörmann practical application tip: Equip the docking zone with wheel guides. They ensure that the lorries always dock correctly, allowing the flap shelter to seal properly and collision damage is prevented.

Dock seal DS

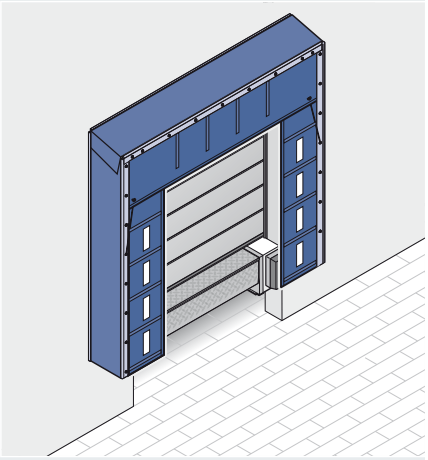
For normal loading frequencies we recommend the dock seal DS. The side and top flaps consist of 2-layered, 3mm-thick substrate fabric made of polyester monofilament threads with double-sided UPVC coating. For docked lorries, the monofilament threads in the flap material ensure the necessary pre-tensioning/seal of the lorry's reverse side. If the vehicle heights differ greatly, a top flap with a corner incision or a fully sectioned top flap can be a good choice to prevent excessive tension of the top flap with high vehicles.



DS
Standard widths: 3350/3500 mm
Standard heights: 3500/3750 mm
Roadway model 4500 mm high
Optionally as a recess model.

Dock seal DT

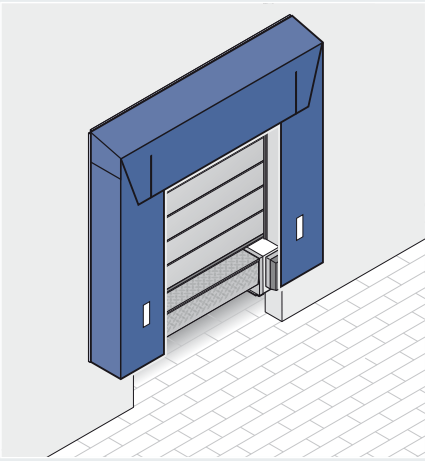
In warehouses where loading takes place around the clock, the dock seal DT with its particularly high-quality flaps is the right choice. The flap material consists of high-frequency welded 2 mm thick polyester with a special woven inlay that is coated with UVPC on both sides. Steel leaf springs are integrated in the top and side flaps to ensure a high degree of pre-tensioning and accordingly good sealing towards the lorry.



DT
Standard widths: 3350/3500 mm
Standard heights: 3500/3750 mm
Roadway model 4500 mm high.

Dock shelter DDF

Thanks to its especially tearproof flaps made of foam-filled side cushions, the DDF dock shelter is an alternative to flap dock shelters with link or scissor arms. The foam-filled side cushions are simply pressed in the case of inexact docking or move off to the side without any damage. The side and top flaps consist of 2-layers, 3mm-thick substrate fabric made of polyester monofilament threads with double-sided UPVC coating.
The top part is upwardly mobile, e.g. when a docked vehicle is pumped up.



DDF
Standard widths: 3300/3400 mm
Standard height: 3500 mm

Colours

Top and side flaps	DS	DT	DDF
Graphite black, similar to RAL 9011	●	●	●
Basalt grey, similar to RAL 7012	●	●	-
Gentian blue, similar to RAL 5010	●	●	-
Marker stripes			
White	●	●	●
Yellow	●	●	-
Orange	-	●	-
Red	-	●	-
Side cladding			
Graphite black, similar to RAL 9011	●	●	
Basalt grey, similar to RAL 7012	-	●	
Gentian blue, similar to RAL 5010	-	●	

Inflatable dock seals

Flexible sealing without restriction to the door opening area

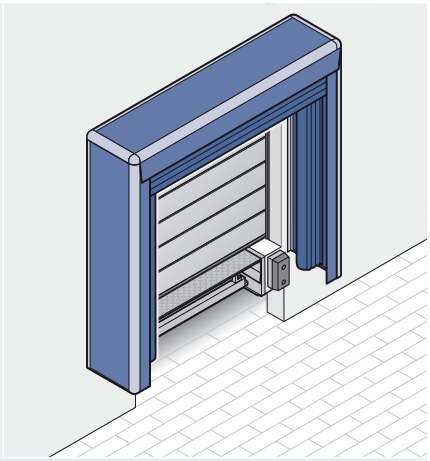
Lorry or flatbed can be docked to the loading bay with closed doors.

Before opening the door, the inflatable dock seal is activated and effectively envelops the vehicle. The doors of the lorry or the flatbed can be opened now.

Inflatable dock seals adjust particularly well to the different lorry sizes. The excellent seal mostly prevents the entrance of cold into heated buildings or of heat into refrigerated warehouses, saving energy. It envelops the vehicle without restricting the area of travel of the doors and is the optimal solution for specific situations, such as a DOBO system. After the loading process and switching off the fan, the cushions quickly withdraw via their interior tension cables and counter weights.

Dock seal DAS-3

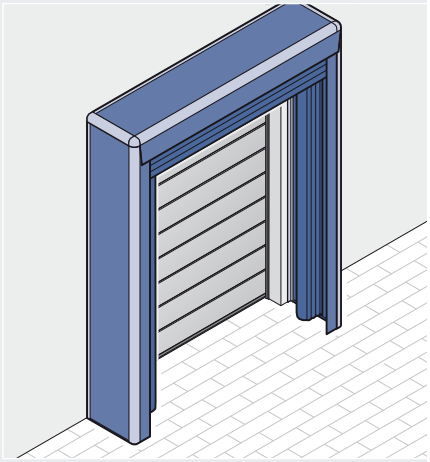
Only after the lorry has docked, the fan inflates the dock seal around the vehicle, fully sealing the loading area within a few seconds. This type of dock seal is especially recommended for DOBO systems, for refrigerated warehouses and extended loading times. It is available upon request with a roll curtain instead of an inflatable top cushion. Corner sealing cushions are included as standard in the scope of delivery, optionally also as inflatable versions. They seal the bottom section, between the wall connection and the side cushions.



DAS-3
3-sided inflatable dock seal
Optionally as a recess model
Standard size:
3600 × 3550 × 850 mm (W × H × D)
Front opening in the
normal position:
3100 × 3150 mm (W × H)
with inflated cushions:
2400 × 2550 mm (W × H)

Dock seal DAS-G-3 Roadway model

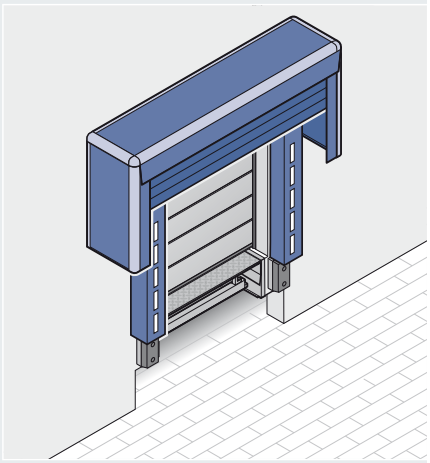
The roadway model allows unimpeded passage into the building with deflated cushions. It is available upon request with an electric roll curtain instead of an inflatable top cushion.



DAS-G-3
Roadway model
same as DAS-3
Standard size
3600 × 4700 mm × 850 mm
(WxHxD)
Front opening in the
normal position:
3100 × 4300 mm (W × H)
with inflated cushions:
2400 × 3700 mm (W × H)

Dock seal DAK-3

DAK-3 is an advantageous combination of fixed side cushions and inflatable top cushion with sandwich cladding. This dock seal is particularly suited for hanging goods. Foam-filled side cushions provide perfect lateral sealing. On top the inflatable top cushions keep the loading opening totally open to directly forward the goods on conveyor systems.



DAK-3
1-sided inflatable dock seal
with fixed side cushions
Standard size
3600 × 3500 × 350/850 mm
(W × H × D)
Front opening in the normal position:
2400 × 3100 mm (W × H)
with inflated top cushions:
2400 × 2500 mm (W × H)

Quality features

The roof and side cladding are made of insulated steel panels, 20 mm thick. They are available in a choice of White aluminium (similar to RAL 9006) or Grey white (similar to RAL 9002) with anodised aluminium corner profiles with a rounded softline look. The side and top flaps consist of 2-layered, 3mm-thick substrate fabric made of polyester monofilament threads with double-sided UPVC coating and protect the inflatable cushions. The cushions consist of weather-resistant flexible and high frequency-welded flap material in Graphite black (similar to RAL 9011).

Heavy-duty and elegant
Steel panel with aluminium corner profiles with a rounded softline look.

Cushion dock seals

Best solution for special areas of application

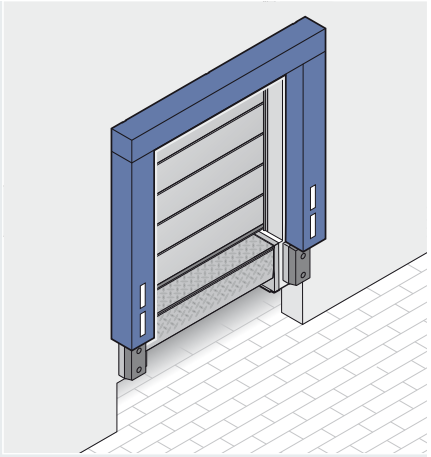
In warehouses where lorries or swap trailers with similar dimensions and designs are without top flaps, cushion dock seals are an excellent choice and offer the best sealing.

With cushion dock seals the gap between the outside of the container and the open door is sealed. However, this reduces the loading opening, which makes them unsuitable for lorries with top flaps.

Hörmann practical application tip: If the yard level is not at right angles to the facade, Hörmann offers special cushion designs that optimally seal the gap to the lorry.

Dock seal DFH

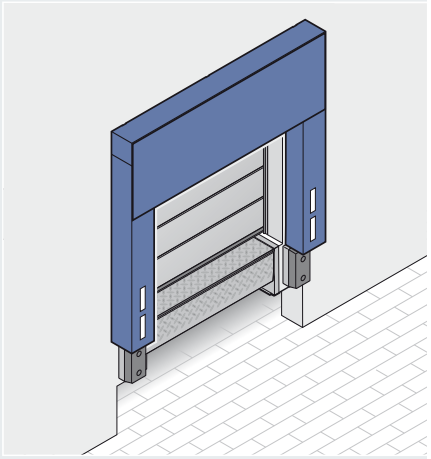
For loading and unloading the lorry drives up to the foam cushions with already opened doors. During the docking, the cushions may not be pressed-in more than 50 mm. Therefore it is important that the depth of the buffer has the right proportion to the depth of the cushions. With the help of support brackets, the difference can be simply bridged.



DFH
Dock seal with fixed side and top cushions
Standard size
2800 × 2500 mm (W × H)

Dock seal DFC

This dock seal with fixed side and top cushions and additionally fixed top curtain is suitable for smaller lorries with varying superstructure heights and for buildings with high loading doors.



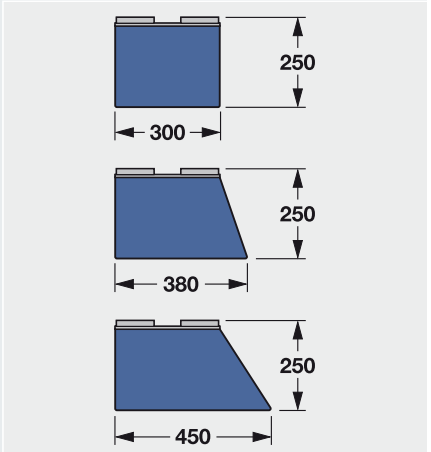
DFC
Dock seal with fixed side cushions, top cushion with additional top flap
Standard size
2800 × 3000 mm (W × H)

Cushions

The cushions are filled with PU foam. In conjunction with the sturdy base frame and the high-quality encasing made of woven plastic flaps the cushions constitute a durable unit. The contact surfaces of the cushions are additionally reinforced across their entire width by high-frequency welded polyester strips, which makes them low in wear and thus more durable.

Colours

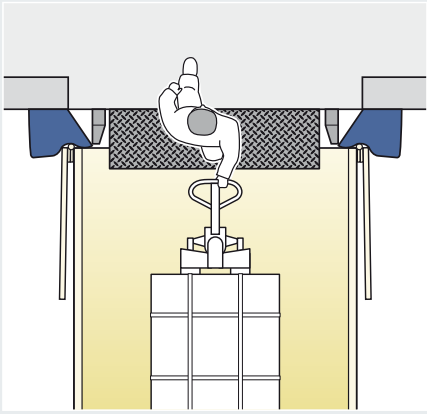
Top and side flaps	DFH	DFC
Graphite black, similar to RAL 9011	●	●
Marker stripes		
White	●	●
Yellow	●	●
Orange	●	●
Red	●	●



All dimensions in mm

Cushion shapes
straight shape

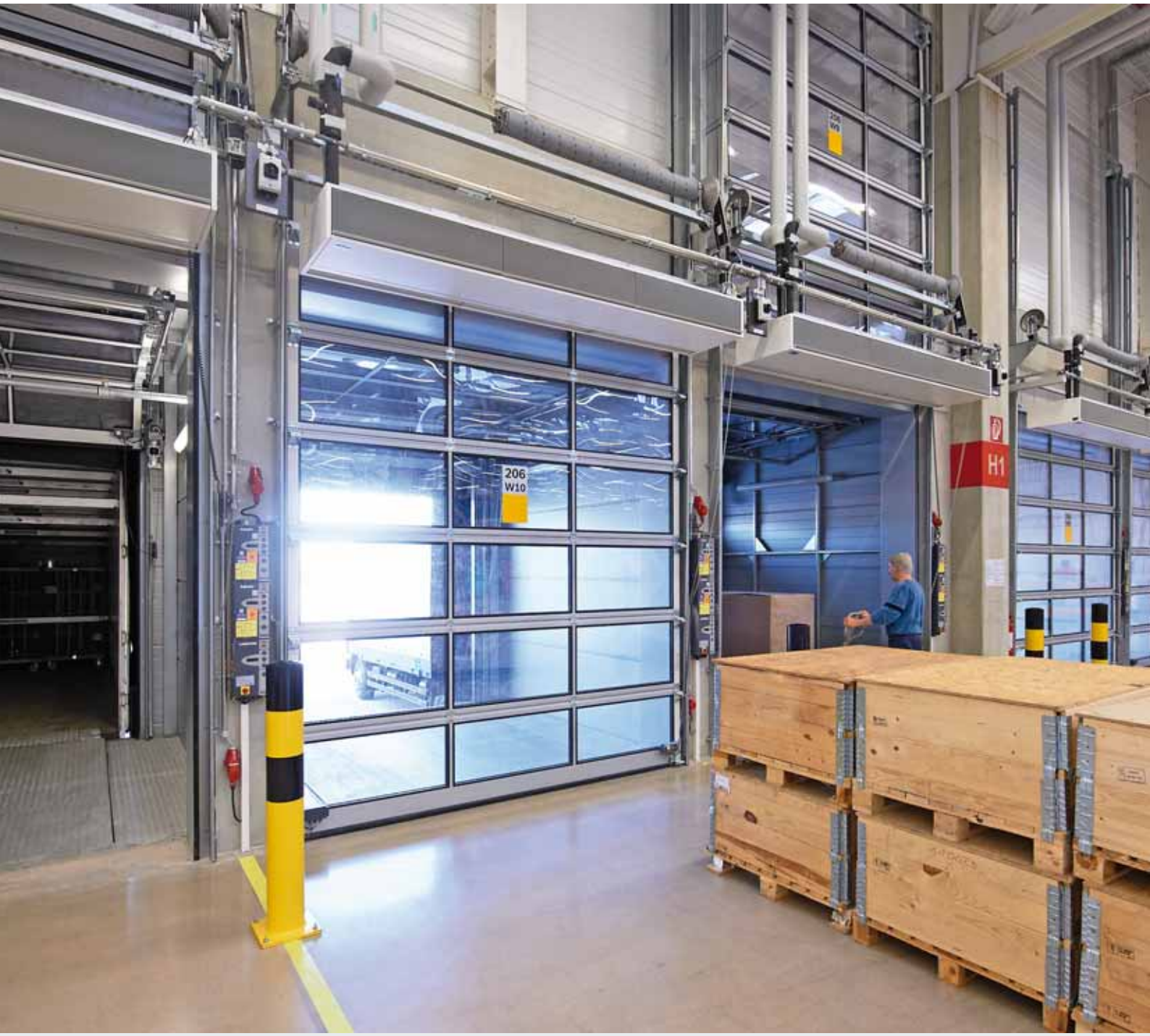
chamfered shapes (W)
(with side cushions)



With cushion dock seals the space between the outside of the container and the open doors is sealed.

Hörmann industrial doors

The complete programme for your logistics



By offering the widest range of products in Europe with numerous versions for all door styles, Hörmann is able to provide you with the perfect door for your specific requirements.

Cutting-edge door and operator technology from a single source ensures perfect function and the highest level of safety.

Hörmann practical application tip: High-speed doors are suitable not only as individual doors, but also in combination with sectional or rolling shutters to quickly close the opening after the forklift has passed through.

Industrial sectional doors

These space-saving door systems can be adapted to different industrial facilities using various track applications. This gives you planning reliability when building a new development or renovating an existing one. Hörmann offers you customised solutions for every type of application, such as high thermally insulated, double-skinned, 80 mm thick DPU doors with a U value of up to 0.48 W/m² K.

Rolling shutters and rolling grilles

Thanks to a simple construction with just a few components, rolling shutters are both economical and sturdy. Depending on your requirements, you can choose from different curtain and equipment variations. For example, the manual rolling shutter with innovative tension spring assembly technology is suitable for loading bays with low docking frequencies. The insulated rolling shutter Decotherm S with full-hard steel profiles is the correct choice for rough logistics operations.

High-speed doors

Hörmann high-speed doors are used as both internal and external doors to optimise the flow of traffic, improve room conditions and save energy. Your advantage: SoftEdge technology with built-in crash-protection makes flexible high-speed doors extremely safe and economical.

Further information can be found in the Hörmann brochures

Control systems

Compatible system solutions

From development to production, all Hörmann products come from the same source, making them optimally matched to each other. You benefit from a uniform operating concept with standardised housing sizes and similar cable sets for all dock levellers and door controls. Another advantage: If the dock leveller control is placed beneath the door control, both controls can be combined into a single compact unit.

Comfort function for simple operation

Double 7-segment display with operational and error display

- for comfortable menu readout and programming
- Service menu with maintenance, cycle, and operating hours counters, as well as fault analysis
- Readout of the last 5 error messages

Comfort telescopic lip operation
Two separate buttons for the extension and retraction of the telescopic lip allow comfortable and precise positioning on the loading surface.

Automatic impulse re-parking
With a single impulse the dock leveller is completely returned to its normal position. **With the respective equipment the door subsequently closes automatically.**

Integrated control of the dock seal
The operation of an inflatable dock seal or an electric top flap can be integrated into the dock leveller control.

Semi operation sequence control
The door opens automatically as soon as the door seal has been inflated or the electric top flap has been lowered. As soon as the dock leveller is returned to the normal position, the door closes automatically and the door seal switches off or the top flap extends.

	Hinged lip dock levellers			Telescopic lip dock levellers		
	Basic control	**Multiple controls**		**Basic control**	**Multiple controls**	
Control	**420 S**	**445 S**	**460 S**	**420 T**	**445 T**	**460 T**
Control in protection category IP 65 (jet-water protected)	●	●	●	●	●	●
LED operation indicator	●			●		
7-segment display with operational and error display		●	●		●	●
Prepared for the connection of wheel chock with sensor	●	●	●	●	●	●
Prepared for the dock leveller release function	●	●	●	●	●	●
Prepared for the door release function	○	●	●	○	●	●
Comfort telescopic lip operation				●	●	●
Automatic impulse re-parking		●	●	●	●	●
Integrated control button for dock seal			●			●
Automatic door close function		○	○		○	○
Semi operation			●			●
Expanded connection options		●	●		●	●

● as standard

○ with corresponding equipment

Expanded connection option for accessories

- Proximity switch for door release function
- Wheel chock with sensor
- Warning lights
- Photocell
- Ramp lights
- Driver registration

Door control 400 U

Compact control for Hörmann industrial doors with the WA 300 operator, also in combination with dock leveller controls.

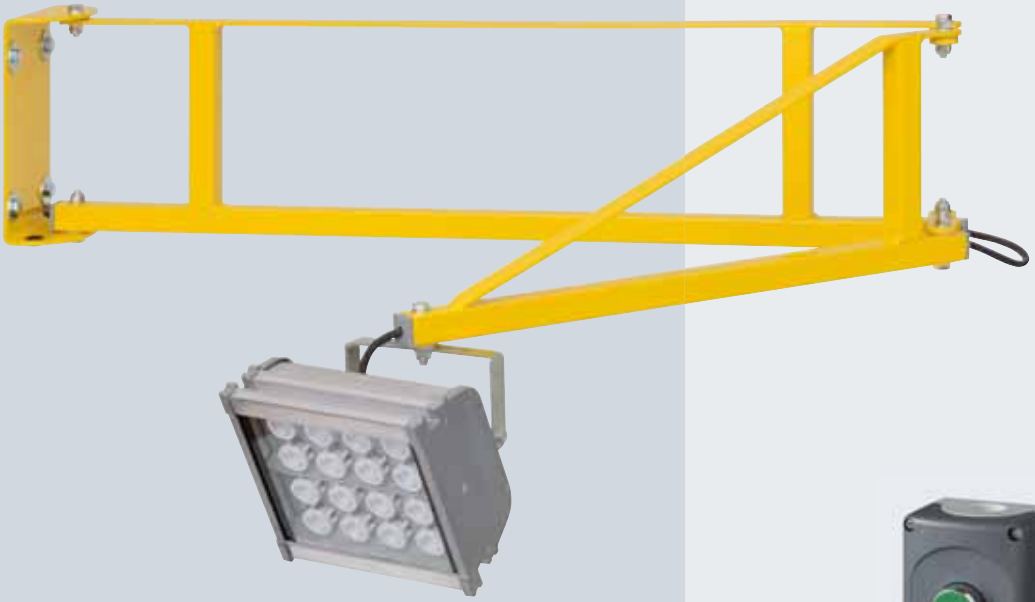
Safety features
Accessories

Wheel chock
A wheel chock prevents the lorry from leaving the safe docking position during the loading process, e.g. by braking of the forklift when driving in or out

Wheel chock with sensor
To ensure that the wheel chock is used properly, we recommend the version with a sensor. This can be connected to every Hörmann dock leveller and releases the dock leveller with the correct contact. In addition to the optical sensor, the Hörmann wheel chock contains a location sensor that prevents manipulation, for example by turning of the wheel chock.

Warning lights/ signal systems
are a practical addition on the interior and exterior of the loading bay. They signal, for example, when loading can take place or whether the driver can move away from the loading area. They also warn from safety risks.

Alarm horn
provides acoustic warning from safety risks



Docklight
Docklights provide a safe and bright work environment and good illumination of the loading area. In addition to widely available halogen versions, Hörmann also offers energy-saving LED docklights.

Button DT 1
for additional functions, such as driver registration.

Docking Assistants

Safe start-up and docking

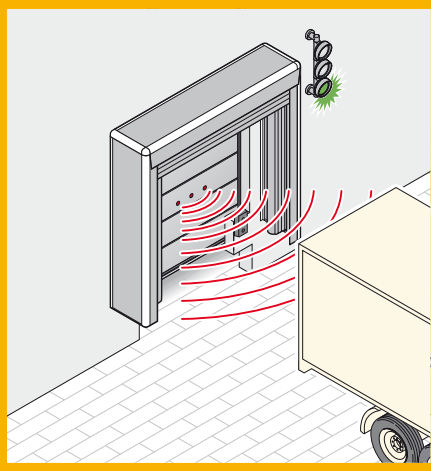
Safe and comfortable start-up.
With the Hörmann Docking Assistants **HDA** and **HIB**.

The Hörmann docking assistants HDA and HIB, make driving up to the loading bay comfortable and safe. While manoeuvring, the colour of the warning light tells the lorry driver how far he is from the dock. Red indicates that the optimal docking position has been reached and the lorry should be stopped.

HDA
Docking Assistant with sensors in the door leaf

Several sensors on the door leaf register the rear side of the closed lorry and control a “green-yellow-red” signal system.

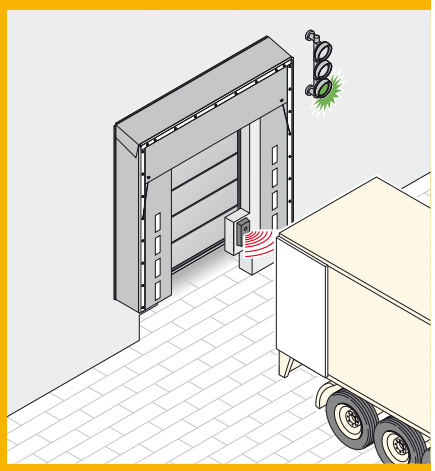
The precise measurement takes place via ultrasound waves. The distance and position of the individual signal phases up to a distance of 3 m and can be simply programmed with the HDA control.



HDA Docking Assistant with sensor in the door leaf. Suitable for vehicles with sectional rear doors or Dobo application.

HIB
Docking Assistant with distance measurement in the buffer

The distance between the lorry and the loading bay is recognised by the buffer. The traffic light phases can be set up to a distance of 20 cm.



Only from Hörmann

HIB Docking Assistant Distance measurement in the buffer

Hörmann Dock Control

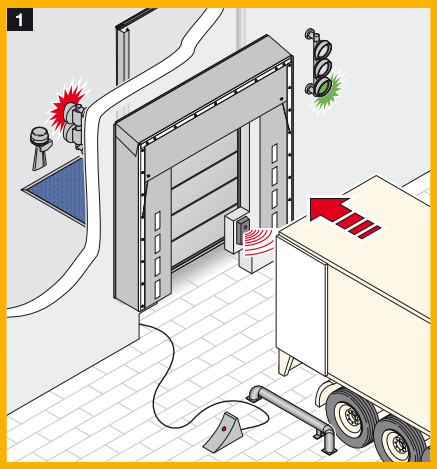
Docking support and position monitoring

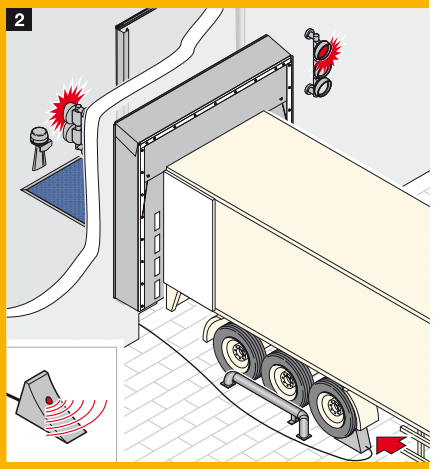
Hörmann Dock Control reliably monitors and controls the entire loading process. Working as the control centre for comprehensive safety equipment, Dock Control evaluates information coming from e.g. the sensor wheel chock and HIB buffer and then controls specified blocking and signal functions.

Equipment

- Dock leveller with DR sensor
- Power-driven door with limit switch reporting
- Buffer HIB with sensor
- Special control
- Interior red/green traffic light
- Exterior red/yellow/green traffic light
- WSPG wheel chock with optical sensor and integrated position sensor
- Alarm horn

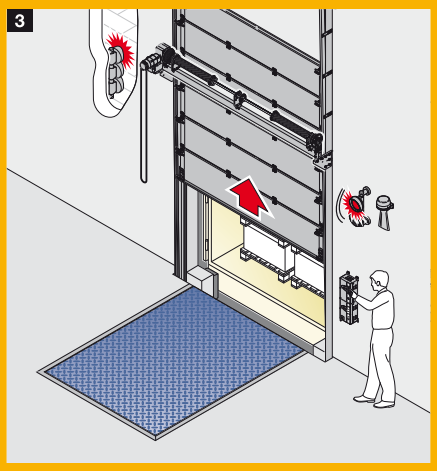
The equipment can be adjusted depending on the customer's wishes and needs. Let us advise you!

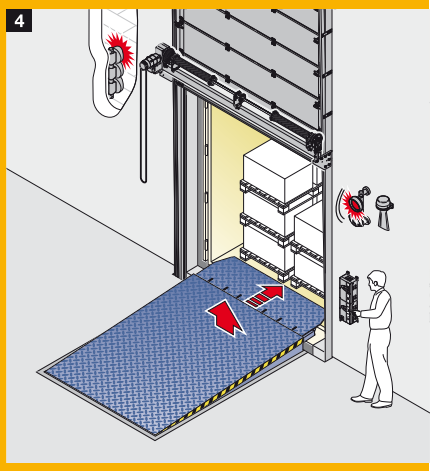




1 2 Safe docking

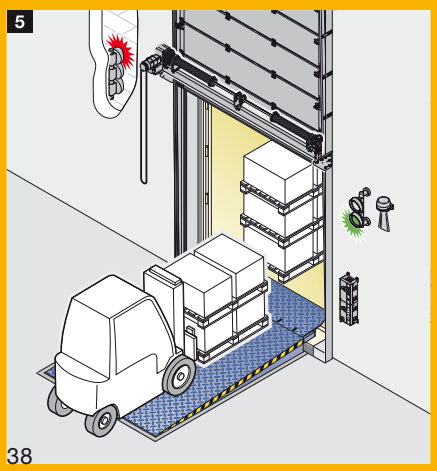
The Docking Assistant HIB safely guides the lorry via the traffic light control to the loading station. The sensor system in the buffer reports the distance of the lorry to the loading bay and when it has reached the final docking position. The lorry is then additionally secured by a wheel chock with a sensor. Upon contact with the tires and the correct position, the sensor releases the door control.

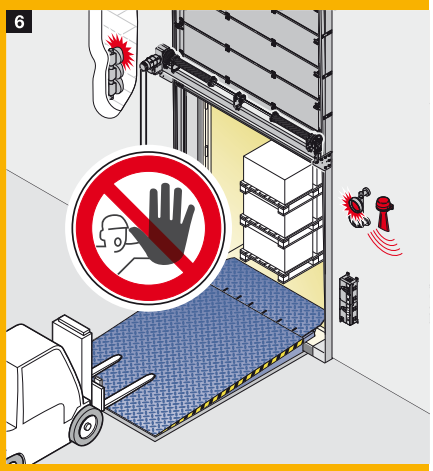




3 4 Secured and controlled processes

After the lorry has been secured, the door can be opened. Only once the door has reached its end-of-travel position, the dock leveller is released and can be brought into the correct position. The traffic light then switches from red to green indoors, releasing the loading bay.





5 6 Safety risk warning

Sensors in the buffer and the wheel chock immediately report unintended rolling away of the lorry from the ramp or the removal of the wheel chock. The traffic light inside switches to red and an acoustic warning is sounded to timely interrupt the loading process.

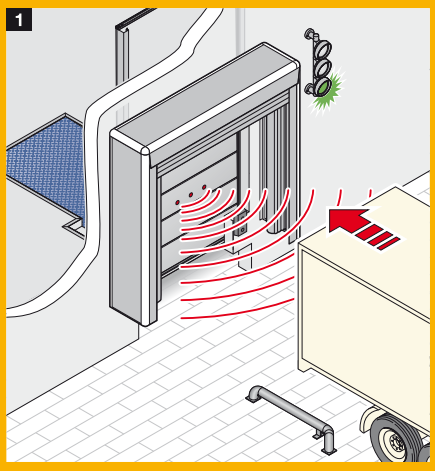
DOBO system

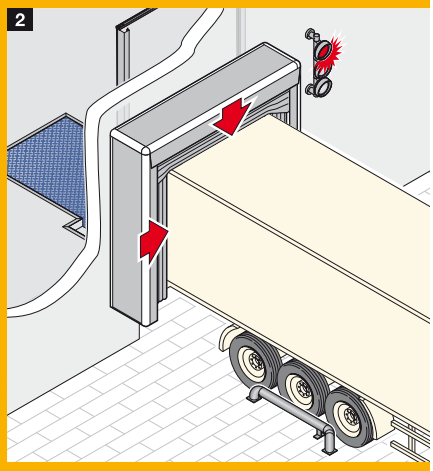
Dock first – open doors later

Hörmann practical application tip:
The DOBO system can also be implemented in conjunction with a loading house. Suitably adjusted pedestals are available for this.

On conventional ramps, the driver gets out of the vehicle, opens the vehicle door and then docks the vehicle. If the vehicle has already docked on the previous evening, inconvenient adjustment processes are necessary to open the doors. With the DOBO system, a lorry can dock with its doors closed. They can be opened whenever needed. Until that time the goods remain well protected inside the vehicle.

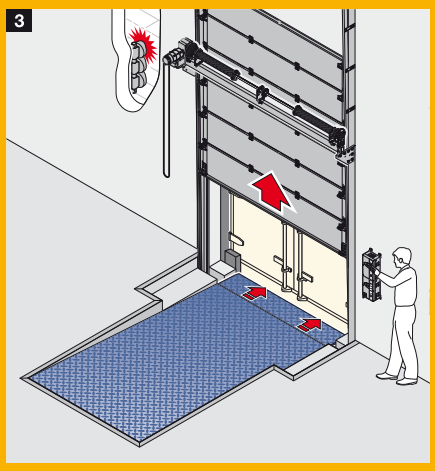
The DOBO system is the ideal solution: For hygienic transport, to warrant uninterrupted cooling chains, lower energy costs, theft prevention and for customs purposes.

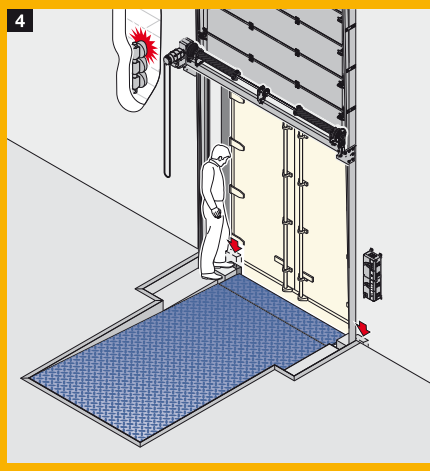




1 Safe docking
The Hörmann Docking Assistant HDA helps the driver to dock safely. The vehicle doors remain closed. Sensors in the door leaf recognise the position of the vehicle.

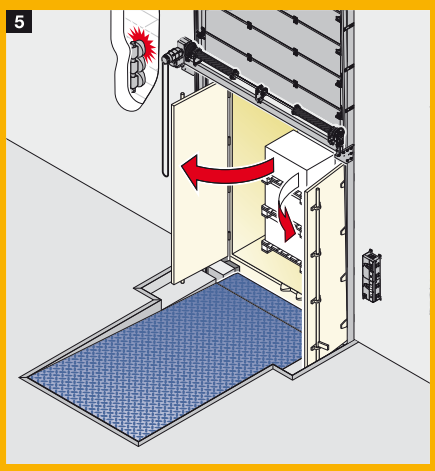
2 Reliable sealing
As soon as the lorry is docked, the dock seal DAS-3 is inflated and seals the vehicle from 3 sides.

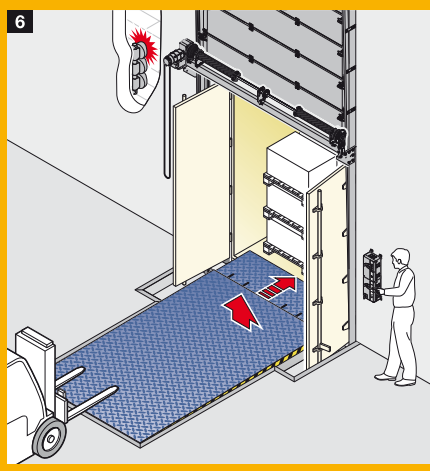




3 Opening the dock door
After the door is fully opened, the telescopic lip of the dock leveller is extended to decrease the gap to the vehicle.

4 Lowering the buffer
Now the flexible bumpers VBV 4 can be lowered manually and locked to open the lorry doors.





5 Opening the vehicle door
The ramp features a recess that provides the doors with the required space to be opened fully.

6 Extending the dock leveller
The dock leveller HTL-2 with a 1000 mm long telescopic lip easily bridges the gap between the ramp and the loading floor and can be precisely positioned up to the last centimetre.

Buffer

Hörmann practical application tip:
A mounting plate allows the simple replacement of the buffers.

Buffers protect dock seals and ramps from heavy damage. They absorb the dynamic forces of the lorry during the loading process. They should be sturdy and at the same time flexible. Depending on the requirements, different mounting plates and mounting brackets are available.

Buffer made of rubber or PU effectively dampen the start up forces

They are available in different sizes and shapes. Buffers made of polyurethane (PU) have a much longer service life compared to conventional rubber buffers.

Buffers made of rubber or PU
in various sizes and shapes

Steel buffers for particularly high requirements

The steel buffer consists of a full-surface dampening interior core and a robust external steel plate that is placed on the ramp edge for static relief.

Steel buffers
for particularly high requirements

Flexible bumper

Flexible buffers follow the up and down movements of the lorry during loading and unloading. In addition, height-adjustable versions offer the opportunity of driving the buffer up to 250 mm upwards and lock it there. They are indispensable for the DOBO system. Flexible bumpers are available as rubber, PU or steel buffers.

Flexible buffers
follow the movement of the lorry during loading and unloading

Mounting plates and mounting brackets

Mounting plates
For particular secure fitting of the buffer to the building. For renovation, when the building structure are already damaged, mounting plates are nearly indispensable.

Mounting brackets
With the help of mounting brackets, a buffer can be placed above the pedestal level or be given more depth, for example with tail lifts or for the protection of cushion dock seals. To fit mounting plates by welding, we recommend a steel bracket at the ramp edge.

Mounting plates/ mounting brackets
for safe and flexible fitting

Ramp equipment
Accessories

Wheel guides
support drivers during docking and guide the lorry straight into the loading bay or dock seal. This prevents damage to vehicles, ramps and dock shelters and ensures efficient sealing.
Wheel guides are available in straight and curved versions.

Protection bollards
are a useful investment indoors and outdoors. Outdoors they prevent expensive collision damage to driveway dock shelters or to buildings.
Indoors they protect door tracks from collision damage during loading by forklifts.

Tailboard slot covers
keep the tailboard slot free of dirt.

Dock steps
Dock steps and ladders are practical investments to allow persons to quickly and simply access the building and the ramp level.

HFB
Fork Truck Barrier
Solid bolts integrated into the dock leveller are extended in the normal position of the dock leveller. They protect the door and prevent the forklift driver from falling off the ramp when the door is open.

Hörmann product range

Everything from a single source for your construction project

1 Sectional doors
These space-saving door systems can be adapted to different industrial facilities using various track applications. Hörmann offers you tailored solutions for every application.

2 Rolling shutters and rolling grilles
Thanks to a simple construction with just a few components, rolling shutters are both economical and sturdy. Hörmann supplies rolling shutters in widths and heights of up to 11.75 m and 9 m respectively, or as special doors which are even higher.

3 Steel and aluminium folding doors
Hörmann folding doors in steel and aluminium are recommended for buildings with low traffic frequency and little headroom, as well as areas where no roof load is permitted.

4 High-speed doors
Hörmann high-speed doors are used both inside and as exterior doors to optimise the flow of traffic, improve room conditions and save energy. The Hörmann programme includes vertically and horizontally opening transparent doors with flexible curtains.

5 Loading technology
Hörmann offers you complete loading systems for the logistics sector. The advantages: Reliable planning, dependable execution of construction work and high functionality thanks to precisely matched components.

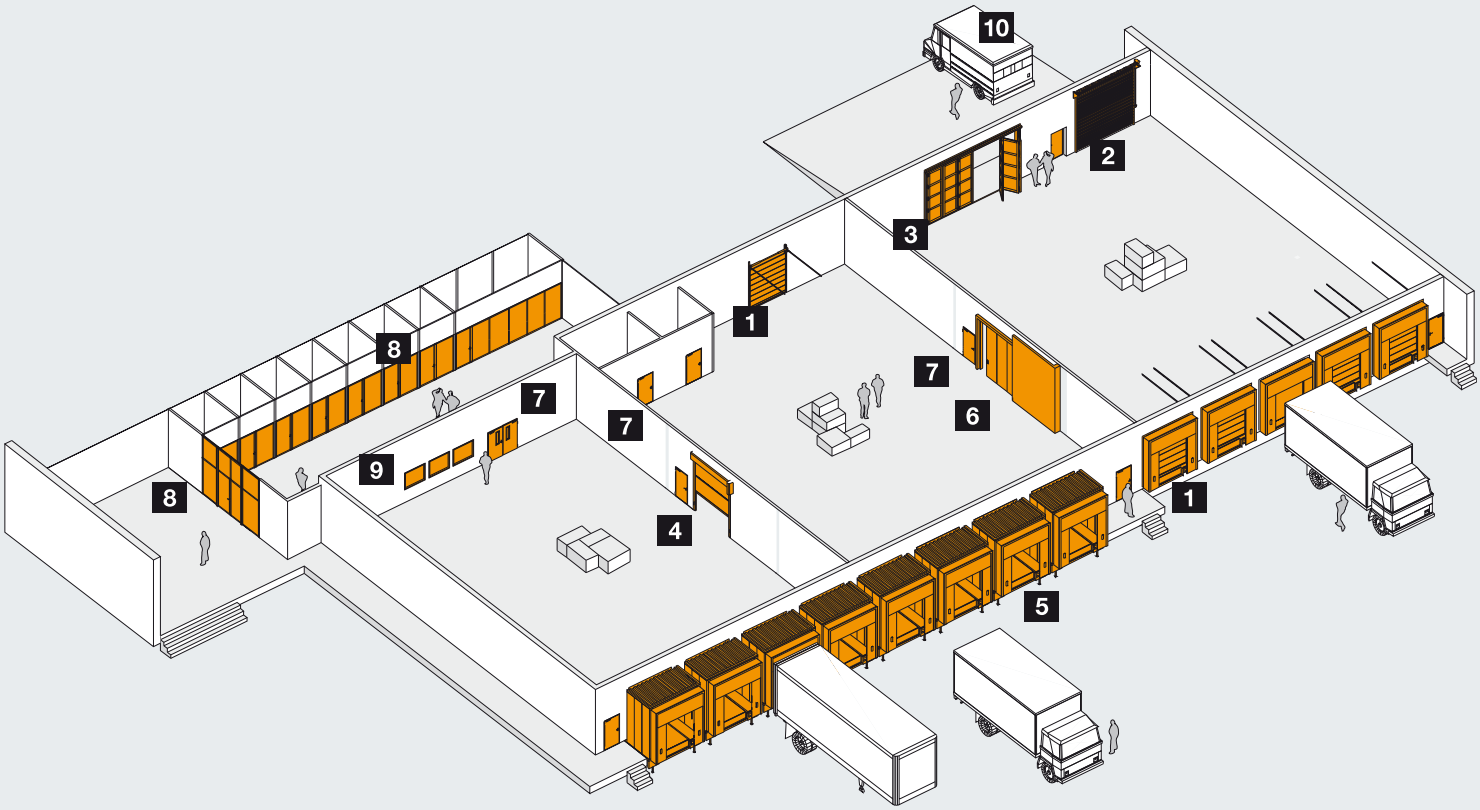
6 Fire sliding doors
Hörmann can provide you with single or double-leaf sliding door solutions suitable for all areas and fire-protection class requirements.

7 Multi-function doors and reinforced internal doors
Hörmann multi-function doors and reinforced internal doors are suitable for indoor and outdoor use. Our single and double-leaf doors can be used wherever robust door elements are required. With numerous additional functions, such as fire and smoke protection, acoustic insulation or burglar protection.

8 Fire and smoke-protection box frame parts
Hörmann can supply you with doors and fixed glazing made of steel and aluminium for areas where appearance is important, such as administration areas in industrial building.

9 Visibility windows
Hörmann visibility glazings are used as windows or room-high elements to provide more light and better visibility.

10 Service
Only intact, professionally maintained systems ensure smooth production processes and safe traffic ways. The statutory inspections and necessary repairs are professionally carried out and documented with an inspection and maintenance contract.

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Hörmann: Quality without Compromise


Hörmann KG Amshausen, Germany


Hörmann KG Antriebstechnik, Germany


Hörmann KG Brandis, Germany


Hörmann KG Brockhagen, Germany


Hörmann KG Dissen, Germany


Hörmann KG Eckelhausen, Germany


Hörmann KG Freisen, Germany


Hörmann KG Ichtershausen, Germany


Hörmann KG Werne, Germany


Hörmann Genk NV, Belgium


Hörmann Alkmaar B.V., Netherlands


Hörmann Legnica Sp. z o.o., Poland


Hörmann Beijing, China


Hörmann Tianjin, China


Hörmann LLC, Montgomery IL, USA


Hörmann Flexon, Leetsdale PA, USA

Hörmann is the only manufacturer worldwide that offers you a complete range of all major building products from one source. We manufacture in highly-specialised factories using the latest production technologies. The close-meshed network of sales and service companies throughout Europe, and activities in the USA and China, make Hörmann your strong partner for first-class building products, offering “Quality without Compromise”.

GARAGE DOORS

OPERATORS

INDUSTRIAL DOORS

LOADING EQUIPMENT

HINGED DOORS

DOOR FRAMES

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