



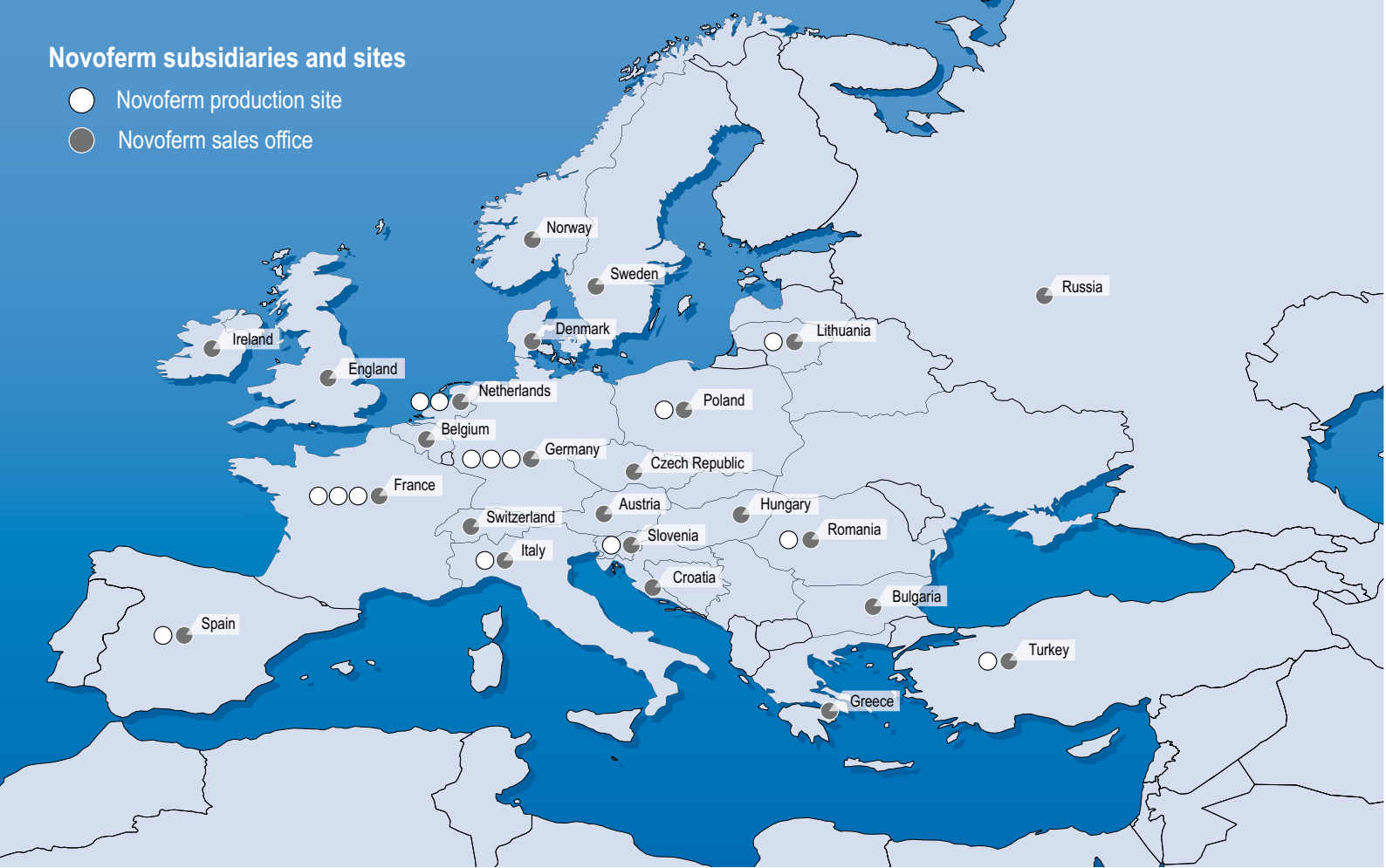
# NovoSpeed Solutions

Fast logistic solutions



## Novoferm subsidiaries and sites

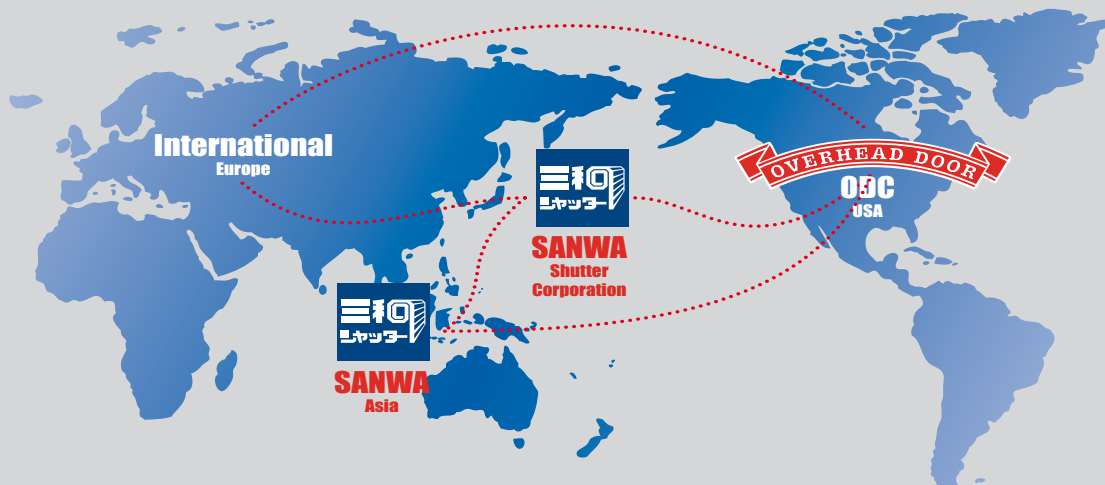
- Novoferm production site
- Novoferm sales office



## Novoferm: your access partner for industrial buildings

Novoferm has specialised in many forms of access and exit door systems for industrial buildings and homes for more than thirty years. An extensive choice of designs, finishes, controls and installation options means that you always benefit from a customised solution. We take responsibility for the whole process from initial specification advice to development, production, assembly and even assistance with construction coordination if required. Obviously, we also monitor aspects such as the associated standards and legislation very closely; — something that saves you significant work and extra effort.

In addition to industrial doors, draught-excluding and fire-rated doors Novoferm also offers products for the goods delivery and despatch areas in industrial and commercial buildings. Novoferm is part of the Sanwa Shutter Corporation, a leading producer of doors, garage doors and other products for equipping buildings worldwide, so choosing a Novoferm product not only guarantees you the most modern and up-to-date technology available, you also benefit from maximum quality, reliability, comfort and design at minimum cost.





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## Safe doors

All automatic doors must comply with European Directive EN 13241-1. Novoferm develops and produces its new products strictly in line with these standards. As a result, you are guaranteed safe operation during daily use, assembly and maintenance.



[www.novoferm.com](http://www.novoferm.com)

# Why choose a Novoferm rapid roll door?

## Different situations demand different solutions



Working efficiently means working economically. Novoferm rapid roll doors help you improve your logistic performance. Novoferm offers a customized solution for almost every situation. Our in-house research and development departments respond alertly to changes in the requirements that rapid roll doors have to satisfy.

Industrial buildings already have to comply with increasingly stringent energy saving requirements and this trend is forecast to continue. Research performed by the Technical University of Munich has shown that rapid roll doors have a significant effect on the amount of energy consumed in industrial buildings. The study shows that the interior temperature of a building or room plummets when the door is left open (depending on the temperature differential and type of building). Consequently, the shorter the period of time that a door remains open, the lower the drop in interior temperature. Draughts are also significantly reduced, which helps maintain a more comfortable environment in the building and reduces sickness absenteeism.

### Working efficiently means working economically

When a door is used infrequently, insulation is of great importance. However, when a door is used frequently, the speed at which it opens and closes, and the height to which it opens, are much more significant. The latest generation of Novoferm control units features an adjustable half-height stop setting as standard. In combination with the "Auto-close" function, this feature allows you to achieve considerable energy savings.

Regardless of the type of door, the energy loss through an open door will always far exceed the degree of energy loss due to heat transfer and air leakage through a closed door. Research at the Technical University of Munich has shown that installing fast-action (roller) doors and avoiding long periods spent in the open position can reduce the additional energy requirements by as much as **30%**! Interlocking two doors to create an air lock results in even greater savings and can improve the interior climate by up to **90%**.

### Efficient use of energy, also during production

Novoferm signed the group's 'Green Solutions' Charter In 2009. This consists of a package of concrete measures designed to reduce CO<sub>2</sub>-emissions during production, delivery, assembly and maintenance of industrial doors.

#### 100 % recyclable materials

This is a goal that we consistently pursue. As a result, we select our raw materials and resources with great care, adding our own sustainable in-house development procedures into the equation. For instance, our control units are completely lead-free and comply with RoHS requirements. So we have already assumed a leading role in this area.



### Single-source manufacturer and supplier

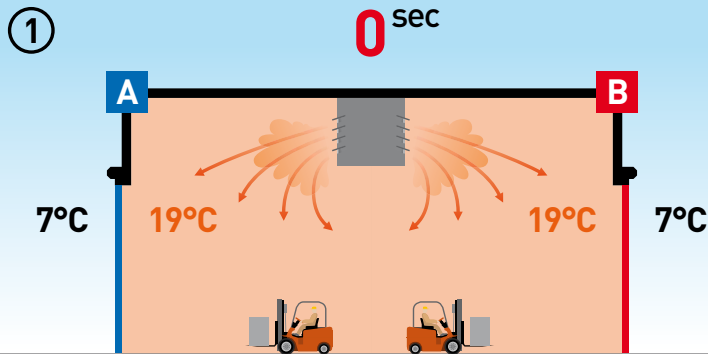
Novoferm not only supplies draught excluding products, we also offer a full range of industrial doors, multifunctional pass-doors, fire doors and dock equipment. There is a high-quality Novoferm product for every opening in a modern industrial building. Doing business with a single partner has the following advantages:

- Single point of contact for all products, installation, maintenance and after sales
- Products are designed for optimum compatibility with each other
- Products are automatically delivered in the correct sequence
- Installers / fitters who are familiar with all of the products

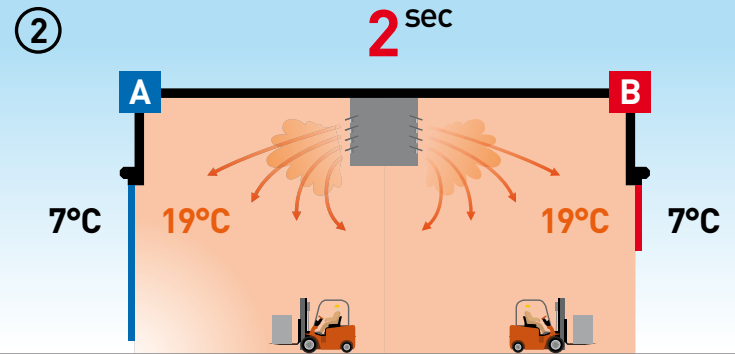
# Energy loss

The illustrations below show how air flow through a conventional outside door (A) results in energy loss. When a high tech rapid roll door from Novoferm (B) is used, the door has already closed again before the air flow reaches the opening.

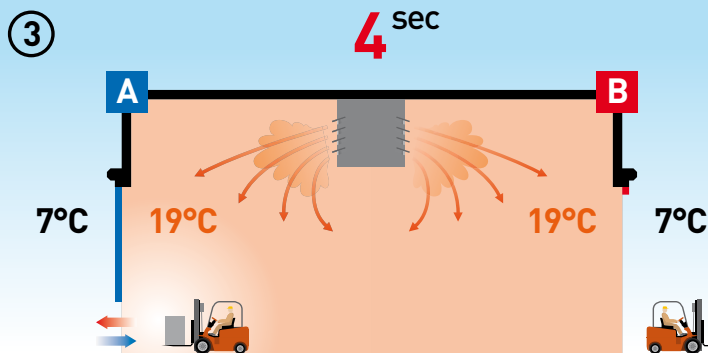
This maintains the interior temperature at a constant value, saves energy, guarantees pleasant working conditions and reduces sickness absenteeism as an added bonus.



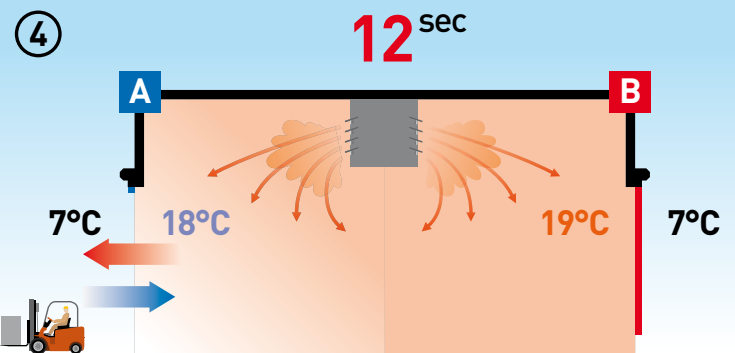
Production companies heat their factory areas to approx. 19°C.



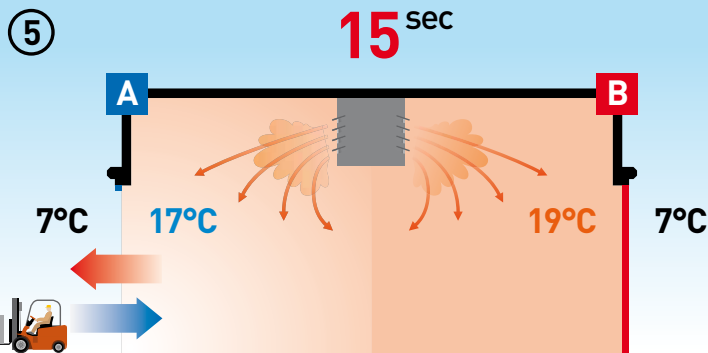
The conventional door (A) opens at 0.2 m/s. The rapid roll door (B) opens at 2 m/s!



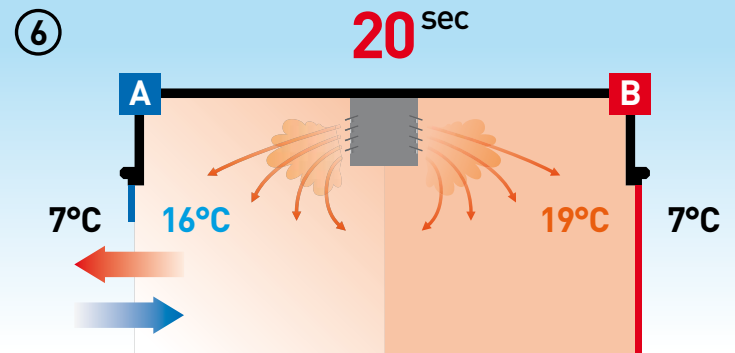
The conventional door (A) continues to open very slowly. The rapid roll door (B) is already open and the goods have left the building.



In the case of door (A) cold air flows into the interior at floor level and hot air escapes through the top part of the opening. Door (B) closes before these air flows can develop.



The open door (A) results in significant energy loss.



At an exterior temperature of 7°C, the interior temperature drops very quick, leading to unnecessarily high heating bills.

## Customer service

When you deal with Novoferm, projects do not simply stop after product installation. Service and maintenance are vital for ensuring continuous product availability, quality and durability. Novoferm offers effective 24-hour service, back-up and a selection of maintenance packages to guarantee your business continuity.

# Applications

The extensive range of draught-excluding solutions from Novoferm is used in just about all market sectors. The exact type of door depends on the specific application and the conditions in which it is to operate. Our standard range offers solutions for most situations. Based on your input, we can also engineer and supply custom-made solutions to satisfy any special requirements you may have.



## Light and heavy industry

The light and heavy industry sectors require a wide variety of draught-excluding solutions.

Novoferm's extensive range of doors includes suitable solutions for practically any situation in these sectors. These products are easy to assemble, operate reliably for extended periods and require little maintenance. So our products guarantee you operating reliability, business continuity and safety.



## Food

Novoferm is a recognised name in the food industry. In Europe we have a long history of supplying our products to major food producers and processors.

We also have extensive experience with cold store manufacturers. We know from experience that this sector involves more than simply using materials such as stainless steel and compliance with strict hygiene requirements, there is also strong demand for custom-made solutions. These usually focus on cost efficiency and ensuring production process continuity.



## Retail

In modern supermarkets, the shelves are always well stocked with an extensive range of products. Intensive traffic between the storeroom and the retail shop space is required to keep the shelves filled.

In view of this level of traffic, a rapid roll door is often chosen to separate the retail space from the storeroom. It operates at high speed, opens and closes automatically, is safe for users, hardly takes up any space and is a low-noise product. Novoferm designs and manufactures custom-made doors for various retailers, and currently supplies its products to most leading chain stores in Europe.



## Automotive

A typical car factory produces approximately one thousand cars a day on average. This level of production requires an immense flow of goods and timely delivery is of vital importance.

As a result, the doors used in this logistics flow also have to satisfy demanding requirements. Novoferm offers products that operate dependably under these conditions, day-in and day-out. Novoferm also supports its products with 24/7 service to minimise downtime in the unlikely event of a breakdown.



## Pharmaceutical and chemical industry

The pharmaceutical and chemical industries require suppliers to meet challenging standards in the areas of hygiene, sealing, operating reliability, fitting and providing efficient aftersales service.

Not only does Novoferm offer custom-made solutions for these sectors, it also invests significant amounts of time and money in training production staff and technicians. Our technicians and the companies assembling our products for us are SCC certified. So they comply with all of the requirements that apply when working in a strictly regulated operating environment.



## Logistics

When products are ready, need to be transported to the end customer as quickly and efficiently as possible. Consequently, many European companies subcontract warehousing, transshipment and delivery to large logistics distribution centres.

The doors involved in these logistic flows often open and close many times a day. Using a top-class product alone is not enough however! Even the best product fails occasionally when used intensively. As preventive maintenance minimises failures of this type, Novoferm offers a range of maintenance and service contracts.

# Product overview

## Interior doors



### NovoSpeed Retail

- developed for Retail
- 5.85 m<sup>2</sup> max.
- class 1 wind resistance
- 2 m/s with requeryency control
- Option for photo print on door leaf

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### NovoSpeed Flex 2.0

- developed for frequently used doorways
- 20 m<sup>2</sup> max.
- class 0 wind resistance
- 2 m/s opening speed
- frequency control as standard

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### NovoSpeed Basic

- developed for universal use
- 20 m<sup>2</sup> max.
- class 1 wind resistance (up to 3 x 3 m)
- 1 m/s opening speed
- 1.5 m/s opening speed with frequency control (option)

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### NovoSpeed Basic | Food

- developed for the food industry
- 20 m<sup>2</sup> max.
- class 1 wind resistance (up to 3 x 3 m)
- 1 m/s opening speed
- 1.5 m/s opening speed with frequency control (option)

15



### NovoSpeed Economic

- developed for application in all possible situations
- 9 m<sup>2</sup> max.
- class 0 wind resistance
- 1 m/s opening speed
- 1.5 m/s opening speed with frequency control (option)

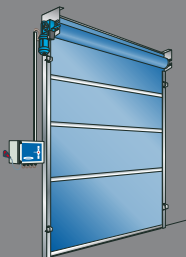
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### NovoSpeed Economic | Food

- developed for the food industry
- 9 m<sup>2</sup> max.
- class 0 wind resistance
- 1 m/s opening speed
- 1.5 m/s opening speed with frequency control (option)

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### NovoSpeed Polara

- developed for extremely cold conditions
- 17,5 m<sup>2</sup> max.
- class 0 wind resistance
- 1 m/s opening speed
- 1.5 m/s opening speed with frequency control (option)

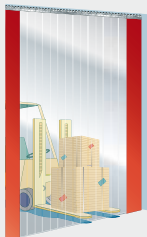
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### NovoSpeed Heavy | Indoor

- developed for large, frequently used doorways
- 36 m<sup>2</sup> max.
- class 0 wind resistance
- 1 m/s opening speed
- 1.5 m/s opening speed with frequency control (option)

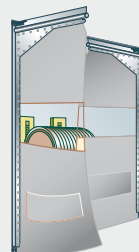
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### Strip curtains

- developed as an economical alternative
- max. height is 6 m
- 2 to 4 mm thick strips
- transparent strips
- various overlapping
- orange end strips (option)

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### Swing doors

- developed as an economical alternative
- 9 m<sup>2</sup> max.
- 7 mm thick curtain
- 2 colors or transparent
- 10 mm thick transparent doorleaf possible (option)

26



# Exterior doors



## NovoSpeed Alu | S

- developed for exterior façades
- 36 m<sup>2</sup> max.
- class 3 wind resistance
- 2 m/s opening speed
- frequency control as standard

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## NovoSpeed Alu | R

- developed for exterior façades
- 25 m<sup>2</sup> max.
- class 2 wind resistance
- 1 m/s opening speed
- frequency control as standard

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## NovoSpeed Heavy

- developed for exterior façades
- 36 m<sup>2</sup> max.
- class 0 wind resistance
- 1 m/s opening speed
- 1.5 m/s opening speed with frequency control

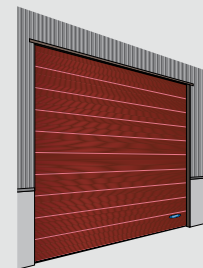
22



## NovoSpeed Specials

- developed for exterior façades
- 64 m<sup>2</sup> max.
- class 0 wind resistance
- 0.5 to 1 m/s opening speed
- frequency control
- custom-made

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## NovoSpeed Thermo

- developed for exterior façades
- 36 m<sup>2</sup> max.
- class 3 wind resistance
- 2 m/s opening speed
- frequency control as standard

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Do not hesitate to ask our technical staff to provide information tailored to your particular needs - without any obligation on your part

# Inside applications – Clever interior door solutions



# NovoSpeed RETAIL



These days, supermarkets also have to look attractive. The products on display need to be presented accessibly and appetisingly. The NovoSpeed Retail door puts the finishing touches to a successful in-store presentation. This rapid roll interior door with its opening speed of 2 m/s is not just one of the fastest of its kind, it also opens and closes in near silence.

#### Specifications / Technical data

NovoSpeed	Retail
max. width (W)	2250 mm
max. height (H)	2600 mm
opening speed	2 m/s
closing speed with frequency control	0.5 m/s
door curtain weight	650 gr/m <sup>2</sup>
door curtain thickness	0.7 mm
door curtain thickness w. print	0.9 mm

#### Product Benefits

- class 1 windresistance
- compact design of side guides and roller cover
- self-repairing after impact, in one direction
- the quietest rapid roll door ever!

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The standard tubular motor allows elegant styling without taking up excessive space in the store. And if you truly want to dot your i's and cross your t's in terms of presentation, you can also print your logo or a photographic image on the PVC door curtain.

Safety is obviously the most important consideration in areas with a high customer density such as supermarkets. The NovoSpeed Retail is equipped as standard with a Flex Edge bottom beam and can be supplied with either a mechanical or an automatic emergency opening system for use in the event of a power failure.

#### Options

- Flex-Edge instead of aluminium lower beam
- counterweight instead of spring for balancing
- industrial integrated drive
- multiple photocells in the side guides
- mechanical emergency release
- automatic release in the event of powerfailure
- door leaf featuring a print of your choice



# NovoSpeed

## FLEX 2.0 | HARD EDGE



The NovoSpeed Flex **Hard Edge** an electrically operated rapid roll door for the retail sector, general industry and commercial and industrial buildings. The Flex is neatly finished and combines high speed with low noise.

### Specifications

NovoSpeed	Flex Hard Edge
max. surface area (W x H)	20 m <sup>2</sup>
max. width (W)	4250 mm
max. height (H)	5000 mm
opening speed	2 m/s
closing speed	0.5 m/s
door curtain weight	1400 g/m <sup>2</sup>
door curtain thickness	1.2 mm

### Product Benefits

- class 0 wind resistance
- self-supporting construction
- 100% self-resetting in both directions
- a safety light curtain is standard

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## Attractive, fast and silent

### Universal solution

The Novo Speed Flex is an interior door for universal use in industry. The door is fast and strikingly silent in operation. An industrial drive unit integrated in the roller keeps the side space requirement to a minimum. The advanced control panel is equipped with frequency control as standard, offering many functions and connection possibilities.

#### Presence detection

An active light curtain is supplied to a maximum height of 2500 mm. When the door is open, the safety light curtain detects both moving and stationary objects in the opening and prevents the door from closing.

This new generation of Novo Speed Flex is equipped with two extension springs for door curtain balancing, resulting in a considerably extended service interval.

**Options:** see page 13 for details of all the options offered for the NovoSpeed Flex.



Standard control unit: T100R FU



Silent integrated drive

Option 1



Open-Stop-Close

Option 2



Mechanical emergency release

# NovoSpeed

## FLEX 2.0 | FLEX EDGE



The NovoSpeed Flex **Flex Edge** is an electrically operated rapid roll door for interior applications in the retail sector, general industry and commercial buildings. The flexible bottom beam can not damage your products.

### Specifications

NovoSpeed	Flex Flex Edge
max. surface area (W x H)	17.5 m <sup>2</sup>
max. width (W)	3500 mm
max. height (H)	5000 mm
opening speed	2 m/s
closing speed	0.5 m/s
door curtain weight	1400 gr/m <sup>2</sup>
door curtain thickness	1.2 mm

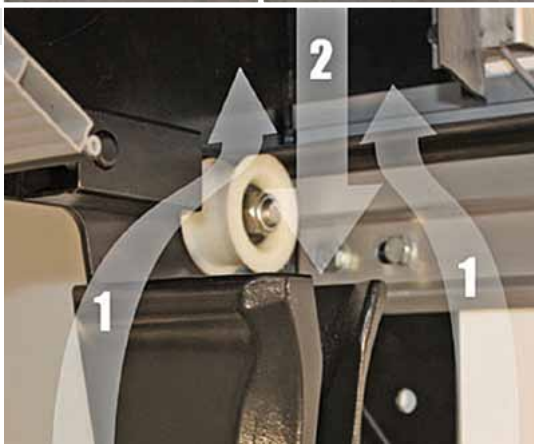
### Product Benefits

- class 0 wind resistance
- self-supporting construction
- 100% self-repairing after impact, in both directions
- safety light curtain as standard

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## If your goods are fragile

No damage when collisions occur



100% self-repairing in both directions

## Soft and flexible bottom beam

When closing a rapid roll door in relatively low openings, contact may occur between the bottom beam and the goods being transported. A hard bottom beam might cause damage. The 'Flex Edge' is flexible and soft, thereby increasing safety. Persons or goods that 'accidentally' come into contact with the 'Flex edge' will suffer little or no damage.

The door opening is monitored in the same way as the 'Hard edge' door.

The following options are available for the NovoSpeed Flex **Hard Edge** / **Flex Edge**:

- Option 1:** illuminated Open-Stop-Close push-buttons are optionally available
- Option 2:** mechanical emergency release
- Option 3:** an automatic emergency release in the event of a power failure



Standard control unit: T100R FU

See the Technical Data on page 32 for more information, or download the Product Data Sheet from [www.novoferm.nl](http://www.novoferm.nl)

# NovoSpeed BASIC



The Basic is Novoferm's standard rapid roll door for intensively used openings. Proven technology guarantees years of trouble-free operation. All aspects of the door are robustly designed and well-engineered in order to stand up to the rigours of intensive use.

## Specifications

NovoSpeed	Basic
max. surface area (W x H)	20 m <sup>2</sup>
max. width (W)	4000 mm
max. height (H)	5000 mm
opening speed	1 m/s
opening speed with frequency control	1.5 m/s
closing speed	1 m/s
closing speed with frequency control	0.5 m/s
door curtain weight	1400 gr/m <sup>2</sup>
door curtain thickness	1.2 mm

## Product Benefits

- class 1 wind resistance (up to 3 x 3 m)
- aluminium bottom beam with self-testing safety edge
- 'break-away' crash-protection system optionally available

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## Reliable entry-level product

### Good basis for intensive use

The Novo Speed Basic is the basic fast action roller door model for intensive use. In comparison with the Economic all aspects of the door are of a heavier and stronger design to allow intensive use. Specific features:

- robust steel guide side columns fitted with brush seals guide the door curtain
- the curtain is 1.2 mm thick
- standard vision section
- the sections are connected to each other by aluminium stiffener/hinge profiles
- aluminium bottom beam with rubber floor seal

### Options

- completely transparent 'Full Vision' door curtain
- the aluminium lower beam is available with a 'break away' crash-protection system, which prevents damage in a collision and allows the door curtain to be repositioned in the guides without having to use special tools

Available control units:



T100R



T100R FU



T100R FU 3 kW



Like new after 15 years of use



Aluminium stiffener/hinge profile

# NovoSpeed

## BASIC | Food



All parts of the Basic in 'Food' version are either stainless steel or synthetic material, made suitable for use in the food industry. The highest demands for hygiene and safety are met. Also, the cleaning of the door is easier due to integrated reinforcing profiles and IP65 control.

### Specifications

NovoSpeed	Basic Food
max. surface area (W x H)	20 m <sup>2</sup>
max. width (W)	4000 mm
max. height (H)	5000 mm
opening speed	1 m/s
opening speed with frequency control	1.5 m/s
closing speed	1 m/s
closing speed with frequency control	0.5 m/s
door curtain weight	1400 gr/m <sup>2</sup>
door curtain thickness	1.2 mm

### Product Benefits

- class 1 wind resistance (up to 3 x 3 m)
- aluminium bottom beam with self-testing safety edge
- 'break-away' crash-protection-system optionally available

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## For food industry applications

### Strict requirements

The food industry is characterised by stringent hygiene and safety requirements. The NovoSpeed Basic is available in a special 'Food' version that satisfies these requirements. Specific features:

- all structural components that may come into contact with water are either made of stainless steel or a synthetic material, or have a corrosion-proof finish
- the stiffener/hinge profiles are encapsulated in the curtain
- draught-excluding rubber seals are used instead of brush seals
- if the door is to be washed down every day the drive and control unit can be supplied to IP65

### Options

- plastic protective hood
- stainless steel (304) hood
- the aluminium lower beam is available with a 'break away' crash-protection system, which prevents damage in a collision and allows the door curtain to be repositioned in the guides without having to use special tools

Available control units:



T100R



T100R FU



T100R FU 3 kW



'break-away'-system in use



# NovoSpeed ECONOMIC



The Economic is an electrically operated rapid roll door that combines good quality with excellent value for money.

## Specifications

NovoSpeed	Economic
max. surface area (W x H)	9 m <sup>2</sup>
max. width (W)	3000 mm
max. height (H)	3500 mm
opening speed	1 m/s
opening speed with frequency control	1.5 m/s
closing speed	1 m/s
closing speed with frequency control	0.5 m/s
door curtain weight	650 gr/m <sup>2</sup>
door curtain thickness	0.7 mm

## Product Benefits

- class 0 wind resistance
- safety photocell in the door opening
- suitable for small interior openings and light wind loads

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## When value for money is a priority

### Ideal 'entry-level model'

The Novo Speed Economic is a cost-effective solution for small openings up to 9 m<sup>2</sup> and normal use. Ideal for openings used by pedestrians and materials handling equipment. This door is suitable for a wide range of applications, due in part to its very competitive price. Specific features:

- door curtain made of horizontal sections of polyester-reinforced plastic and a transparent viewing section
- sections are interconnected by Novoferm's unique aluminium stiffener/hinge profiles that allow fast and simple replacement of individual sections
- aluminium bottom beam with a rubber floor profile
- steel U-shaped side guide with brush seals

### Options

- available with a Flex-Edge bottom beam

Available control units:



T100R



T100R FU



Aluminum reinforcing profile



Flex-Edge bottom beam



# NovoSpeed

## ECONOMIC | Food



The Economic Food is an affordable speedroller door with electric drive, designed for use in the food industry.

### Specifications

NovoSpeed	Economic Food
max. surface area (W x H)	9 m <sup>2</sup>
max. width (W)	3000 mm
max. height (H)	3500 mm
opening speed	1 m/s
opening speed with frequency control	1.5 m/s
closing speed	1 m/s
closing speed with frequency control	0.5 m/s
door curtain weight	650 gr/m <sup>2</sup>
door curtain thickness	0.7 mm

### Product Benefits

- class 0 wind resistance
- safety photocell in the door opening
- suitable for smaller interior openings and light wind load

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## When hygiene is important

### Strict requirements

The food industry is characterised by stringent hygiene and safety requirements. The NovoSpeed Economic is available in a special 'Food' version that satisfies these requirements. Specific features:

- all structural components that may come into contact with water are either made of stainless steel or a synthetic material, or have a corrosion-proof finish
- curtain stiffener/hinge profiles encapsulated in the curtain
- plastic hood and drive cover, optionally available in stainless steel
- draught-excluding rubber seals are used instead of brush seals

### Options

- available with a Flex-Edge bottom beam

Available control units:



T100R

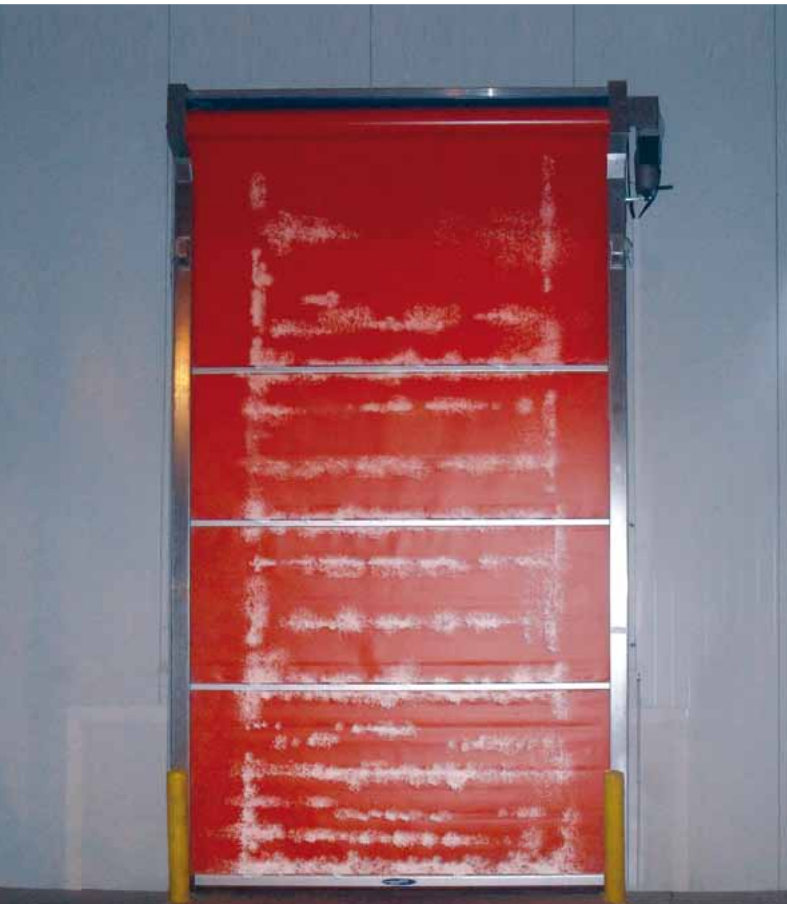


T100R FU

Integrated curtain stiffener/hinge profiles



# NovoSpeed POLARA



The **Polara** door provides an effective seal in freezer cell openings. All components are heated. The door opens automatically every 15 minutes to prevent icing.

## Specifications

NovoSpeed	Polara
max. surface area (W x H)	17,5 m <sup>2</sup>
max. width (W)	3500 mm
max. height (H)	5000 mm
opening speed	1 m/s
opening speed with frequency control	1.5 m/s
closing speed	1 m/s
closing speed with frequency control	0.5 m/s
door curtain weight	650 gr/m <sup>2</sup>
door curtain thickness	0.7 mm

## Product Benefits

- class 0 wind resistance
- safety photocell in the door opening
- operates down to -30 ° C
- dual radar for detecting ice
- bottom beam with multilene end pieces

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## Resistant to extreme cold

### When hygiene is vital at low temperatures

Like the Economic, the NovoSpeed **Polara** is available in a 'Food' version. This version is suitable for use in the food industry where stringent hygiene and safety requirements apply when producing and processing fresh foods. Specific features:

- heated side guides
- heated control unit \*
- heated drive
- heated photocells
- rubber seals instead of brush seals
- IP65 drive and control unit

\* The T100R FU controls should be placed outside the freezer cell to ensure proper operation of the frequency inverter

Available control units:



SMD



T100R FU



# NovoSpeed HEAVY | Indoor



The **Heavy Indoor** is a high-speed, electrically operated rapid roll door, specifically designed for interior openings in industrial and commercial buildings.

## Specifications

NovoSpeed	Heavy Indoor
max. surface area (W x H)	36 m <sup>2</sup>
max. width (W)	6000 mm
max. height (H)	6000 mm
opening speed	1 m/s
opening speed with frequency control	1.5 m/s
closing speed	1 m/s
closing speed with frequency control	0.5 m/s
door curtain weight	1400 gr/m <sup>2</sup>
door curtain thickness	1.2 mm

## Product Benefits

- class 0 wind resistance
- safety photocell in the door opening
- completely transparent 'Full Vision' door curtain optional

1003

2009

3020

5005

7038

9003

9004

## A tower of strength

### Workhorse for large openings

The NovoSpeed **Heavy Indoor** has been specially developed for large interior openings up to 36 m<sup>2</sup>. All structural components and the curtain are robustly designed and engineered. Overpressure and underpressure can exert considerable forces on the door curtain. With its 1.2 mm thick door curtain and strong aluminium stiffener/hinge profiles, the **Heavy** is capable of withstanding wind loads of up to 5 Beaufort (28 - 38 km/h). Specific features:

- extra strong, fabricated steel side columns with brushes to seal and guide the door curtain
- a bottom beam with a self-testing bottom safety edge and cast aluminium end pieces of as standard
- the aluminium lower beam is available with a 'break away' crash-protection system, which prevents damage in a collision and allows the door curtain to be repositioned in the guides without having to use special tools

Available control units:



T100R FU



T100R FU 3 kW



See the Technical Data on page 32 for more information, or download the Product Data Sheet from [www.novoferm.nl](http://www.novoferm.nl)

# Outside applications – Clever exterior door solutions



attractively styled, durable and energy-efficient



## Developed to satisfy market demand

User demand and user requirements have played a major part in shaping Novoferm's range of industrial doors and services. A logical consequence of Novoferm's successful track record of close collaboration with practically all industrial sectors in Europe. When specifying industrial doors, the correct choice of brand, type and design is crucial. The right choice of product can optimise logistics processes and reduce costs. The sectional door is the most commonly used solution for closing exterior door openings in industrial buildings. It is attractive to look at, closes the opening effectively, offers effective locking, good intruder-resistance, excellent insulation and, last but not least, safe and user-friendly operation in all industrial and commercial buildings.



## Minimise unnecessary energy loss

An exterior door should be left open for the shortest possible period of time. A traditional exterior door opens and closes relatively slowly, leading to considerable energy loss. However, energy loss can be minimised by combining a 'slow' exterior door with a rapid roll door.

The traditional sectional door is opened in the morning and closed at night. The rapid roll door seals the opening during the working day. The high speeds at which it opens and closes minimise the air flows that cause energy loss. The NovoSpeed range of exterior doors has obviously been designed to withstand the extreme conditions in which these doors operate.

## Industrial parks

Nowadays, visitors to modern industrial or business parks are often surprised by the elegant design of the buildings. The appearance of industrial and commercial buildings is no longer solely determined by functionality and efficiency.

Special designs and the use of exclusive materials are now the norm, rather than the exception. This also explains why the term industrial park has displaced the old term of industrial estate! Municipalities often specify additional requirements with regard to appearance, as industrial parks are generally located on the outskirts of residential areas.

The new line of NovoSpeed Thermo sectional doors responds perfectly to this trend. The extensive choice of equipment options and styling solutions offers modern architects ample opportunity for designing strikingly attractive industrial door solutions.

## Non-residential buildings

Novoferm sectional and rapid roll doors are, often used in the non-residential building sector; in fire stations, showrooms, garage workshops, bus depots and distribution centres for example. Depending on the use and function of the space behind the door, a choice can be made between a fully insulated, sandwich-panel door without windows or vision panels, or a door that is completely made of glass sections for maximum natural light ingress. The ability to combine an extensive range of colours, panels and infill options means that a huge range of different styles can be created.



# NovoSpeed HEAVY



An exterior door should be left open for the shortest possible period of time. A traditional exterior door opens and closes relatively slowly, leading to considerable energy loss. However, energy loss can be minimised by combining a 'slow' exterior door with a rapid roll door.

## Specifications

NovoSpeed	Heavy
max. surface area (W x H)	36 m <sup>2</sup>
max. width (W)	6000 mm
max. height (H)	6000 mm
opening speed	1 m/s
opening speed with frequency control	1.5 m/s
closing speed	1 m/s
closing speed with frequency control	0.5 m/s
door curtain weight	3000 gr/m <sup>2</sup>
door curtain thickness	3 mm

## Product Benefits

- class 0 wind resistance
- on a special enquiry basis, available up to a max. size of 64 m<sup>2</sup>
- heavy duty product for outdoor use and high wind loads

## Robust and energy-efficient

### Proven reliability

Wide side columns in combination with a sophisticated tensioning system make a major contribution to the excellent stability offered by the NovoSpeed **Heavy**. The robust aluminium bottom beam, heavy-duty aluminium stiffener/hinge profiles and 3 mm thick door leaf complete this door's impressive specifications. When fitted behind a sectional door or roller shutter, the NovoSpeed **Heavy** creates a more pleasant working environment and saves energy.

The traditional sectional door is opened in the morning and closed at night. The rapid roll door seals the opening during the working day. The high speeds at which it opens and closes minimise the air flows that cause energy loss. The NovoSpeed range of exterior doors has obviously been designed to withstand the extreme conditions in which these doors operate.

Available control units:



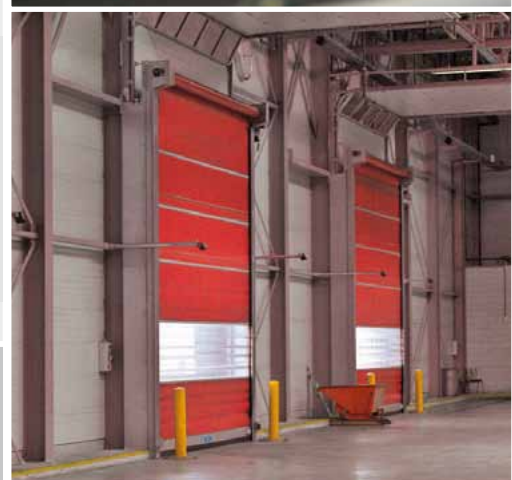
T100R



T100R FU



T100R FU 3 kW



# NovoSpeed THERMO



Novoferm sets itself ambitious targets in the areas of insulation, noise and pricing. Our research & development department has succeeded in developing an unprecedentedly fast sectional door that also offers exceptional insulation performance: the NovoSpeed **Thermo**. Specially designed rollers keep noise to a minimum. This patented system also contributes to the sleek design of the NovoSpeed **Thermo**.

## Specifications

NovoSpeed	Thermo
max. surface area (W x H)	36 m <sup>2</sup>
max. width (W)	6000 mm
max. height (H)	6000 mm
opening speed	2 m/s
closing speed	0.5 m/s
panel height	375 mm
panel thickness	45 mm
finish	galvanized steel

## Product Benefits

- class 0 wind resistance
- panels without thermal bridges
- high insulation value
- high opening speed > 2 m / s
- low noise due to vibration-free operation

## High insulation combined with speed

### Fast all-in-one exterior door

Traditionally, two doors are often mounted in frequently used exterior openings; an insulated door for use at night and a rapid roll door that is used during the day. The new NovoSpeed **Thermo** combines the best of both worlds in a single product. An investment that pays for itself in next to no time!

#### Energy-conscious

You can easily reduce energy costs by opening and closing exterior doors at high speed. The NovoSpeed **Thermo** opens at a speed of more than 2 m / s (depending on the track system and the size of the door). In addition, the standard, user-programmable half-height stop feature for pedestrian traffic also helps to reduce overall energy consumption. The height to which the door opens significantly affects the amount of energy loss. High insulation performance is achieved by the thermal bridge free design and thickness (45 mm) of the sandwich panels, in combination with a highly effective lateral sealing system that been specially developed for the NovoSpeed **Thermo**.

#### Panel surface finishes and colours

Available in a stucco-embossed finish with horizontal grooves and a micro line profiled finish. The door is offered in a standard range of RAL colours and can optionally be painted in any (approximation of a) RAL colour.



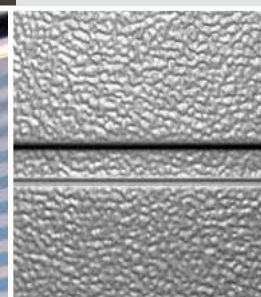
Available control unit: T100R FU 3 kW



Patented!



Microline finish



Stucco embossed finish

# NovoSpeed ALU S



The NovoSpeed **Alu S** is a high-speed exterior door that offers good insulation and burglar resistance.

## Specifications

NovoSpeed	Alu S
max. surface area (W x H)	36 m <sup>2</sup>
max. width (W)	8000 mm
max. height (H)	8000 mm
opening speed	2 m/s
closing speed	0.5 m/s
slat height (visible)	75 mm
slat thickness	20 mm
slat wall thickness	2 mm
slat material	anodised aluminium E6/EV1

## Product Benefits

- class 3 wind resistance (EN 12424) up to a door size of 5 x 5 m; above that size, we guarantee a wind resistance of up to 8 Bft at a size of 7 x 7 m
- frequency control included as standard
- door panel weight balanced by springs as standard
- guide columns fitted with inspection doors
- safety light curtain up to a height of 2.5 m included as standard
- supplied in an anodised aluminium finish as standard

## New generation

### Fast 'all-in-one' exterior roller shutter

The Novo Speed **Alu S** is the best there is where high-speed exterior doors are concerned. This door is well insulated, burglar-resistant and exceptionally fast in comparison to traditional doors. So a combination with a rapid roll door is no longer required. A single door system offers everything required for fast logistics with minimum energy loss and stoppages! Specific features:

- opening speed of 2 metres a second
- special slats that keep the noise level when opening to a minimum in comparison with ordinary roller shutter doors
- one or more viewing slats are optionally available
- mechanical emergency release is optionally available

#### Colours

The door is offered in a standard range of RAL colours and can optionally be painted in any (approximation of a) RAL colour.

Available control units:



FUE 1.5 kW



FUE 4 kW





# NovoSpeed ALU R



The NovoSpeed **Alu R** is a high-speed exterior door that offers good insulation and burglar resistance.

## Specifications

NovoSpeed	Alu R
max. surface area (W x H)	25 m <sup>2</sup>
max. width (W)	5000 mm
max. height (H)	5000 mm
opening speed	1 m/s
closing speed	0.5 m/s
slat height (visible)	80 mm
slat thickness	20 mm
slat wall thickness	0.75 / 1 mm
slat material	anodised aluminium E6/EV1

## Product Benefits

- class 2 wind resistance (EN 12424) up to a door size of 5 x 5 m.
- frequency control included as standard
- compact size for easy installation
- U-shaped side guides
- supplied in the following colours as standard:

9002

9006

9007

9010

7016

## Cost-effective aluminium roller shutter

### Universal roller shutter door

When speed is not a decisive factor, the Novo Speed **Alu R** is an ideal solution.

Offering the same attractive appearance as the Novo Speed ALU S, this door's opening speed of 1 m/s makes it suitable for universal use in interior and exterior openings. As door panel balancing is not required, the NovoSpeed ALU R is compactly dimensioned with smaller side guides and a less powerful drive. This simplified design approach significantly reduces the cost of the door without affecting reliability. Specific features:

- opening speed of 1 metre per second
- one or multiple viewing slats are optionally available

#### Colours

The door is offered in a standard range of RAL colours and can optionally be painted in any (approximation of a) RAL colour.

Available control units:



T100R



T100R FU



See the Technical Data on page 32 for more information, or download the Product Data Sheet from [www.novoferm.nl](http://www.novoferm.nl)

## Additional applications



# Smart best-sellers

## Easy Clip - easy to fit and inexpensive

Are you looking for an easy-to-install draught-exclusion system for an infrequently used opening? A strip curtain may be the perfect solution.

The ideal strip width and degree of overlap can be selected based on the size of the opening and the type of materials handling equipment. Even though this type of draught exclusion system has been used for decades, its unique benefits still make it a popular choice today:

- flexible strips with good transparency
- effective noise reduction to 30 dB
- simple strip hanging system
- fast and simple assembly
- strips are easy to replace
- orange end strips (option)
- also available for freezer cell applications down to -30°C (optional)



## Swing doors - old-fashioned reliability

A swing door is a manually operated interior door for industrial use. This door system is available in a range of sizes up to 9 m<sup>2</sup>. It owes its continuing popularity today to the following features:

- flexible door leaf in black, grey, transparent or combinations thereof
- simple construction, tried-and-tested design
- mechanical, spring-operated closing mechanism
- no drive unit or controls required
- always opens; also in emergency situations
- easy to maintain and simple to clean
- fast and simple assembly



## NovoSpeed special

For extremely large interior or exterior openings up to 64 m<sup>2</sup> we can supply a rapid roll door that completely matches your site, situation and intensity of use. The door's specific features include:

- extra heavy-duty guide columns with inspection doors
- a tensioning system in the guide columns to ensure that the door curtain can withstand high loads
- multiple encapsulated door curtain stiffener/hinge profiles
- one or more vision sections with welded windows
- frequency control



## Specially fabricated frames

A specially fabricated frame is generally required to fit a rapid roll door behind an (existing) exterior industrial door. A custom-made frame can be supplied after specification by our technical specialist. This service allows you to single-source your complete door system.



# NovoSpeed Control units

## Technical Specifications



Type	T100R	T100R FU 1.5 kW
Controls	<ul style="list-style-type: none"> <li>- push-buttons Open-Stop-Close</li> <li>- external push-buttons (Open-Stop-Close or Timer)</li> <li>- pull switch</li> <li>- radar</li> <li>- receiver (Keeloq) / Multibit</li> <li>- infrared detector</li> <li>- 2 channel infrared detector</li> </ul>	<ul style="list-style-type: none"> <li>- push-buttons Open-Stop-Close</li> <li>- external push-buttons (Open-Stop-Close / Timer)</li> <li>- pull switch</li> <li>- radar</li> <li>- receiver (Keeloq) / Multibit</li> <li>- infrared detector</li> <li>- 2 channel infrared detector</li> <li>- 2 channel induction loop detector (separate)</li> </ul>
Use	NovoSpeed door control unit for use with: <ul style="list-style-type: none"> <li>- Basic</li> <li>- Economic</li> <li>- Heavy Indoor</li> <li>- Heavy Outdoor</li> </ul>	NovoSpeed door control unit with integrated frequency control, 1.5 kW, for use with: <ul style="list-style-type: none"> <li>- Basic</li> <li>- Economic</li> <li>- Retail</li> <li>- Heavy Indoor</li> <li>- Flex</li> <li>- Alu</li> </ul>
Connection for pulse generator (DES)	Yes	Yes
Connection for pulse generator (NES)	No	No
Optional extras	<ul style="list-style-type: none"> <li>- paired door interlock with control transfer function</li> <li>- flashing light</li> <li>- traffic light red/green (A800 option)</li> <li>- door position detection</li> <li>- acoustic signal when closing (option)</li> </ul>	<ul style="list-style-type: none"> <li>- paired door interlock with control transfer function</li> <li>- flashing light</li> <li>- traffic light red/green (A800 option)</li> <li>- door position detection</li> <li>- acoustic signal when closing (option)</li> </ul>
Options	extension with: <ul style="list-style-type: none"> <li>- 3 voltage-free contacts</li> <li>- receiver (Keeloq) / Multibit (built in)</li> <li>- infrared detector for zone safety monitoring in front of the door opening</li> <li>- light screen for safety monitoring in the door area</li> </ul>	extension with: <ul style="list-style-type: none"> <li>- 3 voltage-free contacts</li> <li>- receiver (Keeloq) / Multibit (built in)</li> <li>- infrared detector for zone safety monitoring in front of the door opening</li> <li>- light screen for safety monitoring in the door area</li> </ul>
Wiring	<ul style="list-style-type: none"> <li>- 400 VAC ± 10%</li> <li>- connection for 5-pin CEE plug</li> </ul>	<ul style="list-style-type: none"> <li>- 1 X 230 VAC ± 10%</li> <li>- connection for 3-pin CEE plug</li> </ul>
Serial	<ul style="list-style-type: none"> <li>- two additional voltage-free contacts</li> <li>- socket for induction loop detector (pre-wired)</li> </ul>	<ul style="list-style-type: none"> <li>- two additional voltage-free contacts</li> <li>- socket for induction loop detector (pre-wired)</li> </ul>
Housing and power supply	<ul style="list-style-type: none"> <li>- plastic housing with membrane push-buttons (Open-Stop-Close)</li> <li>- power supply 3x400VAC, slow-blow fuse 10A, 1m CEE-plug, 16 A</li> <li>- IP65 housing</li> </ul>	<ul style="list-style-type: none"> <li>- plastic housing with membrane push-buttons (Open-Stop-Close)</li> <li>- power supply 1x230VAC, slow-blow fuse 10A, 1m CEE-plug, 16 A</li> <li>- IP65 housing</li> </ul>



### T100R FU 3 kW

- push-buttons Open-Stop-Close
- external push-buttons (Open-Stop-Close / Timer)
- pull switch
- radar
- receiver (Keeloq) / Multibit
- infrared detector
- 2 channel infrared detector
- 2 channel induction loop (separate)

NovoSpeed door control unit with integrated frequency control 3 kW, for use with:

- Special
- Heavy
- Alu

Yes

No

- paired door interlock with control transfer function
- flashing light
- traffic light red/green (A800 option)
- door position detection
- acoustic signal when closing (option)
- 2 x mounting profile 70 mm

extension with:

- 3 voltage-free contacts
- receiver (Keeloq) / Multibit (built in)
- infrared detector for zone safety monitoring in front of the door opening
- light screen for safety monitoring in the door area

- 400 VAC  $\pm$  10%
- connection for 5-pin CEE plug

- two additional voltage-free contacts
- socket for induction loop detector (pre-wired)
- 2 x mounting profile 70 mm

- plastic housing with membrane push-buttons (Open-Stop-Close)
- power supply 3x400VAC, slow-blow fuse 10A, 1m CEE-plug, 16 A
- IP65 housing



T100R



T100R FU 1.5 kW

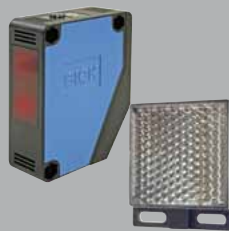


T100R FU 3 kW

# Zubehör



**Push-button**  
mushroom head  
(face-fit)



**Safety photocell**  
with reflector



**Iris**  
Infrared for interior use  
to H = 4 m



**Push-button set**  
Up-Stop-Down  
(face-fit)



**Housing**  
for photocell and  
reflector (seen from  
the mounting face)



**Activ8**  
Infrared and movement sensor  
for interior use to H = 4 m



**Push-button set**  
Up-Stop-Down  
key-operated switch  
(face-fit)



**Pull switch**



**Radar detector**  
Movement sensor for  
interior and exterior  
use to H = 6 m



**Push-button set**  
Up-Stop-Down  
with illuminated  
push-buttons  
(face-fit)



**Key-operated  
switch**



**Condor**  
Infrared and  
movement sensor for  
interior and exterior  
use to H = 6 m



**Hand transmitter**  
2-channel



**Support bracket**  
for radar or traffic  
lights



**Induction loop  
detector**  
in separate  
housing



**Hand transmitter**  
4-channel



**Console**  
Protects the guides  
in the event of a  
collision



**Traffic light**  
red



**Receiver**  
for remote control  
(also available in  
housing)

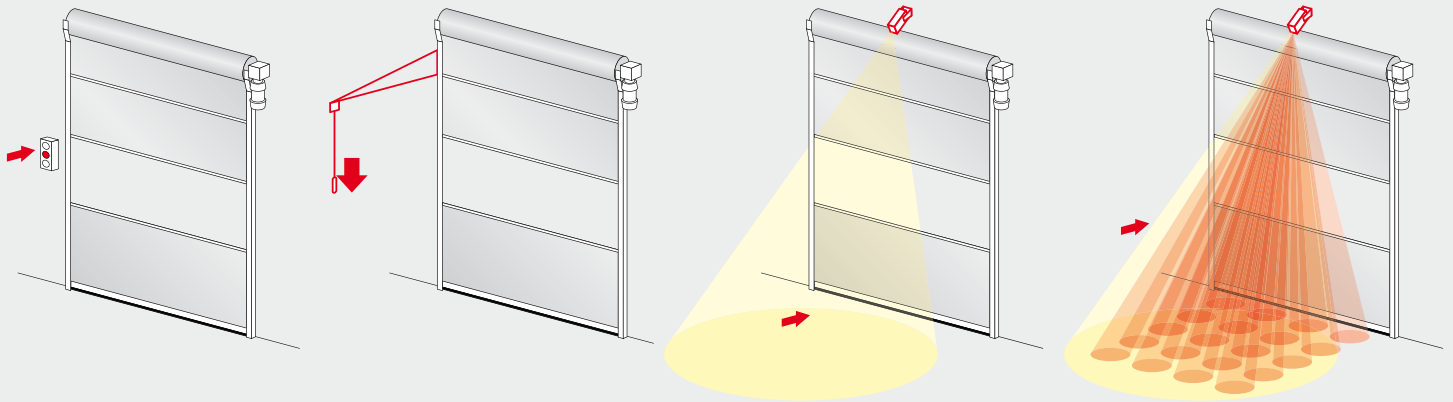


**Light curtain**  
Presence detection  
in the door opening  
to a maximum  
height of 2,500 mm



**Traffic light**  
red/green

# Bedienungen



## Push-button

Push-buttons are used predominantly for pedestrian traffic. In situations where the hands are not always free, mushroom-head push-buttons offer a solution.

## Pull switch

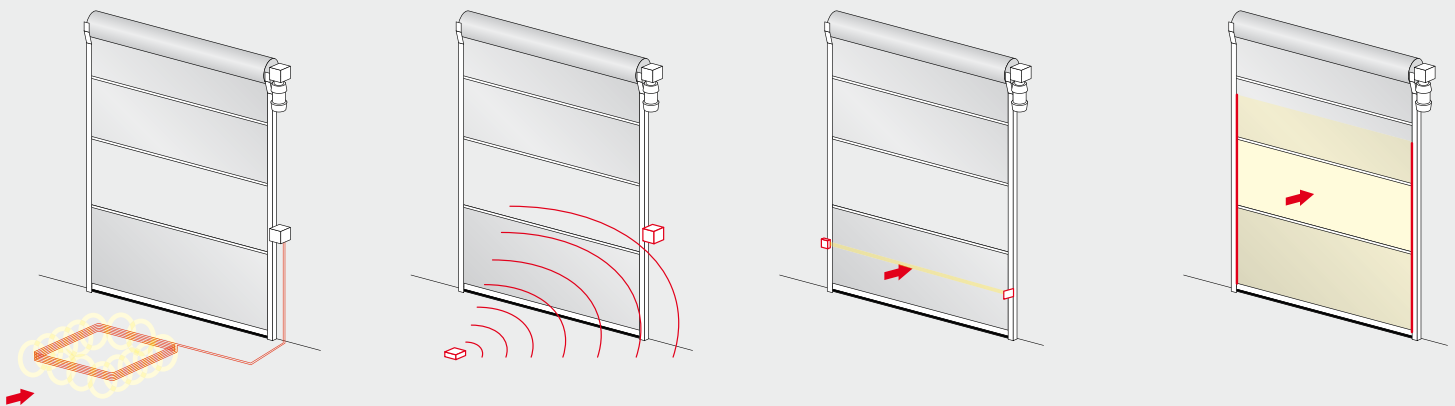
The pull switch is used mainly for forklift truck traffic so the driver can operate the door without getting out of the vehicle.

## Radar

Radar devices only detect moving objects. The radar detector has a conical detection area and is direction-sensitive. The size, direction and sensitivity of the radar detection field are adjustable.

## Condor

The Condor combines two functions in one appliance. Radar for the detection of moving objects (door command) and active infrared for the detection of stationary objects (safety).



## Induction loop

An induction loop creates a magnetic field. When metal objects enter the field, they are detected. Consequently, the induction loop detector is suitable for forklift truck traffic as a door control or extra safety device to prevent the door from closing.

## Remote control

Radio remote control operation (transmitter and receiver) allows selective operation. Only vehicles or personnel with a transmitter can open or shut the door. The transmitters may have one or more channels.

## Photocell

Photocells are mainly used to monitor the door opening. The door will not close when the photocell beam is interrupted. Designs with a reflector and with a transmitter and receiver are available.

## Light curtain

Because a light curtain has a larger detection range, it offers greater safety than a photocell. This form of detection is highly suited to a large variety of vehicle and load sizes.

# Technical data

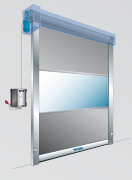
## Rapid roll doors with a flexible door curtain



	items	units	Flex Hard edge	Flex Flex Edge	
application	interior door		★	★	
	exterior door				
speed	T100 R Control unit	opens in m/sec (approx.) closes in m/sec (approx.)			
	T100R FU with frequency control	opens in m/sec (approx.) closes in m/sec (approx.)	2 m/sec 0.5 m/sec	2 m/sec 0.5 m/sec	
safety equipment	EN 13241		★	★	
wind-resistance	Beaufort		5 (29 - 38 km/h)	5 (29 - 38 km/h)	
windload class	EN 12424		Class 0	Class 0	
wind protection system			blocks	blocks	
door sizes	width	maximum in mm	4250	3500	
	height	maximum in mm	5000	5000	
	maximum surface area	maximum m <sup>2</sup>	20	17.5	
overall size	drive side	clear width + mm	210	210	
	bearing side	clear width + mm	210	210	
	height	clear height + mm	450	450	
	width with protective cover	clear width + mm	320	320	
	height with protective cover	clear height + mm	500	450	
	depth	from the wall = mm			
	depth with protective cover	from the wall = mm	420	420	
	T100R control unit, plastic housing [IP65]	w x h x d = 219 x 256 x 117 mm			
	T100R large control unit with add-on [IP65]	w x h x d = 219 x 550 x 117 mm			
T100R FU 1.5 kW [IP65]	w x h x d = 219 x 550 x 117 mm	★	★		
T100R FU 3 kW	w x h x d = 300 x 600 x 160 mm				
'break-away'	manual re-feed				
'anti-crash'-system	auto 're-feed' (self-repairing)		★	★	
door construction	self-supporting		★	★	
door leaf	transparent vision/window section thickness	0.8 / 3 mm	0.8 mm	0.8 mm	
	coloured PVC thickness	0.7 / 1.2 / 3 / 45 mm	1.2	1.2	
curtain	tensioning system				
guide material / surface finish	galvanised steel				
	stainless steel V2A, smoothed (304)				
	aluminium		★	★	
drive and control	painted in a choice of RAL colours		○	○	
	mechanical cam-type limit switch				
	electronic limit switch DES		★	★	
	mains supply		1 x 230V, N, PE	1 x 230V, N, PE	
	fuse		16 A slow	16 A slow	
	supply voltage (single phase) 230V		★	★	
	supply voltage (three-phase) 400V				
	main switch		★	★	
	emergency stop		○	○	
	presence detection in the door opening	photocell + safety edge			
		light screen		★	★
		radar detector		○	○
	safety edge device	wireless signal transfer			
coil cable					
emergency opening	crank				
	emergency hand chain				
	counterweight / spring		- / ○	- / ○	
	B-Brake		○	○	
	Mechanical emergency release		○	○	
voltage-free contacts	UPS with frequency control, 230V	with frequency control only	○	○	
			2	2	

★ = standard  
○ = optional



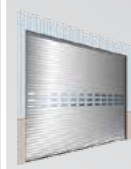
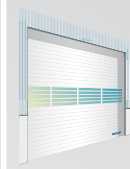


Retail	Economic (Food)	Basic (Food)	Polara	Heavy Indoor	Heavy	Special
★	★	★	★	★	★	★
	1 m/sec	1 m/sec	1 m/sec	1 m/sec	1 m/sec	
	1 m/sec	1 m/sec	1 m/sec	1 m/sec	1 m/sec	
2 m/sec	1.5 m/sec	1.5 m/sec	1.5 m/sec	1.5 m/sec	1.5 m/sec	1 m/sec
0.5 m/sec	0.5 m/sec	0.5 m/sec	0.5 m/sec	0.5 m/sec	0.5 m/sec	0.5 m/sec
★	★	★	★	★	★	★
3 (12 - 19 km/h)	3 (12 - 19 km/h)	5 (29 - 38 km/h)	3 (12 - 19 km/h)	5 (29 - 38 km/h)	8 (62 - 74 km/h)	8 (62 - 74 km/h)
Class 1	Class 0	Class 1 (up to 3 x 3 m)	Class 0	Class 0	Class 0	Class 0
blocks	stiffener/hinge profile	stiffener/hinge profile	stiffener/hinge profile	stiffener/hinge profile	stiffener/hinge profile	stiffener/hinge profile
2250	3000	4000	3500	6000	6000	8000
2600	3500	5000	5000	6000	6000	8000
5,85	9	20	17,5	36	36	64
200 / 325	290	310	290	470	470	435
200 / 250	160	160	160	275	275	280
430	475	575	850	710	710	675
310 / 460	355	355		775	775	715
400	550	650		750	750	685
	355	350	350	400	400	420
410	390	390		400	400	420
	★	★	SMD*	★	★	
	○	○	* outside of freezer cell	○	○	
★	○	○	○*	○	○	★
		○		○	○ (≤ 4500 mm wide)	
★ (1 side)			★			
★						★
0.8 mm	0.8 mm	0.8 mm	0.8 mm	0.8 mm	3 mm	3 mm
0.7 mm	0.7 mm	1.2 / 3 mm	1.2 mm	1.2 / 3 mm	3 mm	3 mm
					★	★
★	★ / -	★ / -		★	★	★
	- / ★	- / ★	○			
○	○ / -	○ / -	○	○	○	○
			★			
★	★	★		★	★	★
1 x 230V, N, PE	3 x 400V, N, PE	3 x 400V, N, PE	3 x 400V, N, PE	3 x 400V, N, PE	3 x 400V, N, PE	3 x 400V, N, PE
16 A slow	16 A slow	16 A slow	16 A slow	16 A slow	16 A slow	16 A slow
★	○	○	○	○	○	○
	★	★	★	★	★	★
★	○	○	○	○	○	★
★		○	○	○		○
★ / -	★ / -	★		★	★	★
	○	○	-	○	○	○
○	○	○	○	○	○	○
		★		★	★	★
	★	★	★	★	★	★
	○	○		○	○	○
○						
○						
○						
○	○	○		○	on request	on request
2	2	2	2	2	2	2

# Technical data

## Rapid roll doors with rigid door panels

★ = standard  
○ = optional



	item	units	NS ALU S	NS ALU R	Thermo	
application	inside door					
	outside door		★	★	★	
speed	motor contactor control	opens in m/sec. (approx.)				
		closes in m/sec. (approx.)				
	frequency control	opens in m/sec. (approx.)	2	1	2	
		closes in m/sec. (approx.)	0.7	0.7	0.5	
safety equipment	EN 13.241	★	★	★		
wind load class	EN 12.424	Class 3	Class 3	Class 3		
resistance penetrating water	EN 12.425	Class 2	Class 2			
air permeability	EN 12.426	Class 2	Class 2			
heat transfer	EN 12.428	0	0			
noise-attenuation	EN 52210 dB		20 dB	20 dB	20 dB	
dimensions	width	maximum in mm	6000 (8000)	5000	6000	
	height	maximum in mm	6000 (8000)	5000	6000	
overall size	drive side	clear width + mm	350	300		
	bearing side	clear width + mm	250	170		
	lintel	clear width + mm	600	400		
	height	clear height + mm	650	850		
	drive side with protective cover	clear width + mm	450	300		
	bearing side with protective cover	clear width + mm	350	170		
	lintel with protective cover	clear width + mm	800	400		
	height with protective cover	clear height + mm	700	930		
	frequency control FUE 1.5 Kw	w x h x d = 300 x 350 x 150 mm	★			
	frequency control FUE3-C 4 kw	w x h x d = 300 x 450 x 150 mm	○			
	T100R FU 1.5 kW [IP65]	w x h x d = 219 x 550 x 117 mm		★		
T100R FU 3 kW	w x h x d = 300 x 600 x 160 mm		○	★		
door construction	self-supporting		★			
door leaf	profiles, double-walled, thickness in mm		20	20	45	
	thermally insulated profile		★	★	★	
door leaf material	aluminium anodised E6/EV1		★	★		
	aluminium with RAL powder coating		○	○	○	
glazing	synthetic windows, double		○	○	○	
ventilation	ventilation opening					
guide material / surface finish	galvanised steel / aluminum		- / ★	★ / -	★ / -	
	steel painted in a choice of RAL colours		○		○	
drive and control	frequency control		★	★		
	supply voltage ( single phase )		★	★		
	supply voltage ( triple-phase )		> 24 m <sup>2</sup>	> 16 m <sup>2</sup>	★	
	membrane push-buttons, Open-Stop-Close		★	★	★	
	frequency control,		★	★	★	
	main switch, switches off all poles		★	★	★	
	fuse		16A T	16A T	16A T	
	protection class	drive control	IP 65	IP 65	IP 65	
	emergency stop		★	○	○	
	presence detection in door opening	photocell			★	
		light screen		★	○	★
		safety edge device		★		
	safety edge device	with articulated cable carrier			★	
		with coil cable			★	
with wireless signal transfer					★	
electronic limit switch DES		★	★	★		
emergency opening	crank		★	★	★	
	emergency hand chain		○	○	○	
	counterweight/spring		★ / -		- / ★	
	UPS with frequency control, 230V		○	○		
voltage-free contacts		2	2	2		

# References



# Novoferm offers more...

You can download these brochures and more from our site [www.novoferm.nl](http://www.novoferm.nl)



## NovoDoor Solutions

- sectional doors
- roller doors



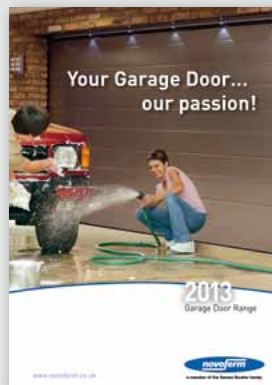
## Rolling doors and roller grilles

- aluminium
- steel



## Novoferm Docking Solutions

- levellers
- shelters
- closing seals
- full loading docks
- air locks



## Novoferm Garage doors

- sectional doors
- tilt doors
- sliding garage doors
- doors for garages

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The Novoferm Group is a leading manufacturer of industrial doors, pass doors, steel door frames and drives. We offer an extensive range of products to consumers and businesses. All of our products are designed and produced to the highest quality standards using state-of-the-art technology. We also guarantee optimal functionality and innovative design. Production takes place at several manufacturing sites in Europe and an extensive dealer network ensures that local support and advice are always available.

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