



INSPIRED BY
EFFICIENCY



INTERROLL PALLET ROLLER FLOW PF 1100

A MUST FOR FIFO APPLICATIONS
SAFE, VERSATILE, GUARANTEED

INTERROLL PROFILE

Interroll is one of the world's leading manufacturers of key products for unit load handling systems, internal logistics and automation.

These solutions are used primarily within the area of food processing, airport logistics, postal services, distribution and in various segments of industry.

The products include easy-to-integrate drive solutions such as drum motors for belt conveyors, DC-powered and non-powered rollers for conveyor systems; energy-efficient flow storage modules for compact pallet/container racking systems in distribution centres; crossbelt sorters, belt curves and other user-friendly conveyor modules for cost-efficient material flow systems.

Interroll serves more than 23,000 customers, mainly regional plant manufacturers and engineering specialists as well as system integrators, multinational companies and users.

Interroll has 1,500 employees working in 28 companies and is listed on the SIX Swiss Exchange.

Interroll Pallet Roller Flow storage systems are installed in many storage applications and distribution centres, including ambient, chilled and cold store environments down to -28°C.

The undisputed benefits are widely acknowledged providing one of the most compact forms of storage, requiring minimum handling, and offering guaranteed FIFO order picking and accurate stock rotation – resulting in many potential increased efficiencies.

Interroll's dynamic pallet flow storage solutions are compatible with all major racking systems, world wide, and we are here to help you explore the potential of introducing this pallet live storage system into your logistics supply chain.

Whether you are distributing, buffering or storing, Interroll has the right solution to improve your efficiencies with a typical return on investment of less than two years.

WHY IS FLOW STORAGE THE RIGHT SOLUTION?

If you are operating a warehouse with conventional pallet racking and a fast throughput of stock, Interroll Pallet Roller Flow storage provides you the right solution to achieve increased efficiencies, such as:

- Space saving - maximises available storage area by reducing the number of aisles
- Faster throughput of stock with minimum handling – as goods move automatically from the loading face to the order picking

face at a controlled speed on gravity conveyor beds

- Accurate stock rotation using FIFO (First-In-First-Out) principles reduces waste of fresh and date sensitive products
- Shorter travel times increase order picking efficiencies and improve productivity
- Separate loading and order picking aisles ensure safe flow of vehicles and personnel
- A reduction of energy consumption

"The FIFO principle, coupled with Interroll's proven mechanical, dynamic storage solution with no energy consumption, and, equally, the compact, space-saving design that drastically reduces our order picking lines are what make this system so attractive."

Project and Site Manager, Osem



INTERROLL PALLET ROLLER FLOW PF 1100

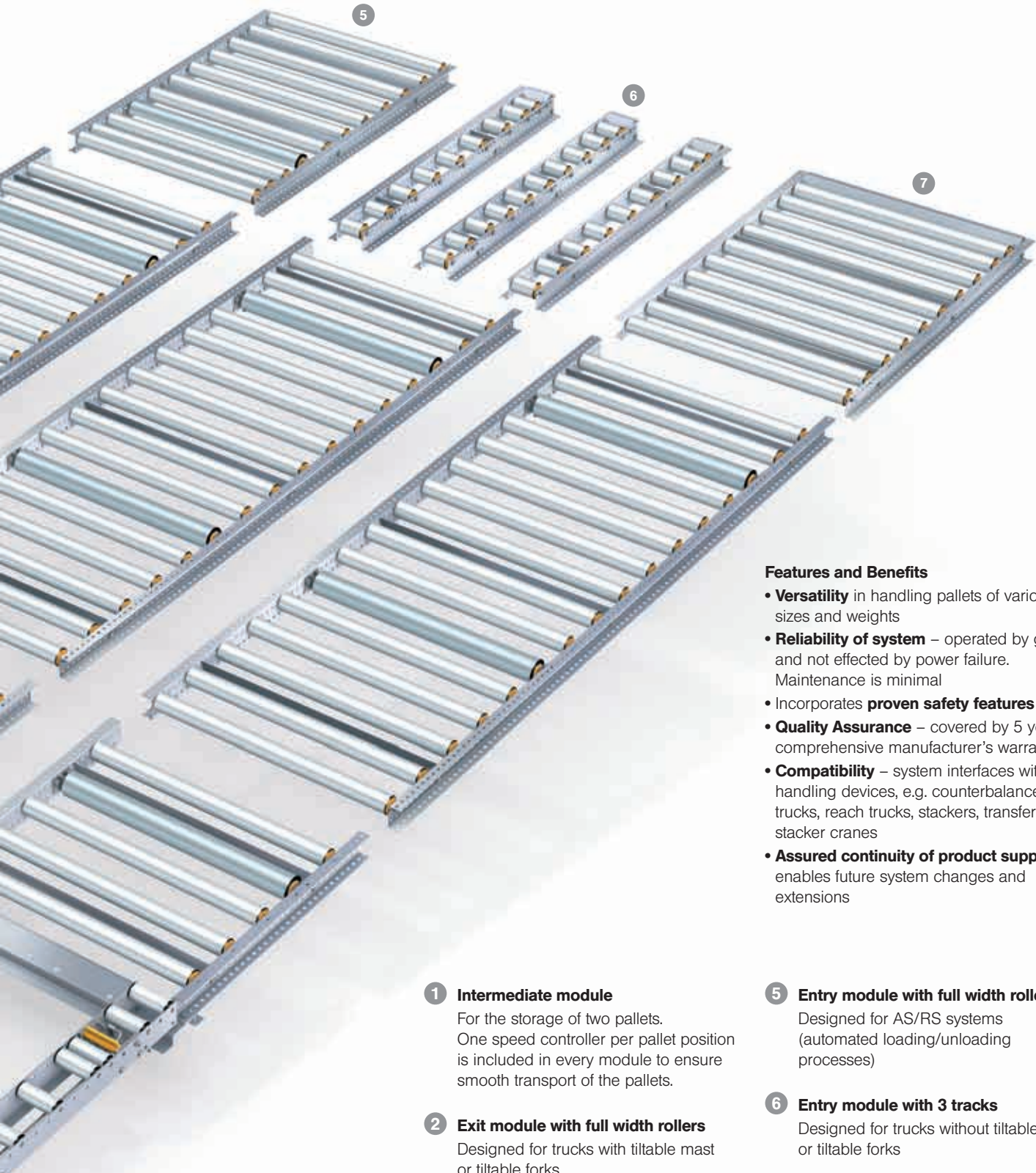
Our engineers have developed a Pallet Roller Flow system that incorporates innovative technology featuring a wearless speed controller, a robust pallet separator with a built-in "time delay" function and redesigned rollers.

This latest Pallet Flow generation contributes to even greater safety for operatives and provides a high quality live storage system that offers flexibility and efficiency in warehousing operations.

Interroll roller modules are compatible with

all world wide racking systems and offer the possibility to store a wide range of pallets sizes and weights, including Euro pallets, CHEP pallets, plastic pallets and metallic containers, etc. with high throughput.





- 1 Intermediate module**
For the storage of two pallets.
One speed controller per pallet position is included in every module to ensure smooth transport of the pallets.
- 2 Exit module with full width rollers**
Designed for trucks with tiltable mast or tiltable forks
- 3 Exit module with 3 tracks**
Designed for trucks without tiltable mast or tiltable forks
- 4 Exit module for hand pallet truck unloading**
Designed for hand pallet trucks

Features and Benefits

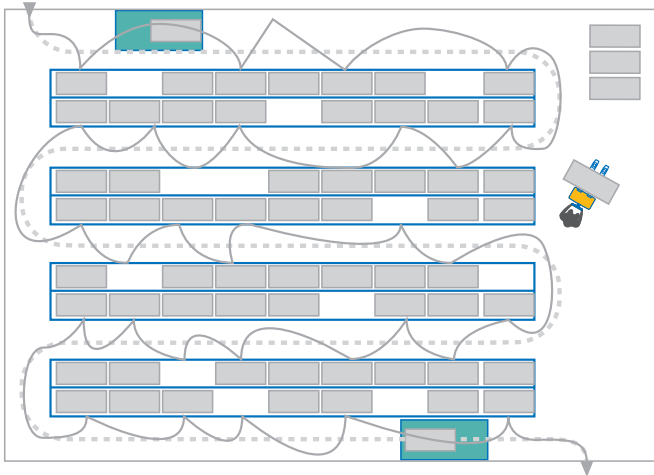
- **Versatility** in handling pallets of various sizes and weights
- **Reliability of system** – operated by gravity and not effected by power failure. Maintenance is minimal
- Incorporates **proven safety features**
- **Quality Assurance** – covered by 5 years comprehensive manufacturer’s warranty
- **Compatibility** – system interfaces with most handling devices, e.g. counterbalance trucks, reach trucks, stackers, transfer cars, stacker cranes
- **Assured continuity of product supply** – enables future system changes and extensions

- 5 Entry module with full width rollers**
Designed for AS/RS systems (automated loading/unloading processes)
- 6 Entry module with 3 tracks**
Designed for trucks without tiltable mast or tiltable forks
- 7 Entry module with full width rollers**
Designed for trucks with tiltable mast or tiltable forks

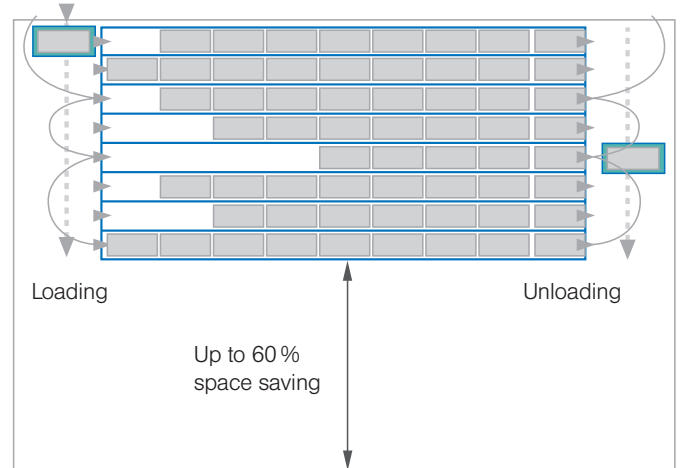
The type of loading/unloading module depends on the handling method. Interroll designs, engineers and manufactures FIFO flow storage modules, which undergo rigorous tests to ensure maximum performance and durability.

INTERROLL PROVIDES A QUICK RETURN ON INVESTMENT...

Conventional racking



Flow storage



... by improving your warehouse's productivity

Generally, storage costs consist of 40% logistic costs and 7% product costs. Thus, monitoring of the overhead costs of operating a warehouse is a very critical part of management. Crucial factors are:

- Interest on stock value
- Depreciation and loss in value
- Warehouse operational costs (lighting, heating, refrigeration, vehicle usage, etc.)
- Time period for amortisation of the storage system

... by increasing your storage capacity

A Pallet Roller Flow installation maximises the use of available warehouse space by requiring only two aisles for the purpose of loading the system and order picking. The system is therefore more compact than conventional racking and can save, on average, up to 50% of floor space. Moreover, picking from much shorter and condensed picking aisle saves an average of 70% in travel distances.

... by increasing your warehouse's efficiency

Picking from only one aisle simplifies location and visual identification of pallet loads, minimises order picking errors and reduces travelling time. Therefore, this layout contributes to significant savings in handling times and creates opportunities to reduce energy costs.

FIFO stock rotation has a decisive influence on the overall cost per pallet position and optimises stock rotation and value.

Ancillary technologies can be successfully introduced and aid in picking accuracy such as pick to light, counting scales, bar code scanners and RFID systems.

Increased staff safety and vehicle efficiencies are achieved as loaders and order pickers function in separate aisles with aisles avoiding traffic flow disrupting the individual operations.

"Interroll flow storage has dramatically increased efficiency and operational safety, even at busy handling times."

Peter Dippel, Managing Director, Rema Tec

"The quality of Interroll dynamic storage solutions is so high that we decided to try a pre-owned installation, which proved a wise decision. It propelled our picking performance upwards.

Our 24-hour delivery promise for spares requires minimal throughput times, which we achieve through our flow storage solution from Interroll – it's just perfect."

Hermann Löffeld, Shareholding CEO, OEG Oel- und Gasfeuerungsbedarf GmbH

DESIGNED WITH SA

NEW
PRODUCT 2011

Safety time delay function

On lifting the first pallet to remove from the order picking face, there is a 20 second delay before the separation device releases the next pallet in line.

This gives the forklift truck driver all the necessary time to unload the pallet safely

before the second pallet is released.

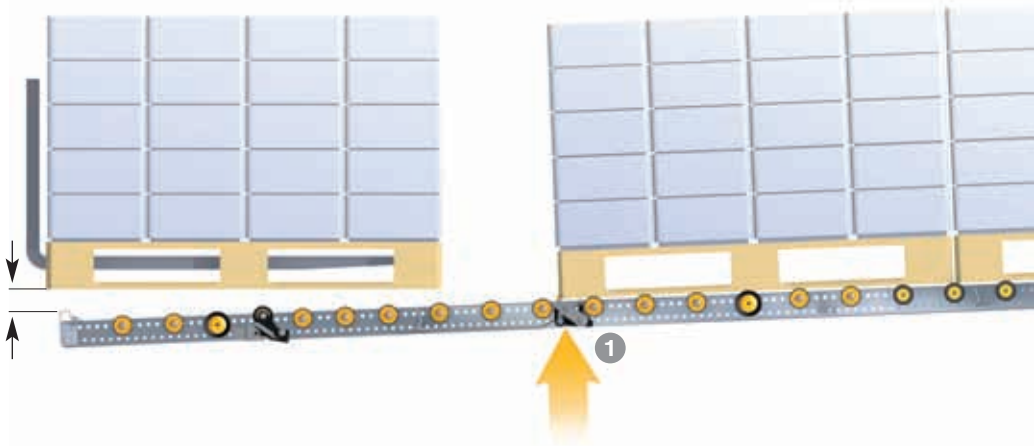
As a result of the pedal-less system, there is no longer pallet lift up height restriction for the truck driver, which is especially crucial and useful, for the forklift truck driver, when working at high levels with restricted visibility.

Step 1



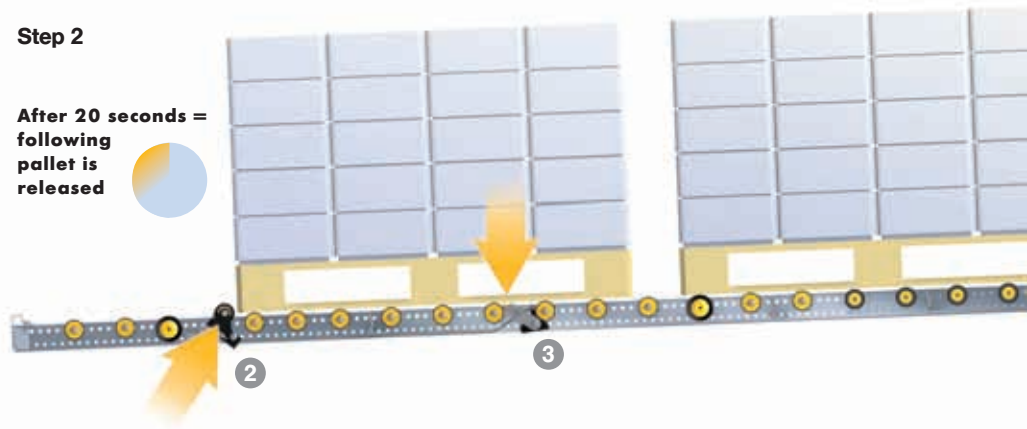
No more restriction

20 seconds
delay when
pallet is lifted



Step 2

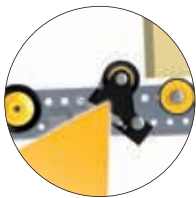
After 20 seconds =
following
pallet is
released



1



2



3



Preventive speed controller provides ultimate safety

This is a vital component that prevents the potential risk of free running pallets. In the unlikely event of speed controller damage, the Interroll Speed Controller will automatically self lock and the pallet will be stopped.

Constant pallet speed at 0.25 m/s

The travel speed of pallets in gravity roller lanes is critical to safety. Therefore the Interroll Speed Controller regulates the flow of pallets at a steady speed of less than 0.25 m/s, whatever the weight of pallets (from 25 to 1400 kg in the same lane). Controlled speed flow minimises load impacts, which prevents goods on pallets being damaged, maintains pallet load stability and ensures that less stress is transferred to the racking structure.

SAFETY AT THE FOREFRONT

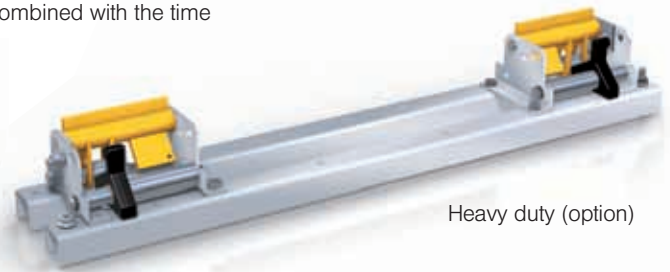
Optimised separator end stop

Interroll has developed different separator solutions that can be combined with the time delay function.



Regular (standard)

Regular separators – up to 12 tonnes in accumulation



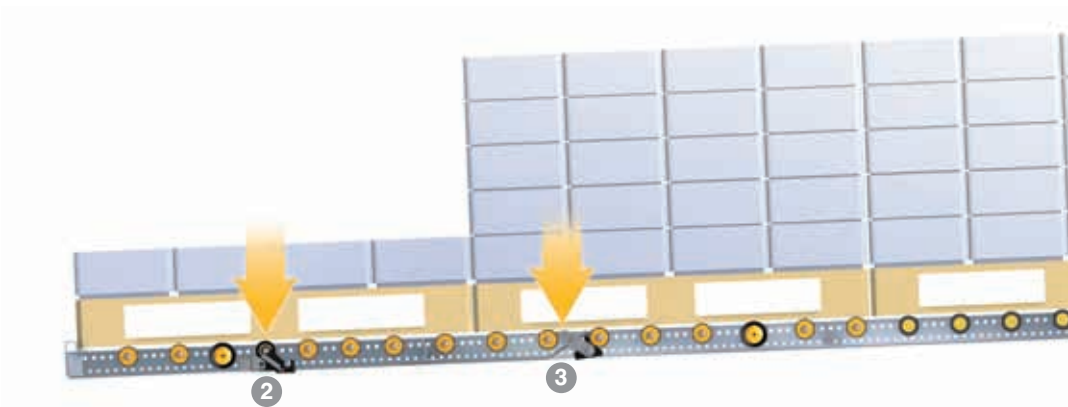
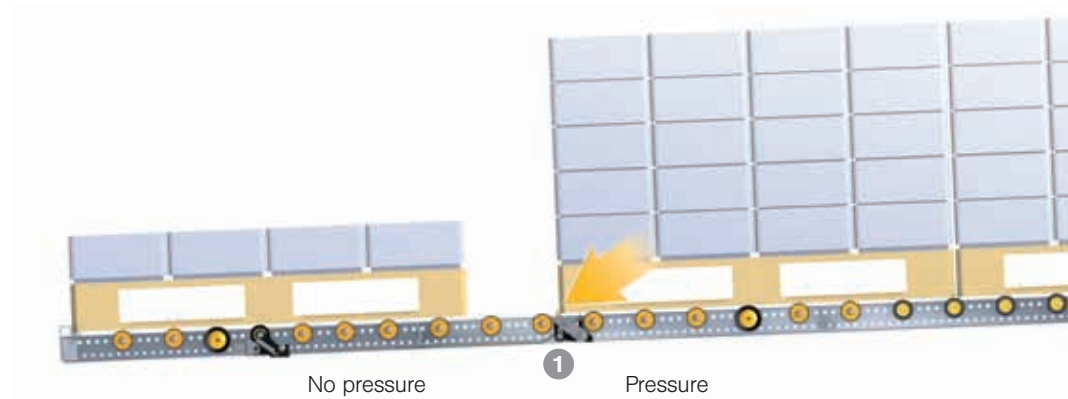
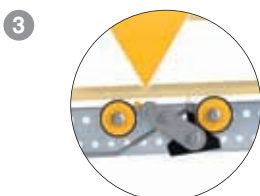
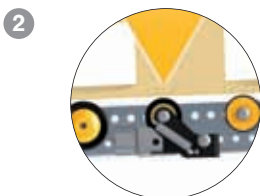
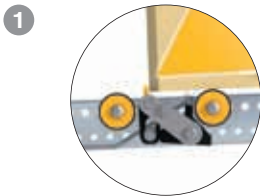
Heavy duty (option)

Heavy duty separators – for applications involving long lanes conveying up to 20 tonnes and more of accumulated pallets, Interroll offers new reinforced separation devices with two independent stops for double safety assurance.

Safety separator function

The pressure of the accumulated pallets on the separator stop device is not transferred to the pedal device. There is no risk that the pedal at the unloading side lifts up. This ensures safety in operation even with light pallets on the pedal system and

generally ensures the separating device functions reliably and requires minimum maintenance. Due to the separator stop device, the accumulated pallets cannot be released until the leading pallet is removed.



Pedal and separator device on low position simultaneously: no damage

MAXIMUM VERSATILITY IN PALLET HANDLING

NEW
PRODUCT 2011

"Much faster returns on investment are possible thanks to the high throughput capacity provided by this compact, space-saving system."

Jürg Lanz, Managing Director,
Lakor International AG

Up to 100 pallets/hour

(compared to 5-30 pallets/hour with conventional speed controllers)

Due to the unique wearless design, deterioration of the speed controller has been eliminated and therefore can withstand high throughputs.



This ensures total reliability and durability with:

- No overheating of the speed controller, especially when involved with high throughputs as experienced in dispatch lanes
- Guaranteed trouble-free long life
- Controls pallet flow from 25 kg to 1400 kg at constant speed

1



2

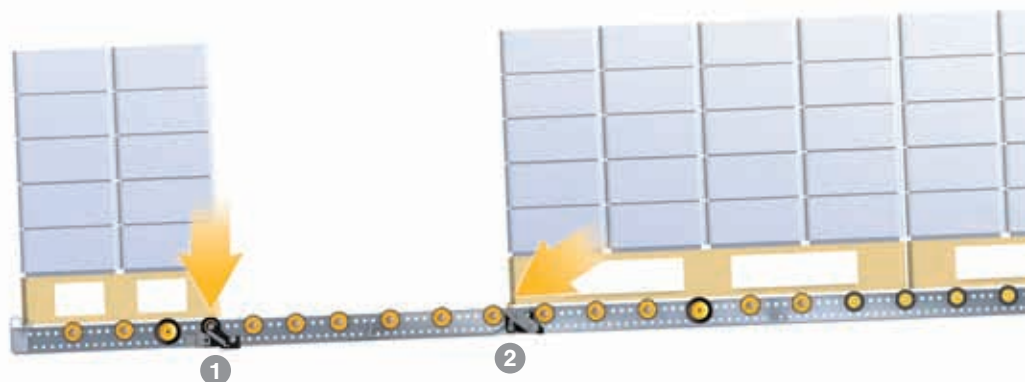


Versatility – handling mixed pallet weights and dimensions

The solution has been designed to fit with different pallet weights and lengths

- From 60 kg to 1400 kg within the same lane

- Half (600 mm) and Euro (1200 mm) pallets within the same lane



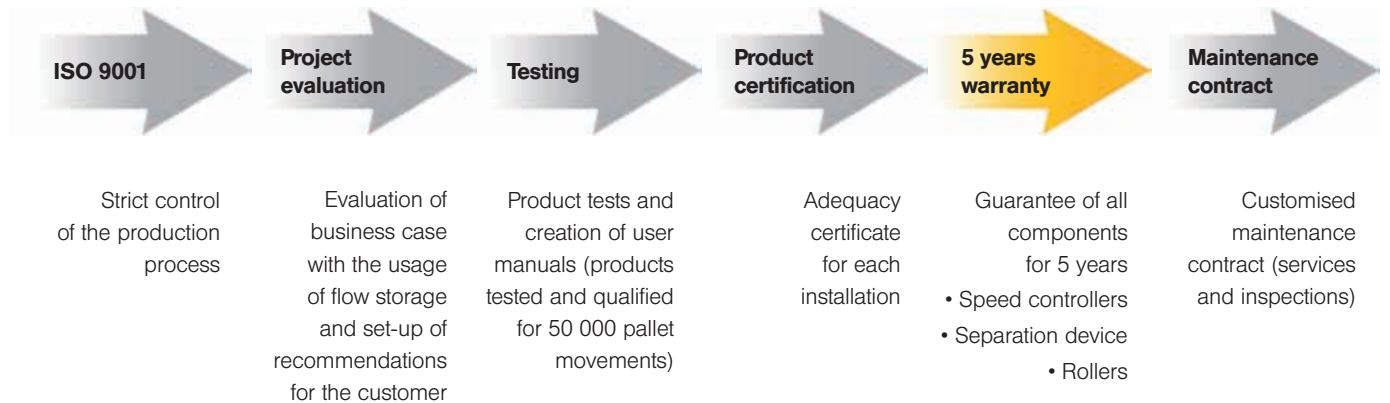
QUALITY ASSURANCE WITH COMPREHENSIVE GUARANTEE

A system in which you can trust

Interroll solutions are fully tested and certified. The Centre of Excellence for Dynamic Storage in La Roche-sur-Yon (France) has a dedicated centre (800 sqm) for the thorough testing of the dynamic storage product range.

All products are subjected to 50 000 pallet movements: safety separator, loading module, speed controller, rollers.

A cold room allows us to test our complete product range at up to -28°C.





Interroll is the most global core product provider for material handling solutions. Headquartered in Sant'Antonino (Switzerland), we are present in more than 30 countries.

Please find all sales contacts and addresses at www.interroll.com/contacts

**Centre of Excellence
for Dynamic Storage**

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