

USER MANUAL (GB)

INTERROLL CARTON WHEEL FLOW

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About this manual

Remarks concerning the use of this manual

Manual contents

This manual provides remarks and important information about the various operating phases of the Carton Wheel Flow:

- Transport, assembly, and start-up
- Safe operation, maintenance, troubleshooting, waste disposal

Validity of this manual

This manual describes the Carton Wheel Flow as it is delivered by Interroll.



For systems involving non-standard containers or contents, specific recommendations, specific operating modes, and all the contractual documents are supplied in addition to this manual.

This manual is an integral part of the product

To ensure safe, reliable operation and to benefit from the warranty, before using the Carton Wheel Flow, you must follow the recommendations in this manual, in particular the instructions in chapter "Assembly and installation", page 12, and the information in the order confirmation.

- Keep this manual near the Carton Wheel Flow.
- Give this manual to any operator or subsequent user of the Carton Wheel Flow.
- Interroll shall not be held responsible for damages or failures which may result from ignoring the recommendations in this manual.
- Contact Interroll Customer Service if you have any questions after reading this manual.

Warnings in this manual

The warnings in this manual concern dangers which may arise while using the Carton Wheel Flow. For relevant warnings see chapter "Safety", page 3, and the warnings at the beginning of each chapter.

There are three levels of warnings. You can recognise them from the following key-words:

- Danger
- Warning
- Caution

Structure of warnings



Danger

Nature and source of the hazard
Possible consequences of non-observance.
▶ Information about how to avoid the hazard.



Notice

This symbol identifies possible material damages
▶ Information about how to avoid damage.

Additional symbols



This symbol draws your attention to important information.



This symbol draws your attention to actions that have to be carried out.

Safety

General safety instructions

The Carton Wheel Flow is designed according to the technical state of the art. However, certain risks may still arise:

- Injury or a fatal accident to the user or a third party
- Damage caused to the Carton Wheel Flow or to other material



Disregarding the warnings in this manual may lead to serious injury.

- ▶ Always read this manual carefully and make sure you follow the safety instructions.
- ▶ Only qualified and specifically trained personnel may work with the Carton Wheel Flow.
- ▶ Always keep this manual at hand and make it accessible to all personnel.
- ▶ Always comply with the relevant local safety regulations in your company.
- ▶ Contact Interroll Customer Service if you have any questions after reading this manual.

Intended use

The Carton Wheel Flow is reserved exclusively for industrial use in suitable environments. The installed beds are intended for dynamic (gravity-based) storage only of foreseen and previously approved isolated loads. They are reserved exclusively for storing referenced or standardized containers. Any other use is considered inappropriate.

The system configurations must be applied. They are defined in the order confirmation and in this manual. All other changes concerning the components and their location in the bed are not authorised.

Observe the rack manufacturer's recommended loads indicated on the load plate. Under no circumstances may the content exceed the maximum load defined by the container manufacturer or by the standard.



Unintended use

The Carton Wheel Flow may not be used to transport people. Applications which do not comply with the intended use of the Carton Wheel Flow require prior written approval from Interroll.

Technical characteristics of the Carton Wheel Flow

Gravity-based system

Loads	Indicated in the assembly method (depend on bed)
Bed slope	Recommended slope 3% to 4.5% for plastic containers 4% to 5.5% for cartons 5.5% to 7% for KLT containers see "Checks before the initial start-up", Page EN.8
Handling equipment	Manual unless specified in the order confirmation

Atmospheric conditions

Ambient temperature	during operation	-30 °C to +45 °C
	during assembly	-30 °C to +45 °C
	for transportation and storage	-30 °C to +80 °C
Relative humidity		Up to 90 % max., without condensation
Environment	<p>The Carton Wheel Flow is not suitable for use in an environment presenting the following risks:</p> <ul style="list-style-type: none"> • Oxidation (either atmospheric or by chemical attack) • Projections • Decomposition • Vibrations • Explosions • Radioactive radiation • Electromagnetic radiation <p>Exceptions are possible: please contact Interroll.</p>	

Loads

Load contents	<p>The contents of the loads and their containers must not:</p> <ul style="list-style-type: none"> • Oxidise • Corrode • Decompose • Block the bed's components • Pollute the steel or plastic components • Interfere with the proper operation of any mechanism <p>The Carton Wheel Flow must not be used in direct contact with food products.</p>
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Transportation and storage

Transportation

- ▶ Only qualified and authorized personnel can transport the equipment.
- ▶ Use appropriate lifting equipment to transport the equipment.
- ▶ The weight of each pallet is shown on the pallet. In the event of the lifting equipment's capacity being unsuitable for the operation, handle the pallets one at a time.

Storage

- ▶ Store the equipment indoors.
- ▶ Never store the equipment outdoors, or in an environment exposed to dust or projections.
- ▶ Ensure the ambient environmental conditions are met, see "Technical characteristics of the Carton Wheel Flow", page EN.4.
- ▶ Do not stack additional loads on the pallets and boxes containing the Carton Wheel Flow and its components.

Assembly and installation



Warnings concerning assembly

Risk of injury in the event of incorrect assembly

- ▶ Since the Carton Wheel Flow is a sub-system of an overall system, you will need to perform a risk assessment of the entire system.
- ▶ Identify the protective measures required concerning risks related to the local conditions at the site and to usage.
- ▶ Define a safety zone around the working area.
- ▶ Secure the zone and set up proper signage and appropriate protection.
- ▶ When assembling modules on the rack, refer to the safety rules concerning working at height.
- ▶ Do not lean or walk on the Carton Wheel Flow components.
- ▶ Always wear suitable Personal Protective Equipment (gloves, leggings, safety shoes, etc.) throughout the assembly period.

Assembly rules

The dynamic storage beds are sub-systems of an overall installation. They are supplied in accordance with the technical data specified in the order confirmation. The delivery of the Carton Wheel Flow beds comprises tracks and accessories. These components must be assembled, installed, and positioned on a rack.

Any changes to the components or the bed cancels Interroll's responsibility, and will be considered as unintended use of the Carton Wheel Flow.



Qualified Personnel

The assembly and installation must be carried out by qualified personnel in accordance with the instructions concerning assembly and installation, and with the safety instructions. The manager of the team responsible for assembling the beds must be technically competent and trained in the following:

- The products and their use
- The dangers inherent in the assembly of heavy or cumbersome components in high places
- The risks related to incorrect assembly
- The adjustments required for correct operation of the beds.

Interroll can provide special training on the Carton Wheel Flow. We will send a quote on request.

Interroll se tient à votre disposition pour dispenser une formation dédiée au Carton Wheel Flow. Un devis vous sera envoyé sur demande.



General Rules

- ▶ Check the stability of components on the containers before cutting the straps.
- ▶ Do not move the container once the straps have been cut.
- ▶ Make sure you do not damage the components during assembly.

Start-up and operation



Warning

Risk of injury in the event of improper handling

- ▶ Ensure compliance of the loading direction depending on the bed's operating mode (LIFO or FIFO).
- ▶ Do not insert containers into the bed unless they enter it completely.
- ▶ If a container protrudes from the bed, remove it immediately.
- ▶ Do not load a container if pressure is required to insert it.



Notice

Damage in the event of improper handling

Ensure that the following remarks are complied with.

- ▶ Load carefully so as not to damage the bed or the products stored on it.
- ▶ Never touch the wheel tracks, the bed, or the rack with the lifting equipment.
- ▶ Do not re-introduce a container on the unloading side if there is not enough room in the bed.
- ▶ In the event of a malfunction or if you see any signs of damage, stop the bed immediately and set up appropriate signage.
- ▶ For any damage due to impact on a rack, beds, or wheel tracks, inform the organisation's Maintenance Department immediately.
- ▶ If you find nuts, screws, or other components on the floor, immediately stop all levels of the bay and of the neighbouring bays. Set up appropriate signage.
- ▶ If a container is jammed, determine what is causing the blockage and remove it. If the container appears to be defective, set it aside from the storage zone.
- ▶ If the container is blocked repeatedly at the same point, inform the company's Maintenance Department so that they can take appropriate action.



Before the system enters service, operators must ensure that all operations personnel are trained in:

- The specific use of a dynamic storage system
- All the risks inherent in a dynamic storage system, such as, for example, falling loads, moving loads or cuts.

Checks before the initial start-up

- ▶ Carry out a test before each start-up: load a carton to establish whether it stops at the drop-out tray end stop.
- ▶ For future use, always ensure compliance with loading conditions that have been tested and validated during the reception handover of the system.
- ▶ When connecting the storage beds to other equipment in the warehouse, perform a risk analysis of the entire system.
- ▶ Check that the racks and beds are not visibly damaged.
- ▶ Check that there are no foreign bodies in the working area.

Before use, make sure that all the side member end caps are correctly in place. Removal of the side member pins is FORBIDDEN (apart from maintenance, see conditions Page EN.11).

- ▶ Close down any bays with one or more missing side member pins.
- ▶ The configuration must comply with that tested when the system was received.
- ▶ Test all changes to the configuration, notably concerning the position and quantity of the " brake clips ".

Operation

Close down the bay if you observe any of the following:

- Suspicious noise
- A visibly worn component
- A damaged or worn rack
- A defective attachment between the bed and the rack
- Wheel tracks not held parallel
- A component which has failed or which is not operating correctly
- A missing or partly inserted side member pin



Checks before each start-up

- ▶ Check that everyone present is informed and trained in the use of the system, and that no one is in a dangerous position.
- ▶ Check that there is no visible damage to the bays or the rack.
- ▶ Check that there are no foreign bodies preventing correct operation of the system.



Warning: Loading a container

Risk of injury in the event of improper handling

- ▶ Ensure compliance of the loading direction depending on the bed's operating mode (LIFO or FIFO).
- ▶ Do not insert containers into the bed unless they enter it completely.
- ▶ If a container protrudes from the bed, remove it immediately.
- ▶ Do not load a container if pressure is required to insert it.
- ▶ In the event of a blocked container, remove it and determine the cause of the blockage.



Notice

Damage in the event of improper handling

- ▶ Load carefully so as not to damage the bed or the products stored on it.
- ▶ Never touch the wheel tracks, the bed, or the rack with the lifting equipment.
- ▶ Do not re-introduce a container on the unloading side if there is not enough room in the bed.
- ▶ Check the bottom of the container to detect possible damage or foreign bodies.

Damaged containers must not be used in a dynamic bed and must be removed from the storage zone.

- ▶ Make sure that the container to be loaded is one of the containers approved during verifications prior to initial start-up, see Checks before the initial start-up, page EN.8.
- ▶ Make sure that the loading conditions are identical to those approved during verifications prior to initial start-up, see Checks before the initial start-up, page EN.8.

Do not stack containers without prior written authorisation from Interroll.

When handling containers during loading and unloading, refer to the ergonomic standards in force.



When loading manually:

- ▶ do not place your fingers under the container.
- ▶ do not insert your hands inside the bed.
- ▶ load the container along the axis of the lane.
- ▶ do not let go of the load if it is not stable.
- ▶ If a container protrudes from the bed, remove it immediately.
- ▶ Do not load a container if pressure is required to insert it.
- ▶ Make sure there is enough back up distance.



When unloading manually:

- ▶ do not place your fingers under the container.
- ▶ do not insert your hands inside the bed.
- ▶ Make sure there is enough back up distance.
- ▶ To facilitate unloading of a container, free it from the stop by pushing it backwards, then lift it to remove it from the bed.
- ▶ Ensure compliance of the loading direction depending on the bed's operating mode (LIFO or FIFO).

Cleaning, maintenance, and repair



Notice

Damage in the event of improper cleaning

- ▶ Do not use abrasive products, pressurized jets, or products which may cause oxidation or damage the equipment.
- ▶ Clean the bed using dry cloths.

Remark in the event of maintenance and repair



Notice

Risk of injury in the event of improper intervention

- ▶ Maintenance and repairs must be carried out by qualified, properly trained personnel only and in accordance with safety and other instructions.
- ▶ Wear Personal Protective Equipment (PPE).

Before any intervention, you must take into account:

- Safety instructions concerning the work area, e.g. movement in the area, welding, grinding, and the duration of the maintenance operations for cold rooms.
- Specifications particular to the company where the system is used.
- Technical data provided in the order confirmation.
- Maintenance procedures of the various products: dynamic storage beds, rack, environment, e.g. sprinklers.

Preparing an intervention

- ▶ Define a safety zone around the working area.
- ▶ The safety zone covers the entire height of the bay.
- ▶ Secure the zone and set up appropriate signage, nets, etc.
- ▶ Remove everything from the lane or the bed involved in the intervention before starting.
- ▶ Make sure that the area of intervention has sufficient lighting.


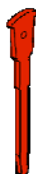

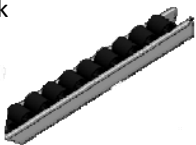
Performing an intervention

- ▶ At the end of the intervention, make a visual inspection of the repaired section to ensure that you do not leave any foreign bodies or tools which may interfere with the correct operation of the system.
- ▶ Before restarting the system, check that the bed, the rack and its environment, e.g. sprinklers are in good working order.
- ▶ During an intervention, disassemble the bed by following the assembly procedure in reverse order
- ▶ Use only components supplied by Interroll when replacing components.
- ▶ Never straighten out a defective component.
- ▶ Before re-starting check that pins are correctly inserted (the hole in the pins cannot be seen)

List of maintenance and inspection operations



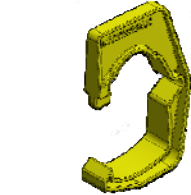
In order to keep the system in perfect working order, you must systematically replace any damaged components.

Maintain a log of the checks and maintenance performed on the system. Failing which, the operator shall be held responsible in the event of an incident or an accident on the system, and cannot claim any guarantee or compensation from Interroll.

Component	Tasks/Checks	Work required
End cap 	Check it is positioned correctly	The side member end cap must not come free from the side member. If necessary, replace it with a new Interroll end cap.
Locking Key 	Check it is positioned correctly	The hole in the pin must not protrude from the side member. If necessary use a mallet to fully insert the pin (see joined assembly instruction section 19 or 35 or 36 or 37).
Screw 	Check that the screws are tightened correctly.	The recommended tightening torque is between a 23 Nm minimum and 28 Nm maximum. If necessary, tighten the screws to the recommended torque.
Track 	Check that it functions correctly Replacing a track	Check the flowability with a container approved during the start-up. If necessary, replace it with a new Interroll wheel track. Keep the side member pin when it is removed. Pull the loading beam by 24 mm maximum (in order not to remove it from its housing), then re-insert the side member to lock the loading beam. Replace the track then return the loading beam into position by following the assembly instruction section 23 or 24 or 25 or 26 or 27 or 28.

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Component	Tasks/Checks	Work required
Back stop	Check that it functions correctly	Turn by hand. It must return to its initial position
		
Entry guide	Check that it is correctly attached to the loading beam	It should not be possible to move the guide by hand. Replace it if necessary.
		



If spare parts are needed, contact Interroll for a quote.

Troubleshooting

In the event of a failure

- ▶ Stop using the lane and any lane which might be damaged by the failure.
- ▶ Secure the area and set up appropriate signage.
- ▶ Only qualified maintenance personnel must repair the failure.
- ▶ Never try to hold back a container freed during an intervention.
- ▶ Before restarting the system, check that the bed, the rack and its environment, e.g. sprinklers are present and correct.

Follow the maintenance procedures of the various products : dynamic storage bed, rack, environment.



Blocked container

There may be many reasons causing a container to be blocked and preventing it from starting. This is not necessarily a defect in the system. Inserting a new container usually corrects the problem.

- ▶ If a container is blocked in the middle of a lane and/or against the rack, load another container or use a " pole " to free it.

Content falls to the floor

- ▶ If content has fallen to the floor, you must secure the area before taking any further action.

Failure	Cause	Correction
Blocked container	Damaged container	▶ Withdraw the container from service.
	Container non-compliant with tests performed during start-up	
	Foreign bodies attached to the container	▶ Remove the foreign bodies.
	Foreign bodies on the wheel track	
	Damaged wheel track	▶ Replace it with a new Interroll wheel track.
Container stops abruptly at an end stop	Brake clip worn	▶ Replace it with a new Interroll brake clip.
	Brake clip missing	▶ Add a brake clip.

Decommissioning and scrapping

Waste disposal

Recommendations for protecting the environment

Insofar as possible, the packaging should be disposed of in an environmentally friendly manner.



Interroll can provide the component contents (type and quantity) upon request.

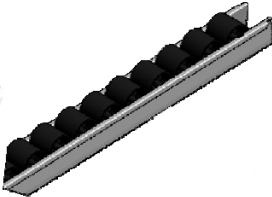
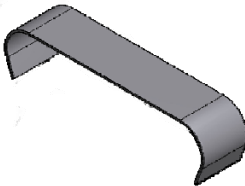
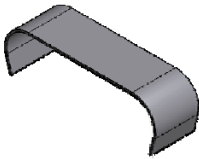
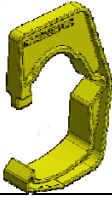
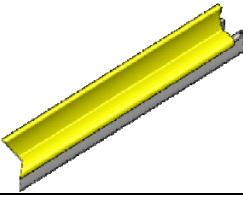
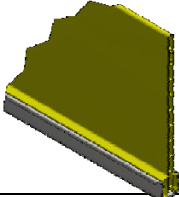
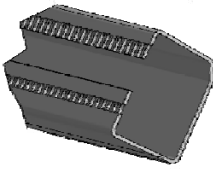
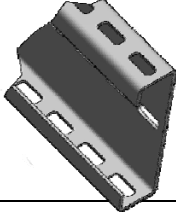
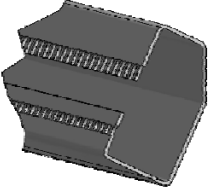
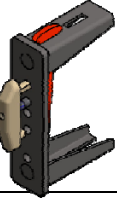
▶ For all maintenance work and when disposing of equipment, please comply with environmental standards and use appropriate disposal methods.

When disassembling for scrapping:

- ▶ Follow the assembly procedure in reverse order.
- ▶ Store the components in a suitable container to avoid falls or injury.




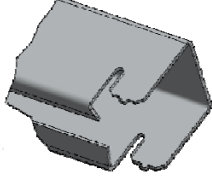
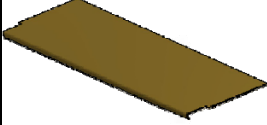
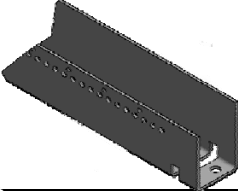
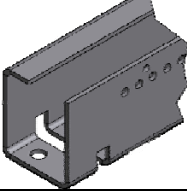
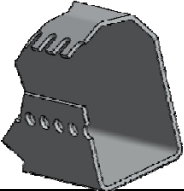
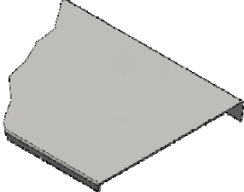
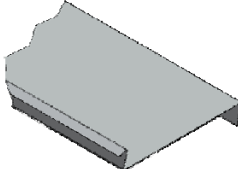
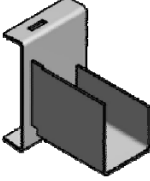
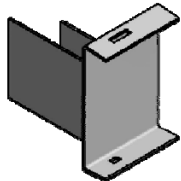
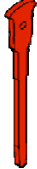

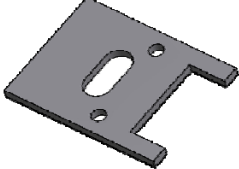
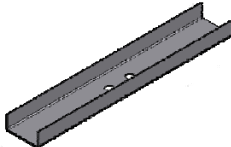
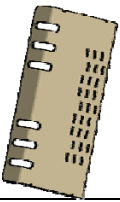
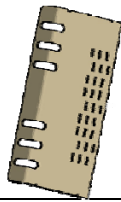
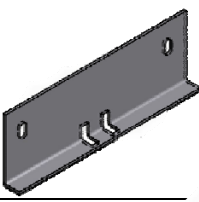
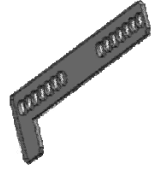
Spare parts

This table provides only an indication of requirements for most users. Each user should determine the stock levels required according to their specific usage. These components must only be replaced by qualified maintenance personnel.

Keep in stock		Recommended stock	
Wheel track		Brake clip 28 & 42mm	Brake clip 56mm
			
See original order		1018399	1018400
Recommended stock			
Entry guide	Full length guide	High guide	
			
64100604	G090923100	B19090461	
Optional stock			
Low support	Side member	High beam	Plug high
			
F17022765	F16100561	F17022762	1112983


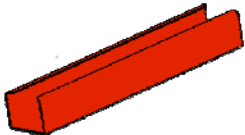



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Optional stock			
Plug low	End cap left	End cap right	Loading beam
			
1112984	64100605	64100606	F17041661
Removable plate	LS beam	Alignment beam	DOT Support
			
F19091720	F19010861	F18080661	F17033062
DOT 5° et 10°	DOT 15°	Right bracket	Left bracket
			
F18021961	F17111564	1114724	1114730
Locking Key	Clamp	Alignment bracket	Splice for guide
			
1113975	1118598	62102539	1020449
Unniversal connector 32	Unniversal connector 23	Splice for side frame	Jig
			
62102068	62102067	62102192	1114813

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Stock facultatif			
Rail locker	Sleeve	Self drilling screw 6,3x19	Screw HM8-20
			
1114489	62102225	1019797	1019906
Tensylock nut 8			
			
1018223			

**Manufacturer**

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