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SAS au capital de 320 000 €
R.C.S. LAVAL 501 641 203

2021-10-27

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Box transport

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Flows with Rollis®

Make productivity and save space by simplifying your flows

Production lines reflect the complexity of a company :

- Diversity of purchased pieces, refurbished and pre-owned available
- Multiple path combinations
- Variable quiantities
- Effective in all disruptions from manufacturers, suppliers and customers

They are disturbedeffective in all by management system approximations.

However, it is possible to organize adapted production flows to these situations without adding constraints.

Labadis has developed a simple and modular flow system which is based on :

- transport of pieces in 400 mm wide containers (most common size) to ensure the same packaging unit between the workstation, during transport and storage
- a patented system which enables standardized coupling and uncoupling in less than one second for all types of Rollis trolleys
- Horizontal storage to make products permanently available without loss of space
- A one way workplace organization for simplicity.
- Direct truckloading with Rollis® to reduce handling
- All production steps managed with Kanban

The system being compatible with all other handling modes, it can be implemented gradually :

- No more forklifts
- Safer for staff and product
- Total staff independance
- All staff become independent

The visual management of stocks allows spotting of all potential supply disruption thus customer delivery times are controlled.

The generalization of the Labadis system generates important productivity gains and return on investment is reached within a year.

Haulotte

Hand-pulled Rollis

Valeo

Rollis equipment for transport and storage

The Labadis company helps its customers in the physical launch of this organisation by proposing technical consulting in your workshop. Employees are the ones who act. Our aim is that this system becomes yours and that you know how to run it yourselves.

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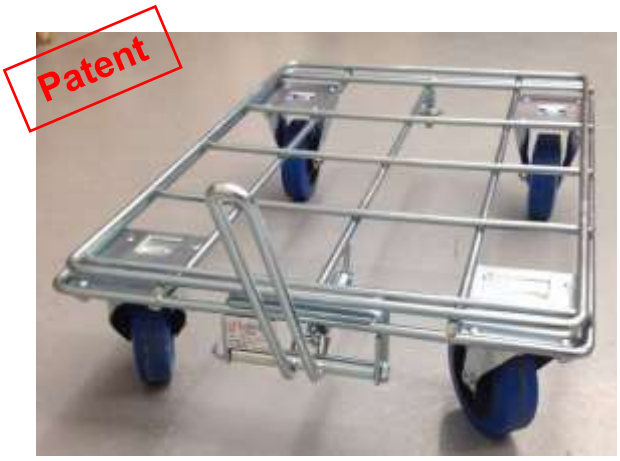
Rollis®

Transform the handling of parts into a flowing operation manageable by anyone

The Rollis base equipped with a telescopic coupling system (World patent) simplifies the handling and storage of products. It enables :

- To couple and uncouple a pile in less than a second without bending down
- To stop in emergency within a very short distance whatever the total weight transported is
- To gain storage surface without having to undo the coupling
- To couple and uncouple in the middle of the convoy, without having to handle and aim for
- To reduce the transport aisle width
- To transport in trucks without forklift and unload in less than 9 minutes
- To store in plastic containers as well as cardboard boxes
- To manage FIFO without computer assistance



Rollis with telescopic coupling (World patent)


Small train in traction (Mizusumashi)


Emergency stop in less than a meter

Rollis is the central element of a global system that simplifies flows and their control. The generalization of this mode of handling and storage to all flows in a factory generate : workforce productivity gains, suppression of supply disruptions and area lessening.


Flat storage enabled by Rollis


Rollis Transport by two story truck

The Rollis trolleys handling is done on a smooth, horizontal and covered ground.

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Rollis®		L0031	L0002	L0032	L0033	L0057	L0036	L0037	L0038
Dimensions									
Width	mm	**400**					**600***		
Length	mm	400	600	800	1 000	1 200	600	800	1 000
Height	mm	152							
Weight	kg	6,4	6,9	8	8,5	12,5	8,2	8,7	9,2
Aisle width for a train U-turn	mm	1 100	1 300	1 700	1 900	2 200	1 600	1 800	2 100
Inner Container Centering									
Width	mm	368				568			
Length	mm	368	568	768	968	1160	568	768	968
Height	mm	7							
Inner radius of the container centering frame	mm	6							

* 600 width is to be used if the 3 dimensions are above 400 (contact us).

Rollis options

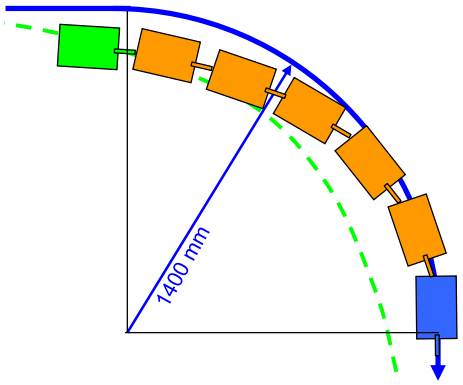
Use Conditions		
Maximum used Speed	km / h	8
Floor		Smooth, horizontal and covered
Maximum continuous rollis Distance	m	500
Maximum Load	kg	180
Maximum Height for a pile	mm	1 300
Room Temperature for Use	°c	-30 +60

Wheels		
Wheel Diameter	mm	100
Rollis		Needle rollers
Roll bandage		Soft noise and anti-lock

New

Standard	Stainless	Anti-static ESD	Heavy load	High temperature	Very high temperature	Track & Slide
(A)	(B)	(C)	(D)	(E)	(F)	(AS)
Silent, no tire print and roll over obstacles	For wet environment, Shaft, bearings and flanges in stainless steel	For electronic applications (conductive rear wheels, standard front wheels)	Hard bandage and ball bearings : divided by 2 the traction force, dust-proof	Hard bandage, max temperature 300 ° C	Cast iron bandage, max temperature 500 ° C	Automatic walkout of fixed wheels (change into 4 moving wheels) *(info page 26)*

Off set path



Rollis length	mm	600	800	1 000
Offset per Rollis	mm	90	80	70

Our products are often improved, their characteristics can be changes without warning.

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Rollis® Wagon

Supply your production lines with the minimum of moving

Rollis Wagon is designed to supply production lines in plastic containers or cardboard boxes.

The telescopic coupling allows the Rollis Wagon to be unattached from the middle in less than 3 seconds. The supplier can take the Rollis Wagon along the line and distribute the components without going back and forth between the workstation and the train.

The 400 mm wide allows :

- Ergonomic access on both sides to all components stored by the supplier ; no need to go around the Rollis Wagon
- Taking can be done without having to lean over to see the contents

It's made of :

- 2 uprights forming handles for an easy grip
- Numbered graduation on the right back post allows an easy position of the shelf
- Wear free hook
- 2 back buffers

A homogeneous filling and at the bottom ensures the Rollis Wagons stability once filled. A ballast can also be added.

Rollis Wagon with 3 shelves

Supply with only one Rollis Wagon untied from the train

Numbering on the post to position the shelves

Rollis train and and Rollis Wagon for a line supply

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Empty Rollis® Wagon		L0097
Dimensions		
Width	mm	400
Length	mm	690
Height	mm	1 300
Weight	kg	23
Conditions of Use		
Free Inner Height	mm	1 125
Free Inner Length	mm	632
Maximum Load	kg	100
Shelf support		
Setting interval for shelves	mm	50
Height from the floor to the highest shelf	mm	1 100
Height from the floor to the lowest shelf	mm	150

The shelf is coated with a non-skid rubber carpet that maintains any size trays and cardboard boxes. The area is smooth and without a rim : the item is taken by sliding, no need to lift to go over a rim. The bottom rim is rounded which avoids any scrapping when it is taken.

Shelf		L0004	L0289
Characteristics			
Area		Non-skid rubber carpet	Smooth galvanised sheet
Width tray	mm	395	395
Length tray	mm	585	585
Total Thickness	mm	15	12
Weight	kg	4	3,2
Use Conditions			
Maximum Load for a shelf	kg	20	20

The fixation (**L0148**) of a cable clamp reduces the noise, caused by slamming between the shelf and the Rollis Wagon rack on slightly rough floors.

				
Ref	**L0348**	**L0285**	**L0347**	**L0603**
Size	A5	A4	Kanban Card	Label above the wagon

The PEHD document holders make it easy to identify the Rollis Wagons contents. They are easely clipped on the side of the Rollis Wagon.

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Heightened Rollis®

Reconcile Ergonomics and Productivity

Ergonomics and Productivity are complementary : without ergonomics, productivity leads to bodily deterioration (TMS) and without productivity, ergonomic improvements are bypassed.
With a heightened Rollis, the operator is able to work within the ergonomic window and avoid any tray lifting as the material remain on the Rollis.

- Work at ergonomic height
- Store several boxes
- Mobile workstation organized with the evacuation of empty containers on the same Rollis
- Distribution of parts by the small train

Fnac

Ergonomic Position for shelving books

SagemCom

Boxes supply in square pitches ; the operator does not need to bend down

Brandt

Hold in the ergonomic window on a heightened Rollis

Heightened Rollis®		L0337	L0045	L0192	L0111	L0358
			Pony (smallest)	Giraffe (highest)	Pony (smallest)	Giraffe (highest)
Ballast		There is			There is	There is
Width x Length	mm	400 x 400	400 x 615	400 x 615	400 x 600	400 x 600
Empty Rollis Height	mm	477	477	640	477	640
Stability Ballast	kg	15	-	-	19	19
Useful Bottom Storage Height	mm	-	290	460	315	480
Maximal Load	kg	40	30	20	40	40
Weight	kg	23	12	13	27	28
Packaging by		2	3	2	3	2

Heightened Rollis with ballast enables to transport heavy loads while reducing risks of tipping

Ballasted Heightened Rollis

Schneider Electric

Ballasted heightened Rollis for copper circuit breaker poles **L0111**

CDO

Ballasted Heightened Rollis “Giraffe” (highest) for paper reels **L0358**

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Flat pieces transport

Flows with Rollis®

Rollis

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Benhur Rollis®

Take the large flat pieces at man height

Same Deutz Fahr

Flat pieces held vertically take up less space

Carrier

Spacers allows to fit any thickness and shape

Zumtobel

The rubberized carpet absorbs shocks while carrying fragile pieces

- Multipurpose : it is adapted to any shape (Width, Length)
- Especially designed for flat pieces
- Ballasted to allow vertical carrying in 400 mm Wide
- Ergonomic taking at man height
- Pieces blocked by adjustable dividers

Benhur Rollis®		L0099	L0100	L0030	L0101	L0336
Width	mm	400				
Free Inner Width	mm	360				
Outside Length	mm	600	800	1 000	1 200	1 400
Free Inner Length with Dividers	mm	550	750	950	1 150	1 350
Height	mm	1298	1298	1298	1298	1298
Weight	kg	30	40	50	60	70
Maximal Load	kg	180	180	180	180	180

Labadis studies stability depending on the dimensions of your pieces and also, according to the small trains path and speed.

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Benhur Dividers

Dividers hold pieces. They are put into the racks with an interval of 20 mm.

Sunpower

Dividers protect the paint of pieces against shocks

Schneider Electric

Kit of various size pieces

Zumtobel

The divider holds the pieces ; it is inserted in a numbered rack

Characteristics		L0104	L0291	L0292	L0304	L0131	L0136	L0137	L0145	L0138	L0197
		Blocker	Spacer								Customized
Compartment Number		1	1	2	3	4	6	8	10	12	
Free Space for Piece	mm	-	350	172,5	113	83	54	39	30,5	24,5	
Weight	kg	0,06	0,07	0,11	0,11	0,11	0,12	0,12	0,13	0,13	0,57

The revolving spacer and blocker (**L0281**) are held and fixed in a rack, thanks to a stainless steel rod.

Dividers fixed on the left side

Stainless steel rod (**L0069**) inserted in the rack and through the dividers

The operator « closes » the compartments as he fills the Benhur Rollis

*Labadis studies and designs the dividers depending on the piece you have to package (**LC0016**).*

Contact us

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Transatlantic Rollis®

Ease the long pieces handling in small driveway

New

Long and heavy pieces such as beams, motor shafts, cylinders require a flat transport to prevent accidents and easy taking. However, with the Transatlantic Rollis, their transport in the workshop remains fluid through 400 mm wide.

Haulotte

Girders stored on assembly lines

Haulotte

Ergonomic handle for manual manipulation

Labadis

2 400 mm Transatlantic Rollis used as a shuttle for metal sheet transportation

- Ergonomic handle
- Hole network to fix any type of structure
- A5 card holder and Kanban

Transatlantic Rollis®		L0246
Width	mm	400
Outside Length	mm	from 1 200 to 3 000 (multiple of 200)
Handle Height from the ground	mm	900
Maximal Load	kg	180

Labadis studies dynamic behavior entirely according to the kind of piece transported

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U Rollis®

Compact cardboard supply

- Cardboard picking in the ergonomic window
- Feed workstation efficiently while using minimum space
- Store cardboard the same way as other products
- Distribute cardboard with the supply train
- Protect cardboard and avoid waste
- Delivered directly by truck from the supplier reduces the excess packaging
- Multipurpose for Galia cardboard, C09 to 14, or pallet lids folded in two
- To ensure the larger boxes stability, those longer than 1 000 mm are ballasted

Nouveau

Cardboard picking is direct and systematic

Sogefi

Cardboard storage with Rollis : compact and visually clear

Hill Rom

Rollis U ballasted for large-size cardboard

U Rollis®		L0043	L0155	L0300	L0329	L0543D	L0544D	L0545D
		Full	Wiring rack/smooth bottom	Ballasted				
Width (400) x Length	mm	600	800	1 000	1 200	1 600	2 000	2 400
Height	mm	800		1 480				
Useful Inner Width	mm	392	370	360				
Useful Inner Length	mm	592	792	980	1 180	1 580	1 980	2 380
Weight	kg	29	13	48	55	76	91	100
Maximal Load	kg	100	100	180	180	180	180	180

Hotdog Rollis®

Packaging for pieces are made with flat cardboard boxes. Cardboard machines are usually equipped with heightened conveyors manually loaded. To suppress the tedious and painful process, Labadis has developed a concept including machines and Rollis that enables to have a keep on going feeding in cardboard without manual handling. The machine takes the cardboard boxes at a constant height ; forks move into the Rollis and raise the cardboard pile. A reserve allows to have an automatic switch to the next Rollis. Rollis are directly carried by truck (look at p.45). The cardboard are held in the center by two stems : no more waste.

Danone

Rollis moving automatically into a forming machine

Hotdog Rollis **L0133**

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Cylinders transport

Flows with Rollis®

Rollis

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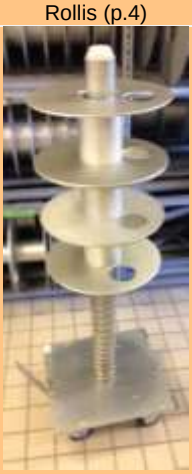
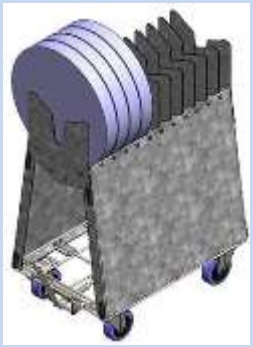
Rollis® for cylindrical pieces

Cylindrical pieces are classified according to the Length / Diameter ratio. So, 3 types are defined :

- Rod
- Bobbin
- Disc

The below table shows the Rollis solutions for each type of shapes and applications :

Container and Rollis Type	Axle Position		
	Vertical	Horizontal *Low*	Horizontal *Heightened*
Cylinder Length / diameter			
Rod L/d ~10	 Alstom Benhur Rollis (p.10)	 Long container (p.35) Onto a Rollis (p.4)	 Container (p.35) onto a Heightened Rollis (p.8)
Bobbin L/d ~1	 Cartier Technologies Rollis (p.4)	 V Bobbin Rollis (p.16)	 Danone M Bobbin Rollis (p.16)
Disc L/d ~0,1	 Linxens Tower Rollis	 Danone U Bobbin Rollis (p.16)	 U Rollis heightened with adjustable dividers to Wafers Width

For more precision regarding your application, contact us

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V Bobbin Rollis®

V Bobbin Rollis allows to accommodate coils with various diameters. They are placed on two angles fixed on the Rollis. Carrying one at a time makes it possible to hang over the coil in front of the machine or the reel.

Characteristics		L0149	L0150	L0157
Width	mm	400		
Length	mm	400	600	800
Spacing Angles	mm	205	225	270
Weight	kg	7	7	11
Maximal Load	kg	180	180	180

Schneider Electric

M Bobbin Rollis®

Heightened system allows the operator to manipulate the coil ergonomically, without bending down. An axle can be inserted.

Characteristics		L0158	L0160	L0191
Width	mm	400		600
Length	mm	600	800	800
Weight	kg	22	25	34
Maximal Load	kg	120	120	120

Danone

Support axle inserted at man height

U Bobbin Rollis®

U Bobbin Rollis holds little thin coils.

Characteristics		L0151
Width	mm	400
Length	mm	600
Compartments		4
Weight	kg	28
Maximal Load	kg	180

Danone

U Bobbin Rollis allows to receive several coils thanks to compartments

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Rollis® Wagon

Supply your production lines with the minimum of moving

Rollis Wagon is designed to supply production lines in plastic containers or cardboard boxes.

The telescopic coupling allows the Rollis Wagon to be unattached from the middle in less than 3 seconds. The supplier can take the Rollis Wagon along the line and distribute the components without going back and forth between the workstation and the train.

The 400 mm wide allows :

- Ergonomic access on both sides to all components stored by the supplier ; no need to go around the Rollis Wagon
- Taking can be done without having to lean over to see the contents

It's made of :

- 2 uprights forming handles for an easy grip
- Numbered graduation on the right back post allows an easy position of the shelf
- Wear free hook
- 2 back buffers

A homogeneous filling and at the bottom ensures the Rollis Wagons stability once filled. A ballast can also be added.

Rollis Wagon with 3 shelves

Supply with only one Rollis Wagon untied from the train

Numbering on the post to position the shelves

Rollis train and and Rollis Wagon for a line supply

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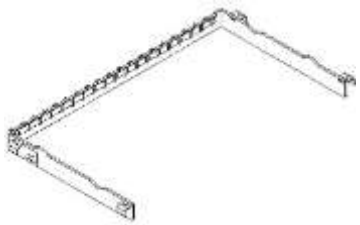
Rollis® for cable and filiform parts

The filiform parts (cables, electric beam) are tricky pieces to handle. By suspending them, we get a good stability and a good catch. The rack frame is hung on the Rollis Wagon (p.3) at the required height and the number of brackets may change according to needs.



Frame Rack		L0177
Useful Inner Length	mm	598
Number of Notches		19
Maximum Load	kg	90
Interval between 2 Notches	mm	31

Brackets		L0178
Useful Carrying Length	mm	375
Square tube	mm	20 X 20
Maximum Distributed Load	kg	15

Rollis Wagon Cross		L0533
Useful Carrying Length	mm	640
Width	mm	45
Weight	kg	1,2
Maximum Load	kg	20

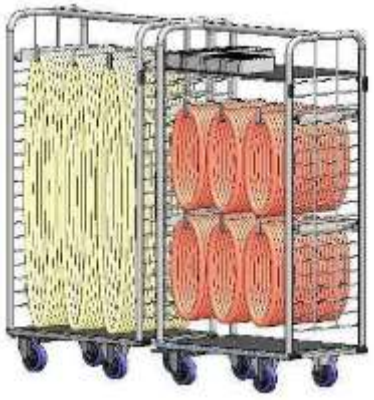
Also available with plastic-coat rod

Rollis Wagon equipped with 3 levels of frame racks and brackets

Fan and its motor

Adjustable stop L0443 for Brackets

Crosses for laying coils



Combination with shelves, frame racks and brackets

Same Deutz Fahr

Hydraulic piping

Zumtobel

Aluminium frames

Our products are often improved, their characteristics can be changes without warning.

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Bulky pieces transport

Flows with Rollis®

Rollis

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Shelved Rollis®

Non-linear pieces are more difficult to condition. The inclined shelves and the galvanized steel sides of the shelved Rollis allows the storage of these pieces.

Rollis 400 x 800 with Akilux Protection

Rollis 400 x 800 with raw sides

- Modular shelves (can be unscrewed)
- Numbering graduation
- Left side access (right is also possible)
- Shelves : wooden (standard) ; or metal (optional)
- Kanban card holder
- Optional A5 document holder
- Ballast can be integrated to stabilize the offset of the pieces and the structure asymmetry
- Inside protection for fragile pieces *(optional ; example AKILUX)*

Shelved Rollis®				
Width	mm	400		600
Length	mm	800	1000	800
Setting Interval	mm	50		
Height shelve first position	mm	195		
Maximum Weight on a Shelf	kg	30		
Maximum Weight on the Rollis	kg	120		

Thorn

Akilux protection on the side protects pieces put on the shelves

Numbered graduation guides the position of the shelves

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Box Rollis®

Box Rollis is for bulky light pieces and which do not need individual compartement.

Box Rollis®		L0633	L0473
Characteristics			
Height	mm	800	800
Width	mm	400	400
Length	mm	600	800
Weight	kg	23.5	29.3
Maximal Load	kg	180	180

Compartment Rollis®

Compartment Rollis is for pieces :

- Light and not very fragile
- Long pieces
- Isolated individually

The Compartment Rollis wall enables to protect the pieces inside.The handling of the pieces remain in the ergonomic window because they are arranged vertically and thereforeit avoids the operator from bending down. On the other hand, in case of heavy pieces, the Benhur Rollis is recommended (p.10).

3 Compartment Rollis (L0167)

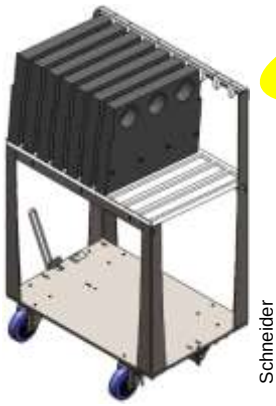
Schneider

Complex shape supply

Compartement Rollis®		L0167	L0110
Characteristics			
Height	mm	800	800
Width	mm	400	400
Length	mm	600	600
Compartment Number		3	On request
Maximal Load	kg	100	100
Material			
Outside Wall		Galvanized steel	Galvanized steel
Compartment		White PVC	White PVC

Cosy Rollis®

Cosy Rollis enables to package delicate and complex shaped pieces, and make it easy to hold.



New

Schneider

Track & Slide Cosy Rollis trolley (p.26)

Snecma

Cosy Rollis for airplane reactor blades

Designed on request, contact us

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Granules & liquids transport

Flows with Rollis®

Rollis

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Retention Rollis® (ISO 14000)

Protect the environment without obstructing your plant

Dangerous liquids need particular precautions to avoid water and soil pollution. The Retention Rollis system retains the liquid within the Rollis during all its use from delivery to recycling of the container, but also during storage and transfers within the plant.

- Ergonomically low introduction of the cannula, without any risk of splattering to the face
- Barrel tilting for complete emptying
- Whole volume retention of the barrel
- Rollis system allows to deliver the barrel with the supply train
- No more dedicated storage cupboard (investment costs are lower)
- No more risk of perforation by fork-lift trucks

Introduction of the cannula, without risks of splattering

The system allows to tilt the barrel for complete emptying

Loading with crowbar by hoist or forklift truck

Retention Rollis®		L0186	L0034	L0039
Maximum Barrel Capacity	L	30	60	250
Width x Length	mm	400 x 400	400 x 600	600 x 800
Overall Height	mm	430	550	680
Weight	kg	19	30	49
Maximal Load	kg	180	180	180

Retention Rollis enables to avoid expensive infrastructures such as diamond floor or cupboards with shelves. With flat storage (see p.42) of the Retention Rollis, you have access to each one immediately. Stock can be controlled visually, risk management is reliable.

Sogefi

Dangerous products Storage

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Hopper Rollis®

This Rollis was developed for the plastic industry which uses a wide range of grain references. It enables to :

- Reduce the space at the foot of the machine
- Transport and distribute raw material more easily (small train)
- Execute an ergonomic and quick cannula connection
- Allow to empty the cannula inside the hopper (no grain on the floor)
- Keep sealing tank thanks to hinged lid
- Possible automatic changing of containers with a linear transfer

The small size Rollis enables to put several grades right on the injection molding machine

Introduction of the cannula at man height

Dust tight closures

Hinged lid entirely covers the tank and protects the inside contents

Hopper Rollis®		L0035	L0430
Tank		Galvanized steel	Stainless steel
Capacity	L	185	185
Width x Length	mm	400 x 600	400 x 600
Height	mm	1 075	1 075
Weight	kg	35	36
Maximun Cannula Diameter	mm	75	75
Maximal Load	kg	180	180

Labadis gives advice on the different filling ways of the Hopper Rollis, from Big-Bag or Octabin.

Optional : crosses to disembowel bags directly into the hopper (2 x L0427)

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Wastes transport

Flows with Rollis® *Rollis*

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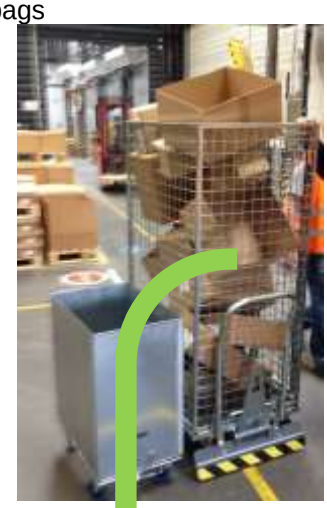
Waste Sorting Rollis® (ISO 14000)

Waste Sorting has become an economic stake. It effectiveness depends on reliable sorting of raw material waste, so it must be easy to use. Waste Sorting Rollis allows to :

- Put the container as near as possible to the operator : it is no longer necessary for him to move
- Improve cubic efficiency as the operator no longer throws but places the waste directly into the container (no more bulkiness effect)
- Collect waste with the supply train
- Empty the container easily thanks to a flush surface
- No sucker-type effect on waste bags

Filtrauto

The Waste Sorting Rollis is used at the workstation : no need to move



Schneider Electric

2/3 & 1/3

Garbage dump : the waste is recovered by the small train and stored by type before evacuation into the dumpster.

The small size allows to tidy up the cardboard ; Increase by three the filling

50/50

The bottom can be a wire or full base, depending on the types of waste which needs to be sorted. The trash bag falls on the edge of the waste sorting Rollis thanks to its wide perimeter.

Waste Sorting Rollis®		L0058	L0344
Material		Galvanized steel	Stainless steel
Width x Length	mm	400 x 600	400 x 600
Overall Height	mm	800	800
Weight	kg	21	40
Maximal Load	kg	100	100
Inside Volume	L	128	128
Bottom		Wire Rack	Waterproof

Trash Bag		L0471
Material		Plastic
Volume	L	157

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Vidatris

Clear out waste neatly without leaving the workshop

New

Waste decrease involves the use of durable and reusable packaging. The containers (p.35) and Rollis trolleys (p.4) are switched between customer and supplier to form regular supply loops.

However, if waste remains, recycling requires sorting ; the Waste Sorting Rollis (p.26) stores any type of waste. This compact solution (400 x 600 mm) is collected by the small train and then emptied into the recycling bins.

The Vidatris allows to empty Waste Sorting Rollis trolleys into the dumpster without having to leave the building. It is a stainless steel structure that goes through the wall on which it is installed.

The Vidatris allows :

- Keep Rollis wheels clean and not dirty inside the building
- Keep the building doors closed while evacuating the waste
- Keep the workshop dust-tight and keep the air conditioner on without heat loss
- Have a quick evacuation without any staff leaving the workshop

The Vidatris empties a Rollis in 60 seconds. The flow is regular and fast.

A touch screen manages the Vidatris activity.

The Rollis is inserted on the side of the Vidatris

(Outside View)

The Vidatris goes through and allows to empty the waste in the container without leaving the building

(inside View)

Vidatris inside the building

Vidatris		L0275
Characteristics		
Length	mm	1 000
Width (from the wall)	mm	1 030
Height	mm	5 300
Outside Angle Winder	°	40
Maximum Lifting Weight	kg	120
Protection		IP 67
Structure		Stainless steel Aluminium
Running		
Power Supply	V	3 x 230
Engine Power	kW	1,5
Mechanical Cycle Time	s	25
Complete handling Cycle Time	s	60
Terms of use		
Compatible Trolley Size	mm	400 x 600
Maximum Rollis filling Height from the ground	mm	1190

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Specific piece transport

Flows with Rollis® *Rollis*

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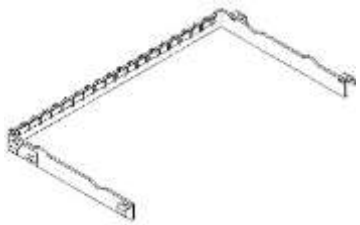
Rollis® for cable and filiform parts

The filiform parts (cables, electric beam) are tricky pieces to handle. By suspending them, we get a good stability and a good catch. The rack frame is hung on the Rollis Wagon (p.3) at the required height and the number of brackets may change according to needs.



Frame Rack		L0177
Useful Inner Length	mm	598
Number of Notches		19
Maximum Load	kg	90
Interval between 2 Notches	mm	31

Brackets		L0178
Useful Carrying Length	mm	375
Square tube	mm	20 X 20
Maximum Distributed Load	kg	15

Rollis Wagon Cross		L0533
Useful Carrying Length	mm	640
Width	mm	45
Weight	kg	1,2
Maximum Load	kg	20

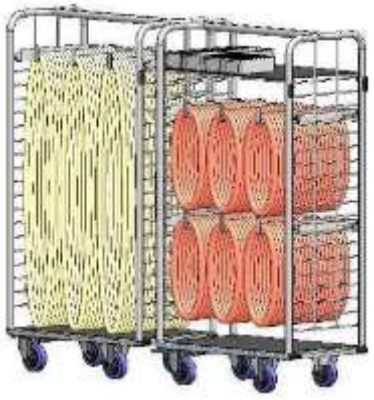
Also available with plastic-coat rod

Rollis Wagon equipped with 3 levels of frame racks and brackets

Fan and its motor

Adjustable stop L0443 for Brackets

Crosses for laying coils



Combination with shelves, frame racks and brackets

Same Deutz Fahr

Hydraulic piping

Zumtobel

Aluminium frames

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Rollis® Wagon

Supply your production lines with the minimum of moving

Rollis Wagon is designed to supply production lines in plastic containers or cardboard boxes.

The telescopic coupling allows the Rollis Wagon to be unattached from the middle in less than 3 seconds. The supplier can take the Rollis Wagon along the line and distribute the components without going back and forth between the workstation and the train.

The 400 mm wide allows :

- Ergonomic access on both sides to all components stored by the supplier ; no need to go around the Rollis Wagon
- Taking can be done without having to lean over to see the contents

It's made of :

- 2 uprights forming handles for an easy grip
- Numbered graduation on the right back post allows an easy position of the shelf
- Wear free hook
- 2 back buffers

A homogeneous filling and at the bottom ensures the Rollis Wagons stability once filled. A ballast can also be added.

Rollis Wagon with 3 shelves

Supply with only one Rollis Wagon untied from the train

Numbering on the post to position the shelves

Rollis train and and Rollis Wagon for a line supply

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Shelved Rollis®

Non-linear pieces are more difficult to condition. The inclined shelves and the galvanized steel sides of the shelved Rollis allows the storage of these pieces.

Rollis 400 x 800 with Akilux Protection

Rollis 400 x 800 with raw sides

- Modular shelves (can be unscrewed)
- Numbering graduation
- Left side access (right is also possible)
- Shelves : wooden (standard) ; or metal (optional)
- Kanban card holder
- Optional A5 document holder
- Ballast can be integrated to stabilize the offset of the pieces and the structure asymmetry
- Inside protection for fragile pieces *(optional ; example AKILUX)*

Shelved Rollis®				
Width	mm	400		600
Length	mm	800	1000	800
Setting Interval	mm	50		
Height shelve first position	mm	195		
Maximum Weight on a Shelf	kg	30		
Maximum Weight on the Rollis	kg	120		

Thorn

Akilux protection on the side protects pieces put on the shelves

Numbered graduation guides the position of the shelves

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Customized Rollis®

Standardize the flows with a customized Rollis adapted to special products

All businesses have pieces which are specific by their shape, fragility, size and weight. It is therefore interesting to have a multipurpose container adapted to different workstations in the firm.

Labadis takes care of all the conception of these built-in solutions according to the following steps :

Autoliv

1. Analysis of the workshops of the constraints and the diversity of pieces
2. Solutions search on the spot
3. Decision table according to the requirements

Design

Prototype setting in tune

Autoliv

Workshops setting up

The following requirements are taken into account :

- Ergonomic pieces picking
- Pieces protection
- Support flexibility
- Vibration resistance
- Easy to use
- Storage space on the assembly line
- Stability
- Electric conductivity
- Interface with automatic machines
- Corrosion resistance

We use the most suitable materials (steel, stainless steel, wood, plastic, foam rubber, woven fabric, leather…)

New

Toyota

Jundate Rollis for synchronous supply of kits

Pepsico

Rollis for quick change of injection tools

Patent

Rollis Bike for bicycle transport

Labadis designs Rollis solutions adapted to any need by studying the field constraints together. The solutions are always from the standardized bases Rollis system in order to guarantee the sharing flows.

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Track & Slide System on Rollis®

Combine Rollis used at the workstation and by train

New

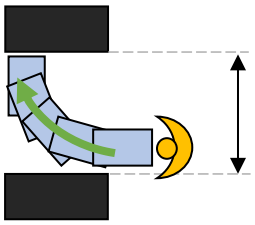
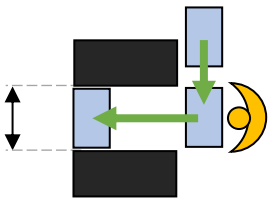
Some tight set ups require handling the trolleys sideways (like a crab).

It is the case for :

- The wide coils loading transported lengthwise and then loaded widthway
- The long pieces supply at the border line moved in the width direction
- The heavy pieces supply that are sideways setting up to reduce loading distance
- The warehouse picking where the shelf is placed in self-front and then by train for carrying

Labadis has developed the Track & Slide wheel which allows to move a trolley in the transport direction (Track) and on its side (Slide).

The transition from the Track to the Slide mode is done by moving the trolley back of 50 mm, slightly at a slant ; no walkout is required. The transition in the other way is automatic without any intervention.

Track	Track & Slide
	

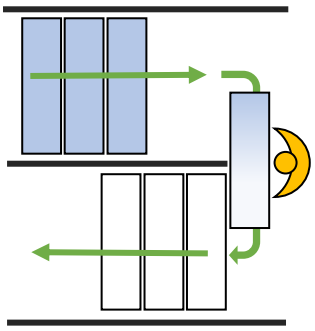
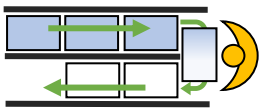
Small train transport

Track

Moving from side for kitting

Slide

Lateral coil loading on a holder

Long Pieces Track & Slide	Heavy Pieces Track & Slide
	

Linxens

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Containers

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Plastic containers

Transform flows in a 400 mm wide passageway

The range of containers has been designed to offer a height and length coherent choice while always keeping in the 400 mm wide handling concept. The double tag holder (paper or Kanban) molded in the material for a quick removal and easy to automate :

- 210 mm wide tag (Galia, VDA, Odette,…) with introduction guide
- Kanban tag holder, credit card size, which can be inserted and taken out by hand
- Container made from only one material allows a longer durability (tag holders molded from the block)
- Full rigid container for an overall protection of the products
- Closed handles which enables gripping without any risk of self cutting by the pieces inside
- Easy to clean because no water retention areas, simple ribs, no metal pieces
- Anti-static ESD containers are available (on request)

210 mm wide tag older : 160 g /m²…

and

…Kanban tag holder, credit card size

400 x 300 container : Storage identification on any side

The Kanban card is housed in notches molded from the block ; Easy to grip and without hesitation thanks to its inclination

Small pieces can be put in small width mini-containers allowing to grasp pieces without damaging the operators fingers.

Code	L0112	L0610	L0611	L0627
Designation	« Butter » box	« Spaghetti » box	« Leek » box	« Fish » box
				
Outside Length	178	355	555	
Outside Width	93	92	88	
ESD	L0612	Available	Available	Available
Cover L0563	Yes	No	No	No
Quantity in the container : 6407 Ref L0118	12	6	4	2
				

New

Butter Box cover L0563

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Dura Automotive

Workstation supply in mini-containers and containers

Labadis

The mini-containers ergonomic width allows to grip the contents without any finger constraints

Packaging container		
Raw Material		Polypropylene – Food Compatible
Temperature of use range	°C	-20 à + 80
Color	Grey	Similar color : Pantone 430 C - RAL 7001

Réf	Code	L x l	h	L x l	h	Volume	Weight	Maxi Load/ Container	Stacking Interval	Container / Rollis®	Overall Height	Quantity / Cardboard	Qty / Pallet
		Outside Size		Inside Size									
		mm	mm	mm	mm	Liter	kg	kg	mm		mm		
L0112	2106	178 x 93	56	170 x 87	54	0,7	0,07	1	-	204	-	60	1200
L0610	3106	355 x 92	57	351 x 83	55	2	0,83	15	-	102	-	18	-
L0611	5106	555 x 88	57	550 x 80	55	3	1,13	15	-	68	-	12	-
L0627	6206	555 x 177	57	550 x 168	55	5	1,65	15	-	34	-	6	-
L0113	3212	300 x 200	120	255 x 155	107	4	0,37	15	110,0	40	1 256	-	272
L0114	4307[1]	400 x 300	75	356 x 256	62	6	0,60	15	65	34	1 261	-	136
L0115	4312	400 x 300	120	356 x 256	107	10	0,75	15	110,0	20	1 256	-	80
L0116	4317	400 x 300	175	356 x 256	162	16	0,9	15	165,0	14	1 311	-	48
L0117	4323	400 x 300	235	356 x 256	222	20	1,1	15	222,5	10	1 269	-	80
L0118	6407	600 x 400	75	556 x 356	62	12	1,2	20	65,0	17	1 261	-	136
L0119	6412	600 x 400	120	556 x 356	107	21	1,3	20	110,0	10	1 256	-	84
L0120	6417	600 x 400	175	556 x 356	162	32	1,6	20	165,0	7	1 311	-	56
L0121	6423	600 x 400	235	556 x 356	222	45	1,9	20	222,5	5	1 269	-	40
L0053	6428[3]	600 x 400	280	541 x 358	260	50	2,7	20	264	4	1 206	-	32
L0122	6432	600 x 400	320	556 x 356	307	61	2,6	20	307,5	4	1 386[2]	-	28
L0123	6441	600 x 400	410	556 x 356	397	79	3,4	20	397,5	3	1 349	-	20
L0125	8420	800 x 400	200	756 x 356	188	51	2,7	20	190,0	6	1 296	-	33
L0126	10424	1 000 x 400	214	956 x 356	185	63	3,9	20	204,0	6	1 296	-	33

[1] No Kanban holder
[2] Height which does not enable transport on two-level trailer
[3] Midnight blue color, bottom with holes, no Kanban holder

Plastic Lids

The plastic lid covers all sizes of containers (one 400 x 600, two 400 x 300 or four 200 x 300). The notches enable to attach the container onto a Rollis®. It makes piles on Rollis transportable by truck. This cover can be stacked : it is also possible to stack containers on top of the lid.

Cover on 2 containers 400 x 300

Lid with straps

Lid		L0124
Length	mm	598
Width	mm	397
Height	mm	26
Weight	kg	0,8
Qty / cardboard		20

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Small train logistic

Watch the video

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Towing Hook

Make flows transportable by anybody

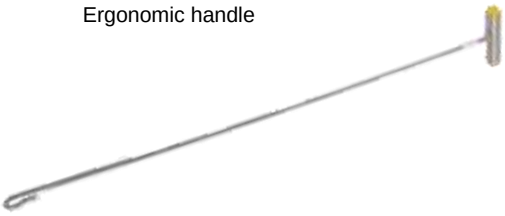
With the Towing Hook, anybody can pull a Rollis® train :

- Maintains hook on the coupling
- Instant freeing from the coupling in case of an emergency stop
- The round handle reduces pulling effort
- Yellow nozzle for better localisation

Rollis train pulled by hand with the Towing Hook

Ergonomic handle

Towing Hook		L0005
Length	mm	990
Weight	kg	0,45
Material		Stainless steel



Stainless steel Towing Hook

Box Locker for 400 x 300 containers

The stainless steel Box Locker allows to hold 2 piles of 400 x 300 containers on a Rollis, therefore avoiding any risk of fall whilst the trolley is moving.
It can be stored on the Ergomover desk.

Box Locker holding 2 piles of 400 x 300 containers on a Rollis

Box Locker stored onto the Ergomovers Towing Truck desk

Sold by 8

Stainless steel Box Locker		L0074
Length	mm	150
Outdoor Width	mm	45
Outdoor Height	mm	60
Material		Stainless steel
Weight	kg	0,195

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Ergomover Towing Truck

Change supplying of your product lines in a regular activity

The « Ergomover » Towing Truck is especially designed for frequent Rollis® or Rollis® Wagon handling fitted out with the telescopic coupling (patent) on smooth, flat and covered floor.

The driver's platform, which is only 65 mm above the floor, is clear of any obstacles and allows the driver to step in and out without any trouble. This enables frequent stops particularly necessary to deliver pieces on production lines in case of the small train (Mizusumashi).

The stand-up position with abdominal support guarantees safety in case of head-on bumps (the driver is not thrown to the front). This position gives a surrounding overview and enables the appropriate driving at junctions.

Reduced width : 600 mm
Quick and easy access

Accelerator at the driving table,
to keep feet stable on the machine

The Ergomover is 600 mm wide. Combined with Rollis use, it allows to reduce the aisles. The Ergomover is equipped with all functions to pull, couple and stop the Rollis.

The 400 mm wide charging table, and gel maintenance-free battery allows the charging station and battery change to be anywhere on the Towing Truck path ; it is no longer necessary for the driver to change his path. The battery changing takes only 20 seconds, without the need of any lifting equipment. The supplying of lines or the collecting of products becomes a regular job that can be easily controlled.

20 seconds to change batteries

Houlotte

Rollis Length		Aisle Width for a half turn
mm		mm
600		1 800
800		2 000
1 000		2 200

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Ergomover Towing Truck 720TT		L0008
Towing		
Towing Power for a maximum of 1 minute	N	1 400
Towing Power for a maximum of 5 minutes	N	1 050
Towing Power for a maximum of 60 minutes	N	700
Maximum Speed (configurable, delivered at 5 km/h)	km/h	8
Engine		
Used Voltage	V	24
Engine Power	W	1 500
Maximum Noise Level	dB(A)	70
Maximum Vibrations	$m.s^{-2}$	1,5
Electronic Variation		Continue
Braking		Electric
Emergency Braking		Electro-mechanical
Dimensions		
Weight with Batteries	kg	250
Total Length	mm	1 500
Total Width	mm	585
Total Height	mm	1 300
Access Step	mm	65
Ground Clearance	mm	33
Wheelbase	mm	815
Diameter and Width of the Driving Wheel	mm	250 x 80
Maximum Load on the Front Wheel with Driver	kg	150
Diameter and Width of the Back Wheel	mm	200 x 50
Maximum Load on the Back Wheel with Driver	kg	68
Changing and Charging Table for Battery		
Dimensions (Width x Length)	mm	440 x 1 090
Height	mm	960
Charging Voltage	V (AC)	All Voltage
Charging Power	W	2 000
Changing Cassette for battery		
Batteries per cassette		2
Voltage	V (DC)	24
Total Charge per Cassette (so 2 batteries)	Ah	152
Weight	kg	63
Charging Time	h	8
Number of Charging Cycles		700

Includes :

- 1 Towing Truck with 1 battery
- 1 additional battery
- 1 Table for battery changing
- 1 multi tension charger with an European plug
- 1 Traction Arch for Rollis

Possibility to adapt a desk to store the Kanban cards (p.62)

Training for Ergomover driving (**LC0014**)

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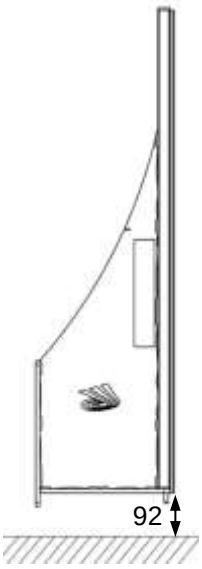
Traction Arch

Reconvert your towing equipment safely

If you already have a tugger, you can transform it into a Rollis® Towing Truck by fixing a Traction Arch on its back.

The Traction Arch is equipped with :

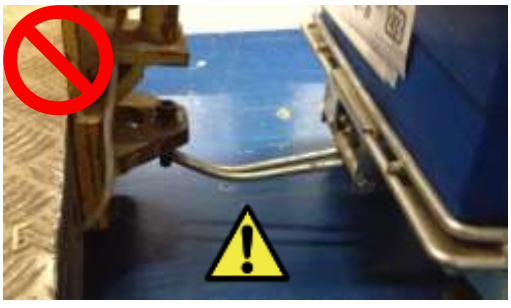
- A anti-tilt pole with profiled rubber seal which absorbs shocks and reduces noise
- Pre-drilled holes for screwing the Traction Arch on most machines
- A steel plate which can be drilled to fit



Traction Arch		L0063
Length	mm	340
Width	mm	240
Height (not assembled)	mm	1223
Weight	kg	16
Material		Galvanized Steel

Rollis® Train with Ergomover Towing Truck and its Traction Arch

Without a suitable Traction Arch for the Rollis® System, the equipment may get damaged.



Telescopic Coupling twisted by standstill hook on a machine

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Line side delivery

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Dynamic Rack

Make front-feeding ergonomic and productive at the workstation

On an assembling line, the operator must be able to pick up the maximum of pieces with a minimum of movements. To reach this result, the packaging should be as narrow as possible (in containers or in Rollis®). The guiding system at the workstation should enable to display as many containers as possible.

Labadis has developed a compact dynamic rack system which only requires 48 mm between 2 layers (see the diagram on next page). The offset of the layers enables to display up to 7 levels of pieces in the ergonomic window and to have 62 references per meter in the line side delivery.

The assembling usually consists of one main large-sized piece, of smaller-sized connecting pieces and screws. These pieces arrive at the station either in Rollis, in containers or in mini-containers (p.28). The dynamic Rack allows to mix different types of packaging. Supply at the station is done by Rollis or by Rack ; the operator does not need to move anymore.

The width pitch between the Racks and Rollis is 450 mm. The border line reorganization can be done by the operators themselves.

Bio Rad

Ergonomic pieces handling thanks to the offset of the layers in organ keyboard

Hill Rom

32 different pieces in 2 x 450 mm wide

Ergonomic design : the operator can be as close as possible to the pieces

Mixed assembling line edge :
Rollis and containers in Racks

Haulotte

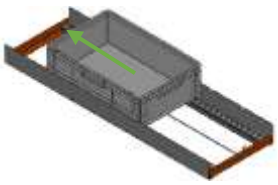
Each Rack is modulated according to the type of packaging. The piece handling is compact and limits the movement of the operator

Optional :

Cylindrical pieces layer

Reel layer with peeling, straight label handling

Blocked



Released

Layer for finished product equipped with a level (**L0400**),which is blocked the container on the top of the layer

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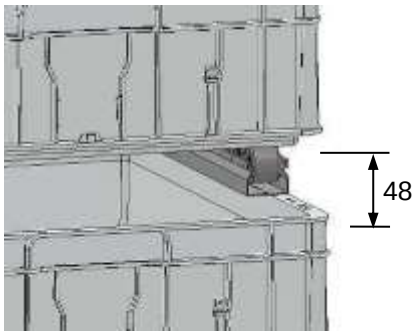
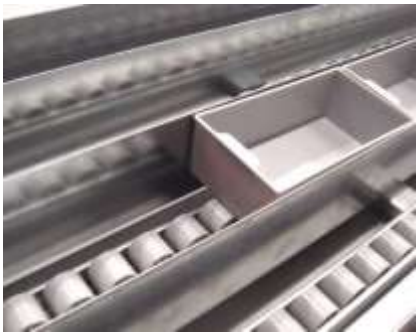
The self-carrying structure enables to move the Rack by hand in the consumption place on the assembling line

The layers are easily adjustable in height thanks to the graduation on the uprights

Empty container returned by guiding :
no more stuck or dropped containers



Structure limits a minimum space of 48 mm wide the space between 2 containers and increases the storage capacity
(a maximum of 60 mm for the upper pitch)



Each container row is guided at 100% :
No more midway blocking

- Picking up pieces easily in the ergonomic window by uncovered containers
- Container Guidance on the whole length : no more stuck container
- Guided lane return of each type of containers : no jammed containers on the floor
- A 450 mm wide pitch which allows to mix the supply in containers or in Rollis
- 100 references per metre of storage lenear with butter box
- Wheel with metallic axles close together for a regular and reliable slide
- Height adjustment done by the outside (no nuts or other fixations in the inside)
- Rack can be moved manually or with a forklift
- A support bar at the beginning of each lane protects the wheels while loading the container
- Tag holder to identify each lane
- Possibility to fix front-systems to help choose right pieces (picking to light)
- Height adjustment with an Allen key
- Equipment delivered assembled, ready to use

Dynamic Rack		
Width Pitch (distance between 2 storage lines)	mm	450
Unit Width	mm	460
Loading Maximum Height	mm	1 350
Largest Layer Length	mm	1300 1700 2100 2500
Height Pitch	mm	10
Interval Pitch between levels to have access to pieces	mm	99
Maximum Load per layer	kg	100
Maximum number of layers for picking		7
Maximum Load	kg	500

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Mix Rack Rollis and Box

Densify your line side delivery

The more compact a front line is, the more efficient it is. The supply of Rollis trolleys contributes to this compactness, but when it is low in height (heavy parts) we can use the free space at the top to put parts in containers.
Gathering together the parts that form a sub-assembly makes the assembly sequence more obvious.
A dedicated row for the return of empty containers and trolleys can be put in common with several supplies.

- Space saving by using the space above the Rollis
- Gathers together small, medium and large pieces in a common sub-assembly
- The layers are adjustable in height every 10 mm

Mix Rack		L0638	L0639	L0640	L0641
Width Pitch (distance between 2 storage lines)	mm	450			
Unit Width	mm	460			
Loading Maximum Height	mm	1 350			
Largest Layer Length	mm	1300	1700	2100	2500
Height Pitch	mm	10			
Maximum Load per layer	kg	100			

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Pile Lifter

Supply heavy and frequently used pieces in an ergonomic and profitable way

The supply of heavy or frequently used pieces is often a problem due to ergonomics and handling costs. The Labadis Pile Lifter cancels the handling of containers. A pile is directly brought to the work station and lifted at constant height.

Valeo

Pieces taken at constant height

Valeo

Switch of empty container onto the next pile

- Operator productivity : constant height handling (automatic upgrading)
- Supplier productivity and ergonomic : no more lifting of full containers
- Switch of empty container by easy translation (1 second)
- Changing of pile in 3 small operations (less than 3 x 3 seconds) : low variability
- Used for filling and emptying containers
- Can be used on both sides (left and right)
- Floor saving : in most of cases, 2 piles of containers are enough for autonomy
- Manuel height setting for containers up to 320 mm
- Easy setting up : all electric and adjustable feet
- Unlock the line : one can walk through the Pile Lifter
- Safety : the Rollis® is locked whilst lifted (avoid falls if unbalanced)
- Soft start and stop by electronic dimmer

The return of empty container is outside of the line and does not make the operators path longer

The pile lifter decreases the supply area and clears the work station

The best lay out for a Pile Lifter is at the end of the manufacturing line, where it does not make the operators working distance longer.

The Pile Lifter can be used both ways thanks to a reversal and symmetrical design.

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The Pile Lifter works with all container heights (maximum 320 mm high)
Height is adjusted manually with a screw

The Pile Lifter can be crossed, the operator can go to get the next Rollis®

Pile Lifter		L0056
Using Characteristics		
Lifted Forks Height	mm	735
Rollis Transfer Height (face to face Fork)	mm	390
Maximum Lifting Weight	kg	120
Rollis Width	mm	400
Rollis Length	mm	600 or 800
Minimum time between 2 containers change	s	8
Dimensions		
Overall Floor area required	mm	1 195 x 710
Overall Height required	mm	990
Total Weight	kg	195
Energy		Electric
Tension		1 ~ 230 V 50 Hz
Maximum Useful Intensity	A	2,6
Maximum Power	W	600
Noise Level	dB A	< 70

The maximum picking height depends on the ergonomic height. The table below gives the number of containers per pile :

Nb container / pile	Container Height	75	120	175	235	320
Transfer of the first container by :	Sliding	11	7	5	4	3
	Lifting	12 – 13	8	6	5	4

Certified CE Machine

Options :

2 crutches (**L0184**) to move the Pile Lifter

Platform for Rollis 400 x 800 (**L0072**)

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Rollis® Floor Stopper

The floor stopper brings the Rollis to a complete standstill while allowing access to all of its sides :

- Fixed on the floor with 2 screws
- To avoid stumbling, the Rollis floor stopper must be installed in a logical and visible way
- Avoids using brakes on the wheels

Rollis® Floor Stopper		L0154	L0475
Length	mm	400	600
Width	mm	96	96
Height	mm	8	8
Weight	kg	0,36	0,6
Material	steel	galvanized	galvanized

The operator works without sustaining the trolley

The Rollis floor stopper blocks the 2 front wheels

Rollis floor stopper bender L0456

Sold by 10 with 2 Positriv screws 5 x 50 and plugs 6 x 30

In / Out Kit in Square Pitch

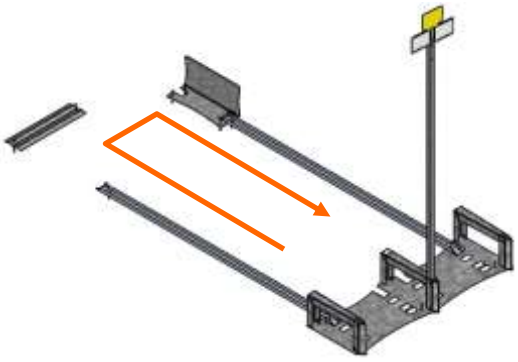
New

To supply Rollis trolleys in an assembling line, we can use :

- Storage units (L0466) with Rollis floor stopper (L0154)
- In / Out Kit which allows to realize a Square Pitch with lateral translation on the front wheels

Square Pitch realized with 2 kits and 2 rails

In / Out Kit to supply a Pile Lifter



Square Pitch L0096

1 kit = 1 galvanized steel sheet 2 Ins + 1 stop (L0569) + 1 floor stopper + 2 aluminium rails +1 pole and label holder + 10 screws and plugs + 2 labels

In / Out Kit in square Pitch		L0096
Galvanized Steel Sheet Length	mm	960
Width	mm	340
Height	mm	160
Weight	kg	7,2

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Manual Assembling Line

Design lines quickly and to scale

An assembling activity breaks down into three steps :

1. Piece handling
2. Piece laying
3. Assembling (screwing, clipping, gluing, riveting,…)

Labadis has developed a modular system which allows to design quickly each station by blending :

- Container supply on dynamic Rack
- Stacked supply on Rollis trolleys
- Pieces stand and tool holder

The line alternates between station and supply with containers in Rack and stacked on Rollis

Bio Rad

28 pieces are accessible in the operators handling area

All pieces are 450 mm wide, which enables to design a assembling line quickly. The balancing of the line is done with station transfers directly on the spot. The variants of assembling are added throughout the conception / realization. The organization work can be done on a spreadsheet as well as on the field.

The Labadis lines respect the following principles :

- Ergonomic : handling inside the ergonomic common window
- Productivity : U-line enables rotating operators
- Evidence : the line sequences picking of the pieces, the stand and the tooling in an intuitive way
- Multipurpose : Modular design allows to plan a new line quickly
- Flexibility : the compact components supply, either by containers or by Rollis trolleys, enables to have several versions of products at the station
- Compactness : Labadis Racks increase storage and reduce lines lengths
- Autonomy : touch pad use makes learning easy

Labadis technical floor includes all cable types : ground is free and view is cleared

Straight access to plans and videos by Wifi on touch pad

The layer (**L0547**) with ballast (**L0288**) hosts fitting template and tools

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Flat storage FIFO

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Flat storage in dynamic Rack

Increase your supply train performance by optimizing the storage fronts

Small or low-runner products are economically stored into Dynamic Racks also called gravity shelves. The challenge is to present to the staff the maximum of references in a minimum of distance.

Thorn

Less than 1 350 mm high is ergonomic height which enables to see the whole workshop

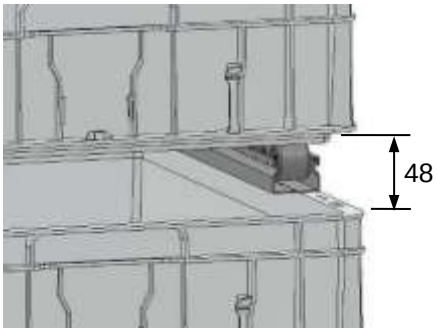
Storage racks can be configured as wished, according to the type of piece that needs to be stored

Rollis Skate (**LD0584**) is used to move the racks, with 4 revolving wheels for lateral movements

Labadis has developed a compact Dynamic Rack system which only has 48 mm high between 2 layers (see drawing below). Each Rack stands alone with a 440 mm wide interval, the same as the Rollis® one. Therefore, each layer is adjusted to the container height.

Whether it is for supplying feeding trains, preparing orders or kitting, the storeman has the largest choice in front of him.The more efficient he is, the faster his response to the customer's demand is, the less delay and shortage the customers line are.

- High density of front containers thanks to a compact structure (100 references / storage meter in "butter" box)
- Ergonomic rear loading (maximum 1 350 mm high)
- No more container jammed in the middle of the rack thanks to an individual guide for each corridor
- Each layer can be individually adapted to minimize loss space
- Label holder for each corridor
- Accepts 600 x 400 / 400 x 300 / 300 x 200 mm containers and "butter" boxes
- Enables to replace a Rack by a Rollis® line thanks to their 450 mm wide common interval
- Reusable standard Rack structure for other projects



The structure allows to limit from 48 to 60 mm the interval between 2 containers and increase the storage capacity

Dynamic Rack		
Storage Interval (distance between 2 storage aisles)	mm	450
Module Width	mm	460
Maximum Height	mm	1 350
Adjustment Interval Height	mm	10
Module Length	mm	800 1200 2400
Maximum Load for each Layer	kg	180
« Pebble » Spacing	mm	49.5
Interval between 2 layers	mm	50
« Pebble » Axle	mm	Metallic

The equipment is delivered assembled and ready for use.

To help you design your Racks, we have a conception form for your disposal.

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Flat Storage on Rollis®

Transform your storage into a management and service tool

Storage must allow the customer to pick up anything at anytime without waiting.

Storage with Rollis® of bulky or high runner pieces, enables to have, in only 400 mm wide, the whole stock of one reference. So the piece is always at the same place. No more searching in pallets and forklift trucks going up and down. Time for storing and retrieving is drastically reduced. FIFO (First In First Out) is automatically respected.

Stock shortage of a piece is visible by the user (customer), the supplier, as well as the stock manager. This results a better reactivity and supply shortage nearly cancelled. Flat storage reduces storage surface by optimized aisles.

Since the storage is horizontal, there is no more risk of goods falling from shelves.

Decathlon

The organisation enables the FIFO respect

Pepsico

Storage on Rollis : 1 line per product

The storage units are supplied with poles with plastic repositionable and laser-printable labels that ensure the geographical identification of aisles and the location of references at the entrance. They can also receive a Kanban batch box on the exit side (**L0015** p.63).

The poles provide safety by materializing the entrance of the storage.

The sheets are perforated, which allows the wheels to be turned when a Rollis is reintegrated by the front of the flat storage.

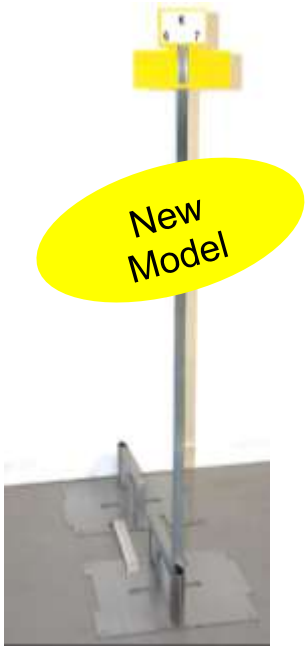
The precise guiding of the Rollis trolleys by the units enables to insert the wheels into the rails without having to aim. We avoid entrance offsets (which happens when rails are alone).

The sheets are fixed by screws into the floor. It is advisable to use them on a smooth and flat surface.

Rails can be purchased raw or cut on request and ready to fix.

Rail cut to length on request, ready to fix : open ends to guide the wheels. 2 holes are chamfered so that the screw head does not exceed

Screw and plugs ready to fix
(drilling diameter 6 x 30)



Storage Unit (rail not included)

Labadis provides advice for sizing, setting up and rational management for flat storage on Rollis.

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Calculation of the Number of storage units required :

A Storage Unit is composed of :
2 sheets + 6 Pozidriv screws + 6 plugs ø 6 + 1 pole + 2 laser-printable labels

Number of Storage Units required = Number of storage lines + 1 (the first Storage Unit is used as priming)

Storage Unit		L0466	L0436	L0537
Characteristics				
Storage Sheet Width	mm	339		
Storage Sheet overall Length	mm	470		
Weight of Storage Sheet only	kg	2,6		
Floor Fixing Screw	Pozidriv	5 x 40		
Storage Characteristics				
Storage Interval (distance between 2 storage lines)	mm	450		
Guide Height	mm	160		
Identification Pole		**L0028**		
Total Height from the Floor	mm	1 574	1775	1986
Usefull Height under Label Holder	mm	1 398	1598	1810
Weight of Pole only	kg	1,64	1.8	2
Labels Size	mm	105 x 74		

Stainless steel Storage Unit (**L0084**) in a zoning floor composed of tapes on the floor and plastic chains

Nestlé

Storage Rail Length Choice :

Storage Rail Length = Number of Rollis x (Rollis Length + 8 mm) – 400 mm

Example for the storage of 6 Rollis 600 long :
Rail Length = 6 x (600 +8) – 400 = 3 248 mm

Storage Rail		L02xx	L0007	L0042
Length	mm	On Request	3 000	6 000
Tolerance on Length	mm	± 1	± 20	± 20
Ends		Opened Out	Raw	Raw
Holes		chamfered	-	-
Section	mm	40 x 20 x 2		
Material		Anodised Aluminium		
Weight	kg/m	0,41		
Screw	Pozidriv 5 x 40	2	-	-
Ankle	ø 6 mm	2	-	-

Holding brackets **L0195** (per 4) for plastic chain **L0360** on STAP pole

STAP setting up for 600 mm wide

Laying Template	L0085	L0062
Model		
For Storage Unit	L0466 (steel standard)	L0084 (stainless steel)

Laying template to position the sheets on the floor in 600 mm wide lines

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Logistical loop

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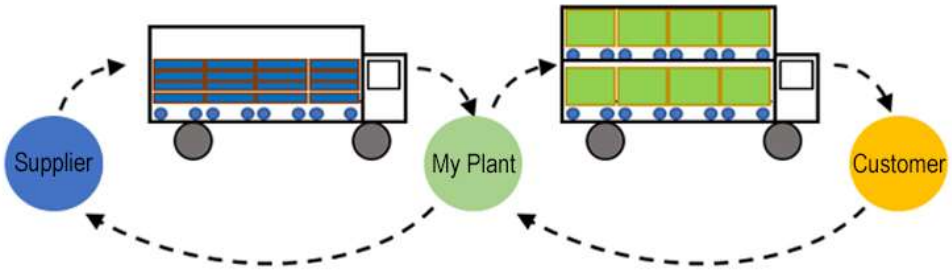
100% Rollis® Flow

Enjoy Rollis efficiency all along the supply chain



Customer and supplier share the same flow issues (productivity, ergonomics, space saving…). The flow in Rollis trolleys brings benefits all along the supply chain.

With Rollis® system, a 13.5 m truck is unloaded at dock in less than 10 minutes ; all the lines of 22 Rollis are pulled out at once. The Rollis are directly put into the flat storage or unloaded into the dynamic racks. Receiving activity becomes a regular and productive.

Rollis blocked by a the Rollis strap (**L0604**) fixed on the standard truck frame. Strap mount (**L0625**).

22 Rollis unloaded at once

Rollis trolleys transport

1 Level : A standard truck with smooth floor is suitable. No rail on the ground is need. The truck is loaded either :

1. With a dock (look at p.57),
2. On flat area with a hatchback truck,
3. With a Rollis lift on forklift

A strap fixed on the truck frame blocks the Rollis.

Unloading by tailgate

2 Levels : For lightweight loads, we will try to fill the truck on all the available height (2,7 m high) :

1. Truck with 2 floors : with Rollis unloading is done either by 2 different height docks, either by a lifting table or by the truck tailgate
2. Rollis pallet : allows to stack the Rollis
3. pallet of unpalletized containers, by box transfers on Rollis thanks to the palletising hook (p.47). Labadis may develop a palletiser or unpalletizer (automatic machine for plastic or cardboard boxes)

Labadis helps you make the most appropriate choice according to your factory outline and those of the customer or supplier.

Truck with two floors

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New

Rollis® Pallet

Introduce logistics to a new transfer mode

The transport on Rollis is confronted by pallets in Logistics.
To gradually set up the Rollis system within the workshop, labadis has developed a Rollis Pallet easy to use, safe and intuitive.

- Passing through : Rollis go in and out in a straight line while they remain coupled by 2(no reverse gear)
- Taken on both sides by a handling machine
- Intuitive and maneuverable locking without bending down thanks to the Rollis towing hook
- The 4 Rollis go in and out in less than 1 minute
- Stackable with a cover which optimizes truck filling
- The cover is attached with 2 straps (avoids strap fixing in the truck)
- Transport all wagon 400x600 on the market
- Introduction of forks by sliding on the floor
- To be lifted with forklift or low pallet jack 69 mm high maximum

Locking latches are opened without bending down

Rollis® trolleys are coupled with the towing hook (**L0005**)

Patented

Rollis® pallet

2 Rollis Pallets with a cover

Forklift handling on both sides

Rollis Pallet		**L0378**	
Length	mm	1 251	
Width	mm	808	
Height	mm	160	
Weight	kg	40	
Capacity for Rollis 400 x …	400	6	
	600	4	
Maximum Load	kg	4x180	
Rollis space	mm	**80**	
Pallet Side		**Width**	**Length**
Minimum Height for fork Handling	mm	69	69
Internal Distance between Fork	mm	190	300
External Distance between Fork	mm	612	740
Cover		**L0141**	
Length	mm	1208	
Width	mm	808	
Weight	kg	2,9	
Material		HDPE	

Our products are often improved, their characteristics can be changes without warning.

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Transfer Hook

Transfer to Rollis® right from receiving

Upon receipt, container piles are directly transfered onto Rollis thanks to a Transfer Hook. Less than one minute is needed to transfer one pallet, cover included.

- Its special shape allows to take containers under the rib, even flat
- Precis grip, thanks to its round leather handle (good grip without effort and antiperspirant)

Manual transfert from pallet to Rollis®

Transfer Hook

Transfer Hook		L0014
Length	mm	490
Weight	kg	0,35
Material		Stainless Steel
Handle		Natural Leather

Rollis® Loading Dock

Stop the Dock Damage

New

Loading Docks are degraded quickly due to daily truck docking and forklift coming and going.
Labadis has developed a simple dock, reliable and economic. A loaded Rollis trolley is no more than 180 kg, it is not useful to have a leveling dock. A simple polycarbonate sheet is enough to ensure the crossing between the dock and the truck. The sheet is free and centered in the truck, avoiding lateral holes related to the sides of the dock leveller.
A system along the width of the dock absorbs the shock of the truck while reversing even in multiply mode. The system allows the up and down suspension :

- Smooth concrete wall (no dock leveler)
- Centered sheet in the truck
- Shock absorber system against any maneuver type

Rollis® Loading Dock		L0448
Length	mm	3100
Width	mm	260
Height	mm	700
Ankle Fixing	Ø	10 x 65

For more information about the system, do no hesitate to contact us.

A polycarbonate sheet between the dock and the trailer allows the Rollis® loading and unloading

Shock absorber system when trucks park upto the dock

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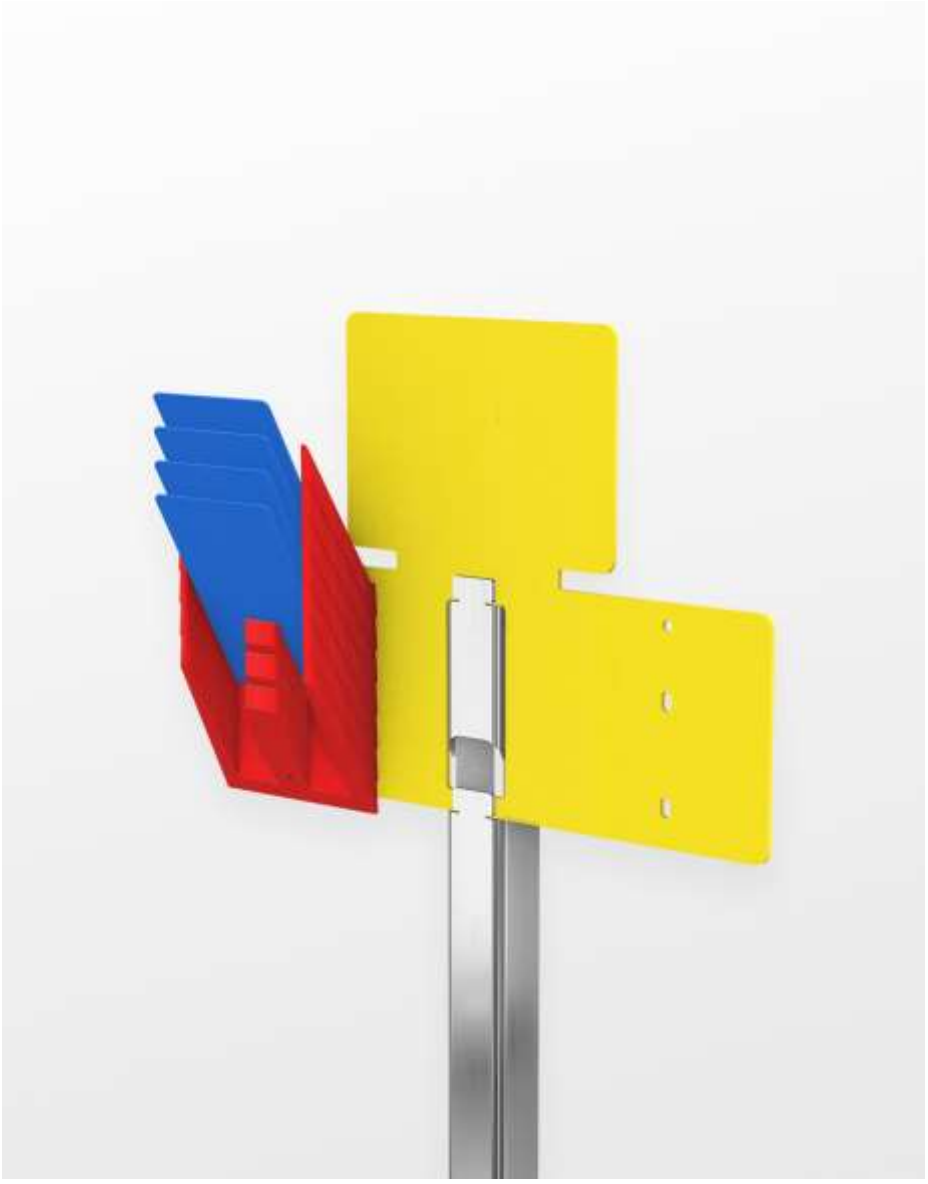
Kanban system



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Management with fixed-batch Kanban System

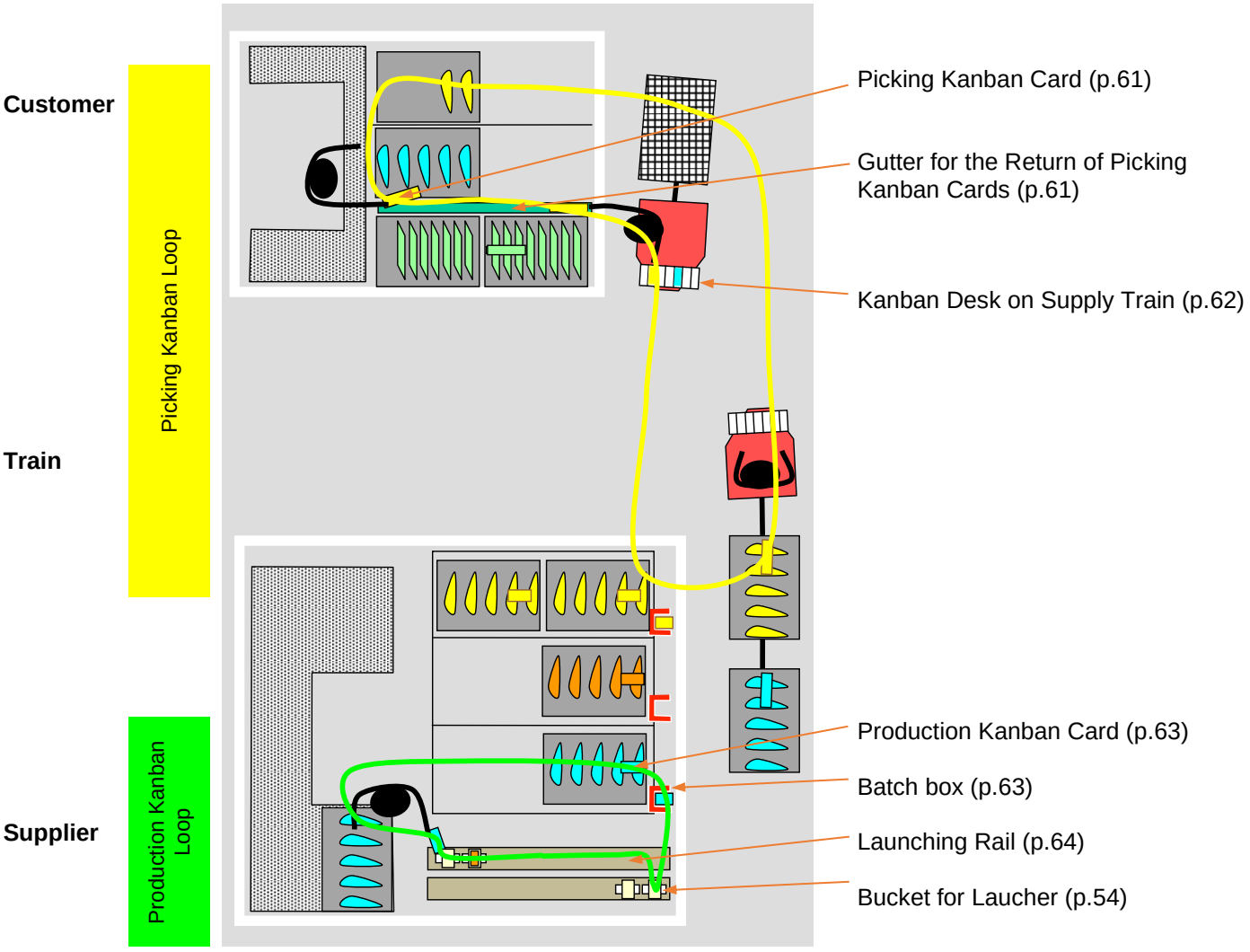
Make the workshop self-ruling in manufacturing management

The fixed-batch Kanban System is used to automate scheduling and launching production which makes the workshop autonomous.

The Kanban System has 2 Loops :

- The **Picking** Loop which is used to supply production lines
- The **Production** Loop which is used to schedule production work

Each Kanban Loop has its specific equipment :



The above layout is streamlined in order to see all the components of the Kanban System Loops ; however, it does not reflect reality.

Labadis company helps its customers to organize the Kanban System through a “hands-on training”.

The Kanban system requires some previous steps which we can help you to set up.

Please consult us

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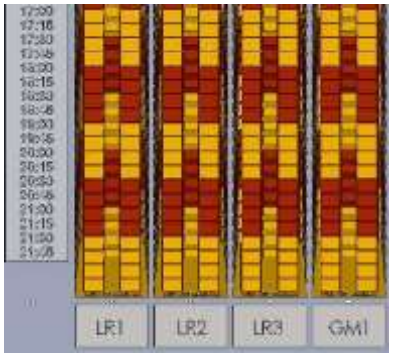
Heijunka board

Smooth the workshops work by simuling the customer's expectation

The Heijunka Board enables to reproduce a smoothed and a mixed customer's request. The cards which correspond to the customer's packaging are spread over the work time slot of the workshops. The Logistics staff regularly picks up the cards to make up the load of the shipping truck (called Dumy Truck). Thanks to the Heijunka Board, the firm entirely works using in Just-In-Time methods.

The free standing position of the Heijunka Board allows moving it according to new layouts which often happens in warehouses. As the time slots are vertical, columns can be added according to the references to be picked. A visual control of a good picking in the workshop is thus possible.

Heijunka Board on stainless steel Stand



Colors alternation enables to find each time slot

The horizontal time slots enable to have a view on the picked references

Heijunka Board		L0132
Width x Height	mm	1052 x 1910
Weight	kg	32
Column Numbers (references)		12
Max Row (Vertical Slot for Kanban)		60
Time Slot according to the train's period	10 min	10 h
	15 min	16 h
	20 min	20 h
	30 min	24 h

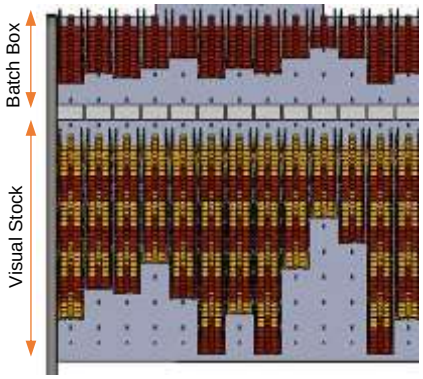
Board Title on request

Logistics Board

Visual Management on your Remote Stocks in Kanban

The Logistics Board helps to visualize a remote stock status. A Kanban stock management is thus possible. The pickings are taken out of the logistics board and the batch building boxes launch the production. It is a visual tool called VRO (Visual Re-Order). The supplier's restocking can also be managed from the raw material stock.

Logistic board on stainless steel stand



Batch building boxes are on the top and stock visualization on the bottom

Logistics board		L0338
Width	mm	1052
Height	mm	1910
Weight	Kg	32
Column Numbers (references)		13
Row (Vertical Slot)	maxi	60
Structure Raw Material		Stainless Steel

The batch building boxes are made with elements which are separately proposed (Look at p.63)

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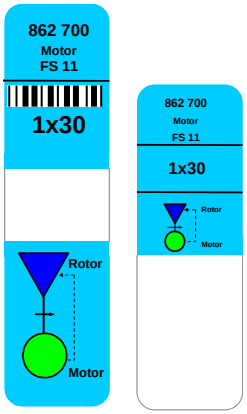
Kanban Picking Loop

Kanban Picking Cards

- Large size to prevent from loss and to enable an easy handling
- Intensive use without any abrasion or peeling (safe down slide in the gutter)
- 54 mm wide for a good handling with one hand
- Containers can be handled with card in the hand
- Businesslike look that values the cards towards operators (no loss)
- Rigid card for a safe slide in the gutter
- One shot printing (no more plastic-covering)
- Available in stainless steel with laser marking to go through washing machine

Information stays visible while holding the card

The supplier is carrying a container while holding the card in his hand



L0090 **L0095**

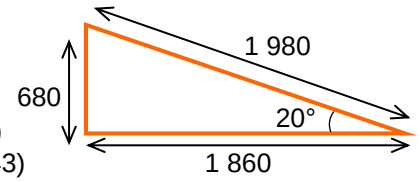
Picking Kanban Card		L0090	L0095
Length	mm	210	165
Width	mm	54	
Thickness	mm	0,76	
Weight	g	10,5	8,3
Raw Material		PVC	
Box Type		Standard	« Butter » box
Number per Pack		200	

Card can be inserted directly into the cardboard slots to identify its contents. Information on Kanban is always visible

Gutter for Picking Kanban's

The gutter allows the customer to send the cards right back on the other side of the line, where the supply train goes through. So, the card cannot get lost.

- Low slope (20°) allowing long lengths
- Can be fixed on both sides (as well as on the right as on the left)
- Adjustable length by cutting with pliers
- Compatible with a 1 800 mm long front feeding (e.g. 3 containers 600)
- Placed onto the Holding brackets **L0195** between 2 storage poles (p.43)



Card comes back through the front supplying when the train goes through

Card is visible for the train and easy to collect

The spacer **(L0479)** creates a space for the gutter between 2 Racks

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Kanban Picking Loop

Gutter		L0047
Maximum Length Overall	mm	1 900
Rail Width	mm	16
Height	mm	76
Raw Material		Galvanized
Number per Pack		4
Conditions of Use		
Maximum Fixing Screw Diameter	mm	8
Minimum Slope	°	20

N.B : The slope depends on the Bracket cleanliness and on the cards' qualities : dimensions and stiffness. Plastic-coated cards finally get dog-eared and block the gutters. We request a printed cards use (look at p.54).

Kanban Desk for Supply train

The desk enables to store Kanban cards straight away according to their destination. They cannot be lost anymore. This structures the supplier's job. Destinations are written on labels according to the train path.
The desk is fixed on the Ergomover (p.38) in the 2 provided holes with tightening screws.

Filtrauto

The Kanban desk is fixed in the top holes of the Ergomover. No adaptation is needed.

Picking place is written on sticky labels. Their sequence describes the train path

Kanban Desk		L0046
Characteristics		
Place Number for Cards		9
Card Storage Length	mm	158
Color		RAL 9006
Raw Material		Stainless Steel
Conditions of use		
Kanban Cards Overall Size	mm	54 x 210

Optional : a Timer (**L0342**) to rate the supply trains work. Be careful, timing is obtained by the works organization, not by the timer

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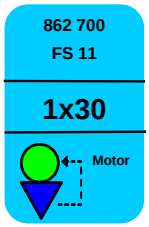
Kanban Production Loop

Kanban Production Card

Kanban cards provided are in PVC. They enable :

- One shot printing (no more plastic coating)
- Intensive use without any abrasion or peeling
- Businesslike look that values the cards towards operators (no loss)
- Available in stainless steel with laser marking to go through washing machine



Standard Information

Stainless steel Kanban Card

Production Kanban Card		L0089
Length	mm	86
Width	mm	54
Thickness	mm	0,76
Weight	g	4,3
Raw Material		PVC
Number per Pack		400

Batch Building Box

Batch Building Box allows to collect Kanban Cards as and when the train withdraws. Boxes are directly placed on the Picking area, either on the storage Units poles (p.43) or on the storage Racks (p.44).
This avoids unnecessary coming and going of the picking train.

- The box is made with components that fit together
- Batch building box has as many slots as there are in the batch : the picker cannot make any mistake
- Two lateral slots enables to pick up the cards quickly
- The Loop Inventory Card is fixed on its back with a screw (no one can take it away)
- Can also be used to make scheduling boards

Batch Building Box elements assembled together

Batch Building Box placed on the Storage Units Pole

Batch Building Box setting on the Storage Units Pole

Delivered with 20 stainless screws PZD M 3,5 x 6,5 in a box of 100 modules for Batch Building Box

Batch Building Box		L0015
Width	mm	60
Depth	mm	32
Assembling Interval	mm	12
Weight	kg	0,09
Raw Material		ABS
Number per Pack		100
Rack Holder		**L0542**
Usefull Heigth for Batch Building Box	mm	320
Raw Material		Steel
Assembling on Rack Pole		Screwing

Storage Rack Holder for Batch Building Boxes (**L0542**)

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Kanban Production Loop

Bucket

When a batch is complete, the supplier (customer) returns the cards as production orders by putting the cards in the bucket. It is then conveyed to the production station to inform which goods have to be produced.

- Card can be seen from the front
- Very low slope thanks to shaped axles (6° minimum)
- Cards do not overflow out of the bucket and cannot be stuck by a pole
- The bucket is equipped with wheels : a simple U shaped rail is enough

Cards arrive in the bucket in front of the operator in production order. The several cards show the references which have to be produced

The card is visible while the bucket slides down

Bucket		L0009
Length	mm	90
Width	mm	60
Height	mm	71
Weight	kg	0,25
Sold per		6

Launching Rail

The Launching Rail guarantees FIFO (First In First Out) of productions orders, thanks to filled Kanban Bucket. It helps the producer to visualize the sequence. It also gives the supplier the delivery order in case of sequential deliveries.

- Fixed on flat storage pole (p.43) with holding brackets **(L0195)**
- Low slope that allows an ergonomic loading and picking (6° minimum)
- Supplied cut to length with a stop for the buckets
- Double-sided sticky foam fixing for any kind of support

Launching Rail (**L0196)** is sold to length ready to be assembled.

Rail fixed on holding brackets (**L0195)** with double-sided sticky foam

Launching Rail (**L0196**) fixed by 2 holding brackets (**L0195**) on storage units poles

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Kanban Cards Printer

Simplifies Cards Making

Kanban system relies on the card flow. To be reliable, they must slide correctly in the gutter. Plastic-coated cards peal off and they get stuck in the gutter. The Printer allows to have monobloc cards which remain stiff, without cornering.

The Printer is connected to a PC computer, Windows configured, using an USB cable or Intranet Network with Ethernet Port.

Cards are printed from a “PowerPoint”, “Excel” or “Word” file.

Barcodes can be printed.

Install like any other peripheral computer with a network or local connection.

Production Kanban Cards (credit card size : 54 x 86 mm) are printed with a automatic card feeder.

Picking Kanban Cards for standard container or “butter” box, 210 and 165 mm long respectively, are printed with the adaptor provided with the machine.

Kanban Printer		L0091
Characteristics		
Printing Speed Color	s / Card	24
Printing Speed Black & White	s / Card	3,6
Weight	kg	5,9
Length / Depth / Height	mm	396 / 235 / 192
Definition	dpi	300
Alimentation		
Voltage	V	100-240
Frequence	Hz	50-60
Connexion		
Local	Plug	USB
Network	Plug	ETHERNET

Printed Production Kanban Card (**L0090)**

Print Ribbon is also sold separately : one box contains 5 ribbons and 1 cleaning kit.

Print Ribbon		L0093	L0185
		Color	Black & White
Printing Capacity	1 / ribbon	200	1 000
Packaging Cardboard Size		215 x 155 x 75	
Weight	kg	0,8	
Ribbon	Quantity	5	
Cleaning Kit	Quantity	1	

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Kanban Game

Give to everyone the possibility to understand the Kanban System to comply with the rules

To ensure a smooth running of the Kanban System, everyone must follow the rules. Kanban Game allows everyone to understand the system thanks to Kanban Cards used at different workstations. It is possible to simulate frequent mistakes :

- Invert batch to avoid a reference change
- Supply more than scheduled
- Lose a card

For Kanban Loop Managers, their Loop sensibility can also be tested more or less tightened, and learn by calculation, to define a steady Kanban Loop.

The game represents a plant which produces 3 finished products and 2 subsets made from 5 bought pieces.
The game simulates :

- The customer's truck
- The dispatch with the "Heijunka Board" (or sequencer)
- An assembling line with its batch building boxes, its launcher and its Kanban gutter
- A press
- A supply train with Kanban desk
- A receiving area with flat area

Koyo

The players produce and supply according to Kanban instructions

Mécafi

Players get involved and integrate the Kanban role in the plant activity

The game lasts 1 to 2 hours according to the kind of exercises. Six players at least are necessary.
It is possible to rent the Kanban Game (**L0013**).

Kanban Game		L0013	LL0013
Length	mm	600	670
Width	mm	400	440
Height	mm	1 220	960
Weight	kg	39	44

Kanban Game (**L0013**) on Hightened Rollis®

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Visual communication

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Zoning Floor tape solutions

Make your workshop's layout clear for anybody

To structure a flow clearly, we define each independent working area (machine or assembling line) by a continuous line. This allows anyone to take ownership of their area and gives them responsibilities . Likewise, it structures exchanges.

Horizontal Zoning Floor

The self-adhesive tape is suitable for smooth floors ; it supports the passing of the Rollis wheels. This very thin tape does not peel. It can be removed with a scraper or a heat gun.

The tape is placed on a plastic support. So it can be unrolled, positioned first and then be stuck.

The tape is ready immediately, it is no longer necessary to wait for the paint to dry.

The tape position is tested…

…before its final sticking

Range of adhesive tapes

Adhesive Tapes Box		L0001
Box Weight	kg	14
Each Roll Length	m	25

Box contents :

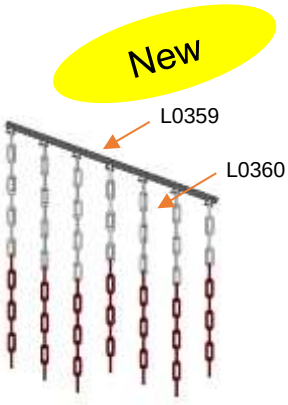
- 14 white rolls 100 mm wide for the edge of zone
- 6 white rolls 50 mm wide for mobile objects
- 2 red rolls 50 mm wide for defective pieces

We can replace a 100 mm wide roll with 2 rolls 50 mm wide, with a maximum of 6 red rolls
N.B : Limited lifetime on tiles with retracted joints

Vertical Zoning

It allows to :

- Create a corridor to prevent the operator from running into a machine
- Avoid going under high structures
- Naturally guides the operator without closing the area off with a wall
- Be the alternative to floor zoning when its surface needs to be cleaned constantly (strong water jet, solvents)



The chain is positioned on the stainless steel rod

Stainless Steel Rod		L0359
Length	mm	800
Width	mm	40
Interval between 2 chains	mm	115
Weight	kg	0,125
Red and White Chain		**L0360**
Length	mm	25 000
Diameter	mm	8

Labadis follows its customers in setting up zoning and rational implementation techniques that allow surface gain and fluid flow between trains and staff.

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Lean Workshop Panel on pole

Manage improvement on the floor with structured communication

The Workshop Panel helps structure clearly and synthetically improvement team's work during their construction. This panel is placed on the workshop area itself. It can be moved to a meeting room if needed, where teams document their work and their action plan. It helps management grasp at a glance the working status and engage in an action oriented dialogue.
A panel works for any type of workshop. How to use the panel is written under each document. This makes the launching and the coaching easy.

- Allows to document any type of workshop (5S, Zoning, GRP, Hoshin, STAP, Train, SMED, TPM…)
- Only one title per folder indicates the document that must be used
- Notice Use for each document
- 3 folders for horizontal A4 paper
- Papers protected against spilling
- The workshop method is summarized on a form
- Hanged with "S" hooks or magnetic tapes
- All documents may be downloaded from our Website
- Reusable after each workshop

All in One

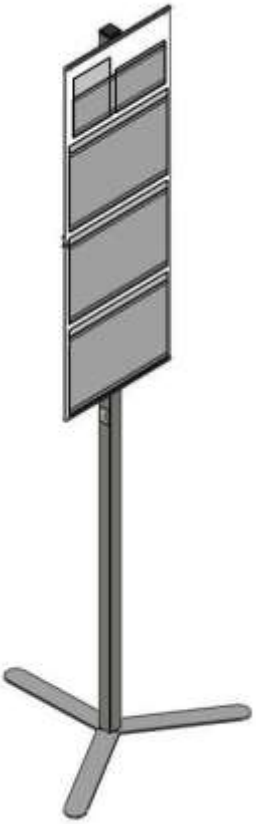
Lean Workshop Panel

The Workshop stainless steel Pole is with flat feet which avoids tripping over. Easy to carry.

Pepsico

Knorr-Bremse

Workshop Panel placed in the workshop area eases discussions and exchanges



Workshop Panel on a Stainless Steel Pole

Lean Workshop on Pole		L0025
Overall Height	mm	1795
Width	mm	320
Feet Diameter	mm	620
Weight	kg	4,840

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Management QCDM

Manage the performance and improvement of each flow step on the floor

In order to manage at best the workshop, it is usefull to involve operators in the daily performance follow up and improvement actions.
The visual QCDM communication is modular. because each panel is standing by itself. The panels can be displayed as close as possible to the operators.
Actions decided with production management are written on the spot and validated by the user. This improving process ensures sustainable performance. The follow up table is printed on the board.
Grids, printed in the mass, resist to repeated wiping. A brush provided with the board (p.57) is the same size as an action line. A PDCA wheel enables to ensure check and validation.
Boards are suitable for QCDM and INFO panels :

The operator follows his tool performance from his workplace

The brush erases one line at a time

Fixed Caps : pens do not desappear anymore !

Panneau QCDM

- The magnetized panels can be placed directly onto the metal blue board and can be moved individually to a meeting room if needed : the operator establishes the connection between decided actions during the work meetings, their follow-up on the floor and measured results
- Delivered with 4 whiteboard pencils : green, red, black and blue
- Caps are integrated into the structure : whiteboard pencils recover naturally their starting place
- Brush is integrated into the board ; its size suits a line erasing of the action plan
- Their within place protects them from clashes
- Flat board feet avoid tripping over
- Stainless steel structure gives a neat and rewarding look that resists shocks

Presentation Board		L0068
Overall Height	mm	1865
Usable Height	mm	900
Width	mm	1056
Depth	mm	225
Thickness on the floor (foot)	mm	5
Weight	kg	20

Tracking Panel		
Length	mm	900
Width	mm	320
Weight	kg	0,960