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## Introducing ourselves

The employees of a LEAN Technology provide advice and technical support to companies committed to lean manufacturing .

The expertise of our employees provides the ideal method for implementing



#### Our company's main profile:

- Production of tubular frame systems
Production of aluminum profile systems

- INDEVA Manipulators Sales

Distribution of automatic guided vehicles

- Distribution of ZALLYS electric towing aids
- Distribution of height adjustment systems

- Planning

# Lean Technology parts and their use

The Lean Technology product range is built around three fundamental principles:

- The STRENGTH is a necessary feature of the industrial environment: the load capacity experienced on pipes and rollers has led to special solutions such as rollers with riveted shafts and the use of pipes with a wall thickness of 2mm.
- **MULTIFUNCTIONALITY** is ensured by the compatibility of parts, which minimizes disruptive differences between components.
- DURABILITY, which is ensured by the surface treatment on the pipes and connectors.

## **TUBULAR SYSTEM**





#### **LEAN MODULAR SYSTEMS**

The modular system serves as a tool for optimizing production processes and implementing LEAN MANUFACTURING, KAIZEN, KANBAN and FIFO. With our modular system, any application can be built quickly and easily. Workstations, kanban and gravity racks, racks with rollers. Modular systems can therefore be used not only in the warehouse, but also in production.

#### **KAIZEN MODULAR SYSTEM**

Everyone who works in the world of continuous improvement and implementation of Lean production methods has certainly come across the term "Kaizen" many times.

Kaizen is a method of incremental improvement that focuses on the gradual optimization of processes and workflows, increasing quality and reducing waste, saving materials and time, which leads to cost reduction or workplace safety, and reducing workplace accidents. Eliminating waste, improving quality and efficiency are never-ending processes.

Kaizen means continuous improvement. This means that we are not satisfied with the existing way of doing things, but are constantly looking at how we can improve and make things more efficient. As a result, Kaizen is a continuous increase in production standards. In the workplace, Kaizen means continuous improvement, involving everyone – managers and employees alike.

Success in a highly competitive environment requires not only a quality product, but also a continuous improvement in the efficiency of production and management processes. Proven methods of Lean management and Kaizen effectively reduce waste, save time and labor, and gradually contribute to higher profits.

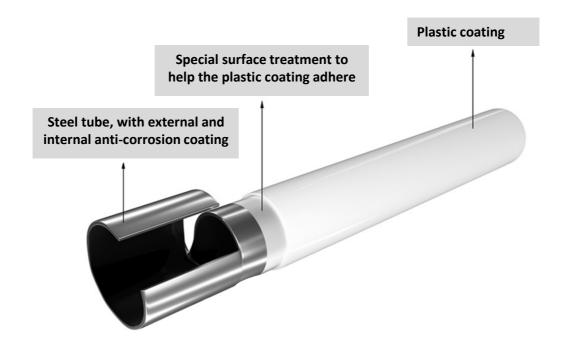
Our modular system can be a good tool for achieving continuous development processes.

#### LEAN MANUFACTURING

#### **Technical specifications**

The steel pipes are coated with plastic. The outer and inner surfaces of the steel pipe are coated with an anti-corrosion coating. The plastic coating is available in various colors. Standard colors can be delivered immediately from stock. Coloring according to customer requirements is only available above a certain quantity upon prior agreement.

The outer surface of the steel pipes is designed to provide a durable and secure base for the plastic coating.



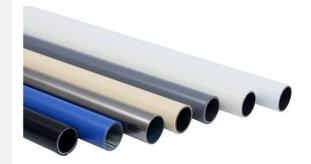
#### **Diameters and specifications**

Steel tube: outer diameter 27mm, wall thickness: 1mm or 2mm

Coated pipe: outer diameter 28.6mm (+0-0.2)

Standard length: 4000mm

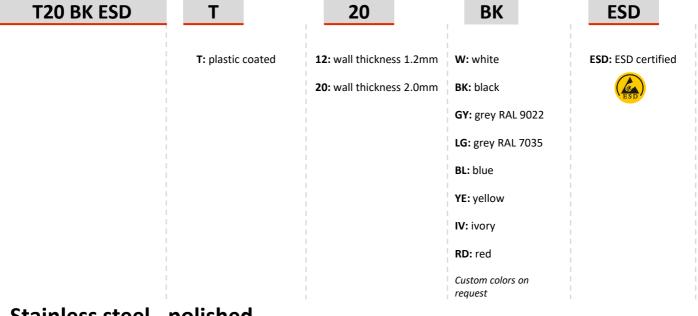
**Operating temperature:** 0°C - +40°C



#### Pipe code table

Plastic coated steel pipes and stainless steel pipes. Also available in ESD version.

## Steel – plastic coated



### Stainless steel - polished



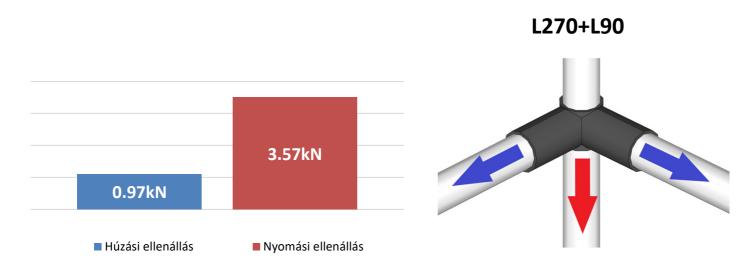
	Acé	Hossz			
Cső		Szín		28,6 x 2mm	
	Fehér		<b>/</b>	<b>✓</b>	
	Szürke		<b>✓</b>	<b>✓</b>	
``C	Világosszürke		<b>√</b>	<b>✓</b>	
cső	Kék		<b>✓</b>	<b>✓</b>	
SC	Elefántcsont		<b>✓</b>	<b>✓</b>	
Bevonatos	Sárga		<b>✓</b>	<b>✓</b>	
Ď	Vörös		<b>✓</b>	<b>✓</b>	4m
Şe,	Fekete		<b>✓</b>	<b>✓</b>	
ш	Fekete anodizált				
	Szürke anodizált				
	Egyedi RAL szín		<b>√</b>	<b>✓</b>	
F6D (A)				,	
ESD 🙆	Fekete		<b>√</b>	<b>✓</b>	
Antisztatikus	Világosszürke		<b>√</b>	<b>/</b>	

#### **Technical specifications**

Our connectors are made of 2.5mm thick hardened steel. The geometry of the fitting is designed to ensure maximum support. The connectors are available with KTL coating or, in the case of ESD version, with silver electroplated coating. Their surface treatment is durable, scratch-resistant and antistatic.

#### Testing the load-bearing capacity of the sections

A special pulling/pushing machine was used during the testing. In order to ensure the quality of the products, the fittings are continuously tested on a random basis .



The measurements were carried out by the independent Polish laboratory Świętokrzyskie Centrum Badania Jakości Sp. z oo. The tightening torque of the fasteners during the test was 15Nm.

Assuming a safety factor of 2, a maximum load of 150gk is allowed for compressive resistance. It is inappropriate and not recommended to use the fittings for suspending



#### **WIDE** steel base connectors

All steel connectors are available in black KTL-coated and silver ESD versions

#### WIDE CONNECTOR - INSIDE CORNER - 90°



#### WIDE CONNECTOR - CONNECTOR - 180°



#### WIDE CONNECTOR - OUTSIDE CORNER - 270°



#### WIDE CONNECTOR - T-FITTING - 90°



#### steel base connectors

All steel connectors are available in black KTL-coated and silver ESD versions



#### NARROW INSIDE CORNER - 90°

L90 L90 ESD Installation example

#### NARROW STRAIGHT CONNECTOR - 180°



#### **NARROW EXTERNAL CORNER - 270°**

L270 **L270 ESD** Installation example





#### **STIFFENING** steel connectors

All steel connectors are available in black KTL-coated and silver ESD versions

#### **45° CONNECTOR**

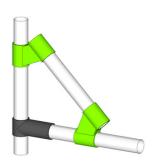
L45



L45 ESD



Installation example



**30° CONNECTOR** 

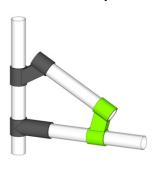
L30



L30 ESD



Installation example



**60° CONNECTOR** 

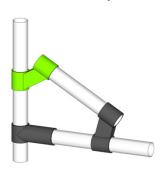
L60



L60 ESD



Installation example



90° CONNECTOR

**L90R** 



**L90R ESD** 

**Installation example** 



#### **STIFFENING** steel connectors

All steel connectors are available in black KTL-coated and silver ESD versions

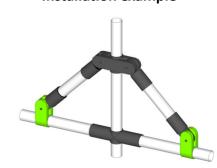


#### **ADJUSTABLE ANGLE CONNECTOR**

LF

LF ESD

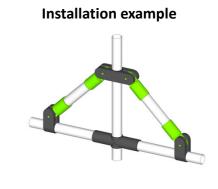
Installation example



#### **ADJUSTABLE ANGLE CONNECTOR**



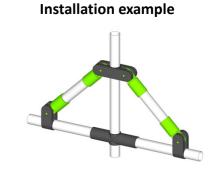




#### **ADJUSTABLE ANGLE CONNECTOR**







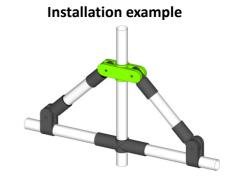
#### **ADJUSTABLE ANGLE CONNECTOR**



LK



**LK ESD** 





#### **MULTIFUNCTIONAL** steel base connectors

All steel connectors are available in black KTL-coated and silver ESD versions

#### **MULTIFUNCTIONAL FIXING ELEMENT**





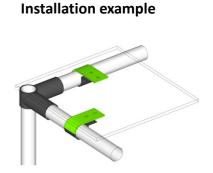


#### **MULTIFUNCTIONAL FIXING ELEMENT - THE**

**LQA** 



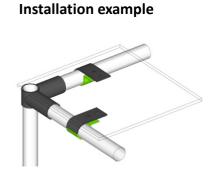
**LQA ESD** 



#### **MULTIFUNCTIONAL FIXING ELEMENT - B**



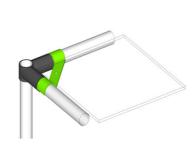




#### **WORKTOP HOLDER - CORNER**



Installation example



#### **MULTIFUNCTIONAL** steel base connectors





#### PARALLEL CONNECTING ELEMENT



#### **CROSSOVER CONNECTOR**





#### **ROTARY** steel connectors

All steel connectors are available in black KTL-coated and silver ESD versic

#### **ROTATING T-FORM**

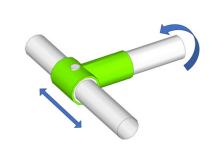
LTS1



LTS1 ESD



Installation example



#### TWO-SIDED ROTATING PARALLEL CONNECTOR

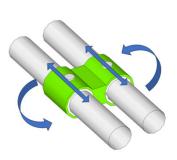
LIS2



LIS2 ESD



Installation example



#### PARALLEL CONNECTOR WITH ONE SIDE ROTATION

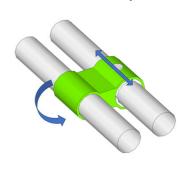
LIS3



LIS3 ESD



Installation example

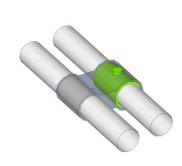


#### PLASTIC BUSHING FOR ROTATING CONNECTOR

LSA



Installation example



#### 33mm steel base connectors

All steel connectors are available in black KTL-coated and silver ESD versions



#### 33mm T-FITTING



#### 28mm-33mm PARALLEL CONNECTOR



#### 33mm-33mm PARALLEL CONNECTOR

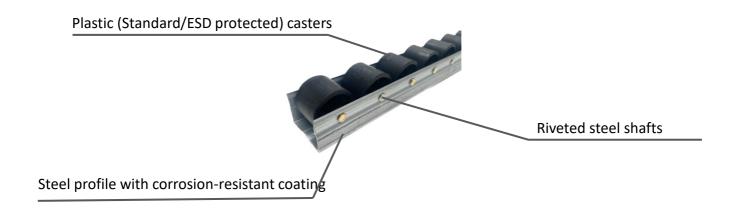






#### **Technical specifications**

Our reliable, maintenance-free roller tracks can be used for gravity tracks for storage and conveyor solution . The individual rollers are connected to the profiled steel track with a steel shaft and riveted, which can withstand even higher loads.



Coated steel profile: thickness 1.25mm, height 26.5mm, width 35mm

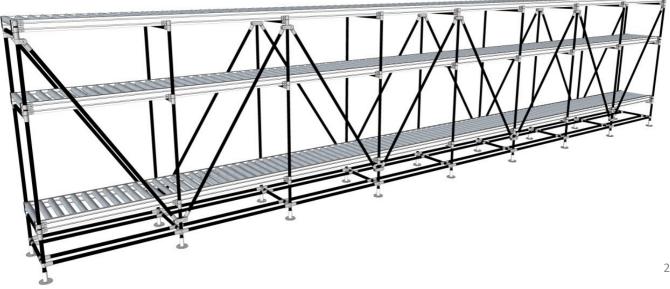
Total height: 35mm

Roller: diameter 31mm, load capacity max . 150kg, distance between roller axles 35.7mm

Steel shaft: diameter: 3.75mm

Standard length: 4000mm

Operating temperature: °C - +40°C



20

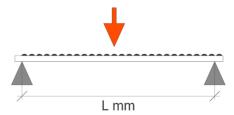
#### **Roller load capacity**

We conducted a test to determine how much load the track can withstand. Irreversible deformation: over 150kg.

The quality of sliding does not change up to a load of 30kg.

#### Roller track bending strength

The test was performed as follows. The roller track was supported at two points. The distance of the support was varied during the test. In each case, the roller track was loaded in the middle, so that the load was transmitted to 2 rollers.



The result is summarized in the following table.

	L1 500		L2 750		L3 1000		L4 1250		L5 1500	
	Terhelés	Hajlás								
	[kN]	[mm]								
1	0,16	1	0,10	1	0,12	2	0,17	2	0,23	4
2	0,29	2	0,18	2	0,29	5	0,20	6	0,28	8
3	0,46	3	0,35	3	0,47	8	0,34	10	0,37	12
4	0,63	4	0,56	4	0,66	11	0,44	14	0,45	16
5	0,82	5	0,78	5	0,74	12,5	0,60	16,5	0,53	18,5

#### Testing the quality of sliding

During the test, we sought to find the smallest angle of inclination at which a rigid box (40mm x 40mm) with a mass of 1kg will start on the roller track. The test was carried out starting from a horizontal position with gradual lifting.

#### **Roller load capacity**

We conducted a test to determine how much load the track can withstand. Irreversible deformation: over 150kg. The quality of the slide does not change up to a load of 30kg.

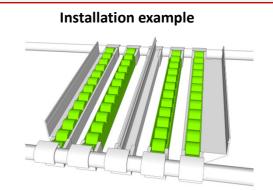
#### **ROLLER TRACKS and accessories**

Some roller tracks are available in standard and ESD versions



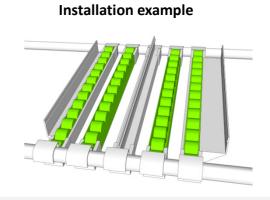
#### **HEAVY DUTY ROLLER CONVEYOR L=4000mm**

LR400



#### **HEAVY DUTY ROLLER CONVEYOR – ESD DESIGN L=4000mm**

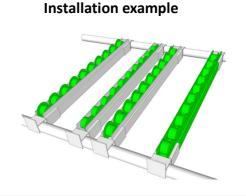
LR400ESD



#### SIDE GUIDED ROLLER CONVEYOR L=4000mm

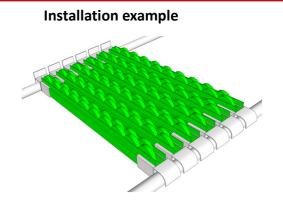
**LRS400** 





#### **DOUBLE ROW ROLLER CONVEYOR L=4000mm**







#### **ROLLER TRACKS and accessories**

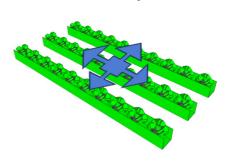
Some roller tracks are available in standard and ESD versions

#### MULTI ROLLER TRACK - (roller diameter 50mm) L=1000mm

LTR50



**Installation example** 

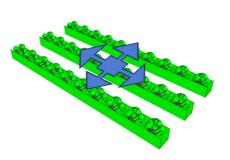


#### MULTI ROLLER TRACK – (roller diameter 60mm) L=1000mm

LTR60



Installation example

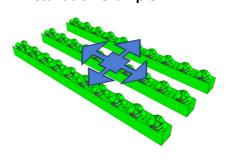


#### MULTI ROLLER TRACK – (roller diameter 80mm) L=1000mm

LTR80



**Installation example** 

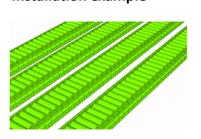


#### WIDE ROLLER TRACK L=4000mm

**LRW400** 



Installation example



#### **ROLLER TRACK support connectors**

Roller track supports available in ESD version

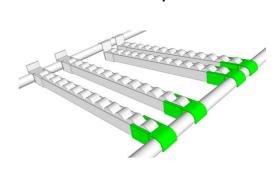
LM1



#### **START** connector



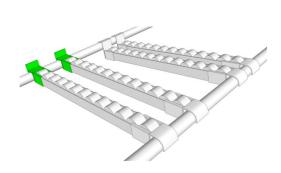
Installation example



#### **INCOMING connector – HIGH STOP**



Installation example

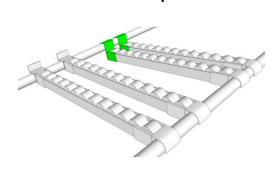


#### **INLET connector – DEEP STOP**

LM3



Installation example

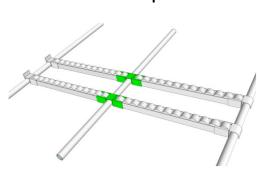


#### **EXTENSION** connector

LM4



Installation example





#### **ROLLER TRACK support connectors**

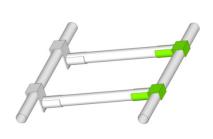
Roller track supports available in ESD version

#### **START** connector for tubes

LM8



Installation example

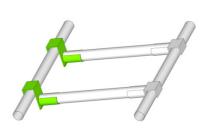


**INCOMING connector for tubes – HIGH STOP** 

LM15



Installation example

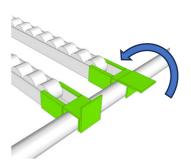


STARTING connector – with rollback prevention

LMK



Installation example

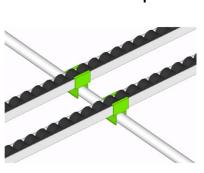


**INTERMEDIATE SUPPORT connector** 

**LMX** 



**Installation example** 



## ROLLER TRACKS ACCESSORIES

#### **GUIDES**

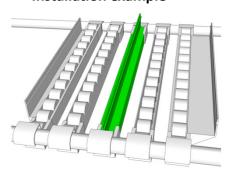
Plastic roller track side guides

#### **CENTER CONDUCTOR PLASTIC L=4000mm**

LGC



Installation example

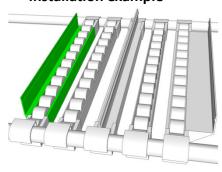


#### SIDE GUIDE PLASTIC - NARROW (shoulder 10mm) L=4000mm

LGL410



**Installation example** 

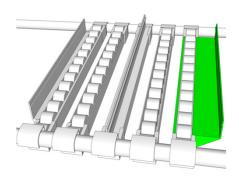


#### SIDE GUIDE PLASTIC – WIDE (shoulder 45mm) L=4000mm

LGL450



Installation example



## ROLLER TRACKS ACCESSORIES



#### **GUIDES**

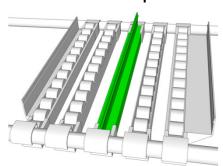
## ALUMINUM roller track side guides ESD design

#### **CENTER GUIDE ALU L=4000mm**

LGC ALU

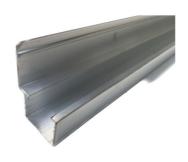


Installation example

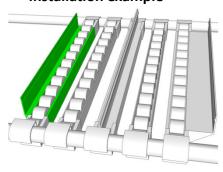


#### SIDE GUIDE ALUMINUM - NARROW (shoulder 10mm) L=4000mm

**LGL410 ALU** 



Installation example

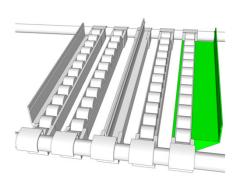


#### SIDE GUIDE ALUMINUM – WIDE (shoulder 45mm) L=4000mm

**LGL450 ALU** 



**Installation example** 



## ROLLER TRACKS ACCESSORIES

#### **ROLLER TRACK PARTS**



#### **Full roller**

RF



Roller track brake

**LRBK** 



#### Installation example



## Ball roller

**RBTU** 

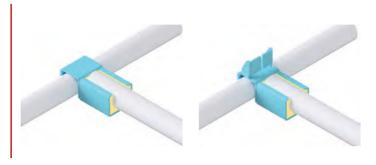


#### Plastic pipe adapter

**LMA** 



#### Installation example



## **FASTENERS**



#### **BOLTS AND NUTS**

Screws and nuts are available in ESD version

#### Bolt and nut (M6x28)

SC1

## Caterpillar screw

SC2



#### Bolt and nut (M8x40)

SC3

#### Bolt and nut (M6x28) with thread lock

SC4



## Bolt and nut (M6x12)

SC8



SC7



#### Bolt and nut (M6x25)

SC10



#### Bolt and nut (M10x70)

SC9





#### **LEVELLING FOOT**

## The marked soles are ESD-designed



#### **Rubber foot**

LF1



#### Plastic levelling base with tube insert

LF2





#### Metal levelling base

**PAMF** 



#### Pipe insert – for metal base

**PAMI** 





#### **Dowelable base**

LF3



#### Pipe clamp – for ALU profile system

ACT





**LWB** 



#### **Leveling plate for LWB**

MB



#### **CORNER ELEMENTS for structures with wheels**

Black powder-coated finish

#### **Corner piece left**



Installation example



#### **Corner piece right**

LTR



Installation example



**Corner element universal** 

LTU



Installation example



#### Corner element middle

LTM



**Installation example** 



#### **CORNER ELEMENTS for structures with wheels**

Black powder-coated finish

#### **CORNER ELEMENTS FOR CLOSING BOARD**

ZS



Installation example



#### INTERMEDIATE ELEMENT WITH PIPE HOLDER

**ZSKT** 



Installation example



#### **INTERMEDIATE ELEMENT**

**ZSK** 



Installation example



#### **CLOSED PANEL 40x40**

**Z400** 



**Installation example** 



### **TOWBARS AND TOW HOOKS**

#### **Spring-loaded front towbar**

VR500

#### **Towing hook**

VK500





**VR1000** 



VK1000





SHO



Shooter

SHE





#### PIPE FIXING ELEMENT for aluminum profile system

ACT



#### **STANDARD CASTORS**

The marked products are also available in ESD version

#### **TUBE-MOUNTED CASTOR – 75mm 75kg**

T75 / T75 ESD







#### **TUBE-MOUNTED CASTOR WITH BRAKE - 75mm 75kg**

T75B / T75B ESD







#### TUBE-MOUNTED CASTOR - 100mm 125kg

T100 / T100 ESD







#### **TUBE-MOUNTED CASTOR WITH BRAKE - 100mm 125kg**

T100B / T100B ESD







#### **STANDARD WHEELS**

The marked products are also available in ESD version

#### FIXED CASTOR - 100mm 160kg

P125







#### SWIVEL CASTOR - 100mm 160kg

PP125







#### SWIVEL CASTOR WITH LOCK - 100mm 160kg

**PPF125** 







#### **HEAVY DUTY WHEELS**

#### **HEAVY DUTY FIXED CASTOR – 125mm 500kg**

P125YF





#### **HEAVY DUTY SWIVEL CASTOR – 125mm 500kg**

P125SYF





#### **HEAVY DUTY SWIVEL CASTOR WITH LOCK – 125mm 500kg**

P125SBYF





# **HEAVY DUTY WHEELS**

# **HEAVY DUTY FIXED CASTOR – 160mm 800kg**

**P160YF** 





## **HEAVY DUTY SWIVEL CASTOR – 160mm 800kg**

P160SYF





# **HEAVY DUTY SWIVEL CASTOR WITH LOCK – 160mm 800kg**

P160SBYF





# **METAL HOOKS AND MONORAIL ACCESSORIES**

#### **HOOKS FOR PIPE OR MONORAIL CARRIAGE**

K1





#### **MONORAIL RAIL AND CAR FEEDER**

MR MB





#### **MONORAIL CAR BUMPER AND MONORAIL CAR**

MRV MRK





#### TILTED BOX HOLDER HOOK FOR TUBULAR FRAME

SL400 SL600





## **ACCESSORIES**

#### **PIPE END PLUG**

#### **LEADING RING**

ΚP







#### **WORKTOP HOLDER - PLASTIC**

**UNIVERSAL HOLDER** 

**LQP** 

L3





#### **LABEL HOLDER**

**LABEL RING for LC3** 

LC3

LC3K



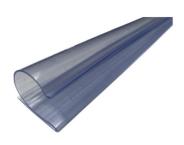


#### **LABEL HOLDER FOR TUBE 30mm**

**LABEL HOLDER FOR TUBE 50mm** 

LB3

LB5





# Parallel rotating connector

## **Drink holder**

LXF ESD





IT

#### **PLASTIC RING**

## Handle

Handled





#### **PAPER CLIP**

**SADDLE WASHER** 

SADDLE WASHER



**PI10** 



# **OTHER ACCESSORIES**

# **ACCESSORIES**

**Custom** -sized products

#### PIPE PROTECTIVE SPONGE

**LPF200** 



**C-TUBE** 





**REGENERATED SHEET** 







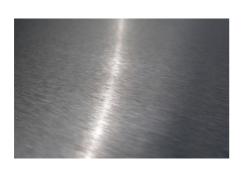
**POLYPROPYLENE SHEETS** 



**FURNITURE PANELS** 



**STAINLESS STEEL SHEETS** 



**ESD RUBBER COVERING 1.2m x 10m** 



# **ACCESSORIES**

## **PIPE BURNER**

BANDSAW

DEB01





HEX KEY 3

HEX KEY 5

LAT01







# **INDEVA INDUSTRIAL MANIPULATORS**





#### INDEVA INDUSTRIAL MANIPULATORS

# ELECTRONIC DESIGN – INDEVA LIFTRONIC EASY / PRO PNEUMATIC VERSION – INDEVA LIFTRONIC AIR / PN ERGO

LIFTRONIC® manipulators are the most advanced version of load balancing equipment. These devices are controlled by a microprocessor instead of traditional pneumatic control, so they are not subject to the typical limitations that occur with traditional machines, therefore they operate with much better performance and higher reliability. With the products of the LIFTRONIC® series, machine operators can move loads confidently, with high speed and precision . Thanks to the advanced control system, it constantly monitors the load changes and the operator's intentions, so for its operator, moving heavy materials can be as if he were lifting only decagrams.





# **MANIPULATOR**

The Liftronic <sup>®</sup> series, known as INDEVA<sup>®</sup>, is a new generation of advanced industrial manipulators with electronic control. These are Intelligent Assist Machines belonging to the group of innovative load handling devices called Devices (IAD) represent an improvement over traditional manipulators.

The series **is equipped with an advanced electronic control system** that eliminates the limitations of pneumatic manipulators.

The INDEVA® Liftronic ® series **offers several important and unique advantages** over traditional pneumatic manipulators, in particular the automatic weight sensing and automatic balancing functions:

**Greater productivity:** using INDEVA®, operator fatigue due to lifting can be avoided, which increases efficiency.

**Better ergonomics:** fingertip-controlled handle for lifting or lowering loads. Minimal human force is required to move loads of up to 320 kilograms.

**Outstanding precision:** our machines enable unsurpassed accuracy, allowing the operator to work instinctively at the pace that suits them best.

**User-friendly:** the automatic load detection and balancing function reacts to changes in real time, without any machine adjustments. The unique "FLOAT MODE" function allows the operator to move the product by applying force directly to it.

**Safety:** Our machines, equipped with top-quality safety features, will hold the product in place or place it safely on the ground, even in the event of a power outage.

Wireless connectivity tailored to the needs of Industry 4.0: INDEVA® machines are able to exchange data with the user's IT network via a standard network, allowing the activity of the machines to be monitored.

**Remote assistance:** INDEVA® devices can be connected to the App-Indeva application via Wi-Fi communication, which allows the machine parameters to be displayed in real time on a smartphone or tablet. The program helps to diagnose possible errors, which significantly reduces repair time.

**Environmentally friendly:** thanks to its low energy requirements, the efficiency of the machines is outstanding, which can reduce the carbon footprint of the business.

#### ORBIT -ARM®

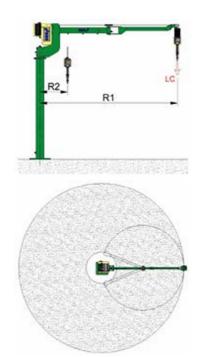
# **Articulated Arms**

#### 2 JOINT ARMS

Standard arms featuring 2 joint articulation.

STRUCTURE	R1 (m)	2.5	3	3.5	4	4.5
L= Light	LC kg R2 (mm)	80 450	60 550	40 650	-	-
H= Heavy	LC kg R2 (mm)	260 630	190 760	140 880	105 1020	78 1140
X= Extra	LC kg R2 (mm)	-	320 860	320 1005	280 1150	220 1300

LC= max load capacity; R2= dead area

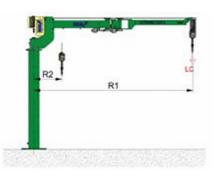


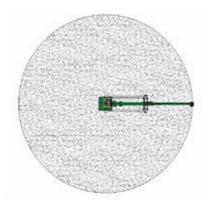
#### 3 JOINT ARMS

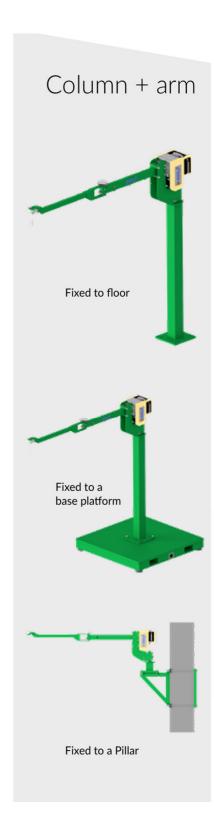
The INDEVA® Orbit Arm3 is a 3 joint arm available on request for both column and overhead versions with capacities up to 145 kg (including tooling). The 3 joint Arm provides **increased coverage** within the radius of the arm and offers the operator smooth, controllable movement across the full radius with the added benefit of **quick sideways movement** using the forearm only.

STRUCTURE	R1 (m)	2.75	3.25	3.75	4.25	4.5
L= Light	LC kg R2 (mm)	-	-	-	-	-
H= Heavy	LC kg R2 (mm)	145 250	105 250	80 250	55 250	45 250
X= Extra	LC kg R2 (mm)	-	-	-	-	-

LC= max load capacity; R2= dead area







# ELECTRONIC AND PNEUMATIC INTERFACE

For individual gripping tools

#### **EXPANDABLE**

With prepared locations for control buttons for individual grippers



#### "FLOAT MODE" BUTTON

For direct manual movement of the load with assistance

#### **TOUCHSCREEN DISPLAY**

User-friendly design for To change settings.

# CONTROLLER QUICKLY REPLACEABLE

fixed with standard screws

#### **HIDDEN CABLE ROUTING - OPTIONAL**

Electronic and pneumatic cables can also be routed to the tool through the grip handle, so the wires do not interfere with the operator while using the machine.



#### **ENHANCED SECURITY FEATURES**

The safety functions of the individual grippers (e.g. E-STOP) can be easily integrated into the I-Connect interface

#### **MAIN FEATURES - LIFTRONIC®**

- ✓ Automatic weight detection
- ✓ Automatic balancing
- ✓ Unrivaled security
- ✓ Ergonomic design
- ✓ Simple gripping tools
- ✓ Compact and lightweight
- ✓ Fast, sensitive and precise
- ✓ Low carbon footprint









#### **MAIN TECHNICAL DATA**

Max. gross load capacity: 80 - 320 kg

**Power supply:** 110/230 V-AC - 50/60 Hz

Consumption: max 700 VA

**Enclosure protection:** IP 54

Vertical lifting length: max 2.80m

# INDEVA AUTOMATED GUIDED VEHICLES AGV

#### **AUTOMATIC TRUCKS – Automated Guided Vehicle**

Precise logistics process with fixed routes. 24-hour operation without human intervention. Eliminates the risks associated with forklifts. AGV does not cause damage to goods, machines or structures.

#### ADVANCED PROGRAMMING INTERFACE

Quick and easy programming via the touch display or by quickly connecting a computer.

#### **FLEXIBILITY**

There is no need for traditional material handling infrastructure. The number of AGVs can be easily increased as the business grows. Developments are possible without stopping the system. Workflows can be efficiently and dynamically shared between existing AGVs. Routes can be easily modified, additional AGVs can be freely added to the existing system. Compatible with all types of automation. Routes secured with a traffic control system to prevent accidents.

#### **EFFICIENT, RELIABLE, FLEXIBLE TRANSPORT**

Just -In-Time delivery. Secure delivery. More accurate inventory management. Minimization of goods stored in the production hall.

#### **OPTIMAL QUALITY - PRICE RATIO**

Low operating and maintenance costs.



#### INDEVA® AGV STANDARD MODELS

# TUGGER (tractor) AGV 750kg – 1500kg TUNNEL (transporter) AGV 750kg.

#### Main features:

The AGV (automatic guided vehicle) follows a magnetic strip glued to the floor, which can be easily removed and modified at any time along the desired path. Each STANDARD tractor can be equipped with various unique functions and expandable standard accessories.

The INDEVA AGV can be started in a preprogrammed automatic manner or even based on the operator's remote command (e.g. call).

The tractors have a standard communication port (WIFI) that can easily



#### **INDEVA TUGGER (tractor type) AGV**

The INDEVA TUGGER AGV is a standard solution for towing carts. Carts can be standard or specifically designed to move a specific product.

#### **INDEVA TUNNEL (transporter type) AGV**

The INDEVA TUNNEL AGV can be used to transport a cart within a factory or warehouse. The AGV rolls under the cart to be transported, then a fully automatic pin hook secures the shipment and transports it to the desired location.

At the appropriate location, the AGV retracts the tow pin, thereby releasing the shipment. After that, it can perform a new cycle or a new task. The standard TUNNEL AGV has a transport capacity of 750kg.

The INDEVA® TUNNEL AGV is most often used in the automotive industry for the delivery of picked kits to the production line.



#### **CUSTOM-BUILT MODELS**

Custom-built models are always tailored to the task or operation to be performed, depending on the existing production structure, the equipment and its dimensions, or the layout design.

Custom-built models can be used with either tubular frame systems or welded structures, depending on customer needs. The custom-built gravity INDEVA® AGV models mostly transport boxes or palletized products between the warehouse and the production line. By utilizing the force of gravity, loading and unloading is fully automated. The roller tracks are designed to accommodate different types, sizes and quantities of boxes.



# **ELECTRIC TOWING ASSISTANTS**

#### **TRACTION**

Professional electric tow trucks up to 30,000 kg

Discover the power and efficiency of Zallys electric tow trucks, the perfect solution to increase productivity and safety in the workplace.

Our professional towing and pushing equipment helps prevent injuries related to manual handling and physical exertion.

loads of up to 30,000kg. In addition, some of our Zallys tow trucks can be customized and certified to Atex and IECEx - ZONE 1/21 and 2/22, making them suitable for use in potentially explosive environments.

#### **TRANSPORT**

Professional electric wheelbarrows and transport carts

Discover Zallys electric transport trolleys, the professional solution for transporting heavy loads .

Our electric vehicles are equipped with advanced technologies such as intelligent battery management, which further increase the efficiency of logistics processes. Thanks to their battery-powered design, Zallys transport vehicles contribute to reducing greenhouse gas emissions and saving fuel.

#### **DRIVER'S POSITION VERSION**

Human-driven electric vehicles

Zallys offers unique industrial electric vehicles that are the perfect solution for the movement of personnel in warehouses and production departments. Our electric personnel carriers improve the efficiency of order picking. Some models can be converted and certified to Atex and IECEx - ZONE 1/21 and 2/22, guaranteeing safety in explosive and hazardous environments.

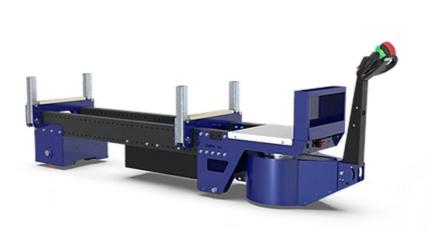














# **ERGOSWISS HEIGHT ADJUSTERS**

#### HYDRAULIC LIFTING SYSTEMS

The Ergoswiss lifting system is a single-acting hydraulic system. It consists of cylinders, linear units or table legs, each driven by a hydraulic pump. Connected by flexible hoses, it operates precisely and completely synchronously. The system is driven by a hand crank or an electric drive unit.

Our hydraulic lifting systems are used for height-adjustable workplaces in industry, assembly, machine and furniture manufacturing, and other areas.

#### **COLUMNS WITH SPINDLE DRIVE**

The Ergoswiss spindle lift system is a simple plug & play system. It consists of linear units or lifting columns, a control box and a manual switch. Each lifting column is driven by an internal motor. The spindle lift system can also allow horizontal adjustment. Since our control units are connected in parallel, they can drive up to 12 lifting elements synchronously. Our spindle lifting systems are used for height-adjustable workplaces in industry, assembly, machine and furniture manufacturing, and other areas.

Ergoswiss ' new high-performance battery solution is ideal for mobile, height-adjustable workstations. With this technology, the workstation can be used anywhere without cables and adjusted to the desired height. This opens up further optimization options at the workplace, which increases productivity.



















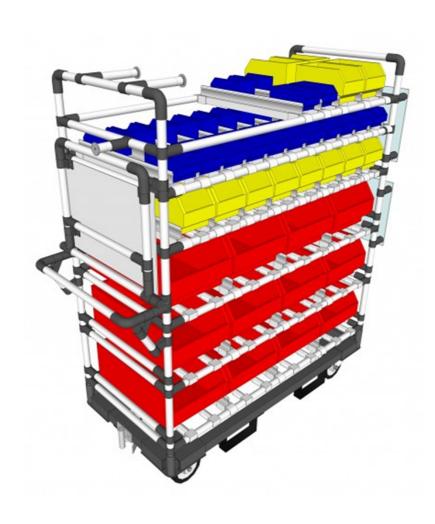
# **INDUSTRIAL LOGISTICS ACCESSORIES**



#### TUBE FRAME CARRIER, TROLLEY, MILKRUN

Carts made from our system components can be adapted to the optimized production process and products. The advantages of unique solutions and designs are clear compared to commercially available carts.

- ✓ easily movable
- ✓ can be adapted to the production process
- ✓ can be flexibly adapted to changed production processes
- √ temporary needs can be easily covered
- ✓ reusable building blocks
- √ integration with automated guided vehicles (AGV) is easy





















# WELDED STRUCTURES, CHASSIS

- ✓ E/H/C chassis design
- ✓ gauge-following trailers
- ✓ 2/4 wheel steered design
- ✓ For AGV , electric traction assistant







# **Our employees**

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