INTELLIGENT DEVICES FOR HANDLING

GROUP Scaglia 1836

INDEVA®

INTELLIGENT DEVICES FOR HANDLING

Scaglia Indeva
A worldwide network at your service

A reliable Company with a long history

The ant is a tireless and intelligent worker. It is able to lift and carry with ease loads much larger than itself. This simple analogy represents Scaglia Indeva's mission to design and produce industrial manipulators that are compact yet strong, simple yet intelligent, and offer improved performance whilst reducing the risk of injury and improving workforce wellbeing.

A world-leading manufacturing company in the field of material handling and intra-logistics.

Since 1838 this family-owned company has been at the forefront of manufacturing and is now an important industrial group with diverse business interests worldwide.
Since 1970 Scaglia Indeva has been at the leading edge of design and manufacture of innovative, ergonomically designed industrial manipulators that are used by major global manufacturers in varied applications throughout the world.

World-wide, Indeva® works with many blue-chip manufacturers across most sectors, including the leading automotive companies, where innovative and reliable material handling solutions are required. Our headquarters are in Val Brembilla - Italy. Our key locations offer a central sales and support operation, which provides excellent engineering services and supply of spare parts.

References

ABB
AIRBUS
AKZO FIBERS
APRILIA
ARCELOR MITTAL
AUDI
B.P. CHEMICALS
BANK OF ENGLAND
BANQUE DE FRANCE
BARILLA
BEKAERT
BENTELER
BENTLEY
BMW
BORG WARNER
BOSCH
BREMBO
BRIDGESTONE FIRESTONE
BRITISH AMERICAN TOBACCO
CATERPILLAR
CHRYSLER
CIBA GEIGY
CITROËN
COCA COLA
COMAU
CONTINENTAL
CPM-DÜRR GROUP
DAIKIN
DAIMLER
DENSO
DUCATI
DUNLOP
ELECTROLUX
ENICHEM
FAURECIA
FCA
FERRARI
FERRERO
FIAT
FINMECCANICA
FORD
FRESENIUS
GE AUTOMATION
GE AVIATION
GENERAL ELECTRIC
GENERAL MOTORS
GLAXO
GOODYEAR
ITALTEL
IVECO
JAGUAR LAND ROVER
JOHN DEERE
JOHNSON & JOHNSON
JSB
KELLOGGS
KIMBERLY CLARK
KRAFT GENERAL FOODS
KUKA
LAMBORGHINI
LEAR
LEONARDO HELICOPTERS
MAGNA WERKZEUGTECHNIK
MAHLE
MAN ROLAND DRUCKMASCHINEN
MERCEDES BENZ
MICHELIN
MOET & CHANDON
NESTLE'
NISSAN
OPEL
PEPSICO
PERFETTI
PEUGEOT
PHILIP MORRIS
PIAGGIO
PIRELLI
PPG
PROCTER & GAMBLE
PSA
RENAULT
REYNOLDS TOBACCO
ROLLS-ROYCE
SAAB
SAINT GOBAIN
SCANIA
SCHNEIDER ELECTRIC
SIEMENS
STILL
TENARIS
THYSSEN
TOGG
TOYOTA
UNIFI
UNIROYAL
VALEO
VOLKSWAGEN
VOLVO
WHIRLPOOL
ZF

Scaglia Indeva
Intelligent Material Handling Technology

The Liftronic® Series, known as INDEVA® is a new generation of advanced industrial manipulators featuring electronic control. They represent the evolution from traditional manipulators and are part of the innovative product group of load handling devices known as **Intelligent Assist Devices.**

This series is equipped with an **advanced electronic control system** which overcomes the control limitations of pneumatic manipulators. They provide truly ergonomic and effortless handling.

The INDEVA® Liftronic® series offers numerous **important and unique advantages over a traditional pneumatic manipulator**, especially the **auto-weight sense and auto balancing** features:

- **Higher productivity:** using an INDEVA®, output can be maintained throughout a full shift giving increased productivity and operator wellbeing.
- **Better ergonomics:** a fingertip-sensitive handle allows for the lifting or lowering of heavy loads by simply touching the handle with a finger. Very little human effort is required during any part of the lift, place and lower process.
- **Higher precision:** with considerably more speed and precision than a traditional pneumatic manipulator, an INDEVA® allows for unsurpassed precision, where the operator will intuitively work at the pace best suited to the task. The operator has exceptional control with the lightest of touch needed.
- **User friendly:** the **auto weight sensing** and auto **balancing** functions operate in real time, so no need to pre-set the load or to keep buttons depressed. The **Float Mode** option allows the operator to control movement directly from the load.
- **Safety:** state-of-the-art safety features prevent movement unless an operator is present and in control. Should a power failure occur, the motor is held with a mechanical lock and the load cannot be released until power is restored, or the full weight of the load is supported.
- **Wireless connectivity for industry 4.0:** an INDEVA® can exchange data with the Customer IT System through the Company Network and allows visualisation of manipulator activity by means of interface software.
- **Remote trouble shooting:** an INDEVA® can be connected via Wi-Fi to **App Indeva**, so that machine data can be transferred to a remote tablet or smartphone in real time. This can assist fault diagnosis, so significantly reducing call-out charges and operator downtime.
- **Environment friendly:** low carbon foot print thanks to efficient and low energy consumption.

In applications which require speed of handling, smooth movement and precise load placement, the INDEVAs-Liftronic® Series provide a perfect solution.

A recent case study by the Engineering Faculty of the Brescia University and published by the International Journal of Industrial Ergonomics, together with a comparison study carried out by the University of Milan proved how the use of an INDEVA® satisfies current industry demand for increased productivity combined with improved ergonomics and safety.

EASY MAINTENANCE
Optimised modular structure with easy access to all components.

Z AXIS CONTROL
It is possible to limit the stroke on the Z axis to suit the specific restrictions of each application.

QUICK DIAGNOSTIC
Comprehensive auto - diagnostic software with clearly displayed error messages.

TOUCH PANEL
User friendly and intuitive interface for the visualisation and setting of various operational parameters.

FORCE SENSING HANDLE
It allows fingertip control providing immediate response to the operator's intention for up-down movements.

STATE-OF-THE-ART SAFETY DEVICES
Electronic control allows for additional safety functions that cannot be incorporated in pneumatic manipulators.

WIRELESS CONNECTIVITY AND REMOTE TROUBLE SHOOTING
Industry 4.0 ready.

EASY TO UPGRADE
Designed to accept controls for your own gripping tools.

ANTI-TANGLE- SWIVEL JOINT
Air and electrical connections are via a swivel joint on top of the tool head. This prevents the lift rope, power cable and air pipe becoming tangled if the process has continuous rotation in the same direction.

FINE SPEED CONTROL
An INDEVA® moves at the pace best suited to the operator and application. This allows natural movement at all times, especially where precise placement is required. It is also possible to limit the lift and lower speed via the control panel.

CAPACITY OVERLOAD
The maximum permitted lift can be preset to prevent system overload.

FLOAT MODE
This control mode allows the operator to manipulate the load without direct contact with the controls.

LOAD PLACEMENT PRECISION
The system allows very slow and controlled movements, so that a load can be precisely placed with no impact, so reducing the risk of damage.

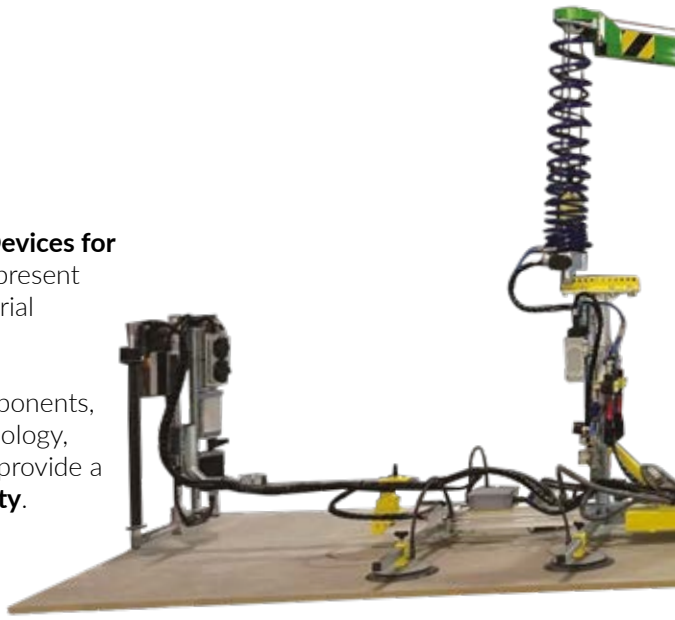
Scaglia Indeva
Manipulators range

Liftronic® Series
Intelligent Devices for Handling

Electronic control

The Liftronic® Series Intelligent Devices for Handling, known as INDEVA®, represent true evolution of traditional industrial manipulators.

State-of-the-art standardised components, combined with cutting-edge technology, hardware and optimised software provide a **high degree of safety and reliability**.



AUTO-WEIGHT SENSE	AUTO BALANCING	RESPONSIVENESS
Automatic weight sensing in real time.	Automatic weight balancing in real time allowing variable weights to be handled without presetting load.	Moves as fast or as slow as the operator decides using fingertip control with minimal effort and instant response.
No weight sensing.	Weight balancing is not automatic or real time. Pre-set weights via selector switch.	System response is slower and feels heavier because of this, especially with upward movement.

PN Series
Traditional Industrial Manipulators

Pneumatic control

PN series manipulators are traditional industrial manipulators featuring pneumatic control and drive.

All manipulators in the PN Series can be designed in accordance with **ATEX regulations** as per EU Directives 2014/34 regarding applications in controlled environments with danger of explosion, classified classes 1 and 2 (Gas) (only for PN Flex) and 21 and 22 – Dust (for all PN series models).

Rope

Liftronic® Easy

Capacity up to 704lb.
Suitable for **rapid and repetitive work cycles with simple gripping tools**.

Liftronic® Pro

Capacity up to 704lb.
Suitable for **complex work cycles with bespoke gripping systems**.

Rigid arm

Liftronic® Air

Capacity up up to 1256 lb.
Suitable for handling **offset loads** with speed and precision.

LOAD PLACEMENT	CARBON FOOTPRINT & TOTAL COST OF OPERATION	MANEUVERABILITY	DIAGNOSTIC & REMOTE TROUBLE SHOOTING	MAN/MACHINE INTERFACE
Precise and coordinated with fine adjustment allowing accurate placement so reducing the risk of damage.	Lower: a comparative study showed that the CO^2 output and total running cost of an INDEVA® is around only 12,5% that of a pneumatic manipulator.	Light and compact structure allows great visibility and ease of maneuverability.	Comprehensive auto - diagnostic software and remote trouble shooting with App-Indeva or INDEVA® Gateway.	Simple and efficient: by means of display.
Some resistance is felt as air enters and leaves the cylinders so restricting natural speed of movement.	Higher: a comparative study showed that the CO^2 output and total running cost of a pneumatic manipulator is around 8 times that of an INDEVA®.	System requires heavier and bulkier structures so reducing visibility and maneuverability.	Check and diagnosis by expert technician attending site. Remote trouble shooting is not available.	Restricted options to identify faults at the machine.

Rope

PN Flex

Capacity up up to 352lb.

Rigid arm

PN Ergo

Capacity up up to 1256 lb.
Suitable for handling **offset loads**.

PN Compatto

Capacity up to 200lb.
Suitable for handling **offset loads in a small work area.**

PN Zip

Capacity up to 176lb.
Very compact structure suitable when a **short vertical stroke** is required.

Liftronic® Easy
Intelligent Device for Handling

Liftronic® Easy is an INDEVA® - Intelligent Device for Handling.
Suitable for rapid and repetitive work cycles with **simple gripping tools**.

Main features

- Auto-weight sense and auto-balancing
- Can be integrated with App-Indeva and INDEVA® Gateway
- Unparalleled safety
- Ergonomic design
- Simple gripping devices
- Compact and light
- Fast, responsive and precise
- Low carbon footprint

INDEVA® Gripping tools

Scissor

TECHNICAL DATA

Max. gross capacity: from 176 to 704lb (weight of lifting tool included)
Power supply: 110/230 V-AC - 50/60 Hz
Power consumption: max 700 VA
Enclosure protection: 54 IP
Vertical stroke: up to 110 ¼ in

Linear

Compact

Expanding Chuck

INDEVA® Modulo
Make your own gripping tool

Liftronic® Series

INDEVA® Modulo is a standard component range for assembling a gripping tool which is to be attached to a Liftronic® Easy tool head. It is easy for customers to design the tool to best suit their needs and then purchase the necessary parts.
These standardised modules have been proven over many years and are a key part of our continuous improvement and development program.

Scissor pantograph

Linear pantograph

I-Connect

Standard I.O. Interface module: you can easily implement safety functions for your own custom gripping tool

Gripping Modules

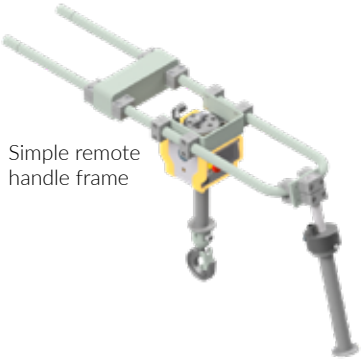
These chucks can be fitted with jaws according to your specific requirements

Machine/Operator Interfaces

Remote controls

Remote touch sensitive handle available in different lengths

Remote control handles complete with centre of gravity adjustment



Simple remote handle frame

Accessories

Air and electric connections via a continuous swivel joint at the toolhead to keep cables from tangling

Liftronic® Pro
Intelligent Device for Handling

Liftronic® Pro is an INDEVA® - Intelligent Device for Handling.
It is used for **complex applications with bespoke gripping systems**.

Main features

- Auto-weight sense and auto-balancing
- Can be integrated with App-Indeva and INDEVA® Gateway
- Unparalleled safety
- Ergonomic design
- Bespoke gripping devices
- Compact and light
- Fast, responsive and precise
- Low carbon footprint

Wi-Fi COMPANY NETWORK

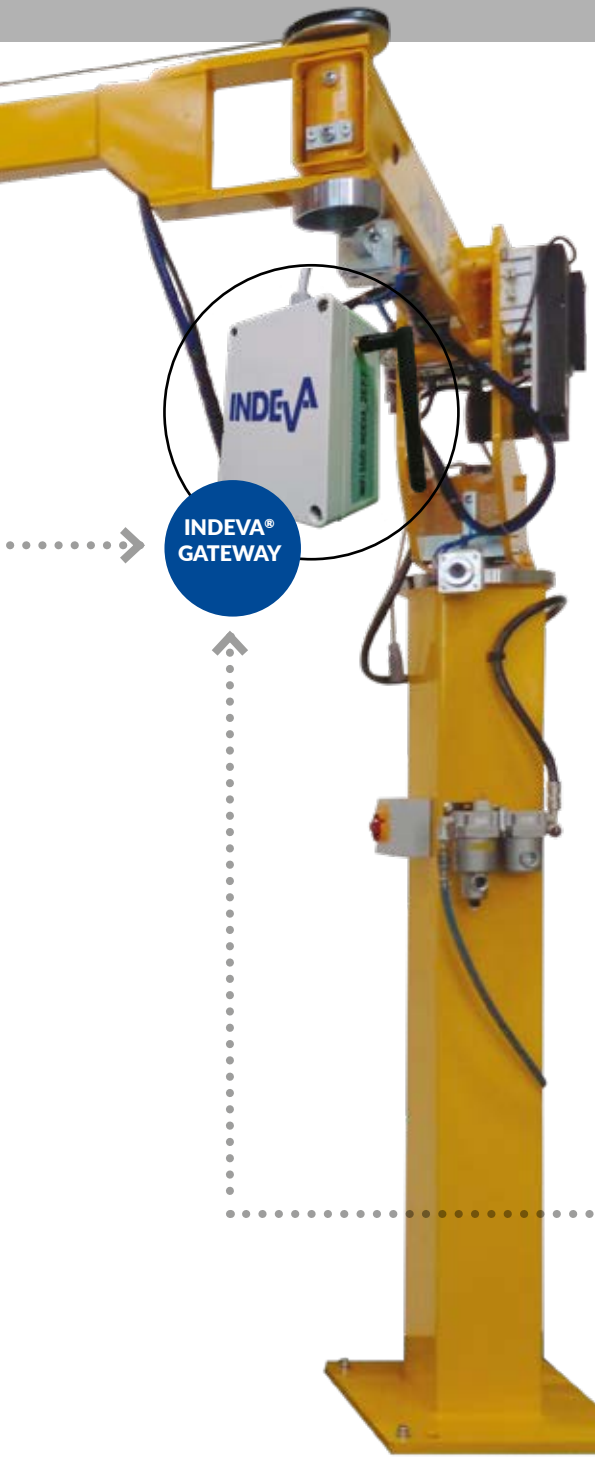
INDEVA®
Gripping tools

TECHNICAL DATA

Max. gross capacity: from 176 to 704lb (weight of lifting tool included)
Power supply: 110/230 V-AC - 50/60 Hz
Power consumption: max 700 VA
Vertical stroke: up to 110 ¼ in

App-Indeva and INDEVA® Gateway
Wi-Fi Network Connectivity

Liftronic® Series



IIndustry 4.0 ready

App-Indeva

Is a virtual INDEVA® service engineer always at disposal to the INDEVA® technician providing machine data capture and analysis, diagnostic and real time trouble shooting.

App-Indeva, is based on an in-house designed App suitable for Android smartphone or tablet that can be connected via Wi-Fi to the lift assistor, features **real-time capability to collect and analyse machine data** and deliver the results to the INDEVA® technician and to a **remote Indeva Service Centre**.

If you are using an INDEVA® manipulator equipped **with App-Indeva you will increase your machine availability time** through:

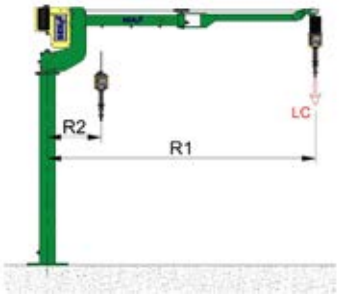
- *reduced time for diagnosis and trouble shooting by the INDEVA® technician*
- *reduced time for communication with an INDEVA® service centre*

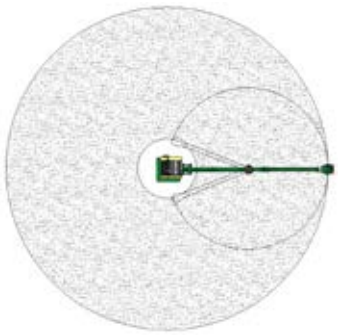
INDEVA® Gateway

Allows real time data exchange with the Customer IT System through the Company Wi-Fi network and allows visualisation of production data by means of an interface software.

Liftronic® Pro & Easy
Versions

Articulated Arms



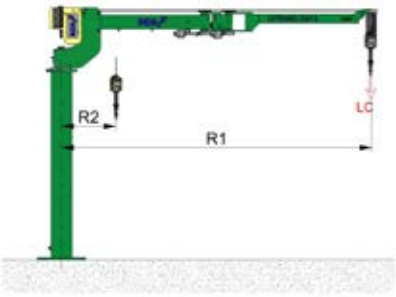


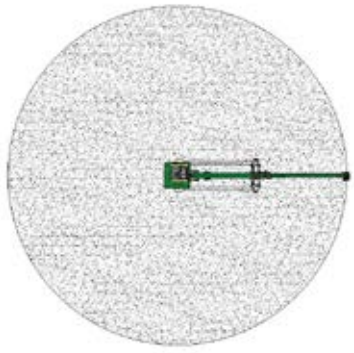
2 JOINT ARMS
Standard arms featuring 2 joint articulation.

STRUCTURE	R1 (ft)	8' ¼	10'	11' ½	13' ¼	14' ¾
L= Light	LC (lb) R2 (in)	176 17" ¾	132 21" ½	88 25 ½	- -	- -
H= Heavy	LC (lb) R2 (in)	572 24" ¾	418 30"	308 34" ¾	231 40" ¼	171 45"
X= Extra	LC (lb) R2 (in)	- -	704 33" ¾	704 39" ½	616 45 ¼	484 51" ¼

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 319 lb (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.





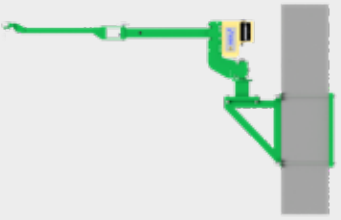
STRUCTURE	R1 (ft)	9'	10' ¾	12' ¼	14'	14' ¾
L= Light	LC (lb) R2 (in)	- -	- -	- -	- -	- -
H= Heavy	LC (lb) R2 (in)	319 9" ¾	231 9" ¾	176 9" ¾	121 9" ¾	99 9" ¾
X= Extra	LC (lb) R2 (in)	- -	- -	- -	- -	- -

LC= max load capacity; R2= dead area

Column + arm

Fixed to floor

Fixed to a base platform



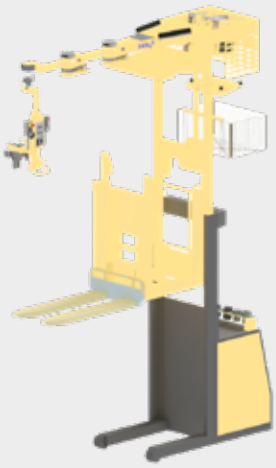
Fixed to a Pillar

Overhead Arm

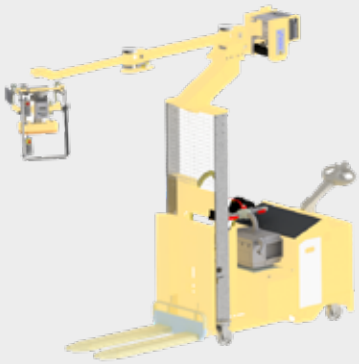
Fixed to ceiling

Underhung

Liftruck



Order picker



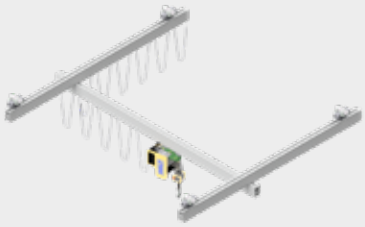
Transpallet

Linear

Fixed to floor/base

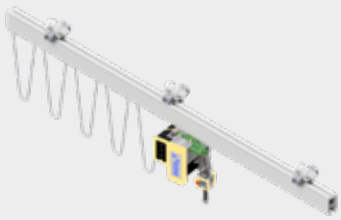
Underhung

Overhead rail



Bridge crane fixed to ceiling

Bridge crane column mounted



Monorail fixed to ceiling

Liftronic® Air
Intelligent Device for Handling

Pneumatic drive - electronic control

The world's first manipulator with the strength of a traditional pneumatic manipulator and the intelligence of an INDEVA®.
It offers electronically controlled air and load management, delivering precise, energy efficient handling and auto weight sensing, removing the responsibility from the operator to make adjustments for different weights by utilising our touch sensitive handle technology.

It is suitable for handling offset and/or very heavy loads with minimum effort.

Liftronic® Air units can be supplied either column, ceiling or overhead rail mounted.

Compared to traditional pneumatically controlled manipulators, Liftronic® Air offers important advantages which help **improve safety, ergonomics, productivity and the Environment**.

Main features

- Efficient use and delivery of air
- Auto-weight sense and auto-balancing
- Unparalleled safety
- Fast, responsive and precise
- **Low carbon footprint**

STANDARD MODELS		LIFTRONIC AIR						
		LA80		LA160		LA250		LA400
Gross capacity (including lifting tool)	lb	176	242*	352	462*	550	682*	881**
Vertical stroke	in	69	69	67 ½	67 ½	57 1/4	57 ¼	45 15/16
Arm length	in	106 ¼	106 ¼	106 ¼	106 ¼	102 ½	102 ½	78 47/64
Offset handling: max. distance from the lifting tool Z axis	in	11 ¾	-	15 ¾	-	19 ¾	-	15 ¾
Uncovered area	in	35 ¾	35 ¾	36 ¾	36 ¾	35 ½	35 ½	-
Rotation around column axis	degrees	360°						
Rotation around tool axis	degrees	550°						
Air pressure min.	psi	95						
Power supply	V-AC Hz	115/230 50/60						
Power consumption max	VA	100						
Enclosure protection	IP	54						

**Available in 5 versions with capacities up to 1256 lb.

*With counterweights.

PN Series
Traditional Industrial Manipulators

PN Series are traditional industrial manipulators featuring **full pneumatic operation**.

It is suitable for handling offset and/or very heavy loads.

PN units can be supplied either column, ceiling or overhead rail mounted.

Main features

- **Reliable**
  Continuous product development using standard modules and components for improved safety and efficiency.
- **Safe**
  Equipped with safety devices that maintain the grip on the load, even in the event of a total air loss.
  It is not possible to release the load when it is fully supported by the machine. When the control handle is released, a full set of brakes lock the machine and prevent further movement
- **Versatile**
  It can be equipped with a wide range of bespoke tools operated pneumatically by grip or vacuum. Simple mechanical tools can also be used.

STANDARD MODELS		PN ERGO						
		PN80		PN160		PN250		PN400
Gross capacity (including lifting tool)	lb	176	242*	352	462*	550	682*	881**
Vertical stroke	in	69	69	67 ½	67 ½	57 ¼	57 ¼	45 15⁄16
Arm length	in	106 ¼	106 ¼	106 ¼	106 ¼	102 ½	102 ½	78 47⁄64
Offset handling: max. distance from the lifting tool Z axis	in	11 ¾	-	11 ¾	-	19 ¾	-	15 ¾
Uncovered area	in	35 ¾	35 ¾	36 ¾	36 ¾	35 ½	35 ½	-
Rotation around column axis	degrees	continuous						
Rotation around tool axis	degrees	standard: 550 optional: continuous						
Air pressure min.	psi	95						

**Available in 5 versions with capacities up to 1256 lb.

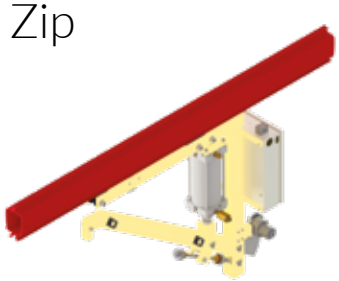
*With counterweights.

PN Ergo

PN Compatto

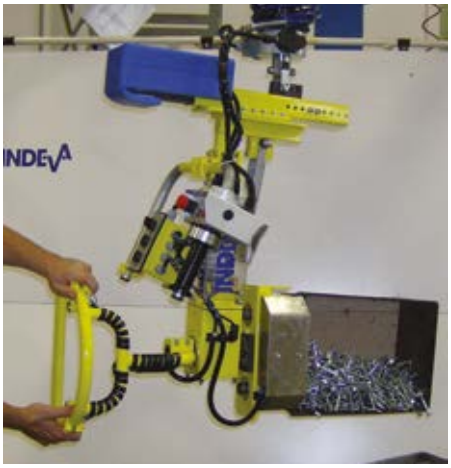
PN Flex

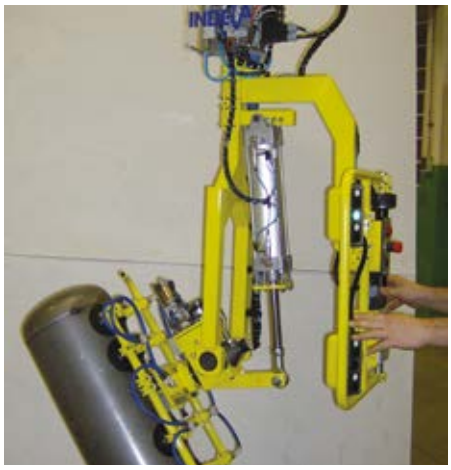
PN Zip



Industry fields

- AGRICULTURE
- AEROSPACE
- AUTOMOTIVE
- BATHROOM AND TOILETWARE
- CERAMIC
- CHEMICALS/ PHARMACEUTICALS
- ELECTRO-MECHANICAL
- ELECTRONICS
- FOOD/DRINK/TOBACCO
- FOUNDRY
- FURNITURE
- GLASS
- HOUSEHOLD ELECTRIC APPLIANCES
- MECHANICS
- METAL WIRES
- MOTORCYCLES
- PAPER PRODUCTION
- RUBBER/PLASTICS
- TEXTILE
- TYRES





LIFTRONIC EASY

LIFTRONIC

LIFTRONIC EASY

LIFTRONIC

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GROUP Scaglia

INDEVA®
INTELLIGENT DEVICES FOR HANDLING