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Vacuum Handling Solutions



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**EXPERT IN MATERIAL HANDLING SYSTEMS**

**COMMITTED TO THE DEVELOPMENT OF ERGONOMIC  
LABOR-SAVING HANDLING SOLUTIONS**

*If we understand more, we can build a better world*

The reliability of our products is our commitment  
Product R&D is the foundation / Reliability is our commitment



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- ◆ Intelligent aided lifting devices – IB series
- ◆ Power-assisted mechanical arms – ZL series
- ◆ Non-standard customized series

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## COMPANY PROFILE >>>

Nanjing Tuomi Automation Equipment Co., Ltd. is headquartered at No. 2 Jinghua Road, Gaochun Economic Development Zone, Nanjing City. The company's team has over 20 years of experience in vacuum technology research and development, dedicated to creating ergonomic and labour-saving material handling solutions. It is a national high-tech enterprise integrating research and development, design, production, manufacturing, installation, maintenance, and sales. Our products have passed the EU CE certification, and the company has obtained ISO9001 quality management system and ISO45001 occupational health and safety management system certifications.

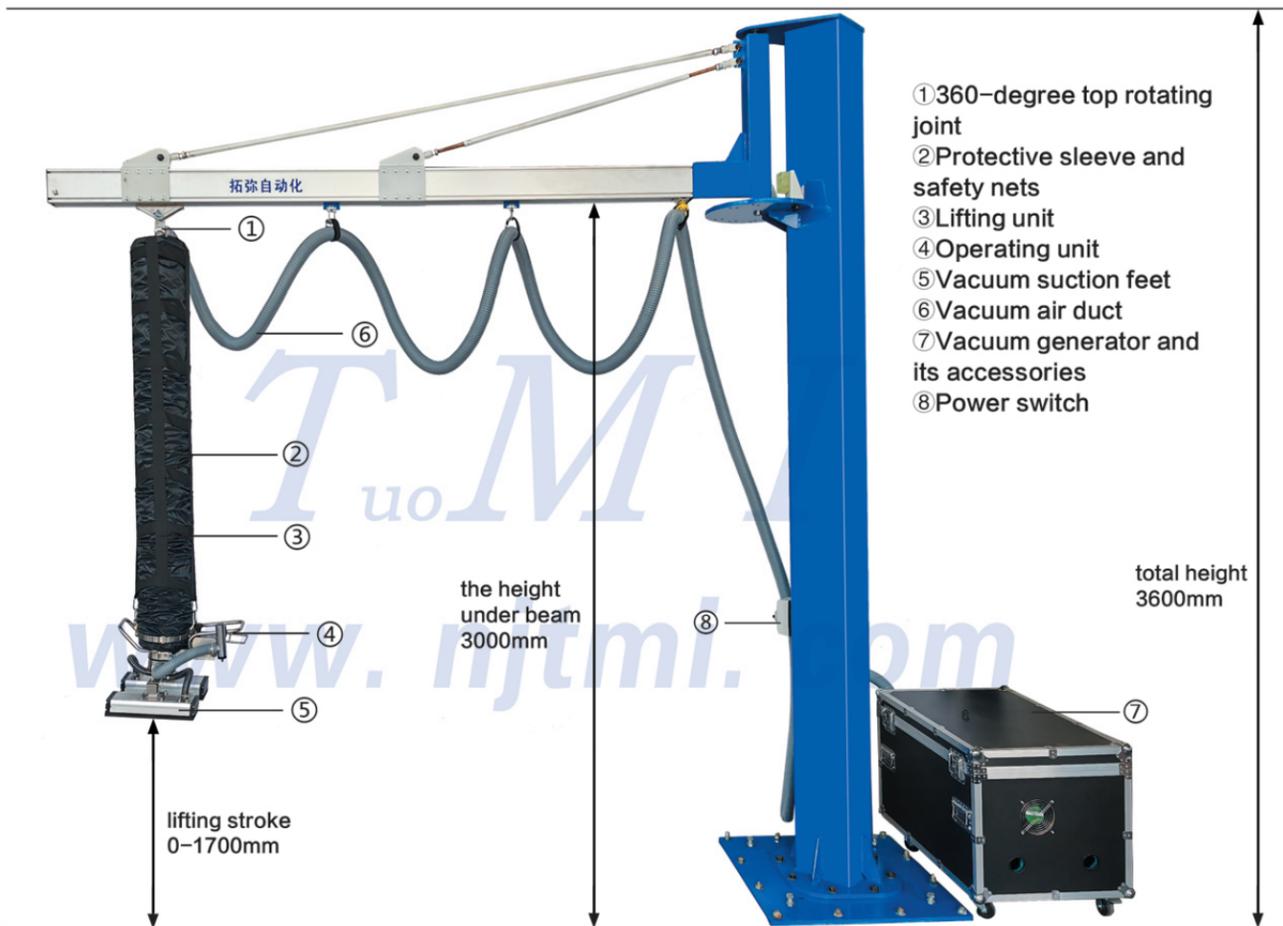
Our product range includes vacuum tube lifting machines, vacuum handling machines, power-assisted mechanical arms, intelligent balancers, light crane – track system solutions, domestic non-standard customized suction feet and fixtures, etc. Our products are widely used in various industries in the industrial field and are powerful tools for enterprises to improve production efficiency and reduce operating costs. Our company has the strength to provide complete industrial automation and material handling solutions for users' production.

We firmly believe that excellent products combined with excellent after-sales service can provide customers with an excellent experience. We also firmly believe that the day the equipment starts running is the beginning of our high-quality service.



# VACUUM TUBE LIFTING MACHINES – TD SERIES >>>

It can quickly and efficiently transport workpieces weighing up to 300kg. >>>



- ① 360-degree top rotating joint
- ② Protective sleeve and safety nets
- ③ Lifting unit
- ④ Operating unit
- ⑤ Vacuum suction feet
- ⑥ Vacuum air duct
- ⑦ Vacuum generator and its accessories
- ⑧ Power switch

## Double-hand operation

- ◆ Load capacity: 20 – 300 kg
- ◆ Meet the anti-acid and explosion-proof requirements of the pharmaceutical and food industries.
- ◆ Top rotating joint, which can enhance efficiency and operational comfort.
- ◆ There are various specifications of lifting tubes available for selection to meet the requirements of the weight of the workpiece.
- ◆ There are various types of suction feet available for different workpieces.
- ◆ High-performance vacuum pumps are generally selected as the power source

## Technical data

Maximum load capacity	300kg
The diameter of the tube	100 – 300mm
Vacuum pump power	3.0/4.0/5.5kw
Lifting stroke	↓
A 2.5m vacuum lifting tube can up to	1.7m
A 4.0m vacuum lifting tube can up to	2.6m
Safety factor (workpiece weight vs lifting force)	More than twice

## Product applications – TD series >>>



### Standard TD handle + stainless steel sponge suction feet

It is mainly applied to the handling, stacking and bag opening of workpieces such as woven bags, kraft paper bags, plastic bags and woven films.



### Standard TD handle + rectangular rubber four suction feet

It is mainly applied to the handling and stacking of large-sized items such as cartons, cabinets and plates. The distance of the suction feet can be adjusted independently on the cross-beam, and the crossbeam can also be adjusted independently on the main beam.



### Single-section extendable TD handle + sponge suction feet

It is mainly applied to the handling and palletizing of precision cabinets and energy storage workpieces, as well as the handling and palletizing of workpieces with slight unevenness or air leakage holes on their surfaces.



### Standard TD handle + rectangular rubber double suction feet

It is mainly applied to the handling and stacking of workpieces such as cartons, cabinets, boards and stones. The distance of the suction feet can be adjusted on the main beam by itself.



### Standard TD handle + customized hook

It is mainly applied to workpieces that cannot be adsorbed by suction feet and have no adsorption area. Customized hooks can be used to hook and then move or stack them.



### Double-jointed extended TD handle + rectangular rubber double suction feet

It is mainly applied to the lifting and stacking of workpieces such as cartons, cabinets and plates with relatively high heights. The distance between the suction feet can be adjusted by oneself.



### Standard TD handle + circular corrugated rubber four suction feet

It is mainly applied to the handling and stacking of larger items such as cartons, cabinets, and plates. The distance between the suction feet can be adjusted independently on the cross-beam, and the crossbeam can also be adjusted independently on the main beam.



### Single-section extended TD handle + corrugated rubber single suction feet

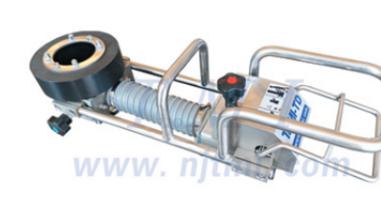
It is mainly applied to the handling and stacking of large-sized wooden barrels, cardboard barrels, paint buckets, and other workpieces.

## Handle Selection – TD Series >>>



### TD Series Standard Handles

The operation is convenient and simple, and the hand feel is comfortable.



### TD Series Single-Section Extension Handle

It is applied to the handling and stacking of workpieces with larger dimensions.

A variety of handle lengths are available for selection.



### TD Series Double-Section Extension Handle

Applied to high-position handling and palletizing

A variety of handle lengths are available for selection.

Suction Feet Selection – TD Series



**Circular corrugated rubber single suction foot**

It is mainly applied to the handling and palletizing of small-sized cartons, paint buckets, paint cans, wooden barrels, cardboard drums and other workpieces.



**Rectangular rubber single suction foot**

It is mainly applied to the handling and palletizing of small-sized cartons, cabinets, boards, stones and other workpieces.



**Rectangular rubber double suction foot**

It is mainly applied to the handling and stacking of workpieces such as cartons, cabinets, boards and stones. The distance of the suction feet can be adjusted on the main beam by itself.



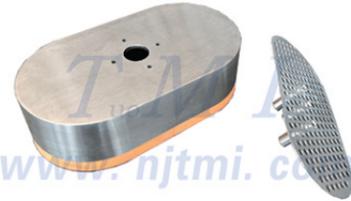
**Circular corrugated rubber four suction feet**

It is mainly applied to the handling and stacking of larger items such as cartons, cabinets, and plates. The distance between the suction feet can be adjusted independently on the crossbeam, and the crossbeam can also be adjusted independently on the main beam.



**Rectangular rubber four suction feet**

It is mainly applied to the handling and stacking of large-sized items such as cartons, cabinets and plates. The distance of the suction feet can be adjusted independently on the crossbeam, and the crossbeam can also be adjusted independently on the main beam.



**Stainless steel sponge suction foot**

It is mainly applied to the handling, stacking and bag opening of workpieces such as woven bags, kraft paper bags, plastic bags and woven films.



**Sponge suction feet**

It is mainly applied to the handling and palletizing of precision cabinets and energy storage workpieces, as well as the handling and palletizing of workpieces with slight unevenness or air leakage holes on their surfaces.



**Non-standard customized suction feet**



**Non-standard customized suction feet**

Vacuum Generation Devices – TD Series



**Vacuum pump**

The split-type blower, designed specifically for vacuum tube lifting machines, features large suction capacity and low power consumption. It adopts a custom-molded blower head and Siemens motor, achieving a vacuum degree of up to -65Kpa, making the operation more sensitive and comfortable.

3.0/4.0/5.5kw



**Silencing box**

It can reduce the noise of the equipment, comes with a fan cooling system, and effectively prevent external dust.

Fittings



**Vacuum lifting tube protective sleeve**

Protects the lifting tube from mechanical damage, easy to clean.



**Vacuum lifting tube safety net**

It can protect the suction feet and lifting tubes when the equipment is not in use and save space.



**Filter**

To prevent dust from entering the vacuum generating device and extend its service life.



**Quick release valve**

Used for the rapid release of workpieces.



**The bottom rotating joint**

It can rotate the goods 360 degrees while keeping the control unit in a fixed position.

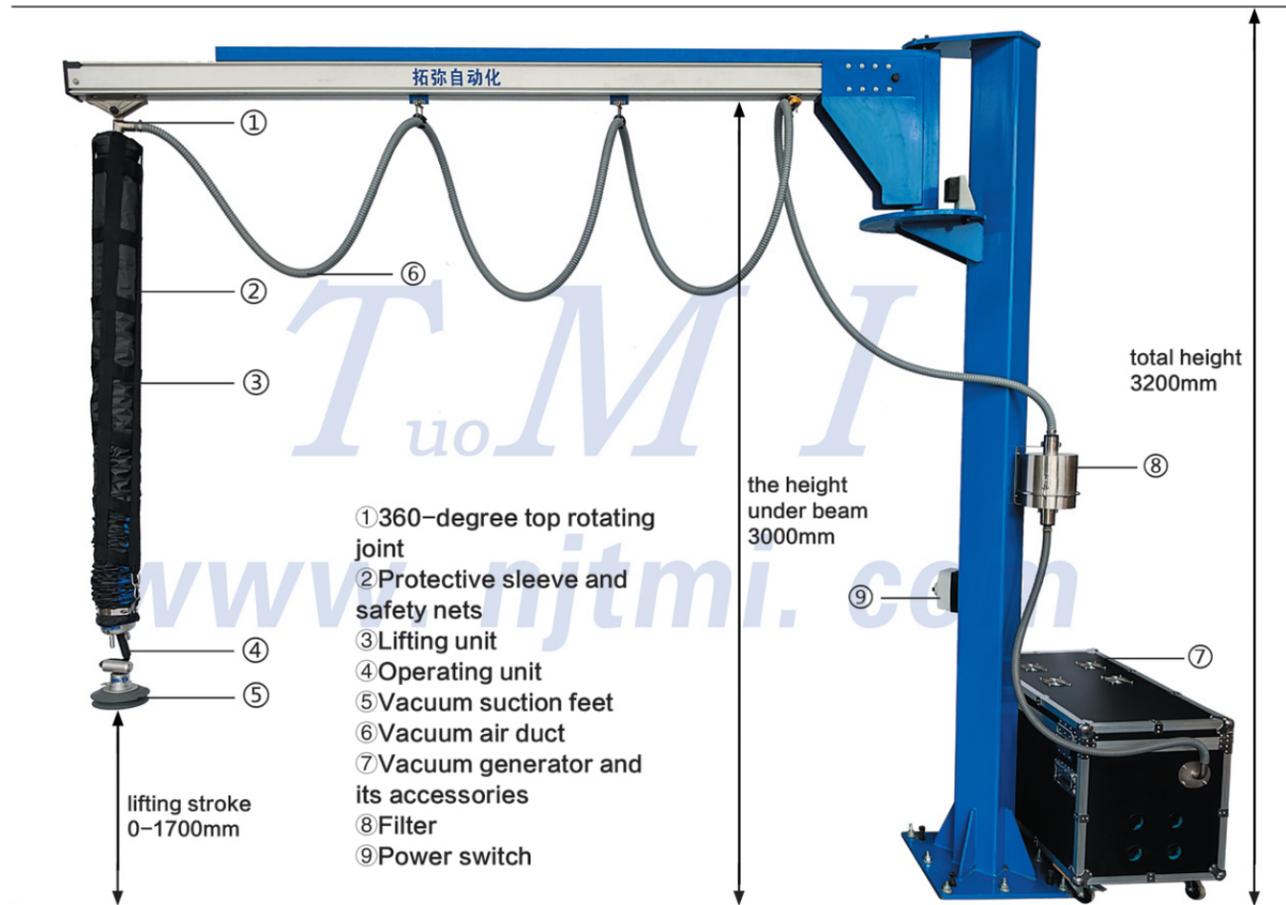


**The quick-change system**

With the alternative quick-change system, different suction feet can be quickly replaced within seconds.

# VACUUM TUBE LIFTING MACHINES – TS SERIES >>>

It can quickly and efficiently transport workpieces weighing up to 85kg. >>>



## Single-hand operation

- ◆Load capacity: 5 – 85kg
- ◆Ultra- fast transportation and handling
- ◆Top rotating joint, which can enhance efficiency and operational comfort.
- ◆There are various specifications of lifting tubes available for selection to meet the requirements of the weight of the workpiece.
- ◆There are various types of suction feet available for different workpieces.
- ◆High-performance vacuum pumps are generally selected as the power source

## Technical data

Maximum load capacity	85kg
The diameter of the tube	100 /120/140/mm
Vacuum pump power	1.25/2.2kw
Lifting stroke	↓
A 2.5m vacuum lifting tube can up to	1.7m
A 4.0m vacuum lifting tube can up to	2.6m
Safety factor (workpiece weight vs lifting force)	More than twice

## Product applications – TS series >>>



**TS handle + corrugated rubber single suction feet**

It is mainly applied to the handling and palletizing of workpieces such as cartons, paint buckets, paint cans, wooden barrels, cardboard barrels, etc.



**TS handle + rectangular rubber double suction feet**

It is mainly applied to the handling and stacking of workpieces such as cartons, cabinets, boards and stones. The distance of the suction feet can be adjusted on the main beam by itself.



**TS handle + circular corrugated rubber four suction feet**

It is mainly applied to the handling and stacking of larger items such as cartons, cabinets, and plates. The distance between the suction feet can be adjusted independently on the crossbeam, and the crossbeam can also be adjusted independently on the main beam.



**TS handle + stainless steel sponge suction feet**

It is mainly applied to the handling, stacking and bag opening of workpieces such as woven bags, kraft paper bags, plastic bags and woven films.



**TS handle + integrated rectangular rubber double suction feet**

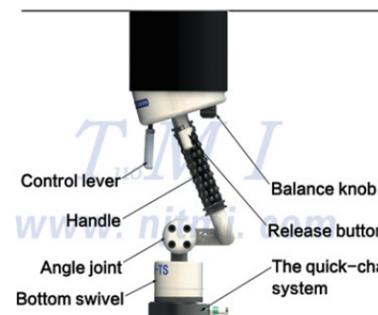
It is mainly applied to the handling and palletizing of relatively light and small-sized items such as cartons, cabinets, boards, and stones. The distance between the suction feet can be adjusted independently on the main beam.



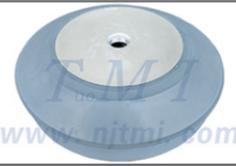
**TS handle + sponge suction feet**

It is mainly applied to the handling and palletizing of precision cabinets and energy storage workpieces, as well as the handling and palletizing of workpieces with slight unevenness or air leakage holes on their surfaces.

## Handle Selection – TS Series >>>



Vacuum Feet Selection – TS Series



**Circular corrugated rubber single suction foot**

It is mainly applied to the handling and palletizing of workpieces such as cartons, paint buckets, paint cans, wooden barrels, cardboard barrels, etc.



**Rectangular rubber single suction foot**

It is mainly applied to the handling and palletizing of small-sized cartons, cabinets, boards, stones and other workpieces.



**Rectangular rubber double suction foot**

It is mainly applied to the handling and stacking of workpieces such as cartons, cabinets, boards and stones. The distance of the suction feet can be adjusted on the main beam by itself.



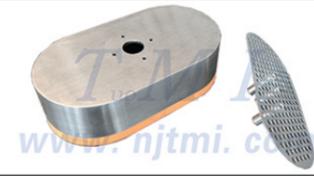
**Circular corrugated rubber four suction foot**

It is mainly applied to the handling and stacking of larger items such as cartons, cabinets, and plates. The distance between the suction feet can be adjusted independently on the crossbeam, and the crossbeam can also be adjusted independently on the main beam.



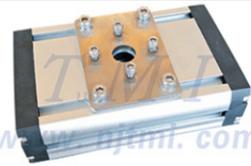
**Integrated rectangular rubber double suction foot**

It is mainly applied to the handling and palletizing of relatively light and small-sized items such as cartons, cabinets, boards, and stones. The distance between the suction feet can be adjusted independently on the main beam.



**Stainless steel sponge suction foot**

It is mainly applied to the handling, stacking and bag opening of workpieces such as woven bags, kraft paper bags, plastic bags and woven films.



**Sponge suction foot**

It is mainly applied to the handling and palletizing of precision cabinets and energy storage workpieces, as well as the handling and palletizing of workpieces with slight unevenness or air leakage holes on their surfaces.



**Non-standard customized suction foot**



**Non-standard customized suction foot**

Vacuum Generation Devices – TS Series



**Vacuum pump**

With advantages such as high vacuum degree and low power consumption, the TS system operates more sensitively and comfortably.

1.25/2.2kw



**Silencing box**

It can reduce the noise of the equipment, comes with a fan cooling system, and effectively prevent external dust.

Fittings



**Vacuum lifting tube protective sleeve sheath**

Protects the lifting tube from mechanical damage, easy to clean.



**Vacuum lifting tube safety net**

It can protect the suction feet and lifting tubes when the equipment is not in use and save space.



**Filter**

To prevent dust from entering the vacuum generating device and extend its service life.

LIGHT CRANE SERIES – TE SERIES >>>

The light crane system can theoretically provide suitable solutions for all lifting and handling requirements. High-strength anodized aluminum alloy track, with surface anodized treatment. The self-weight of the track is relatively light, with the minimum self-weight of the product track being 2.7 kg/m. The maximum load capacity of the track is 2000 kg. Low resistance at startup.



**TE – Low Clearance Series**

It is mainly applied in scenarios where the factory building height is relatively low and the weight of the workpiece is relatively light. The recommended arm length is within the range of 3 – 4 m.



**TE – Standard Cable Stayed Series**

It is mainly applied in scenarios where there is no limit to the height of the factory building and the weight of the workpiece is relatively heavy. It is recommended that the arm length be 3 – 5 m.



**TE – Portable Trolley Series**

It is mainly used for the transportation and stacking of workpieces at different assembly lines or locations within the workshop. It is recommended that the arm length be 2.5 – 3 m.



**TE-Portable Electric Forklift Series**

It is mainly applied in various factories with different heights, where height is strictly limited, factory dimensions are relatively narrow, and it is necessary to meet the handling and palletizing requirements of workpieces at different positions.



**TE – Electrically Adjustable Column Type Telescopic Arm Crane for Portable Trolley Series**

It is mainly applied in various factories with different heights, where height is strictly limited, factory dimensions are relatively narrow, and it is necessary to meet the handling and palletizing requirements of workpieces at different positions.



**TE- Folding Arm Crane Series**

It is mainly applied in scenarios where there are strict restrictions on the height of the factory building and the size of the factory building is relatively narrow.



**Truss Track Series**

It is mainly used in scenarios where the range of workpiece handling is relatively large.

## VACUUM HANDLING MACHINES- TW SERIES >>>

It can quickly and efficiently transport workpieces weighing up to 20T. >>>

### Applications

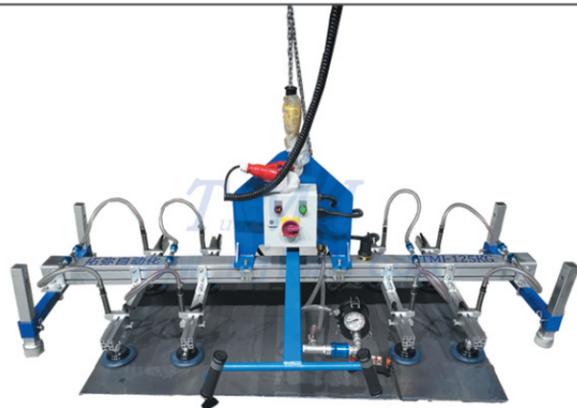
Suitable for transporting large workpieces with smooth surfaces and good air-tightness.

Such as:

- Used for loading and unloading of metal plates in laser cutting machines.
- Used for loading and unloading of wood or plastic boards on CNC machining centre.
- Used for the transportation and positioning of glass panels and windows during production, framing and installation processes.

### Advantage

- It can quickly and efficiently transport workpieces weighing up to 20T.
- Equipped with vacuum accumulators and sound alarm devices, it ensures the safety and reliability during use.
- The suction feet position can be adjusted. Various suction feet and structures are available for selection. Customization can be done according to customer requirements.
- Extra-long service life, no damage to the workpiece surface.
- Vacuum is utilized to safely and hazard-free pick up workpieces.
- Reduce labor intensity and increase production efficiency.



Sheet material handling



Glass handling



Graphite handling



Large sheet material handling

## VACUUM HANDLING MACHINES - TC SERIES >>>

It can quickly and efficiently transport workpieces weighing up to 5000kg. >>>

### Applications

Suitable for the handling of most types of rolls, including steel coils, copper coils, aluminium coils, kraft paper rolls, etc., and also applicable to strip coils.

- Due to the special process and unique shape, the traditional handling methods cannot meet the customer's requirements. The vacuum suction feet for coils can quickly complete the vacuum handling work and solve most of the problems.

### Advantage

- It can quickly and efficiently transport workpieces weighing up to 5000kg.
- Multiple independent chambers can be applied to various diameter specifications of rolls.
- It can achieve vertical 0-90 degree electric flip and handling.
- It can be applied to high-temperature coil strips.
- It can be selected according to the actual working conditions and can also be customized non-standard according to customer requirements.
- Extra-long service life, no damage to the workpiece surface.
- Vacuum is utilized to safely and hazard-free pick up workpieces.
- Reduce Labor intensity and increase production efficiency.



## INTELLIGENT AIDED LIFTING DEVICES – IB SERIES >>>

Load range: 80–600kg >>>

The intelligent balancer is composed of servo drivers, servo motors, reducers, etc. and is controlled by a microprocessor. It features easy operation, high precision, intelligence, controllable speed and safety and reliability.

- Maximum load capacity: 600kg
- Maximum lift speed – Manual mode: 40m/min
- Maximum lift speed – Hover mode: 36m/min
- Maximum lifting stroke: 1.5–3.3m
- Rated power: 0.75–2.0KW
- Main power supply: 220V/380V
- Limitation: Hard limit and soft limit
- Control method: servo control (position control)



## POWER-ASSISTED MECHANICAL ARMS– ZL SERIES >>>

Load range 10 – 400KG >>>

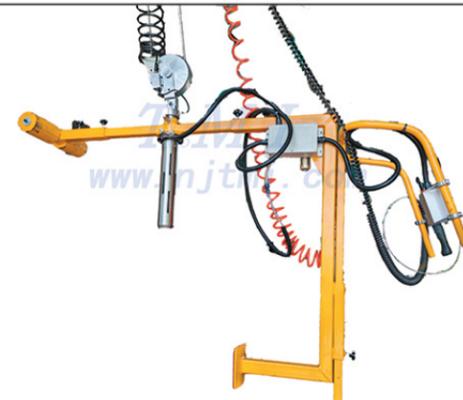
The power-assisted manipulator is a power-assisted device used for material handling and installation to facilitate effortless operation. It ingeniously applies the principle of force balance, enabling the operator to perform corresponding pushing and pulling on heavy objects, allowing them to move and position themselves stably within the space. When the heavy object is lifted or lowered, it assumes a floating state, and the air circuit ensures the completion of heavy object transportation with small operating forces. By pushing and pulling the heavy object, the operator can accurately place it at any position within the space.

### Characteristics:

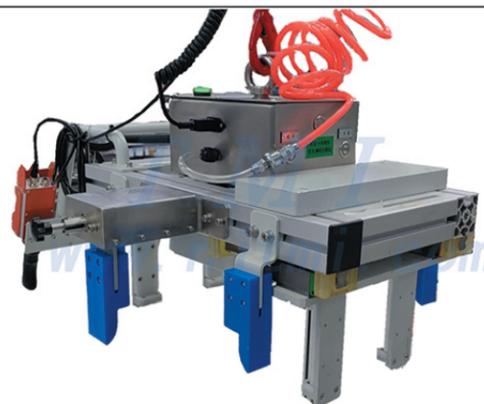
- Load range: 10 – 400 kg
- It can achieve a balanced state of no-load and load conditions, and is suitable for precise loading and unloading operations of workpieces.
- The no-load and load can be automatically switched. It can achieve a floating state in three-dimensional space through lifting, moving and rotating, facilitating precise positioning.
- Mainly used for the grasping and flipping of irregular workpieces.



Customized fixture series



Air expansion shaft lifting equipment series



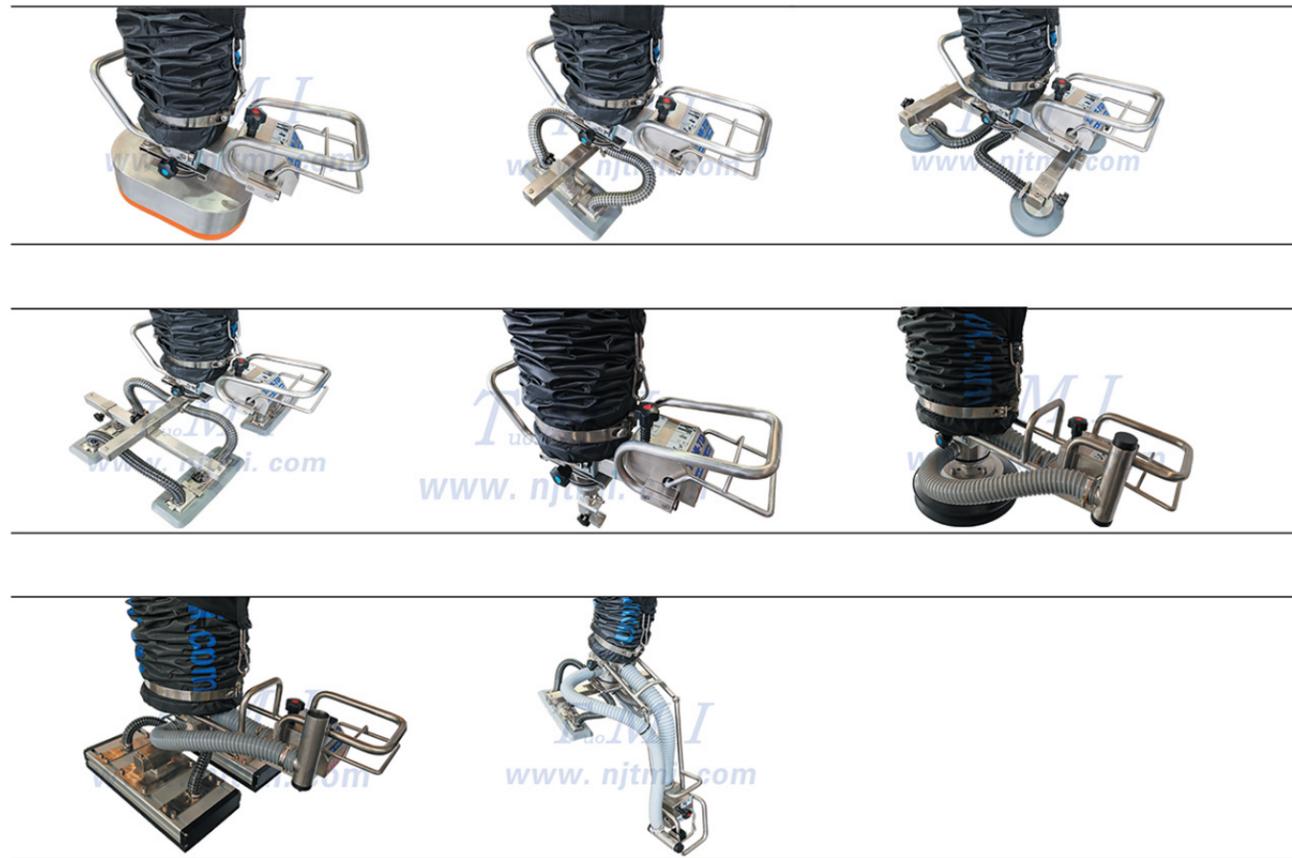
Sponge suction tool series



Explosion-proof vacuum suction feet series



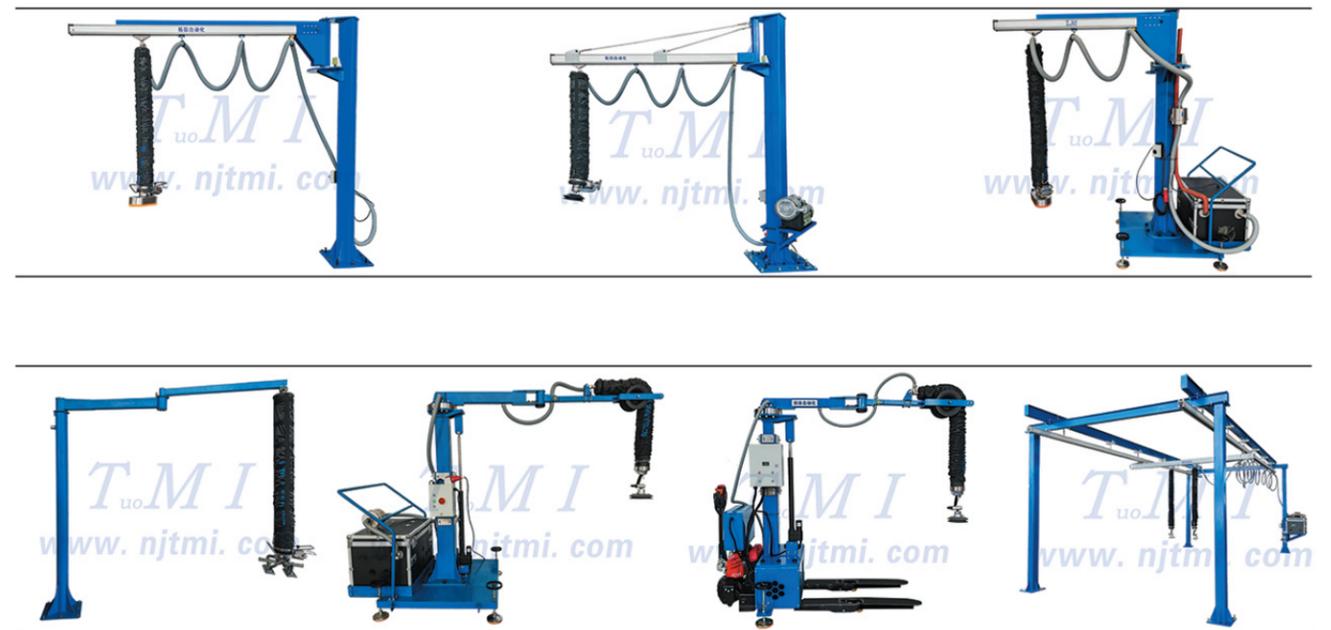
Vacuum tube lifting machines – TD Double – Hand operation series



Vacuum tube lifting machines – TS Single – Hand operation series



Light Crane Series – TE Series



Vacuum Handling Machine – TW Sheet Material Handling Series

