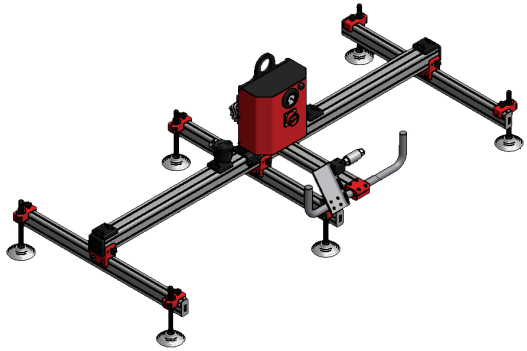
Operating instructions



TR01.250
TR01.500

FIPA Spider vacuum traverse

FIPA
challenge accepted

EC Declaration of Conformity

The company:
FIPA GmbH
Freisinger Str. 30
85737 Ismaning
Germany
www.fipa.com

declares under its own responsibility, that the FIPA Spider vacuum traverse:

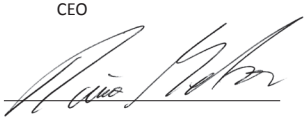
TR01.250
TR01.500

to which this declaration refers, are manufactured in accordance with the following directives:

2006/42/EC (EC Machinery Directive)
DIN EN 13155:2014-2 Crane - Safety - Non-fixed load lifting attachments
DGUV 100-500 (BGR 500) Operation of work equipment

Ismaning, April 2016
Place and date

Rainer Mehrer,
CEO



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1. INTRODUCTION

The FIPA Spider vacuum traverse is a load handling device whose holding force is based on vacuum. The device can be adapted to a variety of applications. Consequently, it is possible to lift large surface-area objects, such as sheet metal plates, wooden panels, glass panels, doors and windows.

The FIPA Spider vacuum traverse has been developed to be ergonomic and smooth to work with, allowing you to lift and move heavy loads with ease.
The vacuum traverse is extremely time-efficient since a protracted process to secure the load is not necessary.

The operating manual contains a description of the safety regulations, installation, operation, maintenance and troubleshooting as well as the technical data.
Special versions of the FIPA Spider vacuum traverse are not described.
Information about these products can be obtained from our Technical Team (+49 89 962489-0).
The device supplied may only be used for lifting objects for which it is designed, in accordance with your enquiry and order confirmation. If you intend to use the FIPA Spider vacuum traverse for other items, please contact our Technical Team.

Peripheral systems, installed alongside the FIPA Spider vacuum traverse, are not described in these operating instructions. Please take note of the separate individual descriptions for these system parts.
FIPA is constantly striving to develop and improve the design and construction of its load-handling and lifting equipment.
FIPA therefore reserves the right to make modifications to the design and technical configuration without prior notice. All information in these operating instructions corresponds to the features at the time of publication. Printing errors are possible.

Rainer Mehrer,
CEO

The design and construction of the vacuum traverse may not be modified under any circumstances without approval from FIPA GmbH. Only genuine FIPA accessories and spare parts may be used. Unapproved modifications and/or the use of third party accessories and spare parts can cause severe bodily injury during the lifting process and will result in the warranty being voided.

2. SAFETY

Read these operating instructions carefully before initial commissioning and note the following safety regulations. The FIPA Spider vacuum traverse may only be operated and maintained by personnel who have read these operating instructions and fully understand their content. Display the operating instructions near the vacuum traverse so as to be easily accessible and make operators aware of them.

△ Safety rules

> The unit may not be operated or maintained by persons under the influence of alcohol, medications affecting awareness, such as sleeping tablets or strong painkillers or other drugs. Other conditions such as circulatory problems or dizziness are criteria that disqualify persons from operating this system.

> The FIPA Spider vacuum traverse must only be used for the approved carrying capacity. Check the weight of the goods to be lifted.

Type	Max. permissible carrying capacity in kg
TR01.250	250 kg
TR01.500	500 kg

> It is within the operator's scope of responsibility to ensure that no physical injury can arise during work.

> Wear safety footwear during operation.

> When working with the vacuum traverse, never allow yourself to be distracted and never distract the operator. Lapses of concentration can lead to accidents.

> Use the vacuum traverse only to lift loads which can support their dead weight and not come apart when lifted.

> Do not place the vacuum cups on surfaces, such as lables or raping which maybe come lose.

> Do not place the vacuum cupson surfaces which are so slippery that the load could slide off the suction cups, e.g. wet or oily surfaces (slip effect).

> Take particular care when handling items with sharp edges, such as sheet metal panels.

> Never use the vacuum traverse to lift loads which contain hazardous or explosive substances. Ensure beforehand that work can be carried out safely.

> Arrange the vacuum cups , so that the centre of gravity of the material being handled is located centrally between the vacuum cups .

> The vacuum traverse, with a lifted load, may only be operated so that, if the load were to fall, it would not cause injury to persons.

> Do not allow person to walk under araised load. Persons must not stand below the lifted load.

> Do not set down the lifted load if doing so would cause injury to persons or damage to items.

> The vacuum cupsmust not be attached to people or animals.

> Never manually manipulate the vacuum traverse when raising or lowering.

> Always adjust the stroke according to the load.

> A lifted load must not be left unattended.

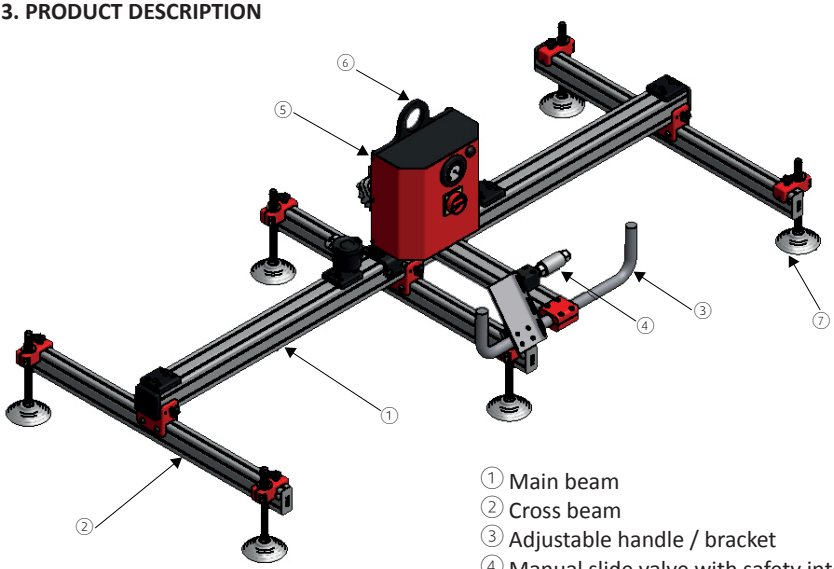
> The vacuum traverse must not be operated in a potentially explosive environment. Electrical and mechanical components can produce sparks that can ignite vapours.

Observe the rules and regulations of your national authorities and institutions for occupational safety and operation of lifting equipment.

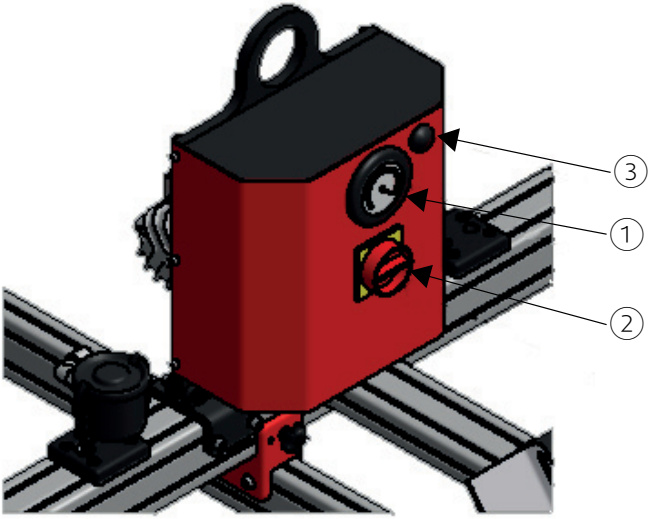
ⓘ Important information

> It is important to read the entire manual thoroughly before installing and commissioning the system and to familiarise yourself with the system.
> The vacuum traverse should only be operated with gentle manual force on the handle in order to avoid violent movements when lifting.
> The device must be switched off for servicing and cleaning and must be secured against being switched back on again. The main switch can be locked with a padlock for this purpose.
> The vacuum pump must be handled with particular care as it is sensitive to shocks and vibration.
> The vacuum pump must not be started without an air filter.

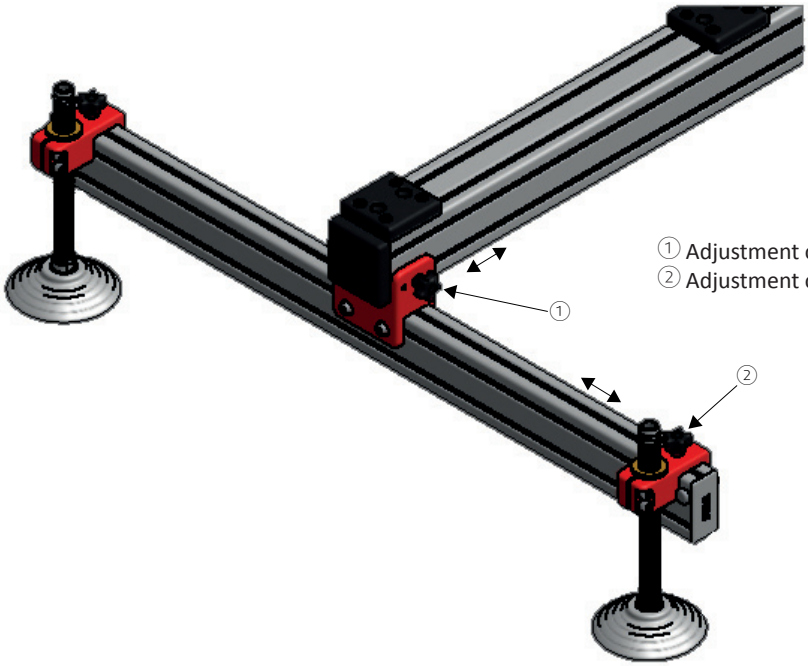
3. PRODUCT DESCRIPTION



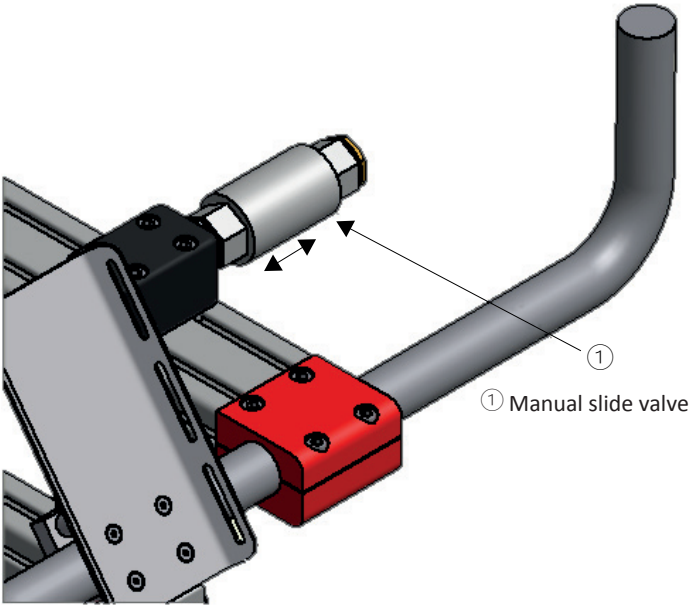
① Main beam
② Cross beam
③ Adjustable handle / bracket
④ Manual slide valve with safety interlock
⑤ Vacuum unit
⑥ Fastening eye, inner Ø 70 mm
⑦ Vacuum cup



① Vacuum pressure gauge with red / green indication
② On/Off switch for vacuum generation
③ Acoustic warning device



① Adjustment of main beam
② Adjustment of cross beam



① Manual slide valve with safety interlock

4. INSTALLATION AND COMMISSIONING

Ensure that the delivered vacuum traverse matches the delivery note. If any parts are missing, please contact our Technical Team. Many problems during installation and the test run can be avoided if this manual is read and understood thoroughly before installation. For safety reasons, it is imperative to have detailed knowledge of the equipment. The FIPA Spider vacuum traverse is used in conjunction with an electrical vacuum pump. This is permanently mounted. Strictly observe the instructions for the vacuum pump.

Safety instructions for installation

> The employee responsible for installation of the FIPA Spider vacuum traverse must ensure that the suspension structure (e.g. the FIPA crane system or the FIPA jib crane or similar) is of sufficient size to hold the dead weight of the vacuum traverse including maximum load plus an adequate safety factor.

The electrical connection may only be carried out by qualified personnel in compliance with the applicable electrical standards.
Check that the supply voltage conforms to the data stated on the motor rating plate of the vacuum pump.
The FIPA Spider vacuum traverse has a two-pole and earthing-pin plug on the rear for connecting.
The vacuum traverse can thereby be connected to the chain hoist with a spiral cable.
Please note that the vacuum traverse only needs single phase electricity!

Technical data

Part No.	DT.5C-1 / 50 Hz
Suction power [m^3/h]	5
Final pressure (absolute) [mbar/hPa]	120
Rated power [kW]	0.12
Voltage supply [V]	220 - 240
Current consumption [A]	1
Speed [n/min]	2800
Noise level 1m [dB(A)]	59
Weight [kg]	5.4
Vacuum inlet ø [mm]	9
Operating temperature at 20°C [°C]	65 - 70
Permissible ambient temperature [°C]	0 - 40°
Storage and transport temperature [°C]	-20 - 50°C
PMax. Moisture (1000m above sea level) [%HR]	80

ⓘ **A three-phase variant is also available on request**

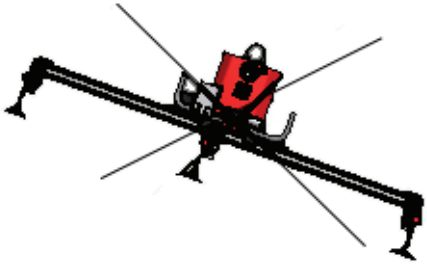
The vacuum traverse must be operated in ventilated areas to ensure that it functions safely. It is essential to prevent hot air from building up in the work area.
Do not place any objects in the vicinity of the motor cooling impeller which could obstruct the normal air flow.

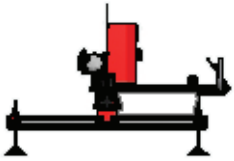
ⓘ Important information

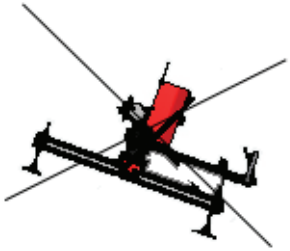
You will find more detailed information about the use of the vacuum pump in the separate enclosed operating instructions for oil-free vacuum pumps.

Installation of the vacuum traverse

> The vacuum traverse is attached to the suspension or fastening eye. Esure that the fastening elements are of sufficient size and adequately secured if necessary.
> The vacuum traverse should settle horizontally in the lifted position. If this is not the case, it can be balanced using the adjustable cross beams.







ⓘ Ensure that the load on the vacuum traverse is only lifted as high as is necessary. The operating elements must still be able to be operated in the highest position.

Test operation and initial acceptance

> Lift a load with a surface that is fully impermeable to air. Leave the load suspended on the crane and monitor the entire unit for hissing sounds to ensure that no vacuum leaks have occurred during installation.
> Lift a load with a surface which is fully impermeable to air and which has the maximum permitted weight for this model. See the "Troubleshooting" section if the load cannot be lifted.

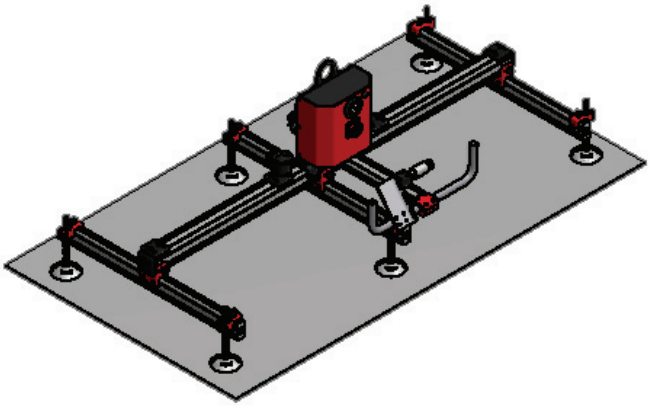
⚠ **The system must only be started after a qualified electrician or electrically qualified person has installed a safety device to the motor.**
If no safety device is installed on the motor there is a risk of fire!

5. OPERATION

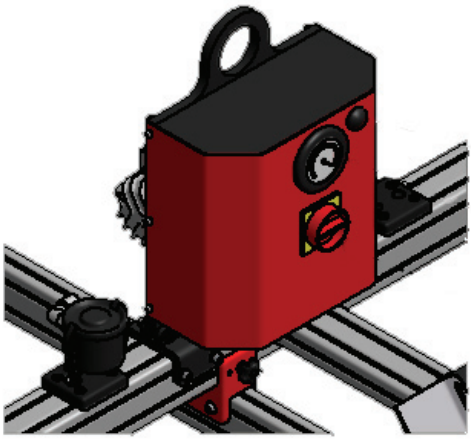
Device settings

The vacuum traverse must be centrally attached to the goods being handled by means of a crane system with a chain hoist. All vacuum cupsmust be attached to the material being handled. If the size of panels changes frequently, the vacuum cups can be provided with shut-off valves as an option.

> ⚠ When using shut-off valves, please note that they must be opened again immediately after use. Forgetting to do this reduces the holding force, which could cause the load to fall!

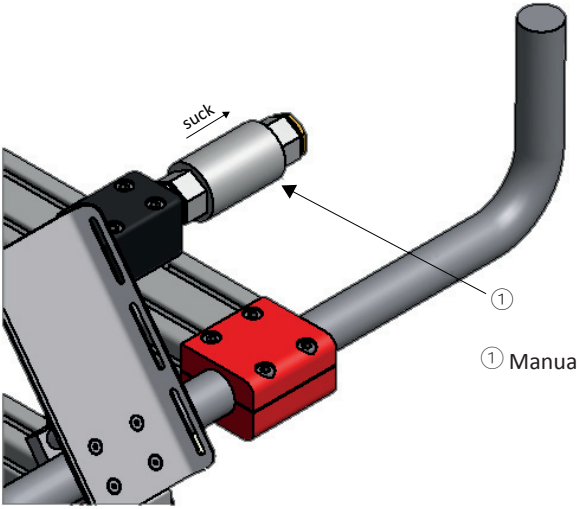


Vacuum generation can now be started with the on/off switch.



An acoustic warning signal sounds until the requisite vacuum has been reached.
The vacuum traverse is not ready for use until the acoustic warning signal has stopped and the needle on the pressure gauge indicates a value of **-600mbar** (in the green region).

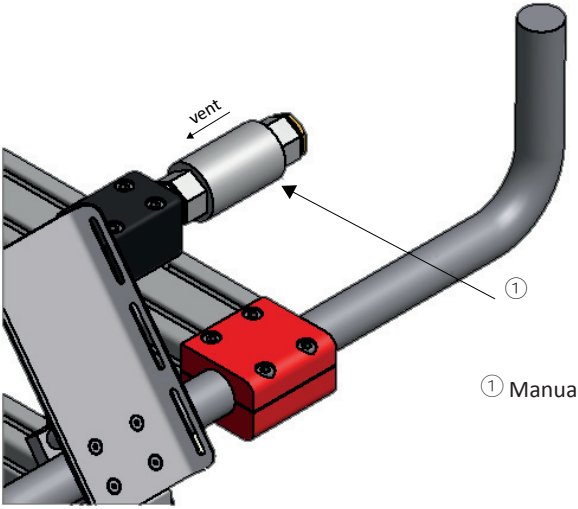
Actuate the manual safety slide valve to handle the material by means of vacuum. This is done by moving the handle laterally to the right until it is positively engaged.



① Manual slide valve with safety interlock

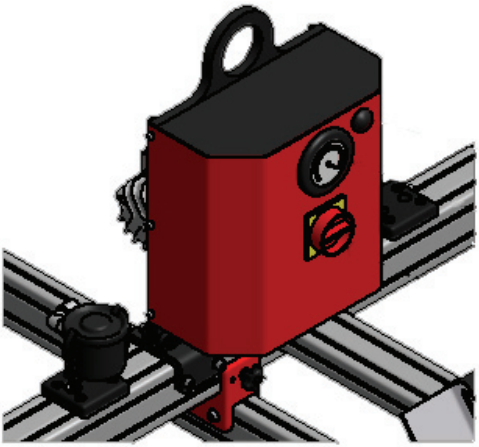
The vacuum traverse and load can now be handled by means of a crane system with a chain hoist. While doing so, the manual slide valve and the on/off switch must not be actuated. **Risk of accident!**

After setting down the load on a suitable surface, the manual safety slide valve is actuated. This is done by pressing the locking button and moving the handle laterally to the left until it engages securely.



① Manual slide valve with safety interlock

Vacuum generation can now be switched off with the on/off switch.



6. MAINTENANCE

> **Warning! Only carry out maintenance if you have all the spare parts available.**

The maintenance instructions must be followed precisely in order to ensure that the system works safely and that the lifting characteristics are not impaired. If faults are detected in the system, these must be rectified immediately before the FIPA Spider vacuum traverse can be started up again.

- The device must be switched off during servicing and secured against being switched back on again.
- Only genuine FIPA spare parts are to be used for maintenance and repairs. Genuine FIPA spare parts are matched to the necessary loads and forces of the vacuum traverse. Using other spare parts can lead to serious defects and to the warranty being voided.

Maintenance of the vacuum pump

General information

- Always disconnect the pump from the mains supply, so that it is not switched on unintentionally.
- Do not carry out work on the pump if it is at an excessively high temperature (risk of burns).
- The operating personnel must be technically trained to work with vacuum pumps.
  All the applicable accident prevention regulations concerning the protection of the individual must be complied with at all times.
- Do not perform any work procedures not described in this manual.

Maintenance

> The maintenance intervals can vary depending on the type of use and the environment in which the vacuum traverse is used. Only use genuine FIPA spare parts.
> The pump and the fan vane cover must be cleaned every 1000 operating hours. Dirt on the pump and the fan vane cover must be removed with a blast of compressed air or a dry cloth. Do not use fluids or other substances for cleaning.
> The vanes must be replaced every 6000 operating hours. The instructions for replacing the vanes are enclosed with the spare part kit.

Maintenance of the vacuum traverse

Daily maintenance and inspection

> The vacuum traverse must be inspected every day in dusty or dirty conditions. Shake out the filter and clean with the vacuum cleaner. Damaged filters or filters which can no longer be cleaned must be replaced.
  Clean the vacuum cups as required or replace if they are damaged.
> Check that all the adjusting screws of the longitudinal and cross beams are securely mounted.

Weekly maintenance and inspection

> Check that the vacuum cups are not damaged.
> Check that the filter is not choked or damaged.
> Check that the spring levellers are not damaged.
> Check that the screw connections / fittings are not damaged.
> Check that the vacuum hoses are not damaged.

Quarterly maintenance and inspection

> Check that the fastening / suspension eye and the crane system to which the vacuum traverse is attached are in good condition. Check all the load-bearing parts for deformation.
> Check the emergency back-up battery of the warning buzzer by allowing the vacuum generation to run for a minimum of 5 minutes with the vacuum circuit open.

If parts are damaged, the vacuum traverse must not be used until the fault has been rectified. Please contact our Technical Team!

> Check that the nuts and bolts of the fastening system are tight and secured where necessary.
> Check that the vacuum hose and the screw connections are not damaged.
> Check that the vacuum cups are not damaged or worn.
> If the vacuum traverse has not been used for some time, please leave it connected to the power supply for a while (5 minutes), in order to charge the emergency back-up battery of the warning buzzer.

Warning! An annual test is required by the accident prevention regulations (UVV). This must be documented!

7. TROUBLESHOOTING

Fault: The load is not lifted

- 👁 Is the air filter choked?
- 🛠 Shake out the filter and clean with the vacuum cleaner. Replace the filter if it is damaged.

- 👁 Is the filter unit's end cap correctly installed?
- 🛠 Mount the cap correctly.

- 👁 Does the system have any leaks? Place the vacuum cups on an air-tight, flat board. Actuate the manual slide valve and check vacuum hoses, connections, spring levellers and suction cups for hissing sounds.
- 🛠 Seal leaks or replace components which are not air-tight.

- 👁 Is there any dirt in the vacuum cups?
- 🛠 Remove dirt from the vacuum cup.

- 👁 Are the vacuum hoses defective?
- 🛠 Replace the vacuum hose without fail.

- 👁 Is the load being lifted too heavy?
- 🛠 Check that the weight corresponds to the holding force of the supplied vacuum traverse.

If you cannot rectify the fault yourself, please contact our Technical Team.

ⓘ If the load is not lifted, this can be due to the fact that a vacuum is not being generated or that there is a leak in the system.

- 👁 Are the vacuum cupsdamaged/not air-tight?
- 🛠 Replace the vacuum cups without fail.

- 👁 Are the screw connections damaged/not air-tight?
- 🛠 Replace the screw connections without fail.

- 👁 Are the spring levellers damaged/not air-tight?
- 🛠 Replace the spring levellers without fail.

Fault: The vacuum pump doesn't start.

- Has the thermo-switch switched off?
- Check what has caused the switch to actuate.

- Is the room temperature too low?
- Raise the room temperature to a value within the prescribed range (0° - 40°).

- Motor winding defective?
- Please contact our Technical Team.

- Unapproved substances sucked in?
- Please contact our Technical Team.

Fault: Extraneous noise from the vacuum pump

- Vanes are damaged?
- Please contact our Technical Team.

- Motor bearing damaged?
- Please contact our Technical Team.

- Exhaust outlet blocked?
- Check the exhaust outlet connection.

- Protective cover of the motor impeller damaged?
- Please contact our Technical Team.

Fault: Insufficient vacuum is generated

- Check the complete vacuum traverse for leaks.
- Check the filter for clogging and damage.
- Check the vacuum cupsfor damage/leaks.

Fault: The vacuum pump gets too hot

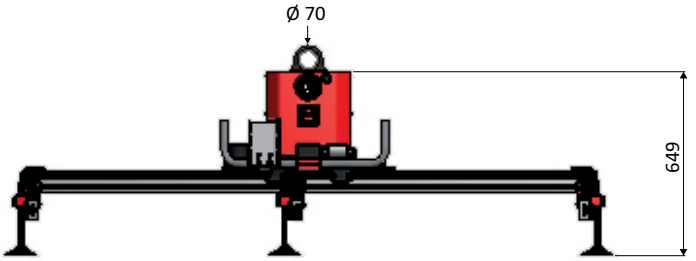
- Check the protective cover of the motor impeller.
- Please clean.

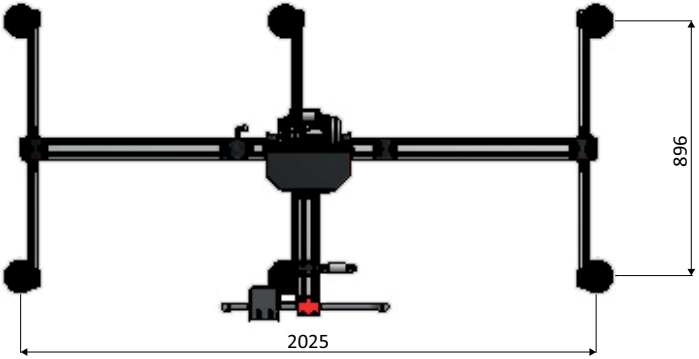
- Inadequate room ventilation?
- Provide adequate ventilation!

- Motor supply insufficient?
- Check the electrical connection!

8. SPECIFICATIONS

Dimensions of the FIPALIFT Basic vacuum traverse





Inspection and maintenance documents

FIPA GmbH
Freisinger Straße 30
D-85737 Ismaning
Tel.: +49 89 962489-0
Fax: +49 89 962489-11

Company:

Date: _____

Serial Number: _____

Initial testing passed ◯ Yes ◯ No

Date: _____

Signature of Inspector

_____

Comments	Name and company of the inspector
The recurring inspection in accordance with the maintenance instructions has been performed. - No - defects were identified (see inspection findings report number _____)	Date / Signature
The recurring inspection in accordance with the maintenance instructions has been performed. - No - defects were identified (see inspection findings report number _____)	Datum/Unterschrift

Comments	Name and company of the inspector
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