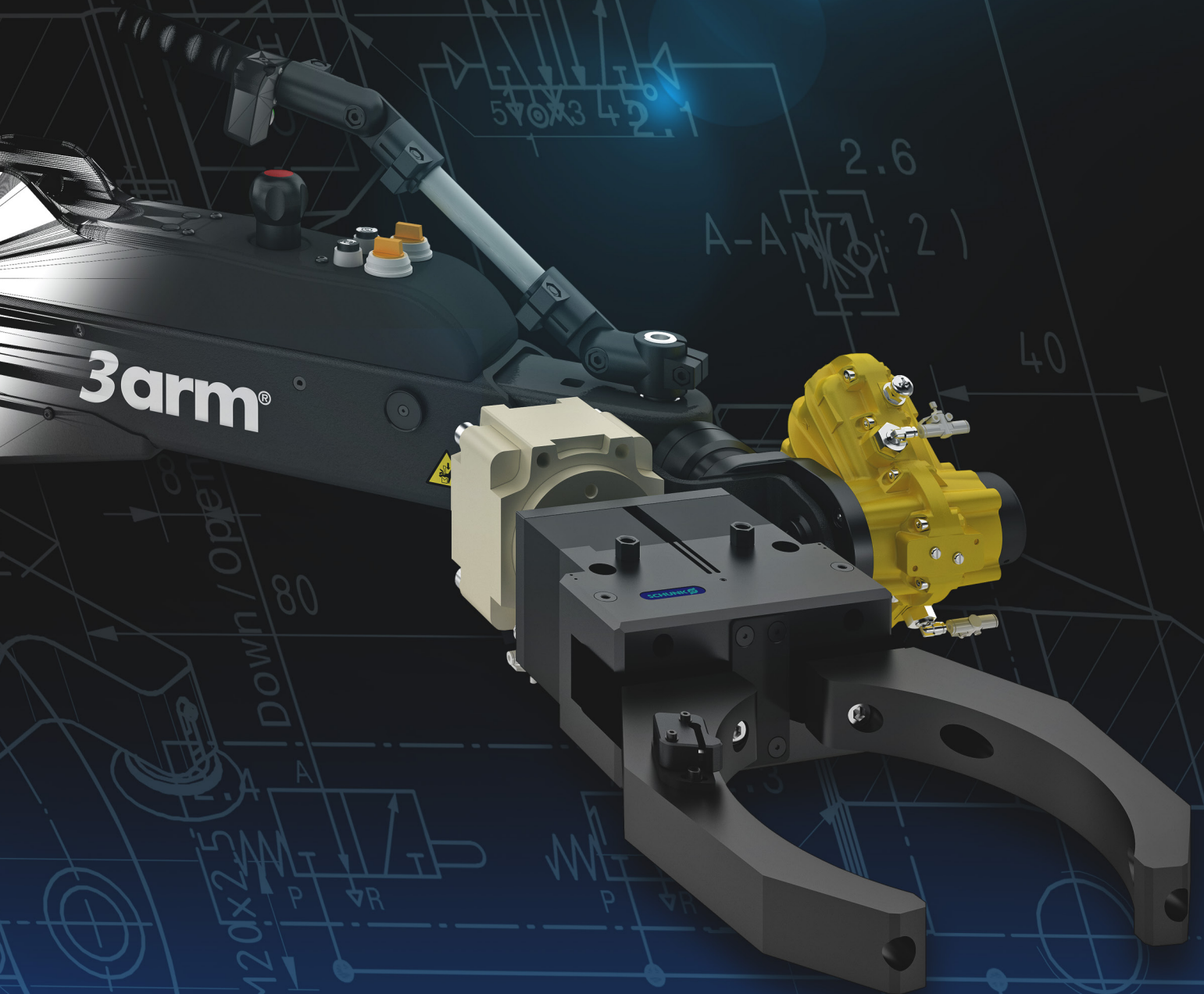


# 3arm<sup>®</sup>

## MANIPULATORS



ERGONOMIC SOLUTIONS

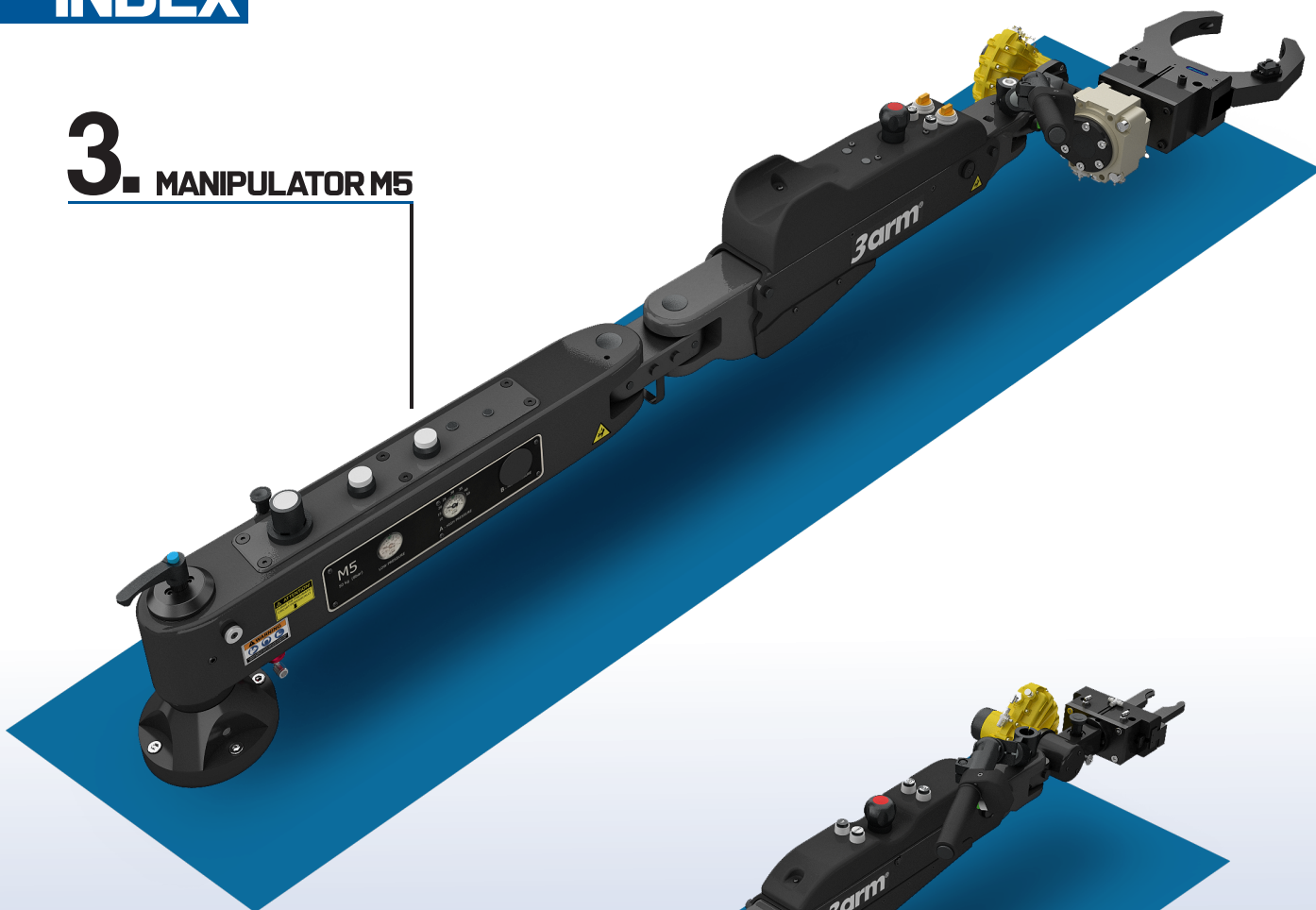
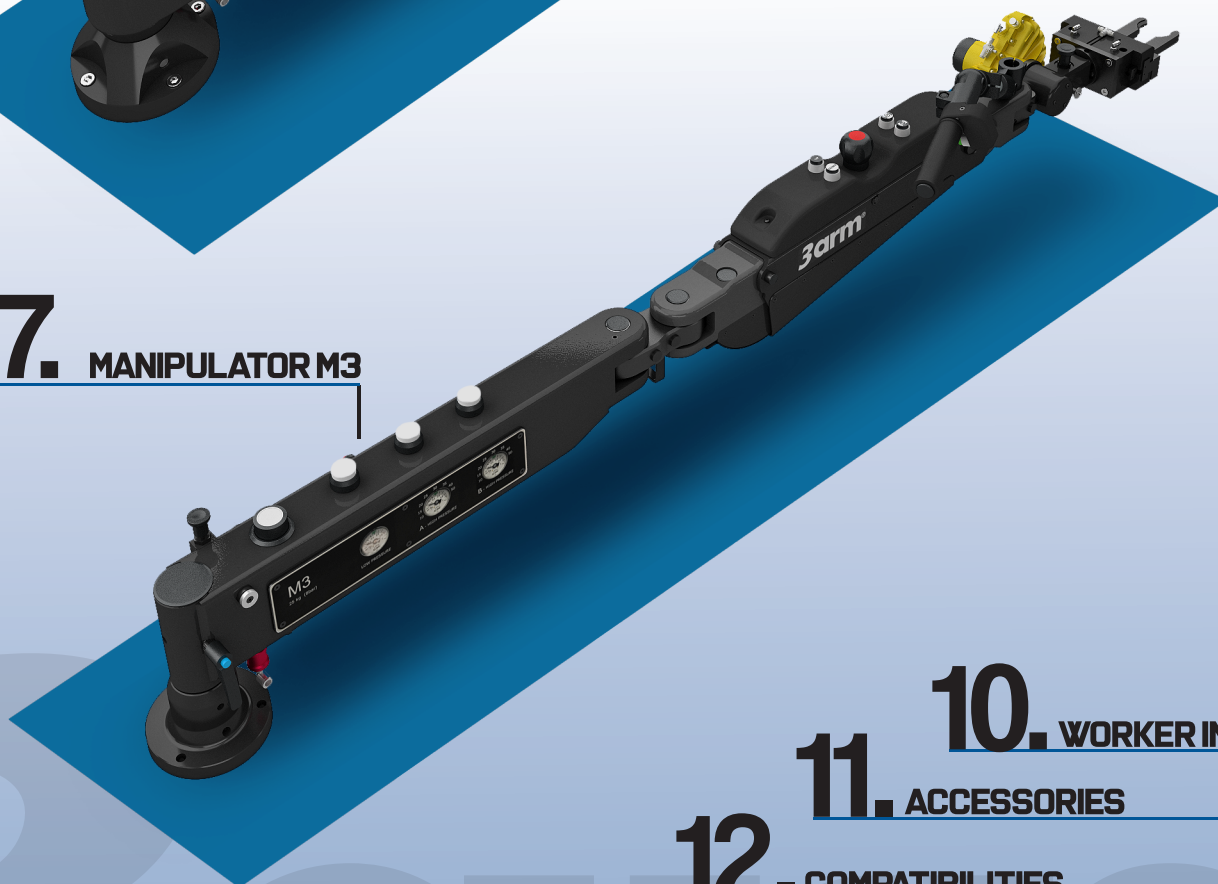


**3arm®** is a division of the Tecnospiro Machine Tool Company located in Sant Joan de Vilatorrada a small village about 65 km west of Barcelona.

The company is family owned and has been in business since 1947. Utilizing a state of the art manufacturing facility and a dynamic engineering staff that has been very innovative in design and inventing new products.

The 3arm ergonomic arm is the strongest most dependable arm available in the world market place today. It can be used for assistance in assembly, deburring, off line machining, and all types of lifting operations. Where ever operator fatigue is concern for employee safety, productivity, or quality 3arm has a solution.



**INDEX****3. MANIPULATOR M5****7. MANIPULATOR M3****10. WORKER INJURY****11. ACCESSORIES****12. COMPATIBILITIES****13. APPLICATION QUESTIONNAIRE**

**SAFETY WARNING** 3ARM products are engineered and manufactured with safety in mind. The heat treat specifications exceed or meet all standards. All of the products manufactured by 3ARM are designed to perform without any undue safety issues when caution, common sense and proper safety practices are followed. The use of cutting tools and toolholders is safe when proper application and protection guidelines are observed. Even when these proper precautions are taken, it is possible that fragments of a cutting tool, cutting material, or holding device may be thrown at a very high rate of speed and have potential to cause severe bodily harm. It is imperative that general safety precautions and safety glasses be used at all times.

## MANIPULATOR M5

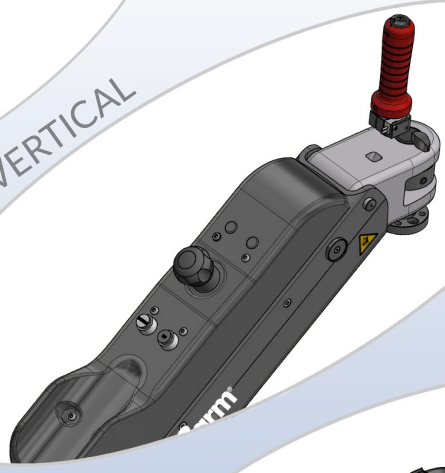
**3ARM Manipulator M5** can be equipped with a variety of specialty gripping tools. It is engineered to manually handle, center and set loads of up to **50kg in a weightless condition**, in any direction. The Manipulator aids the operator in precise ergonomic work handling, effortlessly and safely.

The M5 offers the most custom arm configurations to move parts to and from conveyors, assembly lines, machine tools and much more.

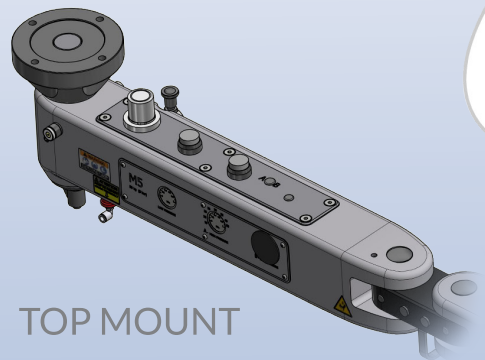
BASIC



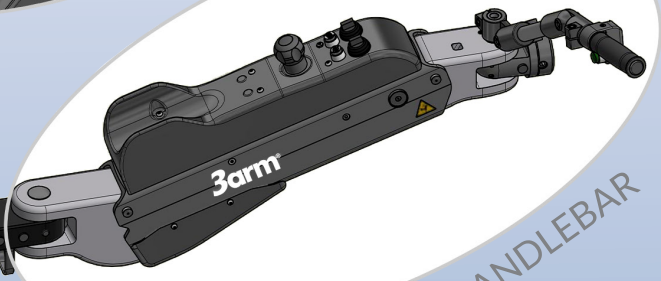
VERTICAL



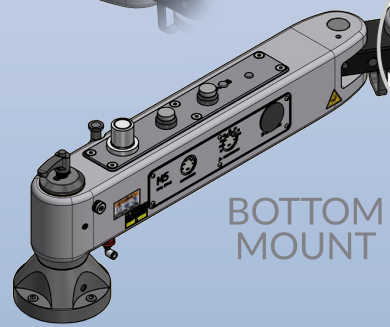
TOP MOUNT



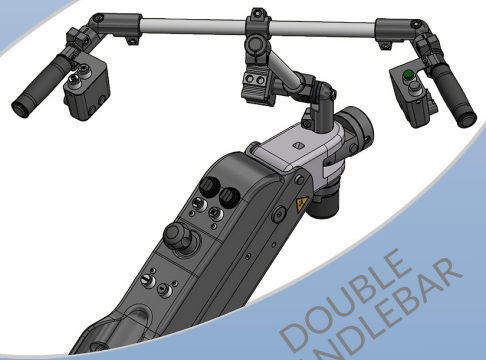
HANDLEBAR



BOTTOM MOUNT

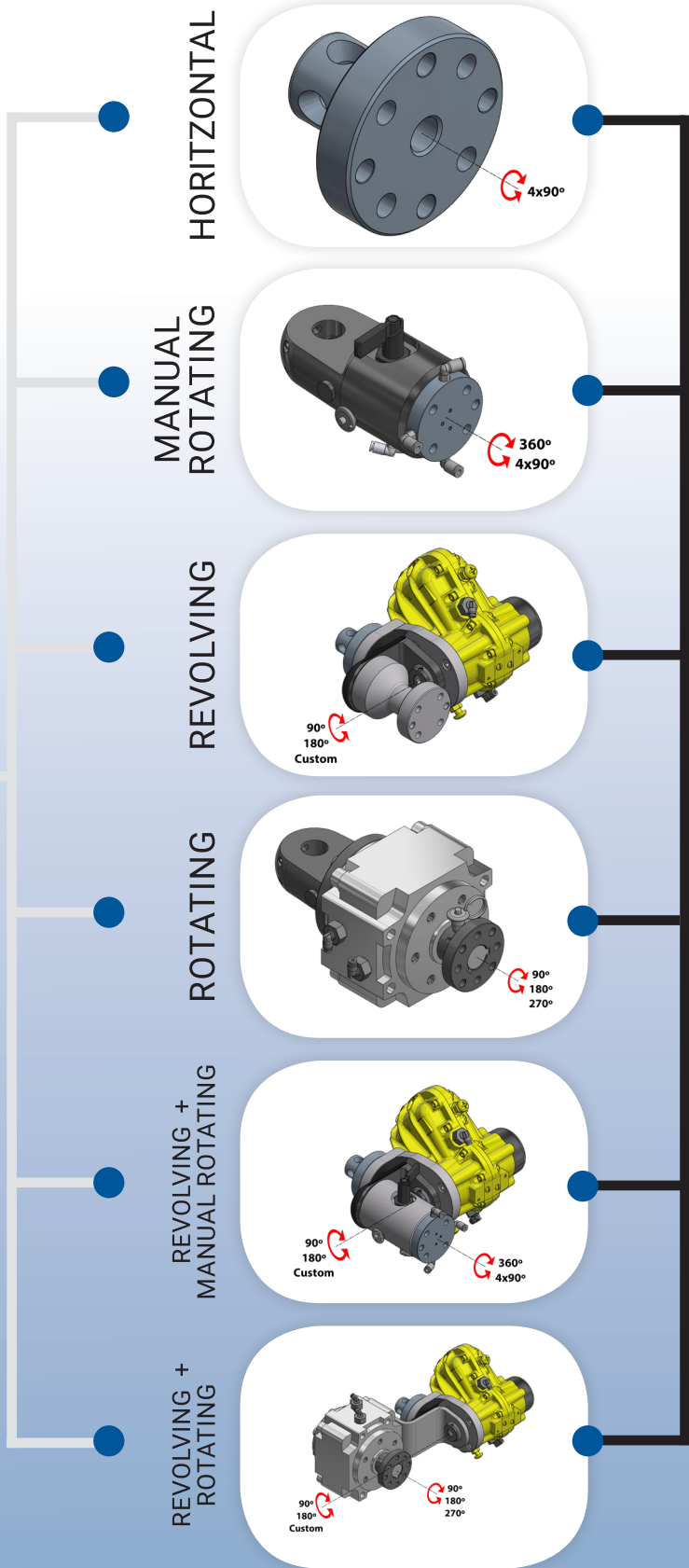


DOUBLE HANDLEBAR

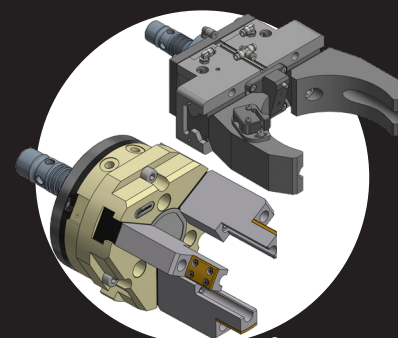


AUTOMATIC DOUBLE HANDLEBAR

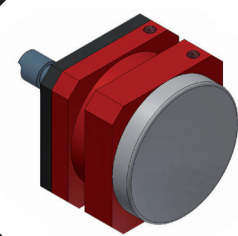




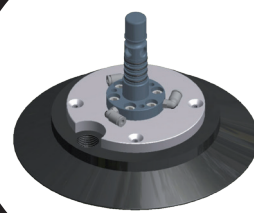
Gripping Systems



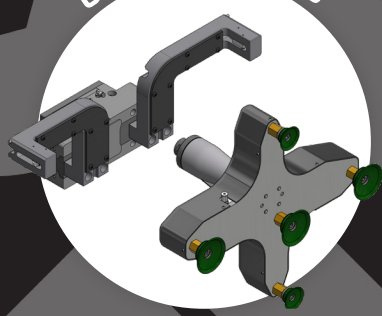
GRIPPER



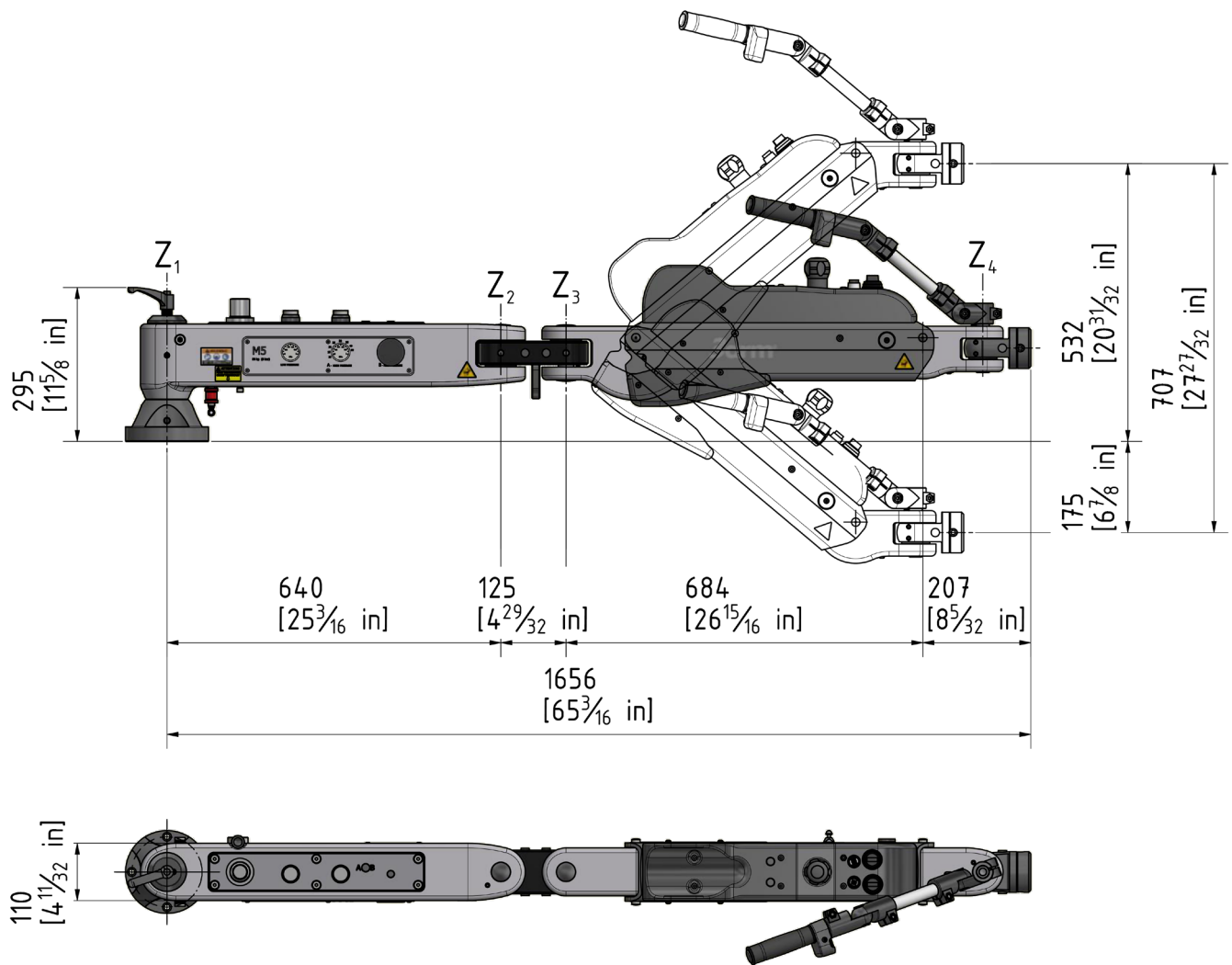
MAGNET



VACUUM



CUSTOMIZED



## M5 FEATURES

### PNEUMATIC SPECIFICATIONS

Supply fluid	Pressurized air
Max. pressure of air supply	0.85 Mpa (8,5 bar)
Max. working pressure	0.8 Mpa (8 bar)
Maximum instantaneous consumption	515 dM3/min

### MOVEMENTS

ZX Plane	± 40°
Working radius in XY plane	1656 mm (65.7")
Z1 Axis	360°
Z2 Axis	180°
Z3 Axis	180°
X Axis	360°/ 4 x 90°
Vertical stroke	707 mm (28")

### DIMENSIONS AND WEIGHT

Height	339 mm (20.4")
Length	952 mm (59.1")
Width	262 mm (4.5")
Weight	39 Kg (66 lb)

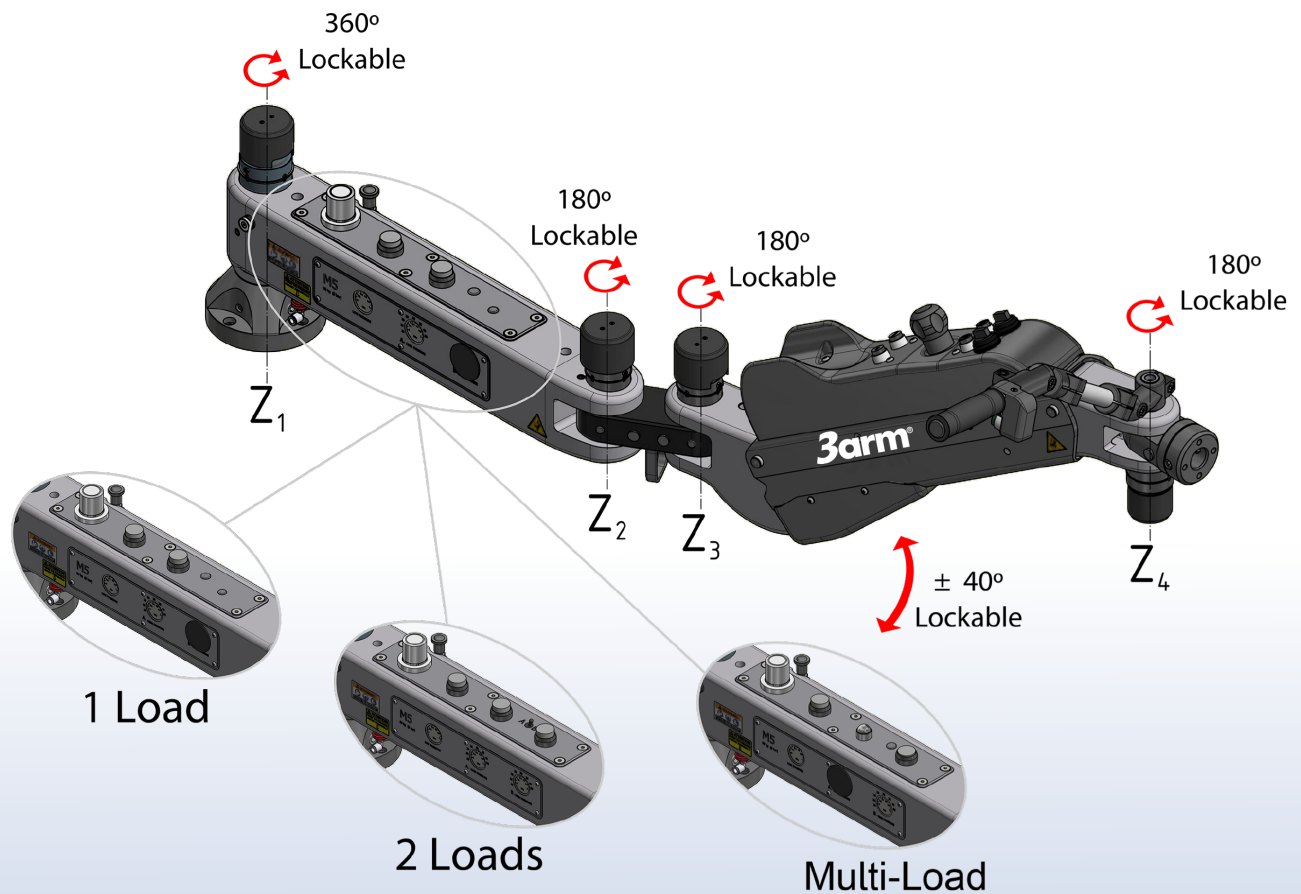
### WORKING CONDITIONS

Temperature	+15 a +45°C
Relative humidity	Max. 70%
Environment	Indoor industrial settings

### LOAD CAPACITY

Maximum net load, range	0-50Kg (0-110 lb)
Maximum net load	50 Kg (110 lb)
Maximum gross load (load gripping system + load to be manipulated)	62Kg (136 lb)

# BRAKE OPTIONS & LOADS



**MANIPULATOR M5** can be equipped with pneumatic brakes to completely lock all the axis of the arm allowing to move and lock in position the part or product to manipulate.

- ◆ 1 LOAD: Two pneumatic circuits: the first one always keeps the arm balanced; the second one provides to always keep the weight of the load balanced.
- ◆ 2 LOADS: Three pneumatic circuits: the first one always keeps the arm balanced; second & third allow to have 2 different load weights always balanced.
- ◆ MULTI LOAD: Two pneumatic circuits: the first one always keeps the arm balanced; the second one allows the arm to have any load weight balanced.

## MANIPULATOR M3

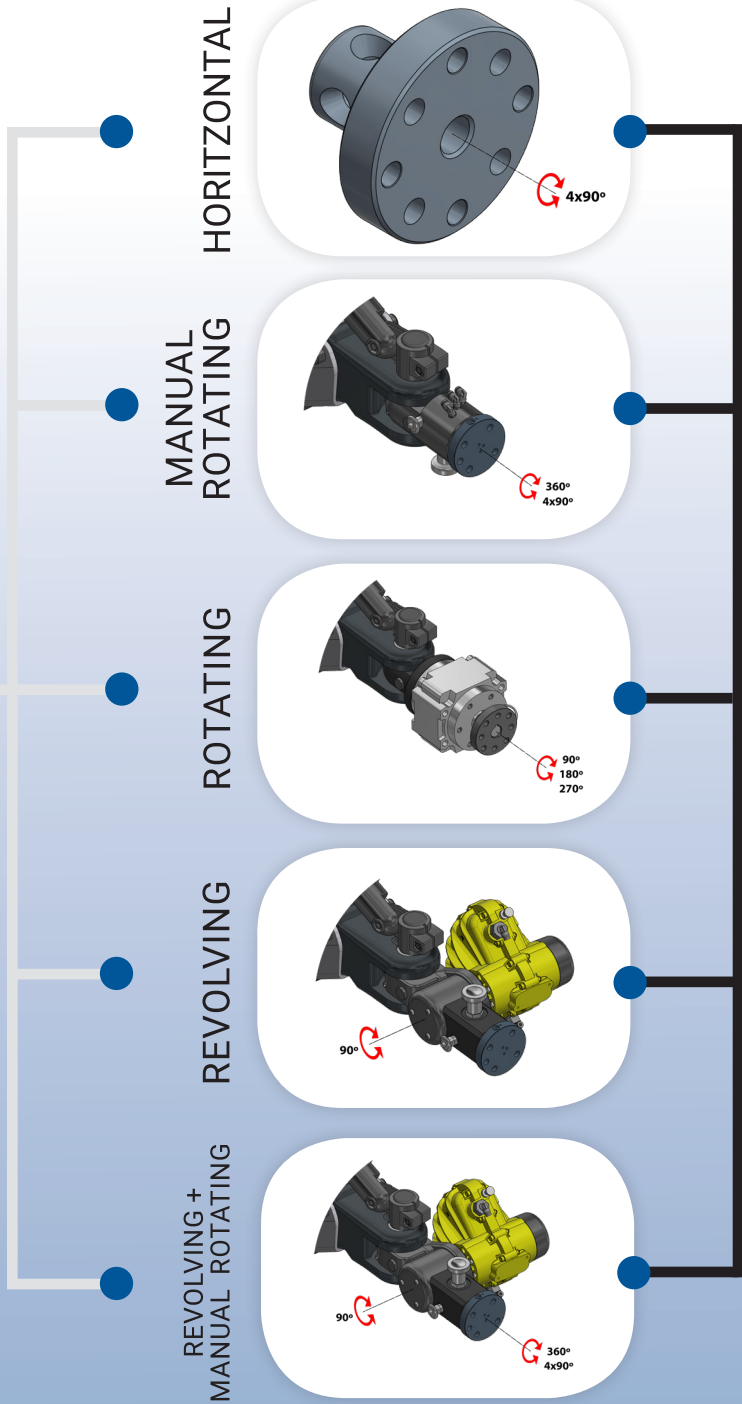
Being the lightest manually controlled load manipulator, is particularly easy to handle.

The **3arm Manipulator M3** can be equipped with a variety of specialty gripping tools. It is engineered to manually handle, center and set loads of up to **25kg in a weightless condition, in any direction.** The Manipulator aids the operator in precise ergonomic work handling, effortlessly and safely.

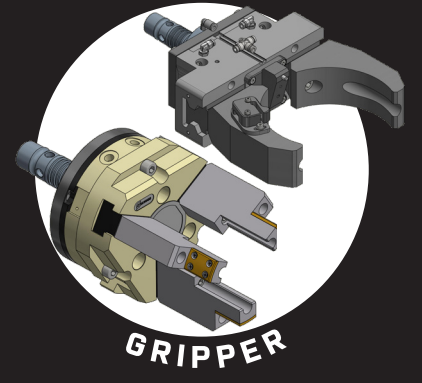
The M3 offers a wide variety of configurations to move parts to and from conveyors, assembly lines, machine tools and much more.



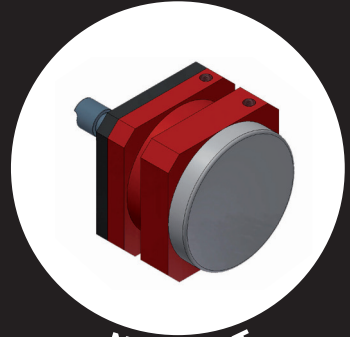




Gripping Systems



GRIPPER



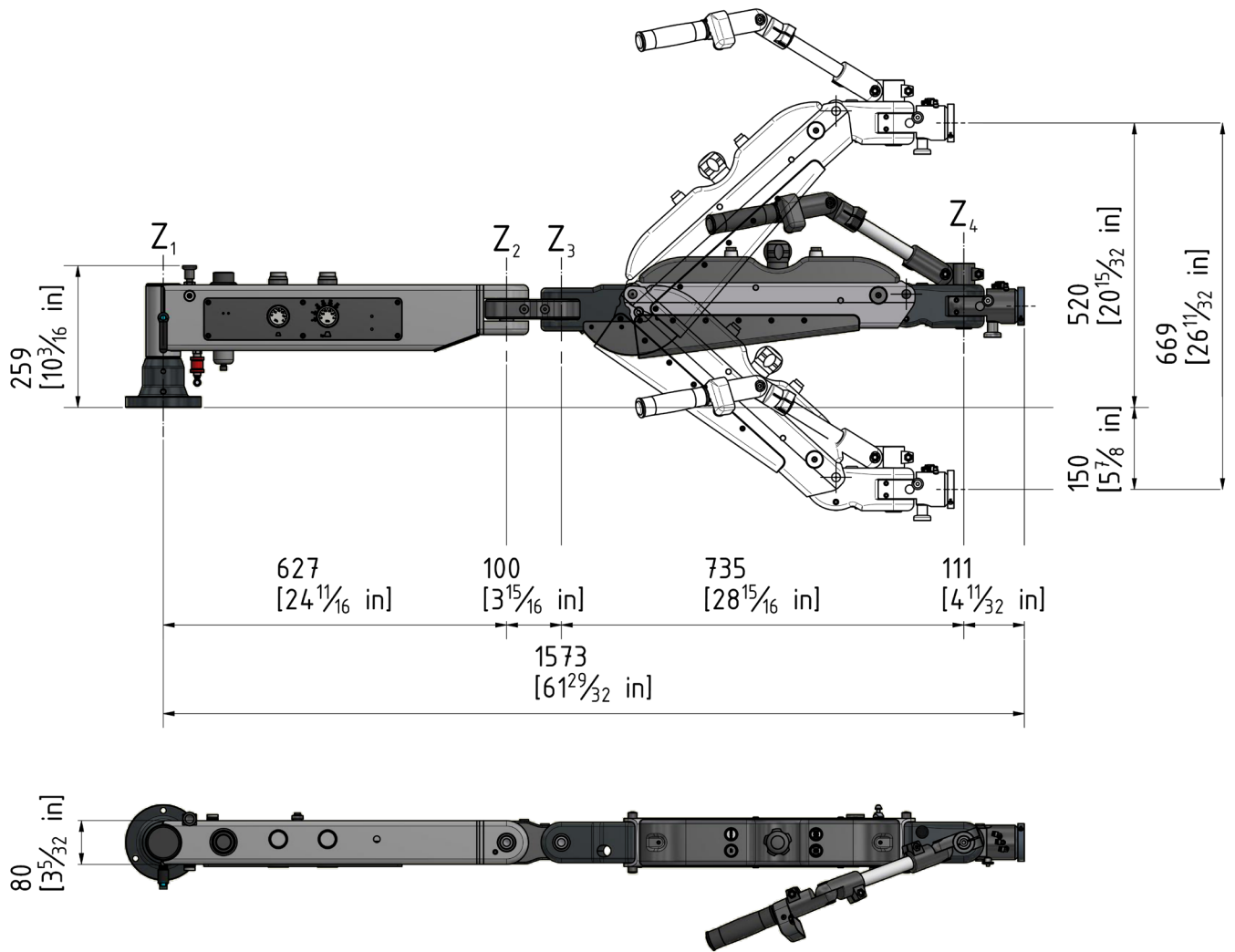
MAGNET



VACUUM



CUSTOMIZED



## M3 FEATURES

### PNEUMATIC SPECIFICATIONS

Supply fluid	Pressurised air
Max. pressure of air supply	0.8 Mpa (8 bar)
Max. working pressure	0.7 Mpa (7 bar)
Maximum instantaneous consumption	325.5 dM3/min

### MOVEMENTS

ZX Plane	± 42°
Working radius in XY plane	1573 mm (61.9")
Z1 Axis	360°
Z2 Axis	180°
Z3 Axis	180°
Z4 Axis	180°
Vertical stroke	669 mm (26.3")

### DIMENSIONS AND WEIGHT

Height	325 mm (12.8")
Length	886 mm (34.9")
Width	220 mm (8.7")
Weight	30 Kg (66 lb)

### WORKING CONDITIONS

Temperature	-10 to +50°C
Relative humidity	Max. 70%
Environment	Internal industrial

### LOAD CAPACITY

Maximum net load, range	0-25Kg (0-55 lb)
Maximum net load	25 Kg (55 lb)
Maximum gross load (load securing device + load to be handled)	35Kg (77lb)

Manufacturing Industry Worker

# INJURY

SOURCE: U.S. BUREAU OF LABOR STATISTICS

## PREVENT THE PROBLEM WITH

### MOST COMMON TYPE OF INJURY



Sprains and Strains



Cuts and Lacerations



Fractures



Weightload is Taken Off of the Worker



Worker Can Be More Productive with Less Strain



Eliminate the Most Common Causes of Worker Injury

### MOST COMMON CAUSE OF INJURY



Overexertion



Repetitive Motions



Struck, Cut or Caught by Equipment

### WORKER SAFETY



Worker's Limbs are Kept at a Safe Distance from



Get the Tool into Tight Spaces, While Keeping Workers Safe.



Eliminate the High Costs of Worker Injury



SHOULDERS

HANDS

BACK

KNEE

ANKLES

## ACCESSORIES

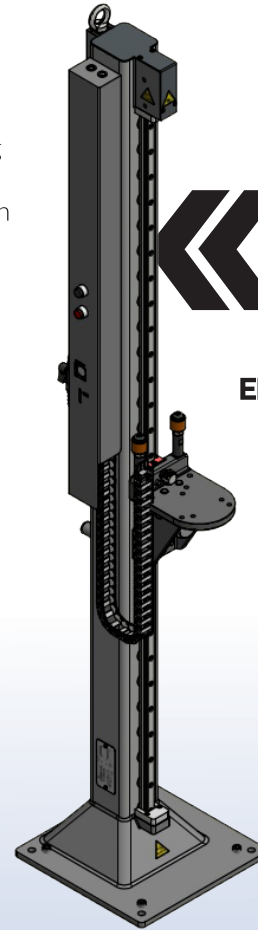


**MOUNTING COLUMN**  
From 400 to 1400 mm



**TROLLEY WITH COLUMN**

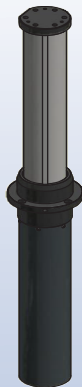
Add mobility and reach by mounting your 3arm® on a Trolley with Column



Achieve extreme vertical reach with an Elevator

**ELEVATOR D100**

1500 mm  
2000 mm  
2500 mm



**LIFTER PR**  
300 / 500 mm



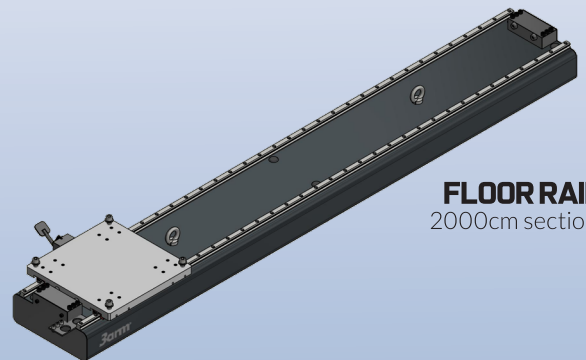
Add even more vertical reach with your Column



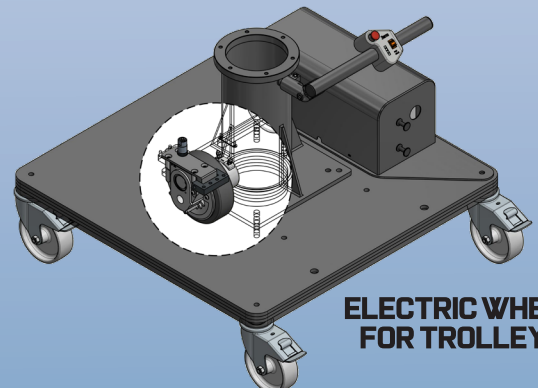
**EXTENSION ARM 600**



**EXTENSION ARM 1000**



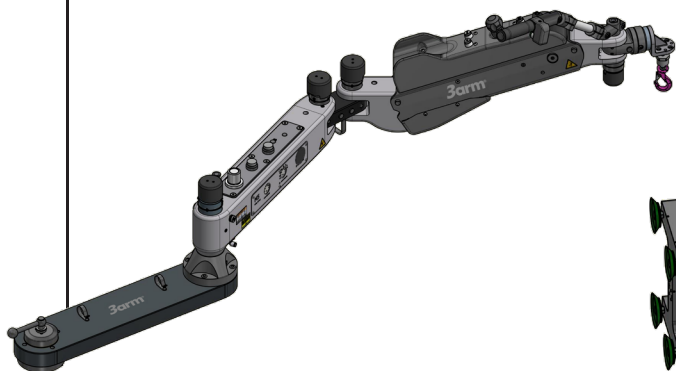
**FLOOR RAIL**  
2000cm sections



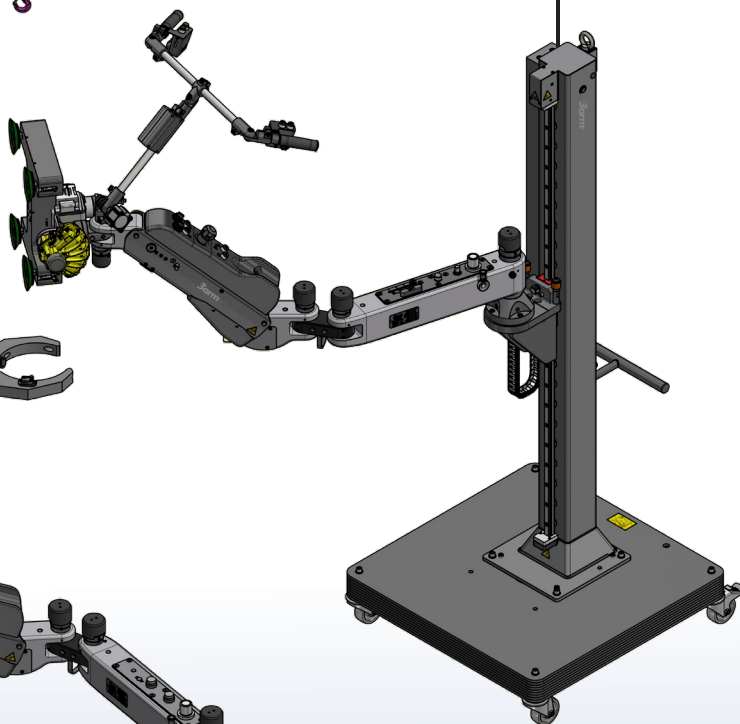
**ELECTRIC WHEEL FOR TROLLEYS**

# COMPATIBILITIES

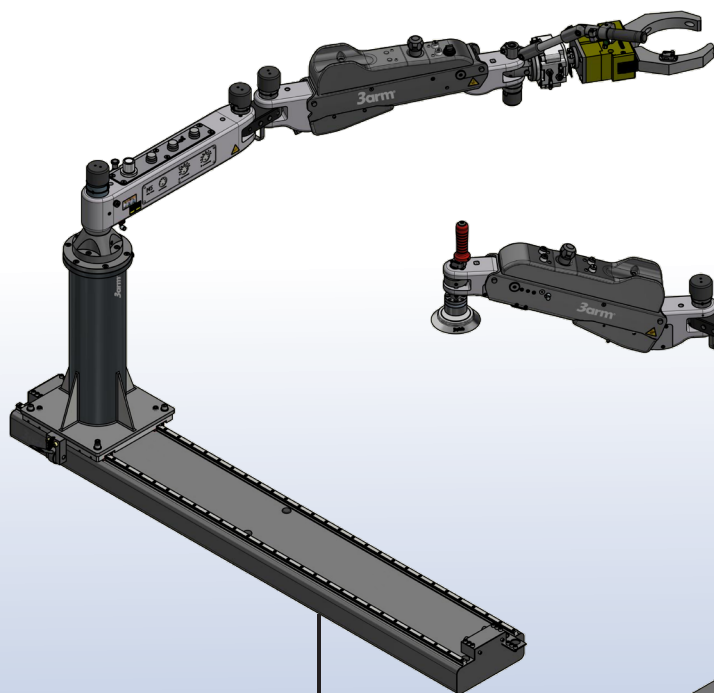
**RADIAL EXTENSION (600MM)**



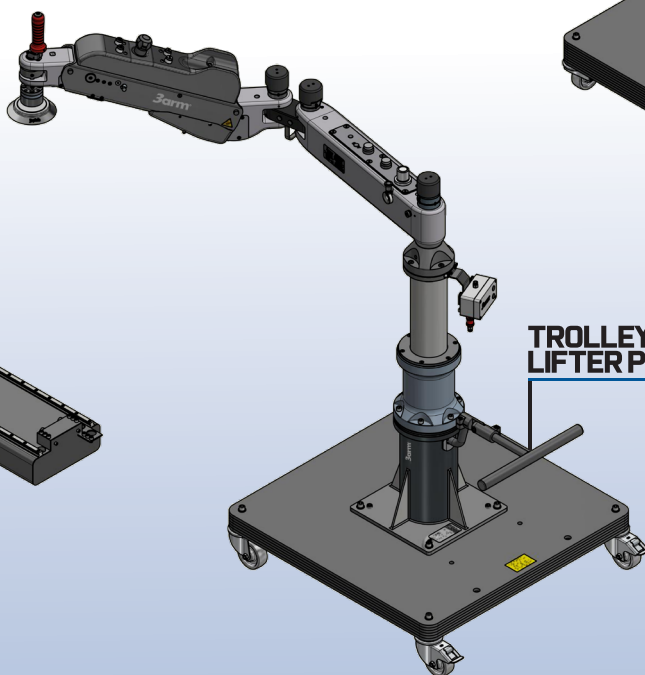
**ELEVATOR 2000 D100 + TROLLEY**



**FLOOR RAIL (2M) + COLUMN**



**TROLLEY + LIFTER PR (500MM)**



	Extension 600	Extension 1000	Trolley	Fix Column PR	Lifter PR	Floor Rail	Elevator 2000 D100
Extension 600		●	●	●	●	●	●
Extension 1000	●		●	●	●	●	●
Trolley	●	●		●	●	●	●
Fix Column PR	●	●	●		●	●	●
Lifter PR	●	●	●	●		●	●
Floor Rail	●	●	●	●	●		●
Elevator 2000 D100	●	●	●	●	●	●	

Compatible ● Incompatible ● Consult ●

COMPATIBILITY CHART

## APPLICATION QUESTIONNAIRE

1.

### CONTACT DETAILS

Name:

Phone:

Company:

Website:

Email:

State/Country:

2.

### TYPE OF LOAD/PART

Part material:

(Wood, Metal, Ceramic, Glass...)

Please provide 3D Model

(\*stp or \*iges format)

Dimensions (mm):

Weight to manipulate (kg):

3.

### WORKING CONDITIONS

Pick up point

Release point

A

mm

Specify fixture angle rotation if needed

MAX

Pick up (mm)

2000

1500

1000

500

0

Release (mm)

2000

1500

1000

500

0

MIN

FLOOR

FRONT VIEW

V axis angle range (Revolving)

90°  Others

U axis angle range (Rotating)

90°  180°  270°

\*In case of top mount, indicate dimension Z

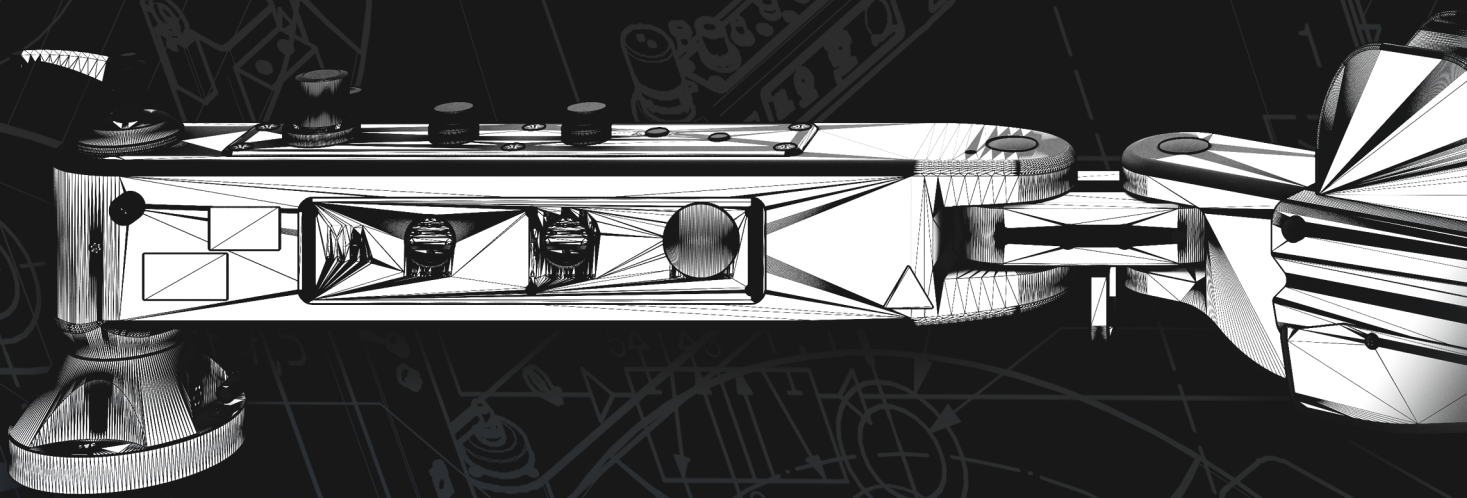
Units for weight (Kg), Height & Reach A & Z (mm). For other units, please indicate.

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# ERGONOMICS IN YOUR HANDS

[www.3arm.net](http://www.3arm.net)



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