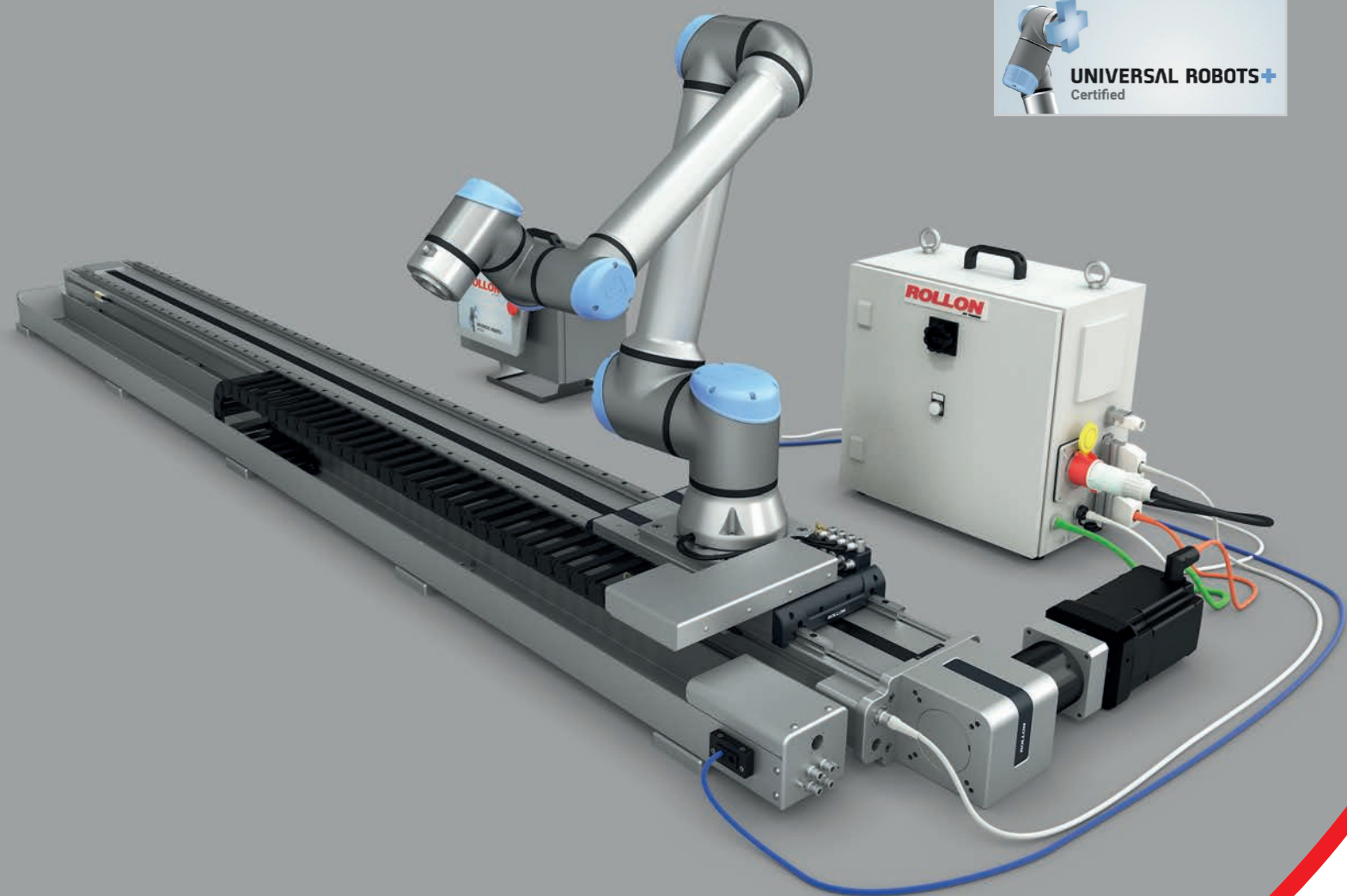
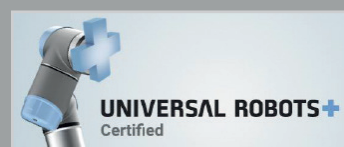


ROLLON®
BY TIMKEN

Actuator System Line

Cobot Transfer Unit



**Cobot Transfer Unit
for UR cobots**

English

Interactive catalogs
on: www.rollon.com



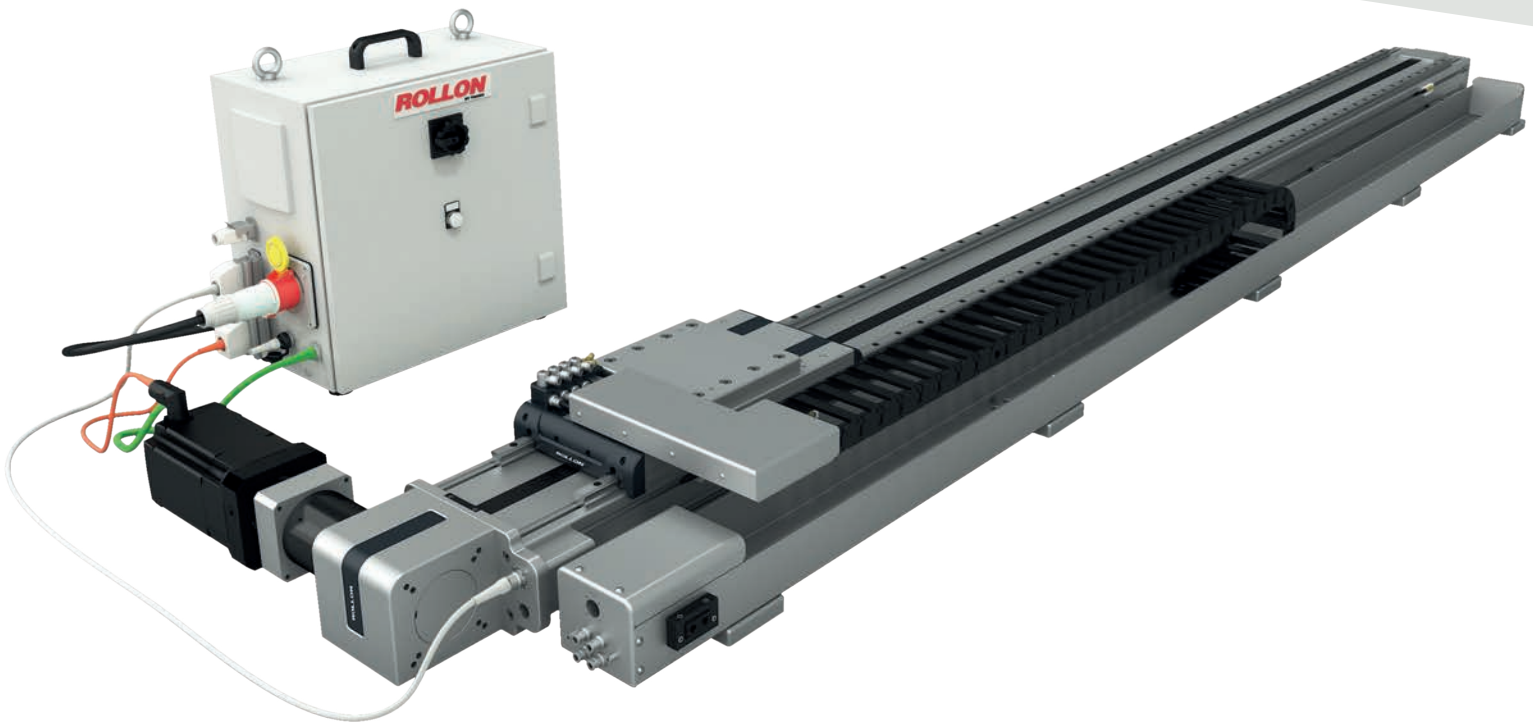
Cobot Transfer Unit

A full range of belt driven Cobot Transfer Units (CTU) for improving the reach of each size of UR Cobot. Rollon CTU comes as a plug and play kit which can be installed and put into operation in few steps.



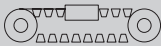
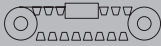
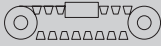
UNIVERSAL ROBOTS CERTIFIED

The Rollon CTU has been tested and certified by Universal Robot to easily integrated with their UR3e, UR5e, UR10e, UR10CB and UR16e cobots.



WHAT IS INCLUDED

Rollon CTU includes: axis, motor, drive, gearbox, energy chain with cables, Rollon electrical cabinet, sensors, High-Flex cable and Rollon URcap software.

Cobot Transfer Unit		Robot			
Series	Driving System	Brand	Model	Payload [KG]	Weight [KG]
CTU 130-1I		UR	UR3e	3	11
CTU 160-1I		UR	UR5e	5	20
CTU 220-1I		UR	UR10e - 10CB; UR16e	10-16	33

ROLLON ELECTRICAL CABINET

The Rollon CTU is provided with an electrical cabinet, including sensors and associated cables.



- 1 Lifting eyebolts
- 2 General knob to power up the Rollon cabinet
- 3 White power indicator light (24V)
- 4 Cable connection area

Cobot Transfer Unit

Main Features



PLUG & PLAY FEATURES

1 Rollon URCap software and hardware

Rollon URCap is the dedicated software for Universal Robot teach pendant. It simplifies the programming and the control of all the features, allowing to easily program advanced functions and to control up to 6 external axes.

2 Universal Robot tested and certified

The Rollon CTU has been tested and certified by Universal Robot to easily integrated with their UR3e, UR5e, UR10e, UR10CB and UR16e cobots.

3 Rollon electrical cabinet

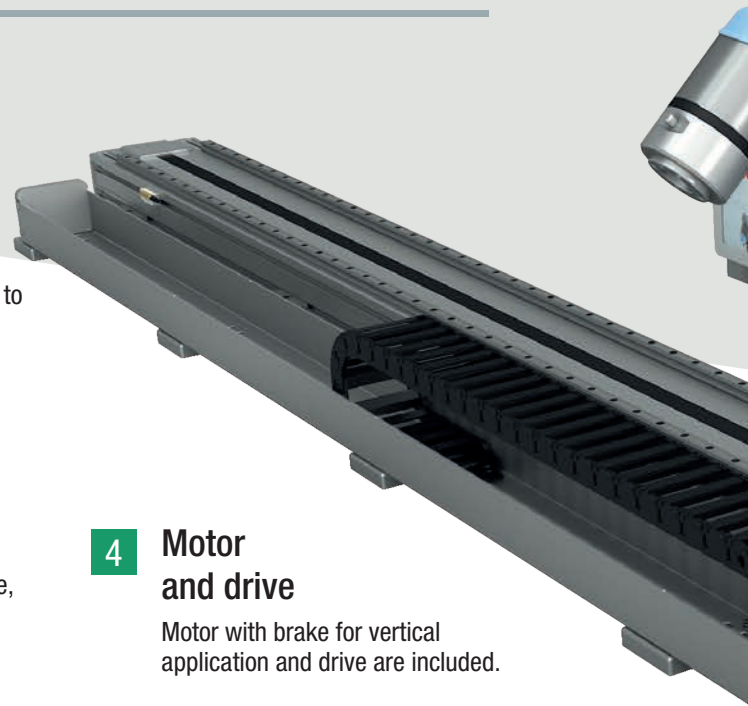
The CTU is provided with an electrical compact cabinet. The cabinet is CE-UL - CSA certified. Multi-voltages for different countries.

4 Motor and drive

Motor with brake for vertical application and drive are included.

4 Electric and pneumatic power supply on board

Certified, silenced and compact energy chain, ideal for continuous automated cycles. High-Flex cable and air tubes are included.



SAFETY FEATURES

1 External safety sensors

Ready to accommodate external safety sensors, such as laser scanners, radars, optical scanners and sensitive safety skins.

2 Emergency functions

CTU stops when UR cobot's security function stops.

3 Dynamic optimization

CTU speed and acceleration optimized for UR cobot.
 $V = 1,5\text{m/s}$ $A = 3\text{m/s}^2$

4 Emergency stop button

CTU and UR stop simultaneously using the Estop button (manually actuated).



AXIS FEATURES

1 Stroke

The max stroke length is 5.500 mm, with steps of 500 mm.

2 Pre-selected Gearbox

CTU is a turnkey solution that comes with a pre-selected gearbox.

3 Security brakes

Security brakes are available as an option.

4 Simplified mounting and alignment

Dedicated connecting plate on the carriage to assemble the UR cobot quickly and easily. Integrated leveling feet to compensate eventual misalignment.

5 Multiple configurations

Versatile for multiple configurations and combinations: horizontal and vertical mount.

6 Proximity Sensors

Equipped for proximity sensors.

> *Cobot Transfer Unit*



Product Explanation

Cobot Transfer Unit (CTU): more productivity for your robot, with simplicity and reliability. CU-2
UR+ Certification CU-3

What is included

Rollon CTU CU-4
Rollon electrical cabinet CU-5
Rollon URCap software CU-5

Product specifications

CTU 130-1I for UR3 CU-6
CTU 160-1I for UR5 CU-7
CTU 220-1I for UR10 and UR16 CU-8
Rollon cabinet dimensions, Kit-cable, Air connection CU-9

Accessories

T-Nuts, Pneumatic clamping elements CU-10

Technical instructions

Mounting options, Leveling feet, Anchoring the CTU CU-11
Cable carrier, High-Flex cable, Gearbox and servo motor CU-12
Lubrication of the blocks, Sensors and cams CU-13
Profile specifications CU-14
Robot connecting plate CU-15

Ordering key

CTU CU-16

Warnings and legal notes

Product Explanation



> Cobot Transfer Unit (CTU): more productivity for your robot, with simplicity and reliability.

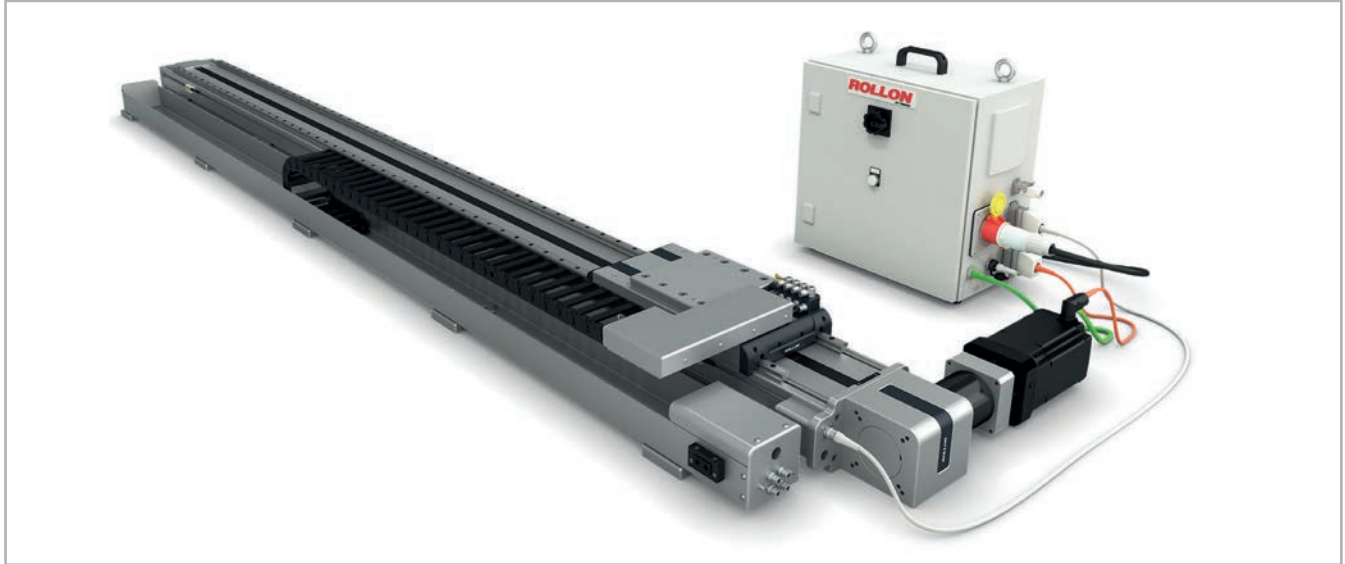


Fig. 1

Cobot Transfer Unit (CTU) is a turnkey solution system that increases the UR robot's productivity by extending its operating range, by enabling the Robot to be transferred over more than 5m. All supported by Rollon's decades of experience in designing and manufacturing linear motion components that are globally recognized for their high quality, reliability and top performance.

CTU is designed to be the best-in-class axis for UR robots, featuring a stiff extruded aluminium profile that protects the internal steel reinforced polyurethane belt drive. The carriage is supported by extremely rigid recirculating ball guides and can reach long strokes up to 5500mm – with extensions available on request. All the edges of the heads and the carriage itself have been rounded to make the product even more user-friendly.

Rollon CTU comes as a plug and play kit which can be installed and put into operation in few steps. It includes: an axis sized according to the robot, Rollon URCap software with hardware included in the electrical cabinet, gearbox, motor and drive, proximity sensors and cables. Rollon URCap is the dedicated software for Universal Robot teach pendant, it simplifies the programming and the control of all the features, allowing to easily program advanced functions and to control up to 6 external axes. Different safety options, such as a laser scanner, can be integrated into the system to further enhance the overall system safety. Additional brakes on the carriage can be added as an option.

The system is suitable for both horizontal and vertical assembly in different industries and applications, such as material handling, assembly, machine tending, dispensing, quality inspection and finishing.

The main advantages of Cobot Transfer Unit are:

- Turnkey solution with premium design and components.
- Plug-and-play: assemble the robot and start programming.
- Intuitive and advanced program functions.
- Manual with assembling, programming and troubleshooting instructions provided.
- Customer support and service.

System requirements:

- Power supply: 380-480 V (power cable supplied with plug IEC 60309 4 pins 3P + E)
- UR model: CB series robot 3.1 onwards e-Series robot with Base Flange Connector. This is found on new e-Series systems, with part numbers 1103xx (eg. 110305 for UR5e w. Base Flange Connector).
- Polyscope software 3.6 or higher.

> UR+ Certification**UNIVERSAL ROBOTS+**

Notice of Certification

This certificate serves to document the successful test of below mentioned product by Universal Robots. The below mentioned product have by the issue of this document earned the right to bear the seal;



Product:

CTU – Cobot Transfer Unit

Vendor:

Rollon S.p.A.

Date of certification:

08.09.2021

What is included



> Rollon CTU

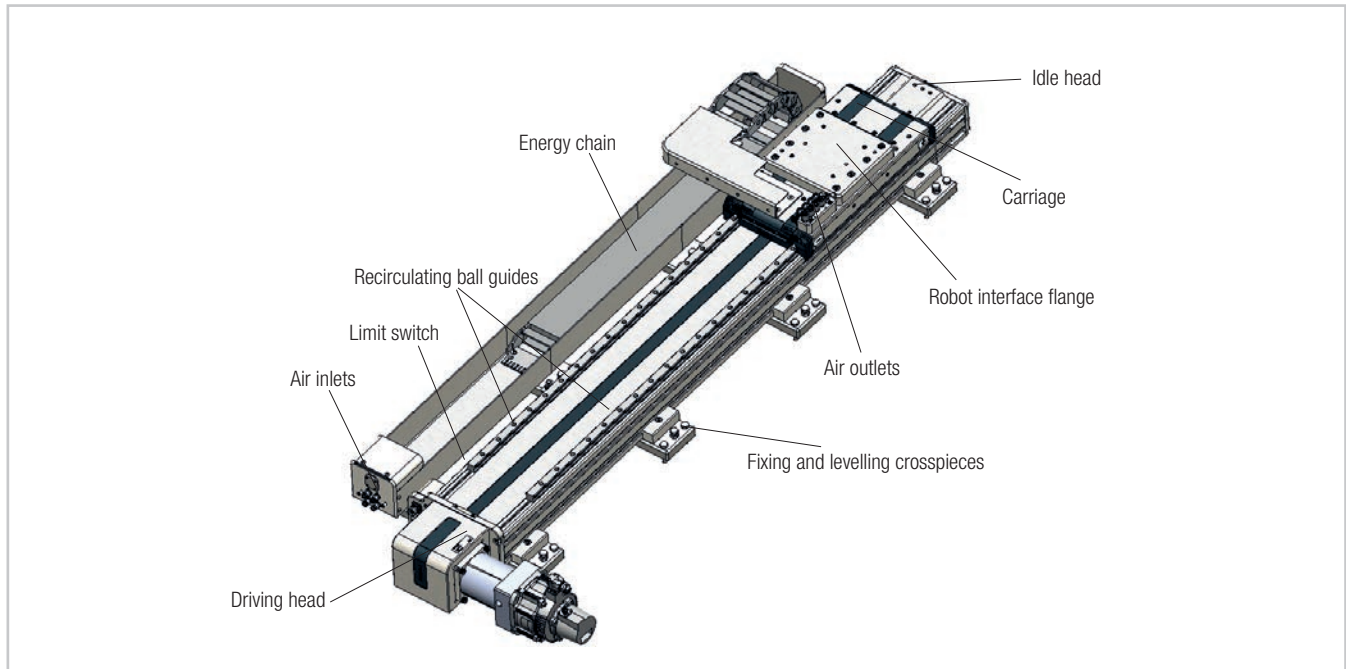


Fig. 2

CTU system is made up of:

- Rollon Seventh Axis
- Rollon electrical cabinet
- Connection cables
- Fixing and leveling screws
- High-flex robot power and signal cable
(The components must be assembled)
- Motor and drive
- Pre-selected Gearbox
- Certified, silenced and compact energy chain, ideal for continuous automated cycles. High-Flex cable and air tubes are included.
- Steel reinforced belt drive covered inside the profile with polyurethane sealing strip.
- High performance recirculating ball guides with pockets for lubrication intervals up to 5000km.
- Pneumatic clamping system available as an option.

Main features:

- Aluminum profile extruded with elaborate geometries to combine high stiffness with lightness, enabling horizontal and vertical mounting.
- Adjustable levelling feet to avoid machining the basement and limit the stress caused by uneven surfaces.
- Unique interface for electrical and pneumatic cable connections to power the tools at the end of the robot arm.
- Safe specifications: the carriage stops with the robot stop or with a robot condition, heads and carriage edges are rounded, limit switches avoid overtravel.
- Dedicated connecting plate on the carriage to assemble the UR robot quickly and easily.

For the complete instructions to handle, anchor and set-up CTU download the Assembly Manual on www.rollon.com



> Rollon electrical cabinet

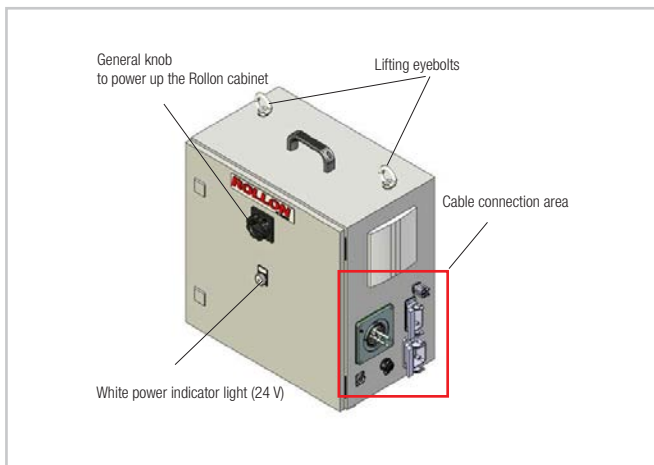


Fig. 3

Main features:

- Compact cabinet that protects all the components.
- External connectors for cables.
- CE- UL - CSA certified.
- Multi-language cabinet connection diagram.
- Multi-voltages for different countries (380-480 V).
- Possibility to plug different I/O systems.

> Rollon URCap software



Fig. 4

Main features:

- Easy to install and setup on UR teach pendant.
 - It supports both E-Series and CB-Series (see "System requirements" on pg. CU-2).
 - Fast and user-friendly programming through the "Program" tab of the UR teach pendant.
 - Advanced program functions allow the user to set homing, the manual positions for the carriage and the travel speed according to the application.
 - Control up to 6 external axis.
 - Debug functions for error handling alarms.
- Instructions on how to solve errors are listed in the manual.
- Free software download and updates on www.rollon.com

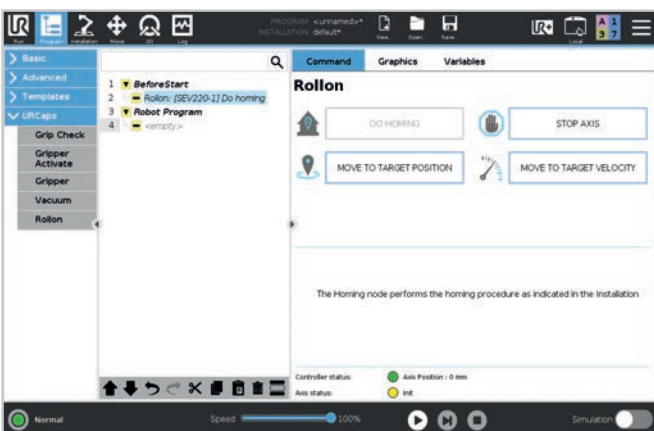


Fig. 5

For the complete instructions to handle, anchor and set-up CTU download the Assembly Manual on www.rollon.com



Product specifications



> CTU 130-1I for UR3

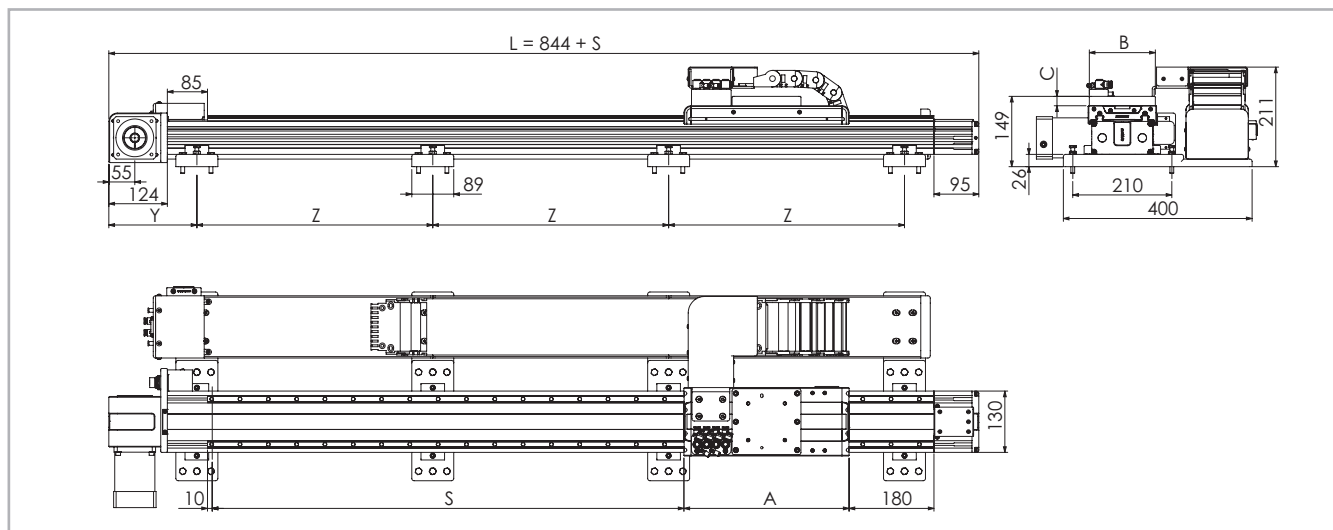


Fig. 6

Technical data

Type	Size	Max speed [m/s]	Max acceleration [m/s²]	Repeatability* [mm]	Rail size [mm]
CTU	130-1I	1.5	3.0	0.25	15

* The gearbox is included

Tab. 1

Belt specifications

Type	Size	Belt type	Belt width [mm]	Belt weight [Kg/m]	Pulley pitch diameter [mm]	Carriage displacement per pulley turn [mm]
CTU	130-1I	50 AT 10	50	0.29	54.11	170

Tab. 2

Axis dimensions

Type	Size	Stroke* S [mm]	Total length L [mm]	Levelling feet			Robot signal cable length** [mm]	Weight [kg]
				Nb. of feet	Y [mm]	Z [mm]		
CTU	130-1I	500	1344	3	186.5	500	6000	46
		1000	1844	4			6000	55
		1500	2344	5			6000	64
		2000	2844	6			6000	73
		2500	3344	7			6000	81
		3000	3844	8			12000	90
		3500	4344	9			12000	99
		4000	4844	10			12000	108
		4500	5344	11			12000	116
		5000	5844	12			12000	125
		5500	6344	13			12000	134

* Longer strokes available on request. Please contact our Technical Department. ** See page CU-12 to calculate the exceeding length out from the cable carrier.

Tab. 3

Carriage dimensions

Type	Size	A [mm]	B [mm]	C [mm]	Weight [Kg]
CTU	130-1I	350	145	50.5	11.3

Tab. 4

> CTU 160-1I for UR5

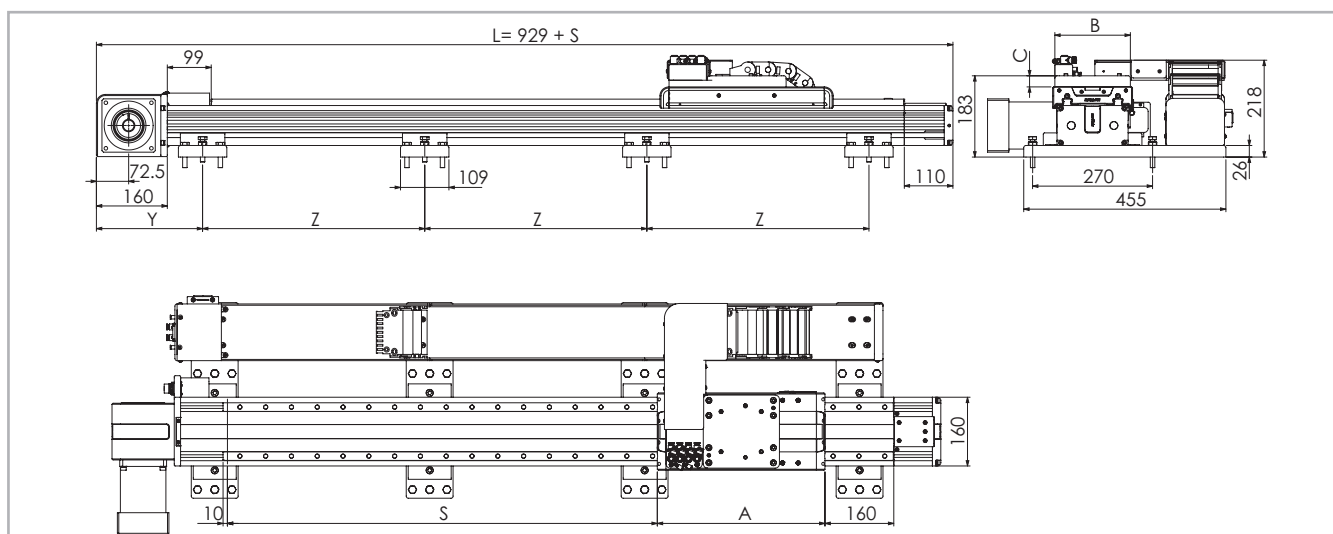


Fig. 7

Technical data

Type	Size	Max speed [m/s]	Max acceleration [m/s ²]	Repeatability* [mm]	Rail size [mm]
CTU	160-1I	1.5	3.0	0.3	20

* The gearbox is included

Tab. 5

Belt specifications

Type	Size	Belt type	Belt width [mm]	Belt weight [Kg/m]	Pulley pitch diameter [mm]	Carriage displacement per pulley turn [mm]
CTU	160-1I	70 AT 10	70	0.41	70.03	220

Tab. 6

Axis dimensions

Type	Size	Stroke* S [mm]	Total length L [mm]	Levelling feet			Robot signal cable length** [mm]	Weight [kg]
				Nb. of feet	Y [mm]	Z [mm]		
CTU	160-1I	500	1429	3	239	500	6000	73
		1000	1929	4			6000	88
		1500	2429	5			6000	103
		2000	2929	6			6000	117
		2500	3429	7			6000	130
		3000	3929	8			12000	145
		3500	4429	9			12000	159
		4000	4929	10			12000	174
		4500	5429	11			12000	188
		5000	5929	12			12000	202
		5500	6429	13			12000	216

* Longer strokes available on request. Please contact our Technical Department. ** See page CU-12 to calculate the exceeding length out from the cable carrier.

Tab. 7

Carriage dimensions

Type	Size	A [mm]	B [mm]	C [mm]	Weight [Kg]
CTU	160-1I	390	180	63.5	12.6

Tab. 8
CU-7

> CTU 220-1I for UR10 and UR16

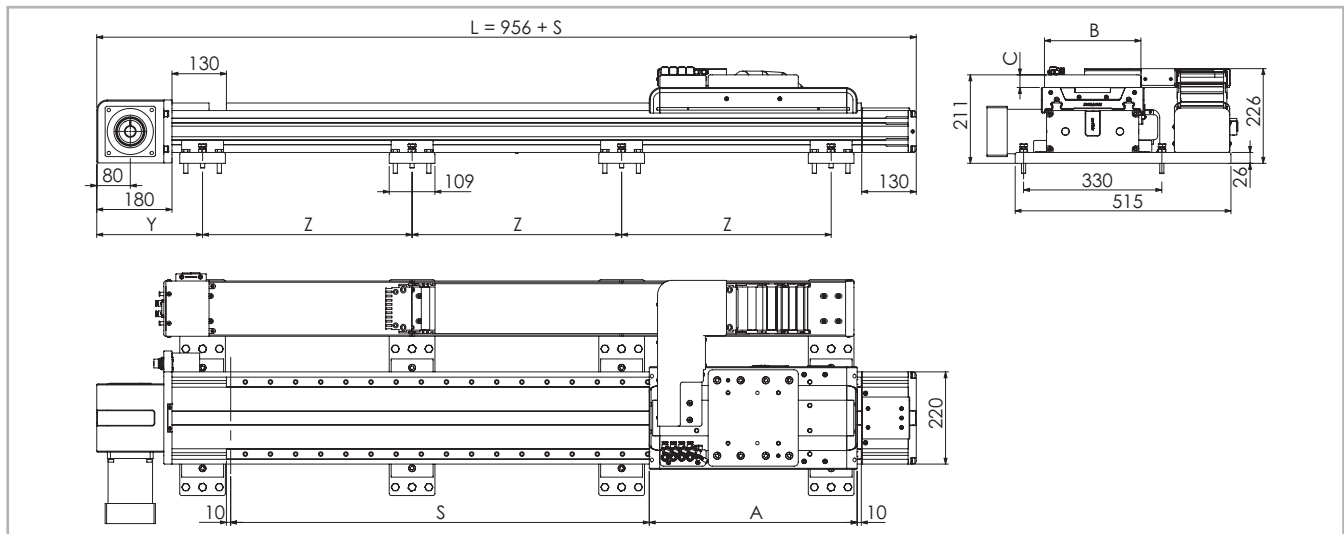


Fig. 8

Technical data

Type	Size	Max speed [m/s]	Max acceleration [m/s ²]	Repeatability* [mm]	Rail size [mm]
CTU	220-1I	1.5	3.0	0.3	25

* The gearbox is included

Tab. 9

Belt specifications

Type	Size	Belt type	Belt width [mm]	Belt weight [Kg/m]	Pulley pitch diameter [mm]	Carriage displacement per pulley turn [mm]
CTU	220-1I	100 AT 10	100	0.58	79.58	250

Tab. 10

Axis dimensions

Type	Size	Stroke* S [mm]	Total length L [mm]	Levelling feet			Robot signal cable length** [mm]	Weight [kg]
				Nb. of feet	Y [mm]	Z [mm]		
CTU	220-1I	500	1456	3	252.5	500	6000	99
		1000	1956	4			6000	114
		1500	2456	5			6000	133
		2000	2956	6			6000	150
		2500	3456	7			6000	167
		3000	3956	8			12000	185
		3500	4456	9			12000	202
		4000	4956	10			12000	219
		4500	5456	11			12000	236
		5000	5956	12			12000	254
		5500	6456	13			12000	271

* Longer strokes available on request. Please contact our Technical Department. ** See page CU-12 to calculate the exceeding length out from the cable carrier.

Tab. 11

Carriage dimensions

Type	Size	A [mm]	B [mm]	C [mm]	Weight [Kg]
CTU	220-1I	496	245	81.8	23.5

Tab. 12

> Rollon cabinet dimensions

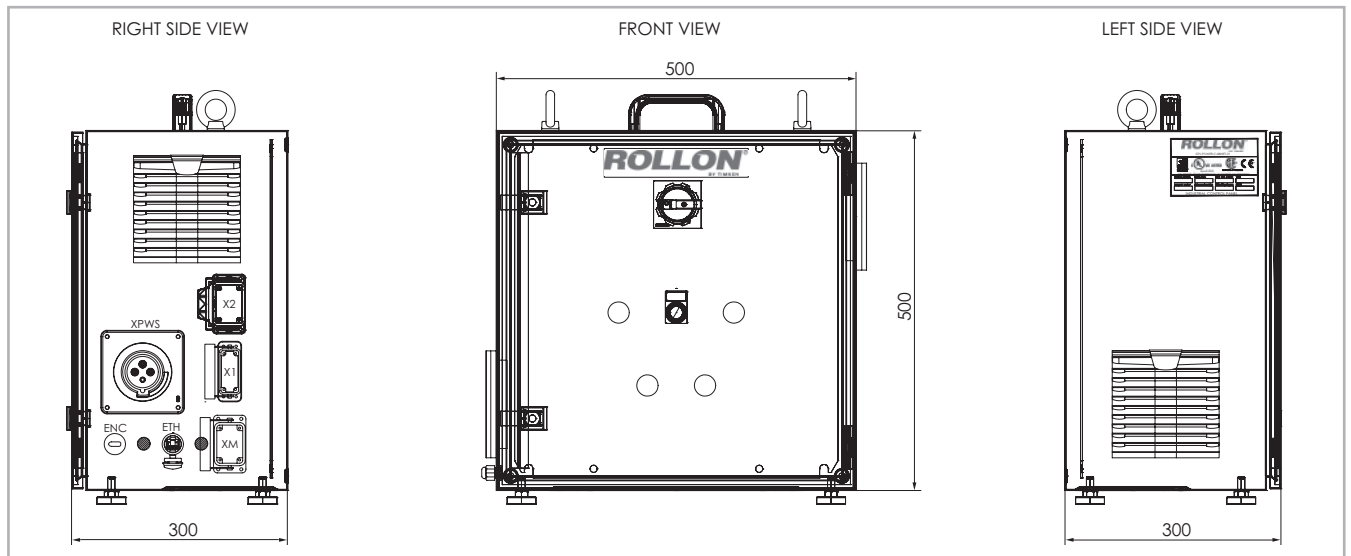


Fig. 9

> Kit-cable

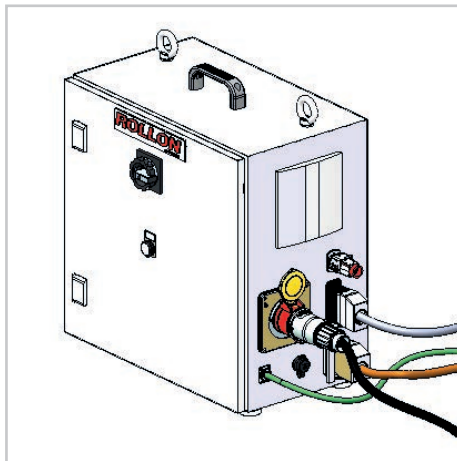


Fig. 10

Kit-cables allow the connection of the electrical cabinet to the axis, the motor and the robot power cabinet. Two different versions of the kit-cables are available, each contains all cables listed below in the same length: 3 m or 5 m.

The kit includes the following cables:

- Motor power
- Motor signals
- Electrical cabinet power
- Sensors power
- Ethernet

All cables are supplied with the plugs on both ends installed.

> Air connection

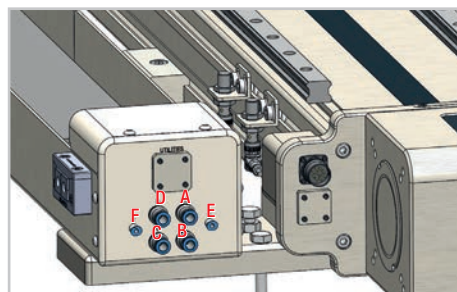


Fig. 11

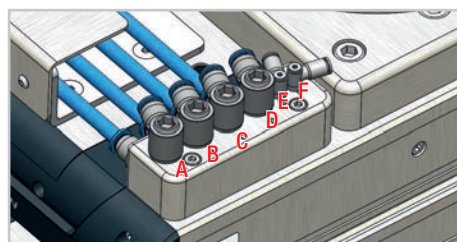


Fig. 12

When installed the air ports allow to power the robot accessories or activate the clamping elements. Air inlets are placed at the end of the cable carrier support frame (see fig. 11) and air outlets on the carriage (see fig. 12).

Accessories

✓

> T-Nuts

T-nuts

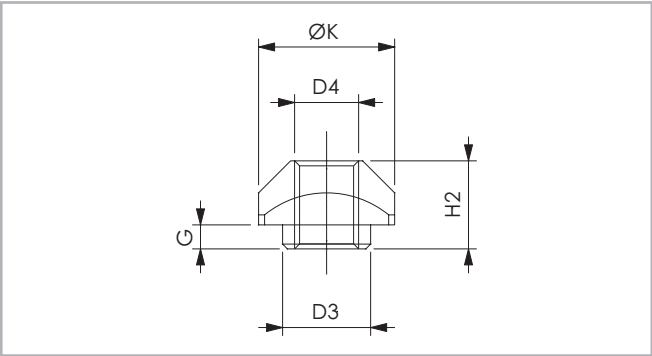


Fig. 13

Steel nuts can be used in the lateral slots of the body.

Dimensions (mm)

Unit	D3	D4	G	H2	K	Code
ROBOT 130	8	M6	3.3	8.3	13	1000043
ROBOT 160	11	M8	2.8	10.8	17	1000932
ROBOT 220	11	M8	2.8	10.8	17	1000932

Tab. 13

> Pneumatic clamping elements

Dedicated pneumatic clamping elements are available for every size of the CTU and must be requested at time of order, using the specific code (see pg. CU-16). When provided with brakes, the carriage presents open sides as shown in the picture.

The system must be connected to an air pressure supply of 5.5 bars. The air pressure holds the clamping elements open, and in case the air supply is cut they close on the two rails with the total clamping force shown in the table below.

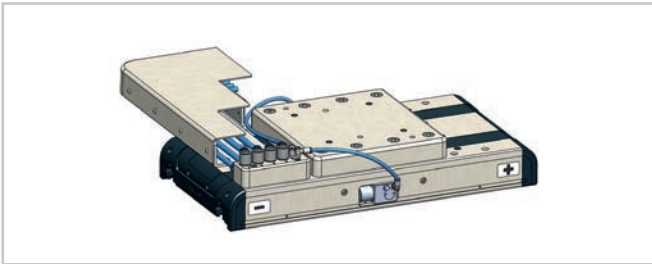


Fig. 14

Axis type	Clamping force [N]
CTU130-11	800
CTU160-11	1200
CTU220-11	1500

Tab. 14

Technical instructions



> Mounting options

CTU's features may change according to the working orientation. Please specify prior to ordering if vertical or horizontal mounting is needed, as shown on pg. CU-16.

Horizontal mount



Fig. 15

Vertical mount



Fig. 16

> Leveling feet

Before placing the CTU in the work position, all leveling screws must be set at the end of the stroke. Once the axis is in place, the levelling screw can be used to level it and compensate for misalignments caused by imprecise mounting surfaces and/or eventual misalignment of the support crosspieces. After levelling, the two fixing screws must be blocked.

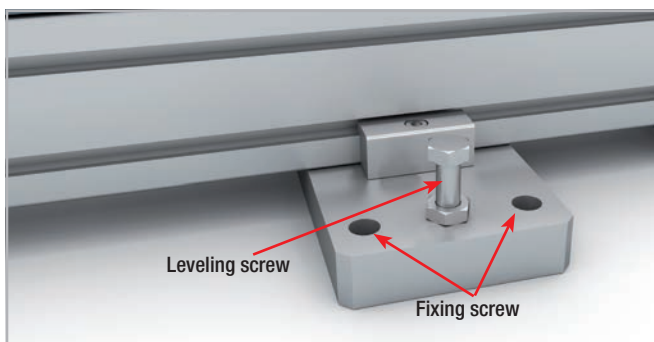


Fig. 17

Type	Size	Levelling screw	Fixing screws
CTU	130-1l	M8	2 x M10
	160-1l	M10	2 x M12
	220-1l	M10	2 x M12

Tab. 15

> Anchoring the CTU

It is possible to anchor the system to a cement floor through the fixing holes, either by inserting steel rawl bolts or by using threaded bars with chemical anchor bolts inserted into the floor.

Therefore, make sure that:

If using steel rawl bolts, the embedment length of the anchor screw must be at least 1.5 times the diameter. For correct anchoring, follow the directions provided by the bushing manufacturer:

- For M8 screws: $8 \times 1.5 = 12$ mm embedment;
- For M10 screws: $10 \times 1.5 = 15$ mm embedment;

Fig. 18

If anchoring with threaded bars, make sure to insert the bar into the floor with a chemical anchor that is at least 9 times its diameter:

- For M8 screws: $8 \times 9 = 72$ mm embedment;
- For M10 screws: $10 \times 9 = 90$ mm embedment;

Fig. 15

For the complete instructions to handle, anchor and set-up CTU download the Assembly Manual on www.rollon.com



> Cable carrier

CTU features a high stability, low-noise, long service life cable carrier. As standard, the cable carrier is available with snap-open feature along inner or outer radius. It is positioned on the opposite side of the motor.

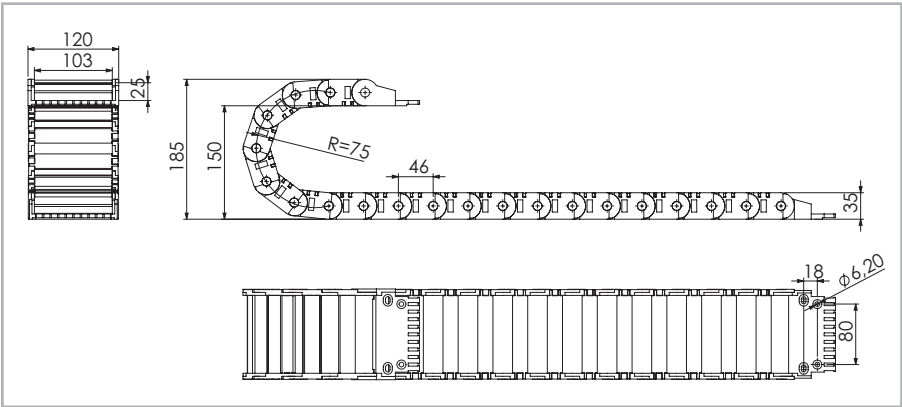


Fig. 19

> High-Flex cable

High-Flex cable comes pre-installed in the CTU cable carrier and is sized in lengths of 6m or 12m, based on the stroke of the axis. The length of the cable for each axis stroke is listed on the tables of each unit (see from pg. CU-6 to CU-8). A certain amount of the total length of the cable is used to cover for the stroke. To determine the residual length available outside the cable carrier, we recommend using the following formulas:

CTU130-1I = Cable length - Actuator stroke - 1200
CTU160-1I = Cable length - Actuator stroke - 1250
CTU220-1I = Cable length - Actuator stroke - 1300

Fig. 20

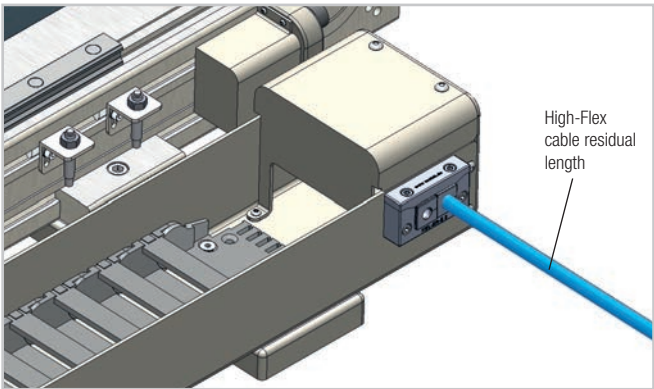


Fig. 21

> Gearbox and servo motor

CTU is a turnkey solution that comes with pre-selected, sized, components, including gearbox and servo motor. Each size of CTU is supplied with a dedicated low backlash gearbox to ensure high reliability and optimal response to the different applications requirements. Equally, each size also has its high-performance, brushless rotary servo motor, carefully sized to optimized power consumption and weight/performance ratio. These motors stand out for their compactness, responsiveness, precision and long-term reliability. For vertical mounted CTU, motors also feature brakes.

Type	Size	Gearbox (included)
CTU	130-1I	MP080
	160-1I	MP105
	220-1I	MP105

Tab. 16

Type	Size	Mounting configuration	Motor (included)
CTU	130-1I	Horizontal	SGM7G-05D
		Vertical	SGM7G-09D
	160-1I	Horizontal	SGM7G-09D
		Vertical	SGM7G-09D
	220-1I	Horizontal	SGM7G-09D
		Vertical	SGM7G-13D

Tab. 17

> Lubrication of the blocks

CTU features rails with self-lubricating recirculating ball bearings blocks. The special lubricant tanks installed on the fronts of blocks release the right quantity of lubricant in the areas where the ball bearings support the applied loads. This system guarantees long maintenance intervals: every 5000 km or once a year, according to the value reached first. In addition, the blocks also feature a retaining cage that eliminates the “steel on steel” contact between adjacent rolling elements and prevents the misalignments of these parts in the circuits.

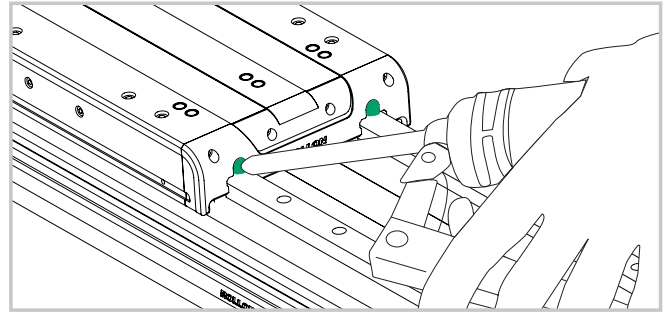


Fig. 22

Instructions for a proper lubrication:

- Insert the dispensing nozzle into the specific lubricator.
- Type of lubricant: class NLGI 2 lithium soap based grease.
- More frequent lubrication is necessary for heavy duty applications or difficult environmental conditions.

Quantity of grease necessary for re-lubricating each of the 4 blocks.

Type	Quantity [cm³]
CTU130-1I	0.7
CTU160-1I	1.4
CTU220-1I	2.4

Tab. 18

For the grease compatibility table download the Assembly Manual on www.rollon.com



> Sensors and cams

CTU is supplied with stroke limit and homing sensors and cams.

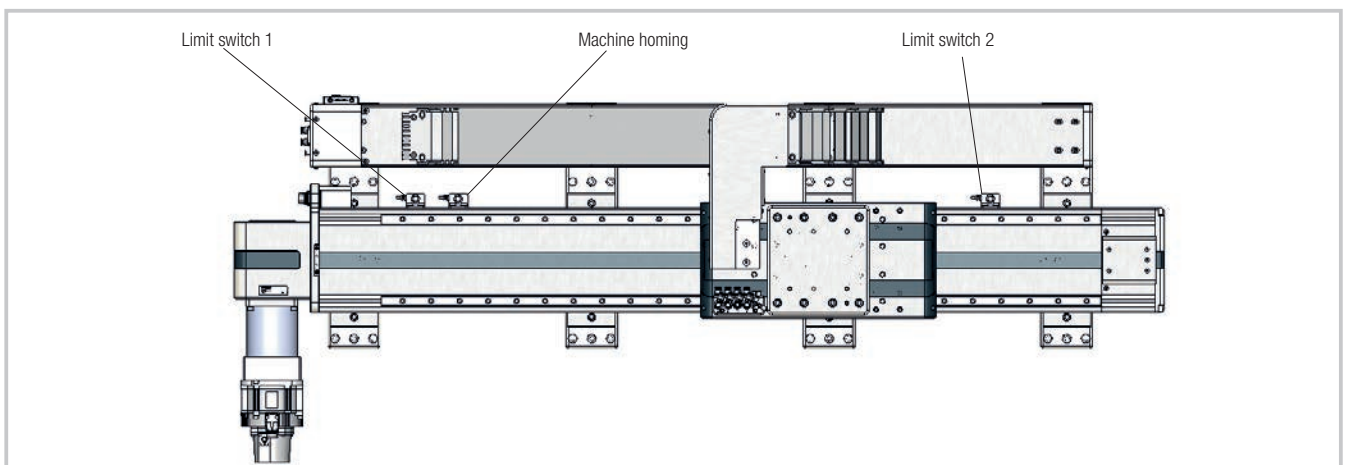


Fig. 23

> Robot connecting plate

The robot connecting plate allows fastening of the UR robot to the carriage quickly and easily. It is custom machined by Rollon to fit the mounting holes of the UR robot base, for which the axis will be used.

CTU130-11

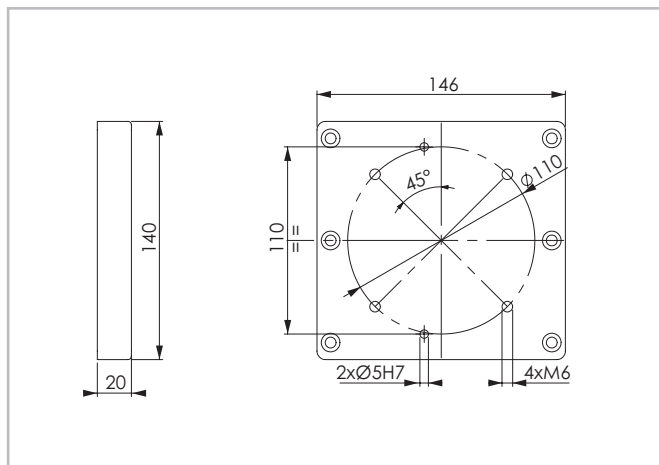


Fig. 27

CTU160-11

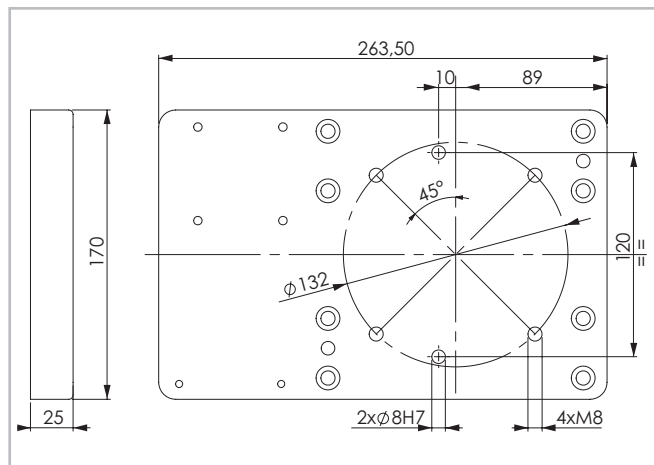


Fig. 28

CTU220-11

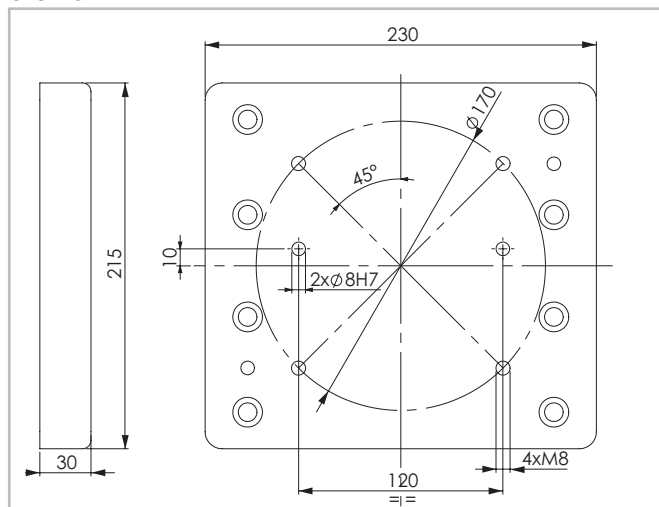


Fig. 29

Ordering key

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>

CTU

CTU	130-1I	-5000	-V	C	E	3	
							Kit-cables length (3 m or 5 m)
							Robot type (only for CTU 220-1I: B=CB-series, E=E-series)
							Optional clamping elements (if needed)
							Mounting configuration H = Horizontal V = Vertical
							Stroke
							Size
							Type

Notes on ordering: the axis stroke length code is always 4 digits. Please use zero as a prefix if ordering stroke 500 mm
CTU130-1I-0500-H; CTU160-1I-2000-VC; CTU220-1I-3000-H-B; CTU220-1I-3000-VC-B.

Warnings and legal notes



The Partly Completed Machinery shown in this manual is to be considered a mere supply of simple Cartesian axes and their accessories agreed when the contract is stipulated with the client.

The following are therefore to be considered excluded from the contract:

1. Assembly on the client's premises (direct or final)
2. Commissioning on the client's premises (direct or final)
3. Testing on the client's premises (direct or final)

It is therefore understood that the aforementioned operations in points 1., 2., and 3. are not chargeable to Rollon.

Rollon supplies Partly Completed Machinery. The client (direct or final) is responsible for testing and verifying that the equipment is safe, which by definition cannot be theoretically verified or tested at our premises. The partly completed machine must not be commissioned until the final machine, in which it is to be incorporated, has been declared compliant, if necessary, with the instructions in Machinery Directive 2006/42/CE.

CTU is not a "collaborative" equipment.



It is mandatory to carefully consult this manual prior to incorporating the Partly Completed Machinery. The information contained in the following manual is for highly qualified and certified personnel, possessing adequate competence in incorporating the partly completed machinery.



The system was designed following the agreements and the instructions provided by the client. The manufacturer cannot be considered responsible for any consequences derived from improper use or any use other than the purpose the system was designed for, or derived from failure to comply, during incorporation phases, with the rules of Good Technique and with what is indicated in this manual.



Do not overload. Do not subject to bending forces.



To avoid damage, do not work on this machinery with unsuitable tools.



Do not leave exposed to weather.



Warning: moving parts. Do not leave objects on the axis.



Before handling, stabilize the axis by securely blocking its mobile parts. When handling axes with vertical translation, it is mandatory to make sure the carriage is at the corresponding lower limit switch. Consult the image below and the pertinent chapter.



Make sure that the system is installed on a level floor surface.



During use, **carefully comply with** the specific performance values stated in the catalog



Precaution in installation and handling operations. Significantly heavy equipment.



When handling the actuator, always make sure that the support or anchoring surfaces do not leave room for bending.



The images in this manual are to be considered **merely an indication and not binding**; therefore, the supply received could be different from the images contained in this manual, and Rollon S.p.A has deemed it useful to insert only one example.



Motor and gearbox generate heat during operation. Do not touch the motor/gearbox while in operation or immediately after operation, as prolonged contact can cause discomfort. Cool the motor/gearbox by powering off the system and wait.



Hazardous voltage.
Turn power off before commissioning or servicing.



Make sure all electrical parts remain dry. In case of contact with water, switch the power off immediately.



Systems supplied by Rollon S.p.A. are not designed/ envisaged to operate in ATEX environments.



Prevent dust from entering the electrical cabinet.

> Residual risks

The linear axis has the following residual risks:

- Mechanical risks due to the presence of moving elements;
- Risk of fire resulting from the flammability of the belts used on the axes, for temperatures more than 250 °C in contact with the flame;
- The risk of the vertical axis dropping during handling and installation operations on the partly completed machinery, before commissioning;
- Risk of the vertical axis dropping during maintenance operations in the case of a drop in the electrical power supply voltage;
- Crushing hazard near moving parts with divergent and convergent motion;
- Cutting and abrasion hazards.

> Warranty conditions

Rollon S.p.A. provides the following warranty pursuant to art. 1512 of the Italian Civil Code: the proper function of its products for the period of one year from their delivery, when their concrete application is suggested by the Technical or Commercial Office of our company and as long as any reports of malfunction are submitted in writing within eight days from their discovery. This warranty does not cover damage or defects due to external agents, insufficient maintenance, overloading, use of improper lubricant, natural use, inexact product choice, assembly errors or other causes attributable to improper use and not attributable to the manufacturing of the product.

The warranty is limited to repair and/or replacement, excluding claims for further damages.

> ISO 9001:2015

Rollon S.p.A. is certified ISO 9001:2015.

Starting in 1995, Rollon has defined and built its own quality management system to ensure that Client expectations and needs are satisfied, conformity with standards and contractual specifications are guaranteed, and efficient management of its corporate activities is achieved.

Within this scope, the as in this sense, Rollon has identified its management and production processes, and designed the sequences and interactions, criteria and control methods to include and implement, analyses and measurements to record, and the actions that may be necessary to obtain the expected results.

> Environmental indications

Environmental protection is very important for Rollon, and therefore its operations are done with the goal of limiting environmental impact. The indications listed below are to ensure correct management of our supply.

Our products are mainly composed of:

Material	Details of the supply
Aluminum alloys	Profiles, plates, various details
Steel with various compositions	Screws, and rails
Plastic	PA6 - Chains PVC - Covers and sliding block scrapers
Rubber of various types	Plugs, seals
Lubrication of various types	Used for the lubrication of sliding rails and bearings
Rust proof protection	Rust proof protection oil
Wood, polyethylene, cardboard	Transport packaging

Tab. 1

At the end of the product's life cycle, it is therefore possible to recover the various elements, in compliance with current regulations on waste issues.



IMPORTANT!

The machine rails are protected with a layer of rust-proof oil or specific grease. Use suitable gloves when handling.

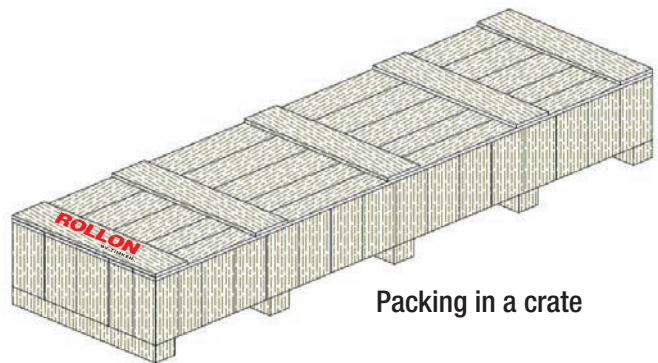
> Safety warnings for handling and transport

- The manufacturer has paid the utmost attention to packaging to minimize risks related to shipping, handling and transport.
- Transport can be facilitated by shipping certain components dismantled and appropriately protected and packaged.
- Handling (loading and unloading) must be carried out in compliance with information directly provided in this user manual.

- Personnel authorized to lift and handle the machine and its components must possess acquired and acknowledged skills and experience in the specific sector, besides having full control of the lifting devices used.
- Handling and transport must be carried out with vehicles presenting adequate loading capacity, and the machines must be anchored to the established points.
- During handling and if required by the conditions, have one or more people assist in order to ensure adequate warnings.
- If the machine has to be moved with vehicles, ensure that they are suitable for the purpose, and perform loading and unloading without risks for the operator and for people directly involved in the process.
- Before transferring the equipment onto the vehicle, ensure that both the quasi-machine and its components are adequately secured, and that their profile does not exceed the maximum bulk allowed. Place the necessary warning signs, if necessary.
- Unload the axes in the immediate vicinity of the area of installation, and store them in an environment protected against weather.
- Failure to comply with the information provided might entail risks for the safety and health of people, and can cause economic loss.
- The Installation Manager must have the project to organize and monitor all operative phases.
- The installation site must have adequate environmental conditions (lighting, ventilation, etc.).
- The installation site temperature must be within the maximum and minimum range allowed.
- Ensure that the installation site is protected against weather, does not contain corrosive substances, and is free of the risk of explosion and/or fire.
- Installation in environments presenting a risk of explosion and/or of fire must ONLY be done if the machine has been DECLARED COMPLIANT for such use.

> Packaging

- Packaging is done keeping in mind the bulk reduction.
- Transport can be facilitated by shipping certain components dismantled and appropriately protected and packaged.
- All necessary information for loading and unloading is written on the packaging.
- Every shipment is accompanied by a document ("Packing list") with the list and description of the axes.
- Packaging for maritime/air transport is the "barrier bag" type to guarantee preservation of the packaged elements.
- Bulk components are appropriately placed along with the axes (with or without packaging) to avoid sudden and unexpected movements.
- The packaging material must be appropriately disposed of in compliance with the legislation in force.



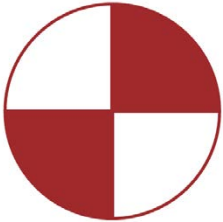
Packing in a crate

> Transport

- Transport, also based on the final destination, can be done with different vehicles.
- Perform transport with suitable devices that have adequate loading capacity.
- Ensure that the quasi-machine and its components are adequately anchored to the vehicle.
- Mobile parts of the system are blocked before handling and transport.

> Handling and lifting

Correctly connect the lifting devices to the established points on the boxes and/or on the packages.



Symbol indicating the center of mass of the package to handle



Symbol indicating the pick up points to use to lift the package

These symbols can be found on the Partly Completed Machinery or on the crate.

- Before handling, read the instructions, especially safety instructions, provided in the installation manual, on the packages and/or on the dismantled parts.
- DO NOT attempt, in any way, to bypass handling methods and the established lifting, moving and handling points of each package and/or dismantled part.
- Slowly lift the package to the minimum necessary height and move it with the utmost caution to avoid dangerous oscillations.
- Make sure you can see properly. DO NOT move the machine with an inadequate visual field and when there are obstacles along the route to the final location.
- DO NOT allow people to either transit or linger within the range of action when lifting and handling loads.
- Do not stack packages to avoid damaging them, and reduce the risk of sudden and dangerous movements.
- In case of prolonged storage, regularly ensure that there are no variations in the storage conditions of the packages.

> Check axis integrity after shipment

Every shipment is accompanied by a document ("Packing list") with the list and description of the axes.

- When a shipment is received, check to make sure that the materials received correspond to specifications in the delivery document.
- Check that packaging is perfectly intact and, check that each axis is intact.
- In case of damage or missing parts, contact the manufacturer to define the relevant procedures.

> Installation

- Fitting out the established location in advance makes it possible to avoid wasting the time of installation technicians.
- Evaluate in advance whether the machine must interact with other production units, and that integration can be implemented correctly, in compliance with standards and without risks.
- The manager shall assign installation and assembly interventions ONLY to authorized technicians with acknowledged know-how.
- State-of-the-art connections to power sources (electric, pneumatic, etc.) must be ensured, in compliance with relevant regulatory and legislative requirements.
- State-of-the-art connections, alignment and leveling are essential to avoid additional interventions and to ensure correct machine function.
- Upon completion of the connections, run a general check to ascertain that all work has been correctly carried out and to ensure compliance with requirements.
- Failure to comply with the information provided might entail risks for the safety and health of people, and can cause economic loss.



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SUPPORT & CUSTOMIZATION

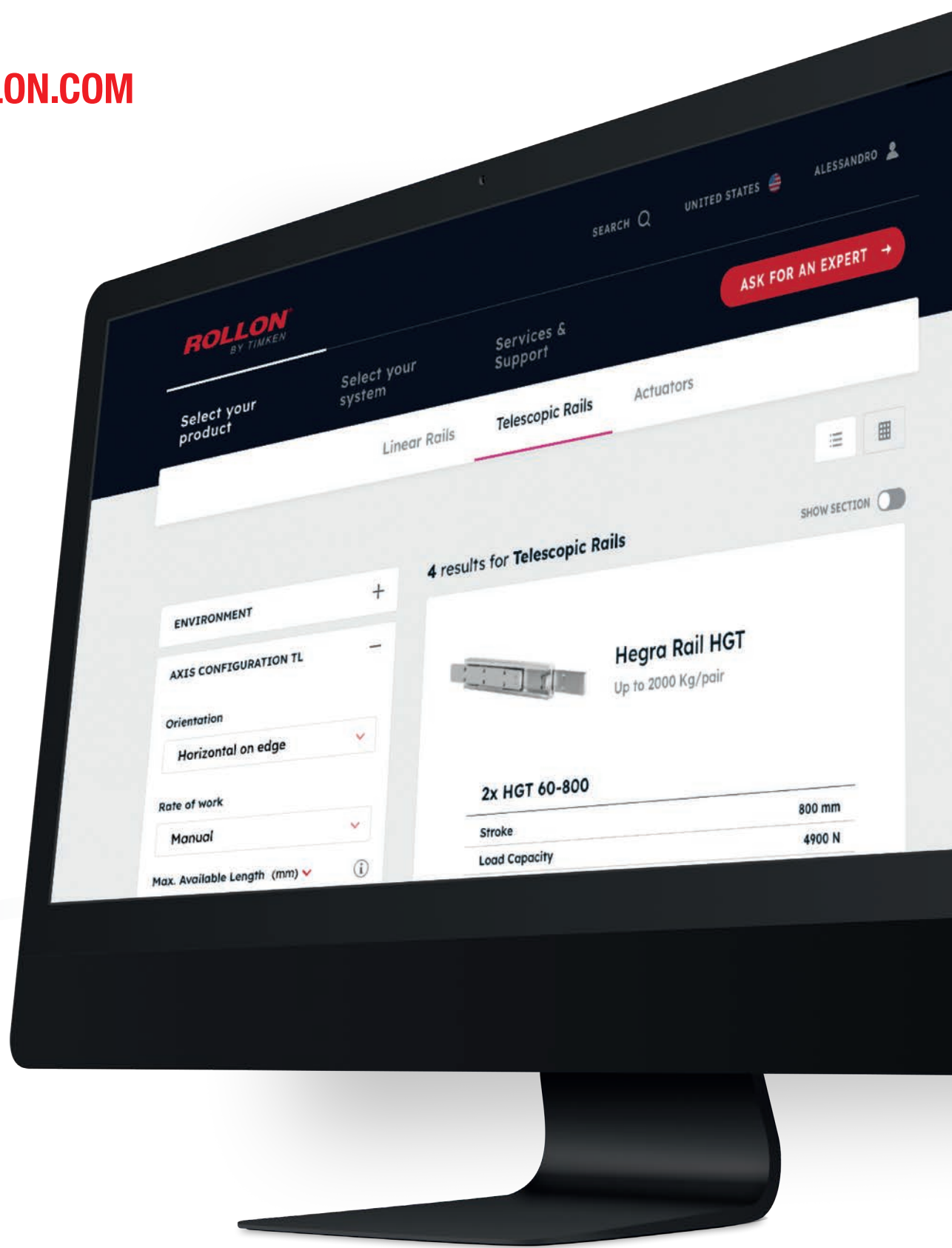
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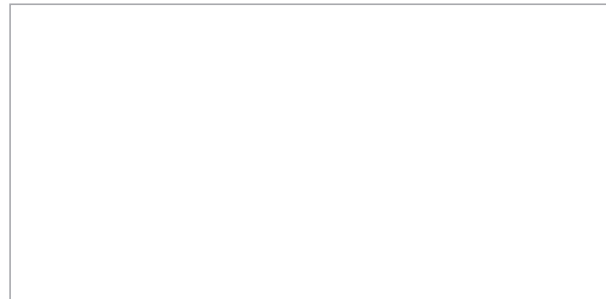


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