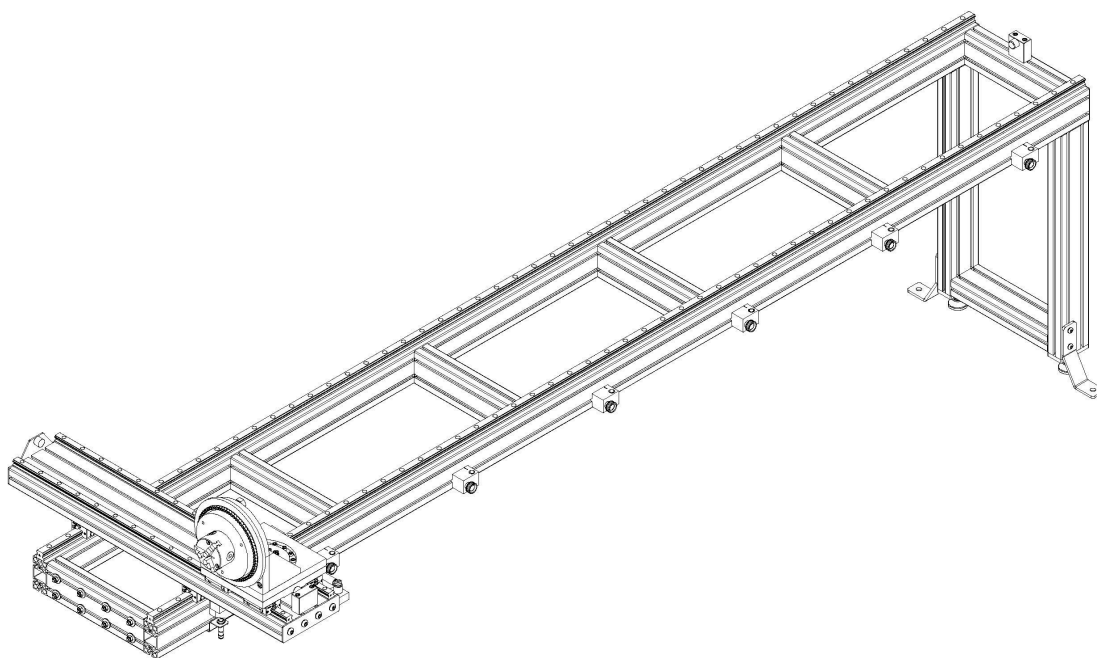


# **2-AXIS POSITIONER LIMIT**

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## **NON-MANDREL PIPE BENDER CC60**



## **INSTRUCTIONS BOOK**

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**PRADA NARGESA, S.L**

Ctra. de Garrigàs a Sant Miquel s/n · 17476 Palau de Santa Eulàlia (Girona) SPAIN

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## TECHNICAL ANNEXES

## 1. ACCESSORY DETAILS

### 1.1. Accessory Identification

<b>Make</b>	NARGESA
<b>Type of accessory</b>	2-axis positioner limit
<b>Model</b>	CC60

### 1.2. Dimensions

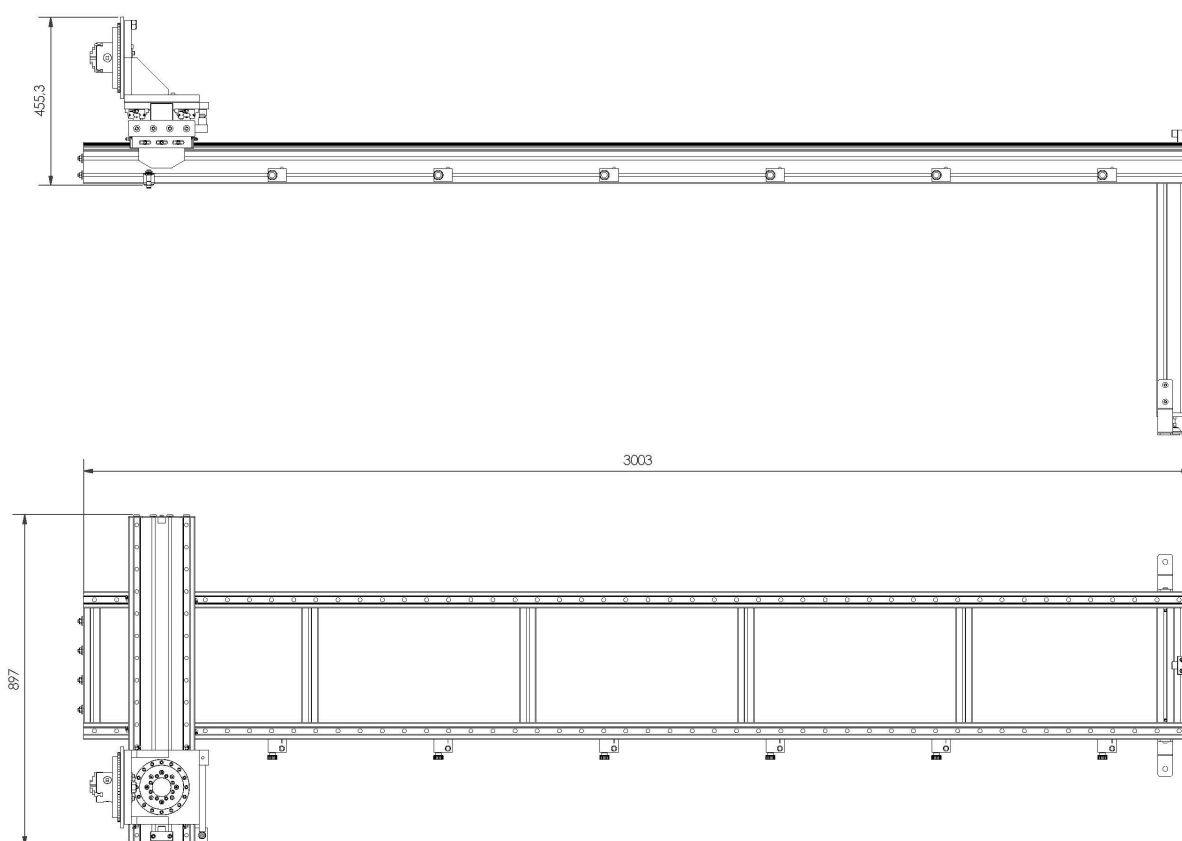


Figure 1. Outside dimensions of Pipe Bender Limit CC60

### 1.3. Accessory Description

The Non-Mandrel Pipe Bender Limit CC60 is an accessory specifically designed to position the pipe or profile during bending.

The CC60 limit makes it possible to produce serial parts faster with more precision and repetitiveness.

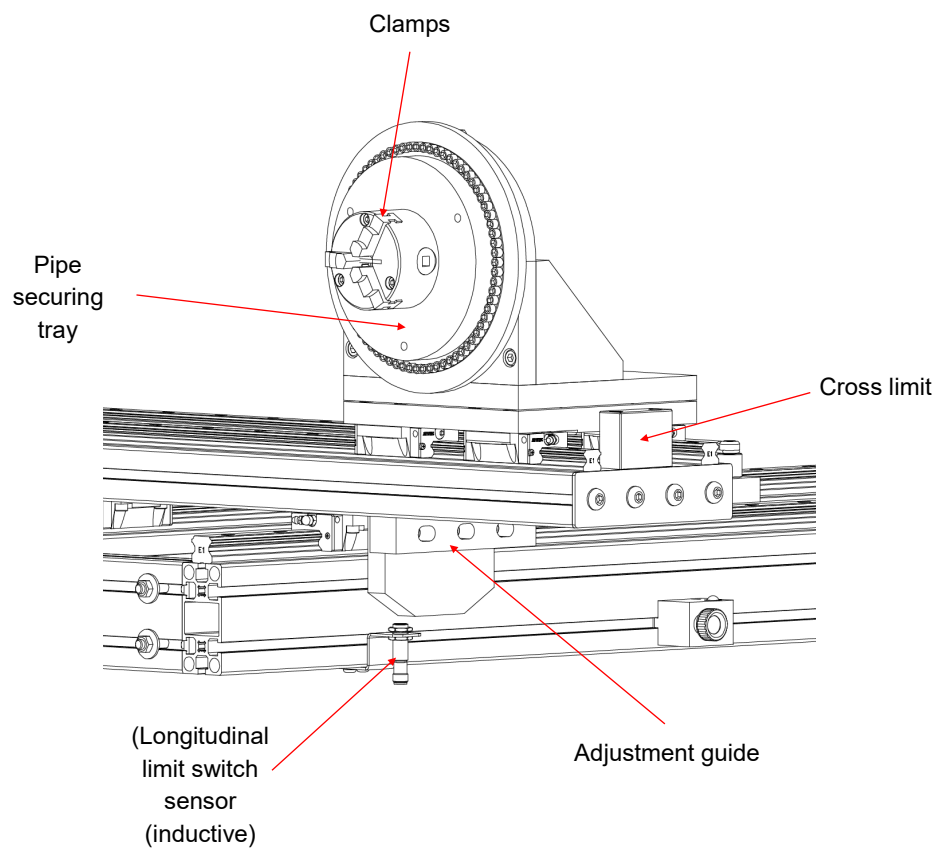
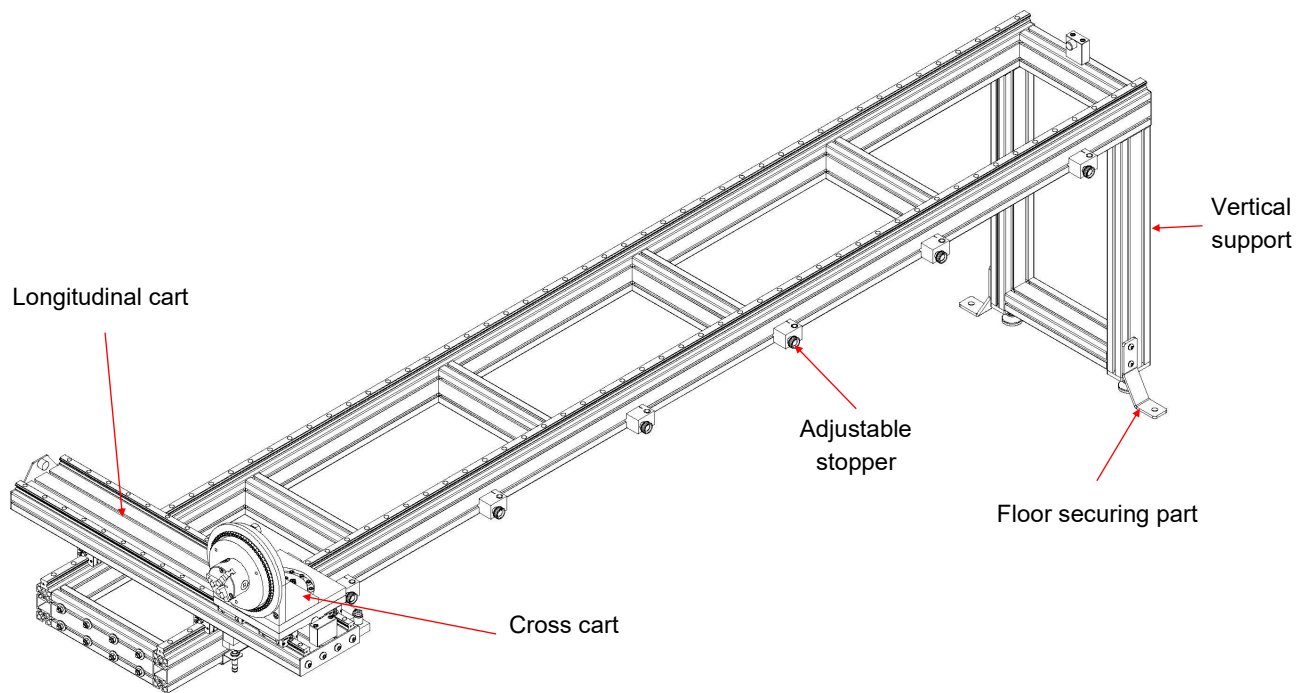
- Adjustable longitudinal positioning with 6 positions
- Angular head rotation every 5 degrees
- Adjustable four-hook tray for round and square pipes
- Longitudinal movement with high-precision linear guides
- Automatic anti-collision control
- Easy handling and preparation for complex parts

<b>PRADA NARGESA S.L is not liable for any damages that may be caused due to improper use or a breach of the safety rules by users.</b>
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### 1.4. General Characteristics

Reference	140-17-01-50000
Max. size round steel pipe	60.3 mm or 2" Schedule-40 or 2" Gas x 4 mm.
Max. size round steel through pipe	42.4 mm or 1 1/4"
Max. angle of curvature	-180° / 0° / 180°
Dimensions	3003 x 897 x 1131 mm
Weight	125 Kg

## 1.5. Machine Parts

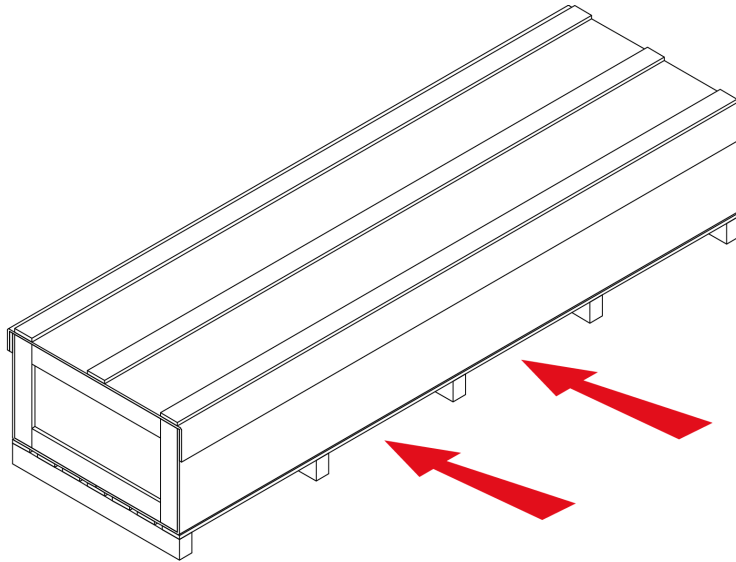


## 2. TRANSPORT AND STORAGE

### 2.1. Transport

The limit should be moved as follows:

- Along the bottom through the pallet at the base of the box using a forklift or lift truck as indicated in the illustration. Never raise the limit more than 200 mm off the ground or it may tip over.



*Figure 4. Moving the Limit*

### 2.2. Storage Conditions

The Pipe Bender Limit may not be stored anywhere that does not meet the following requirements:

- Moisture of 30-95%
- A temperature of -25 to 55°C or 75°C over periods not to exceed 24 hours (please remember these temperatures are for storage conditions)
- Do not pile heavy objects on top

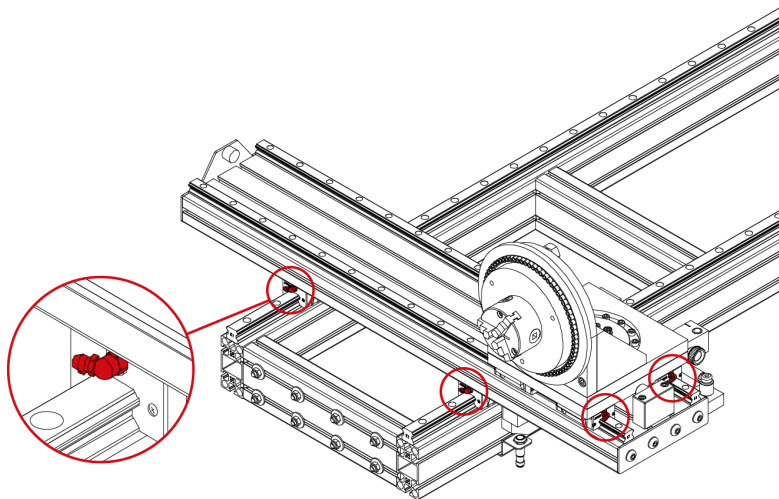
### 3. MAINTENANCE

#### 3.1. Greasing the Moving Parts

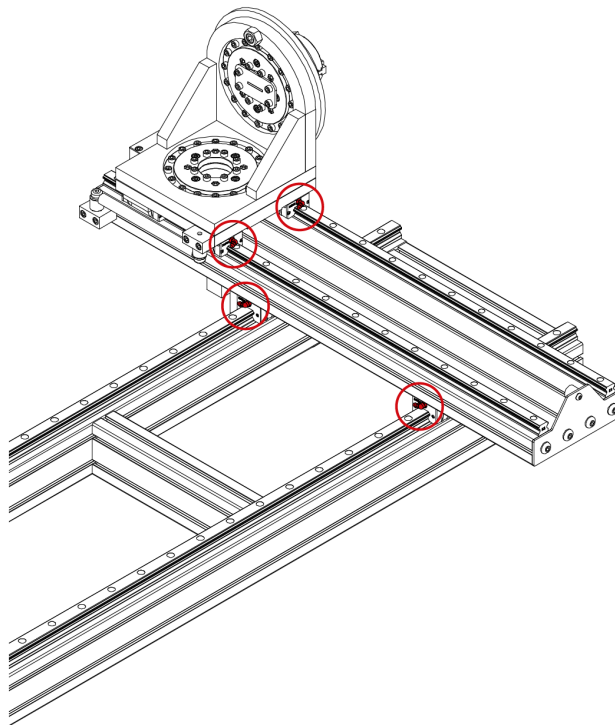
Keeping the moving parts on the limit clean is recommended to ensure proper operation and extend the service life.

To grease the limit skids on the CC60, simply grease all the limit greasers: **8 in all, every 30 days** .

*Front view*



*Rear view*



**ATTENTION:** To grease the Limit, you must stop the machine and press the “Emergency Stop” button.

## 4. LIMIT LOCATION AND INSTALLATION

### 4.1. Limit Location

Try to position the machine and limit in the proper location so they do not have to be moved; otherwise, follow the steps described in the Transport section (no. 2). Position over a smooth, level surface to prevent vibrations and movements during bending operations .

### 4.2. Dimensions and Work Area

Take the dimensions, limit work area and the lengths of any part to be worked into consideration when positioning the limit.

The pipe bender may be used by a single operator who must stand on the side of the limit to manage the adjustable stoppers and the pipe securing tray.

Before starting the bending process, the operator shall adjust the limit and secure the material while the machine is off.

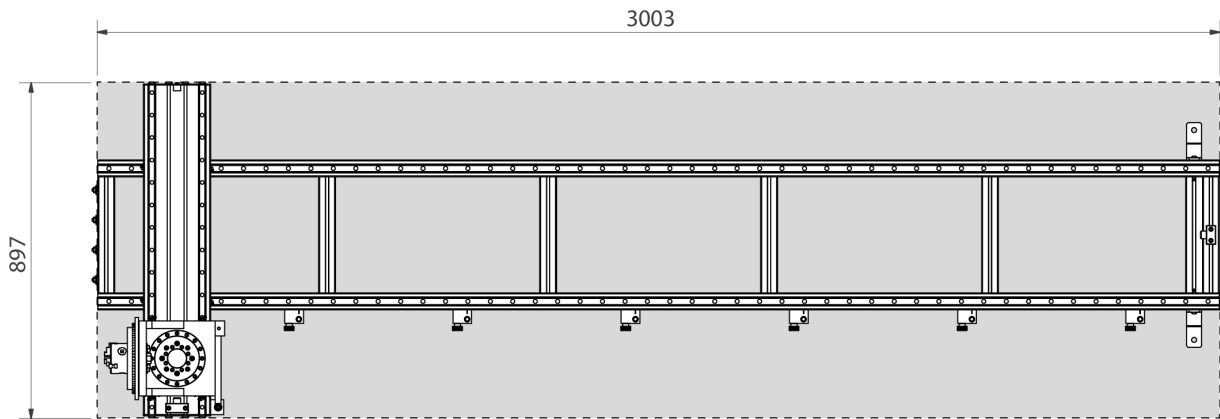


Figure 6. Limit Work Area

**ATTENTION:** The limit moves while the machine does the bending. Do not place anything in the Limit work area that may obstruct its movement.

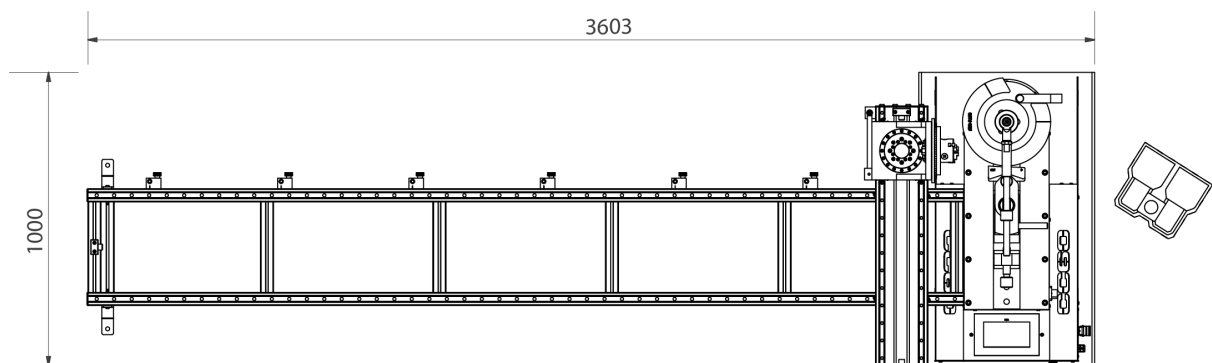


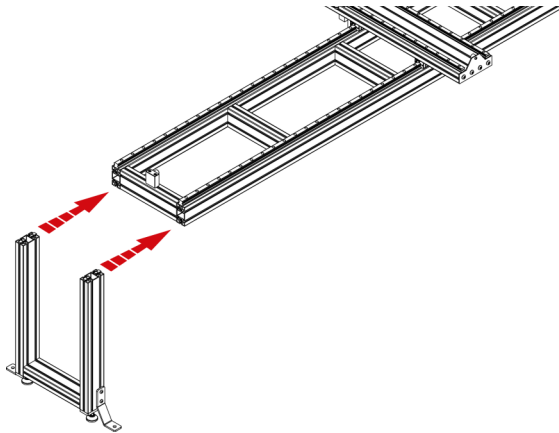
Figure 7. Layout

### 4.3. Acceptable External Conditions

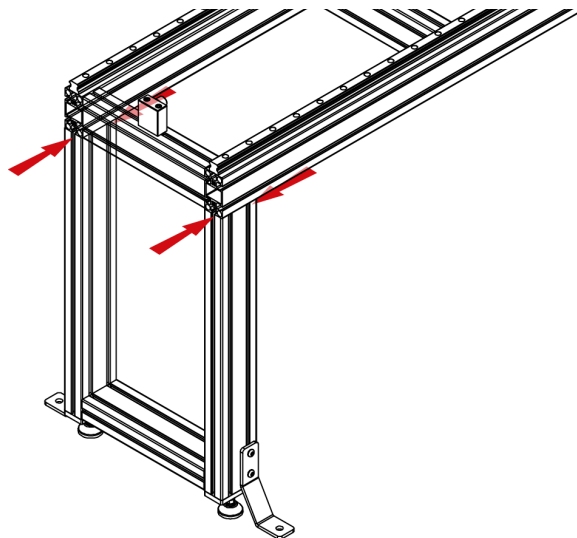
- A room temperature of +5°C to +40°C without exceeding an average temperature of +35°C over 24 hours.
- Moisture of 30-90% without water condensation.

#### 4.4. Installing the Limit

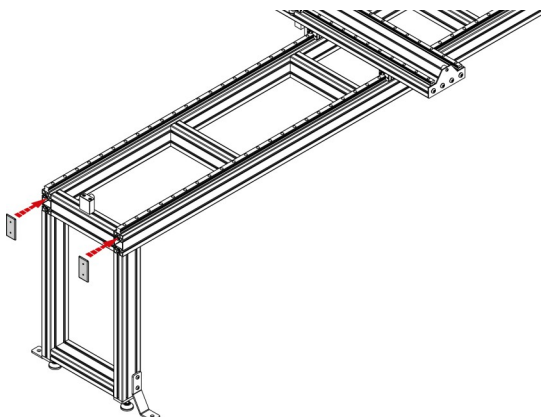
1. Install the vertical limit support by inserting it into the guides on the end and screw in.



2. Screw in the vertical support using the four screws.

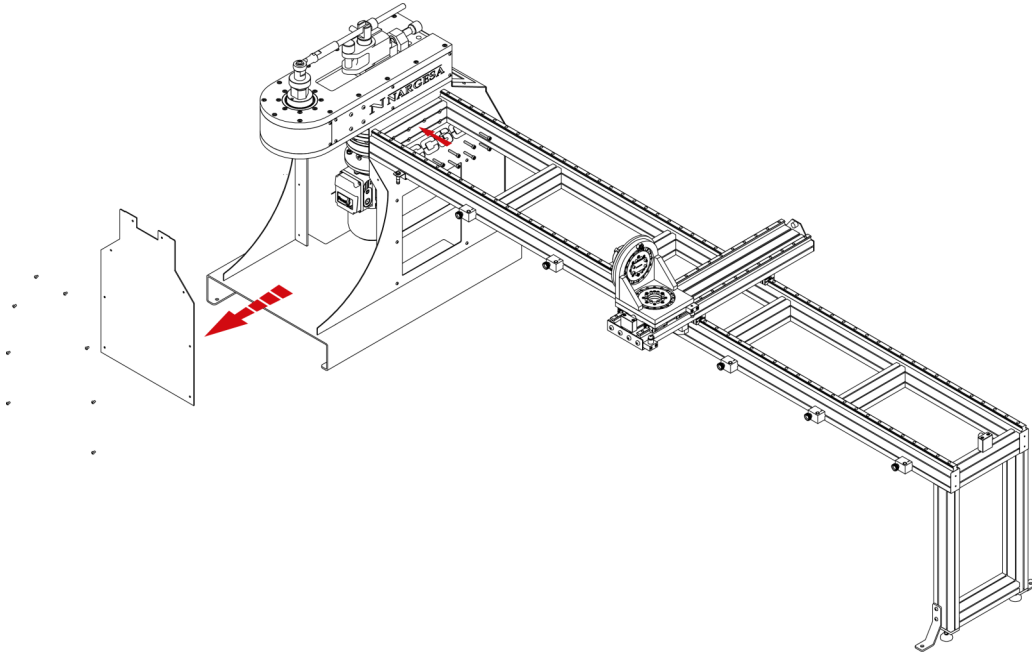


3. Install the guide covers by firmly pressing. Use a plastic hammer if necessary.

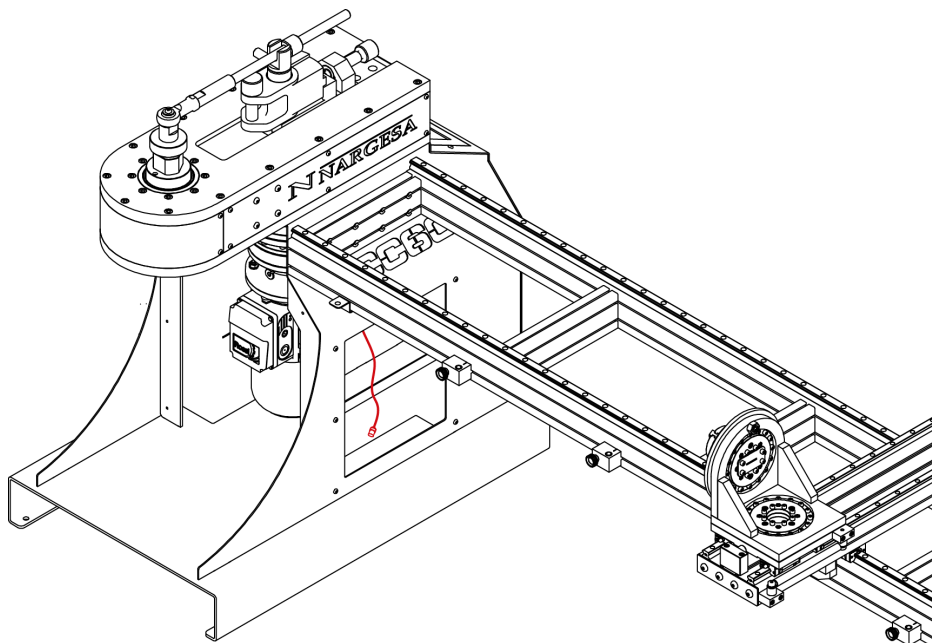


**ATTENTION:** To secure the limit to the machine, you must stop the machine and press the “Emergency Stop” button.

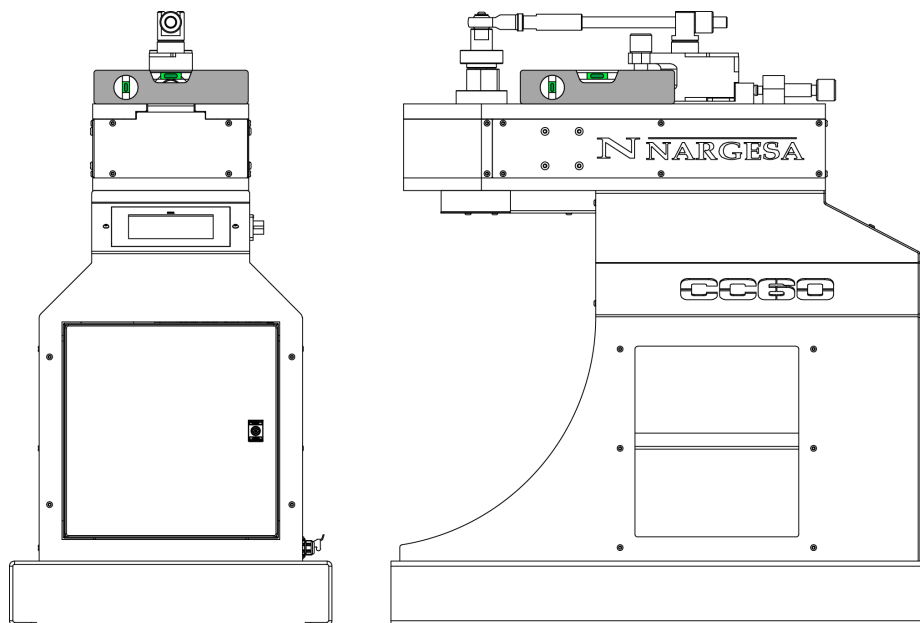
4. Unscrew and remove the rear cover from the machine. Install the limit on the side of the machine indicated in the image. Remove the 8 screws supplied with the machine and screw the limit to it using **the 8 screws supplied with the limit**.



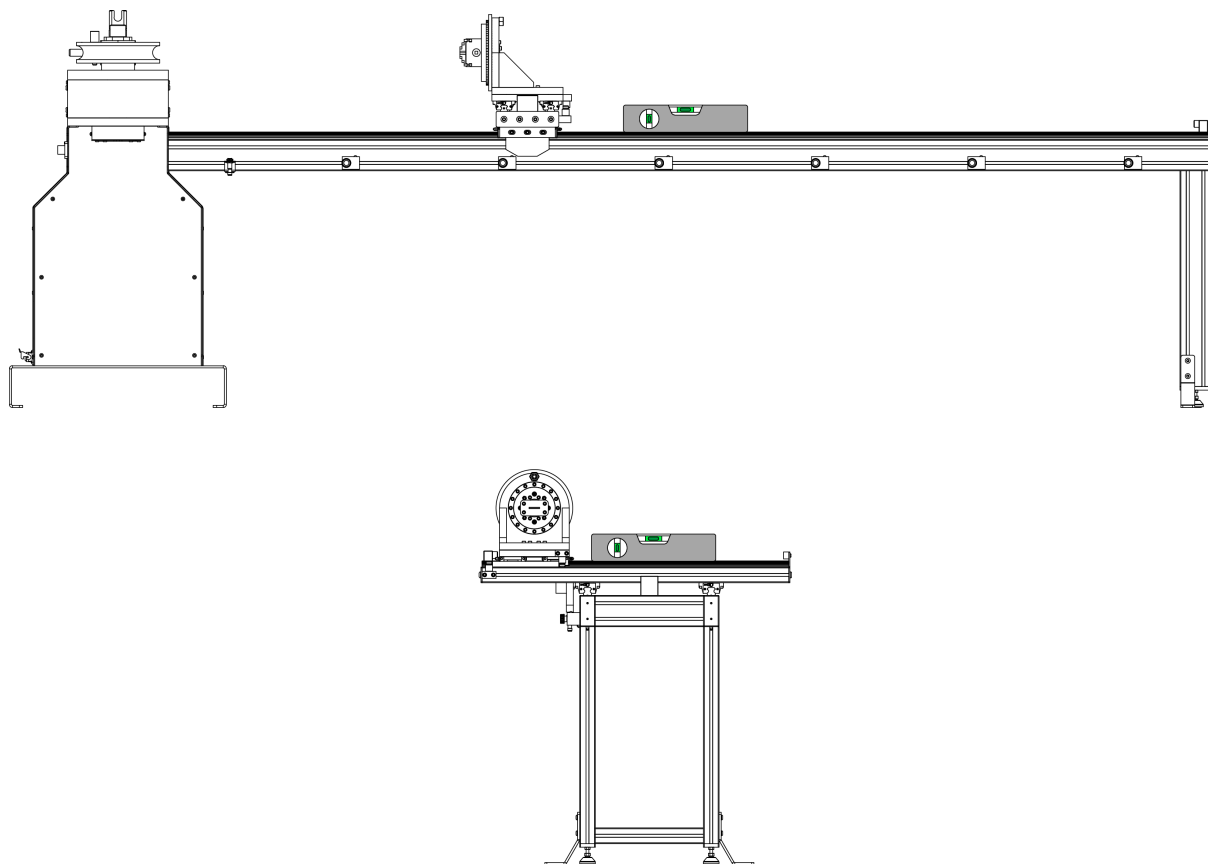
5. Pull the end of the inductive sensor cable from the inside towards the outside of the machine through the top of the shelf.



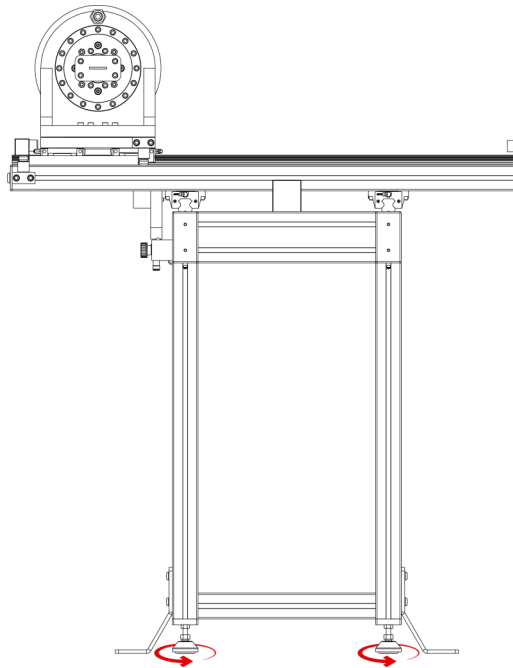
6. Level the machine on the two axes.



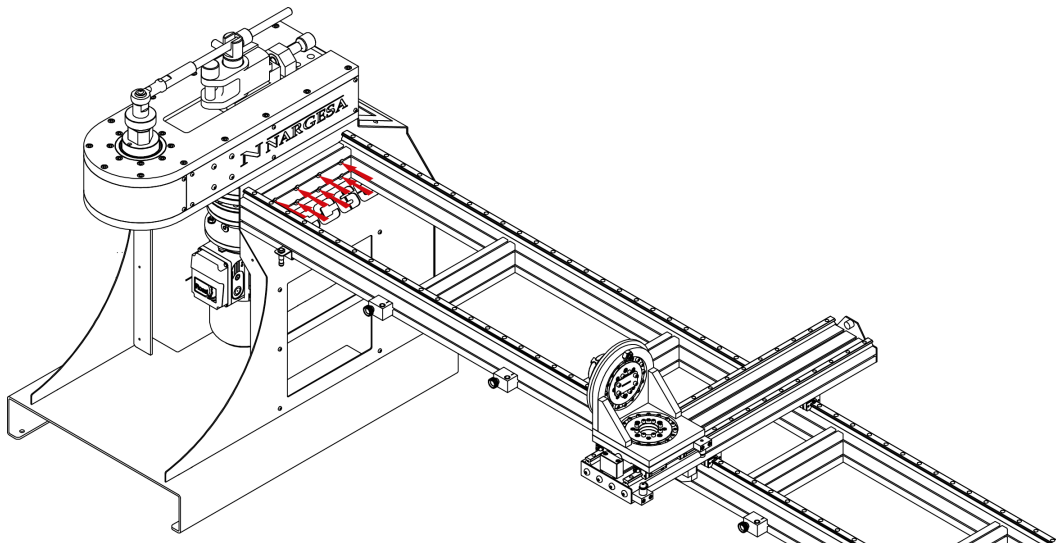
7. Level the limit on the two axes.



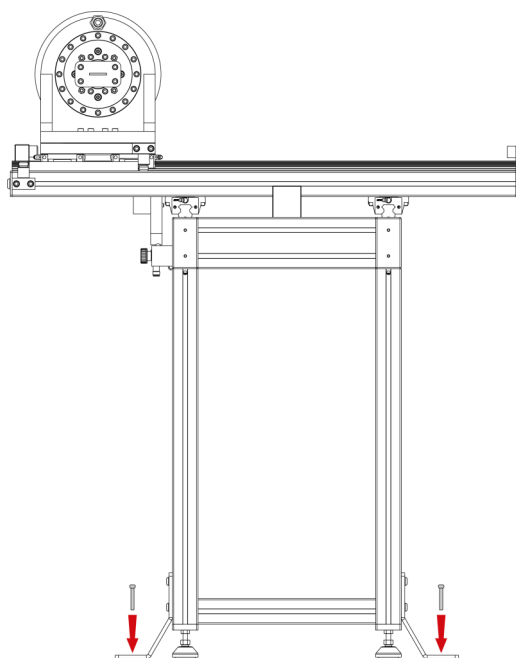
8. Adjust the height of the vertical support using the two adjustable legs, adjusting the limit to a level position.



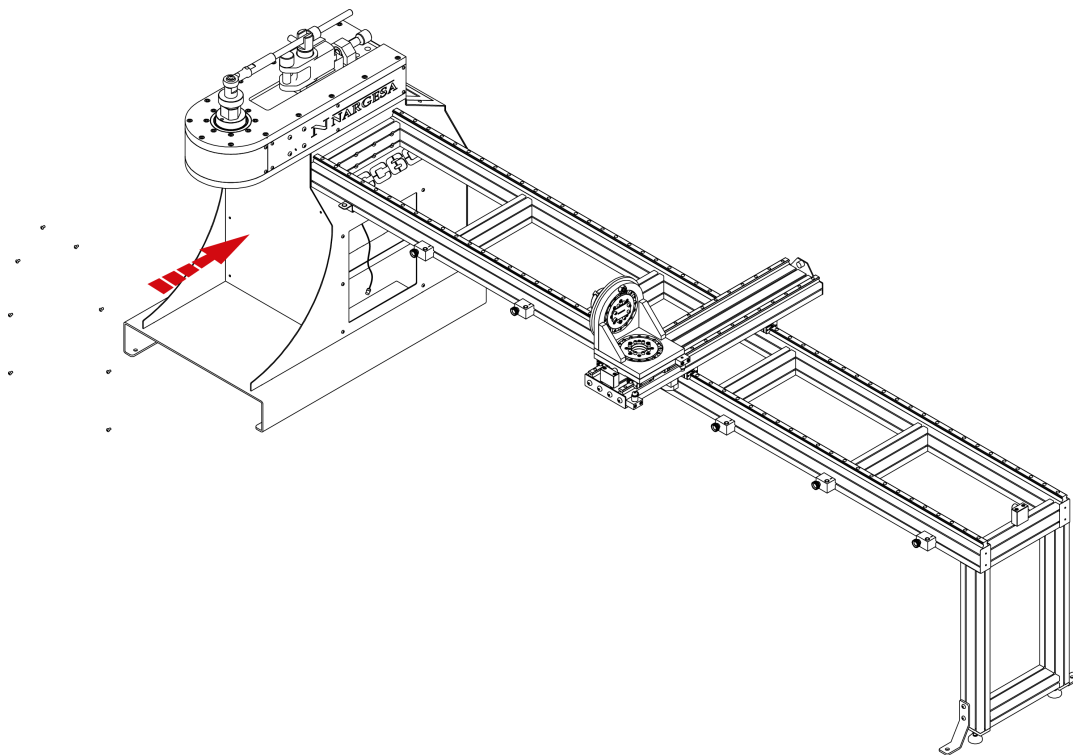
9. Check that the limit is completely level before definitively securing it to the machine by tightening the 8 screws well.



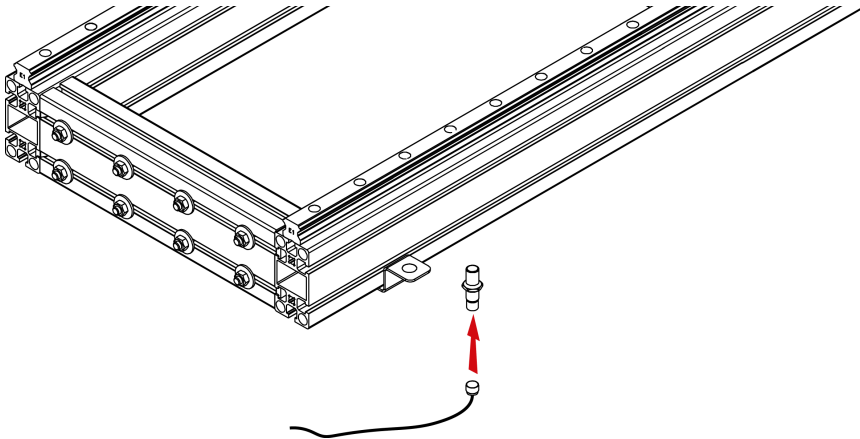
10. Secure the two securing parts ***supplied with the limit*** to the ground.



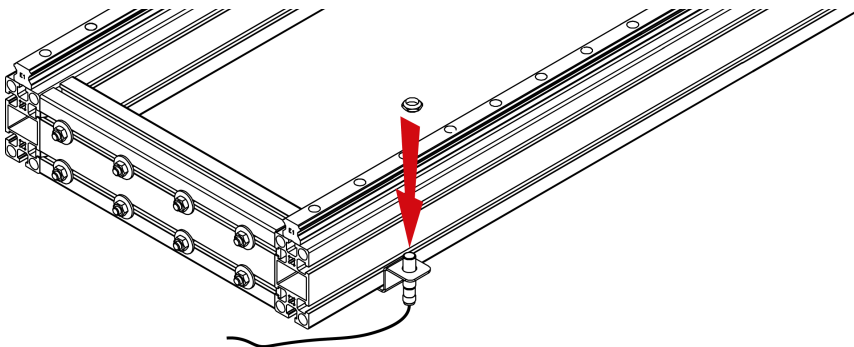
11. Put on the rear cover and screw in the 8 screws.



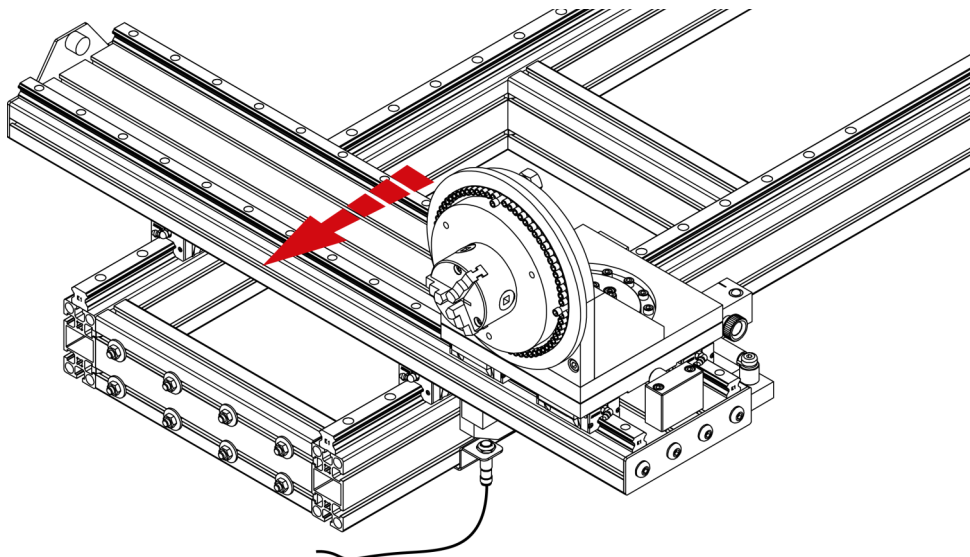
12. Connect the machine inductive sensor cable by tightening it with the limit inductive sensor.



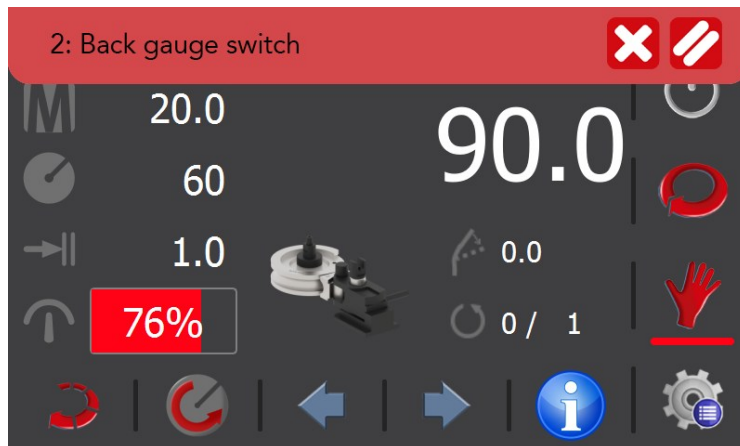
13. Place the inductive sensor in the limit chassis support and secure it with the bolt. Start the machine using the power switch.





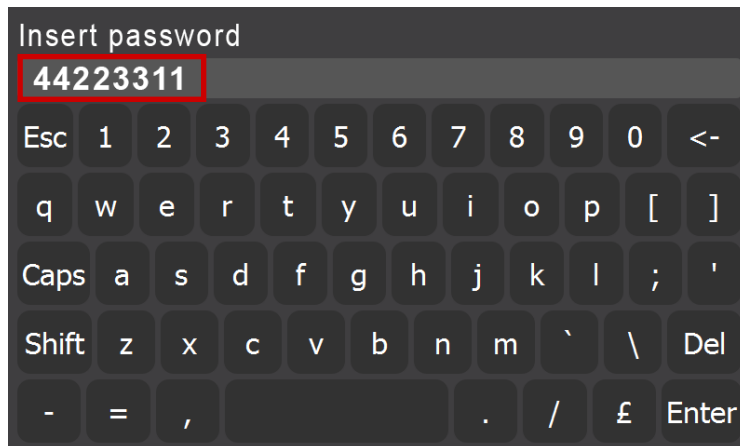
14. Slide the longitudinal cart until the inductive sensor LEDs turn off. This means it was detected. Make sure the clamps do not collide with the machine in this cart position.




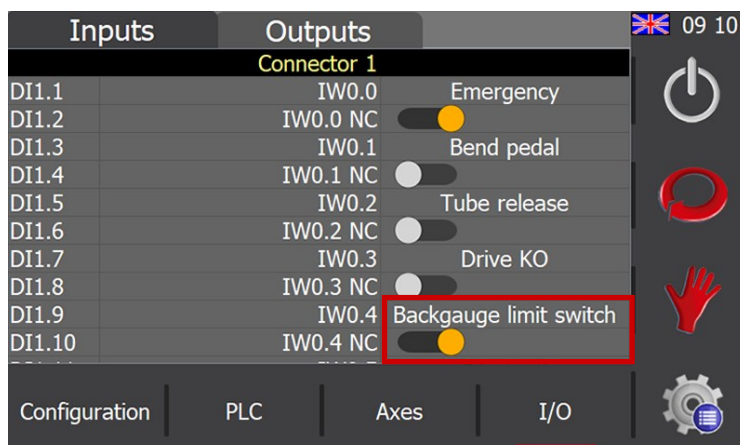
15. The following message appears on the control screen. Press **x** so it will disappear.



16. Press  to access the menu, then press . Enter the password.



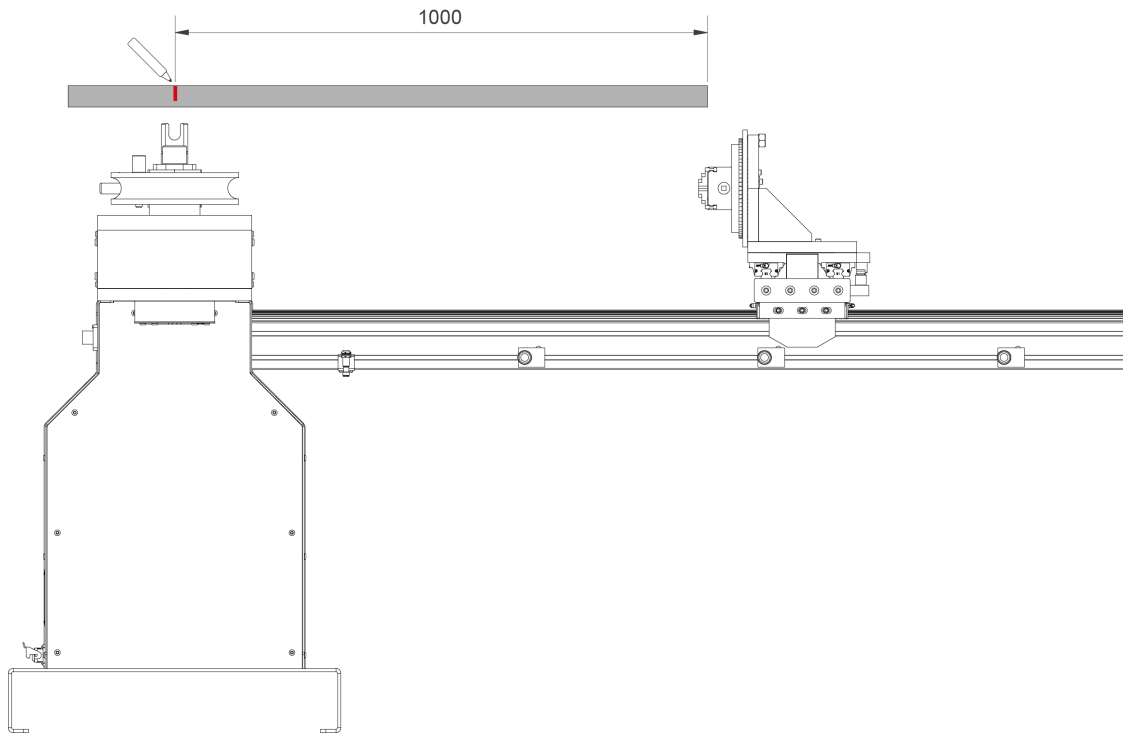
17. Access the E/S menu and activate the **backgauge limit switch**. Press  to return to the home screen. When the inductive sensor is working, the machine will automatically stop as soon as the longitudinal cart reaches this limit to prevent the cart from colliding with the machine.



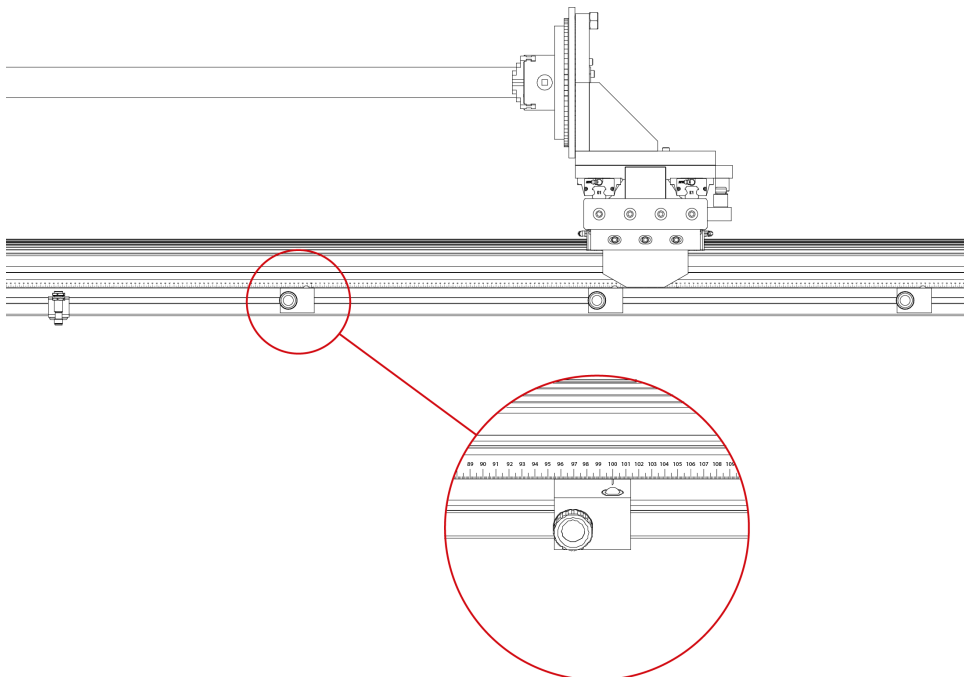
#### 4.5. Adjusting the Limit

The bender switch CC60 is adjusted by our technicians before the machine is sent to the customer. However, you need to check and re-adjust the limit before working with it.

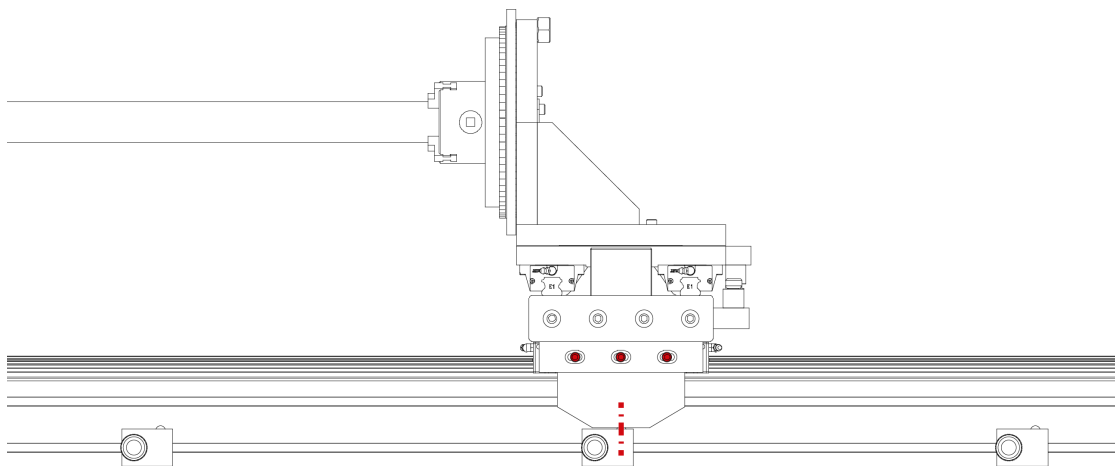
1. Insert a pipe measuring 1200 mm minimum in the limit as indicated in section **5.2. *Securing the Pipe to the Limit***. Use a marker to make a mark at 1000 mm on the other end of the pipe and place it in the main roller.



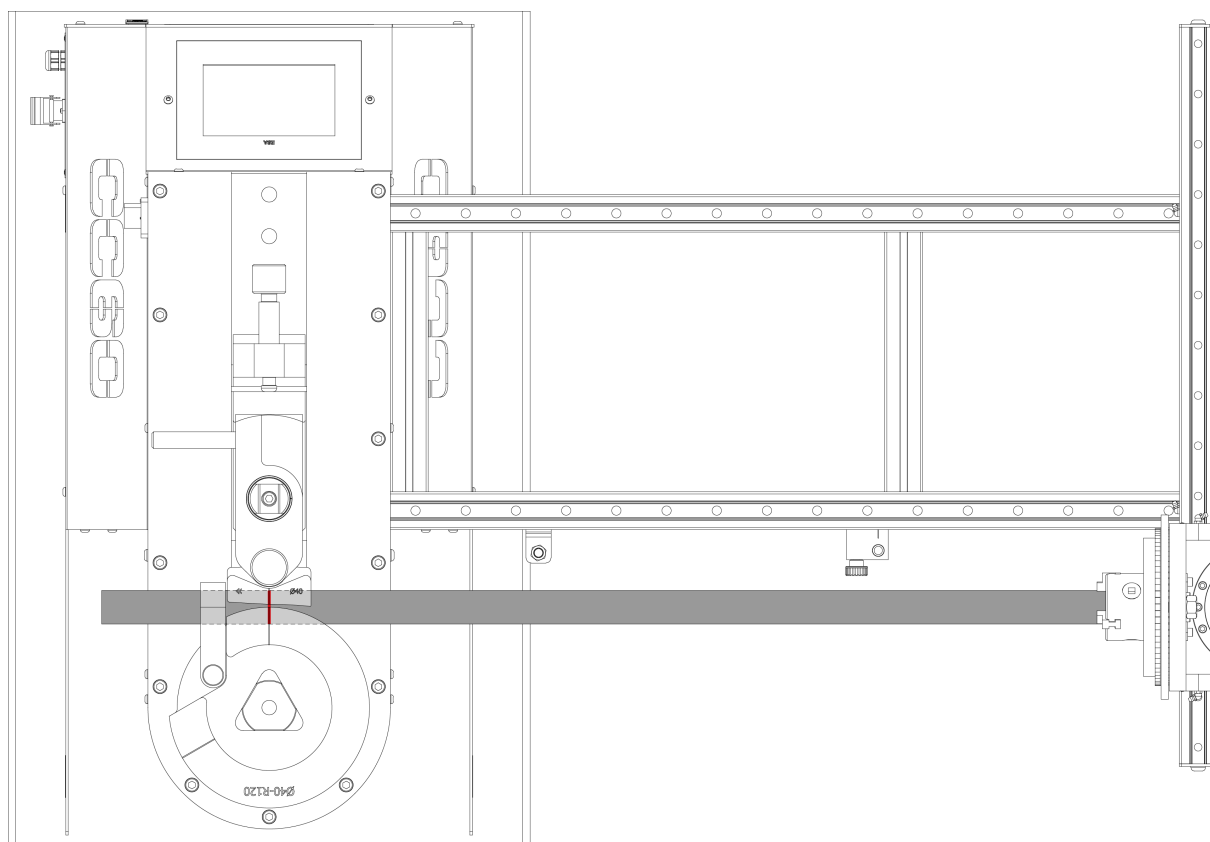
2. Place one of the adjustable stoppers at 100 mm and secure it.



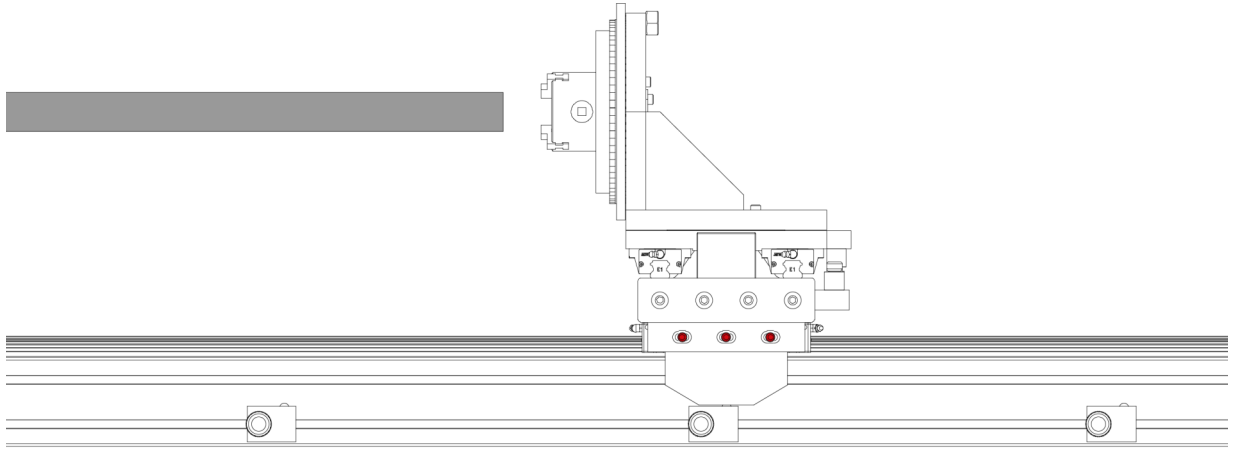
3. Adjust the longitudinal cart with the stopper and loosen the screws in the adjustment guide.



4. Move the cart slowly until the mark on the pipe is lined up with the mark on the counter-shape and the main roller. Make sure the longitudinal cart and the stopper are still connected.



5. As soon as the mark on the pipe is lined up, tighten the screws on the adjustment guide and remove the pipe.



## 5. INSTRUCTIONS FOR USE

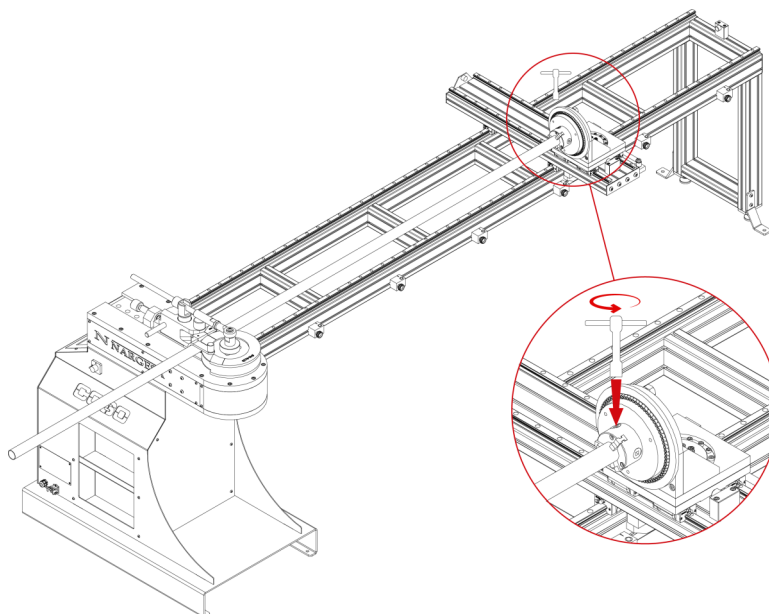
### 5.1. Limit Features and Use

The CC60 limit is used to position the pipe in an exact position for bending.

### 5.2. Securing the Pipe to the Limit

Secure the pipe to the securing tray by adjusting the clamps using the wrench supplied with the limit. Make sure the material is completely secured to the tray and in contact with the base of the tray.

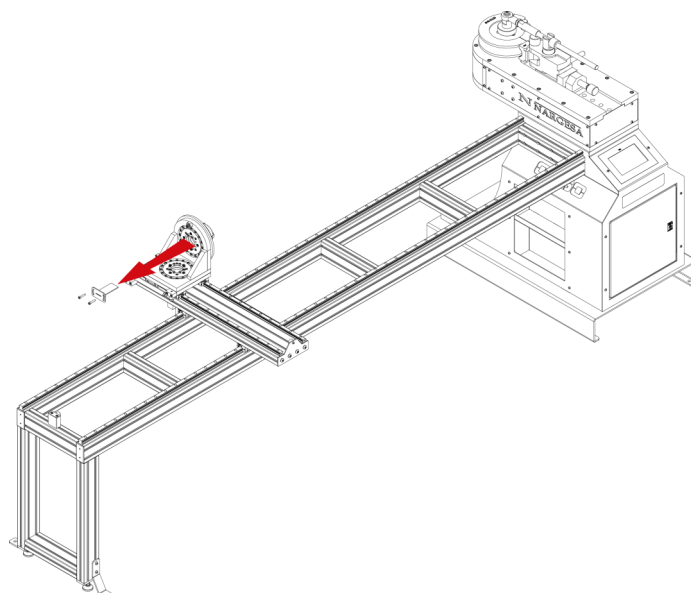
To release the pipe, loosen the clamps using the wrench until the tray comes loose.



### 5.3. Installing the Through Pipe

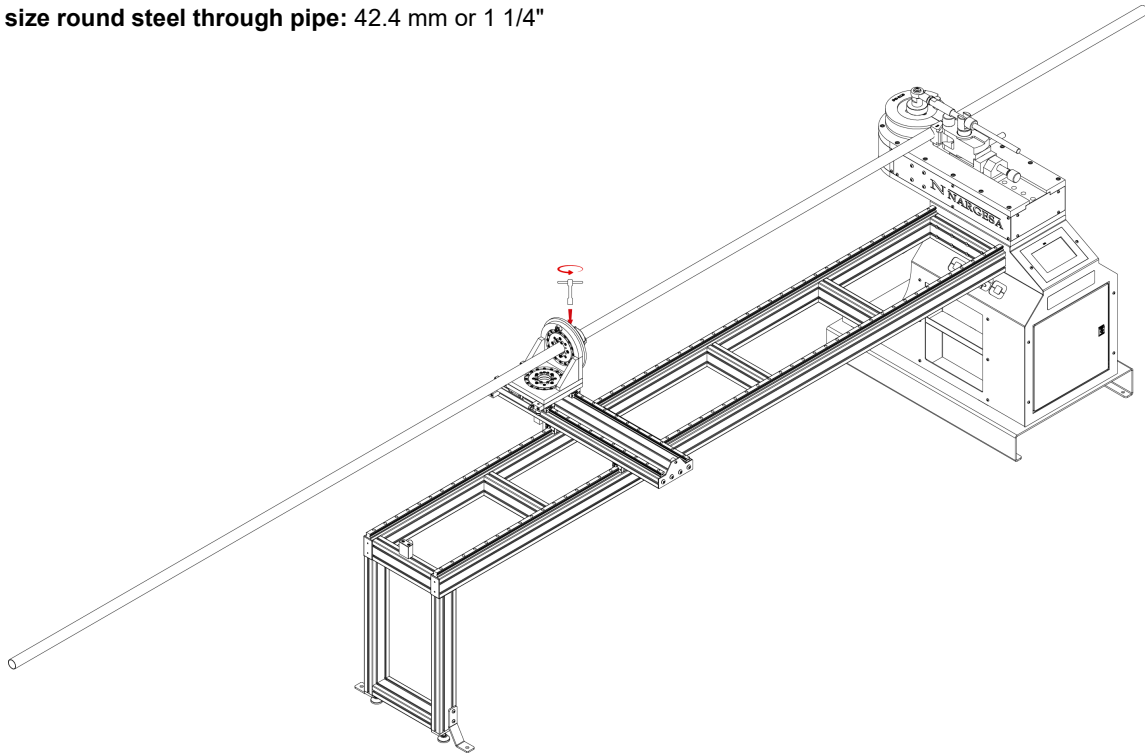
If you use a pipe that is longer than 3000 mm, use the central opening on the securing tray so the material goes through it.

To install the through pipe, unscrew the two securing screws from the plate on the back of the securing tray .



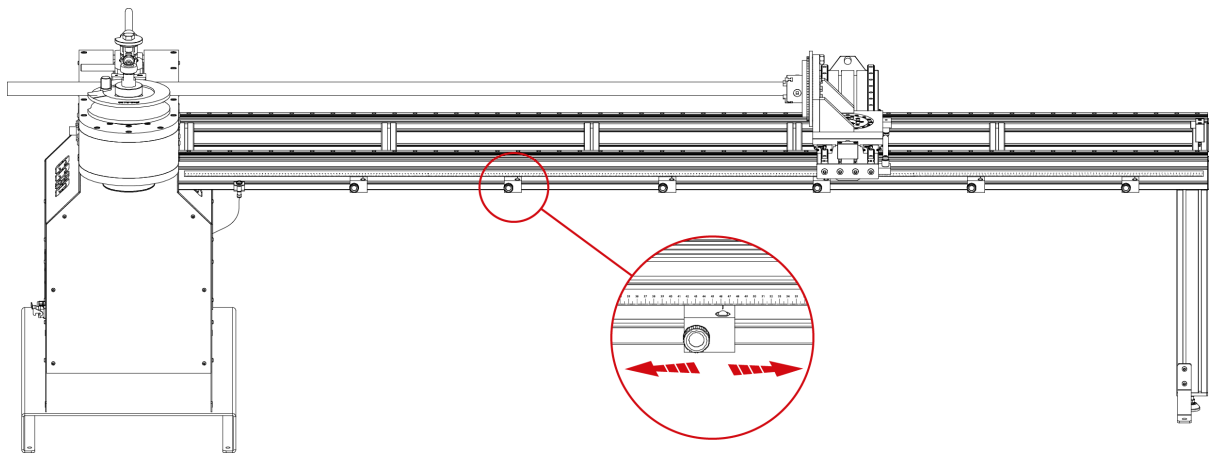
Remove the plate and insert the pipe through the tray. Screw the pipe to the tray by tightening the clamps using the wrench.

**Max. size round steel through pipe: 42.4 mm or 1 1/4"**



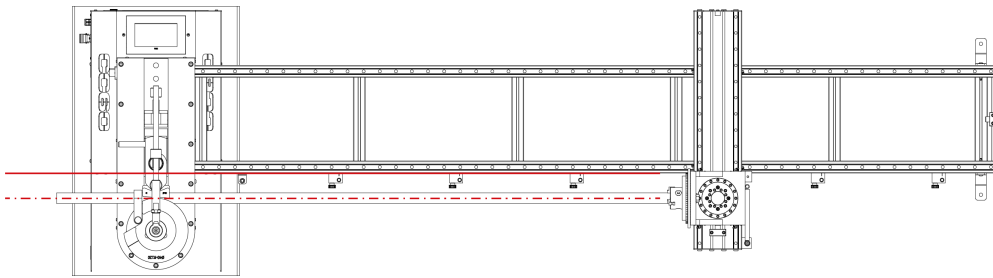
#### **5.4. Adjusting the Longitudinal Limits**

The CC60 limit is equipped with 6 adjustable stoppers which can be adjusted. It includes a millimeter and inch ruler which shall be used to adjust the stoppers to the desired measurement. Secure the stoppers by screwing in the handle.

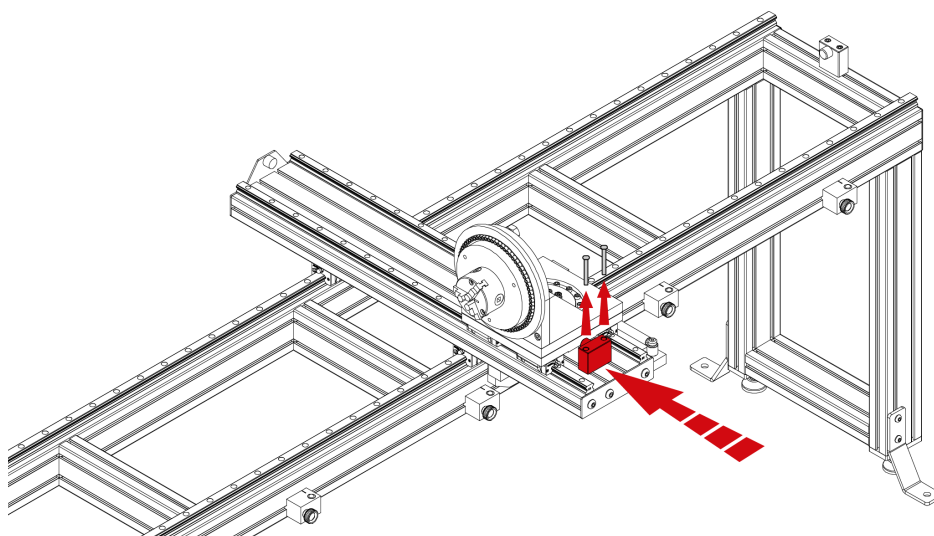


### 5.5. Adjusting the Cross Limit

Adjust the cross limit so the pipe is positioned parallel to the limit chassis.

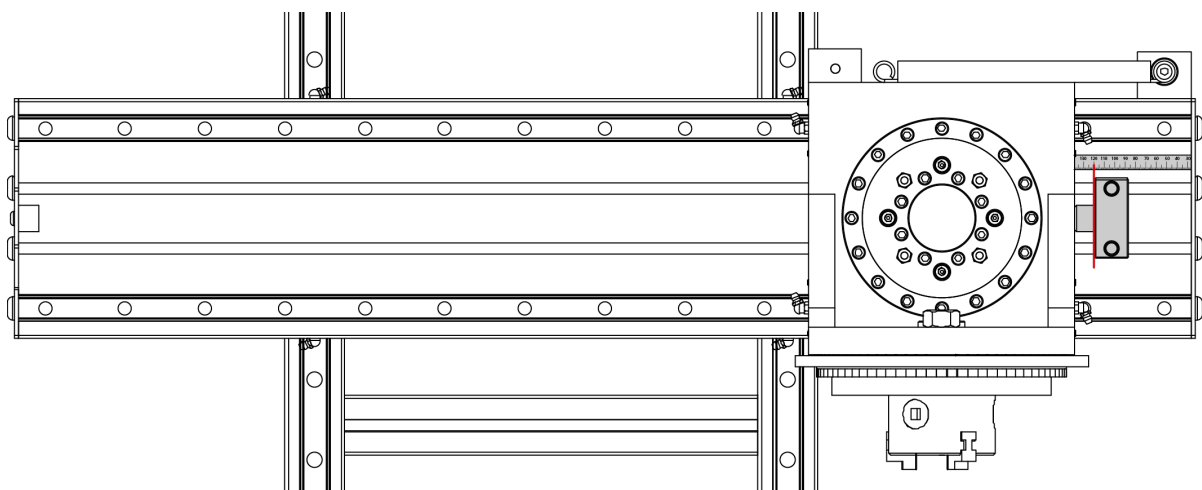


Move the cross limit by unscrewing the two screws and moving the limit.



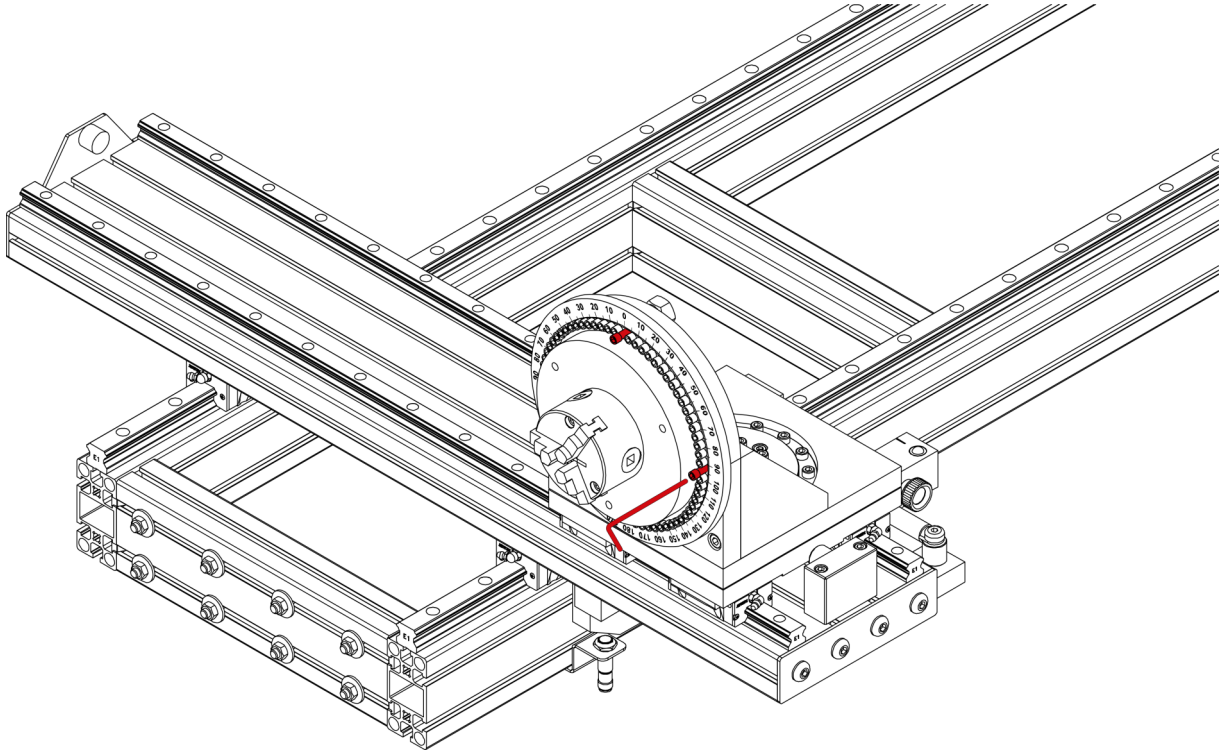
Use the ruler to position the limit to the same size as the radius of the main roller. As soon as it is in the correct position, secure it to the longitudinal cart by tightening the two screws.

**Example:** Set Matrix Diameter 40 mm Radius 120 mm. In this case, set the cross limit at 120 mm.



### **5.6. Adjusting the Pipe Rotation Angle**

Adjust the rotation angle to the degrees at which the pipe will rotate. To define these degrees, loosen the corresponding screw a few millimeters without fully unscrewing the screw so the tray to be rotated stops at the chosen degrees.



## **Technical Annex**

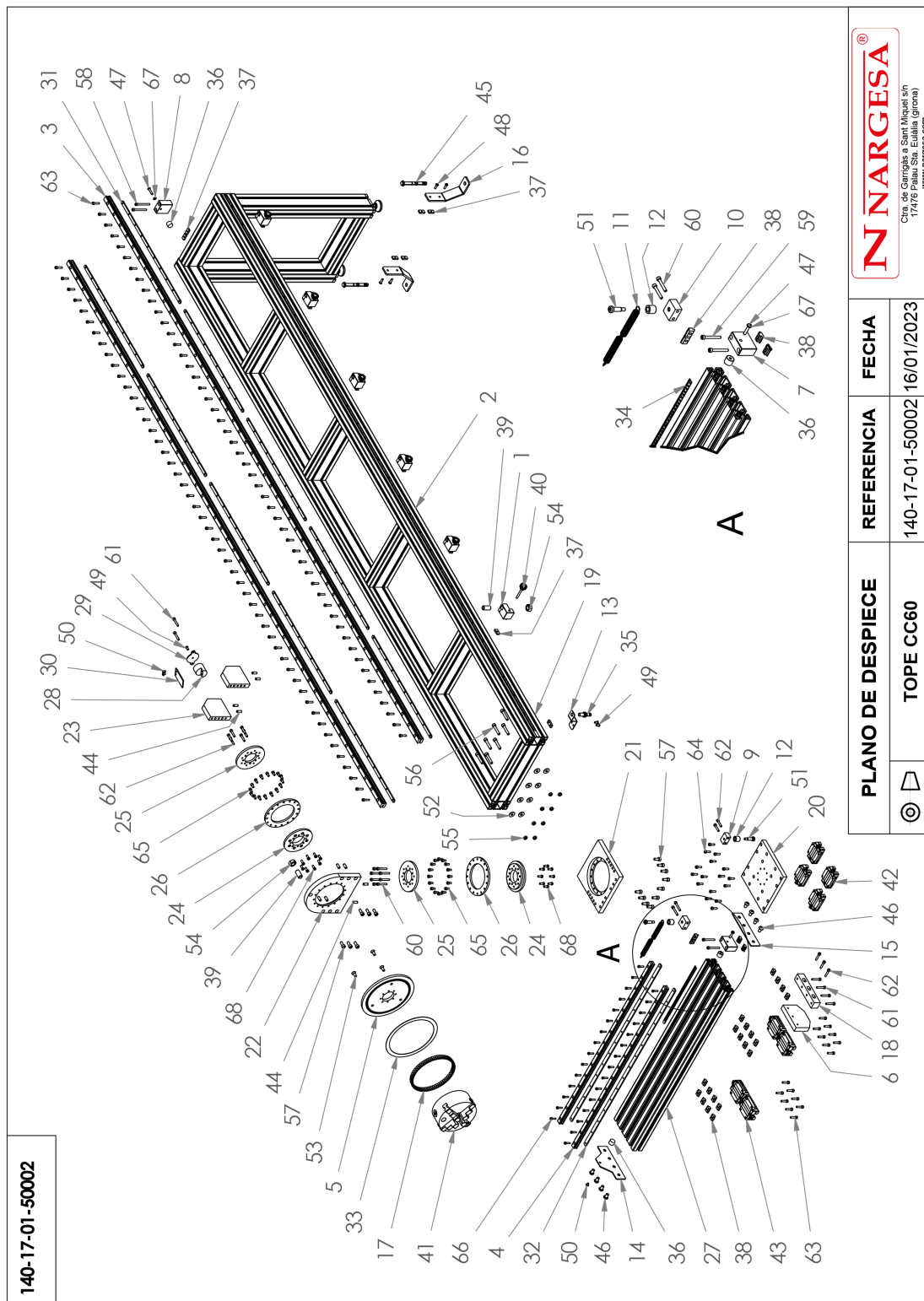
### Non-Mandrel Pipe Bender Limit CC60

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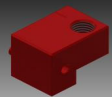



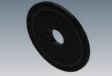
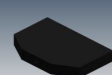
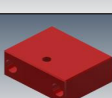

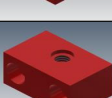
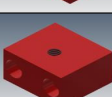
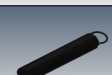

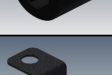




General blow-up view

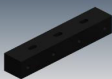
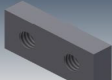
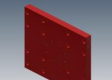
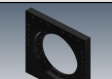






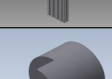






Limit structure

**General blow-up view**




















## 2-AXIS POSITIONER LIMIT CC60

Elemento	Miniatura	Nº de pieza	Descripción	CTDAD
1		125-17-01-50001	CUERPO POSICIONADOR TOPE MOBIL CC60	6
2		131-17-01-50102	ESTRUCTURA TOPE CC60	1
3		125-17-01-50009	GUIA INFERIOR LONGITUDINAL	2
4		125-17-01-50011	GUIA SUPERIOR TRANSVERSAL	2
5		125-17-01-50016	FIJACIÓN PLATO Y REGULACIÓN ANGULO	1
6		125-17-01-50017	TOPE FIJO CARRO LONGITUDINAL	1
7		125-17-01-50018	SOPORTE TOPE TRANSVERSAL	1
8		125-17-01-50019	SOPORTE TOPE LONGITUDINAL	1
9		125-17-01-50020	SOPORTE MUELLE CARRO	1
10		125-17-01-50021	SOPORTE MUELLE FIJO	1
11		125-17-01-50022	MUELLE DE RETORNO	2
12		125-17-01-50023	SEPARADOR MUELLE	2
13		125-17-01-50024	SOPORTE INDUCTIVO	1
14		125-17-01-50025	TAPA IZQ. PERFIL TRANSVERSAL	1
15		125-17-01-50026	TAPA DER. PERFIL TRANSVERSAL	1
16		125-17-01-50027	FIJACION PARA ESTRUCTURA SUELO	2
17		125-17-01-50028	TORNILLO POSICIONADOR ANGULO M6	72

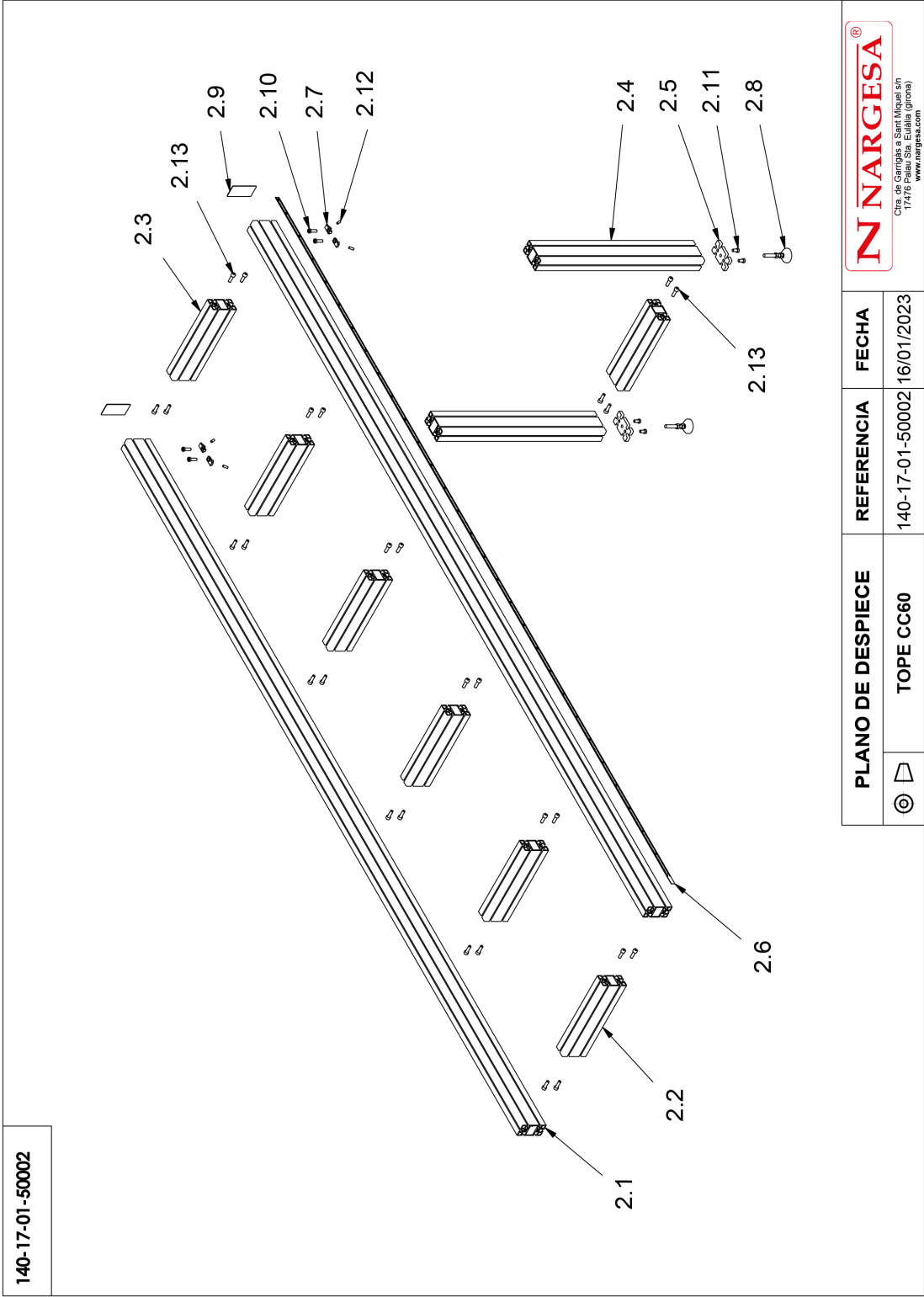
Elemento	Miniatura	Nº de pieza	Descripción	CTDAD
18		125-17-01-50029	FIJACIÓN SOPORTE TOPE FIJO CARRO LONGITUDINAL	1
19		125-17-01-50030	TUERCA FIJACION SENSOR INDUCTIVO	1
20		125-17-01-50050	PLACA INFERIOR	1
21		125-17-01-50051	PLACA SUPERIOR	1
22		125-17-01-50052	PLACA FRONTAL	1
23		125-17-01-50053	CARTELA REFUERZO	2
24		125-17-01-50054	DISCO GUIA COJINETE	2
25		125-17-01-50055	DISCO DE ROTACION COJINETE	2
26		125-17-01-50056	DISCO POSTERIOR COJINETE	2
27		125-17-01-50061	PERFIL CARRO SUPERIOR	1
28		125-17-01-50065	CENTRADOR TOPE PLATO	1
29		125-17-01-50066	BASE TOPE PLATO	1
30		125-17-01-50067	CHAPA TOPE PLATO	1
31		125-17-01-50075	PLETINA AMARRE GUIA INFERIOR LONGITUDINAL	10
32		125-17-01-50076	PLETINA AMARRE GUIA SUPERIOR TRANSVERSAL	2
33		122-CAL-1701-001	DISCO GRADUCACION ANGULAR PLATO 0-180/180-0	1
34		125-17-01-50063	REGLA CARRO TRANSVERSAL 300mm	1

## 2-AXIS POSITIONER LIMIT CC60

Elemento	Miniatura	Nº de pieza	Descripción	CTDAD
35		050-IND-00006	DETECTOR INDUCTIVO SEGURIDAD	1
36		031-SIB-00006	SLENTBLOCK D20x15 - M6	3
37		031-PRF-00002	TUERCA RECTANGULAR - M6 - RANURA 8mm	12
38		031-PRF-00001	Tuerca T - M6 - RANURA 10mm	24
39		031-POS-00001	POSICOINADOR MUELLE GN615.3-M16-K	7
40		031-POMM-00012	POMO MACHO REDONDO D26 M6X50	6
41		031-PG-00001	PLATO TORNO	1
42		030-PL-00003	PATIN LINEAL T20 SNA	4
43		030-PL-00002-R00	PATIN LINEAL T25 SNA	4
44		030-D7979D-00002	PASSADOR CILINDRICO DIN 7979D D8X20	10
45		020-TM-10CM8x60	ANCLAJE METALICO 10 - M8x60	2
46		020-I7380-M10X16	TORNILLO ALLEN CABEZA ABOMBADA - ISO7380 - M10X16	8
47		020-I7380-M6X30	TORNILLO ALLEN CABEZA ABOMBADA - ISO7380 - M6X30	2
48		020-I7380-M6X20	TORNILLO ALLEN CABEZA ABOMBADA - ISO7380 - M6X20	4
49		020-I7380-M6X12	TORNILLO ALLEN CABEZA ABOMBADA - ISO7380 - M6X12	3
50		020-I7380-M6X8	TORNILLO ALLEN CABEZA ABOMBADA - ISO7380 - M6X8	3
51		020-I7379-D10X25	TORNILLO ALLEN AJUSTE - ISO7379 - D10x25	2

Elemento	Miniatura	Nº de pieza	Descripción	CTDAD
52		020-D9021-M8	ARANDELA ANCHA - DIN9021 - M8	8
53		020-D7991-M8X20	TORNILLO ALLEN AVELLANADO - DIN7991 - M8X20	3
54		020-D934-M16	TUERCA HEXAGONAL - DIN934 - M16	7
55		020-D934-M8	TUERCA HEXAGONAL - DIN934 - M8	8
56		020-D912-M8X45	TORNILLO ALLEN - DIN912 - M8X45	8
57		020-D912-M8X20	TORNILLO ALLEN - DIN912 - M8X20	16
58		020-D912-M6X60	TORNILLO ALLEN - DIN 912 - M6X60	2
59		020-D912-M6X50	TORNILLO ALLEN - DIN912 - M6X50	2
60		020-D912-M6X40	TORNILLO ALLEN - DIN912 - M6X40	10
61		020-D912-M6X35	TORNILLO ALLEN - DIN912 - M6X35	6
62		020-D912-M6X30	TORNILLO ALLEN - DIN912 - M6X30	11
63		020-D912-M6X25	TORNILLO ALLEN - DIN912 - M6X25	116
64		020-D912-M6X20	TORNILLO ALLEN - DIN912 - M6X20	16
65		020-D912-M6X12	TORNILLO ALLEN - DIN912 - M6X12	32
66		020-D912-M5X20	TORNILLO ALLEN - DIN912 - M5X20	30
67		020-D125B-M6	ARANDELA BISELADA - DIN125B - M6	2
68		DIN 7984 - M6 x 16	TORNILLO ALLEN CABEZA REBAJADA - DIN7984 M6X16	16

Limit structure



Elemento	Miniatura	Nº de pieza	Descripción	CTDAD
2.1		125-17-01-50057	PERFIL ESTRUCTURA LONGITUDINAL - L = 3000mm	2
2.2		125-17-01-50058	PERFIL FRONTAL REFUERZO ESTRUCTURA LONGITUDINAL - L = 310mm	1
2.3		125-17-01-50059	PERFIL REFUERZO ESTRUCTURA LONGITUDINAL - L = 310mm	6
2.4		125-17-01-50060	PERFIL ESTRUCTURA TRANSVERSAL - L = 621mm	2
2.5		031-MIN-00008	PLACA FIJACION PIE	2
2.6		122-CAL-1701-002	REGLA CARRO LONGITUDINAL 3000mm	1
2.7		031-MIN-00001	FIJACION PERFILERIA - 21.1018	4
2.8		031-MIN-00002	PIE REGULABLE - 21.1842	2
2.9		031-MIN-00003	TAPA PERFILERIA - 22.1007	2
2.10		020-D6912-M8X25	TORNILLO ALLEN CABEZA REBAJADA - DIN 6912 - M8X25	4
2.11		020-D912-M8X20	TORNILLO ALLEN - DIN912 - M8X20	4
2.12		020-D91-M6X16	ESPARRAGO ALLEN - DIN913 - M6X16	4
2.13		020-D912-M8X25	TORNILLO ALLEN - DIN 912 - M8X25	30

## OUR RANGE OF MACHINERY



IRON WORKERS



SECTION BENDING  
MACHINES



NON-MANDREL  
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HYDRAULIC PRESS  
BRAKES



HYDRAULIC SHEAR  
MACHINES



GAS FORGES



IRON EMBOSSING  
MACHINES



END WROUGHT IRON  
MACHINES



BROACHING  
MACHINES



POWER HAMMERS



PRESSES FOR LOCKS