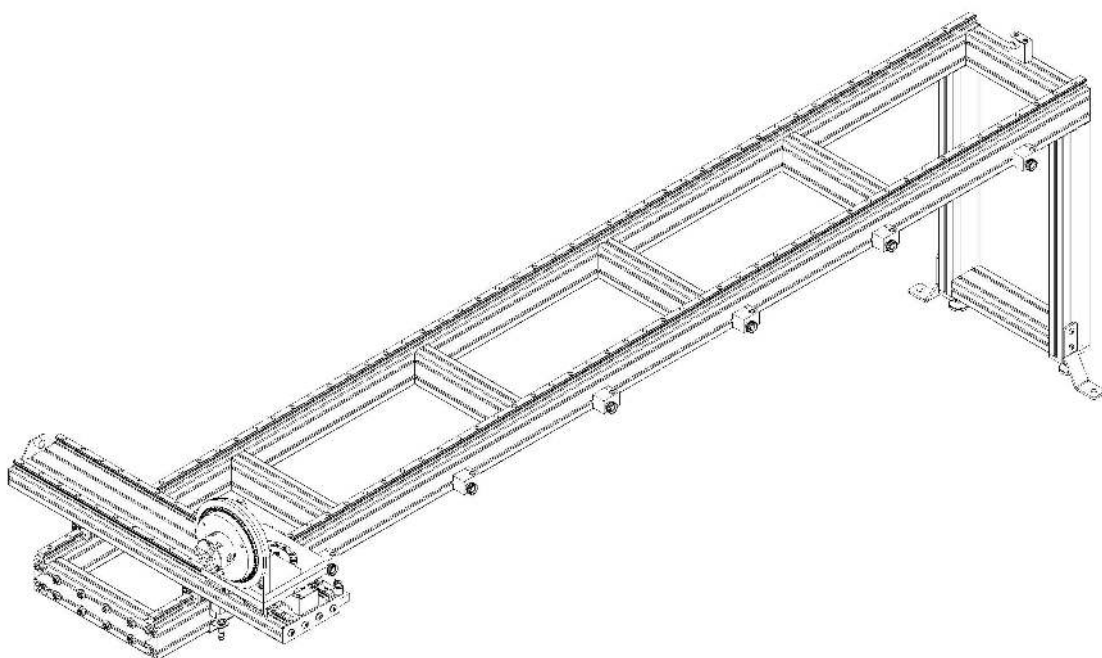


2-AXIS POSITIONER LIMIT

NON-MANDREL PIPE BENDER CC90



INSTRUCTIONS BOOK

PRADA NARGESA, S.L

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Thank you for choosing our machines



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TECHNICAL ANNEXES

1. ACCESSORY DETAILS

1.1. Accessory Identification

Make	NARGESA
Type of accessory	2-axis positioner limit
Model	CC90

1.2. Dimensions

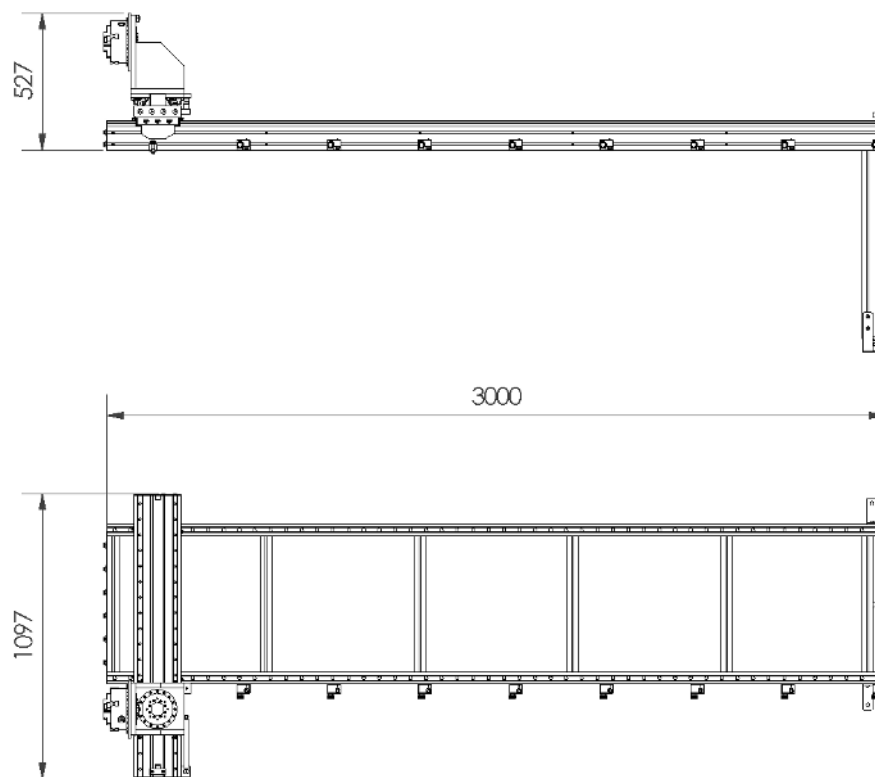


Figure 1. Outside dimensions of Pipe Bender Limit CC90

1.3. Accessory Description

The Non-Mandrel Pipe Bender Limit CC90 is an accessory specifically designed to position the pipe or profile during bending.

The CC90 limit makes it possible to produce serial parts faster with more precision and repetitiveness.

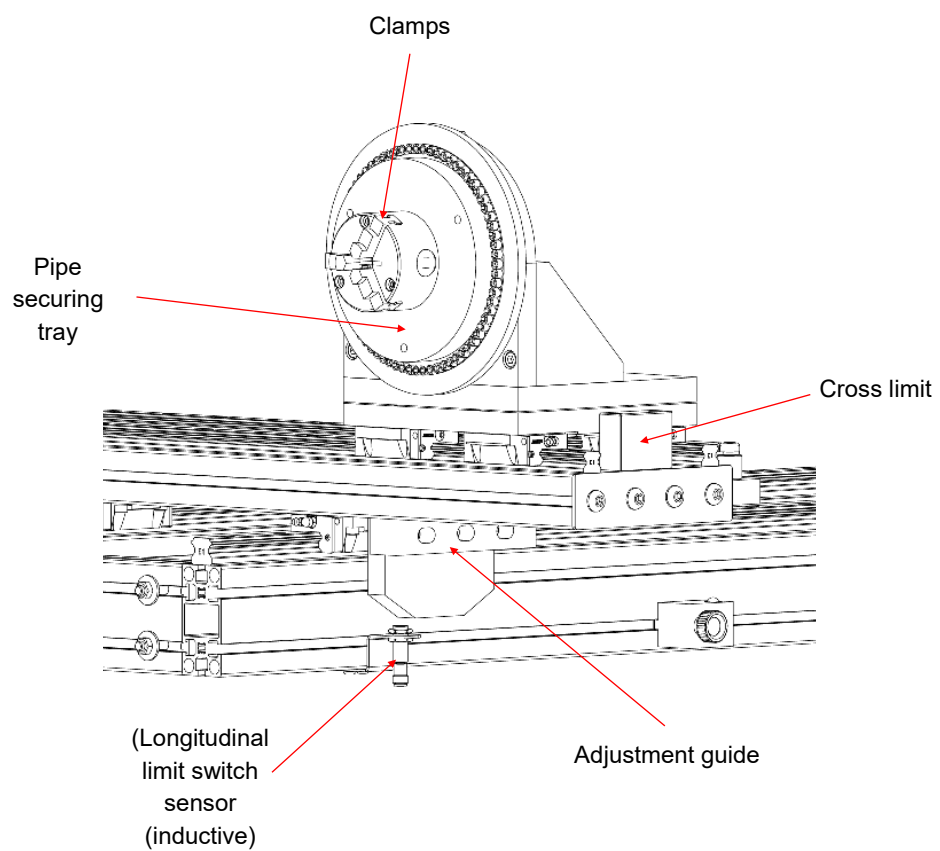
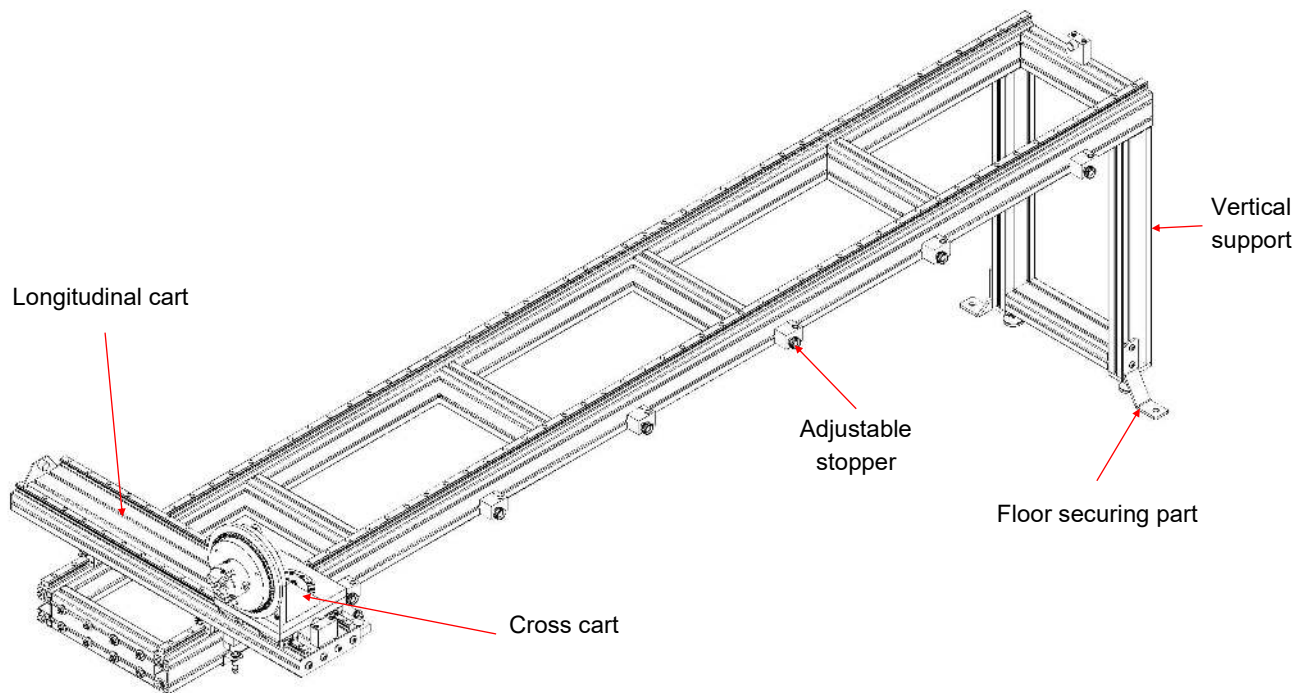
- Adjustable longitudinal positioning with 6 positions
- Angular head rotation every 5 degrees
- Adjustable four-hook tray for round and square pipes
- Longitudinal movement with high-precision linear guides
- Automatic anti-collision control
- Easy handling and preparation for complex parts

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.

1.4. General Characteristics

Reference	140-17-02-50001
Max. size round steel pipe	90mm o 3" Schedule-40 o 3" 1/2
Max. size round steel through pipe	42.4 mm or 1 1/4"
Max. angle of curvature	-180° / 0° / 180°
Dimensions	3000x1097x1131 mm
Weight	135 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.

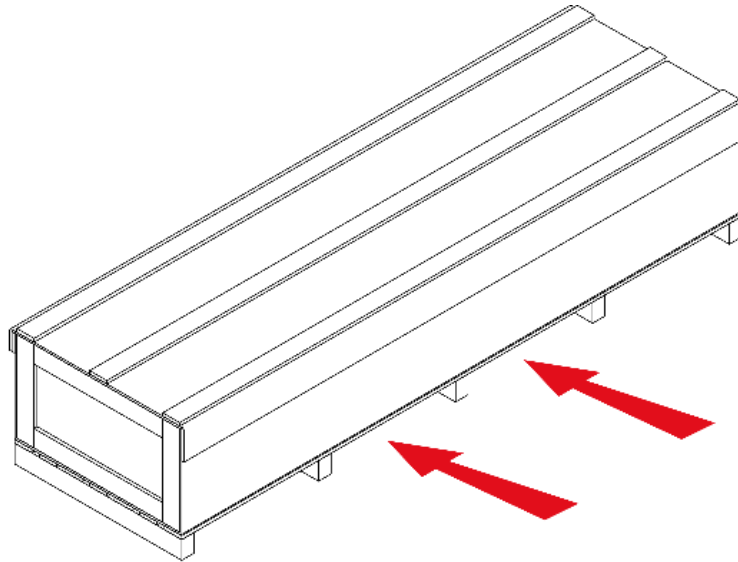


Figure 4. Moving the Limit

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

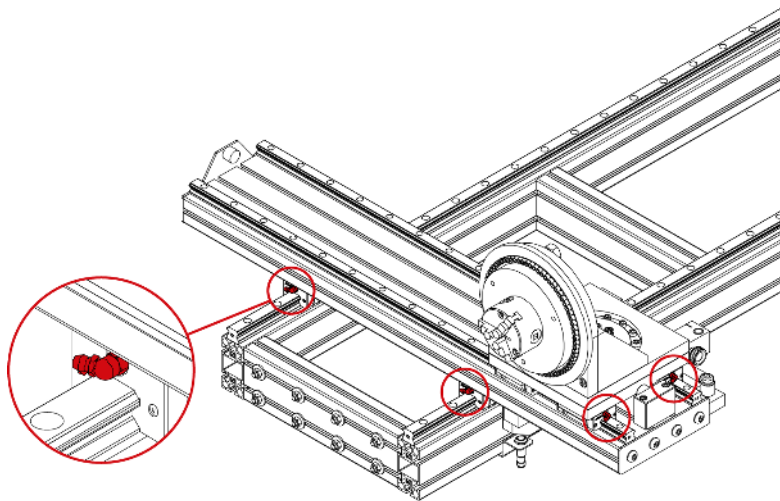
3. MAINTENANCE

3.1. Greasing the Moving Parts

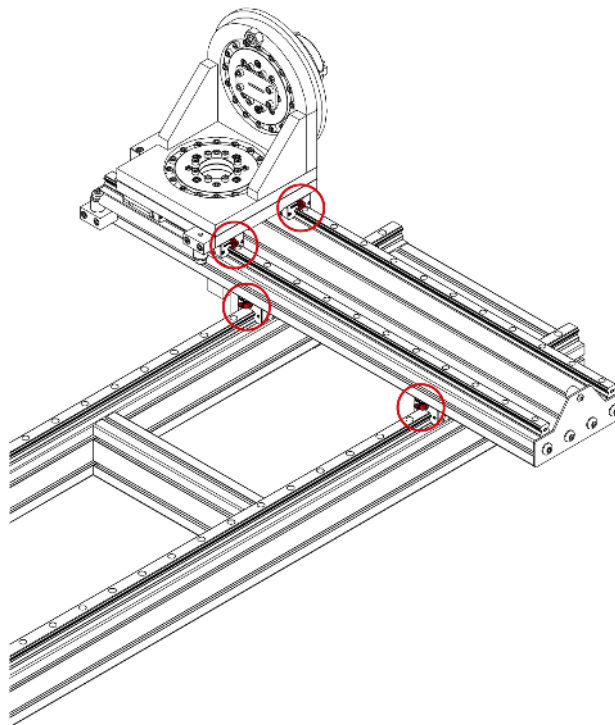
Keeping the moving parts on the limit clean is recommended to ensure proper operation and extend the service life.

To grease the limit skids on the CC90, 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.

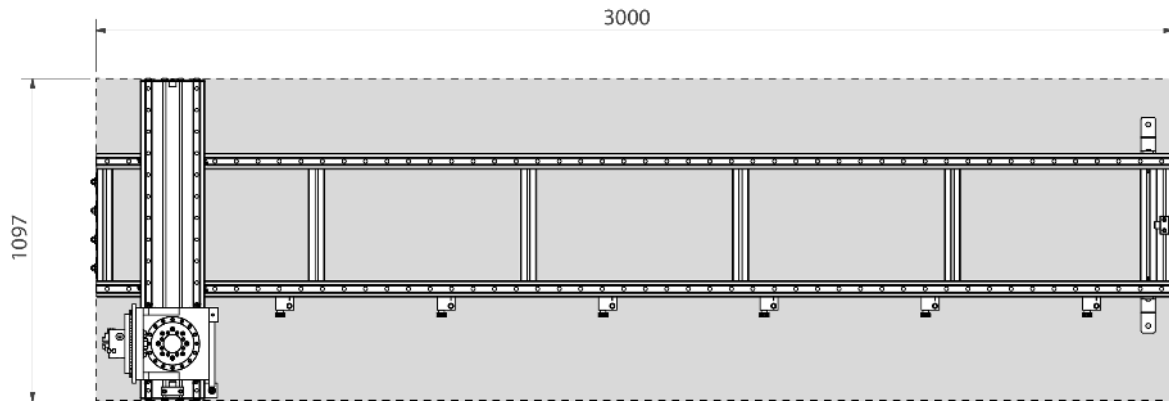


Figure 6. Limit Work Area

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

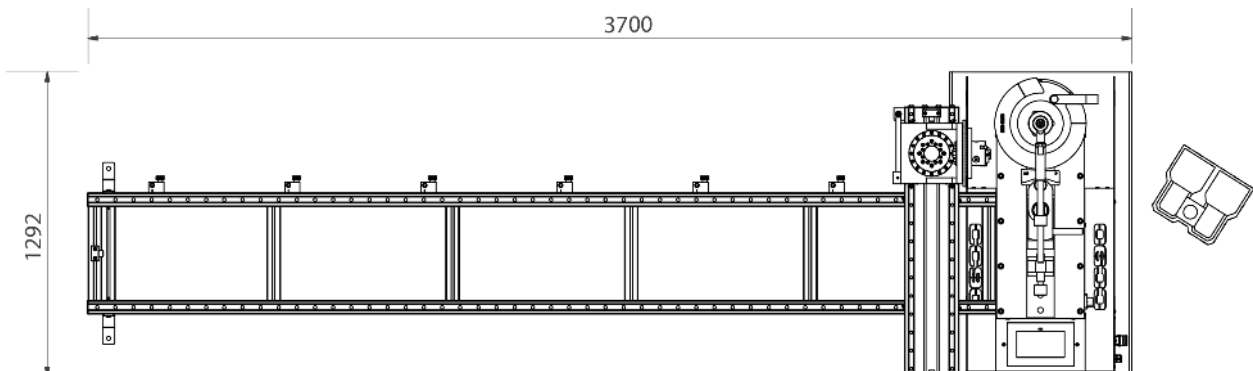


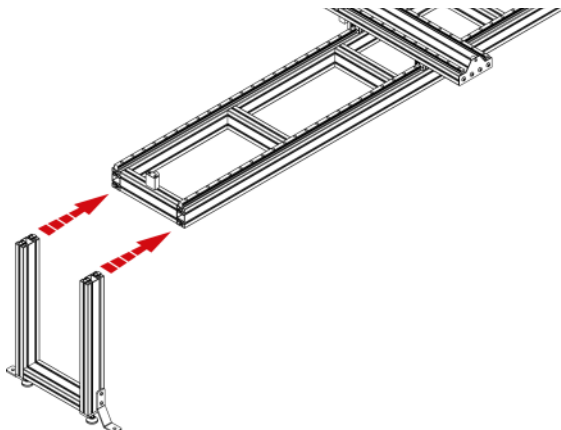
Figure 7. Layout

4.3. Acceptable External Conditions

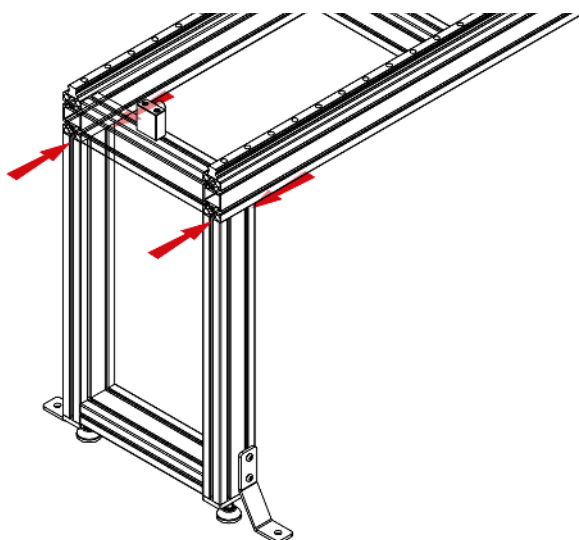
- A room temperature of +5°C to +40°C without exceeding an average temperature of +35°C over 24 hours.
- Moisture of 30-90% without water condensation.

4.4. Installing the Limit

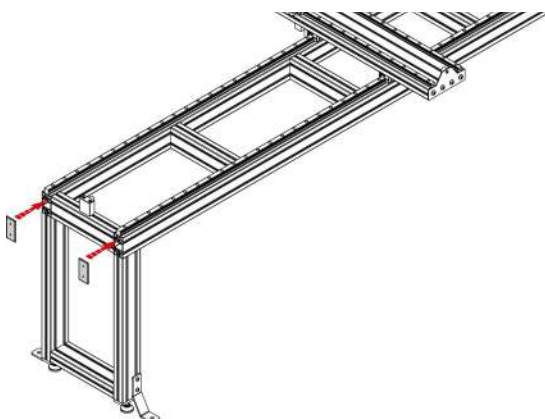
1. Install the vertical limit support by inserting it into the guides on the end and screw in.



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

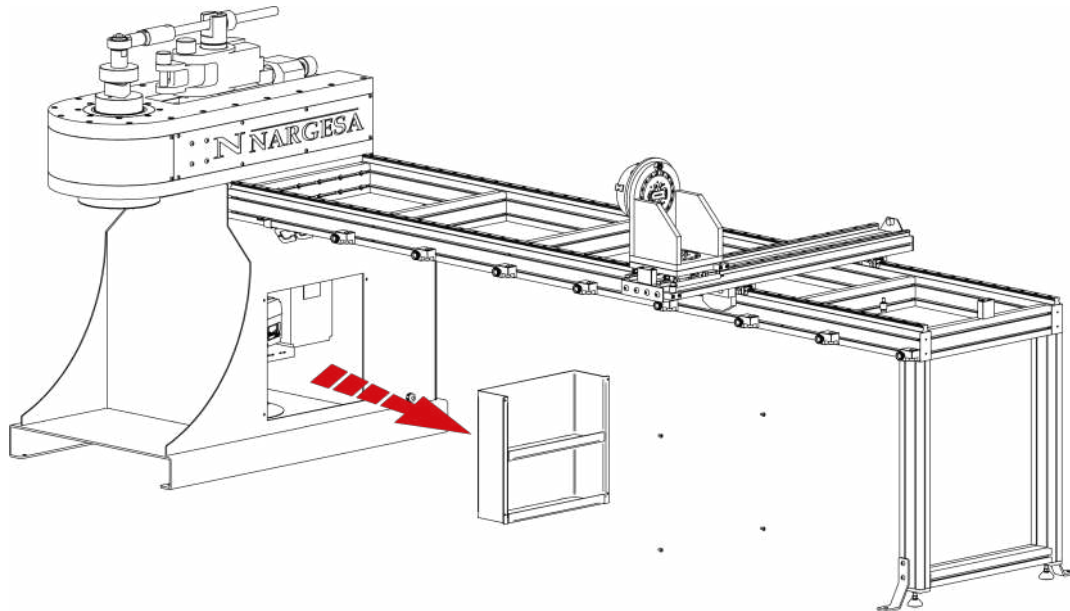


3. Install the guide covers by firmly pressing. Use a plastic hammer if necessary.

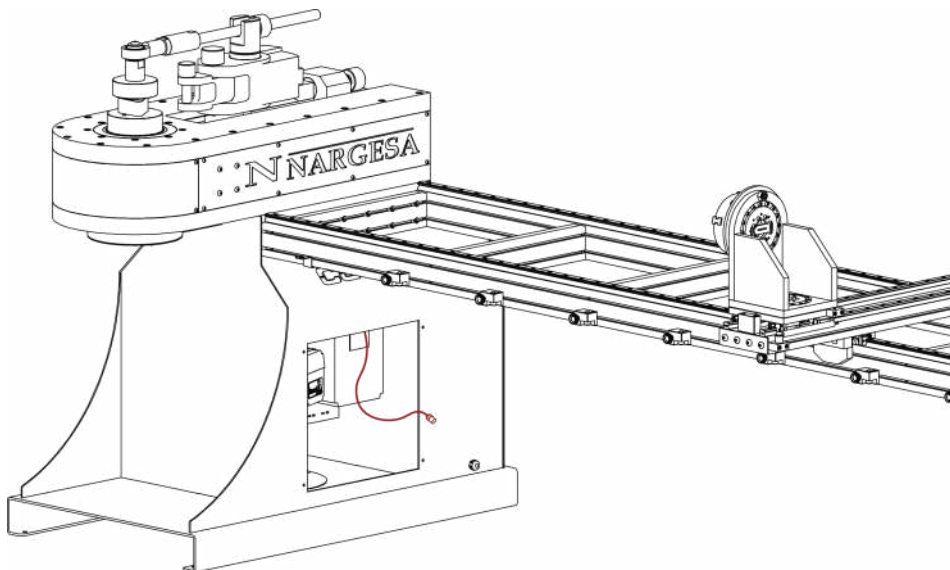


ATTENTION: To secure the limit to the machine, you must stop the machine and press the “Emergency Stop” button.

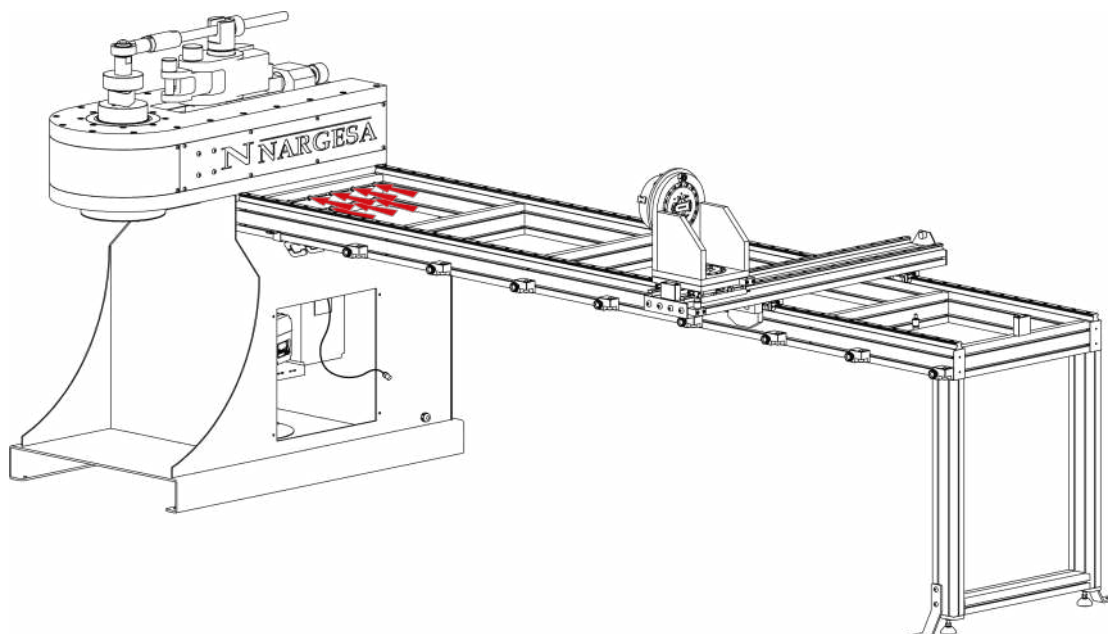
4. Unscrew and remove the side shelf of the machine.



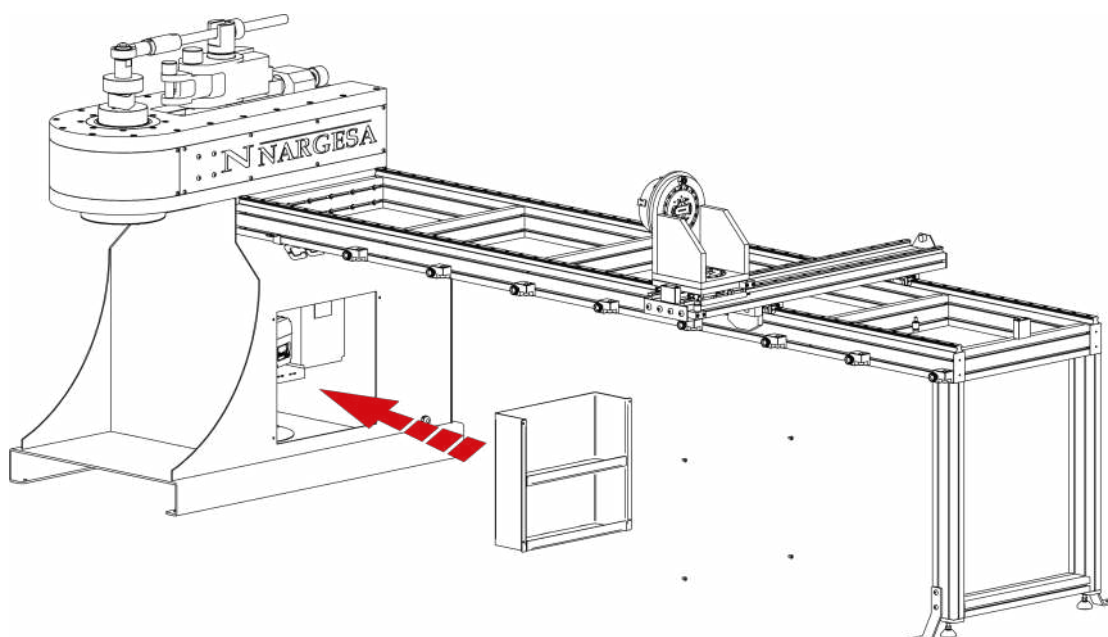
5. We lead the end of the inductive wire from the inside to the outside of the machine, through the hole in the shelf.



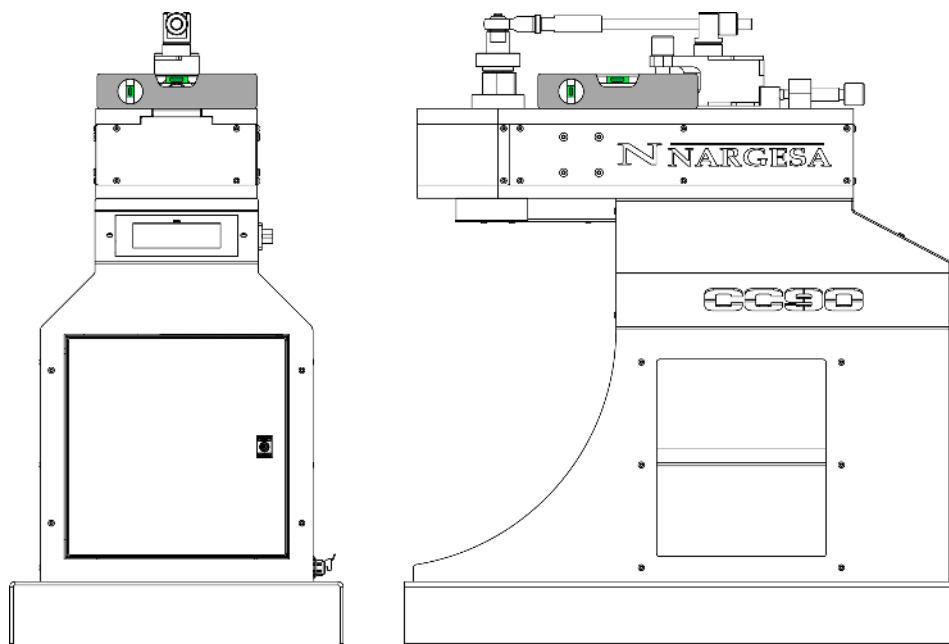
6. Install the limit on the side of the machine indicated in the image. Remove the 8 screws supplied with the machine and screw the limit to it using ***the 8 screws supplied with the limit.***



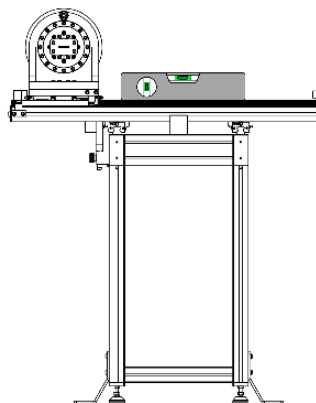
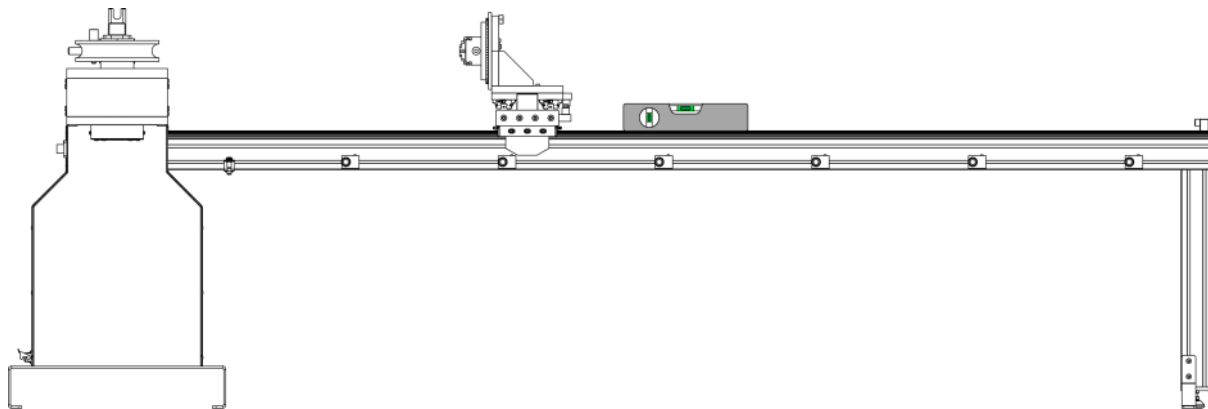
7. We put the shelf back in its place and attach it to the machine by fastening the bolts.



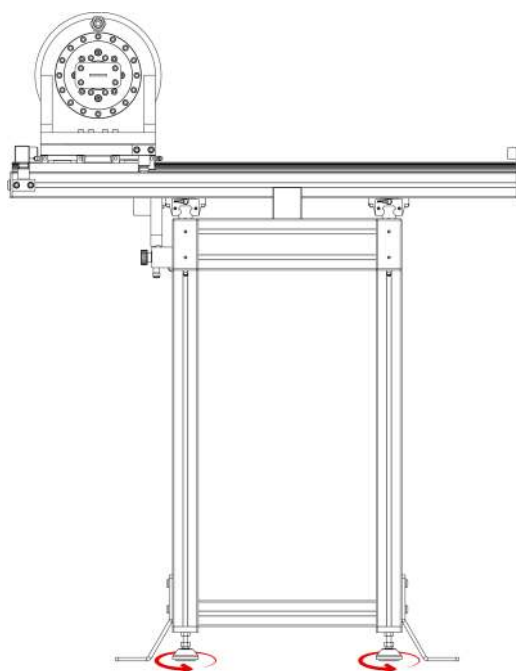
8. Level the machine on the two axes.



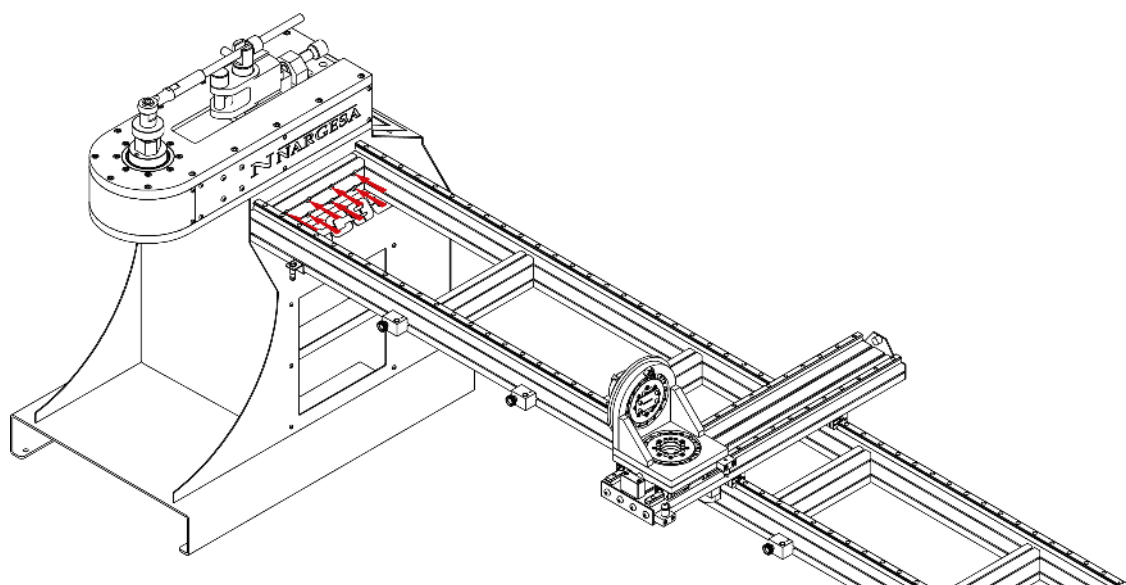
9. Level the limit on the two axes.



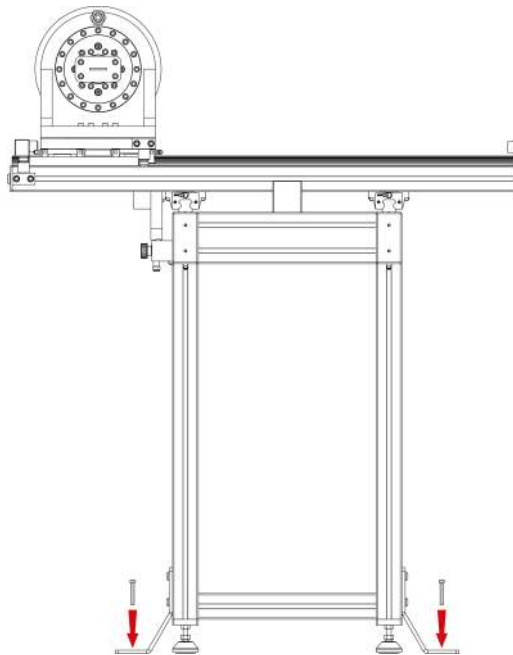
10. Adjust the height of the vertical support using the two adjustable legs, adjusting the limit to a level position.



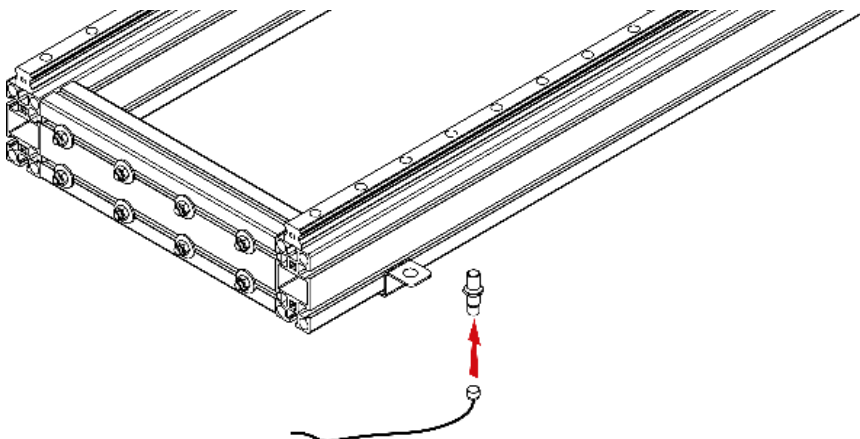
11. Check that the limit is completely level before definitively securing it to the machine by tightening the 8 screws well.



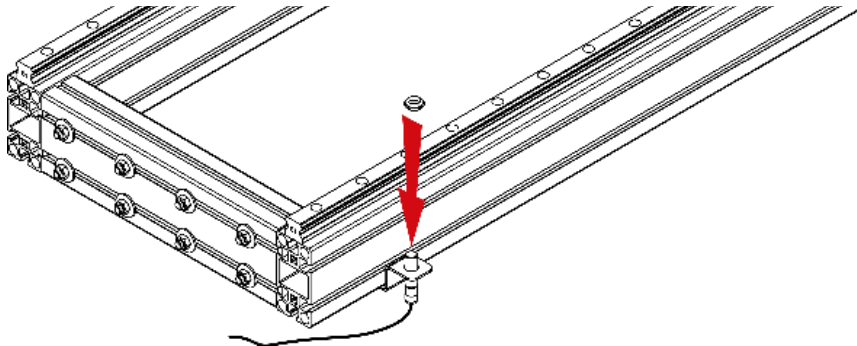
12. Secure the two securing parts ***supplied with the limit*** to the ground.



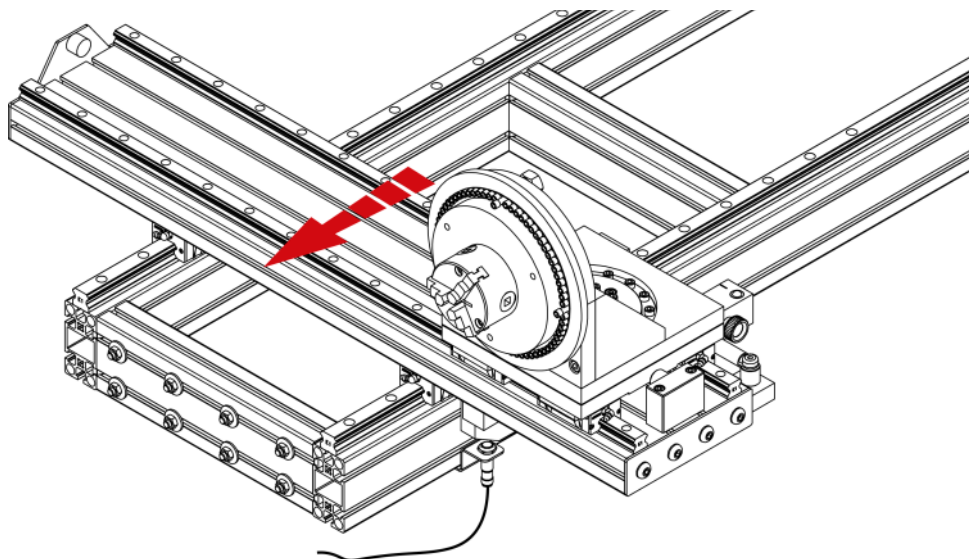
13. Connect the machine inductive sensor cable by tightening it with the limit inductive sensor.



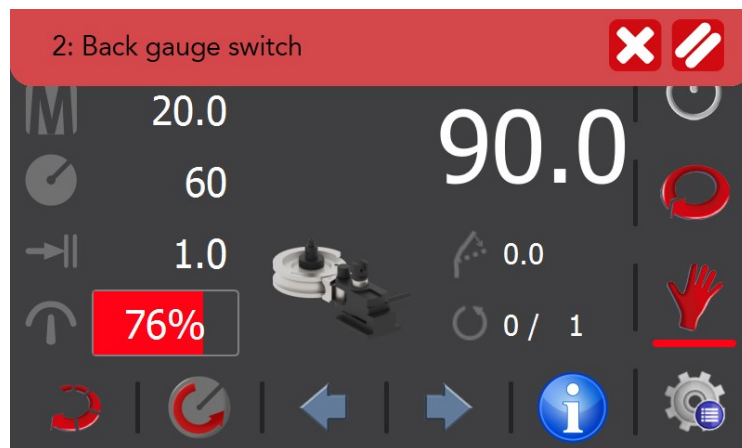
14. Place the inductive sensor in the limit chassis support and secure it with the bolt. Start the machine using the power switch.



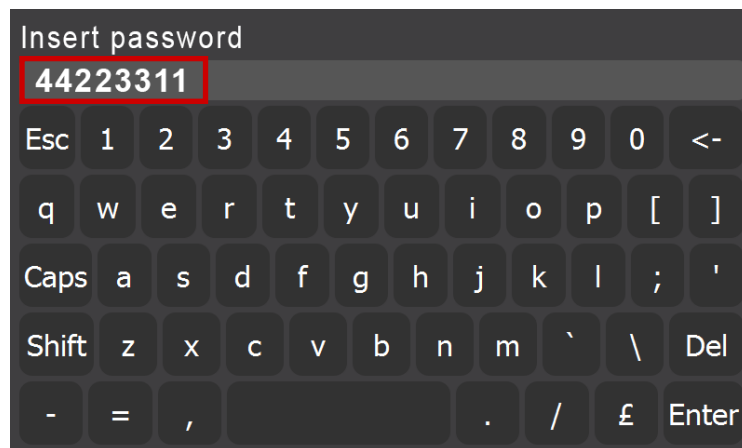
15. Slide the longitudinal cart until the inductive sensor LEDs turn off. This means it was detected. Make sure the clamps do not collide with the machine in this cart position.



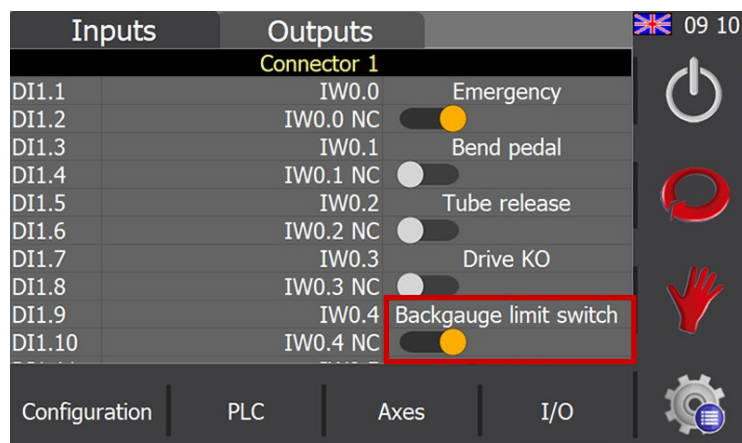
16. The following message appears on the control screen. Press **x** so it will disappear.



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



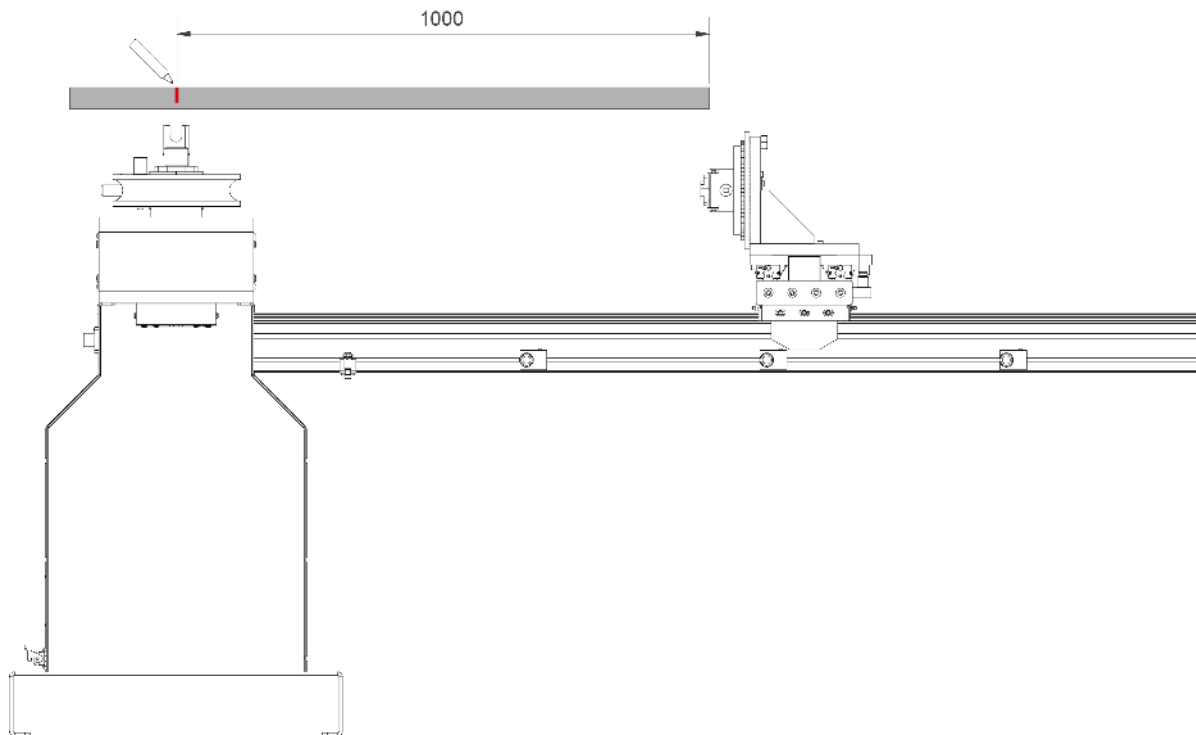
18. Access the E/S menu and activate the **backgauge limit switch**. Press  to return to the home screen. When the inductive sensor is working, the machine will automatically stop as soon as the longitudinal cart reaches this limit to prevent the cart from colliding with the machine.



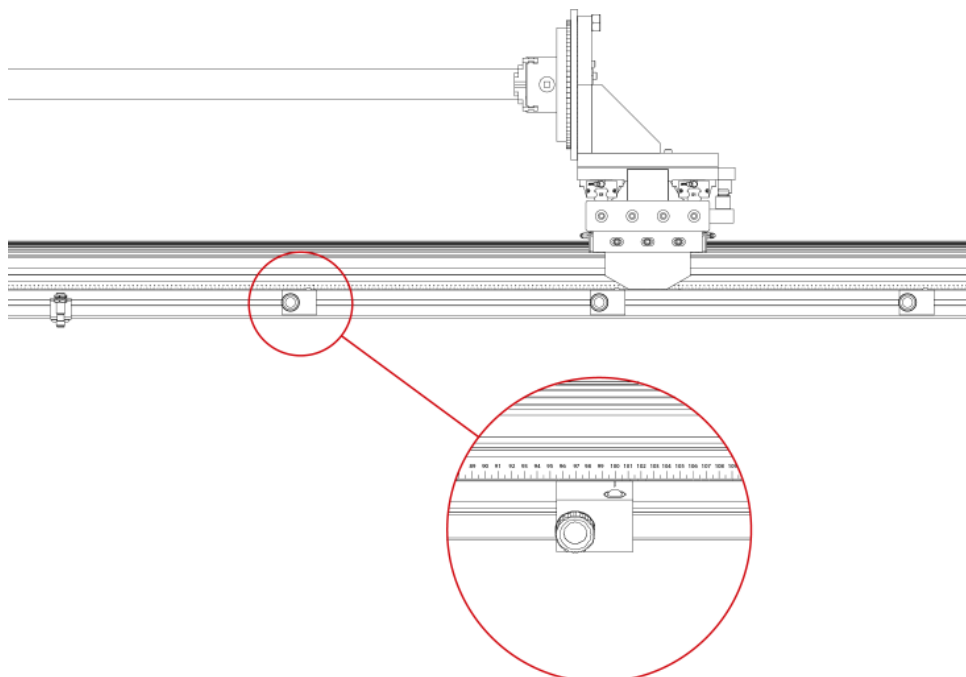
4.5. Adjusting the Limit

The bender switch CC90 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.

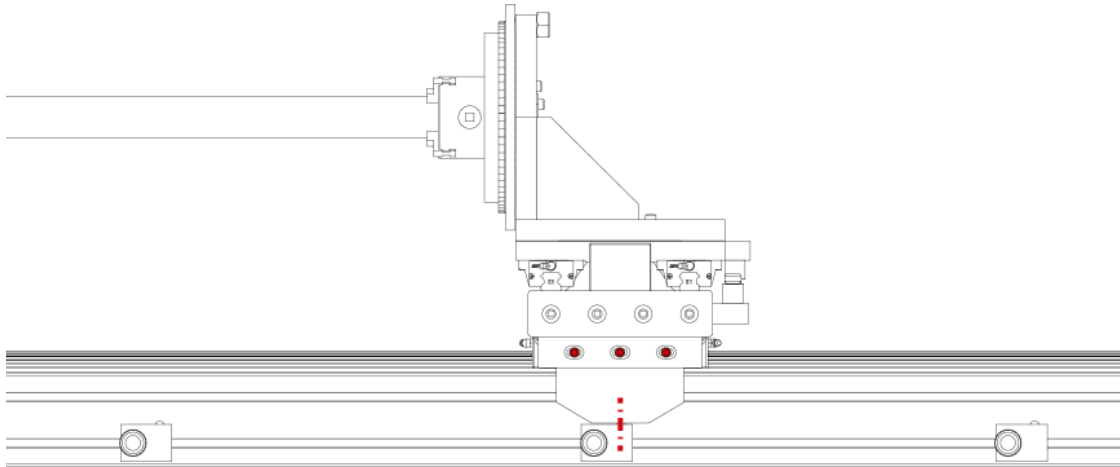
1. Insert a pipe measuring 1200 mm minimum in the limit as indicated in section **5.2. *Securing the Pipe to the Limit***. Use a marker to make a mark at 1000 mm on the other end of the pipe and place it in the main roller.



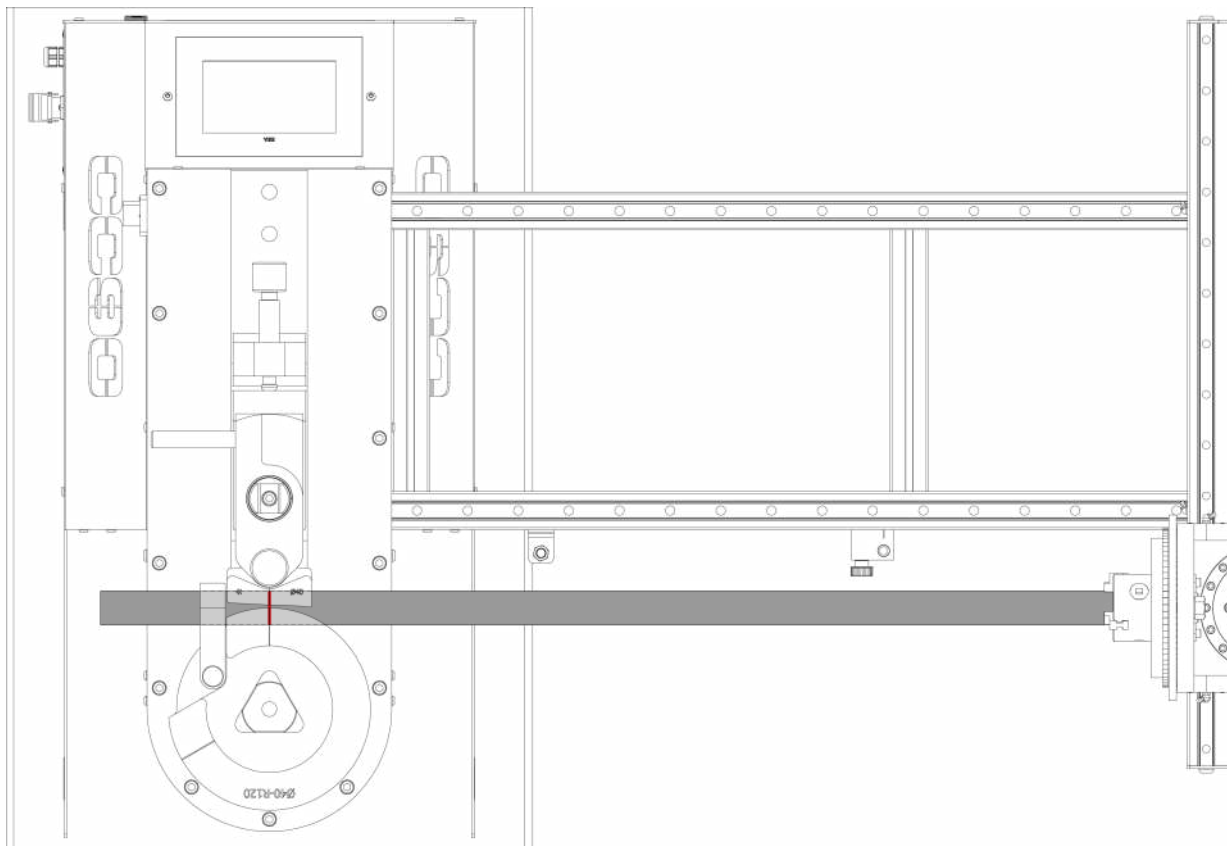
2. Place one of the adjustable stoppers at 100 mm and secure it.



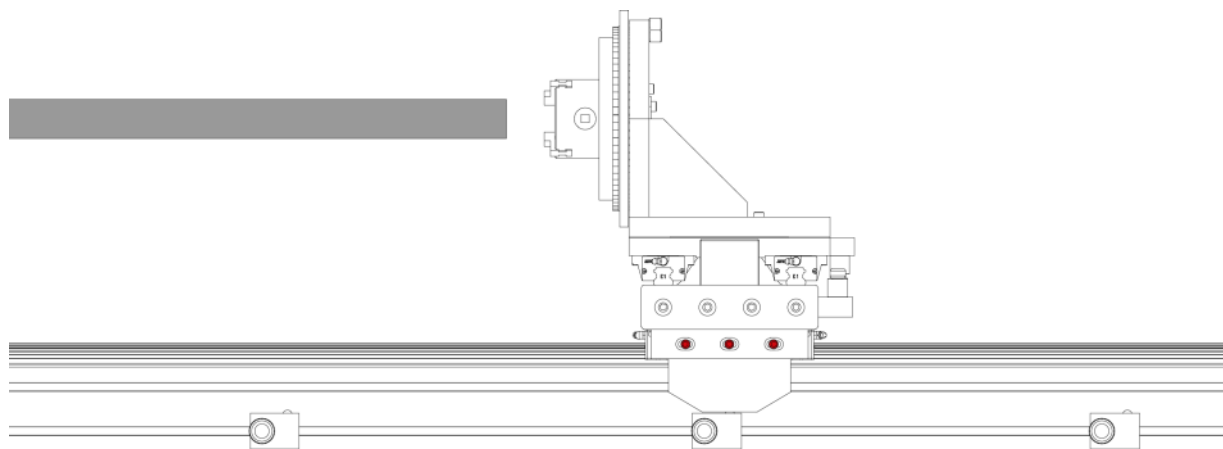
3. Adjust the longitudinal cart with the stopper and loosen the screws in the adjustment guide.



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

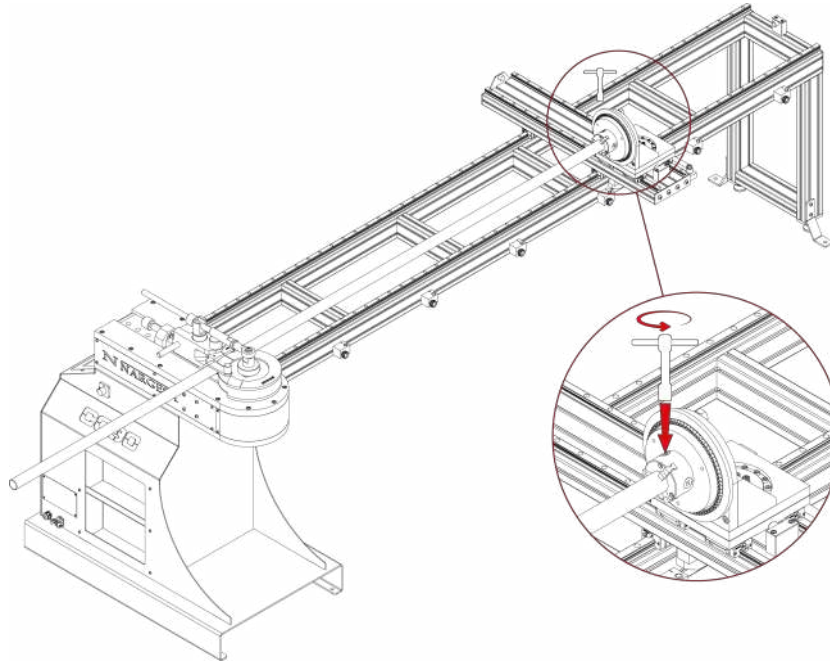
5.1. Limit Features and Use

The CC90 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.

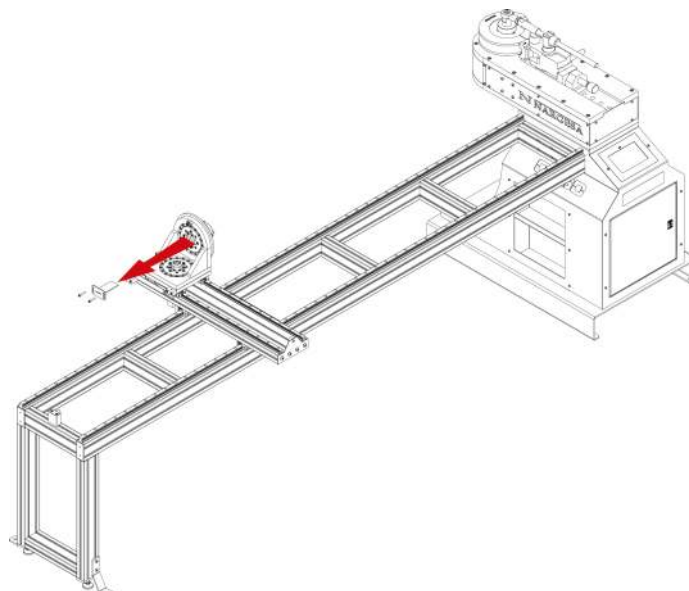
To release the pipe, loosen the clamps using the wrench until the tray comes loose.



5.3. Installing the Through Pipe

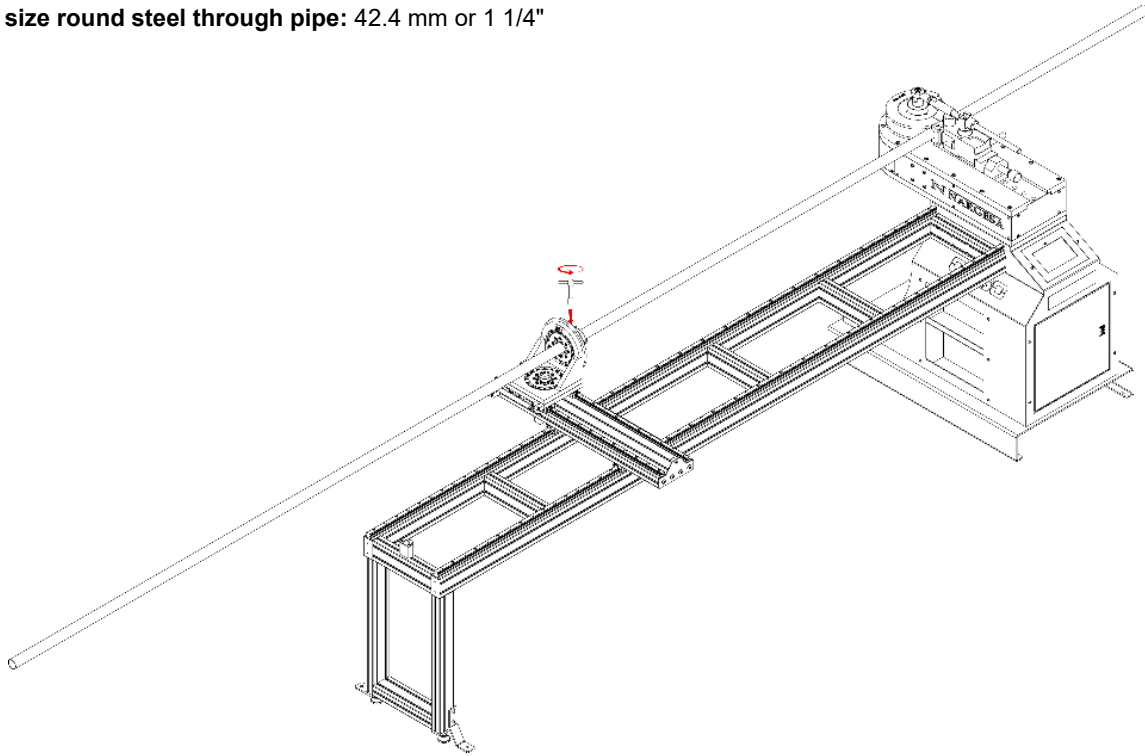
If you use a pipe that is longer than 3000 mm, use the central opening on the securing tray so the material goes through it.

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



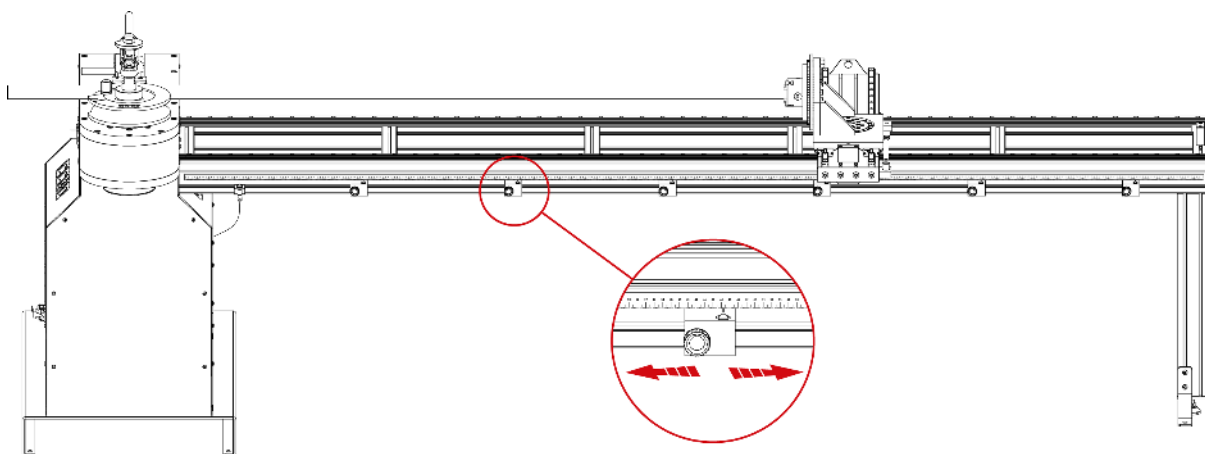
Remove the plate and insert the pipe through the tray. Screw the pipe to the tray by tightening the clamps using the wrench.

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



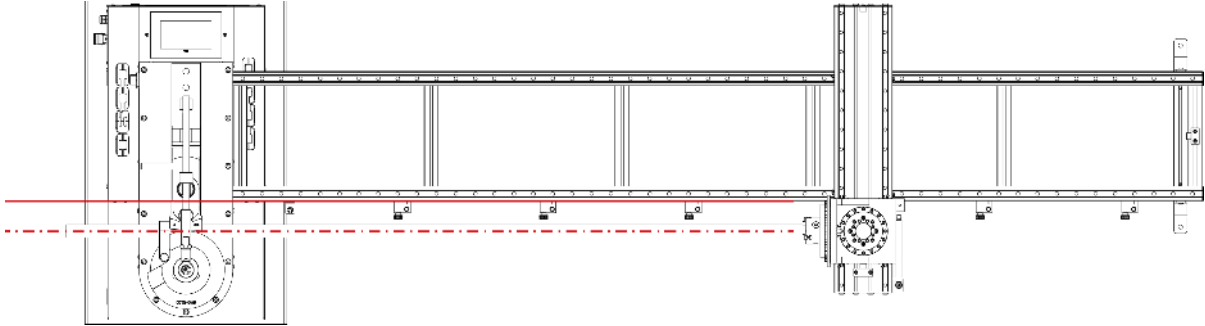
5.4. Adjusting the Longitudinal Limits

The CC90 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.

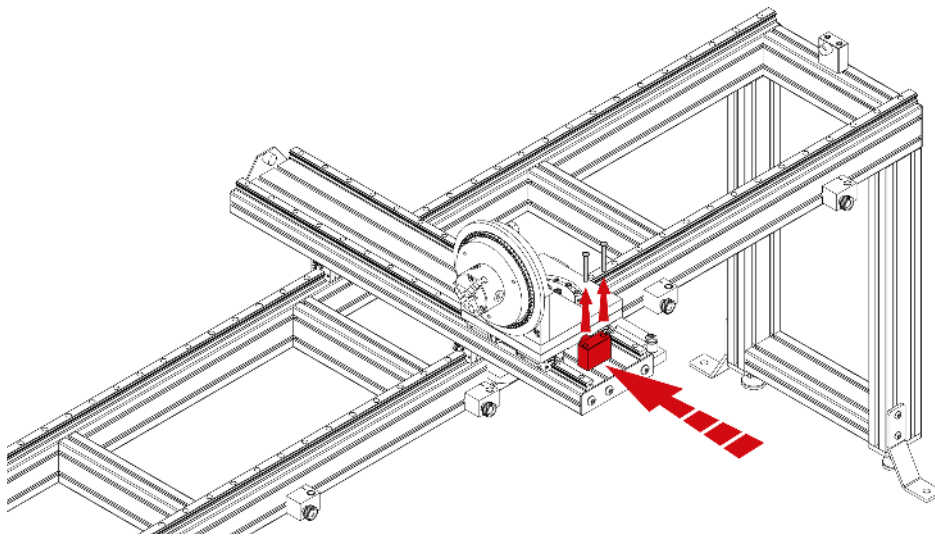


5.5. Adjusting the Cross Limit

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

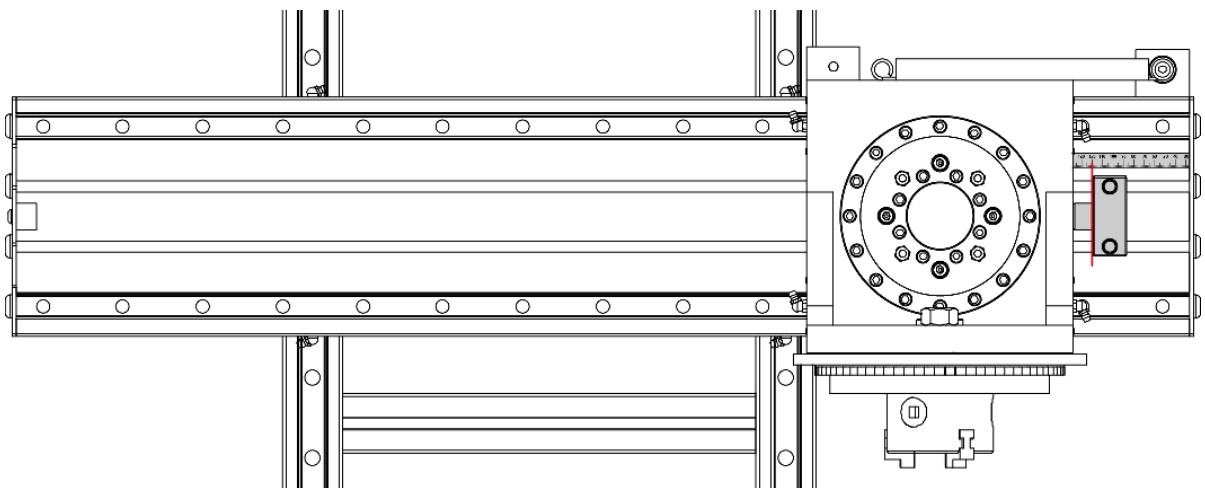


Move the cross limit by unscrewing the two screws and moving the limit.



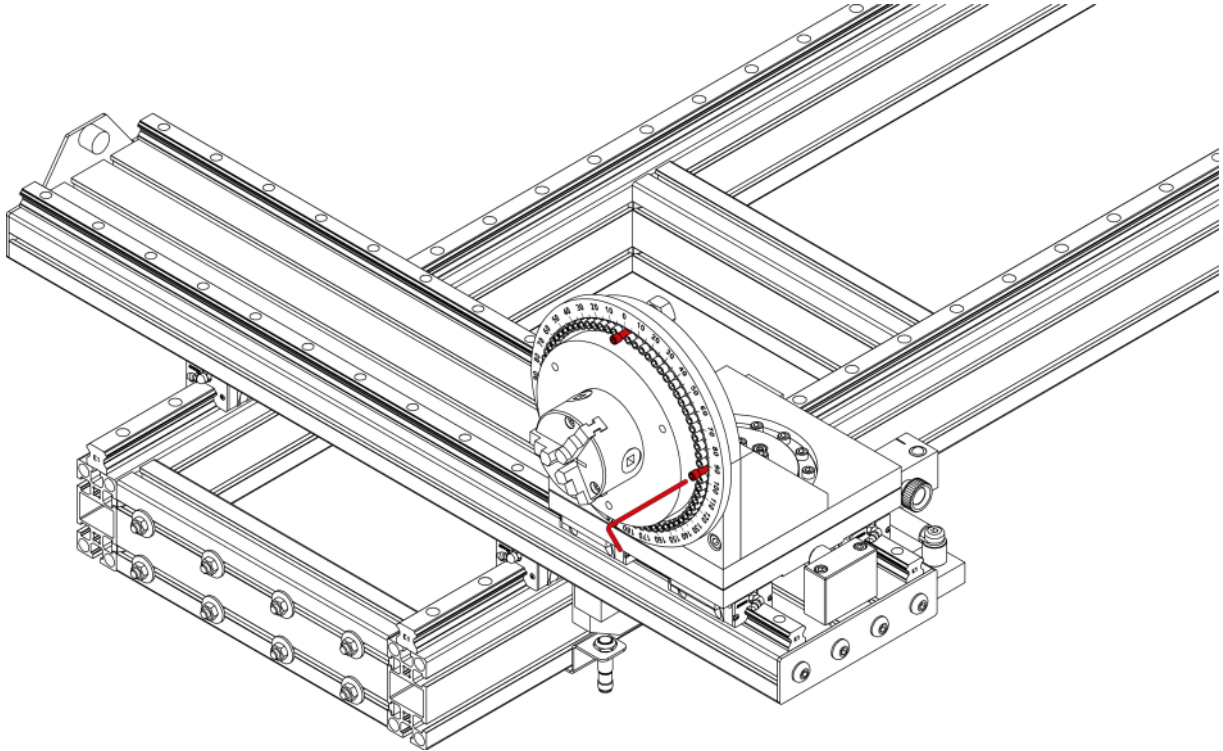
Use the ruler to position the limit to the same size as the radius of the main roller. As soon as it is in the correct position, secure it to the longitudinal cart by tightening the two screws.

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.



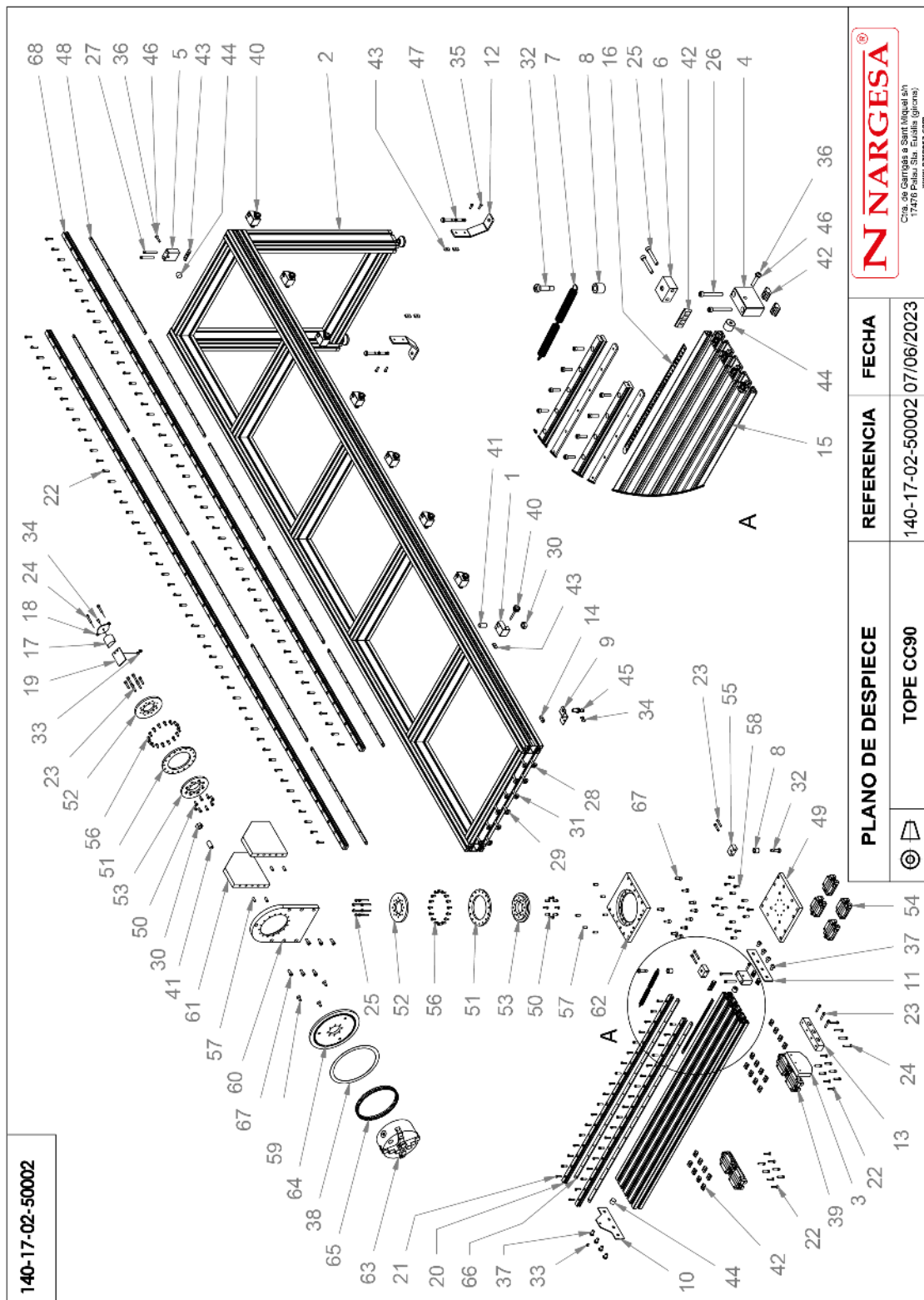
Technical Annex

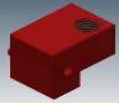
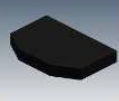
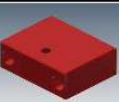
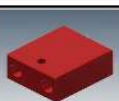
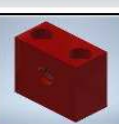
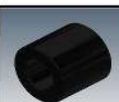
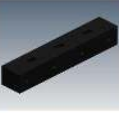
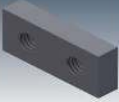
Non-Mandrel Pipe Bender Limit CC90

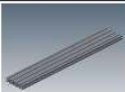
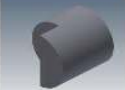
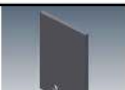
General blow-up view

Limit structure

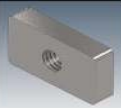
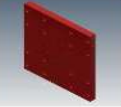
General blow-up view

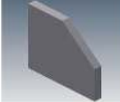
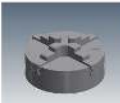
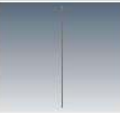


Elemento	Miniatura	Nº de pieza	Descripción	CTDAD
1		125-17-01-50001	CUERPO POSICIONADOR	8
2		131-17-02-50102	ESTRUCTURA TOPE CC90	1
3		125-17-01-50017	TOPE FIJO CARRO LONGITUDINAL	1
4		125-17-01-50018	SOPORTE TOPE TRANSVERSAL	1
5		125-17-01-50019	SOPORTE TOPE LONGITUDINAL	1
6		125-17-01-50021	SOPORTE MUELLE FIJO	1
7		125-17-01-50022	Muelle del Carro Tope CC	2
8		125-17-01-50023	SEPARADOR MUELLE	2
9		125-17-01-50024	SOPORTE INDUCTIVO	1
10		125-17-01-50025	CHAPA TOPE TRANSVERSAL	1
11		125-17-01-50026	CHAPA TAPA PERFIL TRANSVERSAL	1
12		125-17-01-50027	FIJACION PATAS AL SUELO	2
13		125-17-01-50029	FIJACIÓN SOPORTE TOPE FIJO CARRO LONGITUDINAL	1
14		125-17-01-50030	TUERCA FIJACION SENSOR INDUCTIVO	1

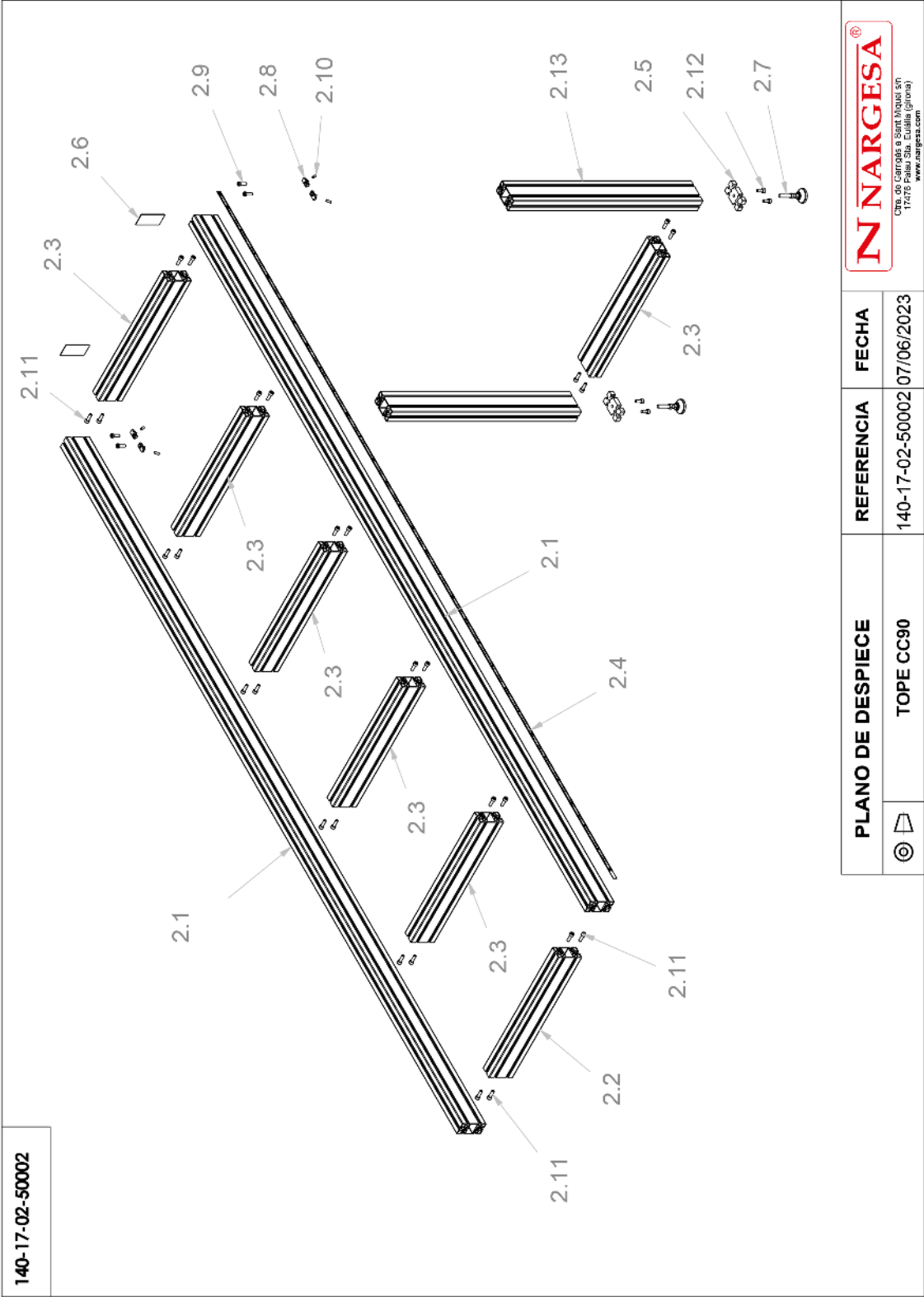
Elemento	Miniatura	Nº de pieza	Descripción	CTDAD
15		125-17-02-50062	Perfil Carro Superior Transversal	1
16		125-17-01-50063	CINTA METRICA TOPE LONGITUDINAL	1
17		125-17-01-50065	Soporte Intermedio Tope	1
18		125-17-01-50066	Chapa Fijación Tope	1
19		125-17-01-50067	Tope Plato	1
20		125-17-02-50011	GUIA SUPERIOR TRANSVERSAL	2
21		020-D912-M5X20	TORNILLO ALLEN DIN912 M5X20	36
22		020-D912-M6X25	Tornillo Allen DIN912 M6X25	116
23		020-D912-M6X30	Tornillo Allen DIN912 M6X30	11
24		020-D912-M6X35	TORNILLO ALLEN DIN912 M6X35	6
25		020-D912-M6X40	TORNILLO ALLEN DIN912 M6X40	10
26		020-D912-M6X50	TORNILLO ALLEN DIN912 M6X50	2
27		020-D912-M6X60	TORNILLO ALLEN DIN 912 M6X60	2
28		020-D912-M8X45	TORNILLO ALLEN DIN912 M8X45	12

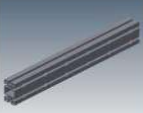
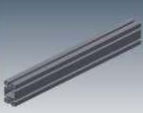
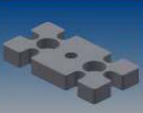
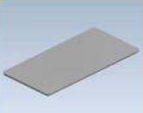
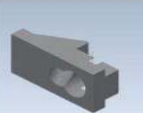
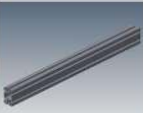
Elemento	Miniatura	Nº de pieza	Descripción	CTDAD
29		020-D934-M8	TUERCA HEXAGONAL DIN934 M8	12
30		020-D934-M16	TUERCA HEXAGONAL DIN934 M16	9
31		020-D9021-M8	ARANDELA ANCHA DIN9021 PARA M8	12
32		020-I7379-D10X25	TORNILLO GUIA ISO7379 D10x25	2
33		020-I7380-M6X8	Tornillo Allen Abombado ISO7380 M6X8	3
34		020-I7380-M6X12	TORNILLO ALLEN ABOMBADO ISO7380 M6X12	3
35		020-I7380-M6X20	Tornillo Allen Abombado ISO7380 M6X20	4
36		020-I7380-M6X30	TORNILLO ALLEN ABOMBADO ISO7380 M6X30	2
37		020-I7380-M10X16	Tornillo Allen Abombado ISO7380 M10X16	8
38		122-CAL-1701-001	Circulo Milimetrado 0-180/180-0 - Aluminio	1
39		030-PL-00002-R00	PATIN LINEAL T25 SNA	4
40		031-POMM-00012	POMO MACHO REDONDO D26 M6X50	8
41		031-POS-00001	POSICIONADOR MUELLE GN615.3-M16-K	9
42		031-PRF-00001	Tuerca T - Perfil Aluminio Sigma - M6 - Ranura 10	24

Elemento	Miniatura	Nº de pieza	Descripción	CTDAD
43		031-PRF-00002	Tuerca Rectangular - Perfil Aluminio Sigma Especial (PN) " - M6 - Ranura 8	14
44		031-SIB-00006	SLENTBLOCK D20x15 HEMBRA M6	3
45		050-IND-00006	DETECTOR INDUCTIVO SCHNEIDER XS112B3PBM12	1
46		020-D125B-M6	ARANDELA BISELADA DIN125B PARA M6	2
47		020-TM-10CM8x60	Taco Metálico 10 – Tornillo M8x60	2
48		125-17-01-50075	PLETINA AMARRE GUINA INFERIOR LONGITUDINAL	10
49		125-17-01-50050	PLACA INFERIOR	1
50		020-D7984-M6X16	TORNILLO ALLEN CABEZA REDONDA DIN7984 M6X16	16
51		125-17-01-50056	DISCO POSTERIOR COJINETE	2
52		125-17-01-50055	DISCO DE ROTACION COJINETE	2
53		125-17-01-50054	DISCO GUIA COJINETE	2
54		030-PL-00003	PATIN LINEAL T20 SNA	4
55		125-17-01-50020	SOPORTE MUELLE CARRO	1
56		020-D912-M6X12	TORNILLO ALLEN DIN912 M6X12	32

Elemento	Miniatura	Nº de pieza	Descripción	CTDAD
57		030-D7979D-00002	PASSADOR CILINDRICO DIN 7979D D8X20	10
58		020-D912-M6X20	TORNILLO ALLEN DIN912 M6X20	16
59		020-D7991-M8X20	TORNILLO ALLEN AVELLANADO DIN7991 M8X20	3
60		125-17-02-50052	Placa Frontal	1
61		125-17-02-50053	Cartela Refuerzo	2
62		125-17-02-50051	Placa Superior	1
63		031-PG-00001	PLATO TORNO	1
64		125-17-01-50016	FIJACIÓN PLATO Y REGULACIÓN ANGULO	1
65		125-17-01-50028	TORNILLO POSICIONADOR M6	72
66		125-17-02-50076	PLETINA AMARRE GUINA SUPERIOR TRANSVERSAL	2
67		020-D912-M8X20	TORNILLO ALLEN DIN912 M8X20	16
68		125-17-01-50009	GUIA INFERIOR LONGITUDINAL	2

Limit structure



Elemento	Miniatura	Nº de pieza	Descripción	CTDAD
2.1		125-17-01-50057	PERFIL ESTRUCTURA TOPE 1	2
2.2		125-17-02-50058	PERFIL ESTRUCTURA TOPE 2	1
2.3		125-17-02-50059	PERFIL ESTRUCTURA TOPE 3	6
2.4		122-CAL-1701-002	Cinta Mètrica Autoadhesivo 3000x13	1
2.5		031-MIN-00008	PLACA FIJACION PIE	2
2.6		031-MIN-00003	TAPA PERFIL MINITEC 22.1007	2
2.7		031-MIN-00002	PIE MINITEX 21.1842	2
2.8		031-MIN-00001	Fijación Perfil Minitec 90º 21.1018	4
2.9		020-D6912-M8X25	TORNILLO ALLEN CABEZA REDUCIDA DIN 6912 M8X25	4
2.10		020-D913-M6X16	Esparrago Allen DIN913 M6X16	4
2.11		020-D912-M8X25	TORNILLO ALLEN DIN 912 M8 x25	28
2.12		020-D912-M8X20	TORNILLO ALLEN DIN912 M8X20	4
2.13		125-17-02-50061	PERFIL ESTRUCTURA TOPE 4	2

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BROACHING
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POWER HAMMERS



PRESSES FOR LOCKS