

CONSTRUCCIONES MECÁNICAS ENDAKI, S.L.
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ACTIVITIES

Machining of medium and large-sized precision parts according to customer's drawings **up to 65.000 kgs part weight** depending on machine type.

INDUSTRIES WE SERVE

Energy:

Wind turbines, oil drilling and subsea equipments, gas turbines and compressors, electric generators, planetary gears and reduction gears.

Capital goods:

Special purpose machinery, metal forming machinery, paper converting machinery, aerospace machinery and tooling,

TOTAL EMPLOYEES

105 between both plants.

FACILITIES

Buildings in Aduna: 3.413 m²,

Buildings in Lekunberri: 8.558 m².

HISTORY

1977: Foundation of CONSTRUCCIONES MECANICAS ENDAKI, S.L. in Zizurkil, Basque Country, Spain.

1997: Move to a new plant located in Aduna (14 km. far from San Sebastian).

2000: Opening of a new machine shop named ENDAKI 2 located in Lecumberri, Navarra, Spain.

2000-2003: Investments in new machinery.

2007-2008: Enlargment of ENDAKI 2 and further investments in machinery for both plants.

CURRENT LIST OF MACHINERY

BORING-MILLING MACHINES

PAMA boring machine mark SPEEDRAM 3000 with pallet change-over system

Length travel (X axis)	11.000 mm
Vertical travel (Y axis)	5.000 mm
RAM + spindle travel (Z+W axis)	2.600 mm
Pallet system	2 pallets size 3.000 x 3500 mm
Maximum weight	40 tons
CNC Sinumerik 840 D	
Tool changer	171 tools

PAMA boring machine mark SPEEDRAM 1000 with pallet change-over system

Length travel (X axis)	12.000 mm
Vertical travel (Y axis)	3.500 mm
RAM + spindle travel (Z+W axis)	1.700 mm
1 rotating table Mark TH40	Table of 2.000 x 2.500 mm. 40 tons max weight.
1 rotating table Mark TH65	Table of 3.000 x 2.500 mm. 65 tons max weight.
CNC Sinumerik 840 D	
Tool changer	120 tools

PEGARD Preciram 3TX-1800 travelling column boring machine.

X: 9.000, Y: 3.400, Z: 1.000 mm., RAM (W):1.000 mm., V(table): 2.500 mm.
2 pallets of 2.000 x 2.500 mm. size. Rotating table.
Spindle Ø: 160 mm.
Maximum weight per pallet: 25.000 kg.
ATC with 187 tools.
CNC Siemens 840 D.

TOSHIBA BTF-130.R22 travelling column boring machine.

X: 3.000, Y: 2.300, Z: 1.600 mm. RAM (W): 700 mm.
2 pallets of 1.800 x 2.200 mm. size. Rotating table.
Maximum part weight: 20.000 kg.
ATC with 90 tools.
CNC Tosnuk 888.2.

SORALUCE ALSC-130 boring machine.

X: 3.000, Y: 2.000, Z: 800 mm., RAM (W): 1.200 mm.
Rotating table of 1400 x 1600 mm size. Maximum part weight: 12.000 kg.
CNC Heidenhain 150.

SACEM MST-XC-110 boring machine.

X: 1.700, Y: 1.200, Z: 800 mm, RAM (W): 1.350 mm.
Rotating table of 1.200 x 1.400 mm. size.

SORALUCE Soramill FR-10.000 travelling column milling-boring machine.

X: 10.000, Y: 3.200, Z: 1500 mm., RAM (W): 2.000 mm.
Rotating table of 2.000 x 2.500 mm. size. Maximum part weight: 25.000 kg.
ATC with 60 tools.
CNC Heidenhain TNC 426.

CORREA L 30/74 travelling column milling machine.

X: 7.400, Y: 1.200, Z: 2.000 mm.
Rotating table of 800 x 800 mm. size.
ATC with 60 tools.
CNC Heidenhain TNC 426.

CORREA L 30/43 travelling column milling machine.

X :4.300, Y: 1.200, Z: 1.500 mm.
Rotating table of 800 x 800 mm. size.
ATC with 60 tools.
CNC Heidenhain TNC 426.

CORREA A 25/30 milling machine.

X: 3.000, Y: 1.200, Z: 1.500 mm.
Rotating table of 800 x 800 mm. size.
ATC with 60 tools.
CNC Heidenhain TNC 355.

PORTAL MILLING MACHINES

WALDRICH COBURG portal machining center MASTERTEC III 4000 AT-M3

Travelling double table design
Table I: 7.500 mm length
Table II: 7.500 mm length
Table I and II together: 16.250 mm
Longitudinal (X-axis): 16.250 mm
Horizontal between columns (Y-axis): 4.500 mm
RAM Vertical (Z+W axis): 5.000 mm (3.500+1.500 Ram)
Maximum load capacity 60 tons
CNC Sinumerik 840 D
Motor power: 63 kw
Automatic tool change 120 tools
ATC for milling and boring spindles (6 spindles)

HORIZONTAL MACHINING CENTERS

MITSU-SEIKI 8 A machining center.

X: 2.400, Y: 2.030, Z: 1.200 mm.
4 pallets of 1.500 x 1.500 size. Maximum weight per pallet: 8.000 kg.
ATC with 180 tools.
CNC Fanuc 15 M.

SORALUCE CMH-85 machining center

X: 1.250, Y: 1.000, Z: 800 mm.
2 pallets of 800 x 800 mm. size. Maximum weight per pallet: 2.000 kg
ATC with 60 tools.
CNC Siemens Sinumerik 850 M.

HORIZONTAL LATHES

SNK (SHIN NIPPON KOKI) turning center mark RNC 130 x 10.000, with Y-axis, C axis, ATC, deep hole and inclination hole machining device.

Swing over bed diameter	2.200 mm
Swing over carriage	1.600 mm
Maximum turning diameter	1.600 mm
Maximum turning length	10.000 mm
Maximum weight between centers	30 tons

CNC FANUC 16iT, 2 systems, total 10 axis
Equipped with two turrets for turning, milling and drilling operations and 5 steadies
ATC with tool magazine

WFL MILLTURN M150 turning center (6 axis)

Lathe with turning, drilling and milling unit.
Capacity: 1.500 mm. maximum diameter and 6.500 mm. maximum length.
Maximum part weight: 10.000 kgs.

Main drive	90 Kw
Turning-boring-milling unit	55 Kw

Additional NC-drive (U axis) for rotating feed-out tools (6 axis)
CNC Siemens Sinumerik 840 D

WFL MILLTURN M150 turning center (5 axis)

Lathe with turning, drilling and milling unit.
Capacity: 1.500 mm. maximum diameter and 6.500 mm. maximum length.
Maximum part weight: 10.000 kgs.

Main drive	90 Kw
Turning-boring-milling unit	55 Kw
Automatic tool change	60 tools

CNC Siemens Sinumerik 840 D.

LEALDE TCN-12.P lathe.

Capacity: 840 mm. maximum diameter and 3.200 mm. maximum length.
Motorized turret.
CNC Siemens 840 B.

GURUTZPE Super BT lathe.

Capacity: 1.180 maximum diameter and 4.000 mm. maximum length.

Amutio HB-810 lathe.

Capacity: 810 maximum diameter and 6.000 mm. maximum length.

VERTICAL LATHES

PIETRO CARNAGHI vertical turning center AC 32 TM-2800 with pallet change over system

Maximum turning diameter	3.200 mm
Table diameter	2 x 2.800 mm
Turning height	2.400 mm
CNC Sinumerik 840 D	
Power of main motor	100 Kw
Power of milling-drilling motor	40 Kw
Maximum weight	30 tons
Automatic tool change	60 tools
ATC for 16 heavy tools and spindles	

TOSHULIN SKA 25 R turning center.

Lathe with turning, boring and milling capacity (motor driven milling tools).
Capacity: 3.000 mm. maximum diameter and 2.180 mm. maximum height.
2 pallets of 2.500 mm. diameter. Maximum weight per pallet: 10.000 kg.
ATC with 78 tools.
CNC Siemens Sinumerik 840 D.

MEASURING AND CONTROL EQUIPMENTS

Coordinate measuring machine DEA Brown & Sharpe Delta.

X: 6.300, Z: 2.540, Y: 1.830 mm.
Accuracy: $I = 7+7 * L (mm)/1000$ (microns).
Maximum part weight: 25.000 kg.
CNC.

Measuring software:

- PC-DMIS geometric measuring for Windows NT,
- CAD supported module for surface inspection.

Coordinate measuring machine LK G.80 Micro Vector.

X: 3.000, Z: 1.500, Y: 1.500 mm.
Accuracy: $I = 6+L(mm)/250$ (microns).
Maximum part weight: 9.000 kgs.
CNC.

Measuring software LK CMES, WIN CMES and VISUAL CMES for Windows.

Calibration bench Trimos LabConcept 1000.

Accuracy: $\leq 0,3 \mu m + L(mm)/1500$.

Software QMSOFT for measuring equipments calibration management and software for equipment calibration according to international standards.

Other equipments.

Conventional measuring equipments up to 2.000 mm. diameter.

CNC PROGRAMMING

CAD/CAM programming up to 6 axis. Software SolidWorks for design purposes and Virtual Gibbs for machining.

INVESTMENST 2008 (Aduna workshop)

PAMA boring machine mark SPEEDRAM 1000.

Length travel (X axis)	6.000 mm
Vertical travel (Y axis)	4.000 mm
RAM + spindle travel (Z+W axis)	1.000 + 700 mm
1 palette of 2.000 x 2.500 mm	
1 palette of 2.000 x 3.000 mm	
CNC Sinumerik 840 D	
Tool changer	120 tools
Starting date	November 2008

PIETRO CARNAGHI vertical turning center AC 20 TM-1800.

Maximum turning diameter	2.000 mm
Turning height	2.190 mm
2 pallets diameter 1.800 mm	
1 Tool changer	80 tools
1 Disc tool changer for special tools	16 tools
CNC Sinumerik 840 D	
Starting date	February 2009

MATSUURA H-PLUS 630 machining center.

X travel:	1.050 mm
Y travel:	1.020 mm
Z travel:	870 mm
Speed: 10.000 r.p.m.	
2 palettes 800 x 800 mm.	
Tool changer	120 tools
Starting date	December 2008

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