



# Doimak

Solutions  
Quality  
Accuracy

## DOIMAK Company

DOIMAK >> Spanish Machine tool manufacturer since 1974

**44th anniversary**

LOCATION >> Basque Country-North Spain. City of **Elgoibar**

COMPANY CHARACTERISTICS >>

**ACTIVITY:** CNC Grinding machine manufacturing

**VISION:** Go beyond **the state of the art** in grinding processes

**MISION:** Co-create CNC grinding machines, **customer oriented**  
and based on **client focused** strategy



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- Doimak manufactures a comprehensive range of last generation grinding machines.

[Doimak was **first company** in Spain who developed and manufactured a **CNC grinding machine**]

- The **R&D** Departament of Doimak and the **Technological Center of Tekniker** have been working together over the years
- **CORE VALUE: The close cooperation** with the users has brought up a comprehensive range of machinery **excelling and outperforming** the traditional technology available.
- Doimak quality assurance by means of **ISO 9001:2015**

# DOIMAK KEY ACTIVITIES

- MACHINE AND PROCESS DESIGN.
  - **MODULAR SUBGROUP DESIGNS** >> SOLIDWORKS. Customer adapted PUZZLE
  - **PROCESS DESIGNS** >> CNC software, customized interface, process parameter control, etc...
- MACHINE PRECISION AND QUALITY ASSEMBLY & ADJUSTMENT.
  - HIGHEST QUALIFICATION ASSEMBLY ENGINEERS. Prestigious “know how” and experience acquired in the **precision assembly** field.
  - QUALITY PART MANUFACTURING.
- R&D PROJECT CONTINUOUS FOCUS.
  - Multi-Partner collaborative projects in
    - Spanish industrial programs (CDTI)
    - European programs (Eurostars Eureka)
    - Own financed developments

## SPECIALIZED APPLICATIONS & PRODUCT LINES

- **THREAD APPLICATIONS PRODUCT LINE.**
  - EUROPEAN LEADING THREAD GRINDER MANUFACTURERS
  - AMPLY RANGE OF MACHINES (EXTERNAL THREADS, INTERNAL THREAD, TOOL MANUFACTURING –HOBS, TAPS, GAUGES...)
  - GRINDING QUALITY ASSURANCE >> Profile, pitch, Cilindricity
- **CYLINDRICAL APPLICATIONS.**
  - FOCUSED IN CUSTOMIZED DESIGNS AND HEAVY DUTY CYLINDRICAL MACHINES.
  - HIGH RANGE OF MACHINE CONFIGURATIONS.
- **OTHER APPLICATIONS.**
  - MAINLY FOCUSED IN AUTOMOTIVE SECTOR
  - CUSTOMER FOCUSED SOLUTIONS TO OBTAIN HIGH PRODUCTIVITY

## THREAD APPLICATIONS

EUROPEAN LEADING THREAD GRINDER MANUFACTURERS

### EXTERNAL THREADS



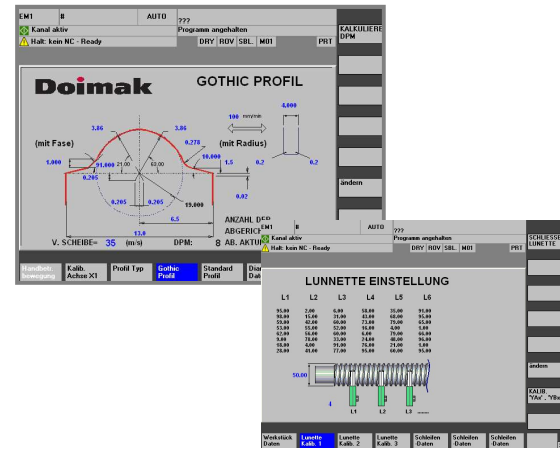
### INTERNAL THREAD



### TOOL MANUFACTURING



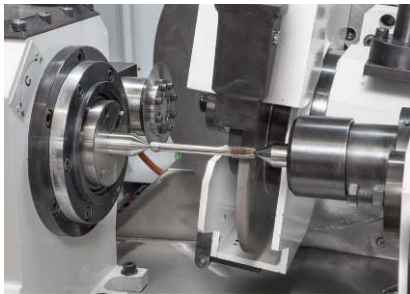
## EXTERNAL THREAD MACHINES



## INTERNAL THREAD MACHINES



## TOOL GRINDING MACHINES





## CYLINDRICAL APPLICATIONS

SPECIALIZED IN HEAVY DUTY SHAFTS OD GRINDING

ENERGY/TRANSMISSIONS



ROLLING INDUSTRY



OTHERS





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## CYLINDRICAL GRINDERS

**Focused in customized heavy-duty cylindrical machines  
up to 8 meters between centers**

- Transmission Shafts
- Steel Rolling Shafts
- Extruder Shafts
- Barrels Screws
- Printing Rolls
- Rubber Rollers
- Idler Pinions
- Hydraulic Piston Cylinders
- Axles

## CYLINDRICAL APPLICATIONS

### HIGH RANGE OF MACHINE CONFIGURATIONS

**LIGHT SERIES**



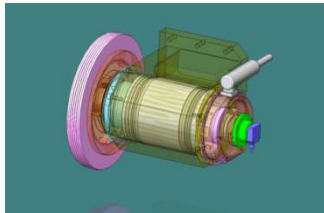
**CROSS SLIDE CONF.**



**MOVING TABLE**

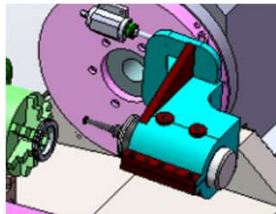


## MECHANICAL CONCEPTS: WHEEL HEADS



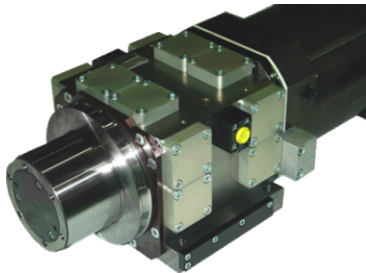
### Thread & Profile Grinding Wheel head

- Power 11 kW at 5,500 rpm (max. 10,000 rpm)
- Wheel diameter 250-350 mm
- Oversized shaft with double mounted bearing groups [improved stiffness]
- Built-in servo-motor and encoder.



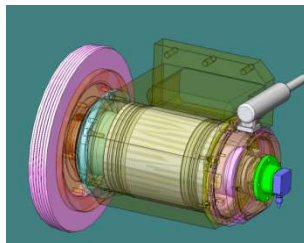
### Internal Grinding Electro-Spindle ID / Profile

- High speed built-in electro-spindle.
- Power 5 kW at 75,000 rpm [other speed and power available]
- Wheel diameter: depending on mounted electro-spindle



### HYDROSTATIC Grinding Wheel head

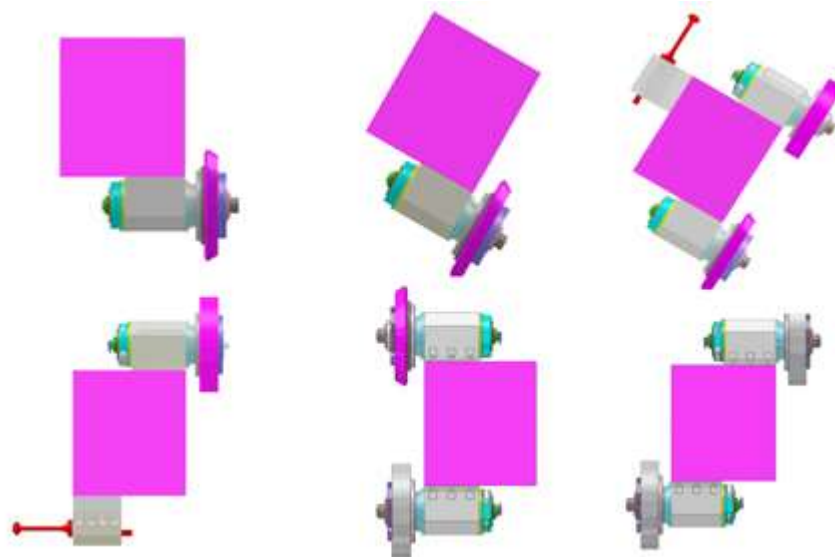
- Power 15 kW at 5,000 rpm (max. 10,000 rpm)
- Wheel diameter 350-250 mm
- High damping and stiffness hydrostatic bearing



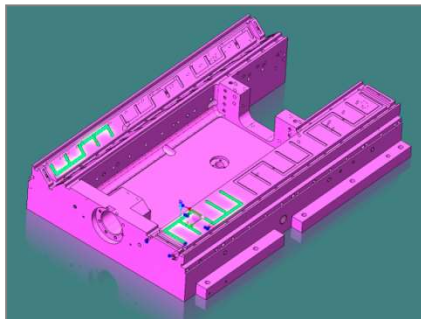
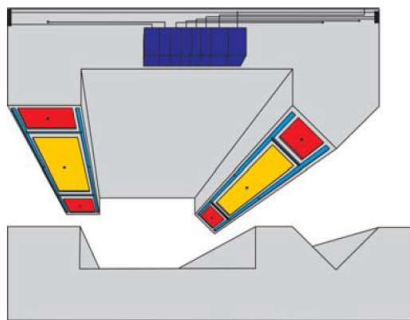
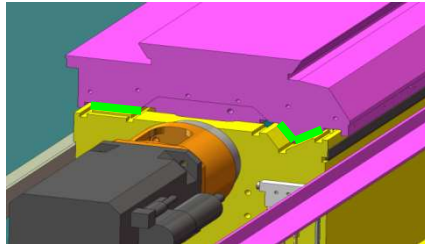
### ALTERNATIVE Grinding Wheel head

- Power 24 kW at 3,500 rpm (max. 5,500 rpm)
- Oversized shaft with double mounted bearing groups
- Built-in servo-motor and encoder.

## WHEEL HEAD CONFIGURATIONS



## GUIDEWAYS



- V & Flat shape guideways on X and Z axes
- Covered with “turcite” sliding material
- Continuous greasing to create hydrodynamic effect
- Oil + turcite =
  - Vibration dampening
  - Smooth and constant movements at both:  
high and low (near 0) speed
  - No wear on the guideways, extended usability, free  
of maintenance over the years



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## R&D PARTNER:

IK4  TEKNIKER  
Research Alliance



- 200 engineers work with Doimak to develop the best grinding technology

## R&D PARTNER: IK4 TEKNIKER TECHNOLOGICAL CENTER

### • MULTI-DEPARTMENTAL CAPABILITIES

- **MECHATRONICS DEPARTMENT**: Research in Mechanical developments, electronics, integration, vibration and structural calculations
- **OIL AND TRIBOLOGY DEPARTMENT**: Oil quality research, friction studies, etc.
- **SOFTWARE PROCESS AND APPLICATIONS DEPARTMENT**: Interface developments, complex spline and profile calculations, etc.
- **METROLOGY DEPARTMENT**: MMC machines, LASER measuring, custom applications, etc.





## SUPPLIERS AND CUSTOMERS CO-WORKING FOR HIGH PRODUCTION

- EUROSTARS PROJECT: SIMULTANEOUS GRINDING APPLICATIONS

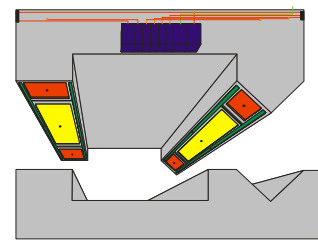
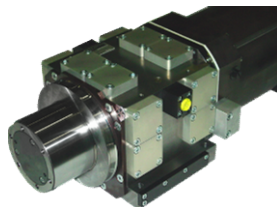
- CBN layer + CARBON body wheel manufacturers

High speed and damping performance >> MACH ROTE



- Hydrostatic solutions focused on high productivity by means of:

- WHEELHEADS
- LINEAR SLIDES



## DOIMAK MAIN REFERENCES

Doimak

English

Home Solutions Machines Clients R&D Contact

### CLIENTS

#### AUTOMOTIVE SUPPLIER

- ALFING
- DAVALL
- EPC
- GKN
- RBL
- TRW
- WAT
- XLO

#### AUTOMOTIVE

- C.A.C.I.A.
- FORD
- GENERAL MOTORS
- MAN & DIESEL
- NISSAN
- RENAULT

#### BALL SCREWS

- BERGER
- DIAKONT
- EISENMANN
- IPIRANGA
- KAMMERER
- KSK
- MOOG
- STANDARD
- STEINMEYER
- SHUTON
- SKF
- UMBRA

#### AERONAUTICAL

- HAL
- I.T.P. ROLLS ROYCE
- RATIER
- SIKORSKY AIRCRAFT
- UMBRA

#### OTHERS

- AHAUSER
- ALPHA LAVAL
- BOSCH
- HAITIAN
- HELLER

## DOIMAK EXPERIENCE IN THE AUTOMOTIVE INDUSTRY

- MANUFACTURERS.

- C.A.C.I.A
- RENAULT
- FORD
- GENERAL MOTORS
- MAN & DIESEL
- NISSAN



- SUPPLIERS.

- TRW
- GKN
- RBL
- DAVALL
- EPC
- WAT
- XLO
- ...



## AUTOMOTIVE APPLICATIONS

- STEERING:

- WORM GEARS
- NUT
- BALLSCREW
- LEVER
- WHEEL HUB
- ...



- ENGINE PARTS

- CAMSHAFT
- BALANCING AXE
- CRANKSHAFT
- TRIPOD



- TRANSMISSIONS

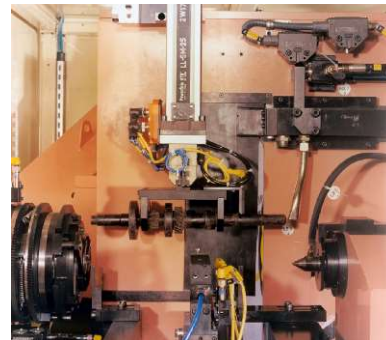
- PRIMARY SHAFT
- SECONDARY SHAFT
- IDLE PINION



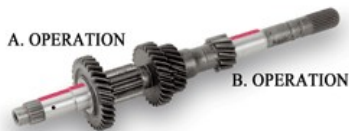
## APPLICATIONS PHOTO GALLERY

### TRANSMISSIONS

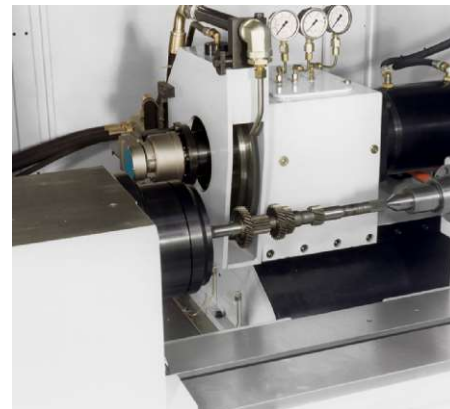
- PRIMARY SHAFT
- SECONDARY SHAFT
- IDDL PINION



A. OPERATION



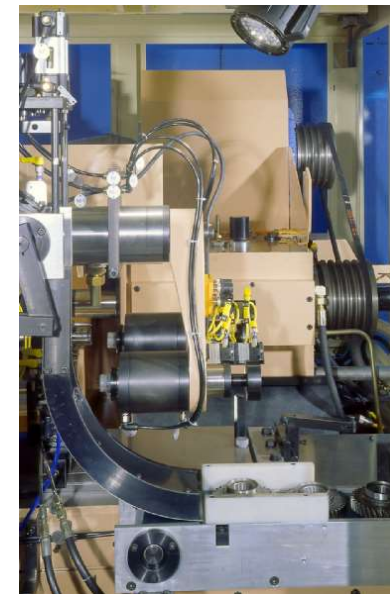
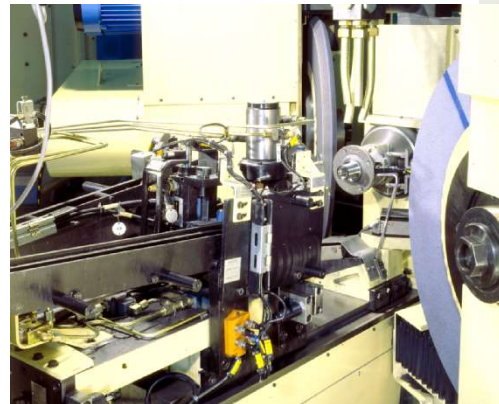
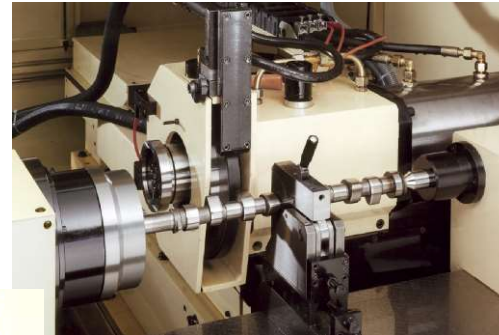
B. OPERATION



## APPLICATIONS PHOTO GALLERY

### ENGINE PARTS

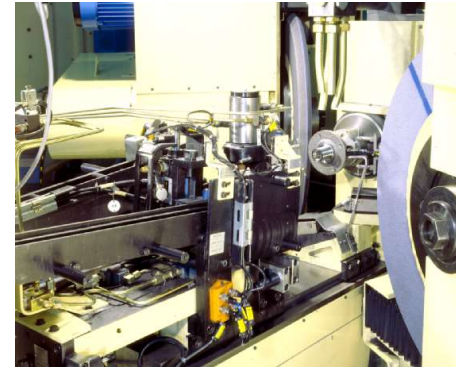
- CAMSHAFT
- BALANCING AXE
- CRANKSHAFT
- TRIPOD



## APPLICATIONS PHOTO GALLERY

### STEERING COMPONENTS

- **WORM GEARS**
- **NUT**
- **BALLSCREW**
- **LEVER**
- **WHEEL HUB**



## LAST GENERATION AUTOMOTIVE EXPERIENCE: Electronic Steering Ballscrew for TRW



### CHARACTERISTICS

- Process Cycle time (Floor to floor) >> 37 sec.
- Automatic Loading system
- Multiribbed CBN Wheel
- Performance hydraulic steady rest + in-process measuring
- Plant trazability control system





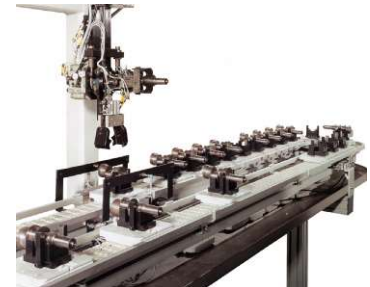
## IMPLEMENTED SOLUTIONS

- AUTOMATIC LOADING SOLUTIONS
- IN/POST-PROCESS MEASURING SYSTEMS
- HIGH CAPABILITY GRINDING TOOLS
- HIGH ACCURACY FILTERING UNITS
- FIRE EXTINGUISHING SYSTEMS
- etc.



**kraft bauer**  
BRANDSCHÜTZSYSTEME

**JOVI**



**KNOLL**  
.It works



**AROBOTECH**  
SYSTEM



**MARPOSS**





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## READY TO CO-WORK WITH YOU!

[www.doimak.es](http://www.doimak.es)

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***THE GRINDING EXPERIENCE!***