MACHINE TOOLS

EAGLE CRANKGRINDER

EAGLE

CGP300/400/500

CRANKSHAFT GRINDING MACHINES

CGP300/400/500 Crankshaft grinding machine

MONITORING SYSTEM *NEW*

Webcam monitoring system

- CHECK THE WORKING AREA REMAINING ON THE WORKSTATION
- MONITOR ON THE CNC PANEL FOR EASY AND FOCUS SUPERVISION OF THE GRINDING ZONE
- DOME CAMERA INSIDE THE WORKING AREA
- JOYSTICK FOR DOME MOVEMENTS

EAGLE SERIES

The crankshaft specialists

AZ spa is the world leader in the production of crankshaft grinding machines for energy, locomotive and marine field up to 12 meters length. AZ spa sold all over the world 3000 crankshaft and rolls grinders in the last 30 years: this permits AZ spa to be called "the crankshaft specialist". The aim of AZ is to solve grinding special problems giving to the customers not only a machine but a complete solution. The machines produces by AZ perform the most advanced mechatronics solutions. The measurement, the movement, the controls are choosen on the top worldwide leader supplier and their combinations with AZ engineer creativity produce one of the most sofisticate range of product today on the market. Bejond the mechanical and electronic knowledge, AZ applies to their machines an innovative IT and web technology for assistance, training and after sales service monitoring in real time the working process.

GUARDING

Total cover with sliding doors

- COMPLETE SAFETY GUARDING WITH SLIDING DOORS
- PROTECT ALL THE PLANT AND THE GRINDING ZONE
- FULL HOUSING AND IMENSIONED ASPIRATION AND FILTRATION SYSTEM

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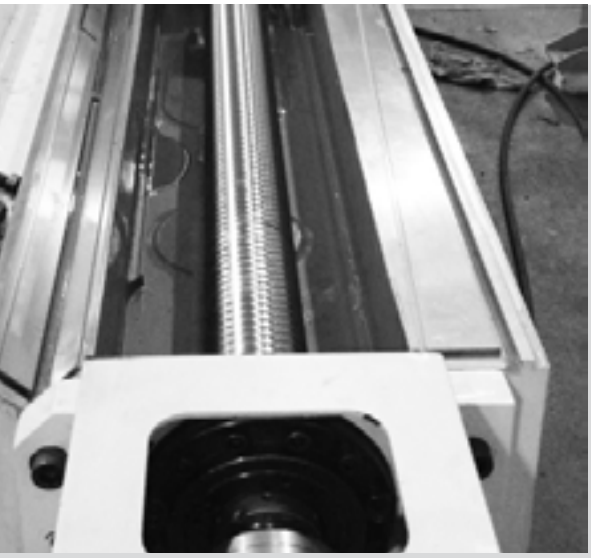
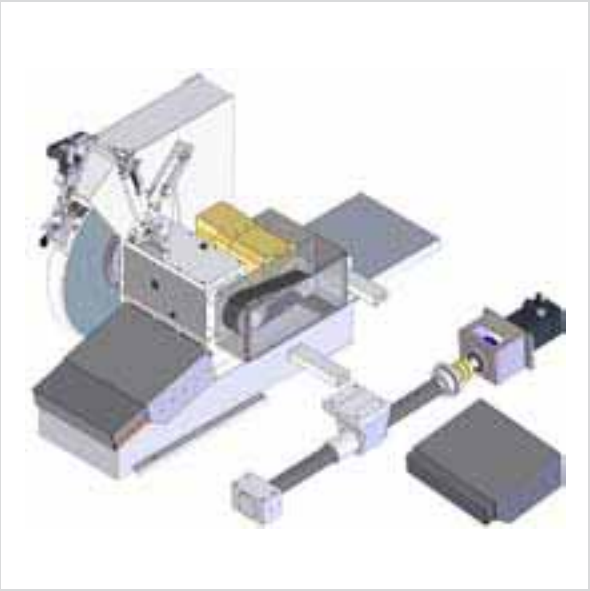


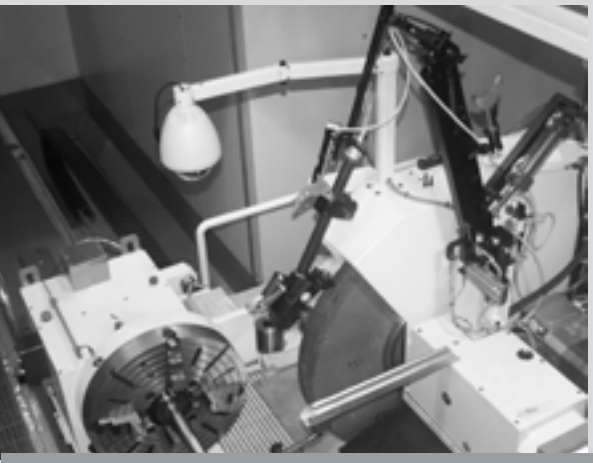
BASEMENT

- UNIQUE ONE PIECE OF CAST IRON BASE THERMALLY STABILIZED
- BALL SCREW SYSTEM
- POSITIONING ON X AND Z AXIS ARE "CLOSED LOOP " CONTROLLED BY LINEAR ENCODER
- STRONGE STRUCTURE WITH SCRAPED SURFACE IN ORDER TO SECURE THE HIGHEST PRECISION AND FLATNESS IN THE DIFFERENT POSITIONS OF THE WORKHEADS



WHEELHEAD UNIT

- GUIDEWAYS COVERED WITH SPECIAL ANTIFRICTION PLASTIC MATERIAL (Turcite):
  - **reduce the disengaging friction**
  - **reduce the coefficient of general friction**
  - **reduce the rubbing wear**
- BALANCING SYSTEM
  Fully automatic balancing system and vibration detector for best cutting condition of the grinding wheel.
- THE WORKING AND THE POSITION FEED OF THE X AXIS IS CARRIED OUT BY:
  - **servomotor**
  - **precision ball screws**
  - **preloaded nuts**
  - **linear encoder Heidenhain**
- ULTRASOUND SYSTEM PERMIT TO DETECT THE CONTACT BETWEEN GRINDING WHEEL AND WORKPIECE



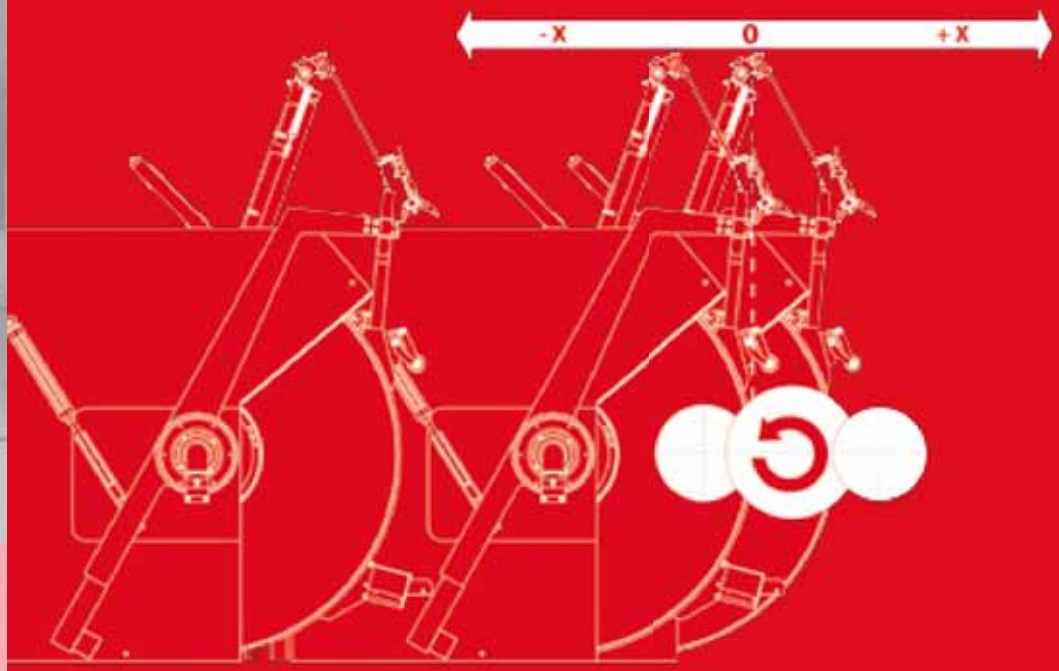
WHEEL DRESSER

- CNC WHEEL DRESSER INTERFACED WITH SINUMERIK 840 D
- THE DRESSING PROGRAM INCLUDES DRESSING COMPENSATION
- THE DRESSING IS DONE BY A DIAMOND ROTATING FORMING ROLL.

WHEELHEAD UNIT

Chase the pin system

CNC software permit the machine to grind journal pins and crankpins without displace to workheads centrelines. No indexing crankheads or special indexing fixtures are required. No additional counterweights for balancr the crankshaft With orbital process the crankshaft can be completely grinded in 1 setup.



GRINDING WHEEL

- MADE BY DISCS COVERED BY CBN (cubic Boron Nitride) TILES
- PERIPHERAL ROTATION SPEED CONSTANTLY CONTROLLED BY CNC
- HYDROSTATIC GUIDES ON X AND Z AXIS
- DIFFERENT TYPES OF GRINDING WHEELS
- SPINDLE IS DESIGNED TO WORK WITHOUT ANY NEED OF LUBRICATION FOR SEVERAL YESR UNDER FULL EMPLOYMENT
- ROTATION BY MEANS OF PULLEY WITH ADEQUATE POLY V BELT
- WHEEL HUB ACCOMODATION DIRECT ON LARGE GRINDING SPINDLE TAPER

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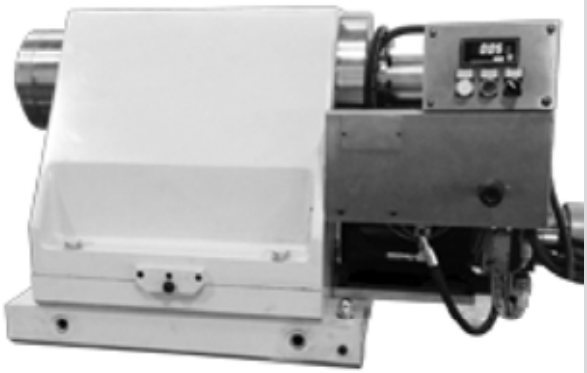
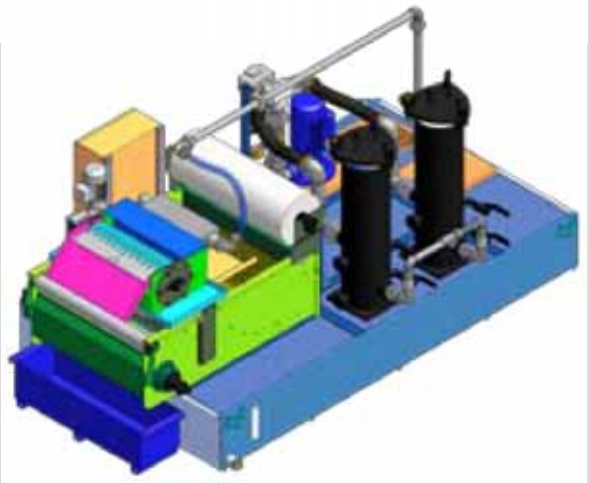




WORKHEAD

- MADE BY HIGHLY RESISTANCE CAST IRON
- SPINDLE ROTATION IS CONTROLLED BY AN ANGULAR ENCODER AND THE PERFECT SYNCHRONISATION FOR THE ORBITAL MOVEMENT IS GUARANTEED BY A GEAR SYSTEM WITHOUT CLEARANCE
- MOVE AUTOMATICALLY AND MANUALLY ON THE BASE BY AIR CUSHION, GEAR AND RACK
- ROTATION MADE BY SERVOMOTORS
- SPINDLES WITH MANUALS CLAMPING, AUTOMATIC CLAMPING AND AUTOMATIC CLAMPING BY MEANS OF RETRACTABLE JAWS IN ORDER TO SATISFY ANY POSSIBLE GRINDING NEED.

TAILSTOCK

- MADE BY HIGHLY RESISTANCE CAST IRON
- MOVE ON THE BED WITH AIR CUSHION
- SPINDLE PRESSURE CONTROLLED BY A LOAD CELL
- HYDRAULIC QUILL RETRACTION BY FOOT PEDAL FOR EASY WORKPIECE CLAMPING

COOLANT SYSTEM

CLAMPING SYSTEM

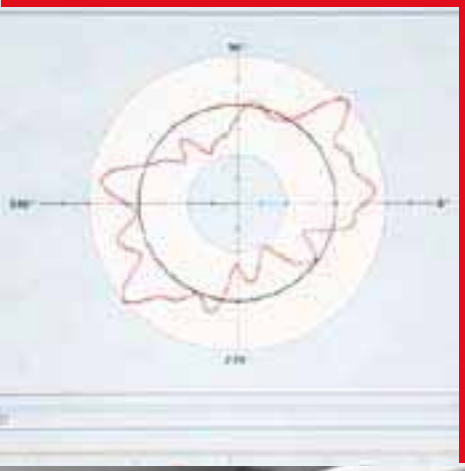
STEADY REST

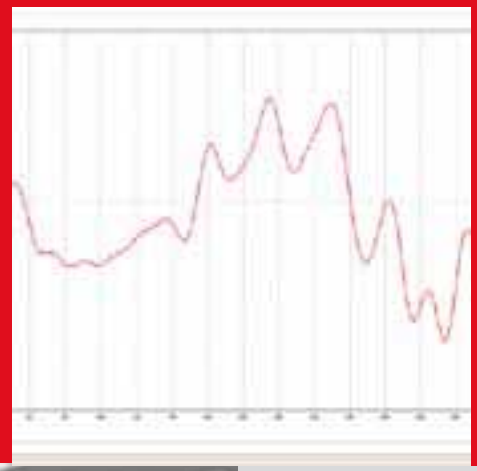
- ACCURATE, SELF-CENTERING, THREE-POINTY GRIPPER
- ALL PARTS WITHIN THE CLAMPING RANGE ARE AUTOMATICALLY CENTERED
- INTERCHANGEABLE FINGERTIP TOOLING
- FLEXIBLE SOLUTION FOR YOUR CENTERING NEEDS

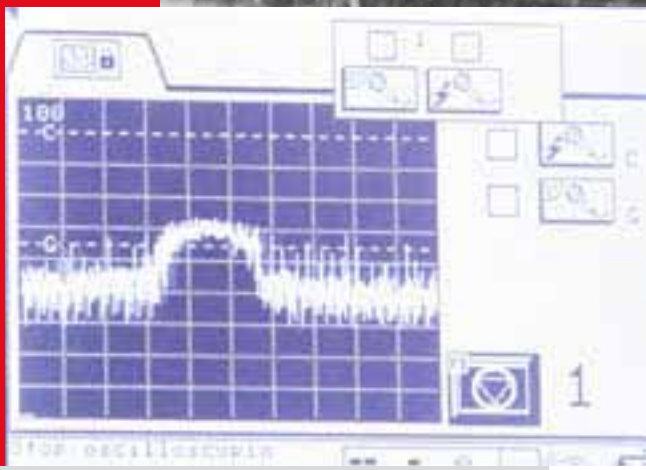
MEASUREMENT SYSTEM

Fenar L fork

- IN-PROCESS GAUGING SYSTEM HAVING THE CAPACITY REQUIRED
- THE MEASURING HEAD IS AUTOMATICALLY UPPED ONTO THE DIAMETER BEING MACHINED WITHOUT SLOWING THE MACHINING PROCESS
- FENAR L AND P7 DETECT IN REAL TIME THE RUN OUT AND SHAPE OF THE PART BEING GRIND
- NEW SYSTEM FOR RAPID CHANGE OF 2 "VEE" FORK, THAT REDUCE THE SETTING TIME DURING WORK, With this system, you can manually switch from one fork to another, without repeating every time the instrument calibration, saving time and increasing the versatility of grinding machine



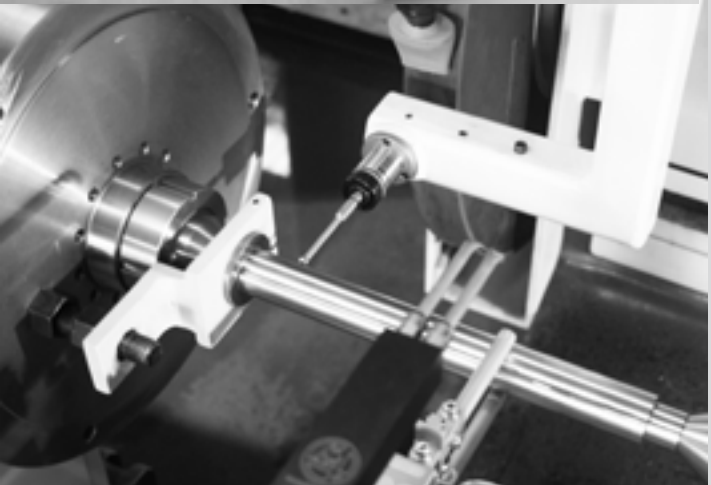




MEASUREMENT SYSTEM

P7 Shape control

- Detect shape error in the grinding process and can make the necessary correction.
- This gives to the machine the possibility to reach unbelievable performance on accuracy.
- • No unloading of the part for measuring shape errors
  • Real time machine monitoring
  • Real time correction on working
  • Reduction of global production time
  • Reduction of global production costs



MEASUREMENT SYSTEM

Mida touch probe

- Wheel diameter measure
- Z axis measure of wheel edge for every grinding edge
- Complete automatic wheel measuring procedure for every type of wheel will be prepared, tested and supplied.

		CGP300	CGP400	CGP500
WORKING CAPACITY				
Height of centres on table	*mm*	**300**	**400**	**500**
Max distance between centers	*mm*	**1000**	**2000**	**3000**
Swing over table	*mm*	**600**	**800**	**1000**
Max diameter admitted on std steady rests	*mm*	**120**	**150**	**180**
Max weight admitted	*kg*	**300**	**400**	**500**
MACHINE SPECIFICATIONS				
Z AXIS				
Max table speed	*mm/min*	**from 0 to 6000**	**from 0 to 6000**	**from 0 to 6000**
Table motor power	*Nm*	**13**	**13**	**13**
X AXIS				
Max table speed	*mm/min*	**from 0 to 10000**	**from 0 to 10000**	**from 0 to 10000**
Table motor power	*Nm*	**13**	**13**	**13**
WHEEL UNIT				
Diameter of grinding wheel	*mm*	**800**	**1000**	**1100**
Grinding wheel widht	*mm*	**30**	**50**	**80**
Min grinding wheel width	*mm*	**20**	**20**	**20**
Grinding wheel peripheral speed	*mm/sec*	**from 20 to 65**	**from 20 to 65**	**from 20 to 65**
Wheel rotation motor power	*KW*	**22**	**22**	**22**
WORKHEAD				
Stepless rotation speed	*rpm*	**from 0 to 40**	**from 0 to 40**	**from 0 to 40**
Diameter of chucks	*mm*	**300**	**400**	**500**
Headstock rotation motor power	*Nm*	**27**	**27**	**27**
COOLANT SYSTEM				
Tank capacity	*lt*	**3000**	**3000**	**3000**
FEATURES				
Pendulum (orbital) type				
CNC Siemens 840D		**Siemens 840D**	**Siemens 840D**	**Siemens 840D**
Linear encoder on x and z axis Heidenhaim		**Heidenhaim**	**Heidenhaim**	**Heidenhaim**
Hydrostatic support on x axis Hyprostatik		**Hyprostatik**	**Hyprostatik**	**Hyprostatik**
x and z axis dive		**Servomotor with ballscrew**	**Servomotor with ballscrew**	**Servomotor with ballscrew**

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