

GEMINIS VL

**VERTICAL
MULTIPROCESS
LATHES**

INTEGRATION OF MACHINING PROCESSES AND STRATEGIES

GEMINIS VL is a new concept in multi-process machine developed in order to obtain the highest performance in the machining of complex, accurate and high precision and added value pieces.

The applied technology allows a combination of exceptional dynamics and strength. This compromise between DYNAMICS and POWER gives the users of GEMINIS VL the possibility of:

1.- Approaching to the machining of a piece with the most appropriate machining strategy.

- Conventional cutting.
- High feed cutting.
- High speed cutting.
- Combination between high feed cutting and high speed cutting.

2.- Integrating different machining processes.

- Complete machining solution.
- Machining processes adapted to their optimal cutting conditions.

All this results in HIGHER PRODUCTIVITY FOR THE CUSTOMER.





MACHINE DESCRIPTION



The GEMINIS VL range has been developed on a knowledge base of machining processes and the optimal cutting conditions of the different processes and materials.

This knowledge in Applications Engineering has resulted in a configuration of a rigid and at the same time dynamic machine, where each axis is able to offer drives with high cutting and dynamics capacity (up to 40 m/min speed with accelerations up to 3,5 m/sec²). Compromise between dynamics and power results in an important improvement of productivity, due to the fact that the GEMINIS VL adapts to the cutting conditions of each process and material. In addition to this, times for empty movements are significantly reduced (changing of tools and accessories, measuring, a.s.o.). The more complex the working piece is and the higher added value it has, the more efficient and competitive the GEMINIS VL becomes.

The rigidity of the GEMINIS VL, together with the optimized hydrostatic guiding and the control of the temperature stability, grants the highest accuracy and reliability for approaching complex and high added value machining.

GEMINIS VL includes technical solutions which take it to the top regarding applied technology. This results in a geometric accuracy and surface finishing that satisfies the specific requirements of the most demanding sectors.





INTEGRAL SYSTEM FOR THE CHANGING OF TOOLS, TOOLHOLDERS AND HEADS



The GEMINIS VL range includes an innovative integral system for the changing of tools, toolholders and heads that offers, among others, the following advantages:

Productivity: the changing of tools, toolholders and heads is done through the same device and the changing times are significantly improved.

Accuracy: removing weight from the cross beam in comparison to traditional changers improves considerably the accuracy on tool tip.

Flexibility: the integral changing system allows the user to adapt the changer according to the needs of tools and accessories in each application. Furthermore, a sole integral changing system can be shared by more than one machine.

Reliability: the integral changing system included in the GEMINIS VL range uses a standard robot used in sectors of highest productivity such as automotive. This grants reliability, availability and technical assistance.



The philosophy of the GEMINIS VL range is based on an integral and efficient solution for the machining of complex pieces.

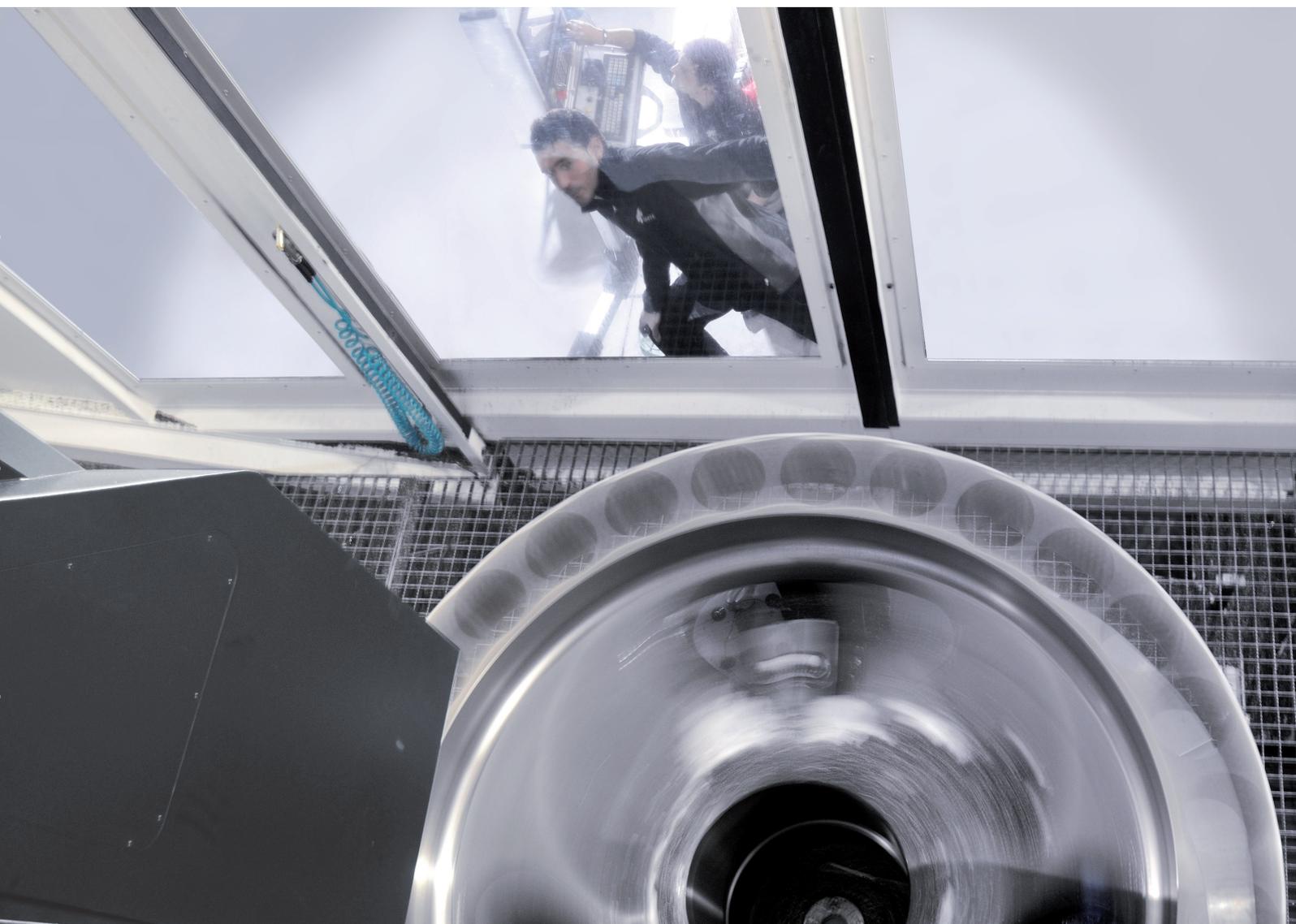
The job of our Applications Engineering Office focuses on approaching the machining of complex pieces with the highest compromise for reliability, accuracy and productivity, in order to improve profitability and competitiveness of end users of the GEMINIS VL.

The integration of machining processes and strategies makes the GEMINIS VL a really versatile machine which suits to the needs of each application through the configuration of the different accessories required.



The versatility of the base machine of the GEMINIS VL range allows an approach to the complete machining of complex pieces. This approach is done by the integration of different accessories directly to the RAM through a coupling device specially developed by our team of engineers.

Design and development of these accessories are carried out in order to fulfill the current requirements in complex pieces analyzed by our Applications Engineering Office. They allow a customized and effective integral solution for each user and application.



Turnkey projects.

Advice for improving the manufacturing processes.

Training.

After Sales Service.



ø Turning (mm)
ø Chuck (mm)
Standard turning height up to (mm)
Max. piece weight (kg)
Main motor power (Kw)
Chuck speed (rpm)
Positioning speed C axis (rpm)
Min. positioning angle C axis
Lathe axis drive guiding
Axis speed (mm/min)
Drive
X axis speed (mm/min)
X axis drive guiding
Z axis speed (mm/min)
Z axis drive guiding
RAM section (mm)
RAM stroke (mm)
Milling motor power (Kw)
Tool speed (rpm)
Y axis speed (mm/min)
Y axis drive guiding
Y axis stroke(mm)
Yx axis stroke (mm)
Capacity (Number of tools)
Max. tool Ø / Length / Weight
Capacity (Number of accessories)
Number of pallets
Changing system
Number of pallets
Pallets loading in changing
Pallet claming and centering system
Model

MONOBLOCK Models					DOUBLE COLUMN Models				
VL 1.6	VL 2.0	VL 2.4	VL 2.8	VL 3.2	VL 3.6	VL 4.0	VL 4.6	VL 5.3	VL 6.3
GENERALITIES									
1.600	2.000	2.400	2.800	3.200	3.600	4.000	4.600	5.300	6.300
1.200 ÷ 1.400	1.600 ÷ 1.800	2.000 ÷ 2.200	2.400 ÷ 2.600	2.800 ÷ 3.000	3.000 ÷ 3.200	3.400 ÷ 3.600	3.600 ÷ 4.200	4.200 ÷ 4.800	5.000 ÷ 5.800
2.000		2.400		2.800		4.000			
10.000	15.000	20.000	30.000	30.000	40.000	50.000	80.000	80.000	120.000
CHUCK DRIVE									
22+22 / 28 + 28 / 37+37 (46 + 46 / 52 + 52)					51+51 / 60+60		51+51 / 60+60 / 71+71 / 100 + 100		
470	360	290	235	210	190	175	130	110	100
10 bidirectional					10 bidirectional		5 bidirectional		
0,0001°						0,0001°			
Hydrostatic						Hydrostatic			
CROSS BEAM DRIVE									
500						500			
Hydraulic						Hydraulic			
X DRIVE									
30.000						30.000			
Hydrostatic						Hydrostatic			
Z DRIVE									
40.000						40.000			
Hydrostatic						Hydrostatic			
270 x 270						270 x 270 (320 x 320)			
1.250 / 1.650						1.250 / 1.650 / 2.050 / 2.550			
MILLING DRIVE									
37						37 (51)			
4.000						4.000 (3.000)			
Y DRIVE (optional)									
30.000						30.000			
Hydrostatic						Hydrostatic			
according to customer's requirements						according to customer's requirements			
800	1.000	1.200	1.400	1.600	1.800	2.000	2.300	2.650	3.150
INTEGRAL AUTOMATIC TOOLS, TOOLSHOLDER AND HEADSCHANGER									
40 / 60 / 80 / 100 / 120 / 200 / (acc. customer)					40 / 60 / 80 / 100 / 120 / 200 / (acc. customer)				
250 / 500 / 35 / (acc. customer)					250 / 500 / 35 / (acc. customer)				
according to customer's requirements					according to customer's requirements				
AUTOMATIC PALLETS CHANGER									
2 / (acc. customer)					2 / (acc. customer)			n.d	
180 ° / Shuttle	180 ° / Shuttle	Shuttle		Shuttle			n.d		
HALF-AUTOMATIC PALLETS CHANGER									
2 / (acc. customer)					2 / (acc. customer)			n.d	
Manual with crane								n.d	
Hydraulic through 7 pins, centering repeatability 0.01 mm								n.d	
NUMERIC CONTROL									
Siemens 840 D.SL / Fanuc CNC FS31i-A					Siemens 840 D.SL / Fanuc CNC FS31i-A				

GORATU

Machine Tools Manufacturer

Goratu Máquinas Herramienta, S.A.

Lerún, 1 - Apdo. / P.O. Box 39
20870 Elgoibar - Gipuzkoa (SPAIN)
Tel. : (+34) 943 748 262
Fax : (+34) 943 744 093
sales@goratu.com
www.goratu.com

