The Conquest machine is constructed of cast iron and welded steel that has been stabilized and precision machined to assure accurate placement and installation of the linear guide ways. The heavy steel construction of the Conquest machine provides for vibration free machining and a long working life. The movement of all axes is accomplished with brushless AC drive motors attached to pre-charged nuts moving via precision ground "Star" ball screws. The heads move along "Star" prismatic guides that provide high-speed movement as well as maximum side load support. The combination of heavy-duty construction as well as state-of-the-art drive components help to provide for many years of precision machining and up time reliability.
Pop-up reference stops

The Conquest 250 is offered with three locating pins for easy positioning of the panel ideally for nested based manufacturing.

More pins may be added as options. A second zone has been pre-machined for an optional set of pins.

**AC brushless drive motors** on the Conquest machines provide for rapid positioning speeds and machining feed rates that produce **precision cuts and shorter cycle times**. The movement speeds for the Conquest 250 are as follows:

- Rapid positioning of X&Y axes 28m/min
- Working speed of X&Y axes 0-28m/min
- Rapid positioning of Z axis 12m/min
- Working speed of Z axis 0-12m/min

The working area of the CONQUEST 250 router is comprised of one working area divided into two zones with overall working strokes as follows:

- Working table 1300mm x 2500mm (51.2" x 98.4")
- X-axis stroke 2750mm (107.87")
- Y-axis stroke 1710mm (67.32")
- Z-axis stroke 280mm (11")
- Machine weight 4630Kg (10,186 #s)

The working table is manufactured from High Density Phenolic and is segmented to allow the table to be divided according to the part sizes and shapes being machined. The table can also be divided into two zones to allow for the working of one zone or the other alternately.

The hold down is achieved via a Becker 250 m³/hr oil-less vacuum pump with double locking system and valves operated by the CNC controller. Other vacuum options are available.
The CONQUEST 250 is equipped with one HSD cartridge type electrospindle of 10.7 Hp.

The Router head, or Electrospindle, has the capability to rotate in either the clockwise or counter clockwise direction.

The electrospindle has an infinitely programmable operating range from 500 to 24,000 rpms.

The Conquest 250 is offered with an air blast at the spindle to clear chips from the cutter path and to assist in dust evacuation.

This in combination with the ability to change the rotation direction gives the user the ability to control completely the tool speed and rotation to allow for smooth and precise machining of even the most challenging materials.

The Conquest 250 is equipped with an 8-position rotary tool changer and is offered as standard with (8) ISO 30 tool holders, collets and wrenches are included.

The Conquest 250 is equipped with a 16 spindle-boring unit with 10 independent vertical spindles.
This unit also includes:

- 2 double opposed horizontal units in the X axis
- 1 double opposed horizontal unit in the Y axis
- X axis grooving saw.

The boring head allows for **horizontal boring in all four sides of a panel** as well as single and multiple vertical drilling as it is required.

A wide range of vacuum pods to elevate the work piece are available as an option from Holz-Her US.

Additional vertical router spindle heads as well as horizontal router heads are available as an option.
The CNC Control

Num is the worldwide center of competence within Schneider Electric for CNC applications, CNC controls and drives

- Num, ... an enterprise experienced for over 30 years in automation of machines using CNC technology
- Employees: 550

The production centers:

- Argenteuil, France (CNC production)
- Milan, Italy (servomotor and spindle production)
- Teufen, Switzerland (switching cabinet production)
- Training centers worldwide
- Eight branches in Europe, Asia and the U.S.A.
- 35 Service centers worldwide

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Internet: www.num-usa.com

Competence centers for high tech applications and trade solutions for the automobile industry, woodworking, tool grinding, machine tools and general purpose machines

- Num has been making a successful contribution to CNC technology for over 20 years.
- This includes remarkable pioneering achievements in the woodworking industry.
- Num offers a choice of different applications and levels of automation.
- The wide range of products and applications constitute an integrated modular system, making it possible to devise very efficient solutions.
The Conquest 250 is equipped with full function NUM CNC controls. The Power 1020 stands out because of its performance and user-friendliness.

- Compact construction
- Different Hardware platforms with different processors
- Available with Co-processor (OP Dyn in C)
- Flash EPROM for the operating system

- Up to 32 axes
- Up to 8 groups
- Integrated PLC
- Compact control unit for Num Power 1020

- Interface to PC: 115 kBaud serial, 4 MBytes
- Can be mechanically aligned in side by side with MDLA drives

The Num 1020 series product incorporates among other functions:

**HMI:**

- Classic CNC operating panel or PC operating panel
- Completely definable operator interface
- PROCAM (dialog programming)
- PROFIL (interactive contour programming)
- G functions for assistance during machine setup
- Control of any curve
  (path errors shown by graphics module)

**Special CNC-functions:**

- User specific real time tasks, G code and M functions
- Programming of polar coordinates
- Symbolic programming
- Polynomial and spline (NURBS) interpolation
- Dynamic look ahead
- Controlled acceleration ramps
The Num Power 1020
A Powerful Solution

A Consistent Line of CNCs

- All the CNCs of the Num Power 1020 line now benefit from the advantages of compact technology:
- A significant saving of space in the electrical cabinet and fully homogeneous with MDLA axis servo drives, which are the same height and depth
- Simplified connections, internal and remote inputs/outputs bring down wiring costs and speed up commissioning
- Reduced maintenance costs.

Faster CPU and Performance Enhancements

- The Num Power 1020 line offers a wider choice of platforms based on the latest generation processors. This upgrade enhances operational performance.

Cutting-Edge Software

- Num Power 1020 CNC controls are provided with high-level algorithms which optimize overall productivity by guaranteeing higher accuracy with excellent surface finish: coordinate conversion, high-precision contouring, progressive acceleration with controlled jerk, anti-pitch correction, look-ahead, B-spline and NURBS interpolation, structured programming, dynamic operators, etc.

Generalization of the PC Function

- The Dell PC-based Num Power 1020 CNC makes the numerical control continuously up-gradable and able to integrate applications developed by the user (man/machine interfaces, machining application programs, third party CAD/CAM software packages) and by the manufacturer (maintenance aid tools, machine supervision, etc.) and directly use the software workshop developed under Windows by Num.
The Conquest 250 CNC router is provided with the Dell Dimension 2350 Desktop PC and 17" color monitor

<p>| Base Unit: | OptiPlex GX260 T, 2.00GHz, Celeron, 400FSB, 128K Cache, Gray Small Minitower Base (221-1221) |
| Memory: | 256MB, Non-ECC, 266MHz DDR, 2x128, GX260 (311-1710) |
| Keyboard: | Dell PS/2 Keyboard in Gray, NoHot Keys, Optiplex (310-1515) |
| Monitor: | Dell E772, 17.0 Inch Viewable Image Size, OptiPlex, Gray (3200529) |
| Video Card: | Integrated Video - Intel DVMT,GX260/GX270 (320-0428) |
| Hard Drive: | 40GB EIDE, 7200 RPM, ATA/100 Hard Drive, GX260 (340-6089) |
| Floppy Disk Drive: | 3.5 inch, 1.44MB, Floppy DriveGX260 (340-6286) |
| Operating System: | Windows 98,SP3,NTFS,CD, English (420-1558) |
| Mouse: | Dell PS/2 2-Button Mouse, Scroll, OptiPlex, Gray (310-8307) |
| NIC: | Integrated Intel Gibabit NIC, 10/100/1000, with Alert Standards Format, GX260/GX270 (430-0353) |</p>
<table>
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<tr>
<td>Documentation Diskette:</td>
<td>OptiPlex Resource CD (313-7168)</td>
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The system is provided with an Ethernet card for in-house networking.

Third party software systems (Cabinet Vision, Cabinet Ware, Pattern Systems, KCDW, Cabinet Solutions XP, Art CAM among others) are all linkable to the Conquest 250 by means of exporting via the DXF format.

Optional, AlphaCAM and CadCODE software is available to complete the communication link, the generation of the machine G Code.