



# The control systems VISION 51, 52 and 55.

**MORE** INTELLIGENCE IN **CUTTING**.  
**MORE** EASE OF USE. **MORE** PERFORMANCE.





## **Success** can be **controlled**. With VISION 51, 52 and 55.

ESAB is the only manufacturer that offers you a full range of optimally coordinated machines for thermal cutting. At the same time, the control systems of the VISION series form the intelligent interface in the cutting process, enabling you to make

productive use of the performance potential of your machine.

For instance, all production steps can be centrally controlled and monitored, whilst manual settings and the errors that go with them are finally a thing of the past.



## VISION 51, 52 and 55 Technical Specifications

### CNC + Programming

- Programming certified to ISO 6983 and ISO 6582
- Menu and dialog-driven operation
- Graphical representation of the parts and progress in processing
- Integrated PLC to IEC 1131 standard

### Communication

- Ethernet (LAN)
- RS232 / 422
- USB e.g. for data exchange via USB stick

### Other functions

- Online help / remote maintenance
- Electronic handwheel for positioning
- Electronic handwheel for speed control
- 8-position directional joystick
- Integrated emergency stop
- Environmental conditions: temperature range +5 to +45°C in operation, extendable using cooling/heating unit, relative humidity up to 90%, no condensation
- Protection system: IP54 for operating unit, IP20 for machine control (in the control cabinet)



## The VISION 51.

Intelligence in a compact design.

In its class, the VISION 51 is a paradigm of equipment and functionality. Even in tough, continuous use, this compact machine control system provides reliably repeatable quality and the safe monitoring of all processes. A technology database allows the full automation of the cutting processes by means of storing the process param-

eters in technology records. The user-friendly control panel with easy-to-read 10.4" LCD and ergonomically optimized buttons, the numerous interfaces and the comprehensive functions also make a crucial contribution to solving your cutting tasks quickly, easily and always economically.



The VISION 51 runs on the Windows® CE 5.0 operating system, which in terms of stability and security is designed especially for the stringent requirements in the industrial environment.

Windows is a registered trademark of Microsoft Corporation in the United States and other countries.

## Model-specific data

- Low-reflection 10.4" LCD with 640 x 480 pixel resolution
- Membrane keyboard with closed surface
- 60 embossed keys with good tactile feedback
- 4 groups of station keys
- 6 quick-access buttons
- One shared processor for operating unit and machine control
- Pentium III-compatible processor
- Windows® CE 5.0 operating system
- 256 MB Flash memory, 512 MB RAM, expandable
- 3 tool-path controlled axes (X, Y, P)
- 4 positioning axes for tool lifts

## Other useful functions for you:

- Automatic machine referencing
- Technology database for plasma, oxyfuel and marking processes
- Plate alignment
- Order management
- Program parking
- Dynamic kerf correction
- Support for over 20 languages – switchable online
- Recording of machine data
- Automatic gantry control
- Mirroring, rotation and scaling of a cutting program
- Program continuation after power failure
- Connection for optical tracer head
- Preparation for heating / air conditioning unit
- Connection for hand controls
- Interface for operating data collection
- Internet connection for worldwide remote maintenance, etc.



## The VISION 52.

More comfort, plenty of function.

The VISION 52 from ESAB satisfies all demands that are made on the control of modern gantry cutting machines. With the integrated cutting database you can generate fully automated production cycles to match your individual needs.

All the processes involved are controlled directly by the VISION 52, so additional manual settings are unnecessary. The numerous standard functions include the

mirroring, rotating and scaling of a program, a zoom function during program run and the graphical representation of the parts as well as the progress in processing. In addition, the dynamic speed control optimizes the cutting results, particularly at critical transitions. The clear design with a 12.1" LCD and ergonomic keyboard provides reliable monitoring at all times as well as simple and intuitive operation.



The VISION 51 runs on the Windows® CE 5.0 operating system, which in terms of stability and security is designed especially for the stringent requirements in the industrial environment.

Windows is a registered trademark of Microsoft Corporation in the United States and other countries.

## Model-specific data

- Low-reflection 12.1" LCD with 800 x 600 pixel resolution
- 68 short-stroke keys with good tactile feedback, even when operated with gloves
- 6 groups of station buttons, expandable
- 8 quick-access buttons, expandable
- One shared processor for operating unit and machine control
- Pentium III-compatible processor
- Windows® CE 5.0 operating system
- 256 MB Flash memory, 512 MB RAM, expandable
- 3 tool-path controlled axes (X, Y, P)
- 6 positioning axes for tool lifts

## In addition to the functions of the VISION 51, the VISION 52 offers you other useful advantages:

- Expandable database for cutting parameters
- Automatic plate alignment
- Plate size monitoring
- Work in up to 6 cutting areas
- Break-off recognition
- Expanded recording of machine data
- Graphic-aided nesting of cutting programs
- Variable program navigation
- Zoom function during processing
- Automatic strap bridge
- Automatic interruption, e.g. for scrap metal cutting
- User management
- Keyboard macros
- Automatic spindle error correction
- Character generator



## The VISION 55.

To make complicated things simple.

When the use of complex cutting processes and tools is required, the VISION 55 from ESAB plays to its full strengths. This network-compatible numerical control system for modern gantry cutting machines guarantees reliably repeatable quality with easy, safe operation even in the toughest industrial use. The concept of separate system software for the machine control and operating unit offers an extraordinarily high basic functionality which can easily be adapted to your individual requirements.

The combination of the order management function and expanded technology database enables you to implement fully automated production cycles, in which all processes are monitored directly by the VISION 55. That makes manual settings unnecessary and adds substantial contribution to your operating efficiency. The VISION 55 makes it possible to install and operate software relevant to you in parallel to the control software, for example the COLUMBUS programming software by ESAB.





The VISION 55 runs on the Windows® XP (operating unit) and Windows® CE 5.0 (machine control) operating systems.

Windows is a registered trademark of Microsoft Corporation in the United States and other countries.

## Model-specific data

### Operating unit:

- Low-reflection 12.1" LCD with 800 x 600 pixel resolution
- 68 short-stroke keys with good tactile feedback, even when operated with gloves
- 6 groups of station buttons, expandable
- 8 quick-access buttons, expandable
- Additional PC keyboard with integrated mouse pad
- Windows® XP operating system
- Celeron 1.5 GHz processor
- 512 MB RAM, expandable
- 80 GB hard disk
- Open to third-party software

### Machine control:

- Windows® CE 5.0 operating system
- Pentium III-compatible processor
- 256 MB Flash memory, 512 MB RAM
- 8 tool-path controlled axes (X, Y, P, Z, axes for variable beveling aggregates)
- 28 positioning axes
- Suitable for 3D applications

### In addition to the functions of the VISION 52, the VISION 55 offers you many other useful advantages:

- Camera-aided plate alignment
- Control of up to 6 motorized stations
- Correction of shaft errors
- Automatic flame control
- Connection of up to 4 cameras for process automation

### Control of:

- Triple-torch oxyfuel cutting tools, plasma beveling aggregates, inkjet printers, laser tools, laser beveling aggregates, grinding, milling and drilling attachments

### Special applications:

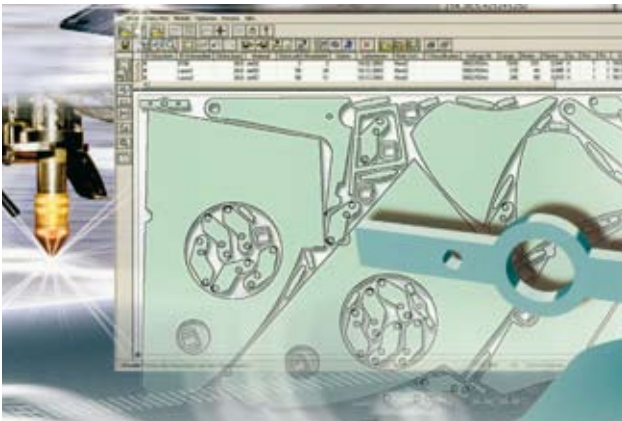
- Grid cutting, wind tower section cutting, panel cutting with various material thicknesses

# VISION, COLUMBUS and PDM.

How to put productivity on the agenda.

High-performance machines, intelligent control systems and innovative software solutions complement each other perfectly at ESAB, your systems supplier. The software specialists of ESAB are known for progressive developments that have perpetually improved thermal cutting by

machine, making it more and more economical and precise. Whether simply creating your cutting programs or harmoniously integrating the cutting process into automated production, with the current software packages from ESAB all of your cutting processes are programmed for success.



## COLUMBUS

The discovery of the perfect cut.

The COLUMBUS programming software is a fully developed and flexible tool for the trouble-free creation of your cutting programs. Your cutting and marking processes are created automatically and efficiently with COLUMBUS.

The consistently pursued modular design allows the best possible adaptation to your specific requirements. Today and in the future, ESAB's software development also ensures constant evolution and adaptability to your changing needs while taking care of your flexibility.



## PDM

Production Data Management.

Your ideal system for controlling, tracking, recording and reporting in real time. PDM allows a seamless interface between your cutting machines and existing planning systems such as ERP or PPS. Most of all, PDM helps you to achieve lower operational costs and reduced cycle times while making your production processes transparent. PDM is thus your key to maximum productivity and operating efficiency. The PDM product range includes a number of tools that can be combined individually.

# Cutting machines, control systems and **software** from ESAB:

Hands-on, all-round solutions for  
the integrated production process.

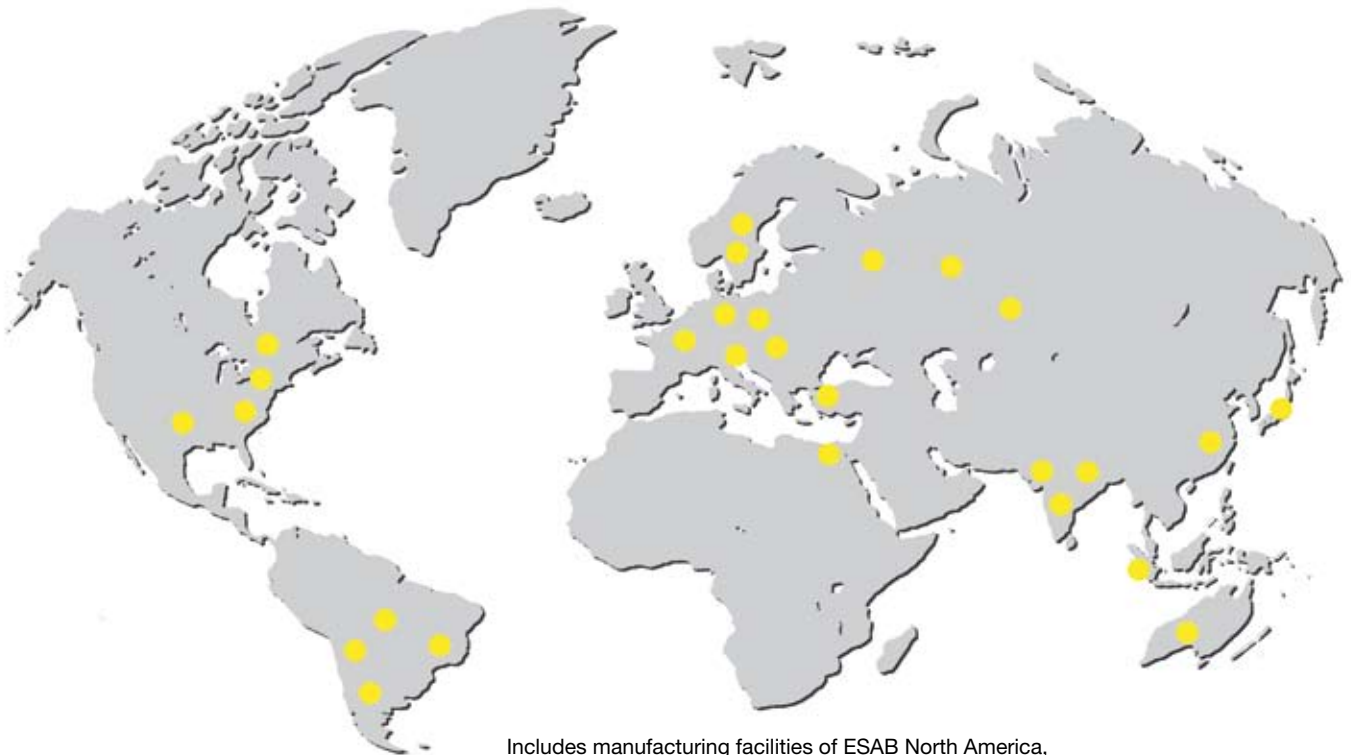


# ESAB. Your partner in welding and cutting.



Seven decades of experience and the consistent focus on the needs of our customers are the foundations for the successful and comprehensive product range of our cutting machines. In keeping with the thermal cutting processes – plasma cutting, oxy-fuel cutting and laser cutting – ESAB has developed a range of machines that efficiently combine the highest cut quality with high cutting speeds, allowing intelligent integration into automated production processes.

With our machine control systems we also contribute to optimizing production in many sectors and increasing the operating efficiency of our customers.



Includes manufacturing facilities of ESAB North America, a wholly owned subsidiary of Anderson Group Inc.



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