



# LASER CUTTING SOLUTION

**ANCA**  
**motion**  
Motion Control Solutions

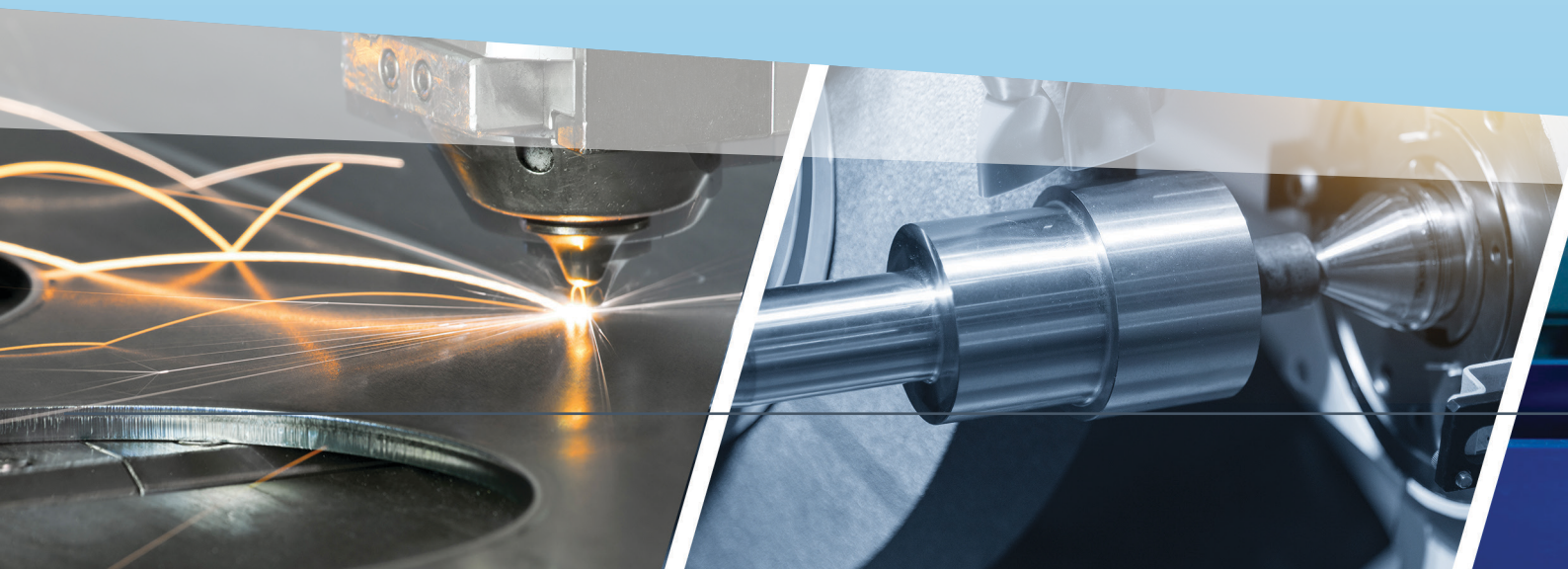


# ANCA MOTION SPECIALISES IN TAILORED MOTION CONTROL SOLUTIONS

At ANCA Motion we offer flexibility, reliability, innovation and precision-- providing solutions that give our customers a competitive edge.

Our focus and passion is designing and manufacturing flexible control systems; specialising in high precision solutions for CNC machines. Our hardware and software is tailored to an OEM's exact requirements.

ANCA Motion provides continuous support and innovation throughout the life of the product, allowing us to deliver world-class products and services.



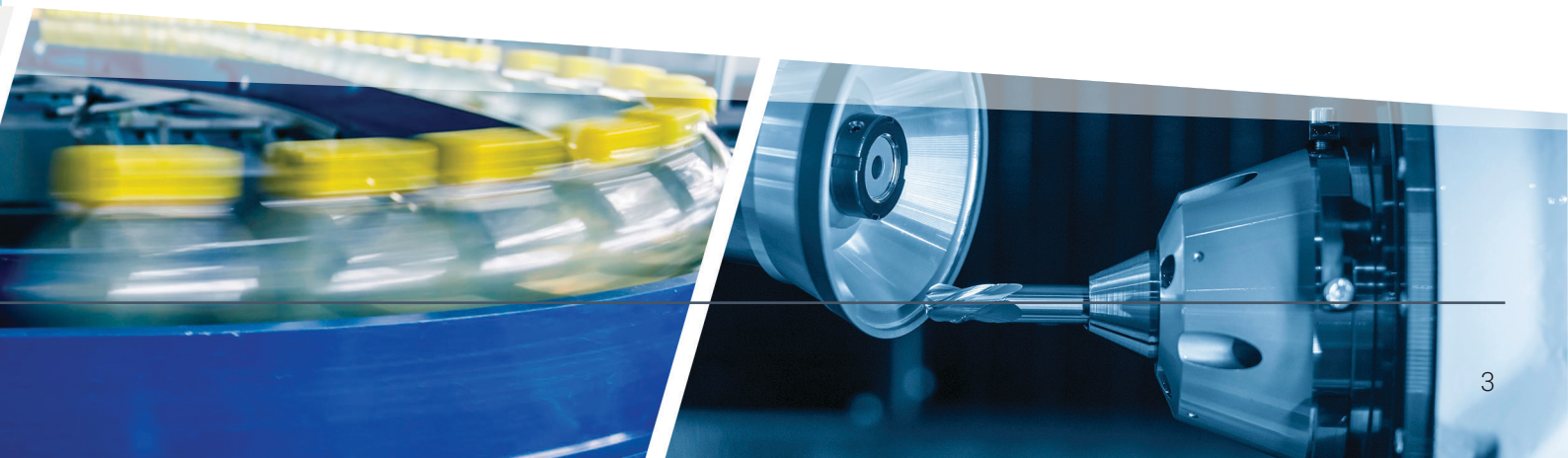
## GENERAL CNC FEATURES

ANCA Motion's renowned CNC technology has been extensively developed for over 40 years. ANCA Motion's CNC controls are utilized in thousands of industry leading machines around the globe.

Key features and functions, applicable to all applications:

- Soft axes
- MPG feed
- Live offset
- White listing
- Homing cycles
- Soft PLC
- CNC supports a wide range of Wifi devices
- Bussed multi-axis servo system
- EtherCAT based communication
- Integrated high-speed I/Os
- Concurrent logical machines
- Core kinematics
- Active retrace
- Spline interpolation
- Frame transformations
- Tool path graphics
- High speed probing
- Pitch compensation
- Joint direction and backlash
- Commissioning features
- CNC connect
- Block processing speed of 300,000 per minute

**WE ADAPT OUR HARDWARE AND SOFTWARE TO OUR OEM'S EXACTING REQUIREMENTS, PROVIDING SOLUTIONS THAT GIVE OUR CUSTOMERS A COMPETITIVE EDGE, IN ANY APPLICATION.**





## CUT ASSIST

### World-Class Laser Cutting Solution

ANCA Motion's world-class laser control solution offers complete customisation. Our turnkey solution is comprised of a combination of hardware and software, delivering powerful automation to support a high-performing machine.

- Ready-to-use user interfaces and PLC configurations to get started straightway.
- Tech Table database for easy cut parameter settings.
- CNC path smoothing to decrease cycle time across all part types.
- Complete customisation of pre cycle and post cycle operations.
- Easy to use human machine interface building software; **COMMANDER**.
- Open and flexible CNC software.
- Advanced cutting features for increased performance.
- Full control system support for gantry, height following, focal axis and material handling.

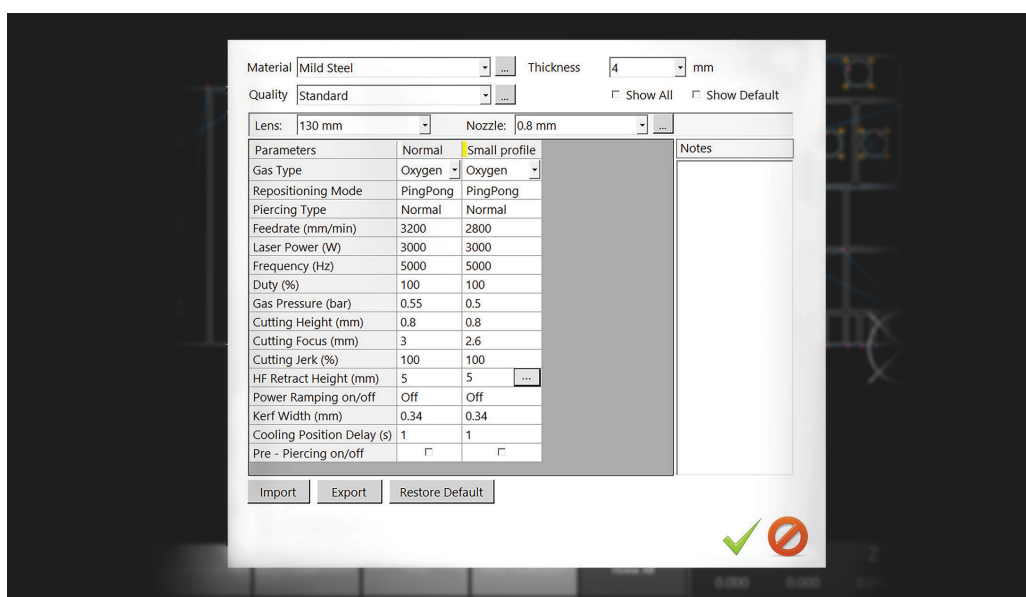


## KEY FEATURES

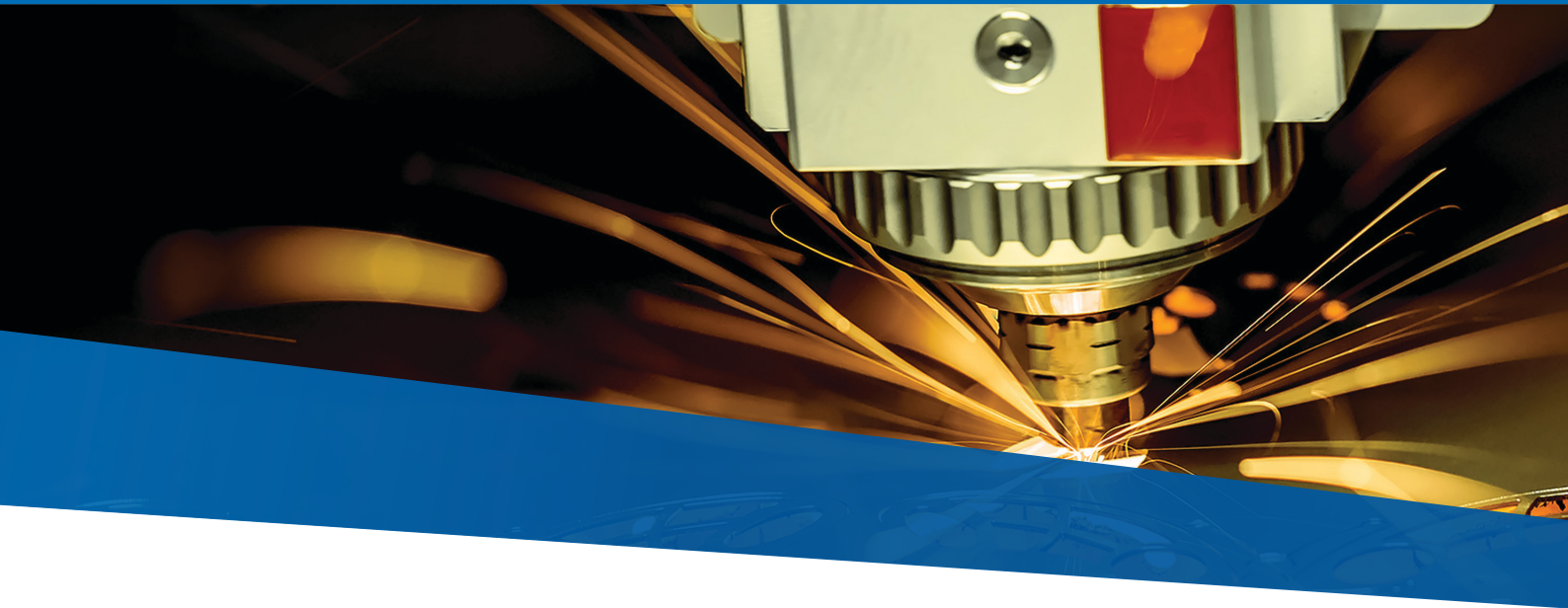
### User experience

#### Tech Table

- ANCA Motion's Tech Table allows complete laser process control. The Tech Table function allows OEMs to set up cutting parameters such as kerf, power ramping, cooling position, and piercing type.
- We also allow the OEM to create a default set of parameters that can be imported and exported to machines as they like. This also helps reset the parameters to default if an operator or end-user modifies them.



# CUT ASSIST FEATURES



## **Production Planning;**

### *Lights out operation*

- The Production Planning feature in Cut Assist focuses on allowing our customers to automate their laser cutting machine as much as possible. This is achieved by allowing the operator to configure automatic nozzle cleaning and changing, sheet loading and scheduling multiple jobs in a production plan.
- This feature allows laser machine operators to configure the machine for lights out operation. A machine with an ANCA Motion control system using this feature, can cut all day and night without operator input.

## **Height Following;**

### *Increase part quality*

- Laser cutting requires precise control of the z-axis position to ensure accurate piercing and cutting. ANCA Motion has developed its own height following control algorithm inside its AMD5x Servo drive, allowing for an update rate of 250us. This allows the machine to react quickly to obstacles and pierce faster.
- ANCA Motion's height following solution also helps our customers reduce cabinet space; removing the need for an extra device for the height following. The sensor cable from the laser head connects directly to the AMD5x Servo Drive.

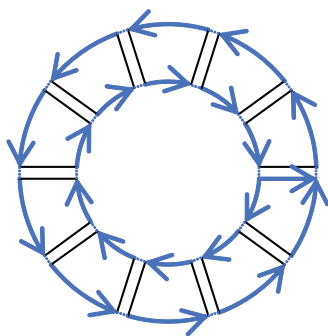




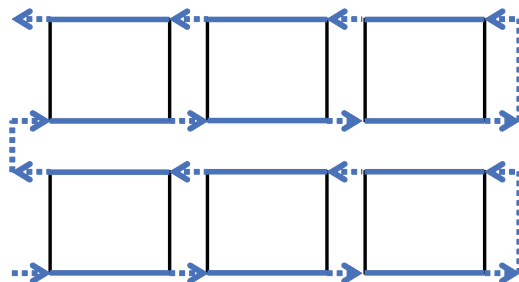
## Fly Cutting;

*Reduce cycle time*

- ANCA Motion's fly cutting solution has laser cutting in a scanning motion, reducing cycle time significantly. This method of cutting is extremely useful for simple patterns and parts that have grids.
- Our CNC uses its 1ms update rate to ensure the laser head is in the correct position before firing the beam, to ensure accuracy is kept below 20um.
- The AMD5x Servo Drive also has its own integrated I/O expansion card with high-speed digital outputs, allowing it to control the PWM of the laser with great accuracy.



*Arc Scanning*



*Line Scanning*

# CUT ASSIST FEATURES



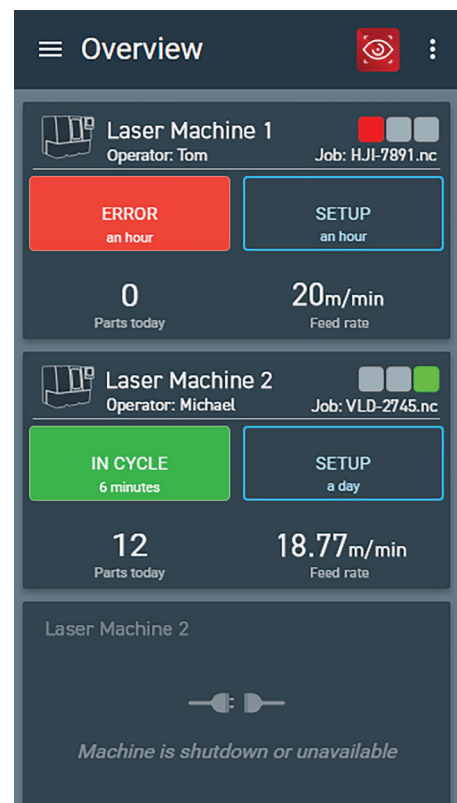
## IoT READY

Cut Assist offers a few options for connecting machines to an IoT solution.

The ANCA Motion CNC comes with a fully capable OPC UA server that allows an OEM's IoT solution to connect to any parameter inside the software.

ANCA Motion also offer our own IoT platform; Redax, which can be customised for the OEM when required.

Further to that, we also provide a platform specifically for Service and Support; where the OEM can set up preventative maintenance, collect error reports, remote file access and automatic software updates.





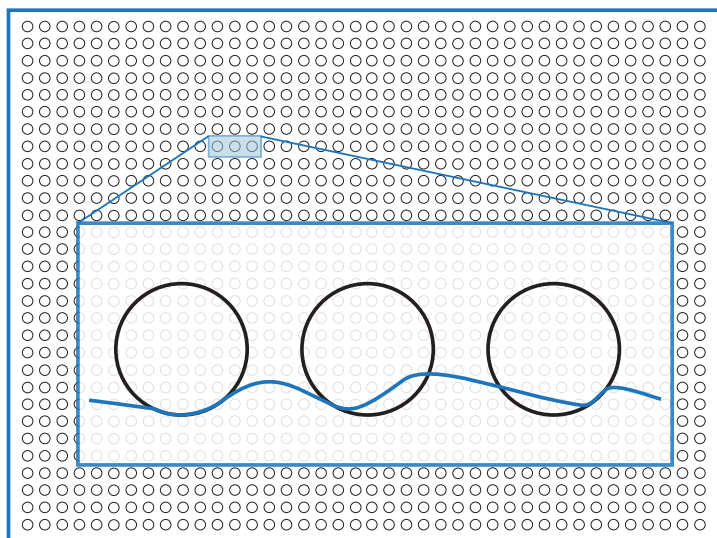


## ADVANCED MOTION CONTROL

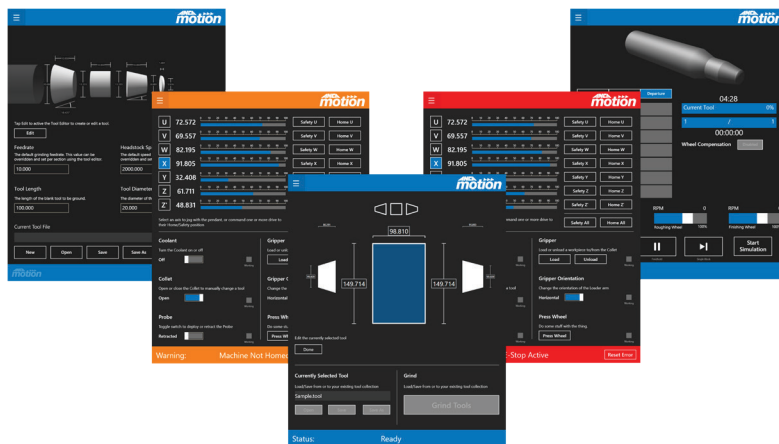
ANCA Motion's path smoothing algorithm is suitable for numerous different applications, but has been specifically developed for 2D laser cutting, which demands particularly high feed rates.

Like other methods, it balances the trade-off between cut quality and cycle time. ANCA Motion's path smoothing, however, optimises the path between parts to deliver shorter cycle times compared to competitors, with the same cut quality.

During a test of path smoothing, cycle times were decreased from 44.5 seconds to 35.1 seconds, a 21 per cent improvement.



- 1200 circles in under 1 minute
- 1mm diameter circles
- 2mm centre to centre distance



## COMMANDER

Designed to allow human operators to seamlessly monitor and interact with processed data, providing a cutting-edge user experience. Commander gives you the power to build custom interfaces with rich visuals, filled with custom intelligence and functionality, with no programming skills required.

### Functionality

- Powerful but simple spreadsheet-like expression evaluation
- Flexible scripting using IronPython

### Support

- Flexible scripting can be extended using IronPython

### Fully Customisable

- Change appearance/colour easily with in-built skinning/theming to reflect individual branding
- Select from the vast in-built library or create your own widgets and styles
- Advanced plugin system

### Facade

- Visually stunning
- Skin can be fully customised to reflect individual branding

### Run Time Configurable

- Create or modify your interface live
- Seamlessly move and re-arrange any visual (button, text, image, etc.) to suit individual business requirements

### Screen

- Touch-screen friendly design and operation
- Designed for Windows® desktop
- Vector-based (scalable) and Resolution independent





## AMCORE

AMCore allows you to program CNC motion control software. Core kinematics allow machine joints to be mapped to real world machine coordinates which simplify a complex machine into a number of easy to command axes. Our MPG feed retrace and active program edit features allow you to correct points immediately during a dry-run without the need to restart.

### EPPL

- ISO G-code
- Mathematical expressions
- Subroutines
- Up to 3 concurrent NC programs

### PLC Programming

- Powerful software-based PLC and compiler integrated
- IEC61131/61499 compatible PLC for graphical ladder

### CNC Connect

- Access system status, machine position
- Manage execution of NC programs
- Read and write configuration parameters
- Send and receive data and commands



## MOTIONBENCH

MotionBench is a software application designed to make the task of commissioning and tuning digital servo drives easy. Update drive code, run tuning algorithms, load parameters, and view the system response in a few simple clicks. Connect and configure multiple drives simultaneously and recall customised settings at any time.

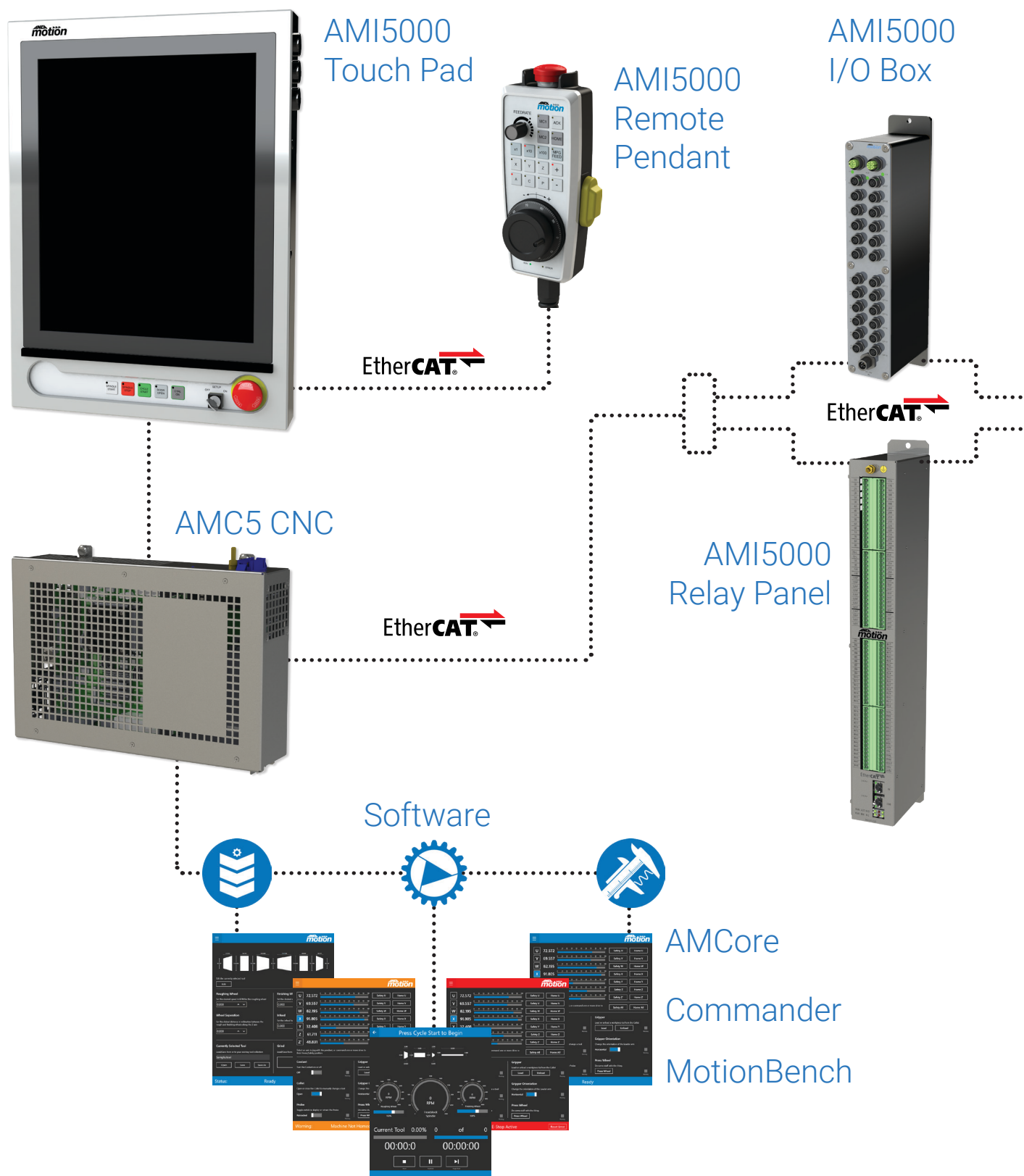
### Functionality

- Connect to multiple drives simultaneously
- Configure motor settings
- Tune system parameters
- Drive data logger

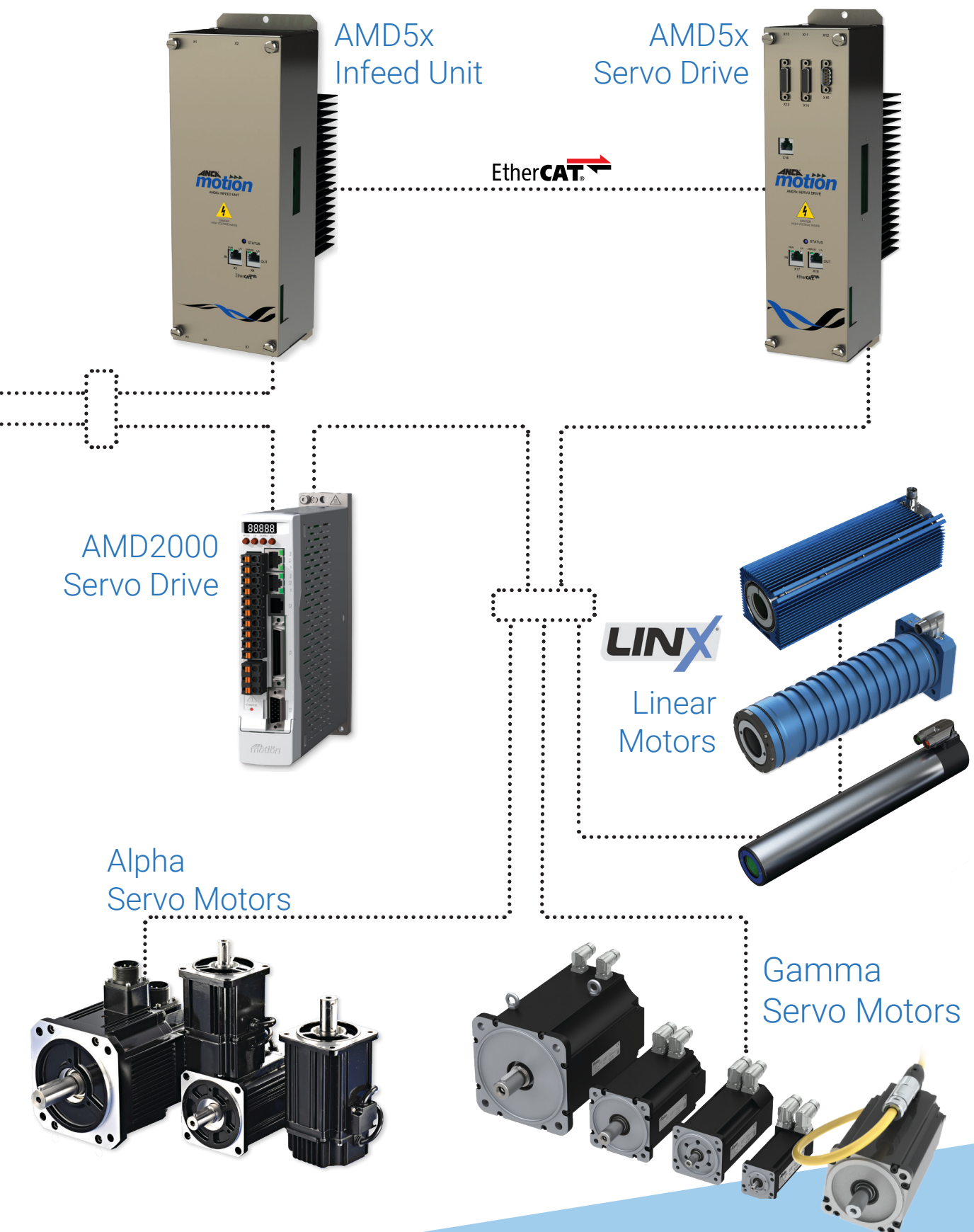
### Support

- Customised solutions tailored to your exacting requirements
- Ongoing support through your products lifecycle

# PRODUCT RANGE









## GLOBAL NETWORK OF SERVICE CENTRES

ANCA Motion have an extensive global network of service channels. Our service technicians are OEM factory trained and are one of the most experienced service teams in the world. We deliver the highest standard of customer service which is maintained throughout the entire life of the product.

## SOFTWARE & HARDWARE UPGRADE PROGRAMS

ANCA Motion control systems are known to have a long service life and software and hardware is updated frequently. Our service team can assist you with updates to take advantage of more recent technology.

## TECHNICAL QUERIES & APPLICATION SUPPORT

Our factory trained service team can provide technical support and advice to keep your control solution running and in peak performance.

## REPLACEMENT PARTS

ANCA Motion can provide original equipment replacement parts to ensure the highest quality of operation throughout your control systems lifetime.

## TRAINING

Application training can be made available when a control solution is installed or at a later date. Training is provided on site and in a wide range of topics to encompass every aspect of your company's needs.



ANCA is a global business with three main business groups; ANCA CNC Machines, ANCA Motion and ANCA Sheet Metal Solutions. ANCA specialises in the design and manufacture of machine tools, motion control systems and metal fabrication.

ANCA has achieved market leadership through innovation and a commitment to research and development. With our head office in Melbourne, Australia, we have a network of overseas branches and over 1000 employees worldwide.





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