



THINC[®]-OSP-P300 CNC CONTROL DELIVERS PROCESS EFFICIENCIES AND ENABLES USER INNOVATION

Dramatic paradigm shift from mode-based to process-based interface is unique in the CNC machine tool industry

EXECUTIVE SUMMARY

Okuma's history of introducing innovations in CNC control technology spans more than 50 years – and the THINC[®]-OSP-P300 is the latest breakthrough. The OSP-P300 brings a dramatic paradigm shift to the marketplace, with a process-based user interface rather than the traditional mode-based operational layout. The process-based platform is most evident in the EASY OPERATION interface, which centralizes data in one easy-to-access screen, displacing the cumbersome process of back-and-forthing through five or six screens. By streamlining process efficiencies, productivity is greatly increased.

The OSP-P300 is built using the Windows[®]-based, open architecture platform used in all THINC-OSP CNC controls. This fully open system makes it possible to easily install PC applications that allow for a multitude of conveniences. For example, users can set up access to tooling lists/setup spreadsheets, process documents, and how-to videos that assist operators in setup and operation – right at the CNC machine location. The OSP-P300's open architecture platform also opens the doors for users to continually customize operations to suit individual CNC machining requirements.



Okuma is the industry's only single-source provider, with the CNC machine, drive, motors, encoders, spindle and CNC control all manufactured by Okuma. By having mechanical and electrical under one roof we can ensure optimum production efficiencies, and also provide ways for customers to customize processes (for example, with custom app development).

THE OSP-P300'S EASY OPERATION RUN SCREEN CENTRALIZES ALL OPERATOR FUNCTIONS INTO ONE SINGLE SCREEN

When users experience the efficiencies of the OSP-P300, there's no going back to the old, repetitive and time-consuming way of CNC control operation. And, because the open architecture OSP-P300 allows users to create their own innovations, this opens up countless opportunities to deliver added value in products, implement manufacturing efficiencies that increase productivity, and establish a competitive edge in the marketplace.

EASY OPERATION RUN SCREEN

One of the most compelling innovations from a user standpoint is the OSP-P300's EASY OPERATION run screen. This feature centralizes all operator functions into one single screen, and is customized for the CNC machine's unique operation workflow. Simply select one of three operation screens:

- Setup Operations or Trial/Continuous Cuts
- Programming
- Tool Preparations

Then, all that's required is to touch the screen or press a function key to setup, run and monitor the job. Tool data is shared with other control functions, so it only needs to be created once. EASY OPERATION also expands the manual machine operation functions, and only creates tool offsets for the positions the operator uses.



Following are a few of the processes that are simplified and streamlined by the EASY OPERATION run screen:

1. Tool Registration

Data is registered for all tools. Since the registered tool data is also used by Okuma auto programming (Advanced One-Touch IGF) and a collision check function (Collision Avoidance System), the entire registration process is completed in this single screen.



TOOL REGISTRATION



TOOL MOUNT/TOOL CHANGE

2. Tool Mounted on Machine or Tool Change

After loading a tool into the machine, simply select it from the registered tools. Automatic Tool Changer manual operation does not require inputting the tool number. Simply select the tool from the list and press the function key.



TOOL OFFSET

3. Tool Offsets

By pressing a function key while watching the graphic guidance, the tool is brought into contact with the sensor and the tool compensation value is set.

EASY MACHINING PREPARATION

1. Forming Soft Jaws

Templates make it easy to set jaw shape, tool, and cutting conditions. Part programming is not required.

2. Zero Offsets

A simple function key operation is all it takes to shift a zero offset to either the left or right end of a workpiece. The required zero offset is calculated automatically based on jaw and workpiece lengths (when the tool offset is set with reference to the turret tool mounting surface).



FORMING SOFT JAWS (OSP-P300S MULTUS)



ZERO OFFSETS (OSP-P300S MULTUS)

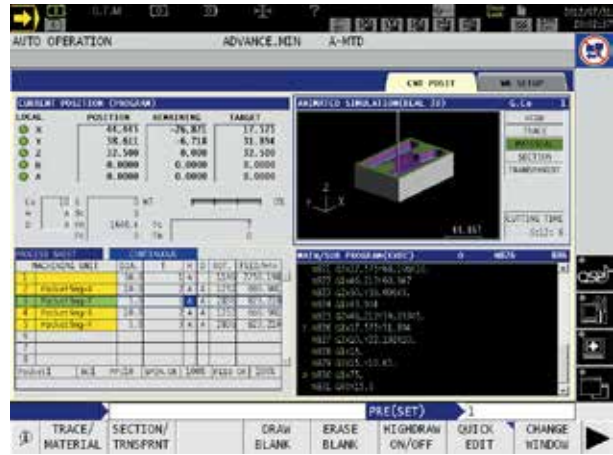
EASY MACHINING DISPLAY

Operation Screen Split Into Four Displays

Four simultaneous displays show setup work, current position NC program, and graphic simulation needed for confirming movement in trial machining.



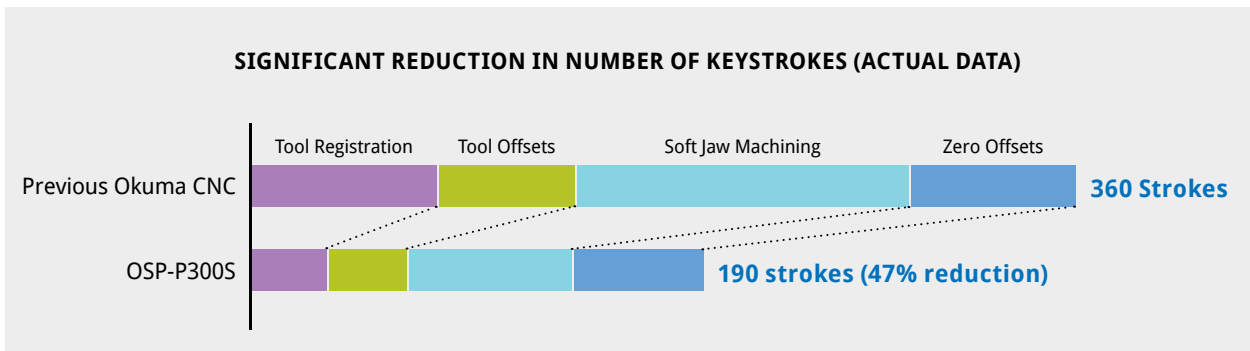
OSP-P300S (MULTUS) SCREEN EXAMPLES



OSP-P300M SCREEN EXAMPLES

SHARED DATABASE ELIMINATES REDUNDANT DATA ENTRY

On the programming side, the key to the OSP-P300's easy operation is its new shared database. This is a radical difference from other controls on the market. With a single database, operator inputs are shared amongst all control functionalities. This means data that is input in one area of the CNC control is automatically shared in other areas. For example, when the operator sets up tools for typical CNC machine functions, they are entering data. Then if they want to take advantage of Collision Avoidance (CAS) or Advanced One-Touch IGF, these new tools are automatically connected to the original data set. No new data entry is required, the new tools are ready to use, and operators can focus on making parts instead of getting bogged down in redundant data entry. The bottom line? Fewer keystrokes and faster setup times.



THE OSP-P300'S UNIQUE SHARED DATABASE ELIMINATES REDUNDANCIES AND ALLOWS FOR FASTER SETUP TIMES

ADDITIONAL "EASY" FUNCTIONALITY

There are many other enhancements to the OSP-P300 CNC control that make it easier to perform certain tasks, such as:

1. Manually clamp the c-axis with the push of a button
2. Rotary switch manually indexes the B-axis (multi-tasking machines) every 45 degrees
3. Index the lathe tool with the push of a button
4. Makes all the Stop Operation buttons red on the control panel for easier viewing
5. New feature to select and change tools from manual mode

THE INDUSTRY'S ONLY NON-PROPRIETARY CONTROL

The OSP-P300 is built using the Windows®-based, open architecture platform used in all THINC-OSP CNC controls. This fully open system makes it possible to easily install PC applications that allow for a multitude of conveniences. For example, users can set up access to tooling lists/setup spreadsheets, process documents, and how-to videos that assist operators in setup and operation – right at the CNC machine location. A USB caliper or micrometer can be used to measure parts and electronically capture statistical process control data right on the CNC control – eliminating the cumbersome (and sometimes inaccurate) challenges of the paper trail. The OSP-P300's standard Ethernet and multiple USB ports allow for easy integration between the factory floor and ERP/MES systems.

OPEN ARCHITECTURE PLATFORM INCREASES LIFETIME RETURN ON INVESTMENT

THE OSP-P300 ALLOWS FOR CONTINUOUS IMPROVEMENT OF PROCESS, GREATLY INCREASING LIFETIME RETURN ON INVESTMENT

The OSP-P300's open architecture platform also allows users to take advantage of new technologies as they become available, without a costly CNC control overhaul. This allows for ongoing customization and upgrades, empowering users to adopt the latest functionality as it becomes available. Other controls in the industry are proprietary or "closed" systems that don't allow for easy updates or upgrades. With an open door for continuous process improvement, lifetime return on investment is greatly increased.

MTCONNECT AND OPEN API ALLOW USERS TO CREATE CUSTOMIZED APPS

In the spirit of the completely open control, Okuma offers the API associated with your OSP-P300 CNC control free of charge. This allows users to write customized PC-based applications (apps) that can communicate with the control to get data in and out, read and write code, and set parameters and variables for tool information. All Okuma CNC controls include the APIs – they ship standard with the machine and allow full read/write access to over 6,000 data points. In addition, Okuma is a leading member of the MTConnect Technical Advisory Group (MTCTAG) and fully supports the implementation of MTConnect-based applications.

Following are some examples of apps that have been created for the OSP-P300 control:

1. Remotely check the status of your CNC machine tool – without needing video surveillance
2. Send an email notifying you of an alarm – and showing you a screen shot from the control
3. Allow you to access your Windows desktop from your CNC control – with a simple touchscreen button
4. Open PDFs of part drawings (from your server) – right at the CNC control location
5. Create custom commands for your CNC machines that make processes easier for operators
6. Set up easy-to-use interfaces for probing and gaging
7. Put serial numbers on parts that are automatically connected to processing data, for easy-access traceability
8. Scan a barcode with a USB reader to select the associated program and automatically transfer it to the machine's program storage area, selected and ready to run.
9. Instantly display helpful images for the operator that assist with machine setup, visual part inspection, and other functions
10. Remind you to perform daily preventive maintenance checks



SIMPLE PROGRAM SELECTION VIA BARCODE APP

THE OSP-P300 ALLOWS USERS TO STREAMLINE CONTROL OPERATIONS AND CREATE THEIR OWN INNOVATIONS

MECHATRONICS: THE FOUNDATION FOR INNOVATION

Mechatronics involves blending the development of mechanical and computer systems to assure harmonious communication between the machine and its control. Okuma is the industry’s only single-source provider, with the CNC machine, drive, motors, encoders, spindle and CNC control all manufactured by Okuma. By having mechanical and electrical under one roof we can ensure optimum production efficiencies, and also provide ways for customers to customize processes (for example, with custom app development).

Through the years the OSP control has continued to evolve, and the OSP-P300 is our latest innovation. By transitioning to a process-based mode of operation we allow users to streamline control operations and also to create their own innovations. This enables our customers to deliver added value in products, create manufacturing efficiencies that increase productivity, and establish a competitive edge in the marketplace.

OSP-P300 DEMONSTRATIONS

The best way to experience the OSP-P300 is to give it an in-person test drive. Okuma can provide demonstrations of the OSP-P300 at your local Okuma distributor, or the following locations:

Okuma America Corporation

11900 Westhall Drive
Charlotte, NC 28278
P: 704.588.7000 | F: 704.588.6503

Okuma Technical Center–Houston

4727 S. Pinemont, Suite 200
Houston, TX 77041
P: 704.504.6104 | F: 704.504.6105

Partners in THINC

12428 Sam Neely Road
Charlotte, NC 28278
P: 704.587.6789 | F: 704.587.7669

Okuma Technical Center–Morris Midwest

68 Congress Circle W
Roselle, IL 60172
P: 630.351.1901 | F: 630.351.1912

FOR MORE INFORMATION ABOUT OSP-P300 AND THE PRODUCTS ON WHICH IT IS AVAILABLE —
CHECK WITH YOUR LOCAL OKUMA DISTRIBUTOR OR VISIT THE OKUMA WEBSITE AT WWW.OKUMA.COM