MultiCam®

CNC Cutting Solutions

MultiCam Digital Express Feature and Specification Guide

High-Speed Digital Finishing at 7000 Inches Per Minute!

The MultiCam Digital Express boasts features normally found on more expensive X/Y/Z cutting systems. It combines high-speed digital registration with powerful routing and knife-cutting capabilities in a fast, wide-format, sheet-feed or conveyorized cutting platform. Companies looking for a versatile, affordable platform that can register, route and knife cut at high speeds will appreciate the versatility and affordability of the Digital Express.

Since 1989, MultiCam has been building and selling three-axis positioning systems. A global network of experts at over 70 factory-trained Technology Centers supports our CNC cutting solutions. With more than 8500 machines sold worldwide, MultiCam provides the experience, knowledge and service safety net to ensure your productivity.

For an affordable, configurable, production digital finishing system backed by the reliability of world-class service, choose the MultiCam Digital Express.

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Innovation. Quality. Performance.

Digital Express Specifications

No CNC cutting machine offers more standard features than the innovative and versatile MultiCam Digital Express.

- EZ Control with user-friendly operator interface
- All-steel, stress-relieved, precision-machined base frame
- 25-mm linear bearings in X and Y axes
- High-flow vacuum table
- 2" (50-mm) cut capacity with all tools
- Digital ac servo drives on all axes
- 7000-IPM rapid traverse
- Three independent Z-axis heads
- MultiVision digital registration system

Options Include

- 3-, 4- or 5.5-hp high-speed routing spindles
- Up to three tangential knife receivers
- Automatic tool and knife changing systems
- Wide variety of knife cartridges
- Conveyor or vacuum table
- Auto misting system
- Pop-up material location pins
- Bar code scanning interface
- Integrated computer workstation
- High-flow vacuum pumps
- EnRoute CAD/CAM software packages for enhanced workflow

3-hp Spindle

Router Spindles

The Digital Express standard spindle is air cooled, rated at 4 hp, 24,000 rpm and utilizes an ER-25 collet with a tool diameter capacity of up to ⅝" (16 mm). The optional 3-hp, 40,000-rpm water-cooled spindle utilizing an RDO collet handles tools up to ⅜" (10 mm) in diameter.

An optional water-cooled, variable-speed, 5.5-hp, 50,000-rpm spindle gives the user increased flexibility. It utilizes HSK-25 tool holders and ER-16 collets. HSK-25 tool holders are capable of handling tools up to ⅜" (10 mm) in diameter. Under CNC program control, they can change out automatically. MultiCam's high-rpm spindle capabilities allow fine-edge finishes using small-diameter tools as well as increased feed speeds and overall finished part throughput.

4-hp Spindle

5.5-hp Spindle

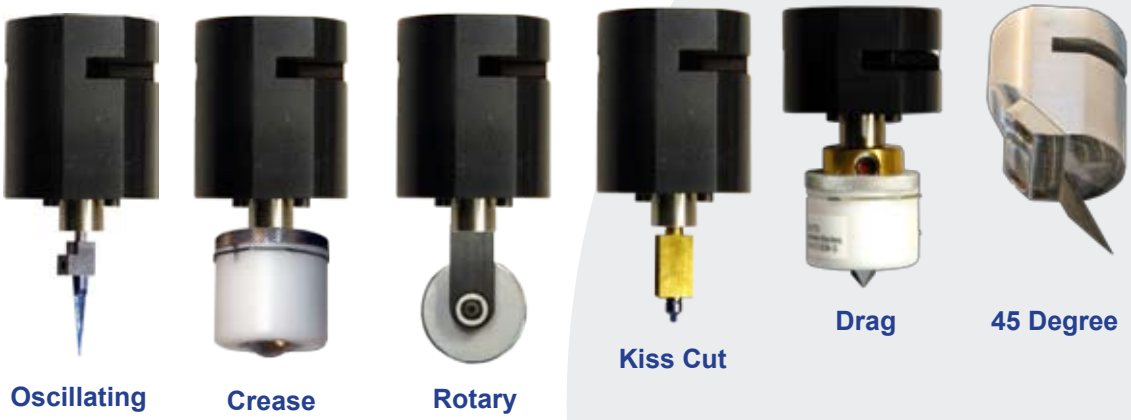
MultiCam EZ Knife Tangential Cutting System

MultiCam developed the EZ Knife cartridge system to perform mechanized knife-cutting, creasing and perforation operations for the digital finishing market. Users may configure two independent tangential knife receivers on all MultiCam Digital Express machines.

The EZ Knife system supports tangential drag, oscillating and ultrasonic cutting techniques. Choose from many blade types including rotary, spear point, utility, kiss cut and more. MultiCam high-performance motion-control systems coupled with a popular range of table sizes bring a new level of performance and utility to knife cutting.

EZ Knife Cartridge Options

- High-frequency oscillating
- Ultrasonic high frequency
- Drag knife
- Kiss cut knife
- Rotary knife
- Creasing wheel
- Perforating wheel
- 45-degree knife



Vacuum Pumps

Standard vacuum pump options include an 8.5-hp (225-CFM) or 17-hp (335-CFM), two-stage regenerative blower. Both pumps can pull 14" HG, and their high CFM capacities lend themselves well to graphic arts sheet cutting applications.

MultiVision Digital Registration System

MultiVision is standard on all Digital Express machines. It is a digital camera/software-based system that recognizes media registration marks visually and compensates for skew, distortion and image drift automatically. The MultiVision system integrates easily into your existing workflow. It provides the additional flexibility of utilizing state-of-the-art CAD/CAM software for enhanced tool path generation as well as high-end 3-D sign and graphic applications.

Digital Express Specifications

Standard Work Surface

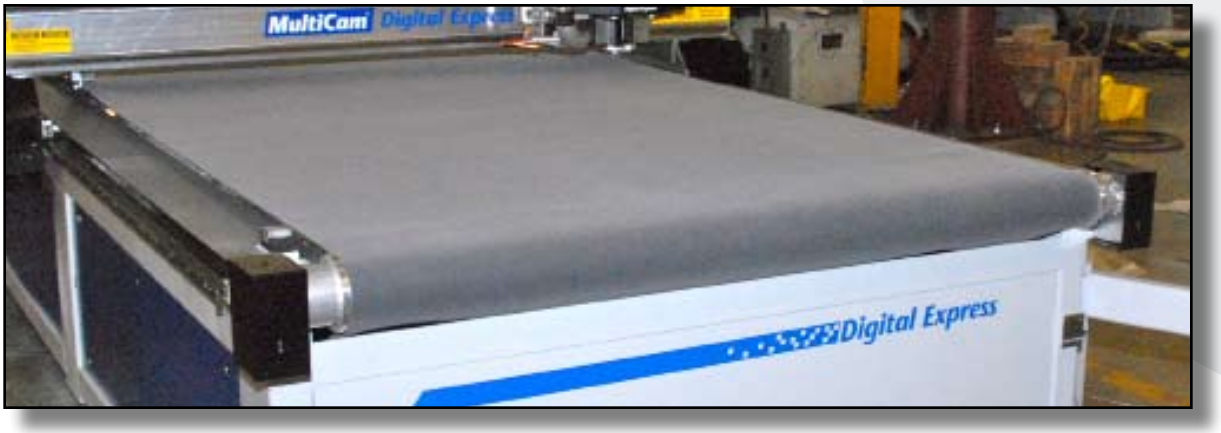
The Digital Express standard working surface is 1" thick phenolic with a high-flow grid pattern utilizing .25" x .25" foam gasket sealing tape. It is mounted to the top of the steel base frame and machined in place. This ensures a flat cutting surface normal to the spindle. Phenolic makes an excellent work surface because of its dependable mechanical strength and dimensional stability. Actual cutting surfaces may include LDF (light-density fiberboard), perforated polycarbonate sheets or fibrous belting material for knife cutting.

Base Frame

A one-piece tubular steel base frame is welded, stress relieved and precision machined. One-piece construction allows for a very accurate and smooth cutting system while essentially removing the possibility for installation errors that could affect the system's performance and accuracy.

Conveyor System

Order the Digital Express with an optional conveyor system for rolled materials and jobs longer than the table. A conveyor system belt serves as a vacuum cutting surface and advances the material automatically. The user may retrieve the material from a roll continuously, or the system will feed sheets automatically.



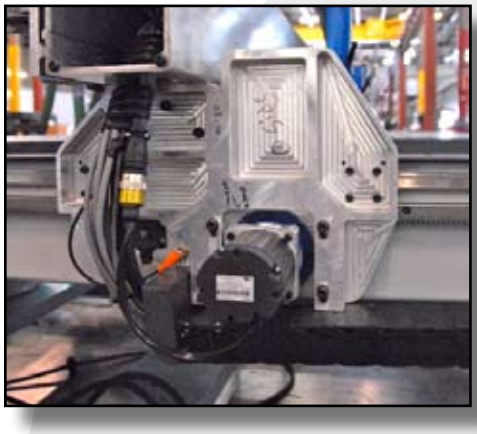
Digital Express Specifications

Gantry

MultiCam engineered the gantry from 10-mm thick aircraft-quality aluminum extrusion for maximum stiffness. References for the precision linear bearings and rack engineered into the design have excellent parallelism. The position of the rack mounted on top of the extrusion minimizes swarf and chip contamination.

Gantry Supports

We precision machine Gantry supports from 2" thick cast aluminum tooling plate using a four-axis horizontal machining center to guarantee perpendicularity. The cast aluminum support has inherent vibration-dampening characteristics while giving rigid support to the gantry tube.



Linear Bearings

Standard 25-mm linear ball bearing profile rails with stainless steel spring strip covers are standard on the X and Y axes.

Features include:

- High rigidity and top-load capacities in all load directions
- Lowest possible noise level and best running characteristics
- High-torque load capacity
- Four bearing packs per axis
- 30,400-Nm or 22,421-lb-ft dynamic capacity per pack

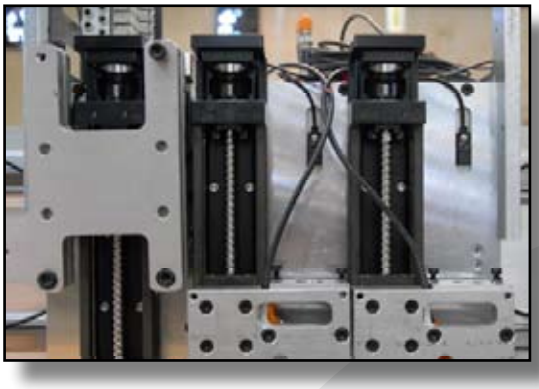
Drive Assembly

High-torque, brushless digital ac servo drives coupled to zero backlash Alpha gearboxes drive both the X and Y axes. This results in high acceleration of the gantry as well as excellent cut quality.

Digital Express Specifications

Z-Axis Assembly

The Digital Express utilizes three 10-mm precision-ground Z-axis screws. A precision mounting block with dual angular contact ball bearings holds each screw firmly in place for high axial force loads. The precision-machined steel nut carries the Z-axis load. A high-torque, brushless digital ac servo motor drives each Z-axis screw.

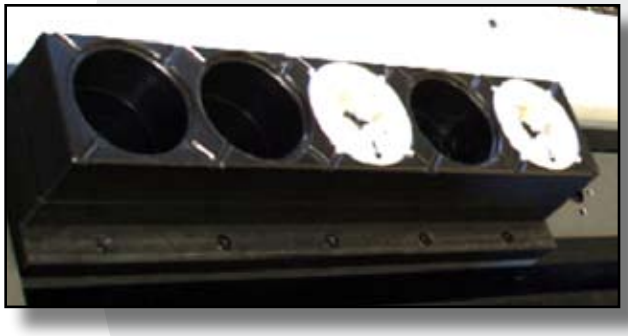


Automatic Tool Changer (ATC)

Automatic tool changing (ATC) is available with a water-cooled, 5.5-hp, 50,000-rpm spindle giving the user increased flexibility. The spindle utilizes HSK-25 tool holders and ER-16 collets capable of handling tools up to ⅜" (10 mm) in diameter. An operator may change out up to eight tools automatically under the CNC program control.

Automatic Knife Changer

MultiCam's exclusive Automatic Knife Changer allows changing of up to four knife cartridges under CNC program control.



Dust Collection System

Our dust collector's XtremeClean™ feature prevents clogging. A burst of air cleans the washable filter automatically every 20 seconds while you work. This helps the system function at maximum efficiency. Includes an antistatic hose.

EZ Control

MultiCam EZ Control is one of the most powerful yet easy-to-use motion-control systems available on machine tools today. No wonder MultiCam named its motion system EZ Control!

Features include:

- Hand-held operator interface with graphic icons
- 12 MB of memory with unlimited file-size transfer capabilities
- Multiple home positions
- Automatic Z surfacing
- Electronic depth safety system
- Proximity restart
- Tool compensation
- Cut speed override
- Spindle rpm override
- Standard Ethernet TCP/IP connection

Digital Servo Drive System

Digital servo drives and brushless digital ac servo motors form a digital vector servo drive system that is standard on all MultiCam Digital Express machines. This drive system integrates position, velocity and torque loops seamlessly to provide uncompromised tracking accuracy, smoothness and reliability.

MultiCam servo-driven machine drives are the latest in high-performance technology. They advance the state of the art by utilizing seamless coordination and allowing information sharing in real time so all system functions cooperate in any situation. Realize tighter tracking, smoother motion and faster rapid traverse — all of which yield superior machine throughput and reliability.

Optional Workstation

The ergonomically designed computer workstation features solid-steel construction and aircraft-quality aluminum components. A stand places it at the front of the Digital Express for easy access to the controls. MultiCam EZ Control's hand-held interface and an optional bar code reader have special holders that integrate with the workstation.

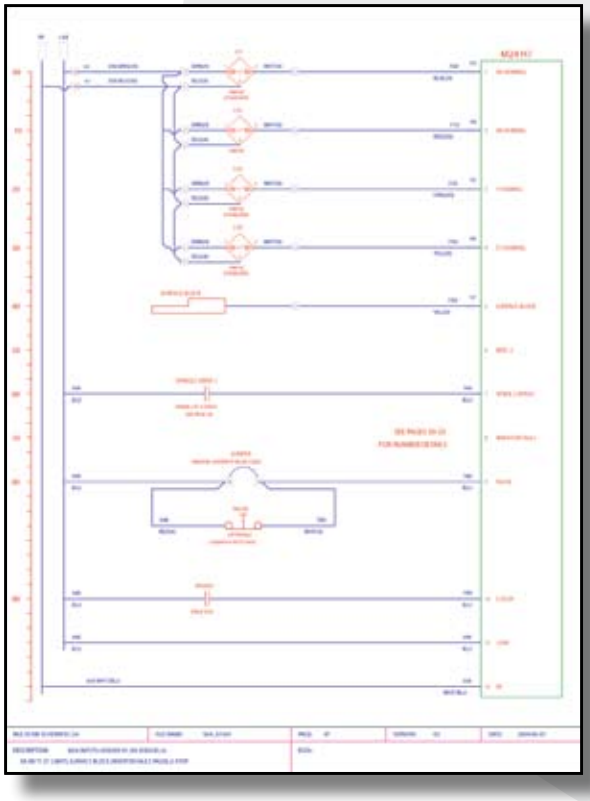
Digital Express Specifications

Standard Features

Leveling Feet

Tool Box

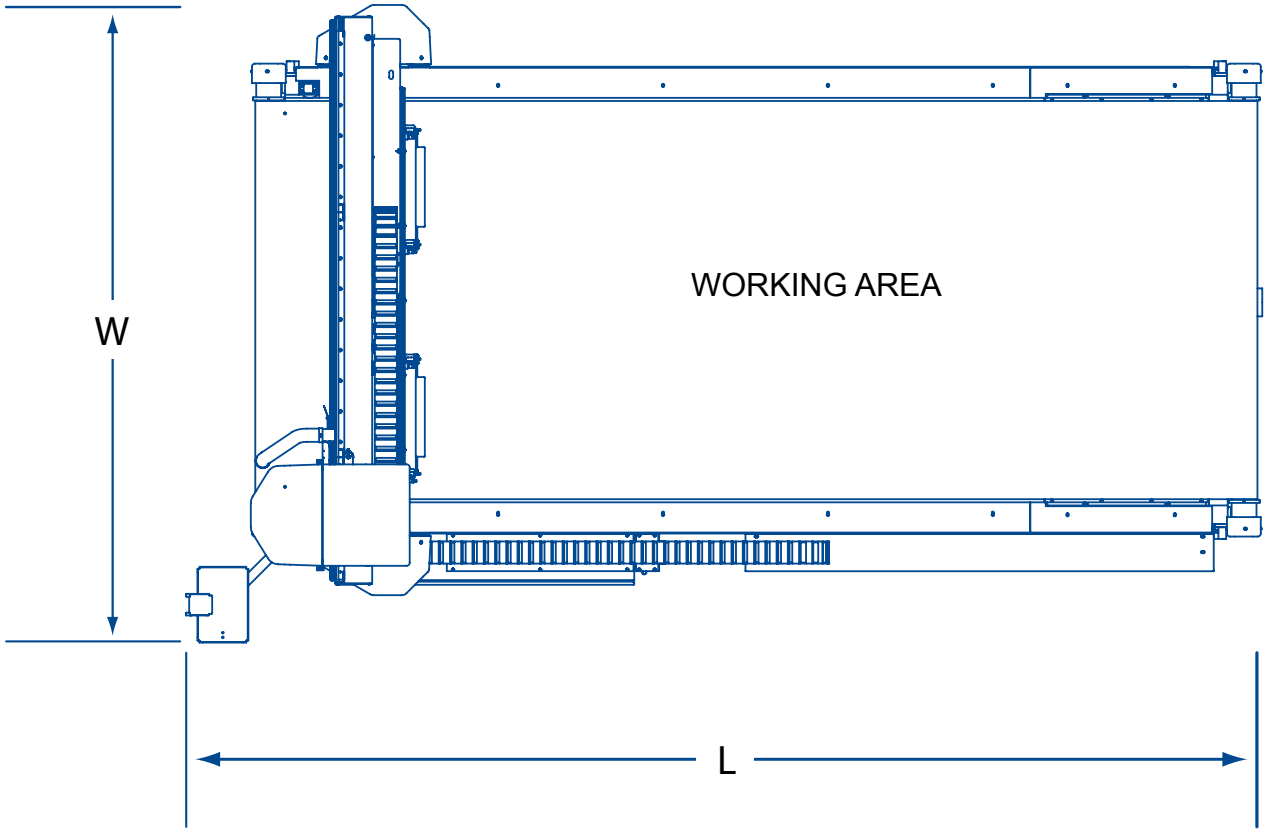
Operation Manual

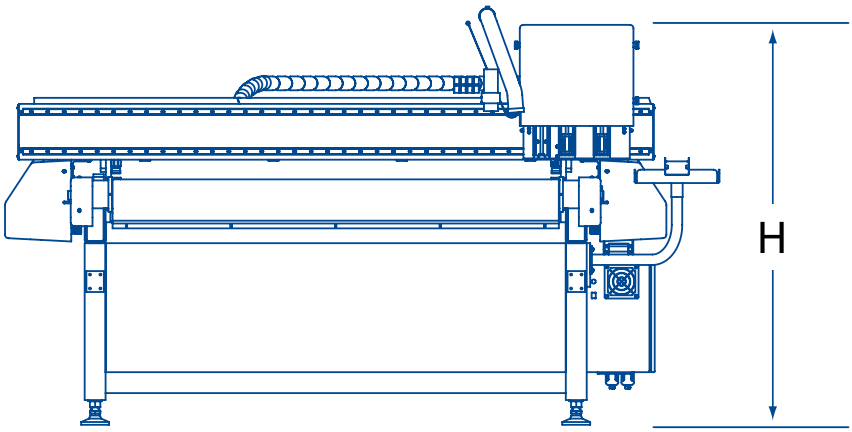


Electrical Schematics

MultiCam

Digital Express





Digital Express Specifications

- Z-Axis Clearance: 3" (76 mm)
- Z-Axis Travel: 5" (127 mm)
- Repeatability: +/- .001" (.025 mm)
- Positional Displacement Accuracy: +/- 0.005" (.13 mm) over 10 feet
- Maximum Cutting Speed: 3000 IPM (76.2 M/min)
- Maximum Rapid Traverse: 7000 IPM (177.8 M/min)
- Drive System X and Y Axis: Rack and Pinion
- Drive System Z Axes: Ball Screw
- Drives: Brushless Digital ac Servo
- Standard Work Surface: 1" Phenolic

Size Chart (inches)

MODEL	L	W	H	WORKING AREA	WEIGHT LBS.
D-202*	88	84	51	60 x 60	2302
D-103	128	74	51	100 x 50	2612
D-204*	148	84	51	120 x 60	3157
D-304*	148	104	51	120 x 80	3828
D-208	268	84	51	240 x 60	5926
D-308	268	104	51	240 x 80	6418

Size Chart (metric)

MODEL	L	W	H	WORKING AREA	WEIGHT Kg
D-202*	2235	2134	1295	1524 x 1524	1043
D-103	3251	1880	1295	2540 x 1270	1183
D-204*	3759	2134	1295	3048 x 1524	1430
D-304*	3759	2642	1295	3048 x 2032	1734
D-208	6350	2134	1295	6096 x 1524	2684
D-308	6350	2642	1295	6096 x 2032	2907

* Models Available with Conveyor System. All Specifications Subject to Change.