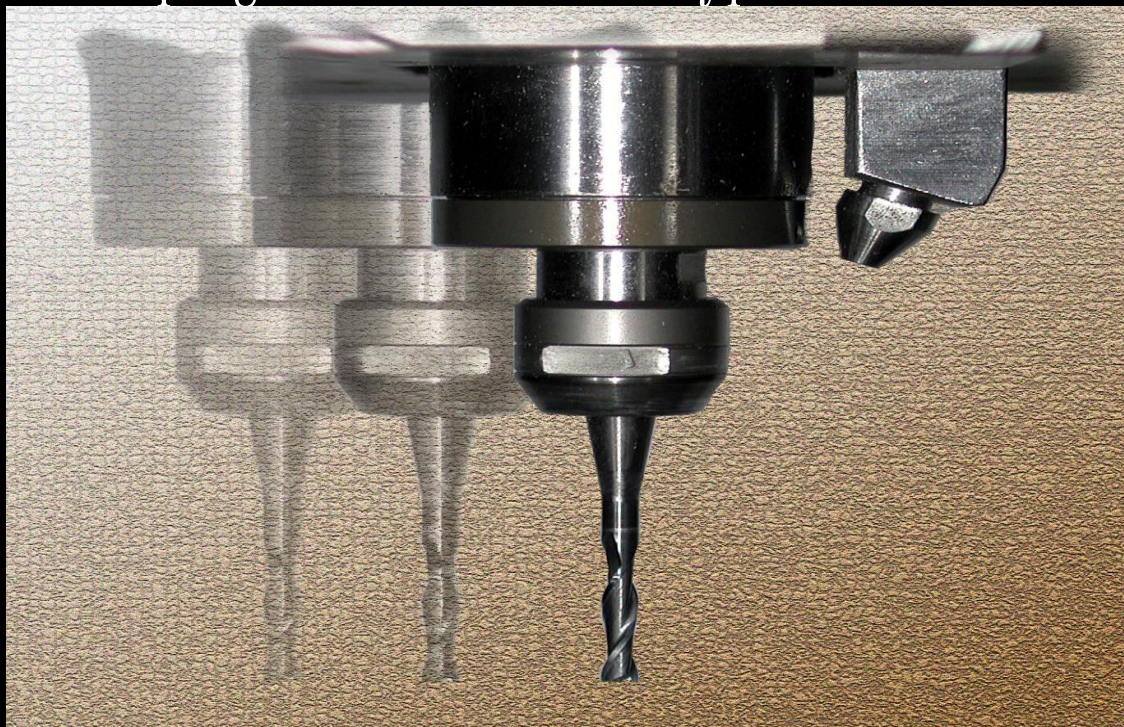


Sash-IN

Shaping aluminium sash hyper INnovator



超切削!

IMAX co.,ltd.



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<http://www.i-max.top>

SG190S

Star Gate series

Sash-IN II

IMAX Desk-Top Milling Center



- ◆ Intelligent NC. Simple to operate, like a press. Requires no special skill
- ◆ Secure clamping of complex shapes
- ◆ Multi-task machining without reclamping
- ◆ Program supply system for quick start-ups, impressive capabilities
- ◆ High-speed, burr-free cutting with specialized end mill
- ◆ Desktop mountable. Portable. Easily integrated into production lines



Desktop



IMAX Co.,Ltd.



Setup



Buttons for zeroing, tool change positioning, tool length measurement, and similar functions simplify setup.

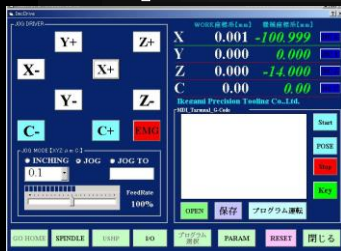
Program operation screens



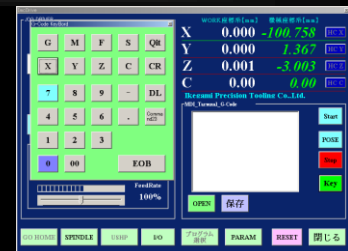
Machining programs, along with image data such as machining and insertion sketches, can be called up from an internal PC hard disk. Workpiece insertion sketches, machining parameters, and other data can be displayed when a program is selected.



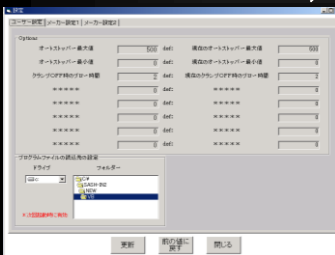
Manual operation screens



Convenient buttons, a G code keyboard, and other graphics enable operation without external keyboard or mouse.



Administrator screen, user parameter settings



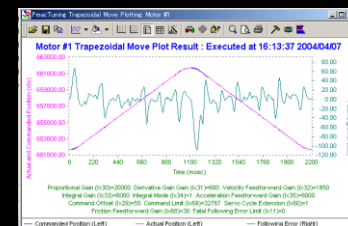
Easy setting of many user parameters (clamp blow time, etc.). Administrator screen facilitates monitoring of operating time, tool life, etc.



Ultrahigh-speed NC unit



The next era of aluminum machining. Ultrahigh-speed (60,000rpm), high-power (190 W) spindle, operates at optimal feed speed by means of high-performance NC controller with 2.25 kHz (440 μs) servo loop response frequency.





Auto stopper unit



Dialogue-type auto stopper for midsection machining provided as standard. Dimensions can be directly entered by touch-panel keyboard.

AS2600: Min. 100 mm to max. 2600 mm
AS2000: Min. 100 mm to max. 2000 mm



Flexible clamp

Accommodates workpieces up to 190 mm in diameter. One-touch clamping of solid or hollow workpieces by means of two types of base pads and three types of pressure pads. Used in conjunction with a back-end flexible clamp, these pads provide sufficient stability for midsection machining along lengthy workpieces.



Options

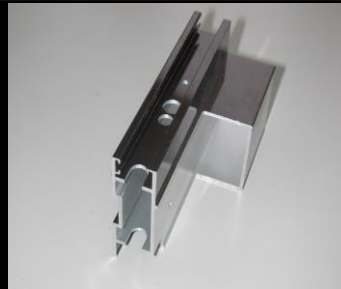


Mounting table

Machined sample



End coping; double sliding window sash



End coping; double sliding window shoji sash



Tri-level removal of material from hollow workpiece



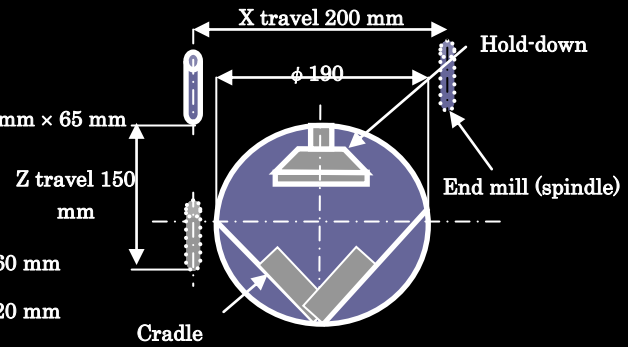


SG-1901 detailed specs

Machine travel

1 Clamp opening, attachments (hold-down, cradle) [Fig. 1]

- ① Clamp opening: 190 mm round
(Reference) Insertable workpieces: 95 mm × 95 mm, 140 mm × 65 mm
- ② Rotation: 360°
- ③ Rotary indexing: 0.05°
- ④ Hold-down attachments
 - Type A: Hold-down attachment for large workpieces
 - Type B: Hold-down attachment for midsize workpieces
(Reference) Insertable workpieces: approx. 60 mm × 60 mm
 - Type C: Hold-down attachment for small workpieces
(Reference) Insertable workpieces: approx. 20 mm × 20 mm
 - Custom: Designed to order to match workpiece



[Fig. 1. Cross section]

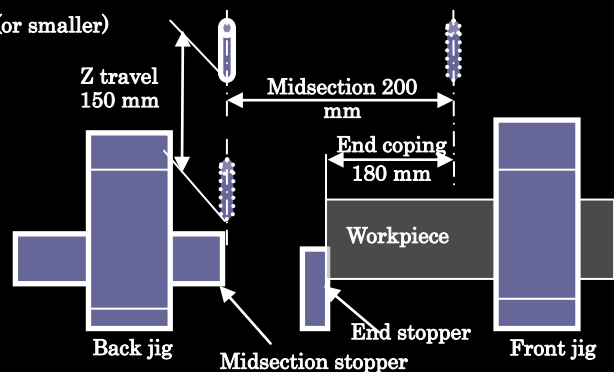
- ⑤ Cradle attachment
 - Standard: Workpiece cradle attachment
 - Option: Workpiece cradle attachment (for small workpieces)
(Reference) Insertable workpieces: 60 mm × 60 mm (or smaller)
 - Custom: Designed to order to match workpiece

2 X, Z travel

- ① X-axis travel: 200 mm Z-axis travel: 150 mm

3 Y travel, machinable range [Fig. 2]

- ① Y-axis travel: 200 mm
- ② End coping range: 180 mm
With auto elevation end stopper
- ③ Midsection machining range: 200mm
Midsection machining stoppers
 - Midsection slide stopper A: Up to 1,000 mm
 - Midsection slide stopper B: Up to 1,500 mm
 - Midsection slide stopper C: Up to 2,000 mm
- End-midsection stoppers:
 - Type A: 150 mm from center of Y-axis travel range
 - Type B: 200 mm from center of Y-axis travel range
 - Type C: 250 mm from center of Y-axis travel range
 - Type D: 100-400 mm from center of Y-axis travel range (sliding)
 - Custom: Designed to order to match workpiece
(Reference) For example, for positioning at 100-300 mm



[Fig. 2. Transverse section]

Workpiece length and weight

1 Jig clamping force

- ① Front jig: 120 kgf (0.6 MPa) max.
- ② Back jig: 50 kgf (0.6 MPa) max.

2 Machinable workpiece length

- ① End coping: Min. length of 500 mm from end
Max. length of 4,000 mm from end (support roller used if over 2,500 mm)
- ② Midsection machining: Min. length of 500 mm from end stopper; maximum length of 5,000 mm from end (support roller used if over 4,000 mm)

3 Machinable workpiece weight: 2 kg/m

Controller software

1 Controller

- ① Placement
 - > Servo drivers and main board contained within unit; control panel located on front panel
 - > Control panel can be used to select programs, start operation, and make various adjustments and corrections
 - > Personal computer (PC; not included) used to download programs to controller
- ② Control panel
 - > LCD panel: Program selection, adjustments/corrections, display of current position, etc.
 - > Workpiece clamp button (foot switch), start button, compressed air (air cooling) button
 - > Clamping force regulator handle
 - > Emergency stop button (40 mm, red)
- ③ Controller specifications: Simultaneous 3-axis (X, Y, Z) interpolation + rotational control, multi-axis semi-closed loop control (optical encoder)

2 Other operational capabilities

- ① Automatic tool length measurement
- ② Foot switch: Workpiece clamping (standard); operation start (option)

3 Program capabilities

- ① Program memory
 - Machining programs: 124 steps × 100 programs
 - Standard programs: 124 steps × 15 programs (standard subprograms, tool length measurement, coordinate reset, etc.; unit operable by DNC if used in conjunction with personal computer (no limit on number of program steps))
- ② Coordinate reset: Can shift X-, Y-, and Z-coordinate origins (correction of cutting depths, etc.)
- ③ Feed speed override: Adjustable (25% to 150%) feed speed (within standard machining programs)



SG190S

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IMAX Desk-Top Milling Center



SG-1901 machine specs

X-axis × Y-axis × Z-axis		200 mm × 200 mm × 150 mm
C-axis		360°
Machining range	End coping	0 mm to 180 mm
	Profiling, grooving	0 mm to 200 mm
	Rotational range	360°
Spindle	Speed	1,000 rpm to 40,000 rpm
	Max. power	190 W
	Cooling method	Air
Control	Control method	Semi-closed loop, optical encoder
	Control mode	XYZ simultaneous + C-axis helical interpolation
	Interface	PC interface and control panel
Interlock	Splash guard	Included
	Spindle trip	Included
	Signal tower	Included
Power	Electricity	AC100V 50 Hz to 60 Hz
	Compressed air	0.4 MPa to 0.6 MPa
Machine size	H × W × D	850 mm × 770 mm × 790 mm
	Height	1,150 mm
	Weight	250 kg
PC	CPU	Celeron 433 MHz, FSB66
	HDD	30 GB (E-IDE) 5400 rpm
	Panel	12.1 in. LCD touch panel



IMAX Co., Ltd.

SG190S Star Gate series

IMAX Desk-Top Milling Center

SG-190S options

Mounting table		900 mm × 900 mm × 700 mm, AC100V socket
Dialogue-type auto stopper		AS2000 Min. 100 mm, max. 2,000 mm
		AS2600 Min. 100 mm, max. 2,600 mm
BP: base pads		Support guide for small/midsize workpieces
PP: press pads	Type A	Hold-down attachment for small workpieces
	Type B	Hold-down attachment for midsize workpieces
	Type C	Hold-down attachment for large workpieces
	Custom	Hold-down attachment for custom workpieces
Cradle for long workpieces		Cradle for long (2 m or longer) workpieces
Stopper attachment	Y-80	Stopper for short workpieces

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