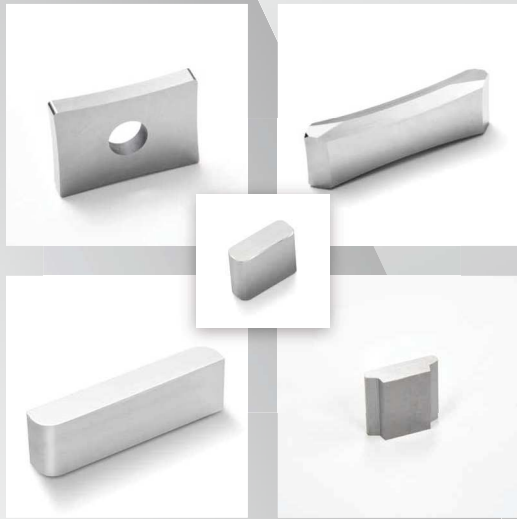




Fully Automatic
Insert Periphery Grinder

APX-105



High-Productivity and High-Quality Insert Periphery with Two side K-Land Grinding by One -Chucking

MAIN FEATURES

Product measurement



Work head



Loading unloading device

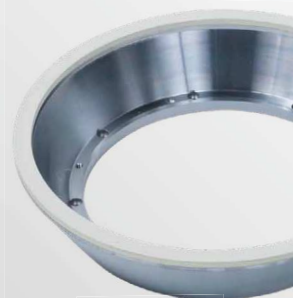
option: Lay down spec.

Robot hand

option: Lay down spec.



Jigs Option



- 1 Periphery and Both side K-Land grinding by One-Chucking for standard throw away insert.
- 2 Interactive software, APX ToolLab, is standard specification.
- 3 Adopting SCARA robot for Loading-Unloading device, 2 vertical pallets can be equipped. Pallet changer is available as an option.
- 4 Periphery dressing of grinding wheel is available by turning dressing device (option).
- 5 Automatic oil mist lubrication system for feeding unit on X axis (In-feed) and Y axis (Oscillation).
- 6 In-process cleaning device, AE Sensor, Thickness measuring device, Lay down pallet specification are available as options.

Grinder

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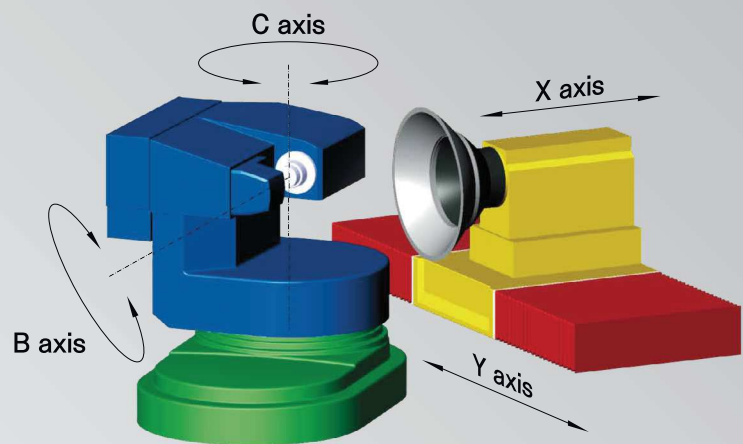
Two side K-land grinding



Operation panel



Axis structure



X axis (In-feed)
Y axis (Oscillation)
B axis (Insert rotation)
C axis (Swiveling table)



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STANDARD SPECIFICATIONS

Workpiece	Objects of grinding	Periphery and both side K-Land of standard insert (Standard and small diameter)
	Material	Carbide, Cermet, Ceramics, CBN, PCD
	Minimum inscribed circle	Equilateral triangle: 3.5 mm Others: 4.7 mm
	Maximum circumscribed circle	45 mm
	Maximum thickness	15 mm
	X axis (In-feed)	Maximum rapid feed rate
Y axis (Oscillation)	Maximum rapid feed rate	30 m/min
B axis (Insert rotation)	Travel	∞
	Maximum rapid feed rate	100 min ⁻¹
C axis (Swiveling table)	Grinding range	-90~+95 deg. (Some limitations depending on the conditions.)
	Maximum rapid feed rate	9,000°/min
Spindle	Grinding wheel size	Outside diameter φ350 mm
	Spindle rotation speed	500~2,000 min ⁻¹
	Motor	7.5 kW
Tail stock	Maximum chuck pressure	10 kN (Theoretical value at supplied pressure 7 MPa.)
Dressing device	Diameter of dressing wheel	Outside diameter φ100 mm
	Wheel rotation speed	300~1,500 min ⁻¹
Centering pin device		Exchanging system
Automatic centering device	Control system	Back/forward, up/down automatic control system
Measuring device	Measuring probe	Flat type carbide probe φ7
Loading/unloading device	Robot	SCARA robot
	Robot hand	Loading hand, unloading hand each 1 set, insert pusher
Work stock	Pallet type / No. of pallet (vertical)	Standard pallet (240 mm x 300 mm) : 3 pallets
		T-type pallet (190 mm x 370 mm) : 4 pallets
Touch panel		5.7 inch handy type
Oil cooling unit	Cooling part	Y axis linear motor and grinding wheel spindle

OPTION

Thickness measuring device		
AE Sensor		
In-process cleaning device	Cleaning wheel size	Outside diameter φ150 mm
	Wheel speed	300~1,500 min ⁻¹
Turning dressing device (with AE Sensor)		
Manual centering device	Control system	Back/forward, up/down manual adjustment system
Washing device		
Mist collector		
Workpiece for lay down pallet specification		Magnetic specification
Camera for lay down pallet		For lay down pallet Work position / phase
Pallet changer	No. of pallet	10 pallets
Splash gun / Air gun		
Grinding fluid supply device		Tank capacity: 300 ℓ
Oil grinding specification	Automatic fire extinguisher	
	Fire damper	
	Packing for oil grinding	
	Coolant temperature controller	
	Oil flow sensor	
Measuring device (for large diameter workpiece)		
Air blow for measuring		

NC STANDARD SPECIFICATION

NC Unit	FANUC Series 31i-MODEL B
Control axis	X axis (In-feed)
	Y axis (Oscillation)
	B axis (Insert rotation)
	C axis (Swiveling table)
Maximum Simultaneous control axis	4 axes

DRIVE SOURCE

Total electric capacity	12 kVA AC200 V(50/60 Hz)
Compressed air Pressure	0.35 MPa or More
Air consumption	450 Nℓ/min
Hydraulic unit	7 MPa
Maximum pressure	

MACHINE SIZE

W×D×H	2,945×2,055×2,375 mm
Machine weight	6,000 kg

JIGS OPTION

Grinding wheel
Dressing wheel
In-process cleaning wheel
Driving arbor
Clamping arbor
Centering block
Robot finger
Centering pin
Work guide
Pallet

Caution

* This product may be regulated by the Foreign Exchange and Foreign Trade Control Law. Be sure to consult us before exporting the product to a foreign country.

* Specifications in this catalog may be changed without notice due to improvement of the product, etc.

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