

CNC lathe with 3 axes slides
and face-to-face two spindles

SANAX-8

Proposal of highly efficient turning
of long shafts



■ Synchronized rotation of the 1st and 2nd spindles

High speed and high accuracy built-in motor spindles are adopted to the 1st and the 2nd spindles. The both rotate at the maximum speed $8,000 \text{ min}^{-1}$, with phase difference 0.4 deg or less.

■ Swallow chucking

Chucking by swallowing the one end of the workpiece by the 1st spindle and by pulling the other end by the 2nd spindle is the advantage of this machine. Shafts of long sizes, even those cannot be turned by the Swiss type head sliding automatic lathes, can be turned easily by this machine.

■ Complex machining with rotation tool

Maximum 7 tools can be set on the Y slide, one of the three slides, the feature of the SANAX-Series
With rotation tools, complex machining can be done.

Machine standard specifications

Item		Description		
Holder and Work size	Tool holder for O.D. turning	□16 x 5pcs.(□12x7pcs.)		
	Tool holder for I.D. turning	φ 25 x 5 pcs.		
Max. work size	mm	φ 40 x 250		
1st and 2nd Spindles	Change of speed	Step-less, S4 digits direct command		
	Speed	m i n ⁻¹	max. 8,000	
	Size of collet	mm	max. 20	
	Nose		EDA-8	
	Distance between the spindles	mm	320	
	Synchronized speed	m i n ⁻¹	max. 8,000	
	Synchronized phase difference		Start 4 deg. / Continuous running 0.4 deg.	
Synchronization		Phase, Speed		
Slide	Travel	mm	X axis : 80	
			Y axis : 170	
			Z axis : 300	
			A axis : 350	
	Rapid traverse	m/m i n	X axis : 10	
			Y axis : 12	
			Z axis : 15	
A axis : 10				
Rapid traverse	mm/m i n	0 ~1,287		
Number of tools		max. 7		
Type of slide		Vertical linear turret		
Motors	1st spindle	kw	2.2/5.5	
	2nd spindle		1.0/1.2	
	Slide		X axis	2.5
			Y axis	2.5 (with brake)
			Z axis	2.7
			A axis	1.0
Power Electricity	KVA	10		
Center height	mm	1, 045		
Machine height	mm	1, 650		
Floor space	mm	1, 580×1, 295		
Machine weight	kg	2, 200		

Control unit

Item	Description
NC contril unit	FANUC/S 31i-A
Display	7.2 inch L.C.D. (mono-chrome)
Axes controlled	4axes(X, Y, Z, A) Simultaneous 4axes, Max. 8axes.
Least input incremental	X axis : 0.001 (dia.) , Y and Z axes : 0.001
Interpolation	Linear, Taper, Thread, Circular
Canned cycle	M 2 digits
Spindle function	S 4 digits
Tool function	T 2 digits
Tool offset	32 pairs
Part program storage length	64KB (equiv. 160m)
Rapid traverse override	Chamfering and corner R, Block delete
Canned cycle	O.D. (G90), Thread (G92), Face (G94)
Interface	RS232C and memory card
Others	Run hour and parts count display, Sequence number search Optional stop, Geometry offset Program number search, Single block Radius designation on arc, Feed hold, Emergency stop Chamfering and corner R, Block delete

Recommended options

- Work light (LED)
- Cutting tool coolant device

Standard accessories

- Splash guard
- Tool box and tool kit

CNC options

Tool nose radius compensation Simple tool life management function
Tape memory expansion to 128KB (320m) Custom macro
Spindle orientation Multiple repetitive cycle (G70~G76)

Machine options

Air blower, Mist collector, Spindle index device
Oil mist coolant device, Work knockout device, Spindle brake device
Hole and flange for mist collector, Optical scales for X, Y, Z, Work collection device
Barfeeder (Model : MS-4)

Work samples at JIMTOF 2008



Shaft

Material : Ti-6Al-4V(Titanium alloy)
Long shaft can be turned or machined efficiently by swallow or chucking.

Dimensions

