

Hello,

We are very pleased to present the following machine for your review and approval:

1996 Okuma LU-35

CNC Turning Center

Swing over bed 29.13"

Max. turning diameter 21.65"

Center distance 40.05"

Travels, Z axis 36.2"

Travels X-axis 26"

Turret stations 10 upper/8 lower

Tool Shank Size (in.): Square: 1.00"

Round: 2.00"

Spindle nose A2-8

Spindle Bore 3.54"

Spindle speed 14-3,200 rpm.

Rapids, Axis Z/X 787 IPM

Quill diameter 4.720",

Stroke 6.690" MT No.# 5

Main motor (Cont./30 Min) 40 HP

Electrics 220/480/3/60

-EQUIPPED WITH-

CNC control OSP-U100L

1000 PSI Chip Blaster High Pressure System

Rohm 18" 3-Jaw Chuck

Newer LNS Chip Conveyor with Programmable Timer.



PRICE.....\$9,900

Best Regards,

Mike Heim - Sales Manager



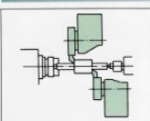
Two Spade Machinery LLC

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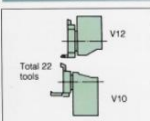
What 4-axis turning can do for you...

1. Shorter turning time



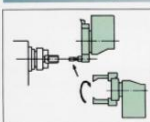
Vastly improved productivity and less processing time by simultaneous 4-axis turning with 2 turrets.

2. Set-up time slashed



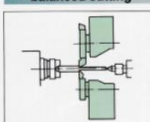
Total of 22 tools on 2 turrets makes permanent tooling possible for far less set-up time.

3. Shorter cycle times



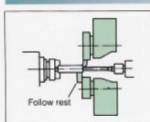
Where interference means small work has to be turned with only one turret, turrets take turns cutting and indexing to minimize total turning time.

4. No chatter with long workpieces thanks to balanced cutting



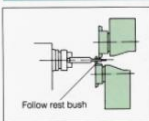
Balanced cuts on both turrets make for chatter-free turning impossible with 2-axis cutting.

5. No chatter with follow rest



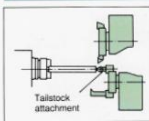
Workpiece is supported by follow rest on one turret, making possible chatter-free turning of even long workpieces or long cantilever workpieces.

6. No chatter with follow rest (Swiss style)



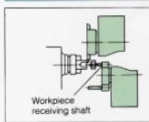
Extremely precise cuts with one turret while bush provides workpiece support by other turret. Suitable for turning very slender workpieces, too.

7. Shaft turning with a chucker



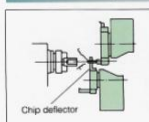
Tailstock attachment on one turret allows shaft turning by the other.

8. Unloading assist lightens operator load



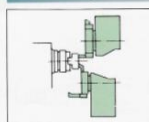
One turret is equipped with a receiving shaft, tray, etc. to receive workpieces on cut-off, then carry to designated position by turret rotation.

9. Good chip handling



Chip deflector on one turret allows removal of chip curls from drilling etc.

10. Burr prevention



Simultaneous turning programs for facing or chamfering prevent burrs for improved part quality.

Coming soon to your factory floor

—High productivity and reliability in an environmentally friendly pair of Okuma

BIG 2-SADDLE 4-AXIS CNC LATHES

LU35 LU45

Who says Okuma mechatronics can't meet the demand for speed, power and accuracy in a cost-efficient package that is easily operated, virtually maintenance-free, and packed with the performance you need to tackle medium to large parts production?

Here's proof positive: The New Okuma LU35/45. With the field-proven reliability, productivity and shop-friendly features for which Okuma is famous...



SEE HOW THE OKUMA LU35/45 C

High Productivity
How the LU35/45 stack up against conventional 2- and 4-axis turning

	TURNING TIME IN THE CUT OPERATION	PRODUCTIVITY	COST EFFICIENCY
2-axis	1	1	1
4-axis (all now)	1.5	1.5	1.2
LU35/45	1.7	1.7	1.4

Simultaneous 4-axis turning & utilization level

r: the 4-axis turning revolution!

na CNC lathes for medium/large parts runs. Performance priced, too.



VE YOU THE EDGE

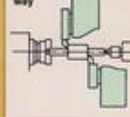
4-Axis Flexibility

Applications abound with 4-axis features

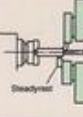
Clean Cutting

Keeps your shop clean and safe...

High-efficiency turning the simultaneous 4-axis way



Stops chatter during steadyrest work



A chucker that turns shafts



- Coolant handling, prevention of flying chips
- Covers on upper/lower ways inhibit chips/coolant.
- Lower turret also equipped with safety cover
- E-Z maintenance features throughout

Okuma's advanced engineering—a faster, higher-quality control

OSP7000L CNC

For nearly a century, the name of Okuma has been synonymous with the best there is in machine tool building. And Okuma was among the world's first to develop its own numerical controls. The Okuma OSP Series control is machine-matched for optimum performance.



Okuma: Single source for machine & control
Okuma builds its machines and controls precisely for each other. Renowned for its customized mechatronics, Okuma offers easier maintenance, smoother operation and fast, reliable troubleshooting and service for its made-for-each-other products.

Always expandable, ready for user customizing
Even after you take delivery, you can always expand, upgrade or modify your Okuma software or hardware: neither is "set in concrete." The multi-main processor CNC can be fine-tuned to your desired system configuration. And the software is flexibility itself. This is a variable-software CNC equipped with a standard industry interface.

"Forget me not" zero: Even in a power failure
The Okuma OSP control never loses your machine zero position in a power outage. With its absolute position feedback system, you can return to the interrupted sequence where you left off. And you get MANUAL INTERRUPT with auto-return as well. These are just some of the unique features for which Okuma is so justly famous.

NEW!

Up your utilization rates with
MacMan

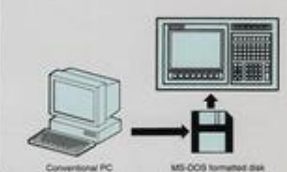
- Immediate one-touch diagnostic feedback on conditions triggering an alarm along with fast remedies reduces your downtime tremendously.
- Greatly reduced in-process setup time, too. Operations you develop on your PC can be displayed on the OSP.
- "Real time" display of your processing data will keep you right up to date.



Real support for integrated data management
MS-DOS File Input/Output

The processing programs are input/output via MS-DOS format floppy, and there is document file (operation procedure) display, together with output of the work completed file.

- 3.5" floppy disk drive is standard-equipped
- Handles both OSP or MS-DOS floppy disks in the same way.



*MS-DOS is a registered trademark of Microsoft Corporation (USA).

LU35

MACHINE SPECIFICATIONS

Model		LU35			LU35-M		
		2ST x 600	2SC x 850	2SC x 1500	2ST x 600	2SC x 850	2SC x 1500
Capacity	Swing over saddle	mm (in.)	740 (29.13)	740 (29.13)	740 (29.13)	740 (29.13)	740 (29.13)
	Distance between centers	mm (in.)	850 (33.46)	1,500 (59.06)	850 (33.46)	1,500 (59.06)	1,500 (59.06)
	Max turning diameter	mm (in.)	650 (25.59)	1,500 (59.06)	650 (25.59)	1,500 (59.06)	1,500 (59.06)
	Max work length	mm (in.)	600 (23.62)	850 (33.46)	600 (23.62)	850 (33.46)	1,500 (59.06)
	X axis	mm (in.)	UT: 360 (14.17) / LT: 180 (7.09) / Z: 250 (9.84)	UT: 360 (14.17) / LT: 180 (7.09) / Z: 250 (9.84)	UT: 360 (14.17) / LT: 180 (7.09) / Z: 250 (9.84)	UT: 360 (14.17) / LT: 180 (7.09) / Z: 250 (9.84)	UT: 360 (14.17) / LT: 180 (7.09) / Z: 250 (9.84)
Travels	Z axis	mm (in.)	UT: 920 (36.22) / LT: 875 (34.45)	UT: 920 (36.22) / LT: 875 (34.45)	UT: 920 (36.22) / LT: 875 (34.45)	UT: 920 (36.22) / LT: 875 (34.45)	UT: 920 (36.22) / LT: 875 (34.45)
	Y axis	mm (in.)	130 (5.12)	130 (5.12)	130 (5.12)	130 (5.12)	130 (5.12)
Spindle	C axis	mm (in.)	14 - 3,200 (12 - 2,800)	14 - 3,200 (12 - 2,800)	14 - 3,200 (12 - 2,800)	14 - 3,200 (12 - 2,800)	14 - 3,200 (12 - 2,800)
	Speed range	rpm	14 - 3,200 (12 - 2,800)	14 - 3,200 (12 - 2,800)	14 - 3,200 (12 - 2,800)	14 - 3,200 (12 - 2,800)	14 - 3,200 (12 - 2,800)
	No. of speeds & ranges		4 ranges (2 gear ranges x 2 VAC motor coil switched ranges)	4 ranges (2 gear ranges x 2 VAC motor coil switched ranges)	4 ranges (2 gear ranges x 2 VAC motor coil switched ranges)	4 ranges (2 gear ranges x 2 VAC motor coil switched ranges)	4 ranges (2 gear ranges x 2 VAC motor coil switched ranges)
	Spindle nose	mm (in.)	JIS A2-8 (JIS A2-11)	JIS A2-8 (JIS A2-11)	JIS A2-8 (JIS A2-11)	JIS A2-8 (JIS A2-11)	JIS A2-8 (JIS A2-11)
Turret	Spindle bore diameter	mm (in.)	90 (3.54) (110 (4.33))	90 (3.54) (110 (4.33))	90 (3.54) (110 (4.33))	90 (3.54) (110 (4.33))	90 (3.54) (110 (4.33))
	Diameter at front bearing	mm (in.)	130 (5.12) (150 (5.91))	130 (5.12) (150 (5.91))	130 (5.12) (150 (5.91))	130 (5.12) (150 (5.91))	130 (5.12) (150 (5.91))
	Type		UT: V12 NC turret / LT: V10 NC turret	UT: V12 multiaction NC turret / LT: V10 NC turret	UT: V12 multiaction NC turret / LT: V10 NC turret	UT: V12 multiaction NC turret / LT: V10 NC turret	UT: V12 multiaction NC turret / LT: V10 NC turret
	No. of tool stations		Upper: 12 / Lower: 10	Upper: 12 / Lower: 10	Upper: 12 / Lower: 10	Upper: 12 / Lower: 10	Upper: 12 / Lower: 10
Rotary Tool	Tool shank height	mm (in.)	25 x 25 (1 x 1)	25 x 25 (1 x 1) (VDI shank: ø50 (ø1.97))	25 x 25 (1 x 1) (VDI shank: ø50 (ø1.97))	25 x 25 (1 x 1) (VDI shank: ø50 (ø1.97))	25 x 25 (1 x 1) (VDI shank: ø50 (ø1.97))
	Boring bar shank dia	mm (in.)	50 (1-1/2)	60 (1-1/2) (VDI shank: ø50 (ø1.97))	60 (1-1/2) (VDI shank: ø50 (ø1.97))	60 (1-1/2) (VDI shank: ø50 (ø1.97))	60 (1-1/2) (VDI shank: ø50 (ø1.97))
	Indexing time	s	0.3/station	0.3/station	0.3/station	0.3/station	0.3/station
	Spindle speed range	rpm	40 - 2,000	40 - 2,000	40 - 2,000	40 - 2,000	40 - 2,000
Feedrates	Rapid traverse	mm/min (ipm)	X: 15,000 (591) / Z: 20,000 (787)	X: 15,000 (591) / Z: 20,000 (787) / C: 100 min (ipm)	X: 15,000 (591) / Z: 20,000 (787) / C: 100 min (ipm)	X: 15,000 (591) / Z: 20,000 (787) / C: 100 min (ipm)	X: 15,000 (591) / Z: 20,000 (787) / C: 100 min (ipm)
	Cutting feed	mm/rev (ipr)	X-Z: 0.001 - 1,000.000 (0.0001 - 40.0000)	X-Z: 0.001 - 1,000.000 (0.0001 - 40.0000)	X-Z: 0.001 - 1,000.000 (0.0001 - 40.0000)	X-Z: 0.001 - 1,000.000 (0.0001 - 40.0000)	X-Z: 0.001 - 1,000.000 (0.0001 - 40.0000)
Tailstock	Quill diameter	mm (in.)	120 (4.72)	120 (4.72)	120 (4.72)	120 (4.72)	120 (4.72)
	Quill bore taper	mm (in.)	MT 5 (built-in)	MT 5 (built-in)	MT 5 (built-in)	MT 5 (built-in)	MT 5 (built-in)
Motors	Quill travel	mm (in.)	170 (6.69)	170 (6.69)	170 (6.69)	170 (6.69)	170 (6.69)
	Spindle	kW (hp)	VAC 30/22 (50 / 40) (30 min/cont) 137/30	VAC 30/22 (50 / 40) (30 min/cont) 137/30	VAC 30/22 (50 / 40) (30 min/cont) 137/30	VAC 30/22 (50 / 40) (30 min/cont) 137/30	VAC 30/22 (50 / 40) (30 min/cont) 137/30
	Rotary tool motor	kW (hp)	XA: BL 3.6 (4.8); ZA: BL 4.8 (6.4) / XB: BL 2.5 (3.3); ZB: BL 4.8 (6.4)	XA: BL 3.6 (4.8); ZA: BL 4.8 (6.4) / XB: BL 2.5 (3.3); ZB: BL 4.8 (6.4)	XA: BL 3.6 (4.8); ZA: BL 4.8 (6.4) / XB: BL 2.5 (3.3); ZB: BL 4.8 (6.4)	XA: BL 3.6 (4.8); ZA: BL 4.8 (6.4) / XB: BL 2.5 (3.3); ZB: BL 4.8 (6.4)	XA: BL 3.6 (4.8); ZA: BL 4.8 (6.4) / XB: BL 2.5 (3.3); ZB: BL 4.8 (6.4)
	Feed drives	kW (hp)	0.4 (0.7)	0.4 (0.7)	0.4 (0.7)	0.4 (0.7)	0.4 (0.7)
Power Requirements	Coolant pump	kW (hp)	43 (58)	43 (58)	43 (58)	43 (58)	43 (58)
	Machine Size	kVA	2,500 (1,01.97)	2,500 (1,01.97)	2,500 (1,01.97)	2,500 (1,01.97)	2,500 (1,01.97)
Machine Size	Height	mm (in.)	4,535 x 2,570 (179 x 101)	4,535 x 2,570 (179 x 101)	4,535 x 2,570 (179 x 101)	4,535 x 2,570 (179 x 101)	4,535 x 2,570 (179 x 101)
	Floor space	mm (in.)	5,195 (204.53) x 1,010 (39.76)	5,195 (204.53) x 1,010 (39.76)	5,195 (204.53) x 1,010 (39.76)	5,195 (204.53) x 1,010 (39.76)	5,195 (204.53) x 1,010 (39.76)
	Weight (w/CNC system)	kg (lb)	9,000 (19,800) / 9,500 (20,900) / 14,000 (30,800) / 9,600 (21,120) / 10,100 (22,220) / 14,600 (32,120)	9,000 (19,800) / 9,500 (20,900) / 14,000 (30,800) / 9,600 (21,120) / 10,100 (22,220) / 14,600 (32,120)	9,000 (19,800) / 9,500 (20,900) / 14,000 (30,800) / 9,600 (21,120) / 10,100 (22,220) / 14,600 (32,120)	9,000 (19,800) / 9,500 (20,900) / 14,000 (30,800) / 9,600 (21,120) / 10,100 (22,220) / 14,600 (32,120)	9,000 (19,800) / 9,500 (20,900) / 14,000 (30,800) / 9,600 (21,120) / 10,100 (22,220) / 14,600 (32,120)
CNC System			OSP7000L	OSP7000L	OSP7000L	OSP7000L	OSP7000L

STANDARD KIT

Model	LU35	LU35-M
Machine	2ST/2SC/2ST/2SC	2ST/2SC/2ST/2SC
Spindle motor	VAC 30/22 kW (30 min/cont)	VAC 30/22 kW (30 min/cont)
Spindle speeds	14 - 3,200 min (rpm)	14 - 3,200 min (rpm)
M tool motor	VAC 5.5/3.7 kW (30 min/cont)	VAC 5.5/3.7 kW (30 min/cont)
M tool speeds	40 - 2,000 min (rpm)	40 - 2,000 min (rpm)
Turret ¹	Upper: V12 NC	Upper: V12 NC
	Lower: V10 NC	Lower: V10 NC
Hyd tailstock	Bore taper: MT 5	Bore taper: MT 5
Standard	Hydraulic unit	Hydraulic unit
Equipment	Coolant system	Coolant system
	Chip shield	Chip shield
	Work lamp	Work lamp
Standard	Foundation washers	Foundation washers
Accessories	Leveling jack screws	Leveling jack screws
	Machine lifting tools	Machine lifting tools
	Hand tools	Hand tools
CNC	OSP7000L	OSP7000L

*1. Rotary *2. For LU35-M: Upper: M-12, lower: V10

OPTIONAL EQUIPMENT & ACCESSORIES

- High-speed NC gantry loader, OGL type
- Bar feeder (1 bar feed, continuous feed)
- NC robot, OR35 type
- Auto steadyrest (self-centering)
- Programmable tailstock (towing)
- VDI turret (upper V12 + lower V10)
- Auto work gauging (in-process & post-process)
- Touch Setter (A, M)
- Lube monitors: B1, B2, C1, C2
- Chip conveyor, chip bucket
- Chip pan
- Big-bore spindle: dia at front bearing: ø150 (ø5.91)

TOOLING KIT

Model	LU35	LU35-M
Chuck	2ST 1 1 1 1	2ST 1 1 1 1
Chuck	2SC 1 1 1 1	2SC 1 1 1 1
Toolholders	I 4 4 - -	I 4 4 - -
Toolholders	II 2 2 - -	II 2 2 - -
Toolholders	A - - 6 6	A - - 6 6
Toolholders	B - - 4 4	B - - 4 4
Toolholders	C - - 2 2	C - - 2 2
ID toolholder bases	H40 8 8 8 8	H40 8 8 8 8
Boring bar sleeves	3/4-H40 4 4 4 4	3/4-H40 4 4 4 4
Drill sleeves	1-H40 4 4 4 4	1-H40 4 4 4 4
Plug tool	MT 3 1 1 1 1	MT 3 1 1 1 1
Toolholders	MT 5 - - 1 - 1	MT 5 - - 1 - 1

* With standard softjaws (1 set)



