

2-Spindle Horizontal CNC lathes

2SP-10HG

2SP-35H/HG



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Okuma's compact 2SP Series lathes with innovative front-facing dual spindles create automation-friendly advantages for efficient small parts production.



2SP-10HG

- Max turning diameter × length: $\phi 100 \times 100$ mm
- Spindle motor: 7.5/5.5 kW
- Spindle speed: 50 to 5,000 min^{-1}
- Turret type: V8 + V8

The G in the machine name stands for the gantry loader.
 The 2SP-10HG has FANUC specifications only.



2SP-35H/HG

- Max turning diameter × length: $\phi 380 \times 230$ mm
- Spindle motor: 18.5/15 kW
- Spindle speed: 20 to 2,000 min^{-1}
- Turret type: V12 + V12

(The photographed machine is equipped with optional specifications.)
 With the 2SP-35H/HG, OSP or FANUC specifications can be selected. (The photo shows OSP specifications.)

With vast experience in achieving high utilization rates

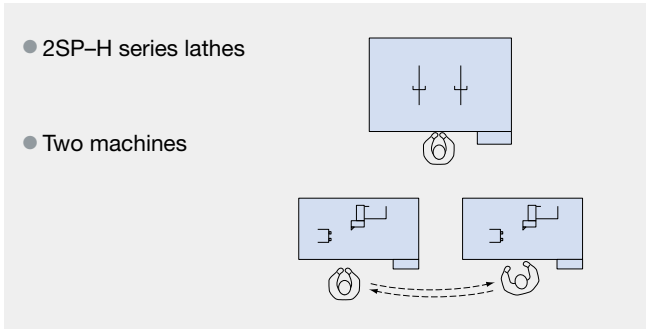
Fast and stable cutting operations

- The turrets, with fast indexing, drastically reduce non-cutting time.
Turret indexing: 0.2 sec (2SP-10HG)
- With box ways for highly accurate and stable turning.

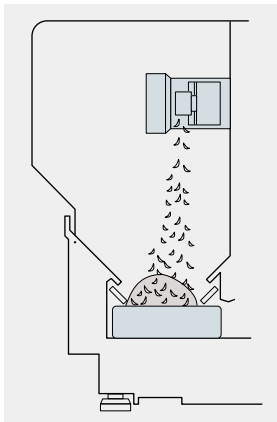
Item	Unit	2SP-10HG	2SP-35H/-35HG
Max spindle speed	min ⁻¹	50 to 5,000	20 to 2,000
Rapid traverse (XZ)	m/min	24/24	24/30
Turret indexing time	sec	0.2	0.3

Operator home position

- Operator movement is reduced one-third with one 2SP-H compared to simultaneous use of two general-purpose single spindle NC lathes.



Structural design features “straight down chip drop”



- With the bed directly below a ram-type turret, *straight down chip drop* results in much shorter chip handling time and steady, long runs. And chips will not build up on any surface within the machine.
- Machine thermal deformation is minimized because chips are caught and discharged by a chip conveyor assembly separate from the bed casting.

Twin spindles can also operate completely independent of each other

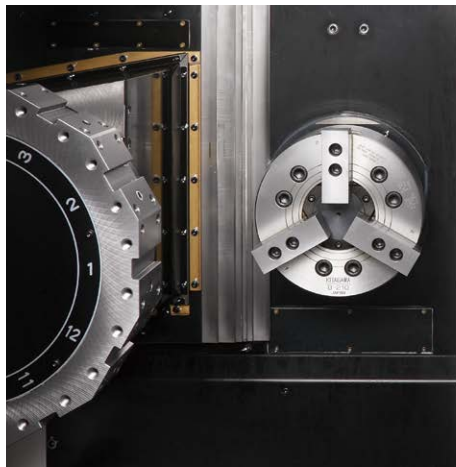
- Equipped with a central detachable partition between the two spindles to ensure safety when the two spindles are operating independently.
- When one side is operating automatically, setup can be done on the other spindle.
- Adapts flexibly to all kinds of production.

Easily accessible front facing chucks and turrets

- Workpiece mount/dismount can be done with operator standing in front.
- Since there are no interfering structures in the machine front, there is excellent accessibility to the chuck and turret.
- The turrets are designed for easy tool edge checks and rigid, quick-change tooling packages.

Three-in-One Productivity Modes

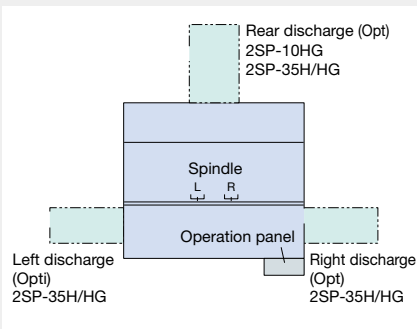
- 1 Simultaneous parallel turning in the same operation
- 2 Continuous primary → secondary operations
- 3 Simultaneous turning of different workpieces



Wide array of variations significantly shorten setup time

Chip conveyors (Optional)

Available in 3 different discharge directions to fit your shop layout requirements.



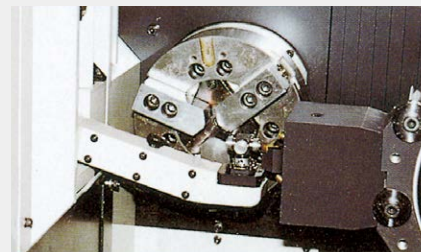
Auto front door open/close (Optional)

A simple push of the button helps reduce operator fatigue.



Touch Setter (Optional) (2SP-35HG)

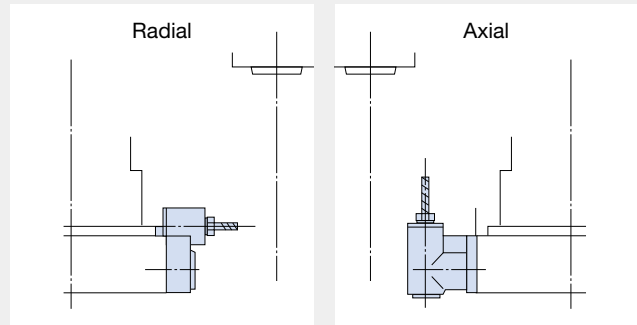
This easy-to-use manual Touch Setter really reduces setup times. Making a tool contact the sensor automatically stores an offset in the control system—quickly and accurately.



Multitasking turrets (Optional)

Boring/drilling and slot machining can be done radially and axially in the workpiece with milling tool attached. Higher production efficiency achieved with process-intensive machining.

Examples of mill/drill attachments



Item	Unit	2SP-10HG	2SP-35H 2SP-35HG
Milling tool spindle			
Turret type		V10	V12
No. of controlled axes		3 (X, Z, C)	
No. of milling tools		10	6
Spindle speeds	min ⁻¹	160 to 6,000	80 to 3,000
Max milling tool size	mm	ø13	ø20
Max tool size	Drill	ø12	ø20
	Endmill	ø12	ø20
	Tap	M8	M14
Motor	kW	1.6	3.5
C axis			
Min input	deg	0.001	
Least command increment	deg	0.001	
Indexing accuracy	deg	±0.01	±0.03

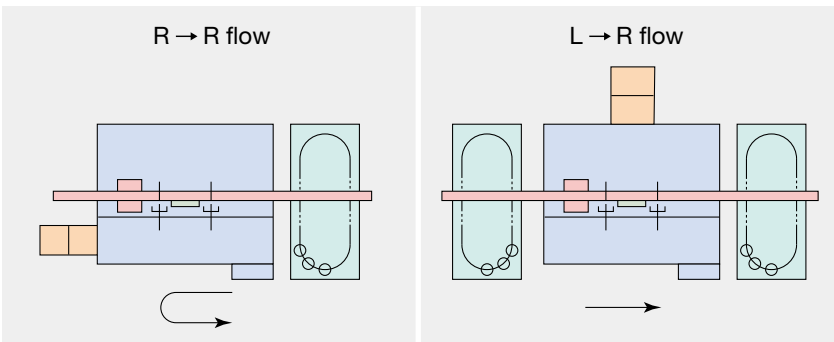
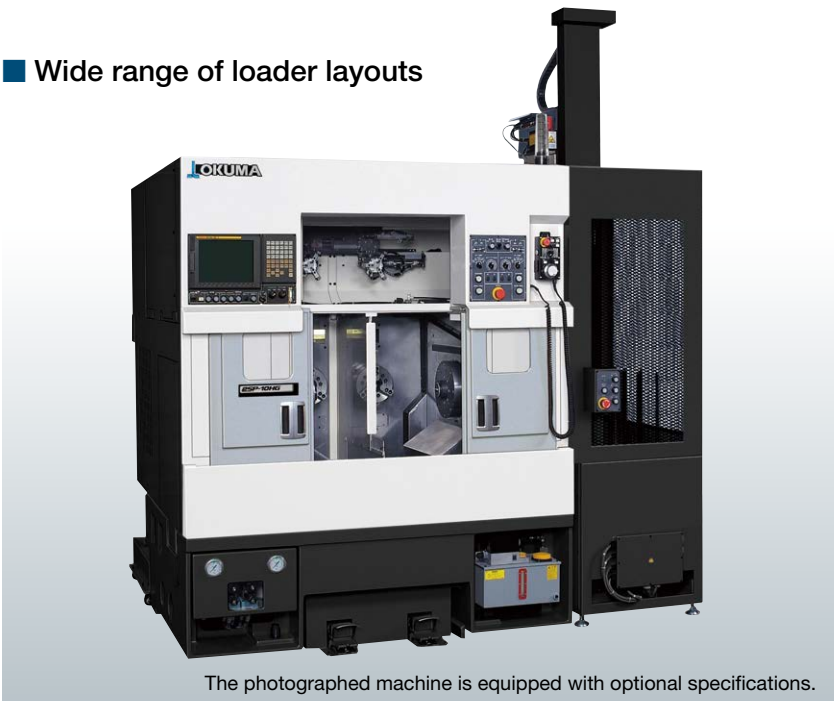
NC gantry loaders for laborsaving automation

Full line of variations to handle all types of production

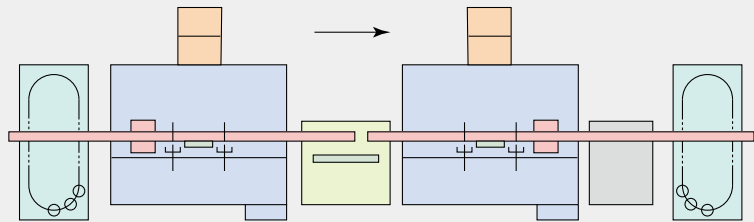
Gantry loaders—for more productivity and flexibility (Optional)

- Conversational data input for loader movements—a safe, simple, and quick way to set up.
- AC servo drives for all 3 axes enable multiple workpiece and setup changes—quick and easy.
- If trouble occurs, recover methods are displayed on the screen to help the operator respond—quickly.
- A selection of loader movement patterns are available to match various production requirements. This flexibility helps you make the production line changes that are needed—when you need them.

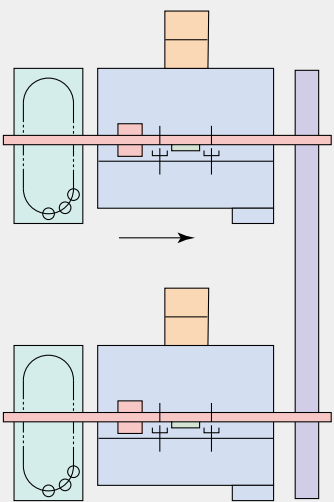
Wide range of loader layouts



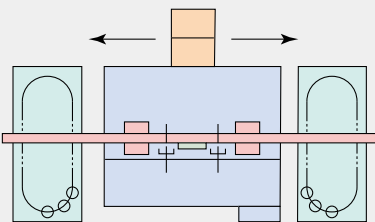
In-Line Layout



Parallel Layout



Loader with 2 carriers



- Loader
- Part flipper
- Conveyor
- Chip conveyor
- Gauge
- Worktable

HG loader specifications

Item	Unit	HG-10A (for 2SP-10HG)	HG-35A (for 2SP-35HG)
Workpiece	OD	mm (in)	ø100 (3.94)
	Length	mm (in)	75 (2.95)
	Weight (one hand)	kg (lb)	1.5 (3.3)
Loader gripper	Loader jaw		3-jaw, with pusher
	Jaw stroke	mm (in)	ø12 (0.47)
			ø40 (1.57)
Traveling speed	Horizontal (A axis)	m/min (fpm)	150 (492)
	Vertical (B axis)	m/min (fpm)	120 (394)
	Front/back (C axis)	m/min (fpm)	40 (131)
Standard loader time (including machine chuck time)*		sec	7
Min cycle time (16-P table, R→R flow)		sec	24

* Loader time becomes longer in some cases based on workpiece/chuck specifications.

16-station worktable specifications

Item	Unit	HG-10A (2SP-10HG)	HG-35A (2SP-35HG)
Max workpiece diameter	mm (in)	ø100 (3.94)	ø280 (11.02)
Max load capacity (1 pallet)	kg (lb)	30 (66)	70 (154)
Stacking height	mm (in)	460 (18.11)	500 (19.69)
No. of pallets		16	16

Automation applications

Gauge

Worktable

Chuck air blower (blast)

Loader hands

Through spindle coolant

Part flipper

Palletizing system

Chucking miss (air)

Workpiece pusher

Data files

```
FILE SELECT  ACTIVE  FILE 1  &
FILE-NO. NAME
WORK-1 777
WORK-2 893
ACTIVE WORK-3 4649
WORK-4 5963
WORK-5 4989

[ALARM ][TELCON][ DATA][ NAME ][POS. ]
```

(5, 10, 15 workpiece types possible)

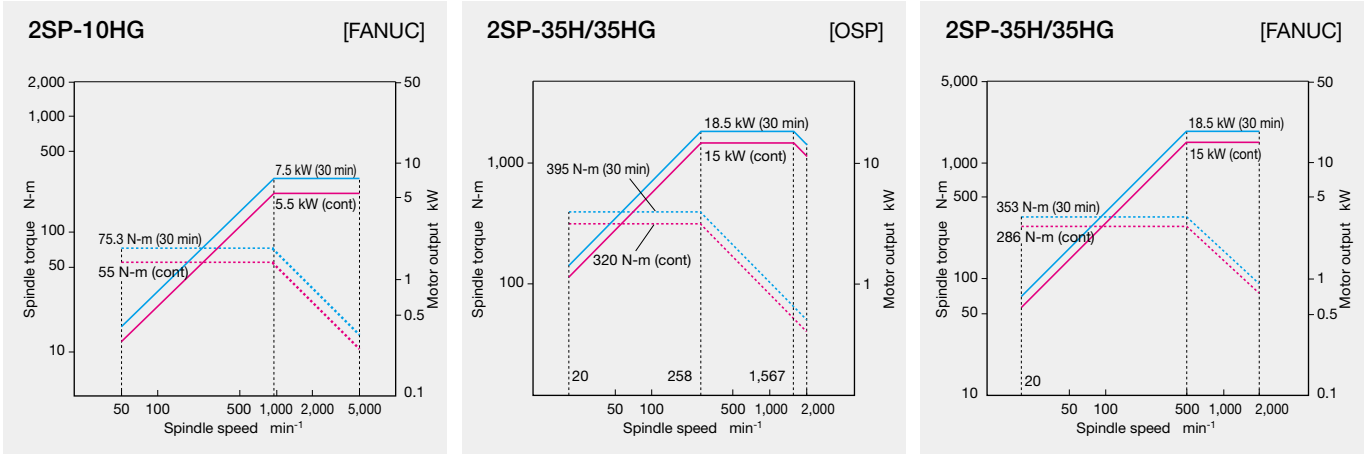
Specifications

Item	Model	Unit	2SP-10HG	2SP-35H / HG
Capacity	Distance between spindle centerlines	mm (in)	310 (12.20)	450 (17.72)
	Max cutting diameter	mm (in)	ø100 (ø3.94)	ø380* / ø280 (ø14.96* / ø11.02)
	Max cutting length	mm (in)	100 (3.94)	230 (9.06)
	Spindle center height form floor	mm (in)	1,055 (41.54)	1,205 (47.44)
Travels	X axis	mm (in)	150 (5.91)	220 (8.66)
	Z axis	mm (in)	175 (6.89)	230 (9.06)
Spindles	Nose		ø140 across flats [JIS A2-6]	JIS A2-8
	Front bearing dia	mm (in)	ø80 (ø3.15) [ø100 (ø3.94)]	ø120 (ø4.72)
	Bore dia	mm (in)	ø52 (ø2.05) [ø62 (ø2.44)]	ø82 (ø3.23)
	Speed ranges		Infinitely variable	
	Speed	min ⁻¹	50 to 5,000 [40 to 4,000]	20 to 2,000
Turrets	Turret type		V8 + V8 V10 + V10 (Multitasking turrets)	V12 + V12
	No. of tools	tools	8 + 8	12 + 12
	OD tool shank size	mm (in)	□20 (□3/4)	□25 (□1)
	ID tool shank diameter	mm (in)	ø32 (ø1-1/4)	ø40, ø50 (ø1-1/2, ø2)
Feedrates	Rapid traverse (X axis)	m/min (ipm)	24 (945)	
	Rapid traverse (Z axis)	m/min (ipm)	24 (945)	30 (1,181)
	Cutting feed rate	mm/rev (ipr)	0.0001 to 120.0 (0.0000040 to 4.72)	OSP: 0.0001 to 187.5 (0.0000040 to 7.38) FANUC: 0.0001 to 300.0 (0.0000040 to 11.81)
Motors	Spindle (30 min/cont)	kW (hp)	7.5/5.5 × 2 (10/9.5 × 2) [11/7.5 × 2 (15/10 × 2)]	18.5/15 × 2 (25/20 × 2)
	Hydraulic pump	kW (hp)	1.5 × 4P (2 × 4P)	
	Lubricant pump	kW (hp)	0.02-4P (0.03-4P)	
	Coolant pump	kW (hp)	0.4-4P × 2 (0.5-4P × 2)	0.885-4P (1.2-4P × 2)
	Total power requirement	kVA (kW)	28 (22)	OSP: 67 (54), FANUC: 66 (53)
Machine Size	Floor space (W × L, mach only)	mm (in)	1,650 × 1,825 (64.96 × 71.85), 1,650 × 1,882 (64.96 × 74.09) (Multitasking turrets)	3,200 × 2,765 / 2,835 (125.98 × 108.86 / 111.61)
	Machine height	mm (in)	2,861 (112.64) w/loader 2,941 (115.79) (Multitasking turrets, w/loader)	H: 2,260 (88.98) HG: 4,052 (159.53) w/loader
	Machine weight	kg (lb)	4,900 (10,780) w/loader	H: 9,500 (20,900) HG: 11,000 (24,200) w/loader
	Coolant tank	L (gal)	200 (53)	260 (69)
	Hydraulic unit tank	L (gal)	30 × 2 (8 × 2)	
	Lubricating oil tank	L (gal)	6 (1.6)	
CNC			FANUC 31i-B	OSP-P300LA / FANUC 31i-B

[] : Optional

* ø310 (12.2) when Touch Setter mounted

Spindle output/torque diagrams [Standard]



Standard accessories

- Coolant system
- Full enclosure shielding
- Front door interlock
- Self-diagnostics
- Jack bolts, foundation pads
- Tool kit
- Work lamp
- Electronic buzzer
- Chuck open/close foot switch
- Chucking direction switch (parameter settings)
- Separate left/right spindle covers
- Lubrication monitor

Loader optional accessories (2SP-10HG, 2SP-35HG)

- On machine part flipper
- Safety fence
- Chuck open/close M code
- Chuck air blower (blast)
- Coolant blower (blast)
- Chuck open/close confirm proximity switch
- Triple lamp status indicator
- Automatic power shutoff
- Worktable: 16 stations
- Program protection key switch

Optional accessories

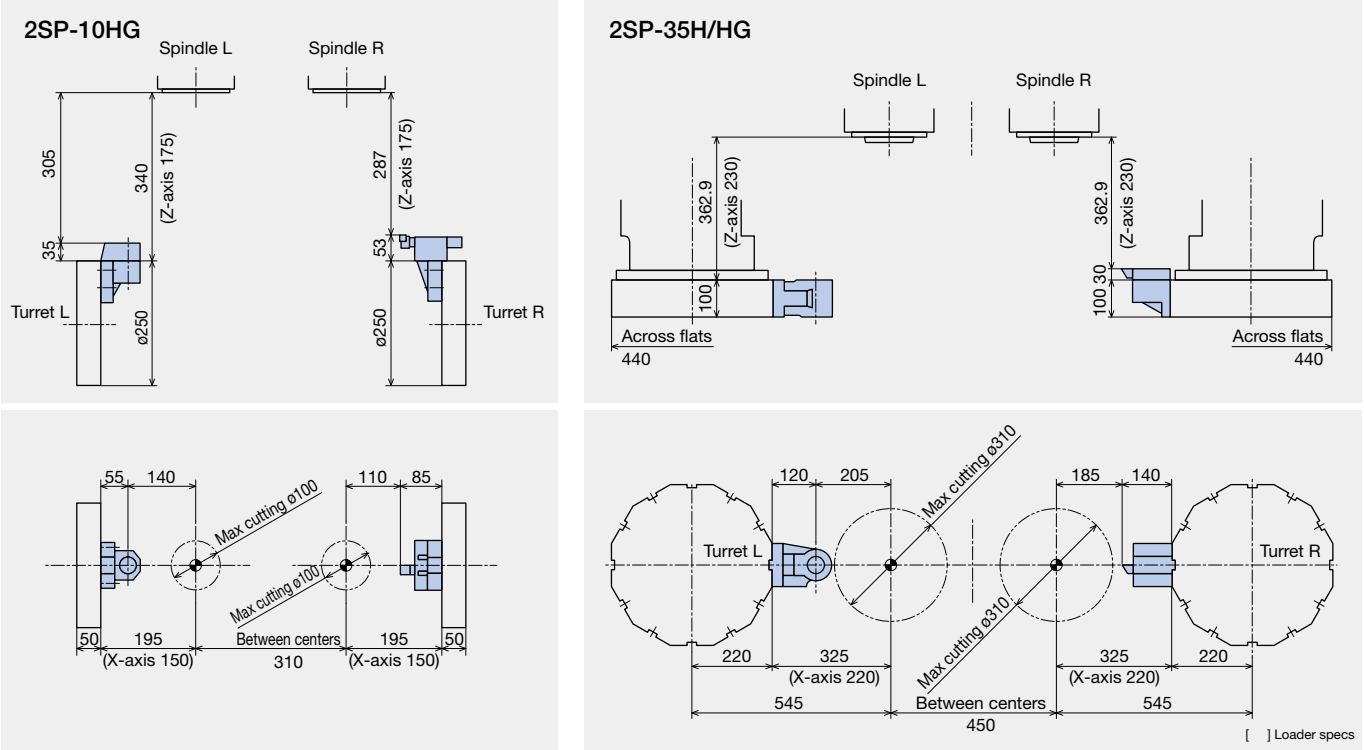
- Multitasking turret (C-axis control)
- Chip conveyor
- Chip bucket
- High pressure coolant
- Mist collector
- Hydraulic power chuck
- Toolholders
- Boring bar sleeves
- Drill sleeves
- Machining completion lamp
- Tool counter (hard counter)
- Workpiece counter (hard counter)
- Touch Setter M (2SP-35HG)
- In-process work gauges
- Post-process work gauges
- Gauging interface
- Robot interface

Various Chip Conveyors

Chip conveyor types and applications

Type	Hinge	Scraper	Magnetic scraper
Application	● For steel and general use	● For cast iron ● Easy to maintain ● Blade scraper ● Magnet scraper for sludge processing	● For cast iron ● Effective for sludge handling
Shape			

Travel ranges

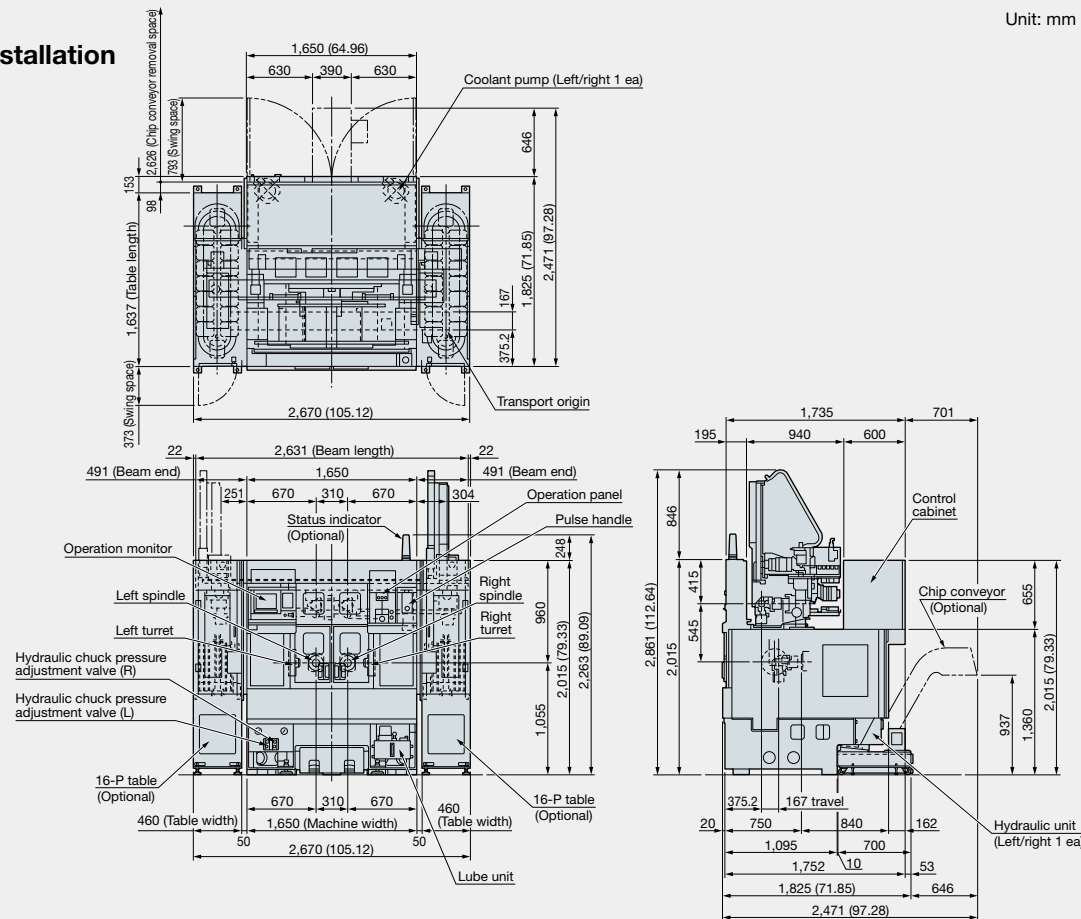


Unit: mm

[] Loader specs

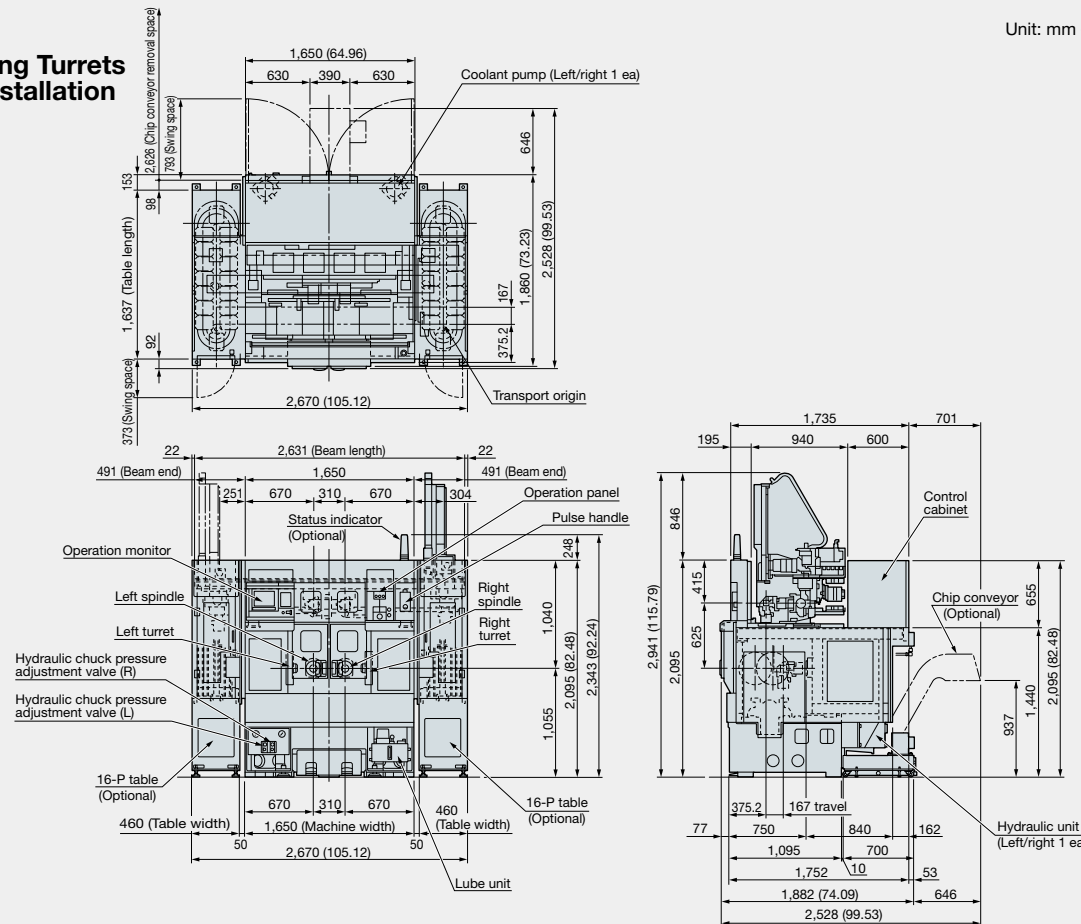
2SP-10HG
Dimensional/Installation
Drawings

Unit: mm (in)



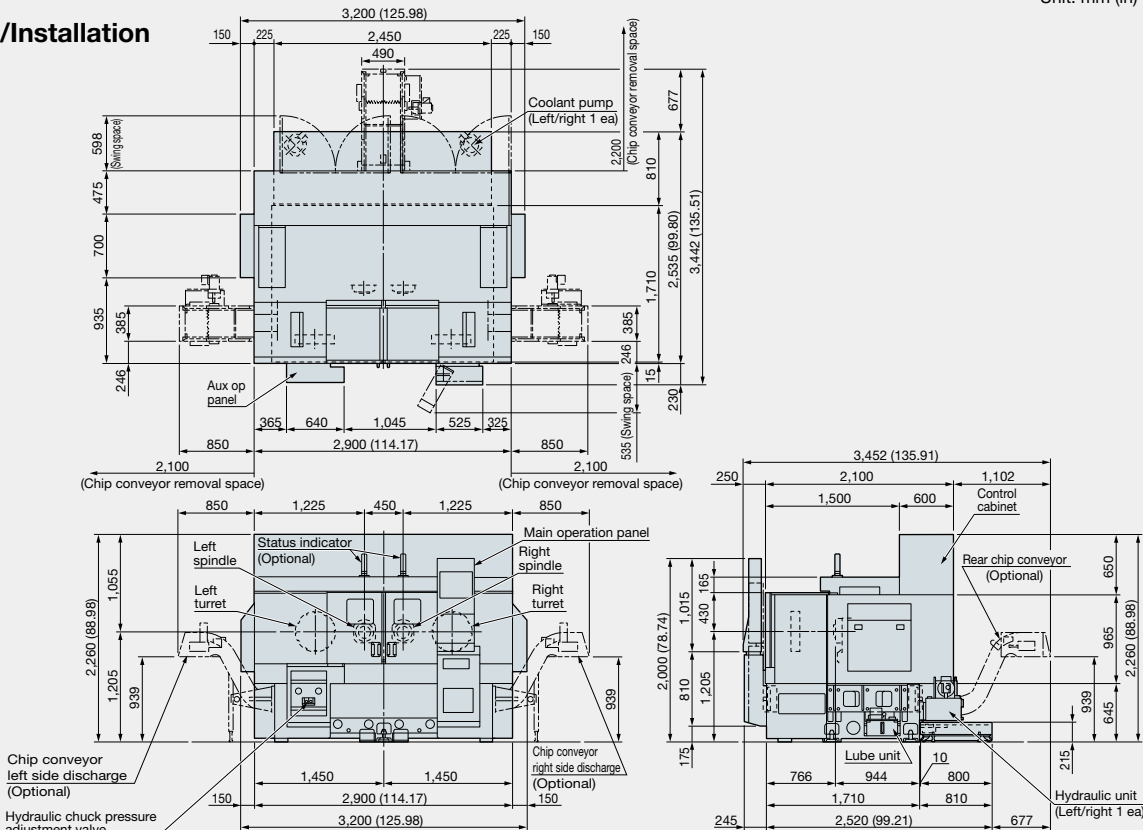
2SP-10HG
With Multitasking Turrets
Dimensional/Installation
Drawings

Unit: mm (in)



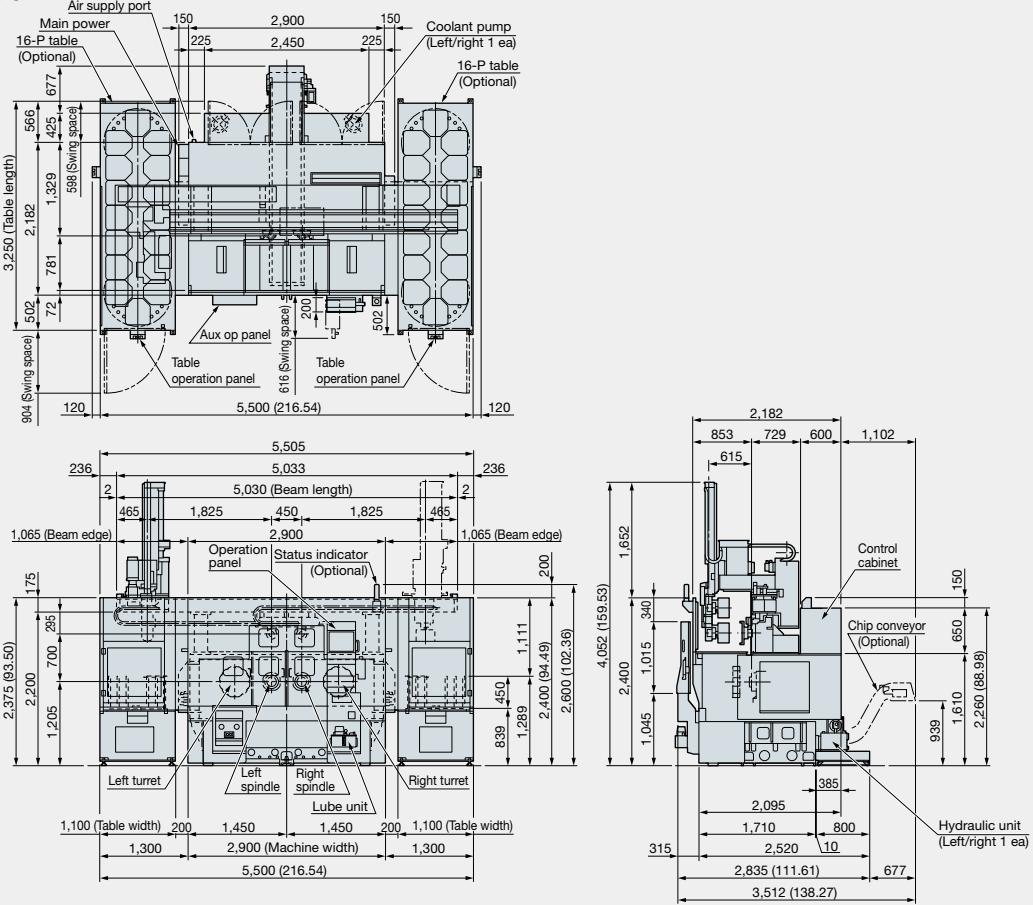
2SP-35H
Dimensional/Installation
Drawings

Unit: mm (in)



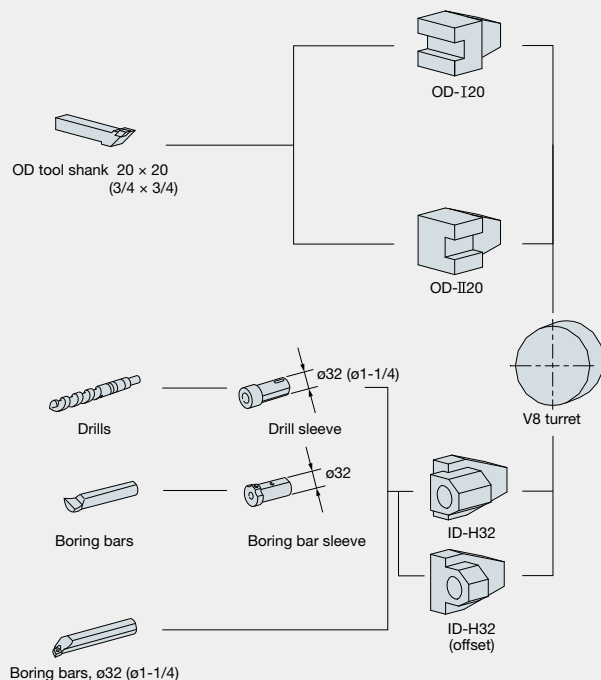
2SP-35HG
Dimensional/Installation
Drawings

Unit: mm (in)



Tooling Systems

2SP-10HG



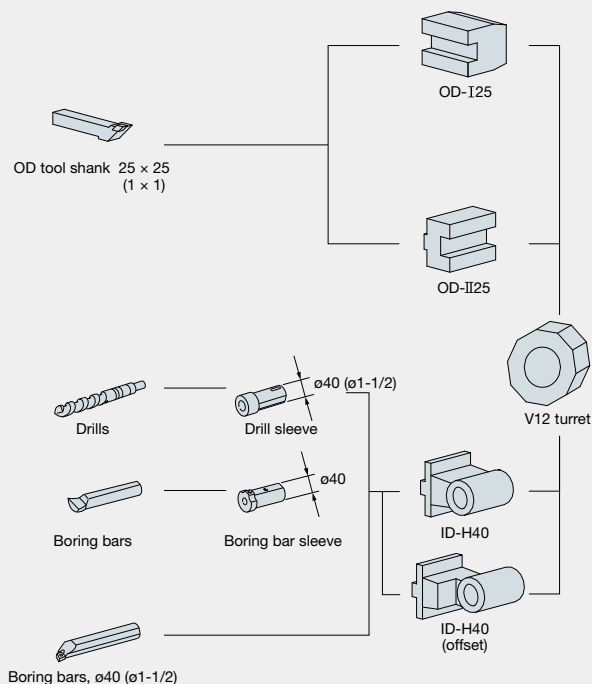
Drill sleeves

DS	MT No. 1-H32
DS	MT No. 2-H32

Boring bar sleeves

BS	8-H32
BS	10-H32
BS	12-H32
BS	16-H32
BS	20-H32
BS	25-H32

2SP-35H/HG



Drill sleeves

DS	MT No. 1-H40
DS	MT No. 2-H40
DS	MT No. 3-H40
DS	MT No. 4-H40

Boring bar sleeves

BS	8-H40
BS	10-H40
BS	12-H40
BS	16-H40
BS	20-H40
BS	25-H40
BS	32-H40

When using Okuma products, always read the safety precautions mentioned in the instruction manual and attached to the product.

●The specifications, illustrations, and descriptions in this brochure vary in different markets and are subject to change without notice.
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