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# GENERAL CATALOG



# Infinite Possibility For Customization

In the never ending evolution in the World of Manufacturing Setting. Creating products that take advantage of original technology are in big demand. TAKAMAZ can offer solid customized oriented demands to meet the needs of all manufacturing sectors. TAKAMAZ is asking you to build one-of-a-kind product from the infinite selection of designs that meets your specific need.

## LINE UP

### X series

1 spindle 1 turret

Our total production count is a proof of reliability. This is a TAKAMAZ standard that has evolved for single lathes.

### XW series

2 spindle 2 slide

Simultaneous machining of both or the same sides of the parts for total complete process machining. The functions of two units within the space of a single unit.

### XD series

2 spindle 1 slide

One spindle performs loading while the other is machining. Production rates doubled within the same space!

### XY series

Multi-turning

With 2 spindle and 2 turret, there are lots of possible cutting methods. Complex parts can be processed at shorter amount of time.

### USL series WAVE series

1 spindle 1 slide

A futuristic slim design with an incredible space-saving design and with high quality and low price.

### TURN series

1 spindle 1 slide

The CNC Linear Turret lathe that provides thorough solutions for all requirements.

### GSL Global Strategy Lathe

1 spindle 1 turret

A simple machine best in its class among manual operated machines, focusing the cost performance.

### TAKAMAZ OPTION system

### TAKAMAZ LOADER system

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# X

1-spindle 1-turret  
series



XC-100

## “Starting Point of TAKAMAZ” Integration of the Power of Technology.

Our total production count is proof of reliability.  
This is a TAKAMAZ standard that has  
evolved for single lathes.



XC-150



XL-100



XL-150



XL-200



X-120



X-S700

### Xseries Machine Specifications

Item	Unit	XC-100	XC-150	XL-100		XL-150		XL-200		X-120		X-S700
				Standard	Power tool type	Standard	Power tool type	Standard	Power tool type	Main-spindle	Sub-spindle	
Chuck Size	inch	Collet,6	Collet,8	Collet,6(8)	Collet,6	Collet,8(10)	Collet,8	Collet,8(10)	Collet,6	Collet,6	Collet,5	Collet,8 (10)
Spindle bearing I.D.	mm	φ75	φ100	φ75 (φ85)	φ75	φ100 (φ120)	φ100	φ100 (φ120)	φ100 (φ120)	φ75 (φ85)	φ65	φ100 (φ120)
Spindle speed	min <sup>-1</sup>	Max.4, 500	Max.3, 500	Max.4,500(6,000-3,500)	Max.4, 500(6,000)	Max.3,500(5,000-4,000)	Max.3,500(5,000)	Max.3,500 (5,000-4,000)		Max.4,500 (6,000)		Max.3, 500 (3,000)
Tool post type		8-station turret	8-station turret	8-station (12-station)turret	12-station turret	8-station (12-station)turret	12-station turret	12-station turret		12-station turret		10-station turret ×2
Max. stroke	mm	X:120 Z:230	X:175 Z:250	X:120 Z:280	X:120 Z:250	X:190 Z:400		X:225 Z:800		X:170 Z:300 A:350		X:115 Z:650
Rapid traverse	m/min	X:12 Z:18	X:18 Z:24	X:12 Z:18		X:18 Z:24		X:18 Z:24		X:18 Z:24 A:18		X:16 Z:30
Spindle motor	kW	AC7.5/5.5	AC11/7.5	AC7.5/5.5(11/7.5)		AC11/7.5(15/11)		AC11/7.5 (18.5/15)		AC5.5/3.7 (7.5/5.5)	AC3.7/2.2	AC15/11 (18.5/15)
Power tools capacity	Milling	mm	—	—	φ10	—	φ20	—	φ20	—		—
	Tap	mm	—	—	M4 ~ M6	—	M4 ~ M16	—	M4 ~ M16	—		—
Dimensions(L×W)	mm	1,150 × 1,360	1,250 × 1,480	1,360 × 1,360	1,480 × 1,360	1,600 × 1,535	1,690 × 1,535	2,900(3,100※1) × 1,845		2,000 × 1,630		1,960 × 1,720
Controller		TAKAMAZ & FANUC Oi-TD	TAKAMAZ & FANUC Oi-TD	TAKAMAZ & FANUC Oi-TD		TAKAMAZ & FANUC Oi-TD		TAKAMAZ & FANUC Oi-TD		TAKAMAZ & FANUC Oi-TD		TAKAMAZ & FANUC Oi-TD

※1. With sub spindle mounted

( ):Option

Standard of  
single lathes

Low Cost Energy and  
Space Saving Design

Chuck Size



6 inch

Model

**XC-100**

Attachment



Recipient of 2011 fiscal year The Japan Society of Mechanical Engineers Superior Energy Saving Equipment Award



8 inch

**XC-150**



Suited for Compound  
Machining and  
Complete  
Part Machining

Power Tools Option



6 inch

**XL-100**



Recipient of 2011 fiscal year The Japan Society of Mechanical Engineers Superior Energy Saving Equipment Award



8 inch

**XL-150**



Long Shaft Workpiece



8 inch

**XL-200**



Sub-spindle Option



6 inch

**X-120**



Excellent for Shaft Machining



8 inch

**X-S700**



### Display of Main Attachments



Number of turret stations



Y-axes control



Power tools



Gang type



Spindle C-axis indexing



Sub-spindle



CE type



Spindle indexing (Electric/Mechanical)



Tailstock



Environmentally friendly design※  
※ Environmentally friendly product including energy efficient oil-less design in small footprint.



# XW





2-spindle 2-slide  
series



*From high volume machining  
to heavy cutting.  
Revolutionary machine with  
2-spindle and 2-slide*

Simultaneous machining of both or the same sides  
of the parts for total complete process machining.  
The functions of two units within the space of a single unit.



	Chuck Size	Model	Attachment
Ideal for small part processing	3 inch	<b>XW-30</b>	
		Recipient of Superior Energy Saver Equipment Award JMF Chairman's Award Recipient of 2010 fiscal year The Japan Society of Mechanical Engineers Superior Product Award	
Integrating Various Process	4 inch	<b>XW-30PLUS</b>	  
	6 inch	<b>XW-80(M)</b>	   
Fastest Loading Cycle in its Class	8 inch	<b>XW-130(M)</b>	    
		Recipient of the 44th Machine Design Award Special Award by Awarding Committee	
Large flange-like workpiece	10 inch	<b>XW-200</b>	   

XWseries Machine Specifications

Item	Unit	XW-30	XW-30 PLUS	XW-80		XW-130		XW-200
Chuck Size	inch	Collet,3 (Air) × 2	Collet,4 × 2	Collet,6 × 2		Collet,8 × 2		10 × 2
Spindle bearing I.D.	mm	φ50	φ60	φ75		φ100		φ120
Spindle speed	min <sup>-1</sup>	Max.10,000*1	Max.8,000	Max.4,500 (6,000)		Max.4,000		Max.2,800
Tool post type		Gang type × 2	Gang type × 2	8-station turret × 2		8-station turret × 2 10-station turret × 2		8-station turret × 2
Max. stroke	mm	X:160 Z:200	X:160 Z:230	X:120 Z:160		X:150 Z:160 X:170 Z:220		X:170 Z:220
Rapid traverse	m/min	X:12 Z:15	X:12 Z:20	X:18 Z:18		X:24 Z:24		X:24 Z:24
Spindle motor	kW	AC3.7/2.2 × 2	AC5.5/3.7 × 2	AC5.5/3.7 (7.5/5.5) × 2		AC11/7.5 × 2		AC18.5/15 × 2
Power tools capacity	Milling mm	—	—	—	φ 10	—	φ 16	—
	Tap mm	—	—	—	M4~M6	—	M10	—
Dimensions(L×W)	mm	1,300 × 2,000	1,340 × 2,120	1,720(2,000) × 1,825 1,720(2,140) × 1,850		1,890 × 2,140 1,990(2,350*2) × 2,330		1,990(2,350*2) × 2,330
Controller		TAKAMAZ & MITSUBISHI M70	TAKAMAZ & MITSUBISHI M70V	TAKAMAZ & FANUC Oi-TD		TAKAMAZ & FANUC Oi-TD(Oi-TF*3)		TAKAMAZ & FANUC Oi-TF

\*1. Available as an option depending on the chucking cylinder. \*2. Machine width with loader spec. \*3. Optional with power tools.

( ):Option

# XD

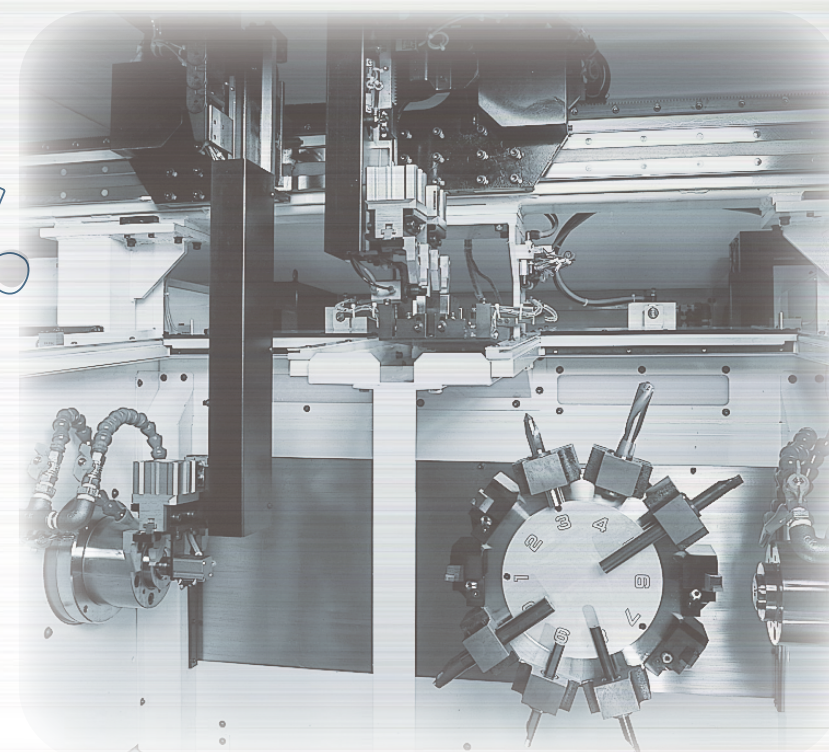
2-spindle 1-slide  
series



XD-8(t)PLUS












XD-10i



## 2-spindle and 1-slide TAKAMAZ Specialized Structure

One spindle performs loading while the  
other is machining. Production rates doubled  
within the same space!

	Chuck Size	Model	Attachment
Flexible Usability depending on Production Needs	5 inch	<b>XD-8PLUS</b>	  
	5 inch	<b>XD-8tPLUS</b>	  
Power Tools Option	6 (8) inch	<b>XD-10i</b>	  

XDseries Machine Specifications

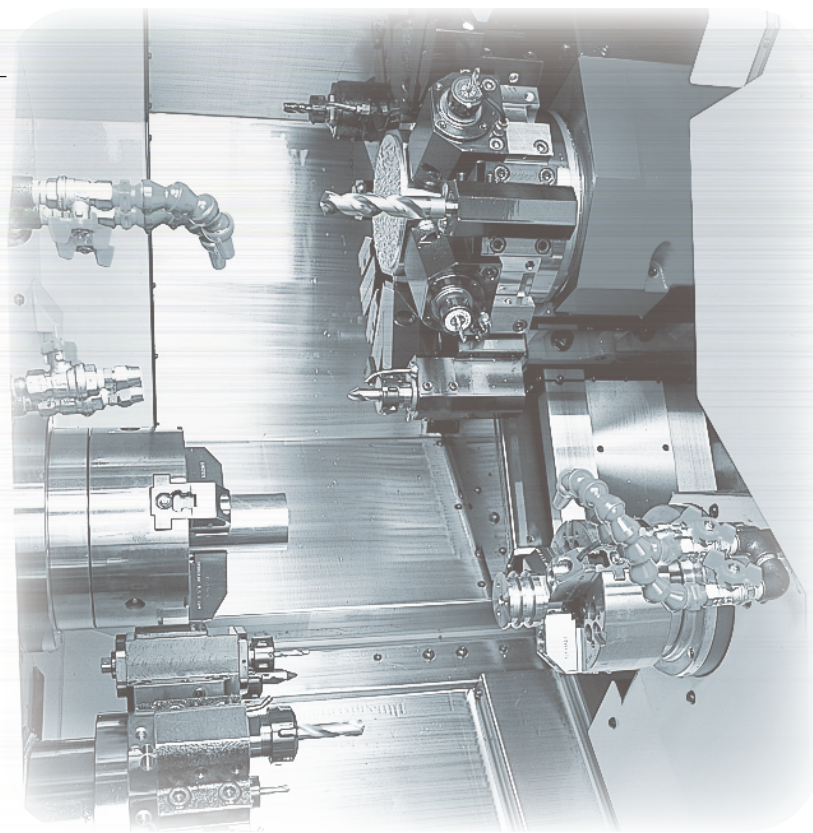
Item	Unit	XD-8(t) PLUS	XD-10 i
Chuck Size	inch	Collet,5 × 2	Collet,6 (8) × 2
Spindle bearing I.D.	mm	φ65	φ75
Spindle speed	min <sup>-1</sup>	Max.4,500 (8,000)	Max.4,500 (6,000)
Tool post type		Gang type 6-station turret	10-station turret
Max. stroke	mm	X:200 Z:380 (±190) X:140 Z:380 (±190)	X:120 Z:520
Rapid traverse	m/min	X:18 Z:24	X:18 Z:24
Spindle motor	kW	AC3.7/2.2 (5.5/3.7*1) × 2	AC5.5/3.7 × 2
Dimensions(L×W)	mm	1,580×1,550	2,310×1,695
Controller		TAKAMAZ & FANUC Oi-TD	TAKAMAZ & FANUC Oi-TD

\*1. XD-8PLUS : 5.5/3.7kW is exclusive to the specifications for spindle rotations speed of 8,000 min<sup>-1</sup> ( ):Option



# XY series

Multi-turning



XY-120PLUS



XY-2000PLUS

## TAKAMAZ Compact Machines Suitable for Compound Machining

With 2 spindle and 2 turret,  
there are lots of possible cutting methods.  
Complex parts can be processed  
at shorter amount of time.

Chuck Size
Model
Attachment

Sub-spindle + Power Tools

6inch

XY-120PLUS

Best for Processing Large Bar Materials

8inch

XY-2000PLUS

Recipient of the 39th Machine Design Award Special Award by Awarding Committee

XYseries Machine Specifications					
Item	Unit	XY-120 PLUS		XY-2000 PLUS	
		Main-spindle	Sub-spindle	Main-spindle	Sub-spindle
Chuck Size	inch	Collet,6	Collet,5	Collet,8	
Spindle bearing I.D	mm	φ85(φ100)	φ65	φ100(φ120)	φ100
Spindle speed	min <sup>-1</sup>	Max.5,000 (4,000)	Max.5,000	Max.4,000	
Tool post type		12-station turret, 24ST		12-station turret	
Max. stroke	mm	X:150 Z:330 Y:±35	X2:150 Z2:440	X:175 Z:510 Y:±40	X:175 Z:510 A:570
Rapid traverse	m/min	X:18 Z:24 Y:±12	X2:18 Z2:18	X:18 Z:24 Y:12	X:18 Z:24 A:30
Spindle motor	kW	AC7.5/5.5 (AC11/7.5)	AC5.5/3.7	AC18.5/15	AC11/7.5
Power tools capacity	Milling	mm φ13		φ16	
	Tap	mm M8		M16	
Dimensions(LxW)	mm	2,630×1,950		3,050×2,125	
Controller		TAKAMAZ & FANUC Oi-TD		TAKAMAZ & FANUC 31i-A	

( ):Option

# USL | WAVE series

A futuristic slim design with  
an incredible space-saving design and  
with high quality and low price.

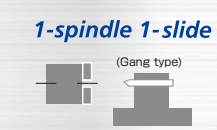


USL-480

J-WAVE

# TURN series

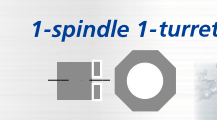
The CNC Linear Turret lathe that provides  
thorough solutions for all requirements.



TOP-TURN II

# GSL Global Strategy Lathe

A simple machine best in its class among manual  
operated machines, focusing the cost performance.



GSL-10

GSL-15

Chuck Size
Model
Attachment

Super Compact Machine Body

3inch

USL-480

Suited for Powerful Heavy Cutting

4inch

J-WAVE

Suited for Powerful Heavy Cutting

6inch (8)

TOP-TURN II

Excellent Cost Performance

6inch

GSL-10

Excellent Cost Performance

8inch

GSL-15

Recipient of 2010 fiscal year The Japan Society of Mechanical Engineers Superior Product Award

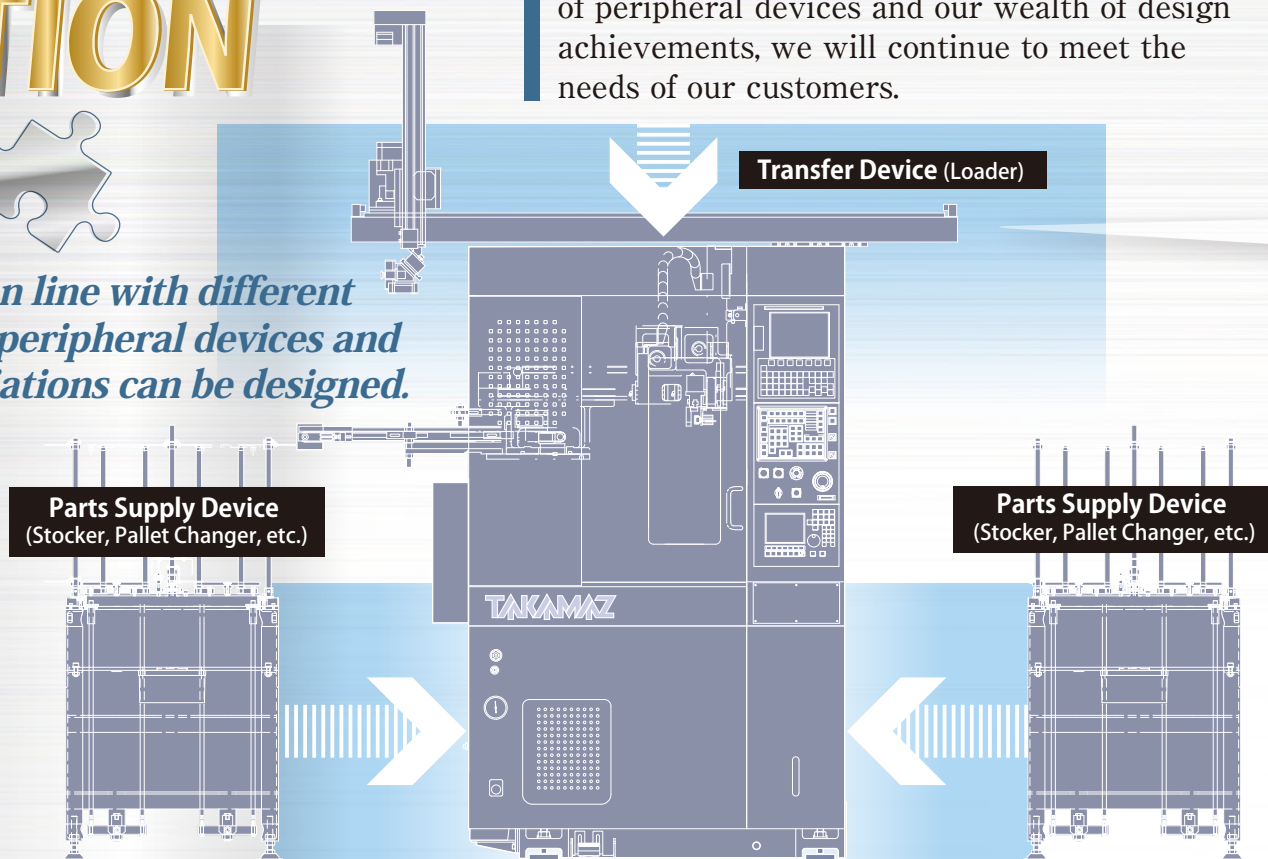
USL/WAVE/TURN/GSL Machine Specifications							
Item	Unit	USL-480	J-WAVE	TOP-TURN II		GSL-10	GSL-15
				Type A	Type B		
Chuck Size	inch	Collet,3	Collet,4	Collet,6	Collet,8	Collet,6	Collet,8
Spindle bearing I.D.	mm	φ50	φ65	φ75	φ85	φ75	φ100
Spindle speed	min <sup>-1</sup>	Max.10,000	Max. 4,500	Max.6,000	Max.4,500	Max.4,500	Max.3,500
Tool post type		Gang type	Gang type	Gang type		8-station turret	8-station turret
Max. stroke	mm	X:160 Z:200	X:160 Z:160	X:300 Z:300		X:120 Z:230	X:175 Z:330
Rapid traverse	m/min	X:12 Z:15	X:12 Z:12	X:12 Z:18		X:12 Z:18	X:12 Z:16
Spindle motor	kW	AC5.5/3.7	AC3.7/2.2	AC7.5/5.5		AC5.5/3.7	AC7.5/5.5
Dimensions(LxW)	mm	480×1,810	1,160×1,055	1,820×1,510		1,400×1,250	1,600×1,460
Controller		TAKAMAZ & FANUC Oi-TD / TAKAMAZ & MITSUBISHI M64	TAKAMAZ & MITSUBISHI M64	TAKAMAZ & FANUC Oi-TD		TAKAMAZ & FANUC Oi Mate-TD	TAKAMAZ & FANUC Oi Mate-TD

( ):Option



# TAKAMAZ OPTION system

*A production line with different varieties of peripheral devices and loading variations can be designed.*



## Automation Peripheral Devices



**Station stocker**  
Flexible Multi-layer stocker to accommodate different part diameter sizes.



**Flat stocker**



**Stocker for Shaft type parts**



**Parts feeder**  
A cylindrical stocker with minimum footprint for storing small parts.

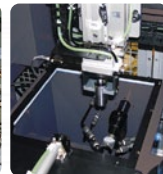


**Tray changer**  
Workpieces can be stored together with the tray.

## Quality/Environment control unit



**External measurement instrument**  
Dimensional errors are fed back to the machine to maintain high dimensional accuracy.



**Cleaning unit**  
Without operator intervention, cleaning is performed automatically.



**Oil mist collector**  
Oil mist collection facilitates a clean production environment.



**Automatic fire extinguisher**  
If fire breaks out in the machine during automatic operations, fire extinguishing agent is automatically discharged.

## Cutting efficiency/Chip disposal



**Alloyed Clamp Holder for vibrations suppression**  
Inhibiting the progression of wear boundary is expected to extend cutting tool life in high speed machining.



**Chip conveyor (Spiral type)**  
Chip disposal is done semi-automatically in the minimum space.



**Chip conveyor (Floor type)**  
Chips are reliably discharged outside the machine.



**High-pressure coolant**  
Constantly cooled coolant is discharged at high pressure so that the tool life is significantly prolonged.



**Semi-dry machining**  
Ultrathin, highly-lubricating organic coolant is applied to the correct point on the cutting edge, realizing semi-dry machining.

By applying our experiences in manufacturing of peripheral devices and our wealth of design achievements, we will continue to meet the needs of our customers.

# TAKAMAZ LOADER system

Encouraged from sales of more than 65 years, with "Integral loader" design philosophy in mind, TAKAMAZ will lead the consistent support service follow up and support system built on trust, leading to increased productivity.

Space Saving  
Accessory Devices

Improving  
Durability

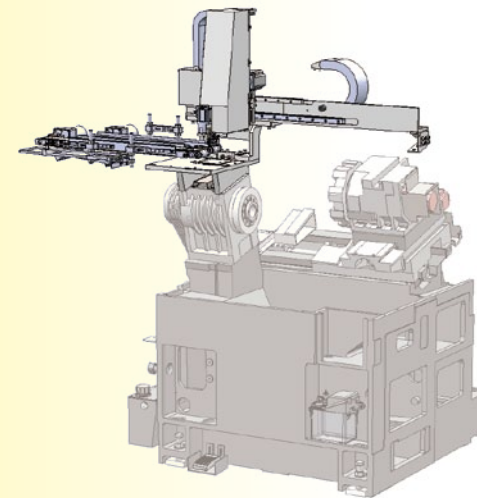
Pursuing of  
the Low Cost

Short  
Loading Time

Flexible System  
Line Configuration

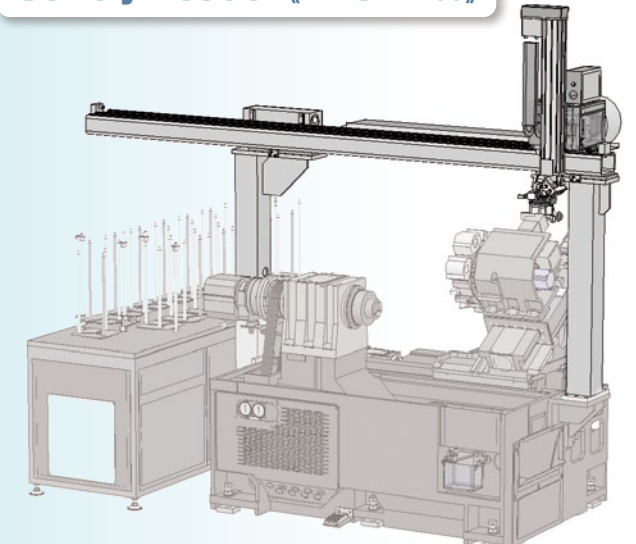
Improving  
Operability

## Compact Loader《Σi》



- Hi Speed Loader mounted on the machine to save space.
- A dedicated servo controller allows speedy setup.

## Gantry Loader《Σi GH 150》



- Gantry-type servo loader with high rigidity.
- The traverse distance can be extended, ensuring extremely flexible line configuration and systemization of peripheral equipment.

## For Small and Short Workpiece



**Parallel Hand**  
XW-30, XW-30 PLUS  
(Σi W30: 2-Axes Control)

## For Flange Workpiece



**L Hand**  
XW-80  
(Σ GT: 3-Axes Control)

## For Front and Back Cutting Workpiece



**Σi GTH Hand**  
XW-130, XW-130M, XW-200  
(Σi GTH: 3-Axes Control)  
Patent Pending

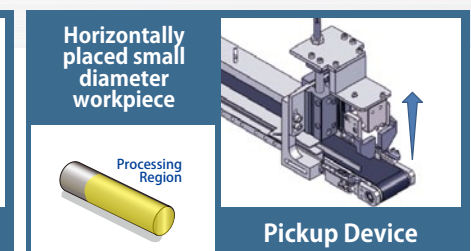
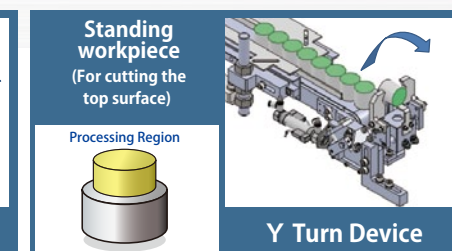
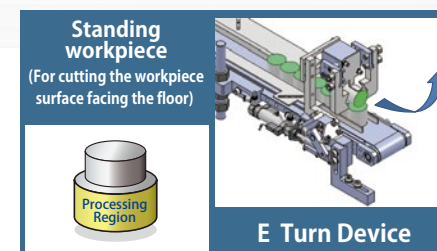
## For Shaft Workpiece



**Pendulum Hand**  
X-S700  
(Σi GT700: 3-Axes Control)  
(Max.10kg)

## Workpiece delivery from transport unit using a conveyor

To transport the workpieces with different shapes and cutting points, a variety of turn devices are available to provide a reliable workpiece delivery system.



## TAKAMAZ Collet Chuck

The collet chuck developed and marketed under the TAKAMAZ brand is manufactured in the factory where an integrated system is used to streamline every part of the production, from machining to heat treatment. Collet run-off accuracy conforms to TAKAMAZ standard, which is even higher than Japanese Industrial Standards (JIS), allowing us to provide our customers with exceptionally dependable products.

### Standard included model

XC-100, XL-100, X-120, XW-80(M), XD-8(t)PLUS, XD-10i, XY-120PLUS, USL-480, J-WAVE...