

TAKISAWA®

CNC Lathe

TCN-2100
TCN-2600

Chosen from all over the world for its high cutting performance and versatility.

TCN-SERIES



The best standard model—continuously evolving with the voice of the customers, popular in worldwide!

- Expanded machining range—Powerful turning, sophisticated precision machining, milling*1.
- Long experience and great technique for automation.
- 1-spindle and 1-turret CNC lathes providing the highest quality and versatility.

TCN-2100 V.EDITION



8" Chuck

C-C	L3	L6
Max. Turning Diameter	φ 410	φ 410
Max. Turning Length	300	600
Bar Capacity	51	51

Gantry Loader

TCN-2100



8" Chuck

C-C	L3	L6
Max. Turning Diameter	φ 410	φ 410
Max. Turning Length	300	600
Bar Capacity	51	51

Gantry Loader C-Axis Milling **TiwaP-I**

TCN-2600



10" Chuck

C-C	L3	L6
Max. Turning Diameter	φ 410	φ 410
Max. Turning Length	250	550
Bar Capacity	74 (OP.89)	74 (OP.89)

Gantry Loader C-Axis Milling **TiwaP-I**

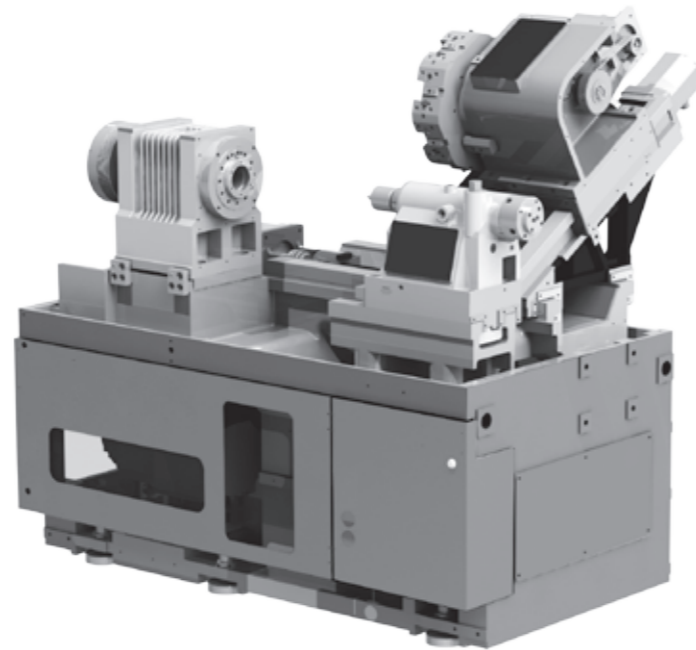
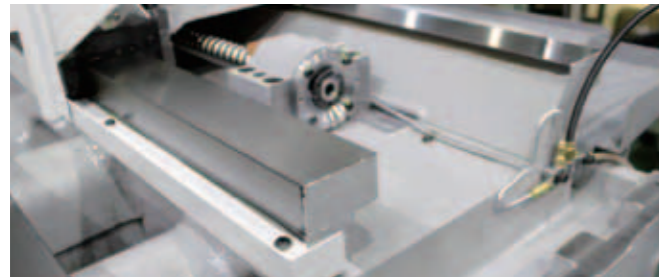
*1) TCN-2100CM/2600CM

Capability • Performance

Box Shaped Bed & Box Slide Way

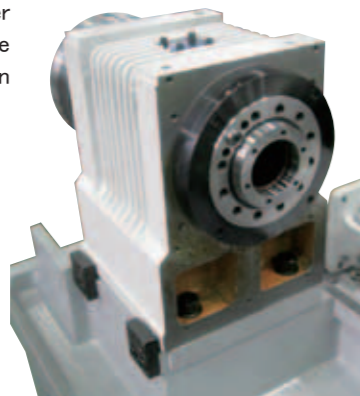
Box-shaped bed construction having very high rigidity resistive to thermal deformation.

Rectangular slideways excellent in high reliability and high durability owing to Takisawa's long experienced scraping (facing-up) technique are used in all axes. They contribute to keeping stable accuracy for a long time.



Highly Rigid Headstock

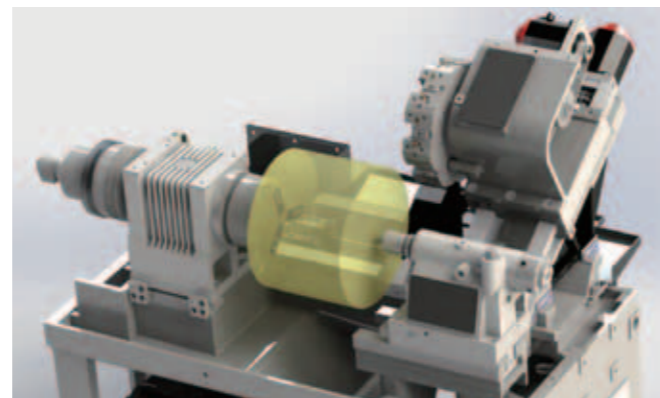
The headstock is designed for high torque and provides excellent cutting performance. Continuous rated torque is improved compared to former machines by reviewing the spindle motor and reduction ratio.



3200min ⁻¹ Type	TCN-2100 V.EDITION	TCN-2100	TCN-2600
Output	11/7.5kW	11/9kW	11/9kW
Continuous Rated Torque	71.6N·m	114.6N·m	214.9N·m

Machining Range

The appearance is compact, but the machining range is wide. The rapid traverse rate is increased compared to our former machines to reduce machining time.



Max. Turning Diameter	φ410mm (T8)
Max. Turning Length	300mm (L3)
Rapid Traverse Rate	X-Axis 24m/min
	Z-Axis 30m/min

Compact & space saving, but operability-oriented.

The headstock, carriage, turret, and tailstock (option) are arranged on the tough box-shaped bed in an optimum balance to realize the compact and space saving machine.

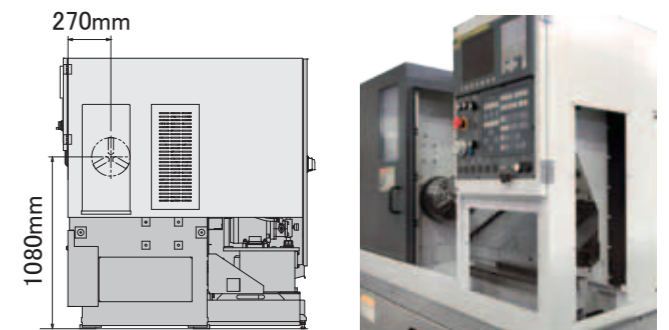
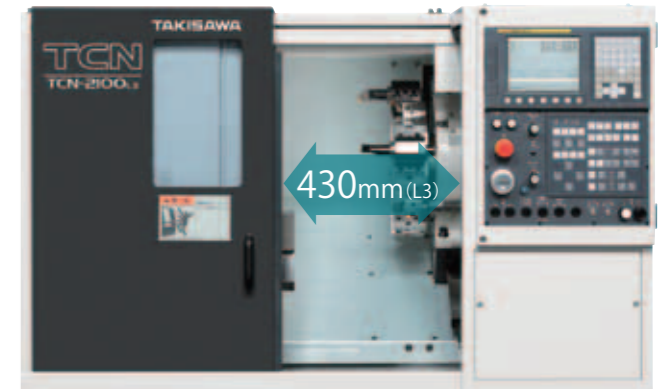
The machine is made thoroughly compact and space-saving, but the door opening is wide. It makes accessibility to the spindle excellent and tip change and setup change easy.

Door Opening Width : 430mm(L3)

Opening to Spindle Center Distance : 270 mm

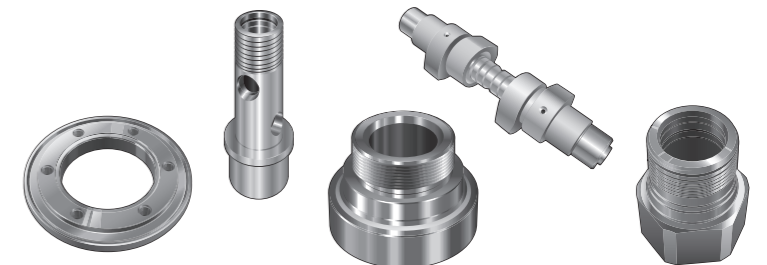
Height from Floor to Spindle Centerline : 1080mm

In addition to the maintenance window of former machines, a removable tailstock maintenance window is added under the operation panel to significantly improve setup property and maintainability.



Option

Takisawa has delivered many 8"/10" CNC lathes. Our machines can flexibly support various workpieces, such as flange workpiece and shaft workpiece. In addition, we can suggest optimum plans for customers considering automation.



ENERGY SAVING SYSTEM

• Power consumption reduction

Application of regenerative energy system helps generated energy return to the power supply when the motor is decelerating, saving power consumption.

Energy saving LED is used for internal lighting. Lighting shutoff function reduces standby power.

Control panel cooling system designed for power saving by utilising the natural heat dissipation.

With the coolant pump only running when required for use in program unnecessary power consumption is avoided.

• Lubricant recovery box designed for reducing the amount of coolant waste.

• The powder coating machine for environmental concern.

Turning Model

TCN-2100 V.EDITION

While keeping the high performance dedicated for turning, V.EDITION has minimum required functions, providing excellent cost performance.

C-C	L3	L6
Max. Turning Diameter	φ 410	φ 410
Max. Turning Length	300	600
Bar Capacity	51	51

Gantry Loader



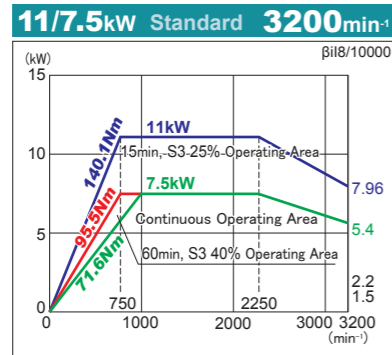
▲ TCN-2100L3 V.EDITION

Highly Rigid Spindle

Highly efficient spindle motor delivers enough torque from low speed to high speed ranges.



Spindle Nose A2-6
Bearing Inside Diameter φ100mm



Hydraulic Tailstock (Optional)

Supporting highly rigid hydraulic tailstock. Even shaft workpieces can be cut powerfully without paying attention to runout.

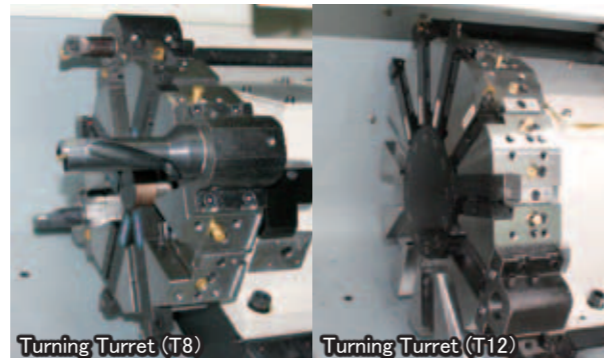


TCN-2100 V.EDITION

Tailstock Travel	115mm (L3), 415mm (L6)
Quill Travel	120mm
Quill Diameter	75mm
Quill Taper	MT No.4

Powerful Turret

Turning Turret
Direct-mount type powerful turret.
Two types of 8-(Standard) and 12-(Option) station turret are available.

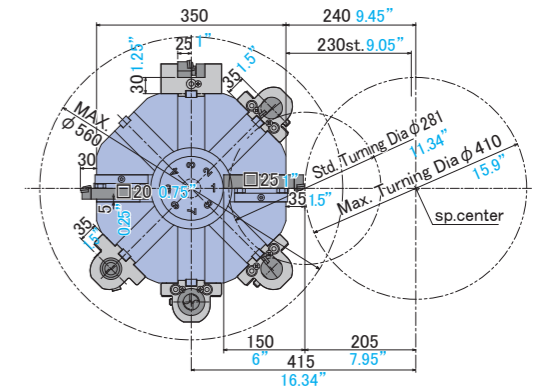
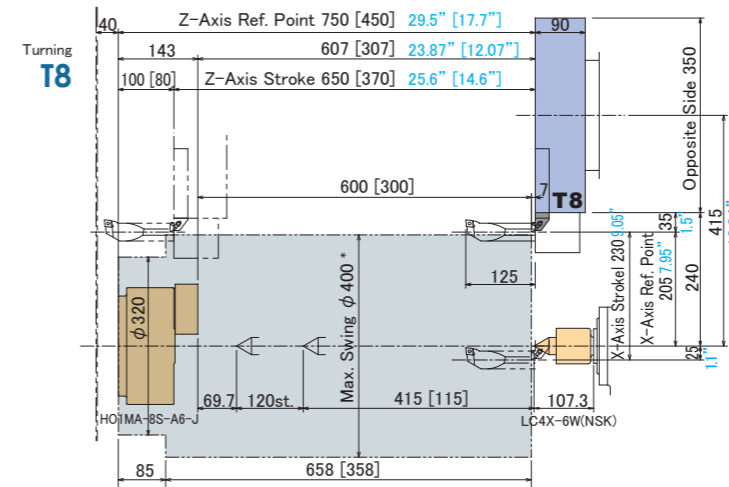


Turning Turret (T8)

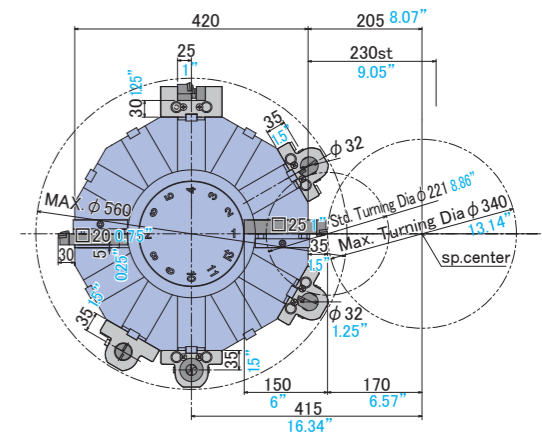
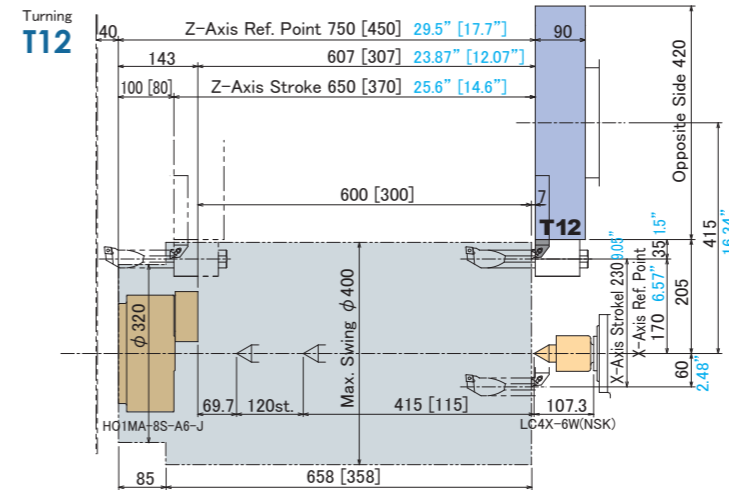
Turning Turret (T12)

Interference • Travel Range

[] dimension are L3. [] area are swing area.
Unit : mm inch



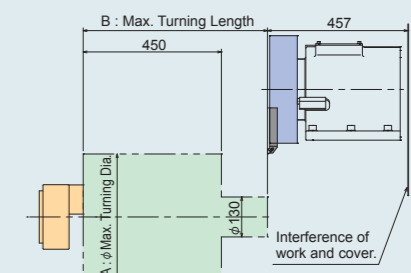
*) Although, Max Turning Dia is φ410mm, due to the interference with standard type front cover, Max turning Dia is limited to φ400mm.



The Limit of the Turning Range

Due to the spec. of L6, there might be the limit for maximum turning diameter depending on the work size.

Machine	C-C	Turret	Dimensions	
			A	B
TCN-2100	L6	T8	410	600
		T12	340	



TCN-2100

Additional machinings such as milling, drilling and tapping after turning can be performed by one chucking.

C-C	L3	L6
Max. Turning Diameter	φ 410	φ 410
Max. Turning Length	300	600
Bar Capacity	51	51
Gantry Loader	C-Axis Milling	TiwaP-I



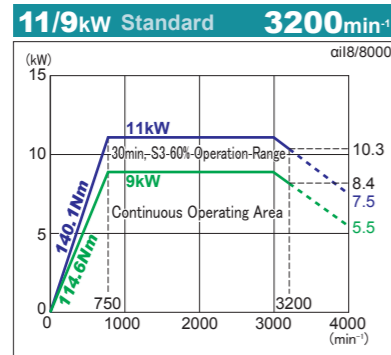
▲ TCN-2100L3

Highly Rigid Spindle

Highly efficient spindle motor delivers enough torque from low speed to high speed ranges.

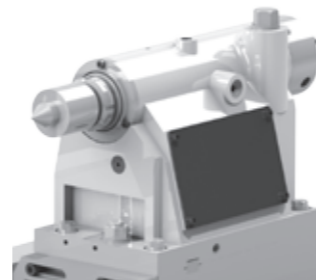


Spindle Nose A2-6
Bearing Inside Diameter φ100mm



Hydraulic Tailstock (Optional)

Supporting highly rigid hydraulic tailstock. Even shaft workpieces can be cut powerfully without paying attention to runout.



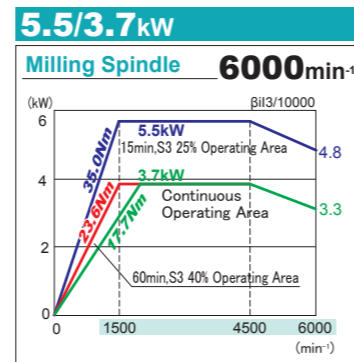
TCN-2100

Tailstock Travel	115mm (L3), 415mm (L6)
Quill Travel	120mm
Quill Diameter	75mm
Quill Taper	MT No.4

Powerful Turret

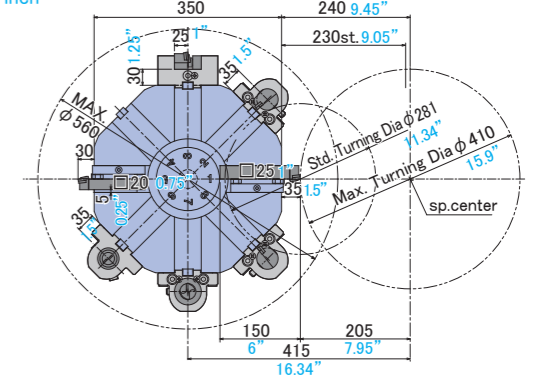
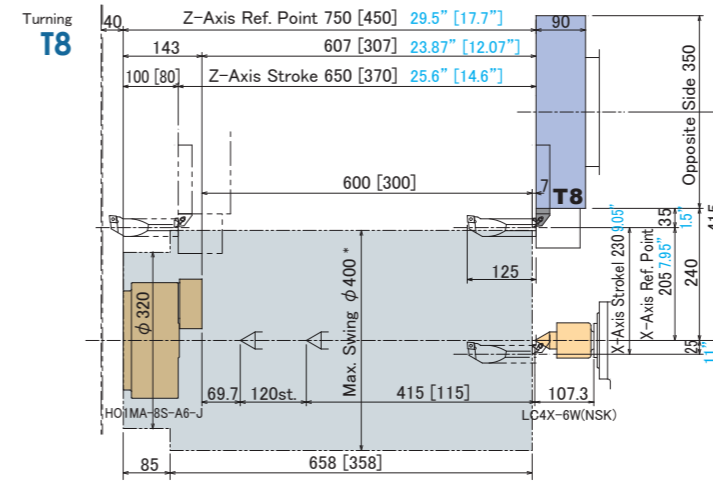
Turning Turret
Direct-mount type powerful turret. Two types of 8-(Standard) and 12-(Option) station turret are available.

Turning & Milling Turret
Holder type 12-station turret that allows the turning and milling tools to be attached to all station. The holder uses bolt tightening system to support heavy-duty cutting. Highly efficient 5.5/3.7kW milling motor is used for rotary tools.

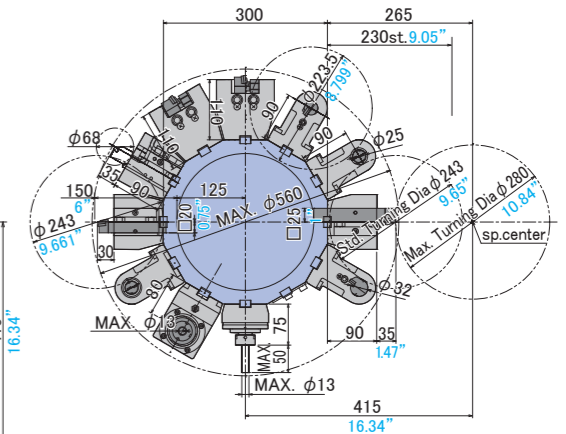
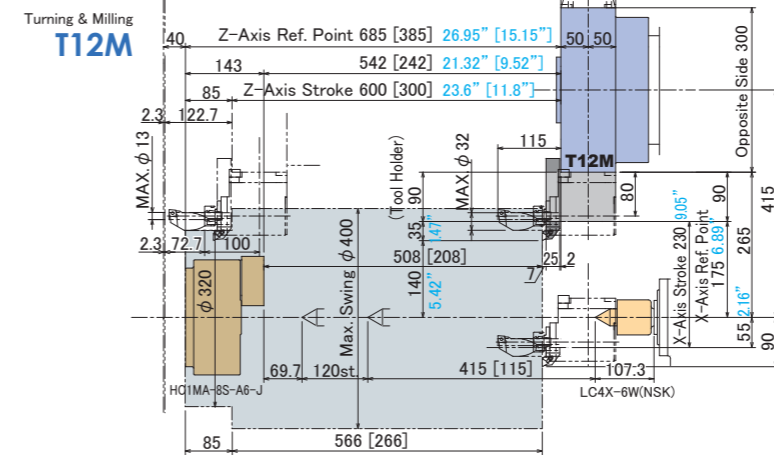
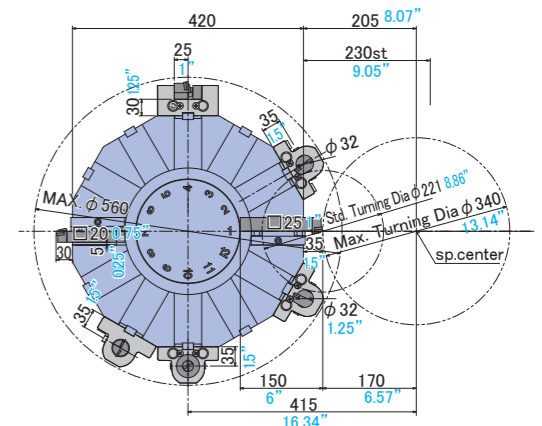
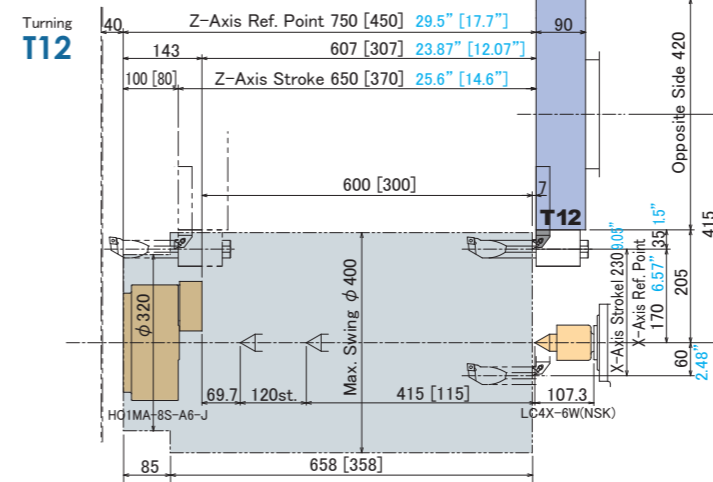


Interference • Travel Range

[] dimension are L3. ■ area are swing area.
Unit : mm inch



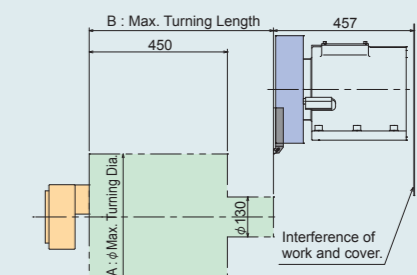
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The Limit of the Turning Range

Due to the spec. of L6, there might be the limit for maximum turning diameter depending on the work size.

Machine	C-C	Turret	Dimensions	
			A	B
TCN-2100	L6	T8	410	600
		T12	340	600



TCN-2600

The smallest space in 10"-Chuck class of machines. (L3) Highly efficient spindle motor achieves enough torque from low speed to high speed ranges.

C-C	L3	L6
Max. Turning Diameter	φ 410	φ 410
Max. Turning Length	250	550
Bar Capacity	74 (OP.89)	74 (OP.89)
Gantry Loader	C-Axis Milling	TiwaP-I



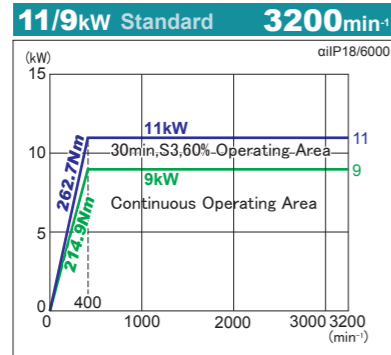
▲ TCN-2600L3

Highly Rigid Spindle

Highly efficient spindle motor delivers enough torque from low speed to high speed ranges.

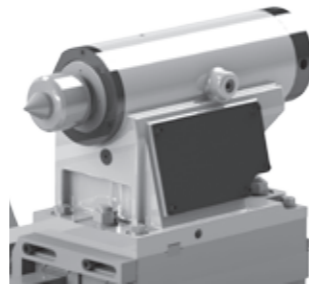


Spindle Nose A2-8
Bearing Inside φ120mm
Diameter OP. φ150mm



Hydraulic Tailstock (Optional)

Supporting highly rigid hydraulic tailstock. Even shaft workpieces can be cut powerfully without paying attention to runout.

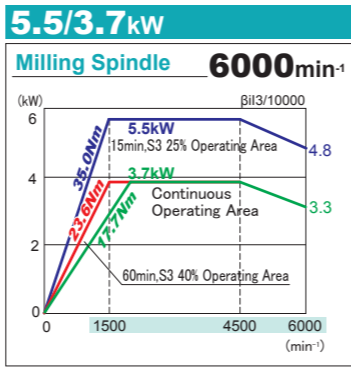
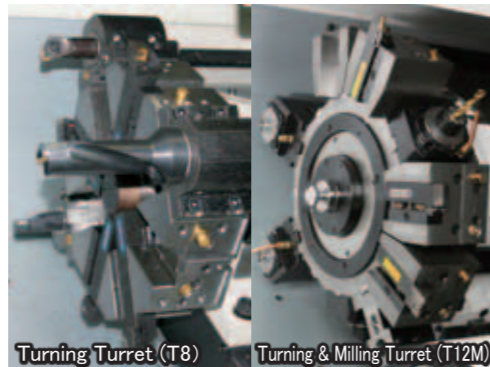


TCN-2600	
Tailstock Travel	115mm (L3), 415mm (L6)
Quill Travel	120mm
Quill Diameter	100mm
Quill Taper	MT No.5

Powerful Turret

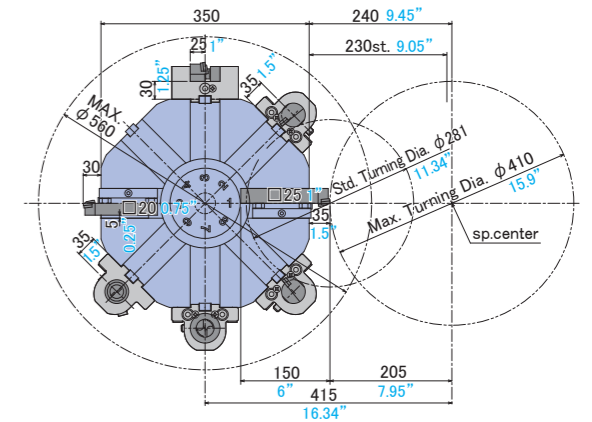
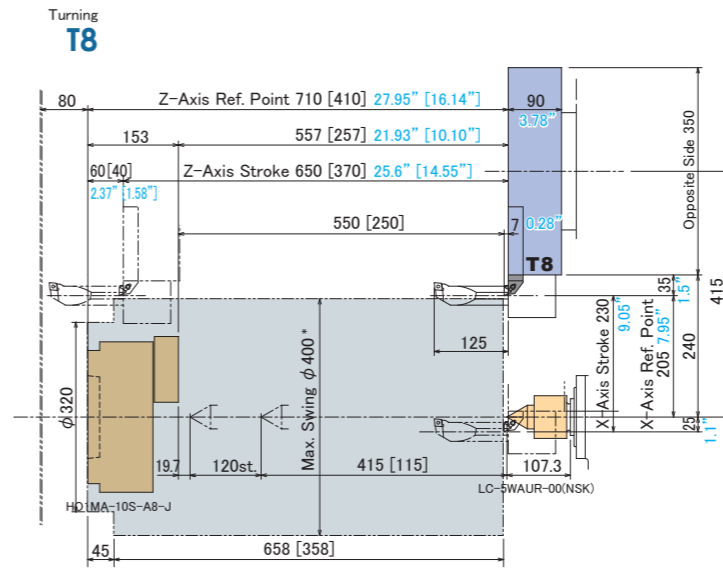
Turning Turret
Direct-mount type powerful turret.
8-station turret is available as standard.

Turning & Milling Turret
Holder type 12-station turret that allows the turning and milling tools to be attached to all stations. The holder uses bolt tightening system to support heavy-duty cutting. Highly efficient 5.5/3.7kW milling motor is used for rotary tools.

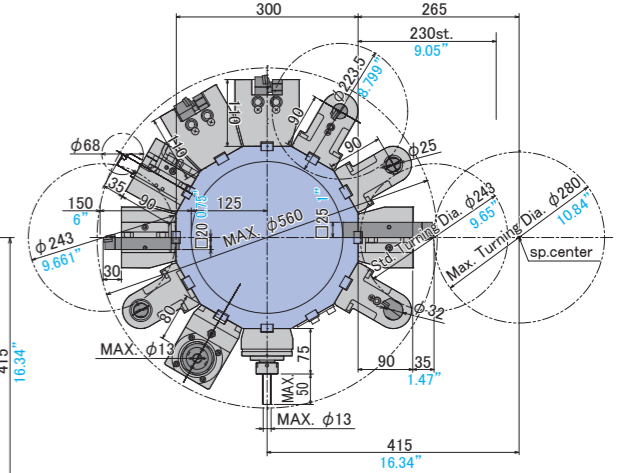
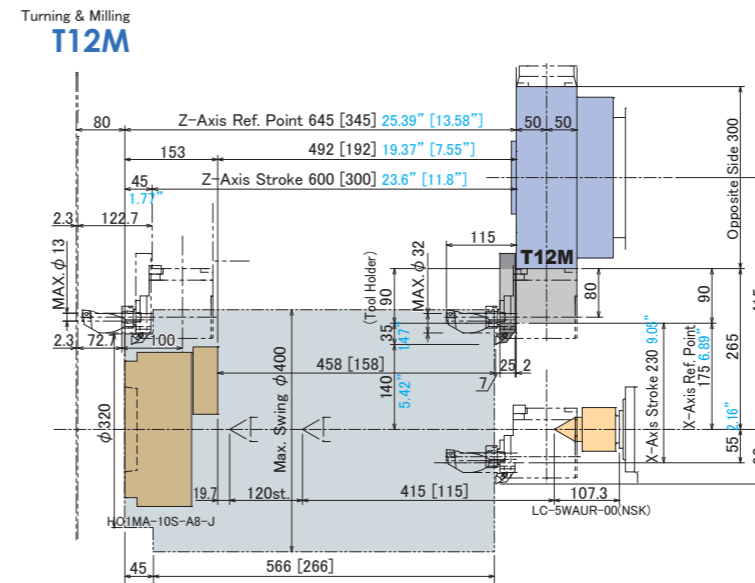


Interference • Travel Range

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Unit : mm inch



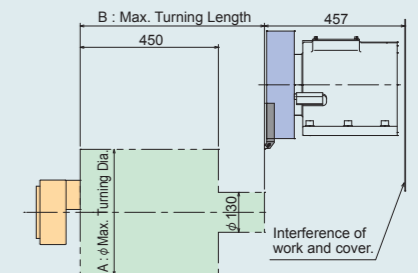
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The Limit of the Turning Range

Due to the spec. of L6, there might be the limit for maximum turning diameter depending on the work size.

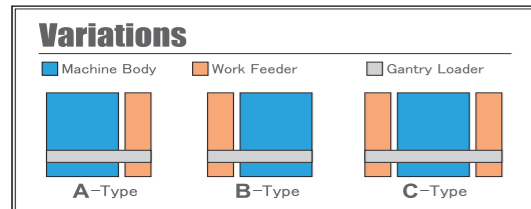
Machine	C-C	Turret	Dimensions	
			A	B
TCN-2600	L6	T8	410	550



High-Speed Gantry Loader System

We can propose automatic system configuration with high productivity according to workpieces.

Variations



*TCN-2100V.EDITION is C-Type only.

Supply/Discharge Unit

Standard : Work Feeder
Three-guide-bar specification

Center pole specification



Loader Hand

We will provide optimum one according to the application.



Parallel type
(Example: for flange)



Swivel type
(Example: for palletizer)

Promptly Compatible with Turnkey System Peripheral Device Modular Unit

The loader peripheral device is unitized as a package. It is flexibly applicable for automatic cell with previous and subsequent processes such as positioning by camera and measurement.

Machine	1 Unit Width	Workpiece handled by unit (diameter x length, weight)
TCN-2100G	600mm	φ160×100, 3kg
TCN-2600G	720mm	φ200×140, 5kg

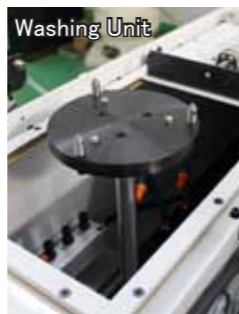


Loader Specification

			TCN-2100G		TCN-2600G	
			L3	L6	L3	L6
Target Workpiece	Outside Diameter	mm inch	160	6.3"	200	6.3"
	Length	mm inch	100	3.94"	140	5.51"
	Weight	kg lbs	3	6.6 (x2)	5	11 (x2)
Travel (Running Speed)	Vertical	mm inch (m/min ipm)	690	27.17" (160 6299.21")	770	30.31" (120 4732.41")
	Longitudinal	mm inch (m/min ipm)	1450	57.09" (200 7874.02")	1750	68.90" (200 7874.02")
			1520	59.84" (180 1089.61")	1820	71.65" (180 1089.61")

Work Piece Feeder Specifications

		16	14
Number of Pallets		16	14
Loading Capacity	kg lbs	40 88	70 154
Maximum Height	mm inch	450 17.72"	400 15.75"



Perfect Dialogue Program Processor

Tiwap-1

Tiwap-1
Programming
Machining Simulation
Automatic Operation
Complete Support

Easy to See

Takisawa original "Process expansions, folder function" and easy understandable icon makes higher visibility. Operator friendly, easily understandable main screen has been established.



[Elaborate Process display function] All processing data can be checked and seen on the screen.



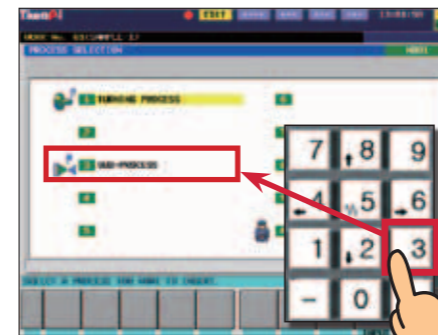
[Folder Display for all Process] All the flows of Process can be checked on the screen.

Speed Up

Menu Selection such as Process, Data selection can be easily done with minimum input due to Takisawa Standard initial Data (Tooling Data & Cutting Parameter)

Tooling Data & Material Data

Depending on the Combination of work piece and Inserted Material, Cutting Parameter (Cutting Speed, Feed rate, depth of cut) will be decided automatically and suggested to the operator. This will assist the operator greatly in set-up.



Example) In case Selection for Process, only to press Numeric Key "3"



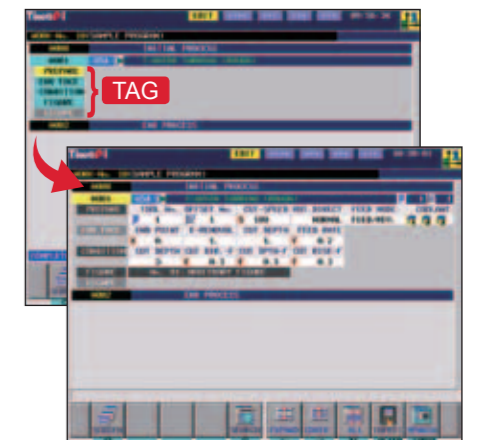
In case of new work piece Programming, number of input items are much less due to automatic cutting data setting.

Easy to Use

During preparing Program, "Reliable Guide Function" provides good support.

"Reliable Guide Function"

By interactivity with the machine, only selecting the required program, the "Tag" will be arranged in the optimum order automatically.



By just inserting Cutting data on each process Tag, the Process can be completed.

Due to availability of guiding Figures & Icons, it is easy even for beginners to use interactive data inputting.

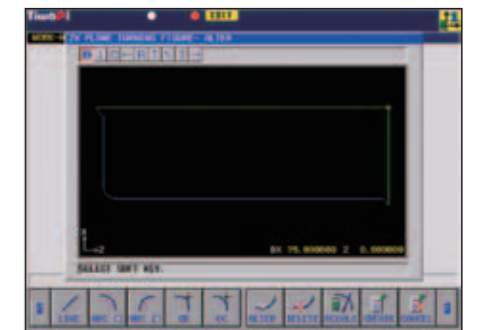
Inputting arbitrary shapes, even complicated ones, can be done easily by using symbolic soft key on the exclusive window.



Suitable Cutting Data can be selected from reference Data Bank

Machining Simulation

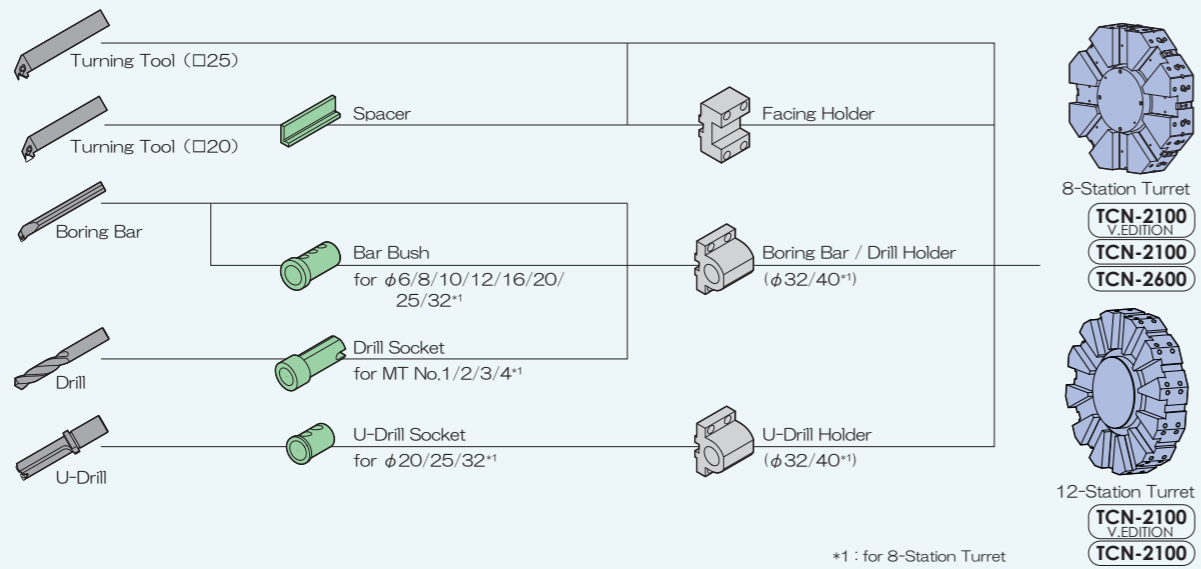
Tool paths can be certainly checked before test cutting by "3D Animation" or "Tool Tracking".



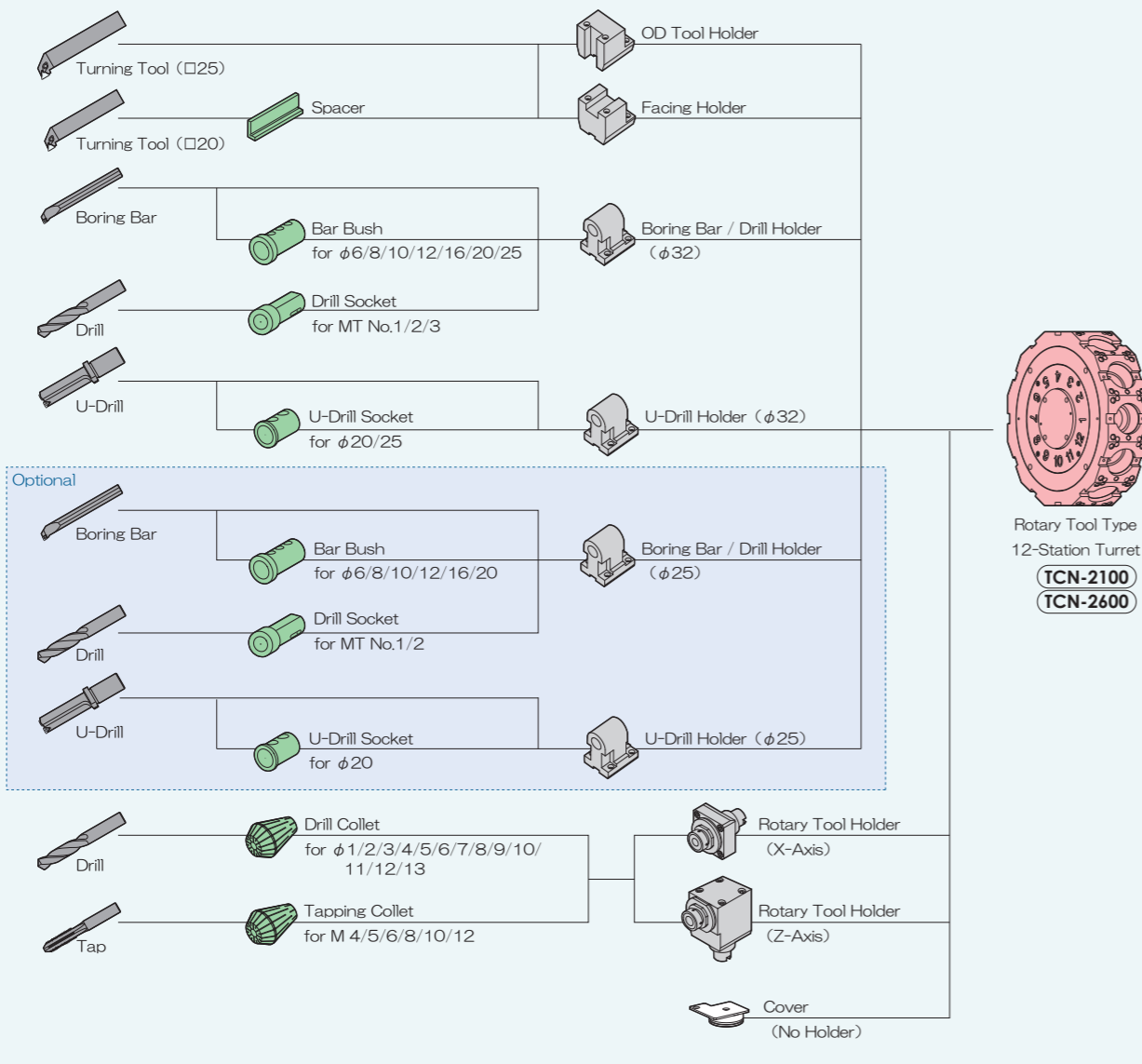
In Input window for arbitrary shape, Intersection Point will be calculated automatically.

Tooling System

T8 / T12



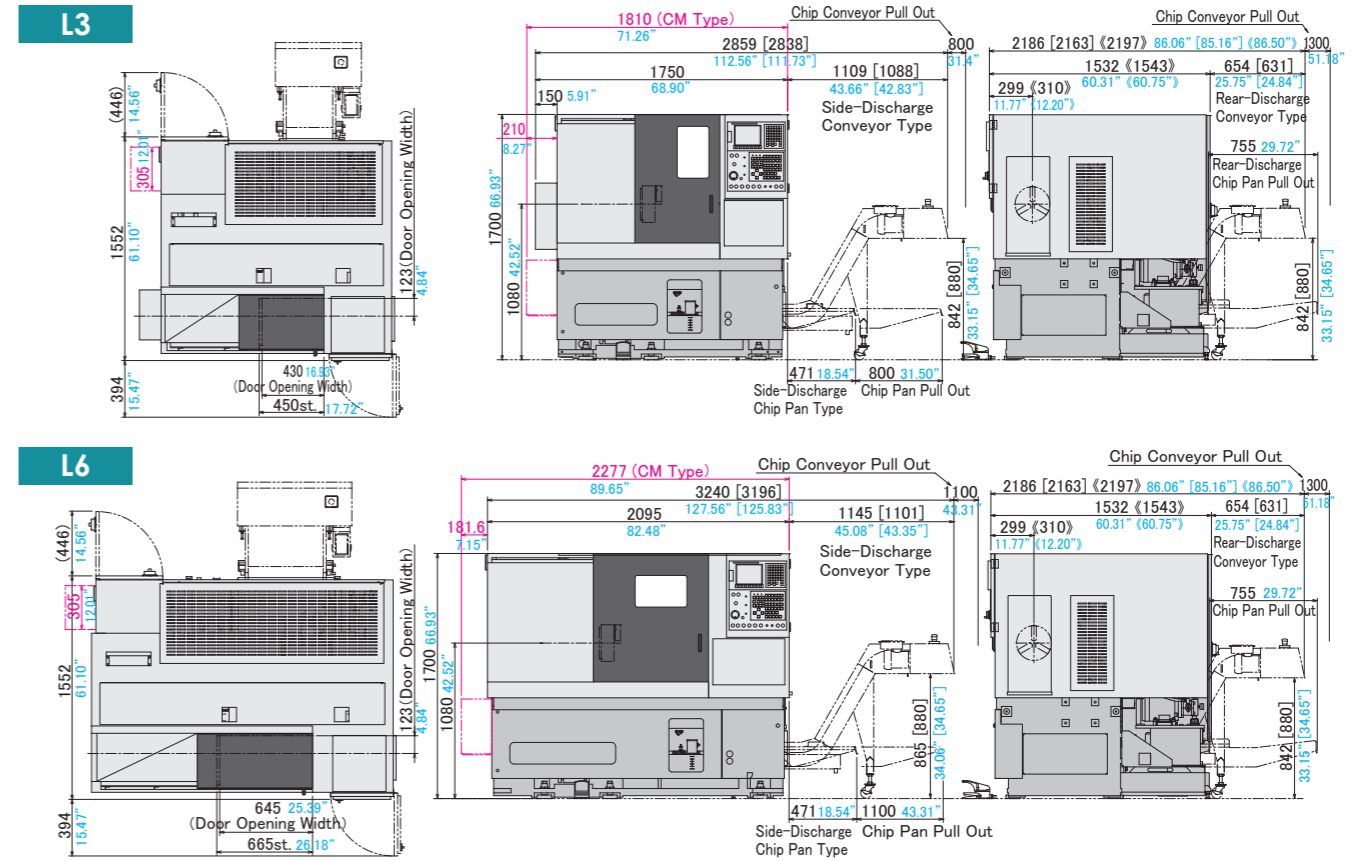
T12M



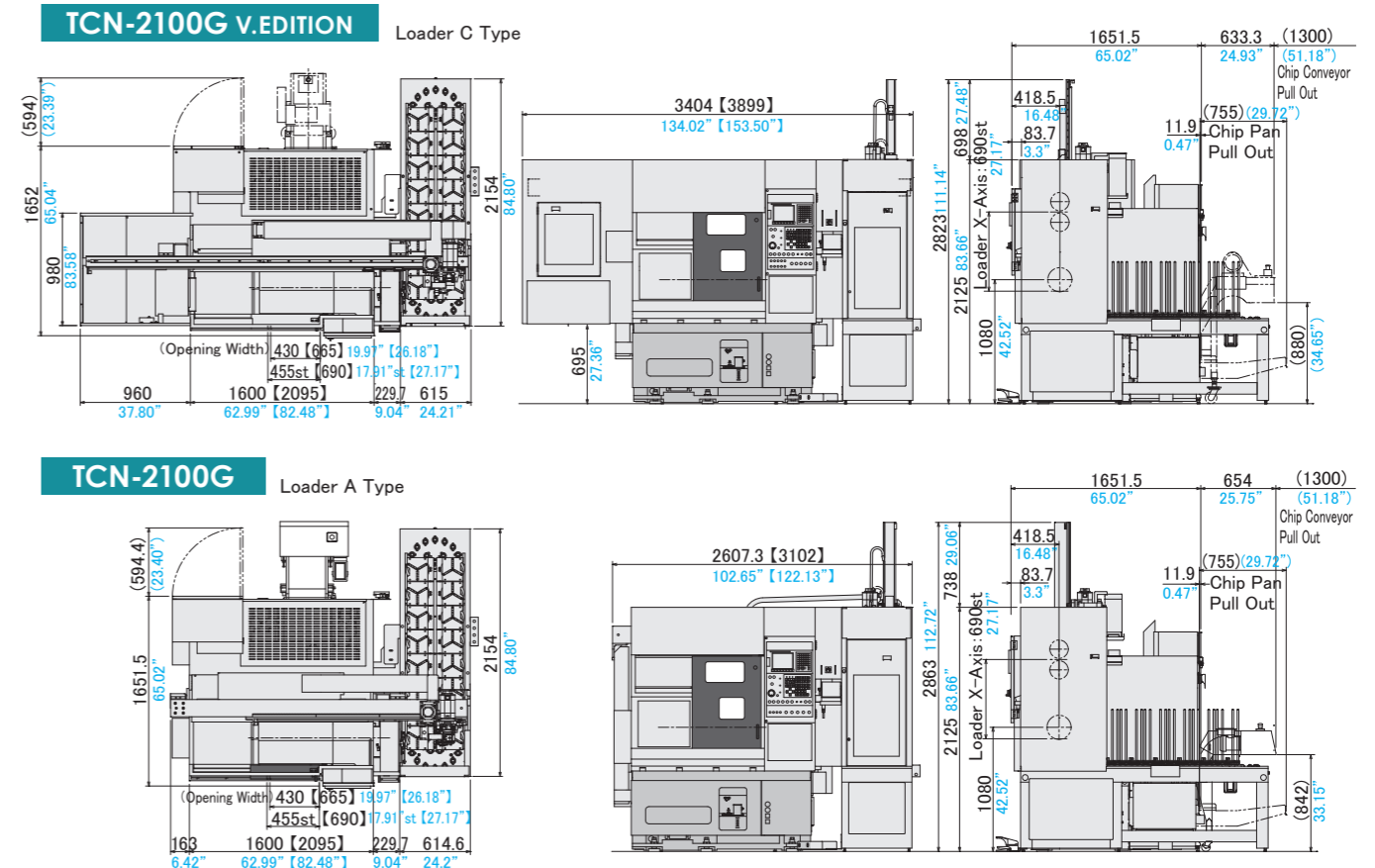
Machine Dimensions

Unit : mm inch

It is TCN-2100, TCN-2100V.EDITION, TCN-2600 common Dimensions.
 [] dimension are [TCN-2100V.EDITION], < > dimension are <TCN-2600>



With Gantry Loader System [] dimension are [L6]



Machine Specifications

Items		TCN-2100L3 V.EDITION		TCN-2100L6 V.EDITION		TCN-2100L3		TCN-2100L6		TCN-2100CML3	TCN-2100CML6	TCN-2600L3	TCN-2600L6	TCN-2600CML3	TCN-2600CML6											
		8" Chuck				8" Chuck		8" Chuck		8" Chuck		10" Chuck														
		T8	T12	T8	T12	T8	T12	T8	T12	T8	T12	T12M	T8		T12M											
Capability Capacity	Turret																									
	Maximum Swing *7	mm	inch	400	15.75"	400	15.75"	400	15.75"	400	15.75"	400	15.75"	400	15.75"	400	15.75"									
	Standard Turning Diameter	mm	inch	281	11.34"	221	8.7"	281	11.34"	221	8.7"	281	11.34"	221	8.7"	243	9.65"									
	Maximum Turning Diameter *7	mm	inch	410	15.9"	340	13.39"	410	15.9"	340	13.39"	410	15.9"	340	13.39"	280	10.84"									
	Maximum Turning Length	mm	inch	300	11.81"	600	23.63"	300	11.81"	600	23.63"	208	8.19"	508	20"	250	9.85"	550	21.66"	158	6.22"	458	18.03"			
Travel	Bar Capacity *8	mm	inch	51	2.01"	51	2.01"	51	2.01"	51	2.01"	51	2.01"	74	89	2.92"	3.5"	74	89	2.92"	3.5"	74	89	2.92"	3.5"	
	X-Axis Travel	mm	inch	230	9.05"	230	9.05"	230	9.05"	230	9.05"	230	9.05"	230	9.05"	230	9.05"	230	9.05"	230	9.05"	230	9.05"	230	9.05"	
	Z-Axis Travel	mm	inch	370	14.6"	650	25.6"	370	14.6"	650	25.6"	300	11.8"	600	23.6"	370	14.6"	650	25.6"	300	11.8"	600	23.6"	300	11.8"	600
Spindle	Spindle Speed	min ⁻¹		3200		3200		3200	5000	3200	5000	3200	5000	3200	2500 *1	3200	2500 *1	3200	2500 *1	3200	2500 *1	3200	2500 *1	3200	2500 *1	
	Minimum Index Angle (C-Axis)	deg																								
	Spindle Nose (Nom,Code)			A2-6		A2-6		A2-6		A2-6		A2-6		A2-8		A2-8		A2-8		A2-8		A2-8		A2-8		
	Spindle-Through Hole Diameter	mm	inch	63	2.48"	63	2.48"	63	2.48"	63	2.48"	63	2.48"	86	105	3.39"	4.13"	86	105	3.39"	4.13"	86	105	3.39"	4.13"	
	Bearing Inside Diameter	mm	inch	100	3.94"	100	3.94"	100	3.94"	100	3.94"	100	3.94"	120	150	4.72"	5.91"	120	150	4.72"	5.91"	120	150	4.72"	5.91"	
Turret	Turret Type	Direct-Mount Type																								
	Number of Tools			8	12	8	12	8	12	8	12	All-Holder Type		Direct-Mount Type		All-Holder Type										
	Facing Tool Shank Height	mm	inch	25	1.0"	25	1.0"	25	1.0"	25	1.0"	25	1.0"	25	1.0"	25	1.0"	25	1.0"	25	1.0"	25	1.0"	25	1.0"	
	Boring Bar Shank Diameter	mm	inch	40	1.5"	32	1.25"	40	1.5"	32	1.25"	40	1.5"	32	1.25"	40	1.5"	32	1.25"	40	1.5"	32	1.25"	40	1.5"	
Rotary Tool	Number of Rotary Tools	-																								
	Spindle Speed	min ⁻¹																								
	Maximum Tool Shank Diameter	mm	inch	-		-		-		-		13	0.52"	-		13	0.52"	-		13	0.52"	-		13	0.52"	
	Tool Spindle Taper Hole (Nom,Code)	-																								
	Tool Spindle Bearing Inside Diameter	mm	inch	-		-		-		-		30	1.19"	-		30	1.19"	-		30	1.19"	-		30	1.19"	
Tailstock	Tailstock Travel	mm	inch	115	4.53"	415	16.34"	115	4.53"	415	16.34"	115	4.53"	415	16.34"	115	4.53"	415	16.34"	115	4.53"	415	16.34"	115	4.53"	
	Quill Diameter	mm	inch	75	2.95"	75	2.95"	75	2.95"	75	2.95"	75	2.95"	100	3.94"	100	3.94"	100	3.94"	100	3.94"	100	3.94"	100	3.94"	
	Quill Taper	MT.4																								
	Quill Travel	mm	inch	120	4.73"	120	4.73"	120	4.73"	120	4.73"	120	4.73"	120	4.73"	120	4.73"	120	4.73"	120	4.73"	120	4.73"	120	4.73"	
Feedrate	Rapid Traverse Rate	m/min	ipm	X:24 / Z:30	X:944.88" / Z:1181.1"	X:24 / Z:30	X:944.88" / Z:1181.1"	X:24 / Z:30	X:944.88" / Z:1181.1"	X:24 / Z:30	X:944.88" / Z:1181.1"	X:24 / Z:30	X:944.88" / Z:1181.1"	X:24 / Z:30	X:944.88" / Z:1181.1"	X:24 / Z:30	X:944.88" / Z:1181.1"	X:24 / Z:30	X:944.88" / Z:1181.1"	X:24 / Z:30	X:944.88" / Z:1181.1"	X:24 / Z:30	X:944.88" / Z:1181.1"	X:24 / Z:30	X:944.88" / Z:1181.1"	
	Spindle Motor	kW	HP	11/7.5	15/10 (15min/continuous)	11/7.5	15/10 (15min/continuous)	11/9	15/12 (30min, 60%/continuous)	11/9	15/12 (30min, 60%/continuous)	11/9	15/12 (30min, 60%/continuous)	11/9	15/12 (30min, 60%/continuous)	11/9	15/12 (30min, 60%/continuous)	11/9	15/12 (30min, 60%/continuous)	11/9	15/12 (30min, 60%/continuous)	11/9	15/12 (30min, 60%/continuous)	11/9	15/12 (30min, 60%/continuous)	
	Rotary Tool Motor	kW	HP	-		-		-		-		5.5/3.7	7.4/5 (15min/continuous)	-		5.5/3.7	7.4/5 (15min/continuous)	-		5.5/3.7	7.4/5 (15min/continuous)	-		5.5/3.7	7.4/5 (15min/continuous)	
	Axis Feed Motors	kW	HP	X:1.2 / Z:2.5	X:1.6 / Z:3.4	X:1.2 / Z:2.5	X:1.6 / Z:3.4	X:1.2 / Z:2.5	X:1.6 / Z:3.4	X:1.2 / Z:2.5	X:1.6 / Z:3.4	X:1.2 / Z:2.5	X:1.6 / Z:3.4	X:1.2 / Z:2.5	X:1.6 / Z:3.4	X:1.2 / Z:2.5	X:1.6 / Z:3.4	X:1.2 / Z:2.5	X:1.6 / Z:3.4	X:1.2 / Z:2.5	X:1.6 / Z:3.4	X:1.2 / Z:2.5	X:1.6 / Z:3.4	X:1.2 / Z:2.5	X:1.6 / Z:3.4	
	Hydraulic Pump Motor	kW	HP	1.5	2.0	1.5	2.0	1.5	2.0	1.5	2.0	1.5	2.0	1.5	2.0	1.5	2.0	1.5	2.0	1.5	2.0	1.5	2.0	1.5	2.0	
Power Source Required	Coolant Pump Motor	kW	HP	0.25	0.3	0.25	0.3	0.25	0.3	0.25	0.3	0.25	0.3	0.25	0.3	0.25	0.3	0.25	0.3	0.25	0.3	0.25	0.3	0.25	0.3	
	Total Power Required	kVA		15		15		15		15		15		17		17		17		17		17		17		
Tank Capacity	Hydraulic Unit Tank	L	gal	20	5.28	20	5.28	20	5.28	20	5.28	20	5.28	20	5.28	20	5.28	20	5.28	20	5.28	20	5.28	20	5.28	
	Lubricant Tank	L	gal	4.2	1.11	4.2	1.11	4.2	1.11	4.2	1.11	4.2	1.11	4.2	1.11	4.2	1.11	4.2	1.11	4.2	1.11	4.2	1.11	4.2	1.11	
	Coolant Tank	L	gal	120	31.68	130	34.32	120	31.68	130	34.32	120	31.68	130	34.32	120	31.68	130	34.32	120	31.68	130	34.32	120	31.68	
Machine Dimensions	Machine Height	mm	inch	1700	66.93"	1700	66.93"	1700	66.93"	1700	66.93"	1700	66.93"	1700	66.93"	1700	66.93"	1700	66.93"	1700	66.93"	1700	66.93"	1700	66.93"	
	Height from Floor to Spindle Centerline	mm	inch	1080	42.52"	1080	42.52"	1080	42.52"	1080	42.52"	1080	42.52"	1080	42.52"	1080	42.52"	1080	42.52"	1080	42.52"	1080	42.52"	1080	42.52"	
	Floor Space Required (Standard Type) *5	mm × mm	inch × inch	1750 × 1532	68.90" × 60.31"	2095 × 1532	82.48" × 60.31"	1750 × 1532	68.90" × 60.31"	2095 × 1532	82.48" × 60.31"	1810 × 1532	71.26" × 60.31"	2277 × 1532	89.65" × 60.75"	1750 × 1543	68.90" × 60.75"	2095 × 1543	82.48" × 60.75"	1810 × 1543	71.26" × 60.75"	2277 × 1543	89.65" × 60.75"	2277 × 1543	89.65" × 60.75"	
	Machine Weight	kg	lbs.	2700	5940	3200	7040	2700	5940	3200	7040	2800	6160	3300	7260	2700	5940	3200	7040	2800	6160	3300	7260	2800	6160	

Red is optional.

Accessories

Items	TCN-2100 V.EDITION	TCN-2100	TCN-2600
Solid 3-Jaw Hydraulic Chuck	●	●	●
Solid Cylinder	●	●	●
Boring Bar / Drill Holder 3 Pieses *6	●	●	●
Facing Holder 1 Piese *6	●	●	●
Boring Bar Bush 3 Pieses	●	●	●
Front Door Interlock	●	●	●
Chuck Open/Close Footswitch	●	●	●
Spindle Orientation 1 Point, No Lock	●	●	●
Coolant Pump 250W, 1 Unit	●	●	●
Lubricant Collection Box *2 with Pot	●	●	●
Leveling Plate Set	●	●	●
Lighting Apparatus LED	●	●	●
Adjustment Tool Set	●	●	●
Instruction Manual	●	●	●
Chuck Auto Open/Close M-Function	○	○	○
Switchable to Two Chuck Pressures	○	○	○
Spindle Orientation Max. 360 Point, Disk Brake Type	-	○	○
Spindle Through-Hole Diameter φ150mm	-	-	○
Spindle Speed 5000min ⁻¹	-	○	-
Spindle Speed 2500min ⁻¹	-	-	○
Seating Control	○	○	○
Chuck Airblow (with M-Function)	○	○	○

Items	TCN-2100 V.EDITION	TCN-2100	TCN-2600
Spindle Through Airblow (with M-Function)	○	○	○
Spindle Through Coolant (with M-Function)	○	○	○
Spindle Inner Stopper	○	○	○
Spindle Above Coolant	○	○	○
Hydraulic Tailstock	○	○	○
Tailstock M-Function	○	○	○
Tailstock Travel (150mm (with M-Function))	○	○	○
Switchable to Two Tailstock Pressures	○	○	○
Quill Inching	○	○	○
Rolling Center	○	○	○
12-Station Turret Type (T12)	○	○	-
Boring Bar / Drill Holder	○	○	○
Facing Holde	○	○	○
U-Drill Holder	○	○	○
Boring Bar Bush	○	○	○
Spacer (□20mm)	○	○	○
U-Drill Socket	○	○	○
Drill Socket	○	○	○
12-Station Milling Turret Type (T12M)	-	○	○
Rotary Tool Holder X/Z	-	○	○
OD Tool Holder for T12M	-	○	○
Facing Holder for T12M	-	○	○
Boring Bar / Drill Holder for T12M	-	○	○

Items	TCN-2100 V.EDITION	TCN-2100	TCN-2600
U-Drill Holder for T12M	-	○	○
Collet Drill/Tap	-	○	○
Tool Setter	○	○	○
Counter Various Types	○	○	○
Signal Tower Light 3-Color, Lighting	○	○	○
Auto Door Left Open	○	○	○
Chip Conveyor Various Types	○	○	○
Chip Bucket	○	○	○
Circuit Breaker	○	○	○
100V Outlet	○	○	○
Lighting Apparatus 10W	○	○	○
Sub-Control Box	○	○	○
Parts Catcher	○	○	○
Robot Interface 16 Inputs & Outputs	○	○	○
Bar Feeder Interface	○	○	○
Turret Pusher	○	○	○
Work Pusher	○	○	○
Hybrid Hydraulic Unit	○	○	○
Coolant Pump Various Types	○	○	○
Mist Collector	○	○	○
Filler Tube Various Types	○	○	○
Pull Feeder	○	○	○
Temporary Receiver	○	○	○

Items	TCN-2100 V.EDITION	TCN-2100	TCN-2600
Check for Cutoff (Tactile Sensor)	○	○	○
RAKU-RAKU Monitor 3	-	○	○
Measurement Monitor 3	-	○	○
Tiwap-1	-	○	○
Air Conditioner in Control Panel	○	○	○

●:Standard ○:Optional - :None

A variety of optional accessories are available for respective models. The specifications of optional accessories vary depending on the model, thus requiring a separate discussion.

- *1) Spindle-through hole diameter 105mm type is spindle speed 2500min⁻¹ only.
- *2) Lubricant mixing in water soluble coolant is separated, and only the coolant is returned to the coolant tank. The lubricant collected in the lubricant collection box must be drained periodically.
- *3) Due to the spec. of L6, there might be the limit for maximum turning diameter depending on the work size. Please refer to "The Limit of the Turning Range" of 6 page or 8 page or 10 pages.
- *4) There are 10" Chuck and interference because standard turning diameter is 243mm.
- *5) Without Oil Pan and Chip Conveyor
- *6) It is common to CM type.
- *7) Due to the interference with standard type front cover, Max Turing Dia and Max Swing is limited to 32

TCN-2100/TCN-2600

NC Unit Specifications

FANUC : Oi-TF (Type 1, Type 5)

※ Please contact our sales persons for further information.

Software

* The software specifications are subject to change for improvement without notice.

Gantry Loader Type Standard Accessory

RAKU-RAKU Monitor 3

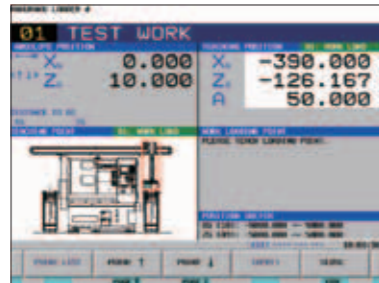
Easy and convenient multi-functional softwares that can perform the tool life management, cutting load monitoring, group control, and also run information collection, Cp (process capability) calculation, and periodic offset addition.



▲ RAKU-RAKU Monitor 3

RAKU-RAKU Loader 4

The loader operation settings can be changed simply by the operation from the dedicated screen without modifying the program.



▲ RAKU-RAKU Loader 4

Measurement Monitor 3

【Optional Accessories】

This function loads the measured data from a measuring unit and sets automatically the offset value. Also, various convenient functions such as graphical display, Cp (process capability) calculation, and data input/output are included.

Composition

Specifications·Contents	TCN-2100 V.EDITION		TCN-2100, TCN-2600	
	Standard	Gantry Loader Type	Standard	Gantry Loader Type
	Oi-TF	Type-5	Type-1	

【NC Unit】

8.4" Color LCD/MDI	●	●	●	●
10.4" Color LCD	-	-	Tiwap	Tiwap

【Software】

RAKU-RAKU Monitor 3	-	●	○	●
RAKU-RAKU Loader 3	-	-	-	Tiwap
RAKU-RAKU Loader 4	-	●	-	●
Measurement Monitor 3 *1	-	◎	◎	◎
Tiwap-1	-	-	○	○

【Safety Devices】

Front Door Interlock	●	●	●	●
Front Door Locking Mechanism	○	○	○, CE	○, CE
Dual Check Safety	-	-	CE	CE
Control Panel Breaker with Tripper	○	○	○	○

Main Function List

Specifications·Contents	TCN-2100 V.EDITION	TCN-2100 TCN-2600
	Oi-TF	Type-1

【Controlled Axes】

Least Input Increment *2	●	●
Max. Programmable Dimension (±999999.999)	●	●
Cs Contouring Control	-	CM
Increment System C *3	▲	▲
Inch/Metric Conversion	●	●
Interlock	●	●
Machine Lock *4	○	○
Emergency Stop	●	●
Stored Stroke Check 1	●	●
Stored Stroke Check 2, 3 *5	▲	▲
Stored Limit Check Before Move	○	▲
Chuck and Tail Stock Barrier *6	○	▲
Mirror Image (Each Axis)	▲	▲
Chamfering ON/OFF	●	●
Unexpected Disturbance Torque Detection Function *7	G	▲
Position Switch	◎	◎

【Operation】

Automatic Operation (Memory)	●	●
MDI Operation	●	●
DNC Operation *8 *17	◎	◎
DNC Operation with Memory Card *8 *9	◎	◎
Program Number Search	●	●
Sequence Number Search	●	●
Sequence Number Comparison and Stop	●	●
Wrong Operation Prevention	▲	▲
Buffer Register	●	●
Dry Run	●	●
Single Block	●	●
Manual Continuous Feed (JOG)	●	●
Manual Reference Position Return	●	●
Reference Position Setting without DOG	●	●
Manual Handle Feed, 1 Unit	●	●

【Interpolation Functions】

Positioning (G00)	●	●
Exact Stop Mode (G61)	●	●
Tapping Mode (G63)	●	●
Cutting Mode (G64)	●	●
Exact Stop (G09)	●	●
Linear Interpolation (G01)	●	●
Circular Interpolation (G02/03)	●	●
Dwell (G04)	●	●
Polar Coordinate Interpolation	-	CM
Cylindrical Interpolation	-	CM
Thread Cutting, Synchronous Cutting	●	●
Multi Threading	●	●
Thread Cutting Retract	●	●
Continuous Threading	●	●
Variable Lead Thread Cutting	●	●
Reference Position Return (G28)	●	●
Reference Position return Check (G27)	●	●
2nd Reference Position Return (G30)	●	●
3rd, 4th Reference Position Return	◎	◎

Specifications·Contents	TCN-2100 V.EDITION	TCN-2100 TCN-2600
	Oi-TF	Type-1

【Feed Functions】

Rapid Traverse Override (F0,25%,50%,100%)	●	●
Feed per Minute	●	●
Feed Per Revolution	●	●
Constant Tangential Speed Control	●	●
Cutting Feedrate Clamp	●	●
Automatic Acceleration/Deceleration	●	●
Rapid Traverse Bell-Shaped Acceleration/Deceleration	●	●
Linear Acceleration/Deceleration After Cutting Feed Interpolation	●	●
Feedrate Override (15 Steps)	●	●
Jog Override (15 Steps)	●	●
Override Cancel	●	●
Manual per Revolution Feed	▲	▲

【Program Input】

Tape Code (EIA/ISO Auto Recognition)	●	●
Label Skip	●	●
Parity Check	●	●
Control In/Out	●	●
Optional Block Skip, 1 Piece	●	●
Optional Block Skip (2 to 9 Pieces)	◎	◎
Program File Name 32 Characters	●	●
Sequence Number N8 Digits	●	●
Absolute/Incremental Programming	●	●
Decimal Point Programming/Pocket Calculator Type Decimal Point Programming	●	●
Diameter/Radius Programming (X-Axis)	●	●
Coordinate System Setting (G50)	●	●
Automatic Coordinate System Setting	●	●
Direct Drawing Dimension Programming *10	▲	▲
G-Code System A	●	●
G-Code System B/C	▲	▲
Chamfering/Corner R *11	●	●
Programmable Data Input (G10)	●	●
Sub Program Call (10 Levels)	●	●
Custom Macro	●	●
Additional Custom Macro Common Variables	●	●
Canned Cycle	●	●
Multiple Repetitive Cycles	●	●
Multiple Repetitive Cycles II	●	●
Canned Cycle for Drilling	●	●
Circular Dnterpolation by R Programming	●	●
Coordinate System Shift	●	●
Direct Input of Coordinate System Shift	●	●

【Auxiliary / Spindle Speed Function】

Miscellaneous Functions (M8 Digits)	●	●
2nd Auxiliary Function (B8 Digits)	○	●
Spindle Speed Function (S5 Digits)	●	●
Constant Surface Speed Control	●	●
Spindle Orientation	●	●
Rigid Tap	●	●

【Tool Functions / Tool Compensation】

Tool Function (T2+2 Digits)	●	●
Tool Offset Pairs 99-pairs	●	●
Tool Offset Pairs 128-pairs	▲	▲
Tool Offset Pairs 200-pairs	-	○
Tool Offset	●	●
Tool Radius · Tool Nose Radius Compensation	●	●
Tool Geometry/Wear Compensation	●	●
Tool Offset Value Counter Input	●	●
Direct Input of Tool Offset Value Measured	●	●
Direct Input of Tool Offset Value Measured B *12	○	○
Tool Life Management *13	●	●
Tool Geometry Size Data, 100 Pieces	-	Tiwap

【Accuracy Offset Functions】

Backlash Compensation	▲	▲
Backlash Compensation for Each Rapid Traverse and Cutting Feed	▲	▲

【Editing】

Part Program Storage Size 512Kbyte *18	●	●
Part Program Storage Size 2Mbyte	○	○

Specifications·Contents	TCN-2100 V.EDITION	TCN-2100 TCN-2600
	Oi-TF	Type-1

Number of Registerable Programs, 400 Programs *19	●	●
Number of Registerable Programs Expansion 1, Max. 1000 Programs	○	○, Tiwap
Part Program Editing	●	●
Extended Part Program Editing	●	●
Program Protect	●	●
Background Editing	●	●

【Setting / Display】

Status Display	●	●
Clock Function	●	●
Current Position Display	●	●
Program Comment Display (31 Characters)	●	●
Parameter Setting and Display	●	●
Alarm Display	●	●
Alarm Log Display	●	●
Operator Message History Display	●	●
Operation History Display	▲	▲
Run Hours and Parts Count Display	●	●
Actual Cutting Feedrate Display	●	●
Display of Spindle Speed and T Code at All Screens	●	●
Directory Display of Floppy Cassette	●	●
Servo Setting Screen	●	●
Maintenance Information Screen	●	●
Data Protection Key, 1 Kind	●	●
Help Function	●	●
Self-diagnosis Function	●	●
Periodic Maintenance Screen	●	●
Display of Hardware and Software Configuration	●	●
Graphic Function	●	●
Dynamic Graphic Display	○	○

【Multi-language Display】

English *14	●	●
Other Language *15	▲	▲
Other Language *16	○	▲
Dynamic Display Language Switching	▲	▲

【Data I/O】

RS-232C Interface for 1ch	○	○
Data Server Function	-	◎
External Message	●	●
External Workpiece Number Search	◎	◎
Memory Card I/O	●	●
USB Memory I/O	●	●

●:Standard ○:Optional ◎:Special - :None

▲:Parameter setting is required.

(Note: Normally, the parameters need not to be changed. If the parameters are to be set or changed, understand completely the functions of such parameters. Wrong setting could cause the machine to be moved unexpectedly, resulting in machine or workpiece damage or personal injury.)

CM : C-Axis/Milling standard specification.

Tiwap : Tiwap-1 standard specification.

CE : CE type standard specification.

G : Gantry loader type standard specification.

*1) I/O addition and the PC change are necessary.

*2) 0.001mm, 0.0001inch, 0.001deg(for CM type)

*3) IS-C 0.0001mm 0.0001deg 0.00001inch.

*4) Addition of switch is required.

*5) Not coexistent with chuck tailstock barrier.

*6) Not coexistent with Stored Stroke Check 2, 3.

*7) Required when RAKU-RAKU Monitor 3 is used.

*8) DNC run mode transfer switch is required.

*9) CF card and adaptor is required.

*10) Not coexistent with chamfering/corner R.

*11) Not coexistent with drawing dimension direct input.

*12) Tool setter is required.

*13) Cannot be used when RAKU-RAKU Monitor 3 is installed.

*14) Cannot be simultaneous display the other languages.

*15) Japanese, Spanish, Chinese (traditional), Chinese (simplified), Portuguese, Russian, Turkish, Hindi(8.4" display only), Vietnamese, Indonesian

*16) German, French, Italian, Korean, Dutch, Danish, Swedish, Hungarian, Czech, Polish, Romanian, Bulgarian, Slovak, Finnish

*17) RS-232C Interface is required.

*18) In the case of loader specification, about [262K-byte 655m] is used for program store capacity by RAKU-RAKU loader 4 software.

*19) In the case of loader specification, the 150 program number is used by RAKU-RAKU loader 4 software.

TCN-2100 TCN-2600

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ISO 9001 Certified
JQA-2010
(Head Office)



ISO 14001
12ER-865
(Head Office)

Japanese laws prohibit this machine from being used to develop or manufacture "weapons of mass destruction" or "conventional arms", as well as from being used to process parts for them.

Export of the product may require the permission of governmental authorities of the country from where the product is exported.

Should you wish to resell, transfer or export the product, please notify Takisawa Machine Tool Co., Ltd. or our distributor in advance.

*The appearance, specifications, and relevant software of the product are subject to change for improvement without notice.

*Please make an inquiry to our sales representatives for details of the product.

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