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Productivity Inc®

Nakamura WT100MMY PRE-INSTALLATION CHECKLIST-Rev 06/2009

Installation of your new Nakamura WT100MMY can be smooth and rapid if preparations are made prior to the delivery of your machine. Any questions regarding machine installation should be directed to our service department for clarification. We hope this checklist will aid in a rapid installation of your new machine. **NOTE: The following must be completed prior to our service technician arriving to install the machine.**

- Power Requirements for your machine: *220v/3 phase/67 kVa (186 Amps)
 Proper voltage per machine specifications should be ready at machine site. **Do NOT power up the machine. *NOTE: 220v minimum, 240v maximum. Voltage in excess of 240v may cause extensive damage to the machine's electrical system and will void the machine's warranty. A separate earth ground wire of the same conductor size as the input power must be connected to the chassis of the machine; must be supplied from the main plant ground. A local cold-water pipe or ground rod is not sufficient.**
- Customer should furnish and have available the proper supply and types of lubricants required for machine operation.

ITEM	CAPACITY	FLUID TYPE
Coolant	158 Gal	Water Soluable, Synthetic
Way Lube	1.2 Gal	Mobil Vactra #2
Hydraulic Oil	10 Gal	Mobil DTE Light

You will need to have these lubricants on hand at time of installation. Contact our Service Department with any questions or concerns regarding Power and/or Lubrication Requirements.

- Air lines should be routed to the machine location and operational for proper air pressure.

Machine requires minimum of the following pressure Volume of air supplied: 0.5~0.7 MPA
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- Machine location should be planned to allow enough room for access panels to be opened and serviced with ease. *Allow an extra 36" around the machine for operator/maintenance access, and an additional 48" to the right side of the machine if optional Chip Conveyor is purchased.*
- Weight requirements should be checked to insure that the surface below the machine will have sufficient strength for support and stability. The machine must be set on a solid, sound and stable, steel bar-reinforced concrete slab poured directly on the grade. In general, the 6-12" concrete floor on industrial buildings is suitable for machine placement. Bolting the machine to the floor is not required.
- **The Nakamura WT100MMY Turning Center is best moved with a forklift. Upon arrival of your machine, unpack and immediately check for visible damage. Call Hope immediately – you will need to take pictures and email to hriska@productivity.com. Make sure you note on BOL BEFORE the driver leaves.**

SHIPPING WEIGHT	SHIPPING DIMENSIONS OF MACHINE
14,960# (Machine & Acc Crate) 500# (Opt Chip Conveyor)	10'4" L x 6'5" W x 7'5" H (Machine Skidded/Wrapped) 8'6" L x 5'10" W x 2'8" H (accessory crate) 124" L x 36" W x 68" H (Optional Chip Conveyor, skidded)
<i>Approximate Operational Dimensions: 12,450# 90.5" L x 63.8" W x 76.3" H (with Chip Conveyor) Allow for maintenance around machine (48") additional to right side when optional Chip Conveyor is purchased.</i>	

- Remove as much preservative from the machine as possible without having to power up (tables – slides, pulleys, etc.). We recommend mineral spirits to clean. Apply oil when finished to prevent rust.

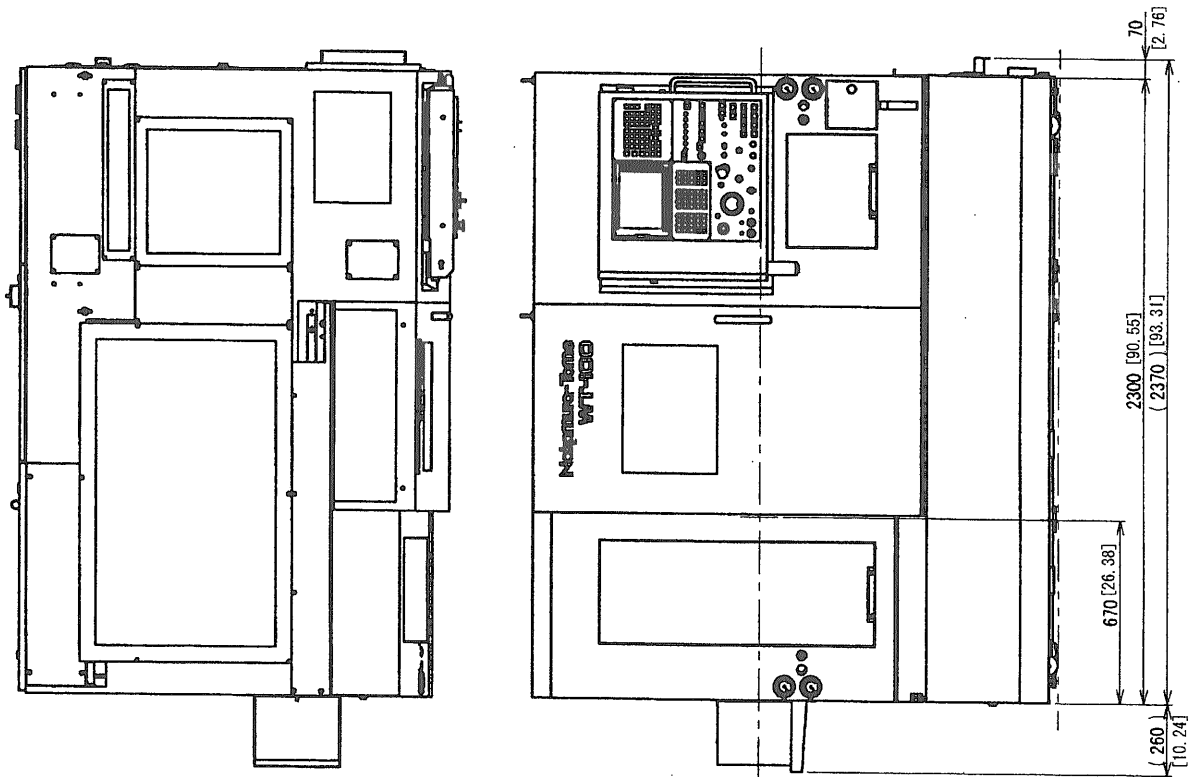
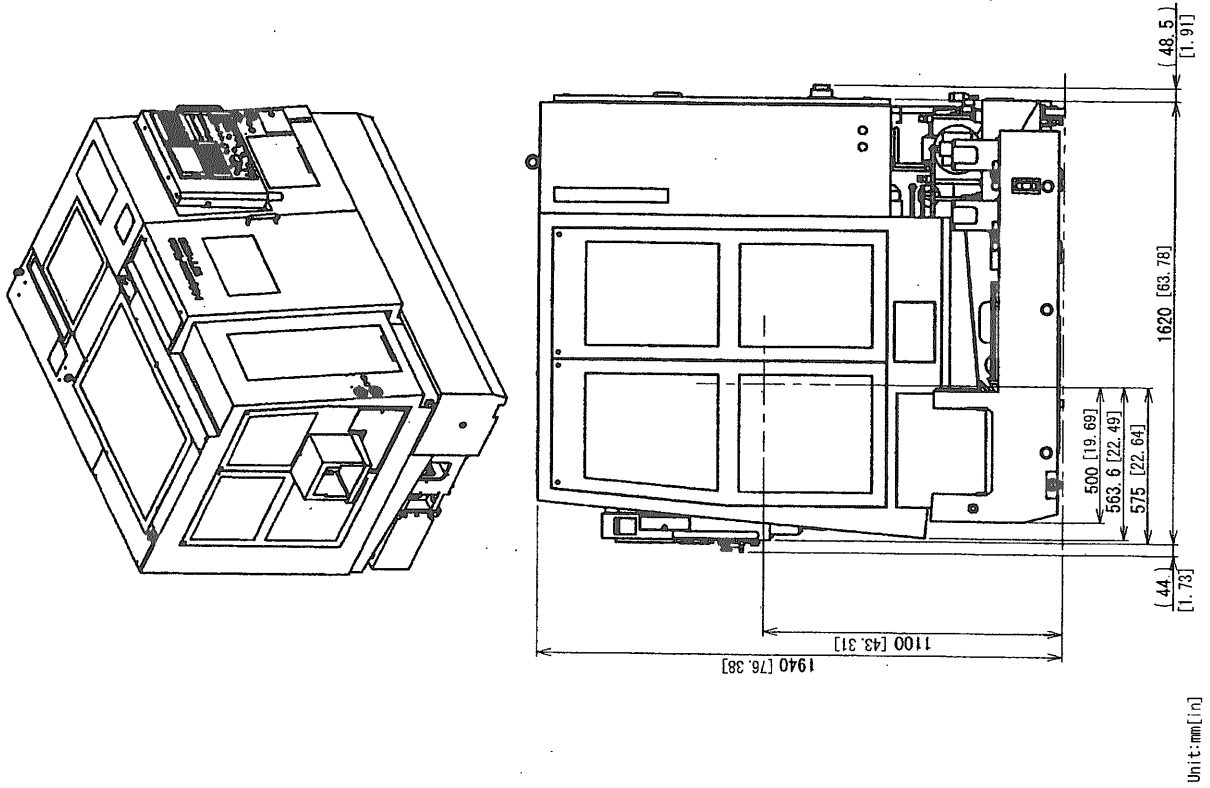
PLEASE FORWARD THIS TO THE APPROPRIATE PERSON. THANK YOU.

Table 4-9 Recommended Oil Table

Maker	Lubricating Oil	Hydraulic Oil	Grease		Lubricating Oil
	VG68	VG32			VG320
Idemitsu	Daphne Super Multi Oil 68	Daphne Super Multi Oil 32	Daphne Molybdenum grease	Daphne Super Coronex No.2	Daphne Super Gear Oil 320
Shell	Tonna Oil T68 or A-R Oil 68	Tellus Oil C32 or J-H Oil 32	Lethinax AM or Sunlight grease MB2	Alvania Grease 2 or Sunlight Grease 2	Omala Oil 320 or G-C Oil 320SE
Mobil	Mobil Vactra Oil No. 2	Mobil DTE Oil Light	Mobil Grease Special	Mobil Mobilux 2	Mobil Gear 632
Mitsubishi	Diamond slide-way 68	Diamond Lub RO32	Diamond Multi purpose M grease 2	Diamond Multi Purpose grease No.2	Diamond gear Lub 320
Fuji	Lubmulti 68	Lubmulti 32		Mighty grease No.2	Mild EP Gear 320
Nisseki	Uniway 68	FBK Oil R032	Molynoc grease 2	Multinoc grease 2	Bonnoc SP320
Cosmo	Mightyway 68	Hydro RO32	Molybdenum grease	Grease Dynamax Super No.2	Cosmo gear SE320
Exxon	Febis K68	Terreso 32	Beacon Q2	Lithtan 2	Spartan EP320
Kygnus	Waylubricant 80	Unit Oil P32	M-5 Grease No. 2	MP Grease No. 2	
Kyodo	Slidus 68	RIX turbine 32	Lisonix grease M-2	Lisonix grease 2	Reductus 320
General	Slideoil 68	General panol 32	Gemico grease AD-2	Gemico grease MP-2	SP GEAROL 320
Mitsui	Slideway E68	Hydic oil 32		Multi grease EP-2	Mild gear EP320
NOK Fleuber			Multemp Q NB50		
Three bond			Three bond 1901		
Castrol	Magnaglide BD68	Hyspin AWS32	Spheerol LMM	Spheerol AP2	Alpha SP320
Remark (Oiling drive Point)	Centralized lubricating oil tank	Hydraulic oil tank	Jaw chuck	Rotary tool holder C-axis spline	C-axis harmonic drive

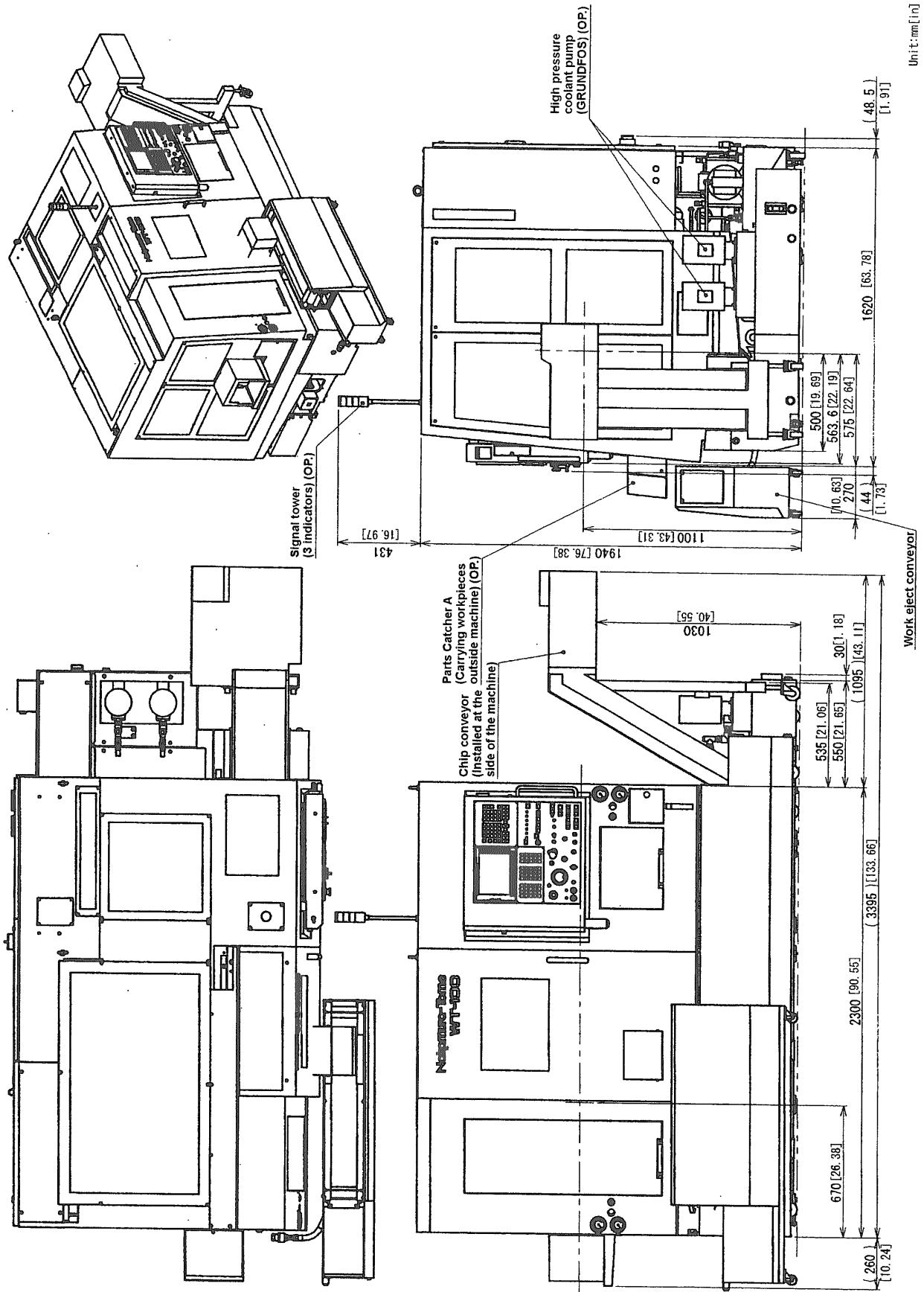
2 MACHINE DIMENSIONS

2-1 Front and Side Views of WT-100

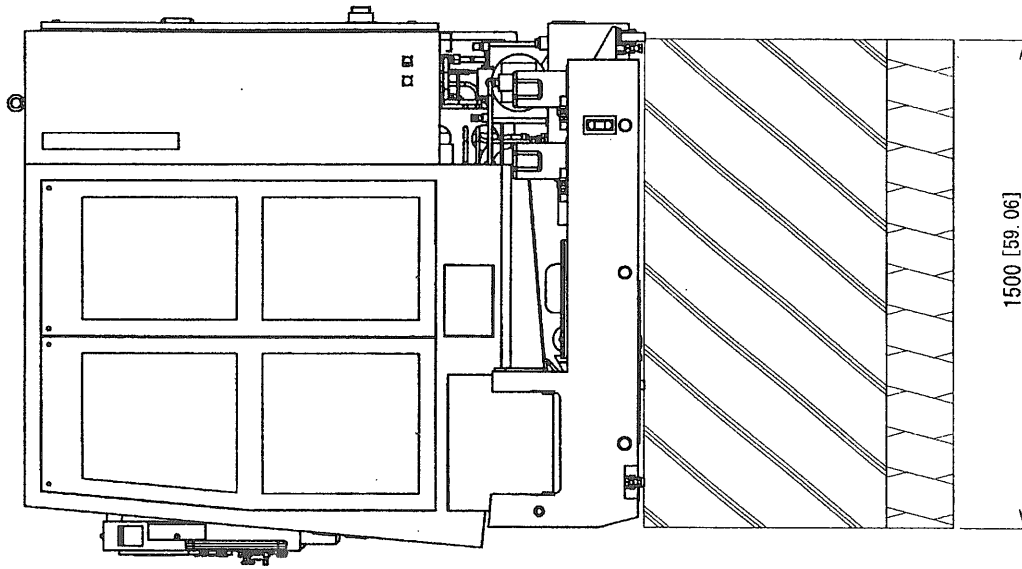


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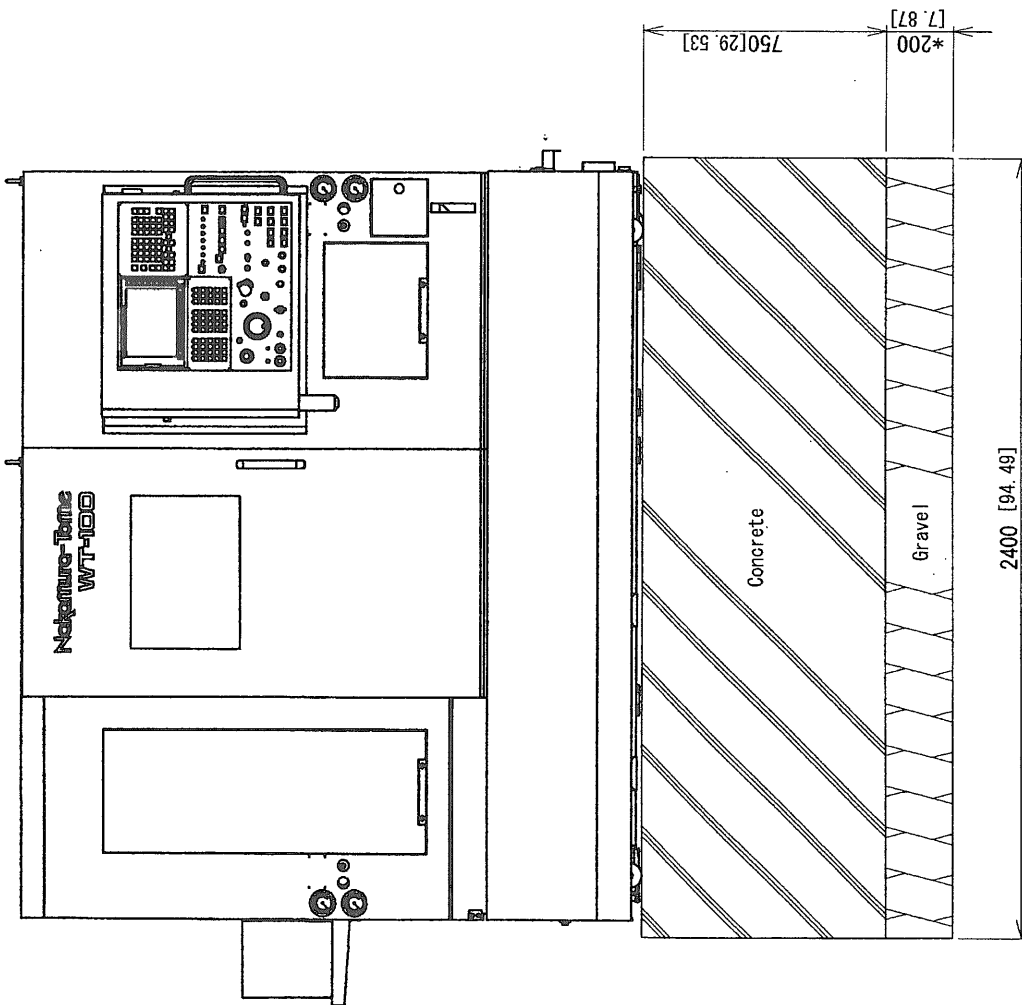
2-2 Front and Side Views of WT-100 with Chip conveyor



2-3 Foundation Plan of WT-100



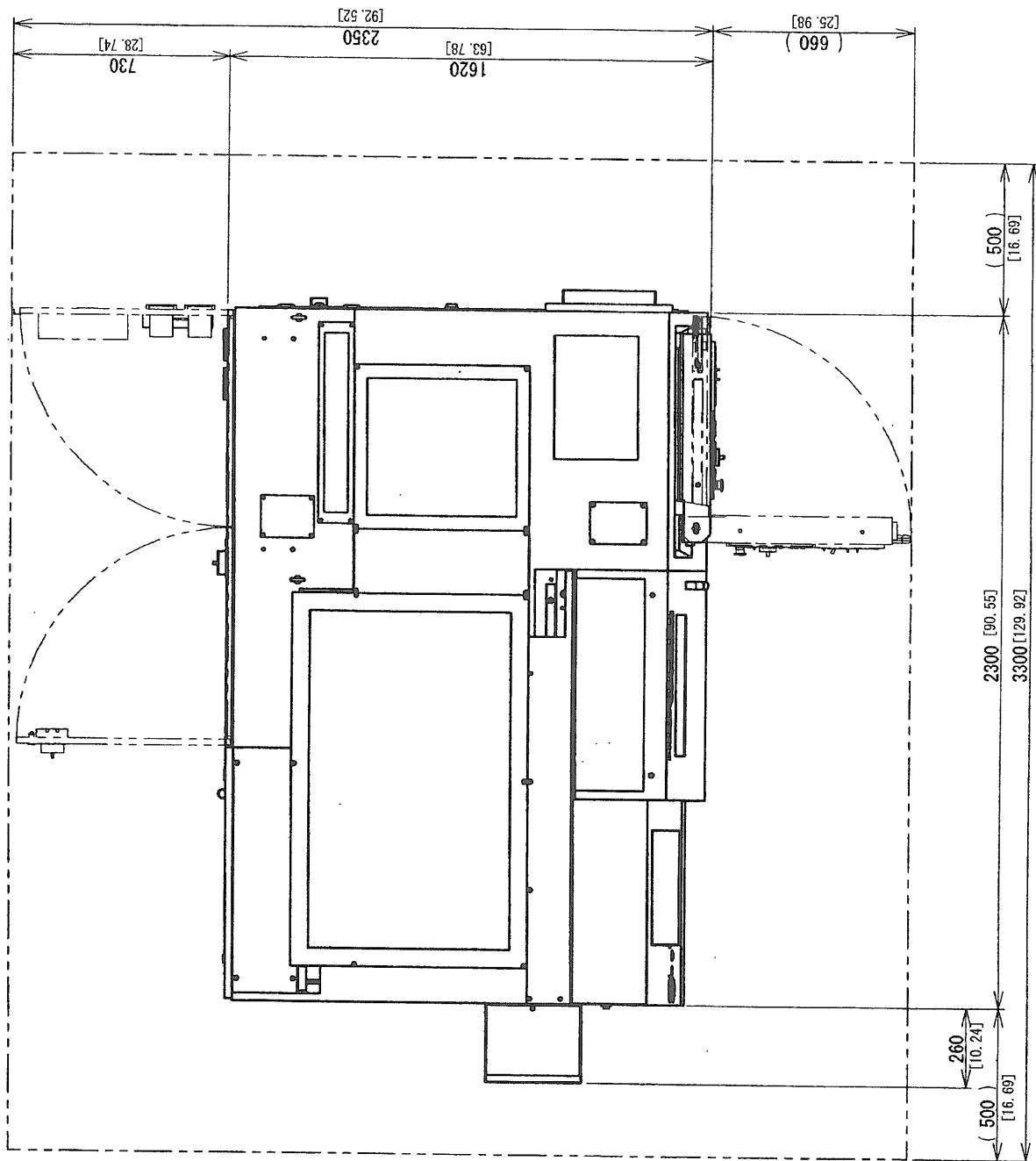
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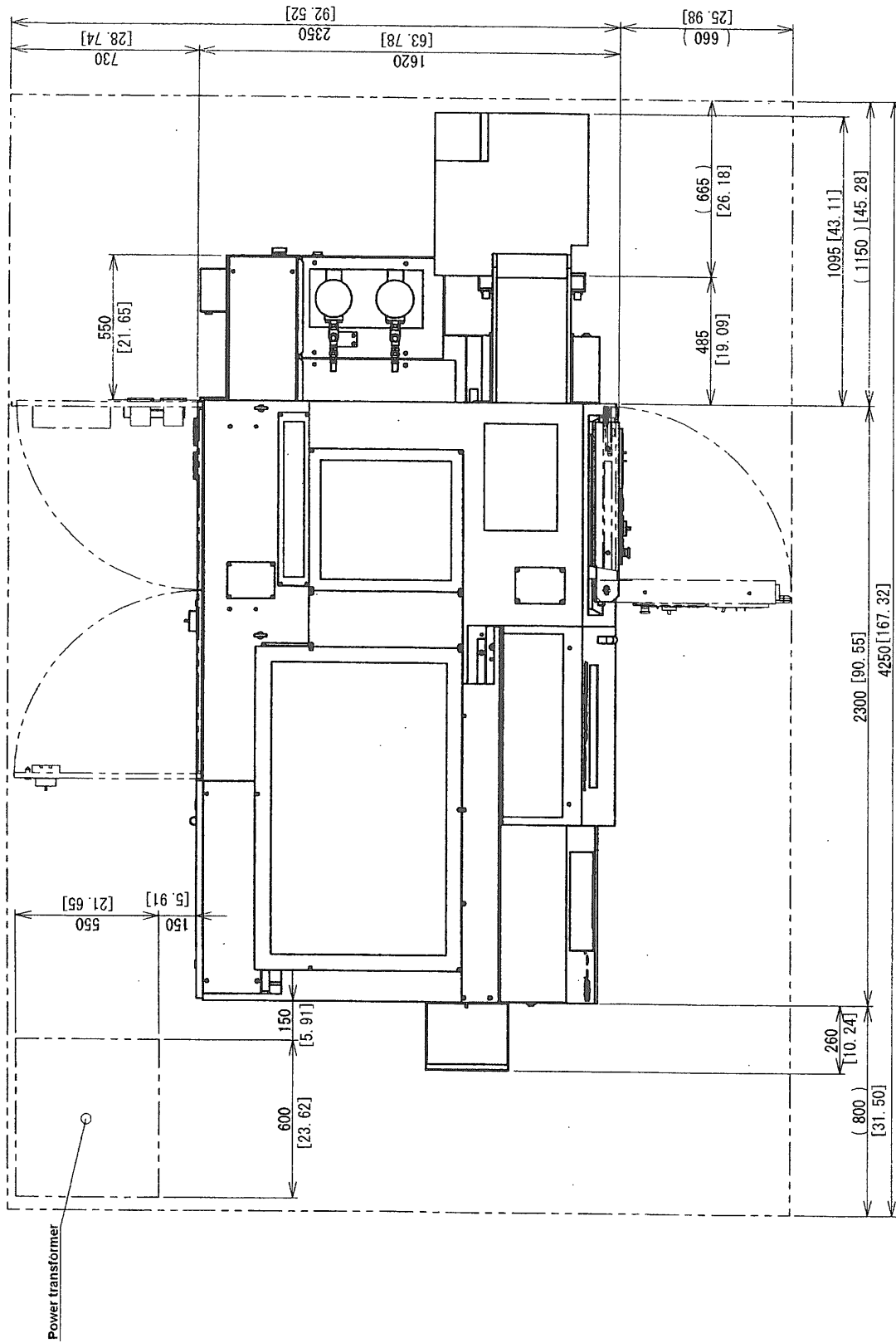
* Determine gravel layer depth according to soil conditions.

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2-4 Floor Space of WT-100

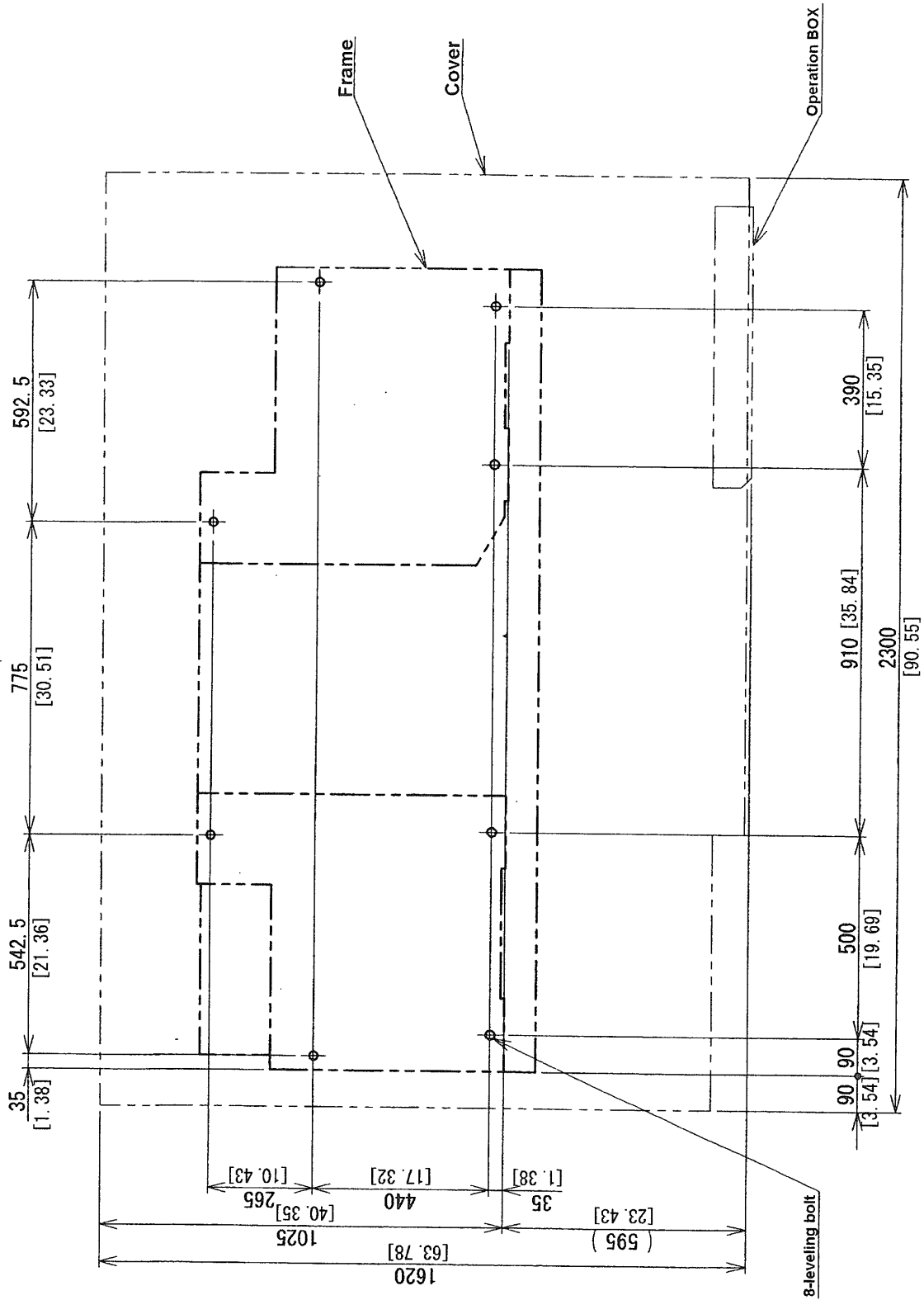


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Unit:mm[in]

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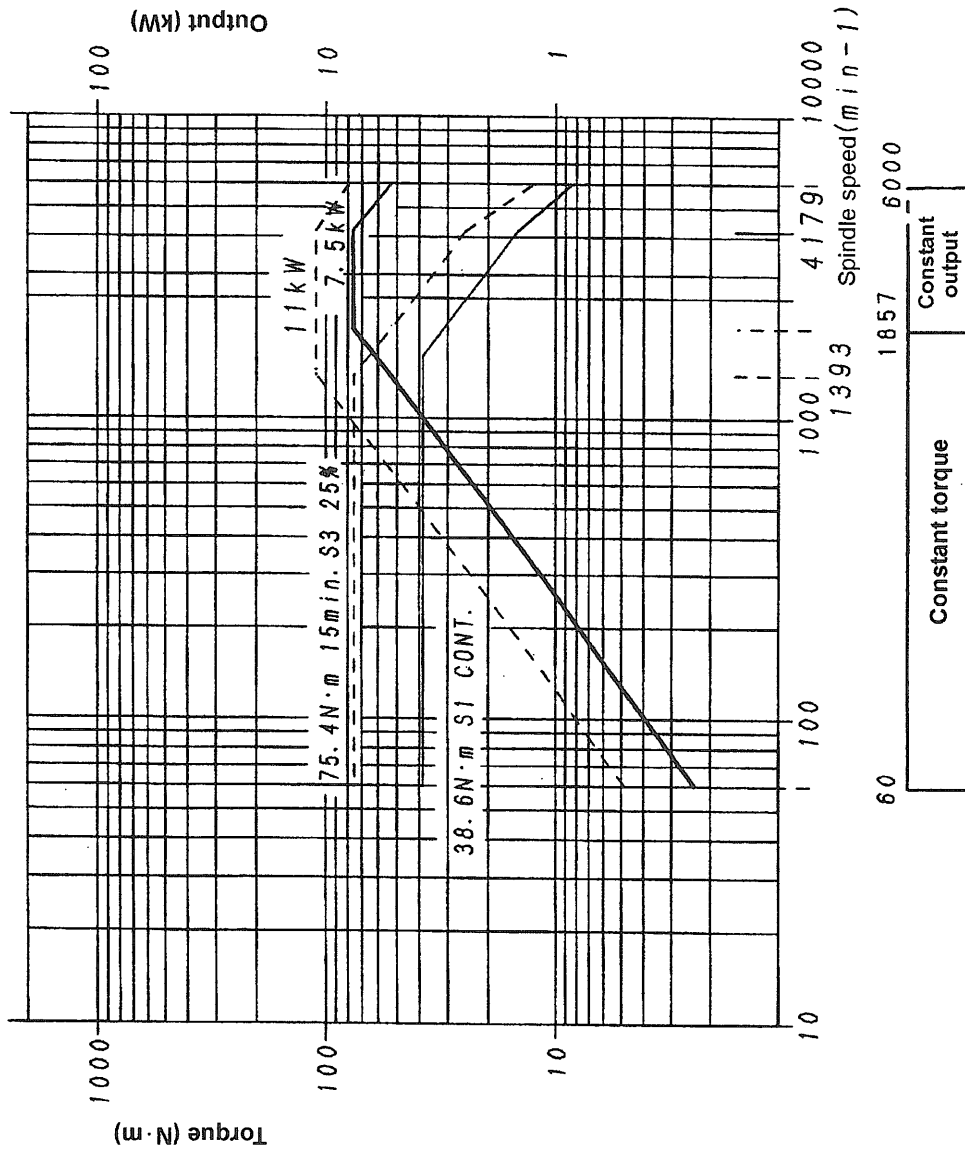


Unit:mm[in]

3 SPINDLE OUTPUT POWER CHART

3-1 Spindle Speed – Torque/Output chart (L/R)(Low speed)($\phi 42$)

FANUC $\beta 8/8000i(11/7.5kw)$



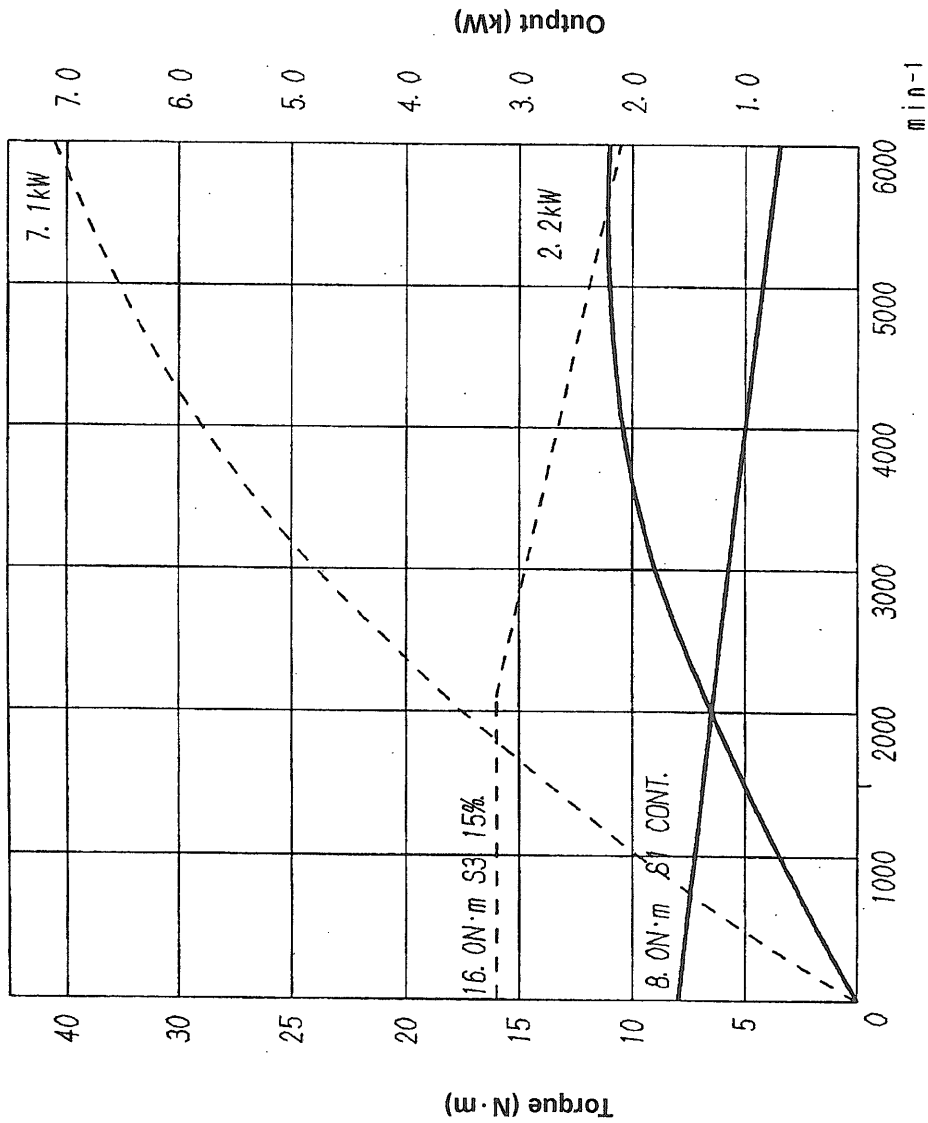
Spindle speed- Torque/Output chart for WT-100 ($\phi 42$ 11/7.5kW)

Motor-axis speed
at the time of 6000rpm: 6461 min⁻¹

(FANUC $\beta 8/8000i$)

3-2 Spindle Speed – Milling Motor Torque/Output chart (L/R)

FANUC α 8/6000is



Spindle speed - Torque/Output chart for WT-100 rotary tool spindle

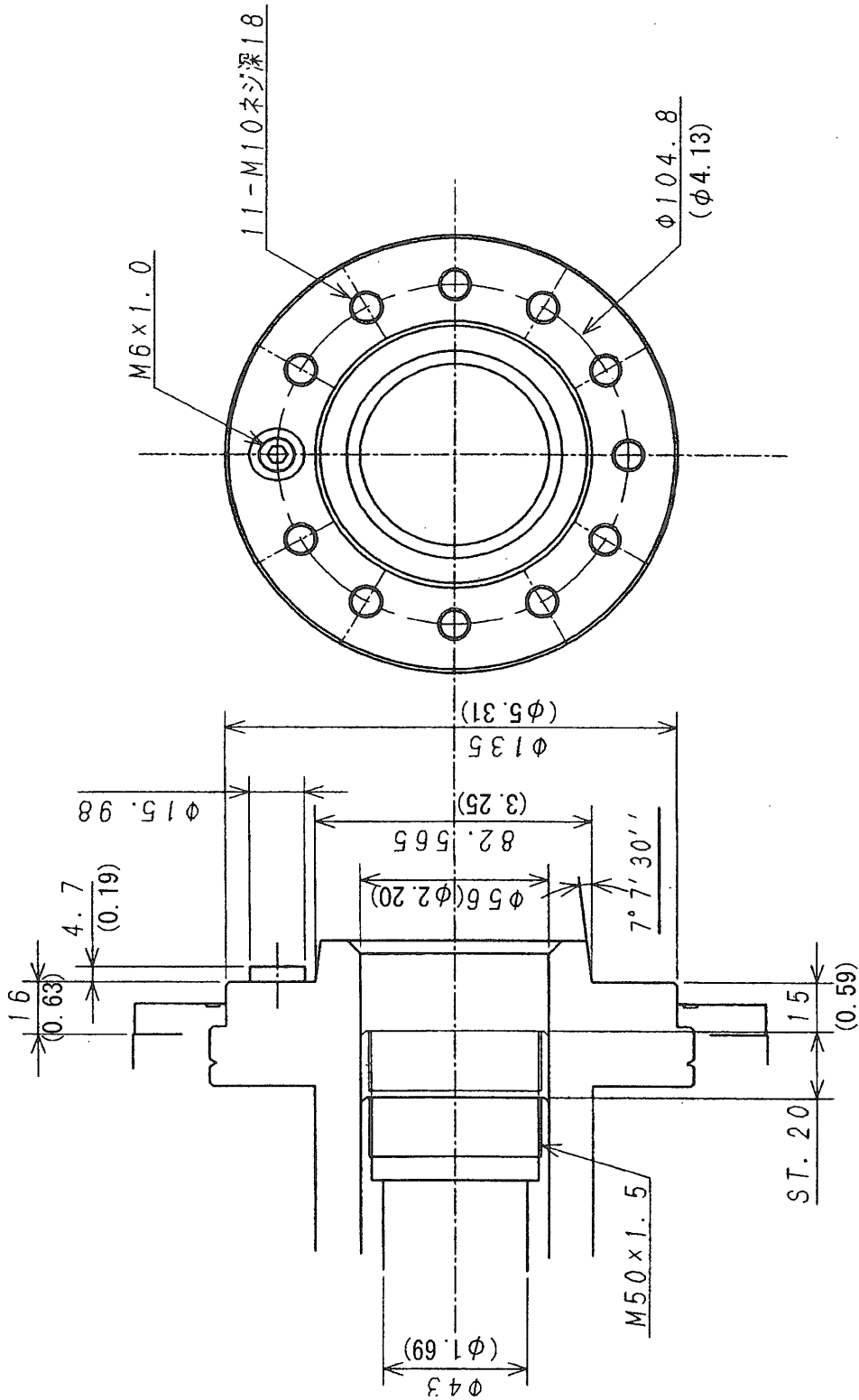
Motor-axis speed
at the time of 6000 min^{-1} : 6000 min^{-1}

(FANUC α 8/6000is)

4 TOOLING

4-1 Spindle Nose Dimensions (L, R)

4-1-1 Main spindle A2-5



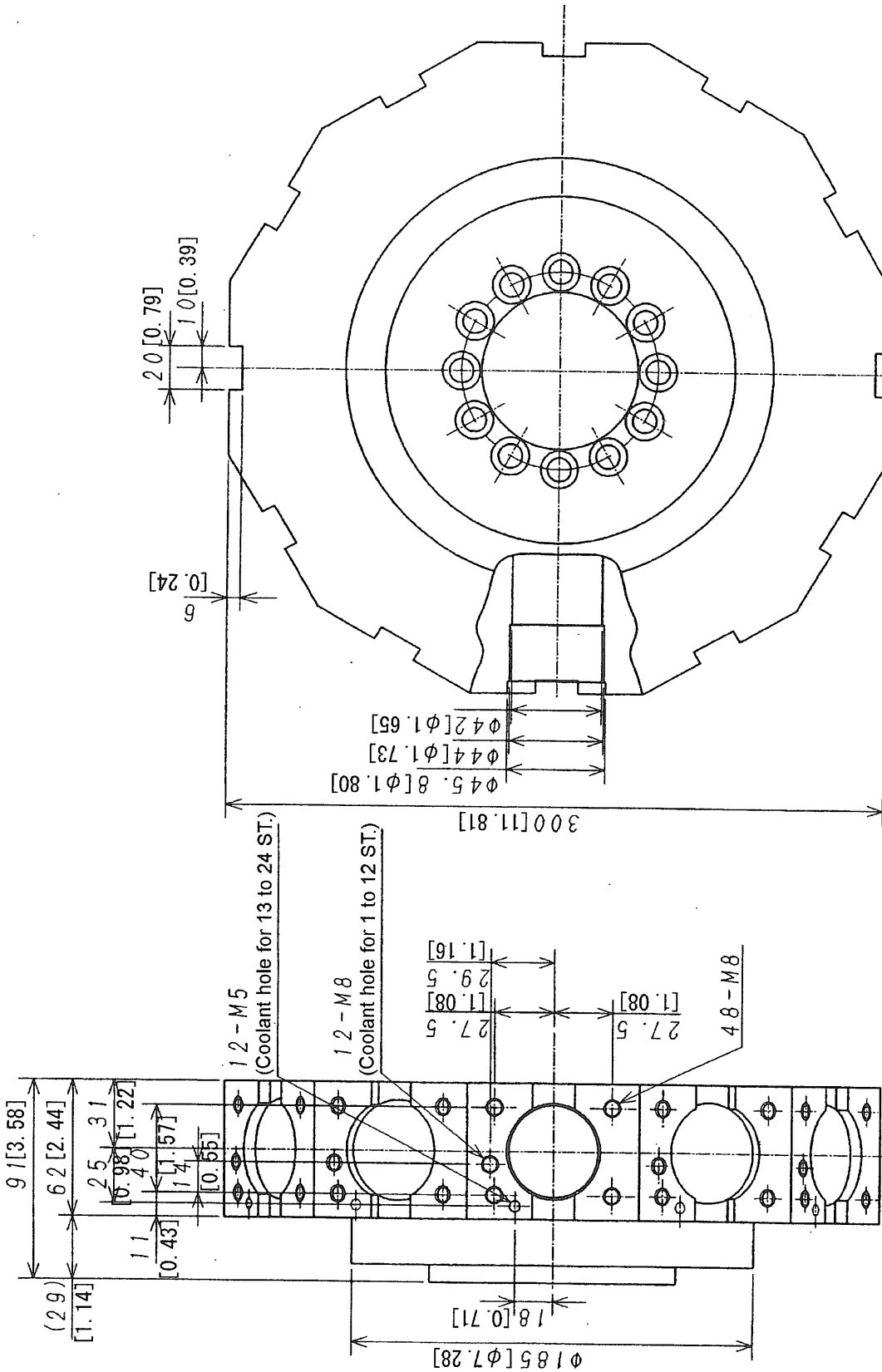
Unit:mm(in)

Spindle nose dimensions for WT-100 (A2-5) (L/R $\phi 42 \times 6000$ rpm)

APPENDIX

4-2 Turret Head Dimensions

4-2-1 Turret head dimensions of upper/lower turret (rotary tool) Tooling System Diagram



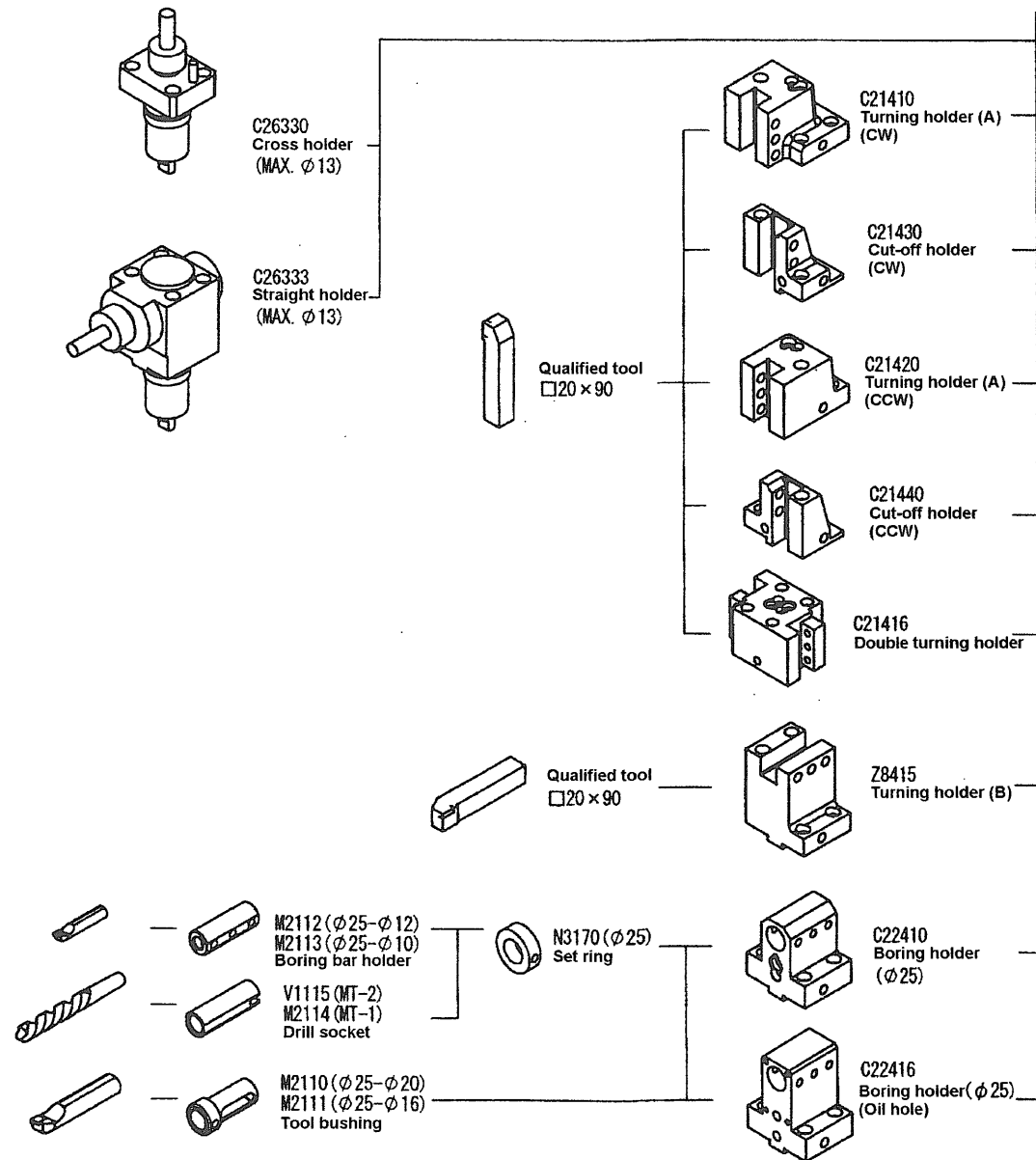
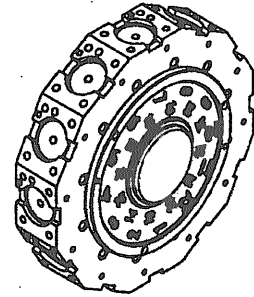
Turret head dimensions for WT-100 (L/R, Turret) with milling

Unit:mm[in]

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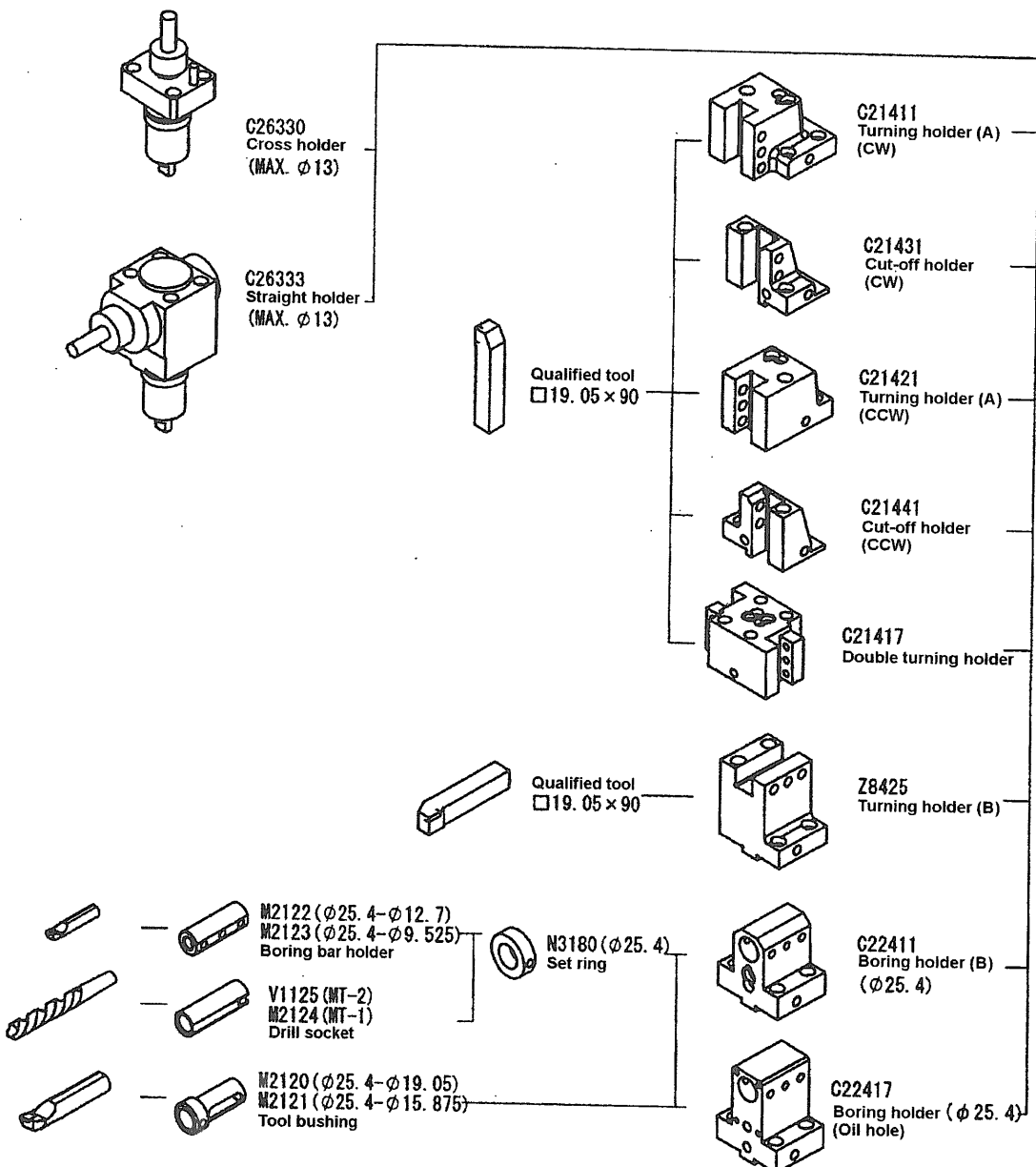
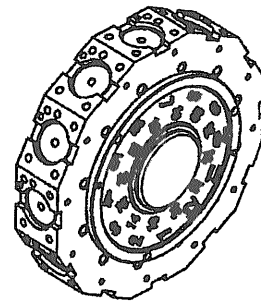
4-3 Tooling System Diagram

4-3-1 Tooling system diagram for upper/lower turrets (metric)



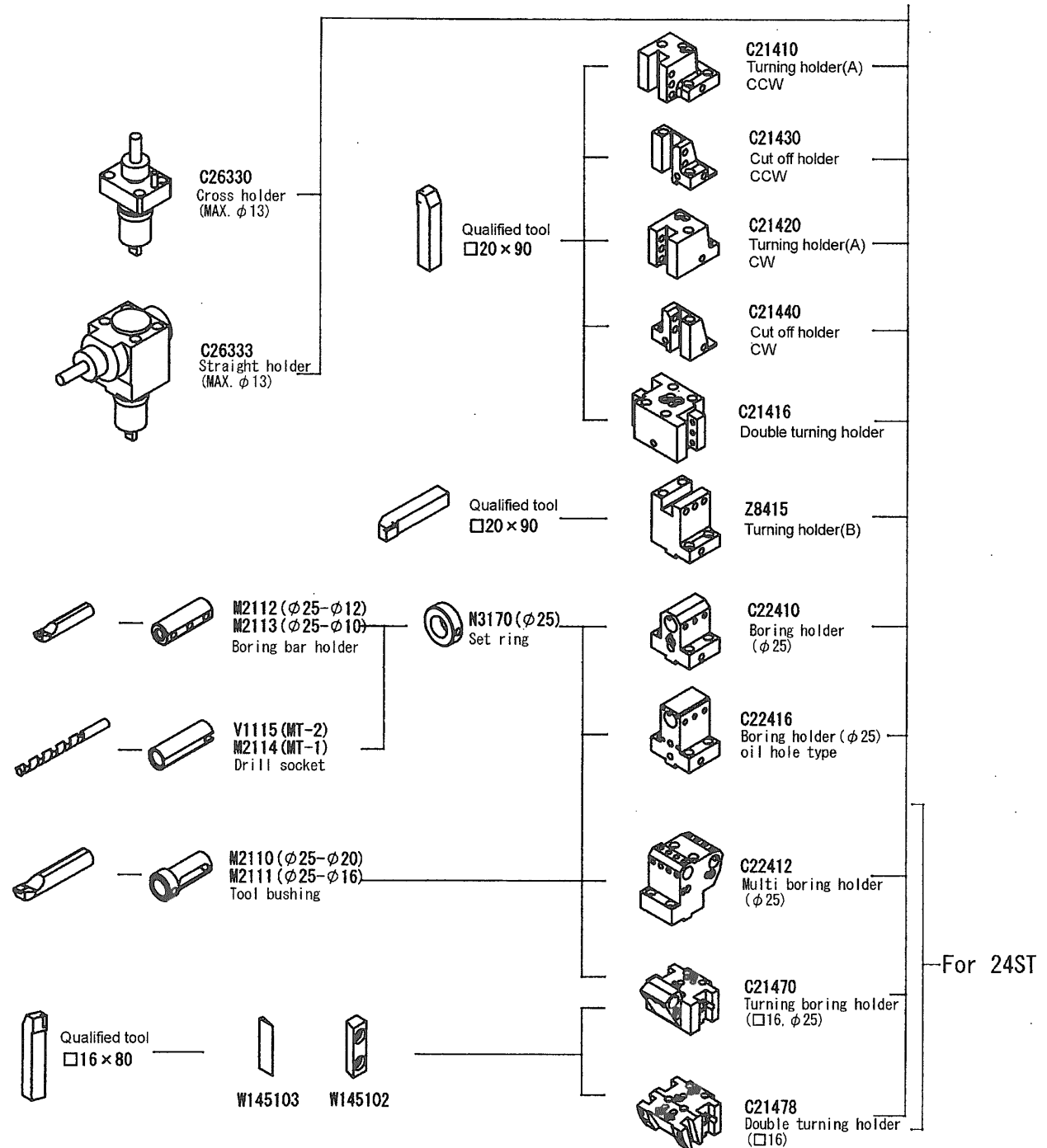
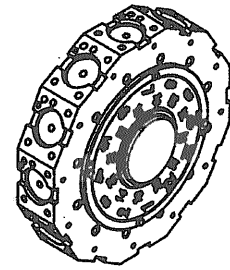
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4-3-2 Tooling system diagram for upper/lower turrets (Inch)



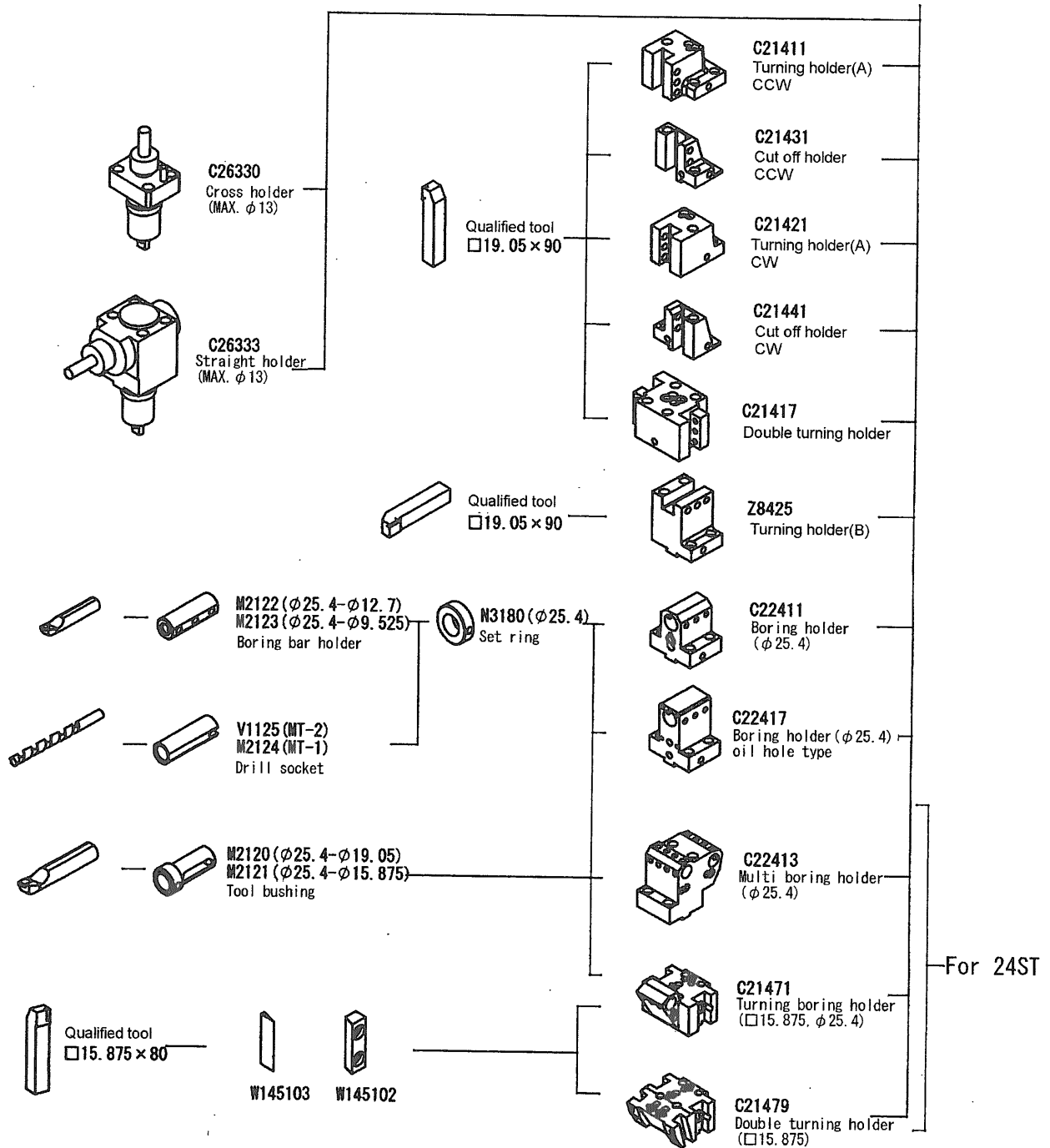
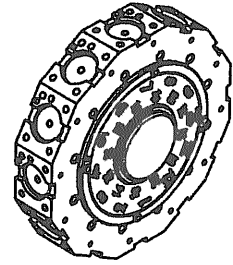
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4-3-3 Tooling system diagram for upper/lower turrets (metric) (24stations)



APEENDIX

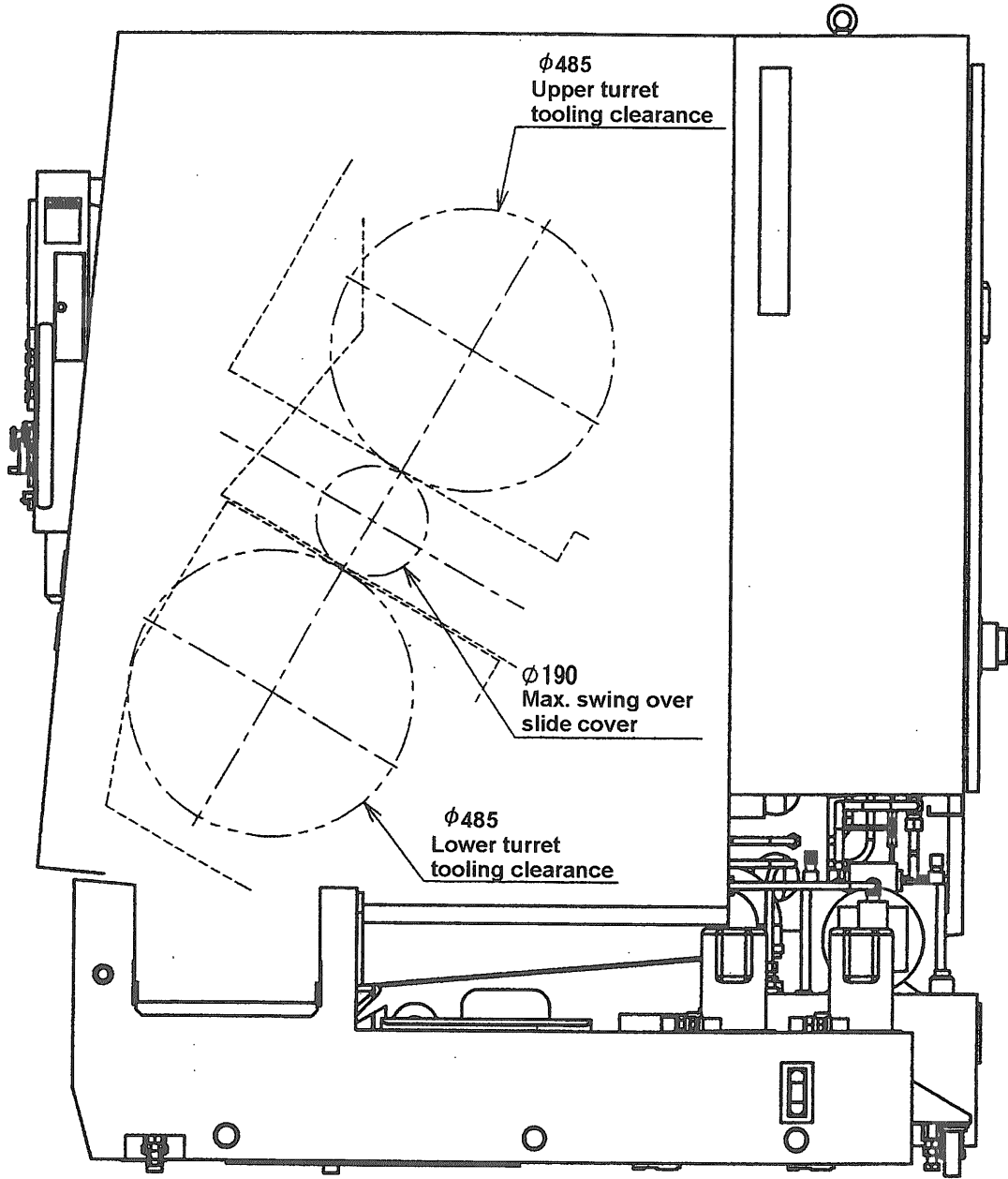
4-3-4 Tooling system diagram for upper/lower turrets (milling)(inch)



APPENDIX

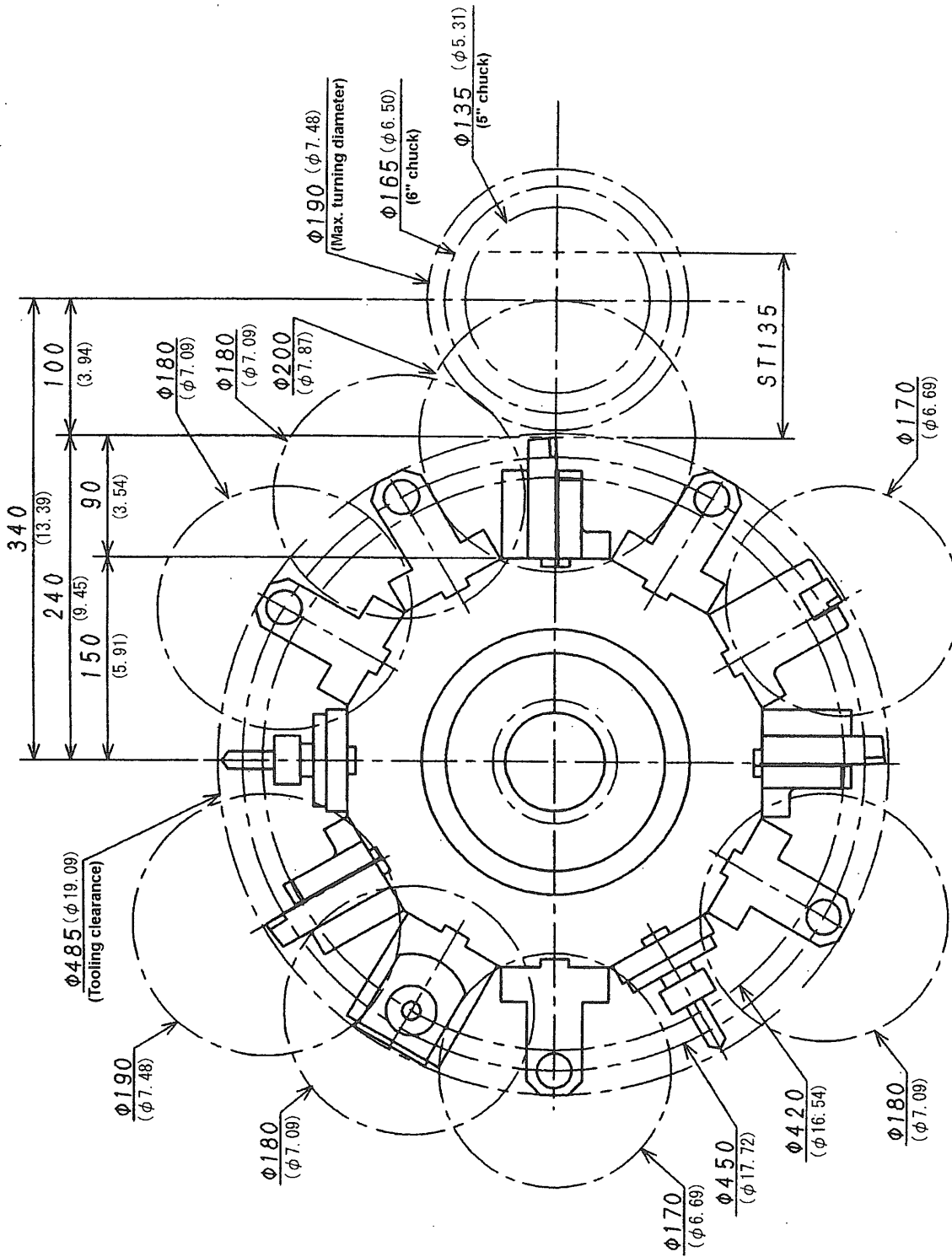
4-4 Tool Interference

4-4-1 Maximum tool swing diameter



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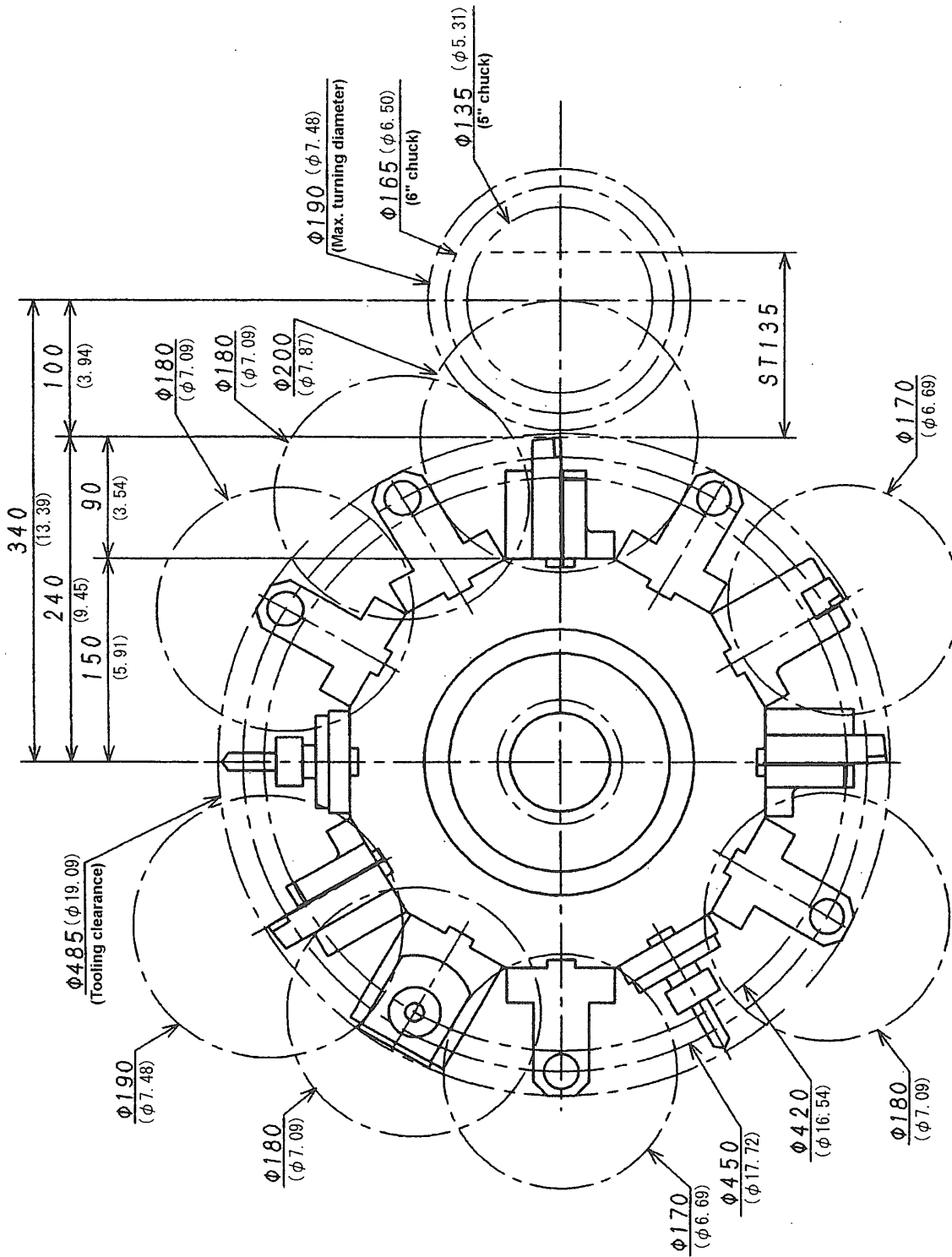
4-4-2 Tool interference for the main and sub spindle operation (milling)



Tool interference for WT-100 (L/R, Turret) with milling 12ST

Unit: mm (in)

4-4-3 Tool interference for the main and sub spindle operation (24 stations)

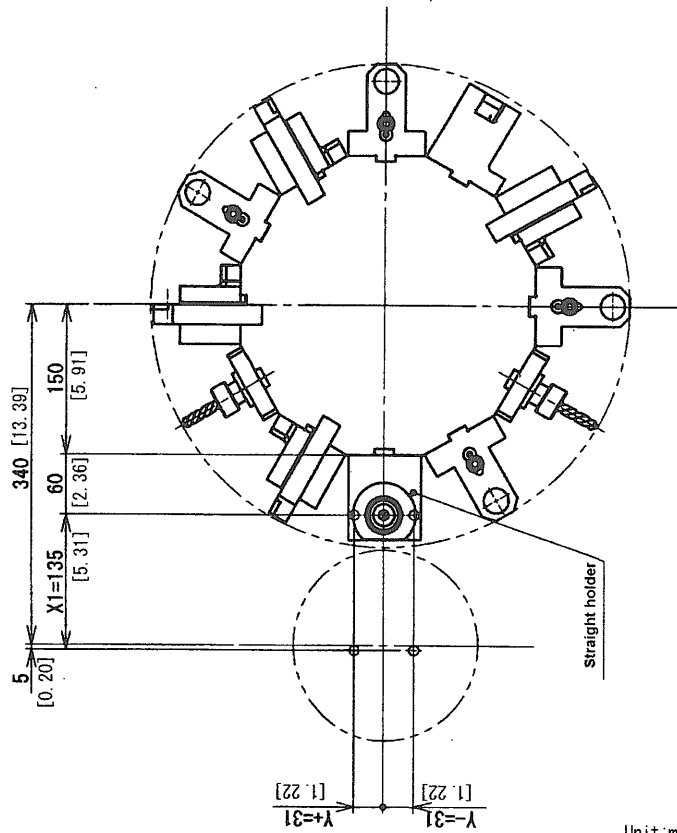
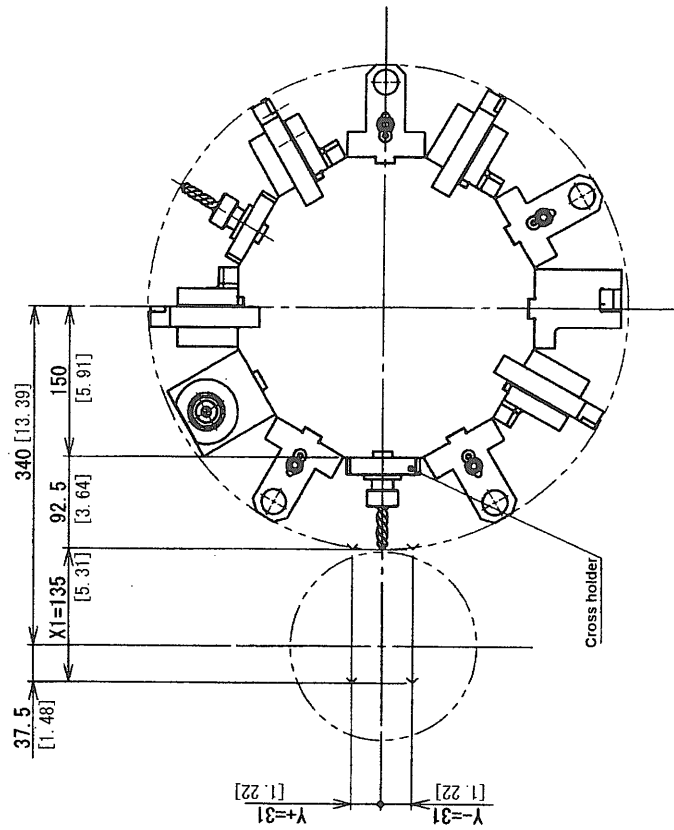


Tool interference for WT-100 (L/R, Turret) with milling 12ST

Unit:mm(in)

APPENDIX

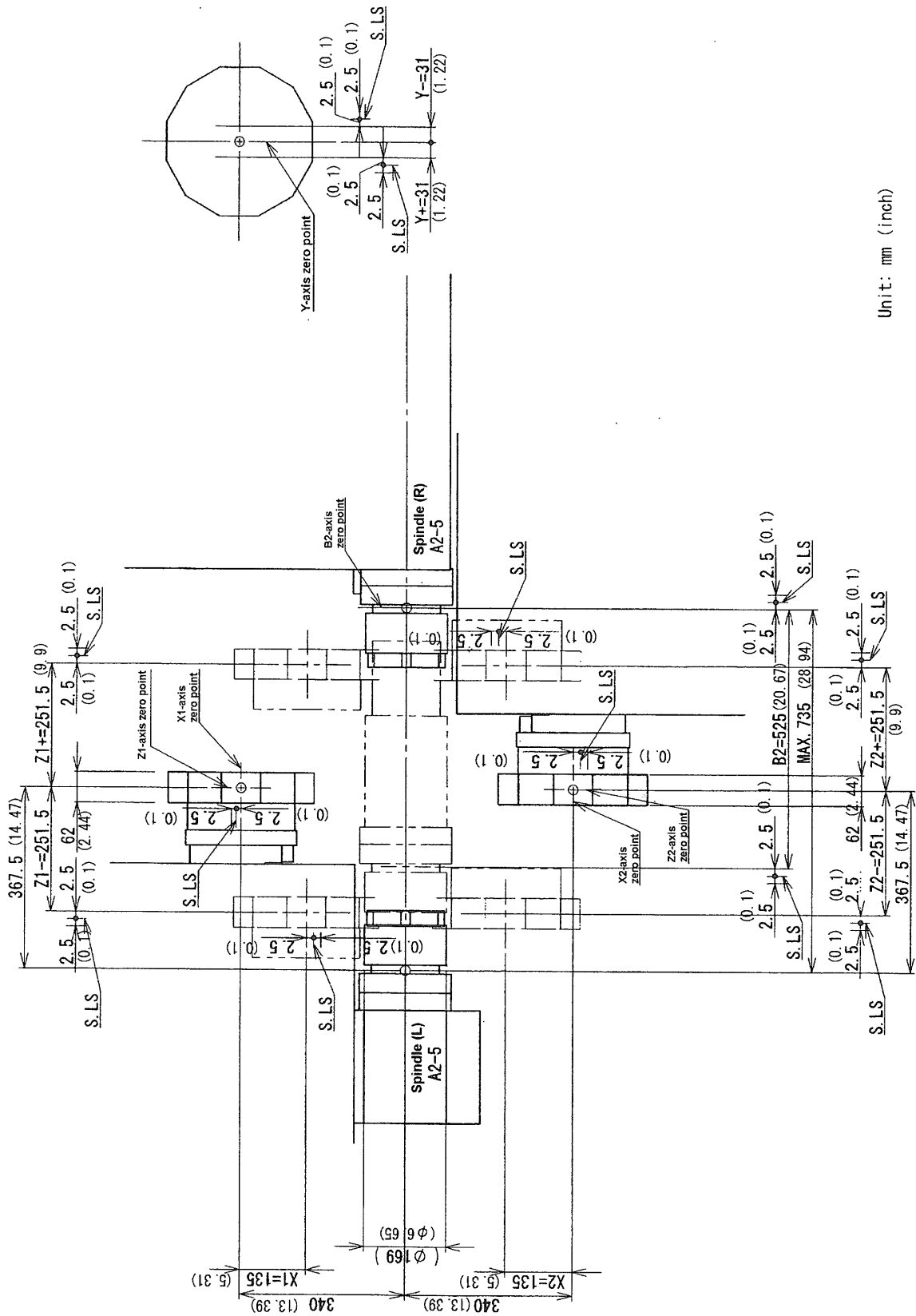
4-4-4 Tool interference for Y-axis



Unit:mm[in]

5 AXIS TRAVEL RANGE

5-1 Axis travel range and Limit Switches



Unit: mm (inch)