



- Quality Is Our Nature
- In Search of Excellence
- LEADWELL Leads the Industry in Taiwan, in the World

**LEADWELL**  
LEADWELL CNC MACHINES MFG., CORP.



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NO.23, Gong 33th Road, Taichung Industrial Park  
Taichung 407, Taiwan  
TEL: 886-4-23591880  
FAX: 886-4-23592555, 23593875  
E-mail: sales@leadwell.com.tw

**www.leadwell.com.tw**

※ All performance are based on 220V/3PH/60HZ. Specification are subject to change without notice.

***T/LTC Series***

**CNC TURNING CENTER**

**T-5i/T-5iM/T-6i  
LTC-200**

The Ultimate in Value and High Performance



- The Ultimate Combination of Power, Versatility & Value in a Linear Way Lathe

| TRAVEL       | T-5i     | T-5iM    | T-6i     |
|--------------|----------|----------|----------|
| X axis       | 150+15mm | 100+15mm | 150+15mm |
| Z axis       | 186mm    | 190mm    | 338mm    |
| Chuck Size   | 6        | 6        | 8        |
| Bar Capacity | 45mm     | 45mm     | 45mm     |

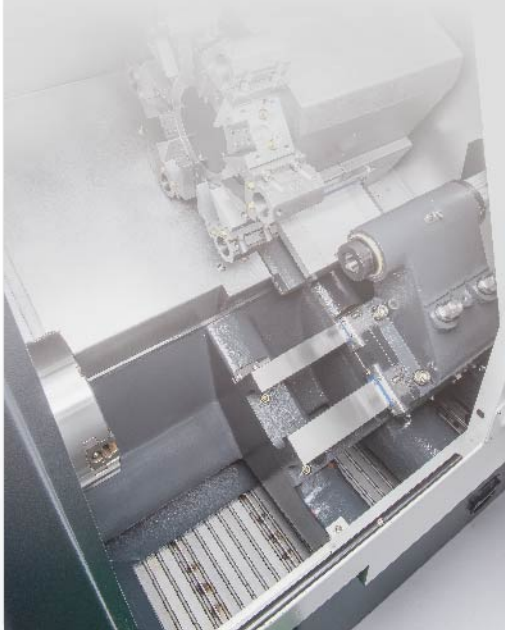


- Rear Side Chip Removal  
Machine width 1530mm

| TRAVEL       | LTC-200  |
|--------------|----------|
| X axis       | 150+20mm |
| Z axis       | 338mm    |
| Chuck Size   | 8        |
| Bar Capacity | 52mm     |

MACHINE ENCLOSURE

- T/LTC series machines are fully enclosed with splash guards and way covers.
- CE approved guarding is also available as an option.



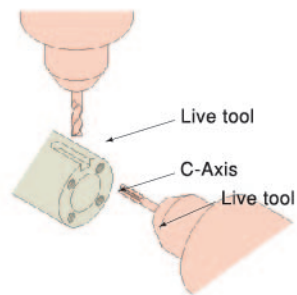
## STRUCTURE

### LEADWELL APPLIES ADVANCED CONCEPTS TO CREATE PERFECTION IN STRUCTURAL DESIGN.

- LEADWELL uses only top quality well-ribbed castings.
- Finite Element Analysis (FEA) is used on each new casting to determine the size and location of all internal ribs ensuring high torsional stiffness and minimum vibration.
- The cast iron base, saddle, headstock, slide and tailstock are ruggedly constructed for superior stability and machining accuracy.

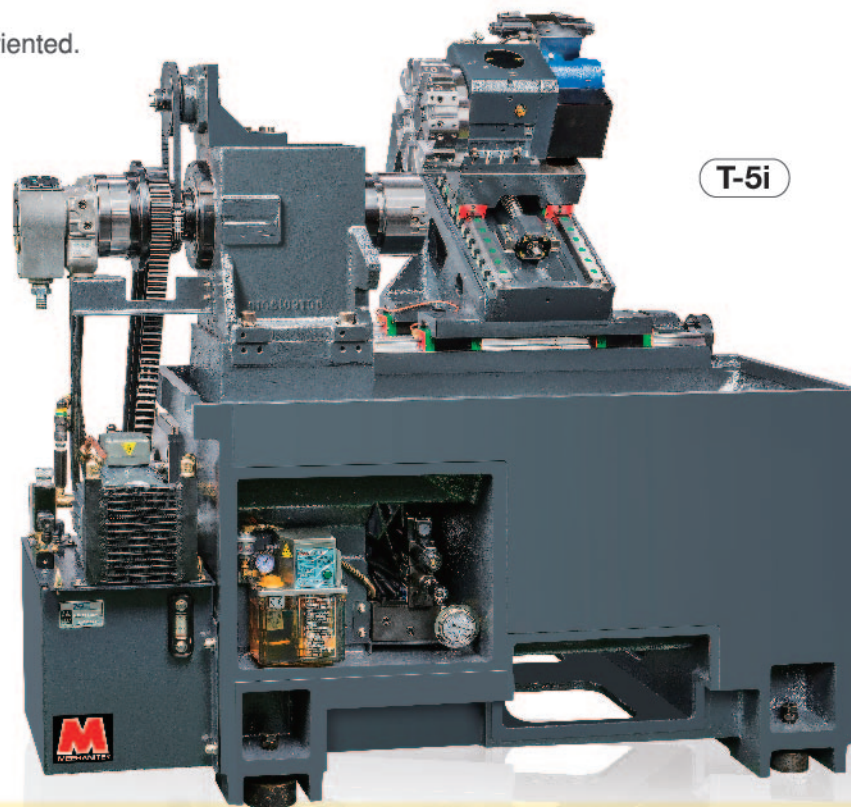
### LIVE TOOL TURRET

- Each tool can become a rotating tool for both milling and drilling operations.
- Tools can be either radially or axially oriented.



#### Power Turret Cutting Capacity:

|          |               |
|----------|---------------|
| Tool     | 12 live tools |
| Drill    | 10mm          |
| End Mill | 12mm          |
| Tapping  | M10xP1.5      |



T-5i

### MORE POWERFUL

- Powerful main spindle 7.4 HP~14.7 HP
- Rigid 30 deg. Slant bed cast iron base

### INCREASED CAPACITY

- 6~8 inch chuck standard
- $\Phi 45\text{mm} \sim \Phi 52\text{mm}$  bar capacity standard

### FASTER/ MORE PRODUCTIVE

- Fast rapid rates 20 ~30m/min
- Spindle speed 4000~6000 rpm
- C axis and VDI 25 live tooling version available

### ERGONOMIC CONSIDERATIONS

- Easy to use membrane touch-pad control station
- Easy moving operator door
- Parts catcher available
- No chip or coolant leaks

## STRUCTURE

### EXTRA WIDE SPAN FOR INCREASED STABILITY

- The T/LTC series utilizes oversized box ways for high horse power machining. The extremely rigid body base frame with box ways provides outstanding stability for precision turning.

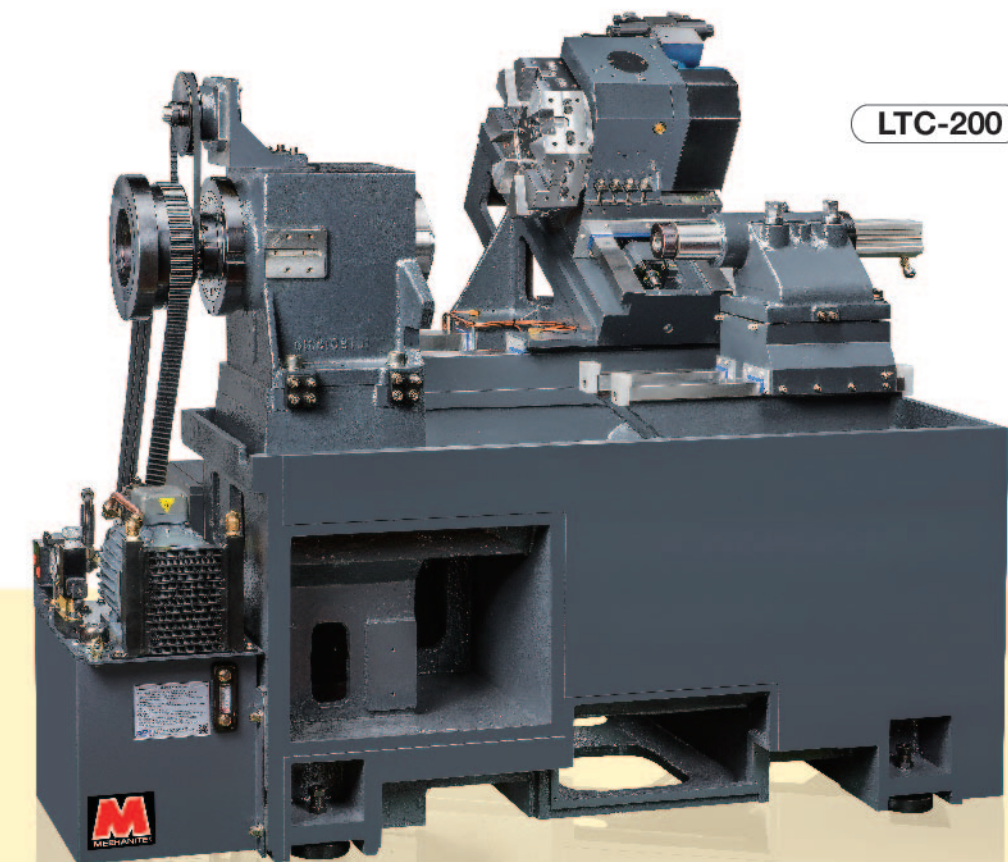
### HEADSTOCK

- The headstock is a thermally symmetric design with heat dissipating fins for effectively increasing heat dissipation effect. This design prevents thermal distortion during long machining cycles.

### 30° MASSIVE SLANT BED

#### Easy Chip Disposal

- The 30° degree slant bed design allows chips to fall directly into the chip tank, avoiding accumulation inside the machine.
- The chip tank employs large wheels, making it easy to move for chip removal and cleaning.
- Chain-type chip conveyor (optional) available on all models.



LTC-200

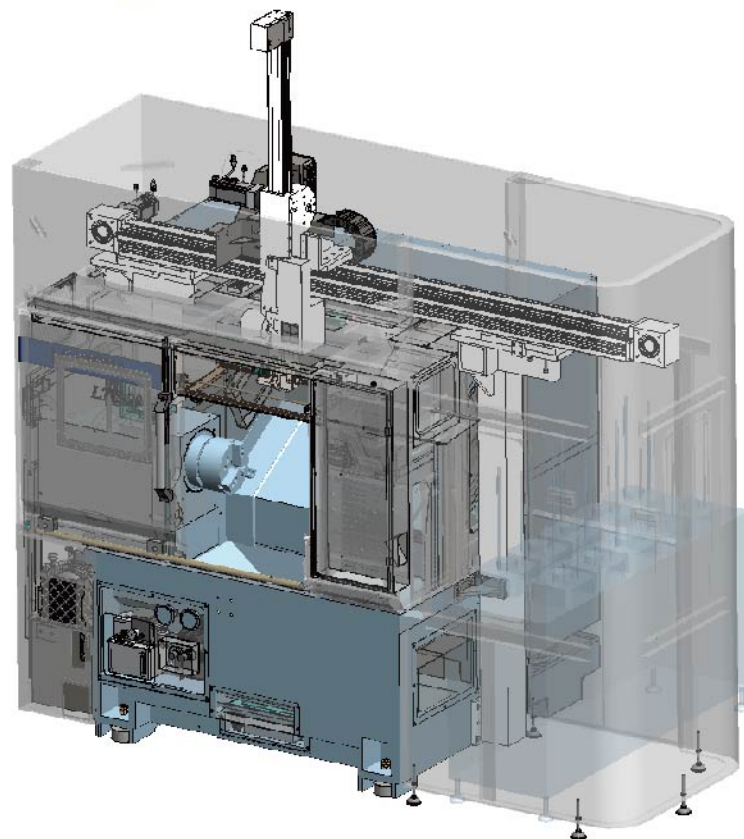
### LTC-200

- Heavy Duty Cutting and Box Way Design
- Big Capacity Small Floor Space
- Machine Width 1530mm
- Turning Diameter 300mm
- Turning Length 300mm

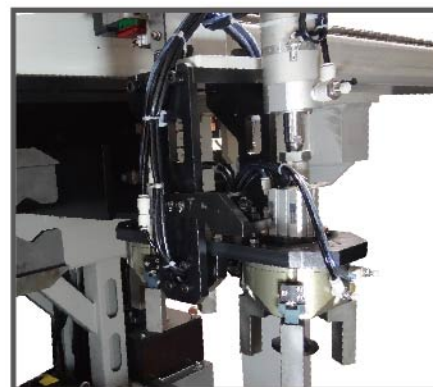
8 Station Turret  
Back Side Chip Remove  
Bar Feeder, Parts Catcher, tool setter Available

# AUTOMATION SYSTEM AVAILABLE

## One piece design



## Gantry Robot (Optional)



## IN/OUT Stocker (optional)



From transmissions to components which have different shape, size and capacity are capable to be manufactured by Gantry Robot System.

### ► Gantry Robot

| Components     |                              | Unit          | LEADWELL             |
|----------------|------------------------------|---------------|----------------------|
| Full Body      | Workpiece Diameters          | Max. Diameter | mm 120               |
|                |                              | Max. Length   | mm 100               |
|                |                              | Max. Payload  | kg 3.0               |
| Robot Arm Body | Shoulder<br>(Travel Axis: Z) | Travel        | mm 1300              |
|                |                              | Feed Rate     | m/min 160            |
|                | Arm<br>(Up/down axis : Y)    | Travel        | mm 600               |
|                |                              | Feed Rate     | m/min 100            |
|                | Wrist Turning Diameter       | Servo         | - Pneumatic Cylinder |
|                |                              | Angle         | degree 90            |
|                |                              | Wrist Style   | - L Shape Wrist      |
|                | Claws                        | Servo         | - Pneumatic Cylinder |
|                |                              | Claw Travel   | mm 8                 |

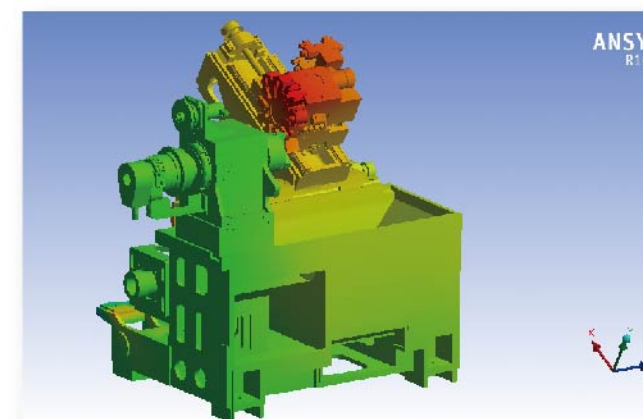
# FEA REPORT(Finite Element Analysis)

## Optimum

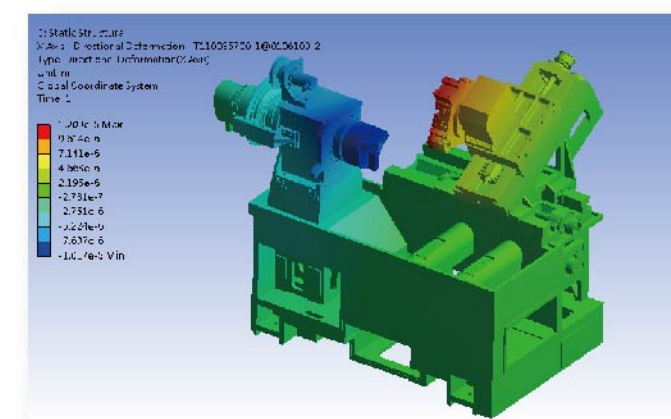
- Section areas
- Moments of inertia
- Torsional constant
- Plate thickness
- Bending stiffness
- Transverse shear
- Vibration reduce

## With FEA you can

1. Predict and improve product performance and reliability.
2. Reduce physical prototyping and testing .
3. Evaluate different designs and materials .
4. Optimize designs.



T-5i



LTC-200

# CUTTING CAPACITY

## T-5iM

| O.D. Cutting  |            |
|---------------|------------|
| Cutting Speed | 220m/min   |
| Spindle Speed | 810rpm     |
| Feed Rate     | 0.25mm/rev |
| Depth of Cut  | 2.5mm      |
| Removal Rate  | 138c.c/min |

| Drilling      |            |
|---------------|------------|
| Tool Size     | 20mm       |
| Spindle Speed | 1500rpm    |
| Feed Rate     | 0.12mm/rev |
| Depth of Cut  | 40mm       |

| Groove Cutting |            |
|----------------|------------|
| Cutting Speed  | 140m/min   |
| Spindle Speed  | 1393rpm    |
| Feed Rate      | 0.15mm/rev |
| Depth of Cut   | 3mm        |

| Tapping       |         |
|---------------|---------|
| Tool Size     | M16     |
| Spindle Speed | 500rpm  |
| Feed Rate     | 2mm/rev |
| Depth of Cut  | 25mm    |

## FEATURE & QUALITY



**Tool Setter (Optional)**  
The tool setter has a touch sensor that can measure various tool lengths and detect broken tools. It can be easily programmed to store all the tool information to reducing tool change time.



### Parts Catcher (optional)

- Leadwell unique parts catcher improves productivity with the bar feeder option.
- The parts catcher automatically rotates to position under the finished part and transfers it outside the operator door. This eliminates the need to stop the machine and retrieve the finished parts.



### Bar Feeder (optional)

The bar feeder is suggested for unattended bar machining and high production requirements. It handles bars ranging from 5 to 65 mm. in diameter. Bar loading can be quickly accomplished. Easy parameter setting for various bar sizes.



### Collet Chuck (optional)

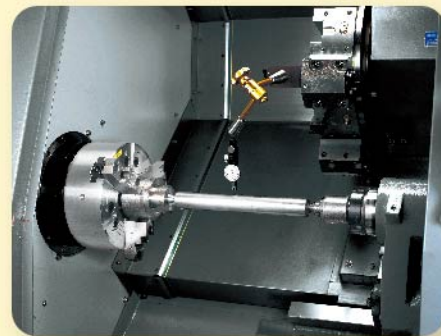
The spindle is available to mount with a collet chuck, providing faster chucking for bar stock. Various sizes of collet are supplied upon customers' request.



### LASER CALIBRATION

Lasers are used to measure the positioning accuracy of every machine over the full travel of each axis. Leadwell uses these measurements to compensate any axis error so that each machine meets the high accuracy requirements.

- Each machine is shipped with a positioning accuracy chart.



### MACHINE GEOMETRIC CHECKING

Precision indicators are used to verify that spindle run-out and headstock to tailstock alignment meet all specifications.



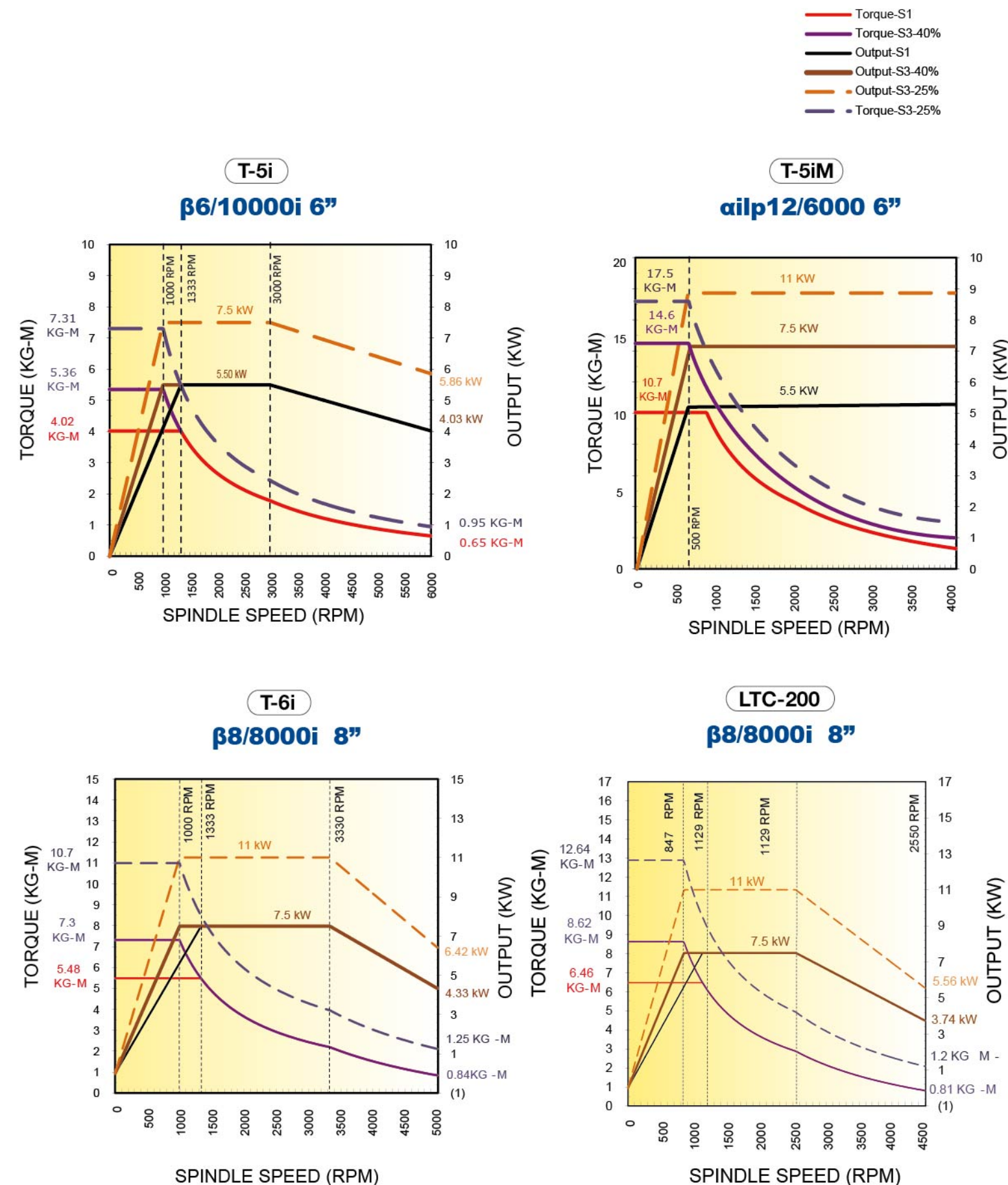
### CUTTING AND COOLANT TESTING

Each machine must complete rigorous cutting tests to ensure machine integrity. Coolant tests guarantee that all components are working properly and machines are 100% leak proof.

### 48 HRS NON-STOP RELIABILITY TEST

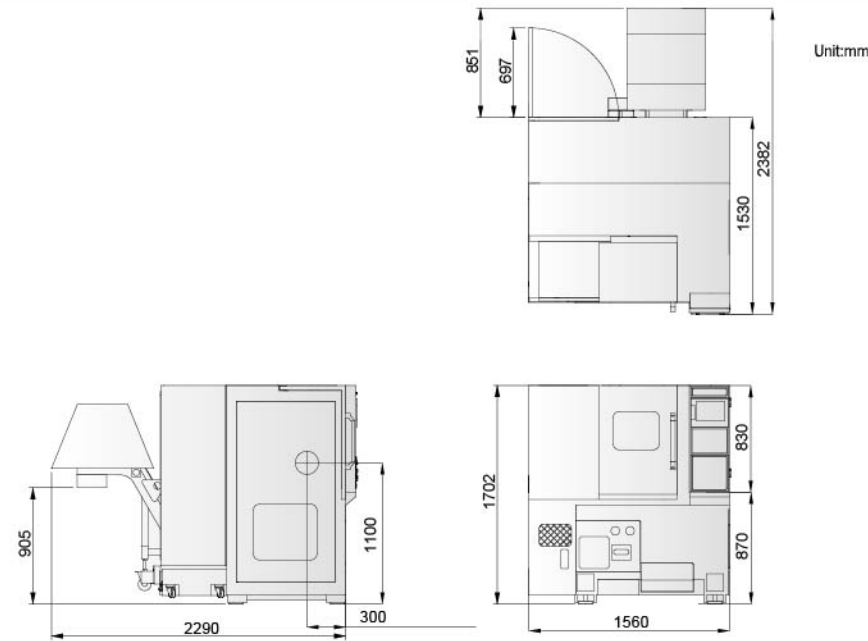
Each machine is cycled for 48 hrs to ensure the highest reliability

## SPINDLE POWER CURVE

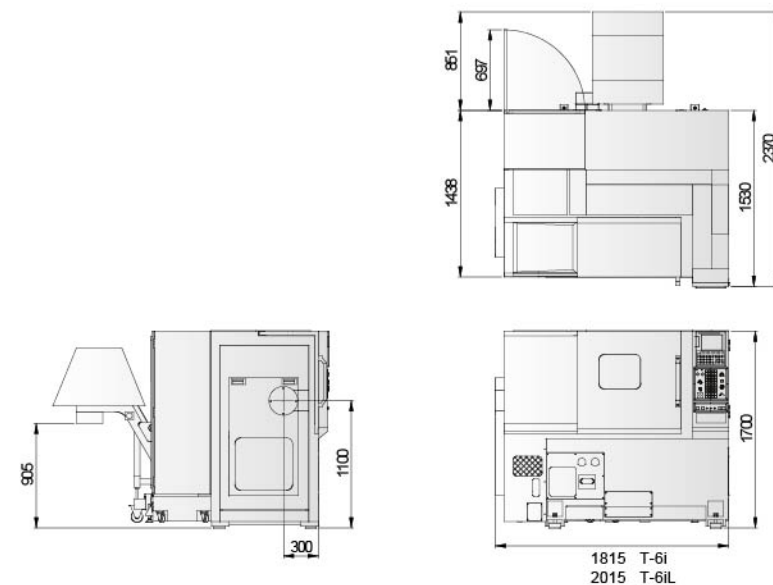


OUTLINE DIMENSION

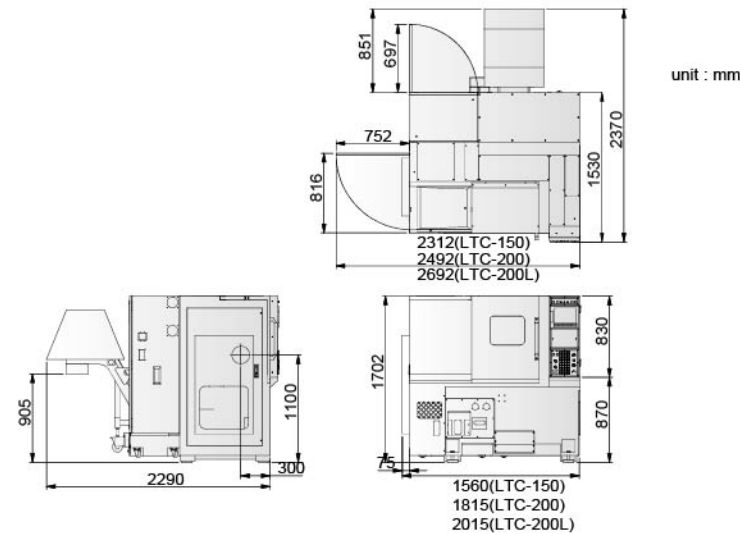
T-5i/T-5iM



T-6i

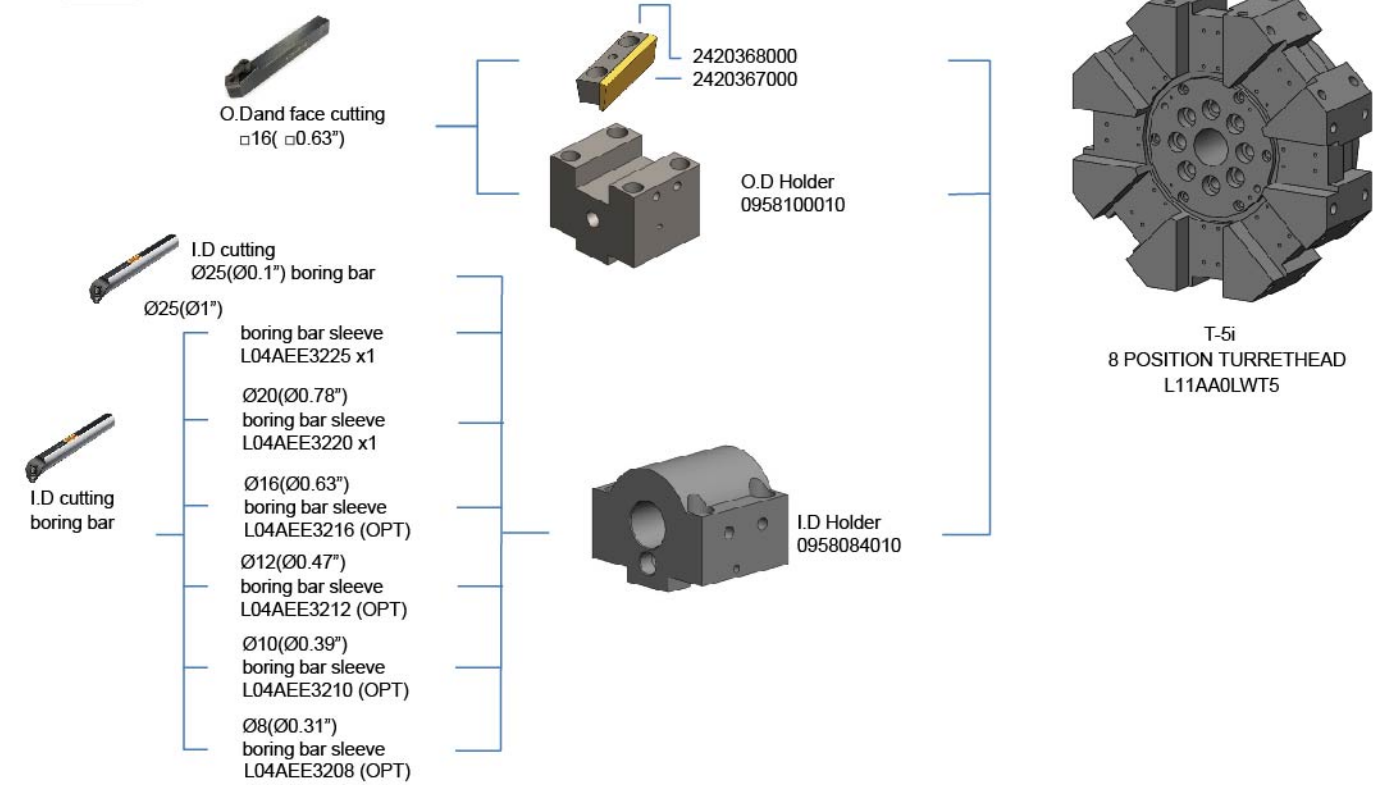


LTC-200

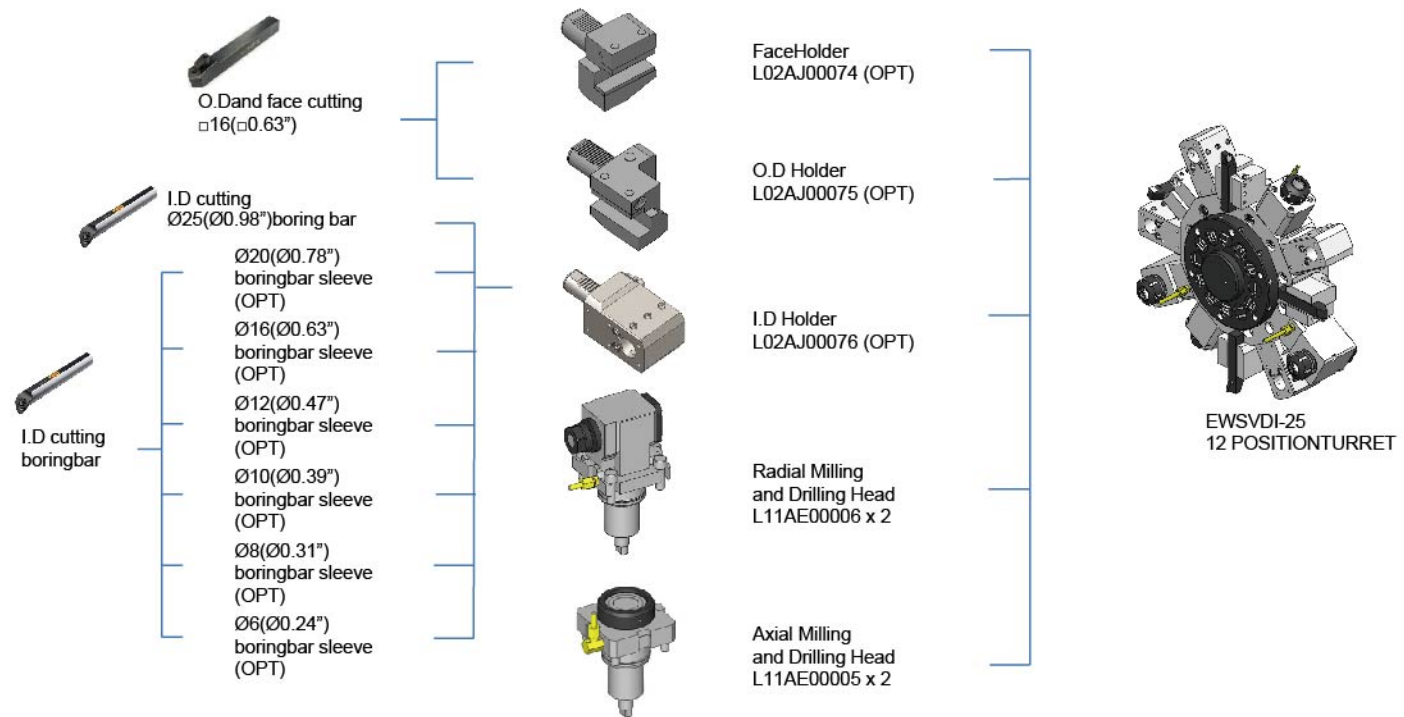


TOOLING SYSTEM

T-5i

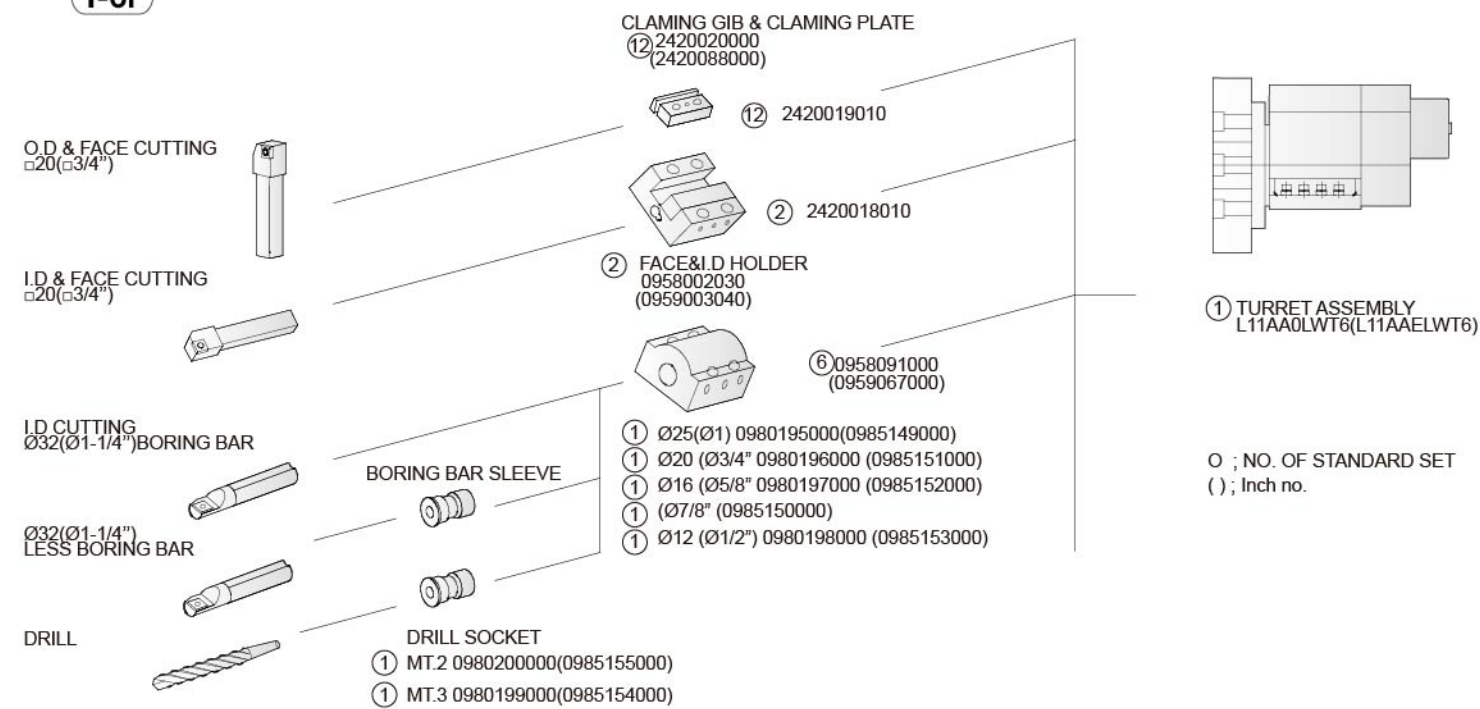


T-5iM

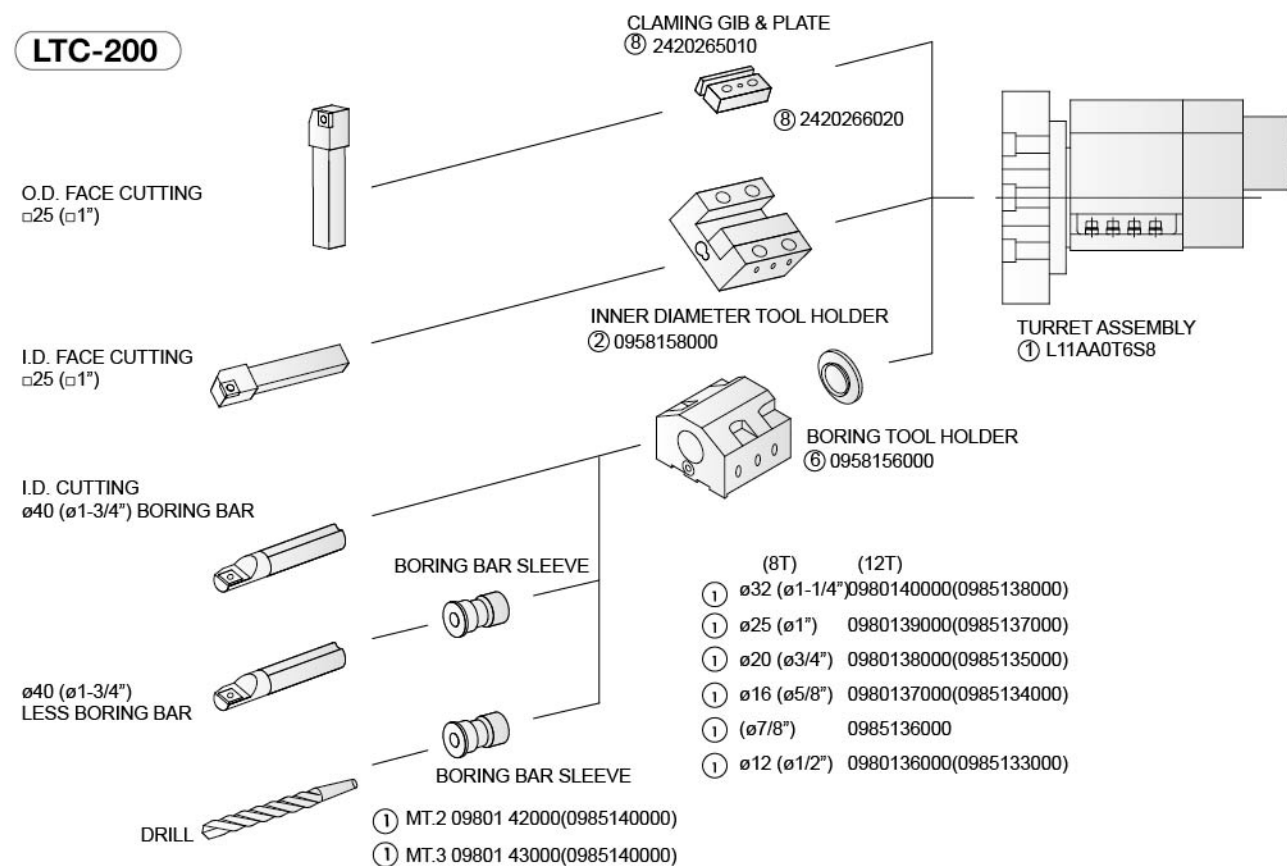


## TOOLING SYSTEM

**T-6i**



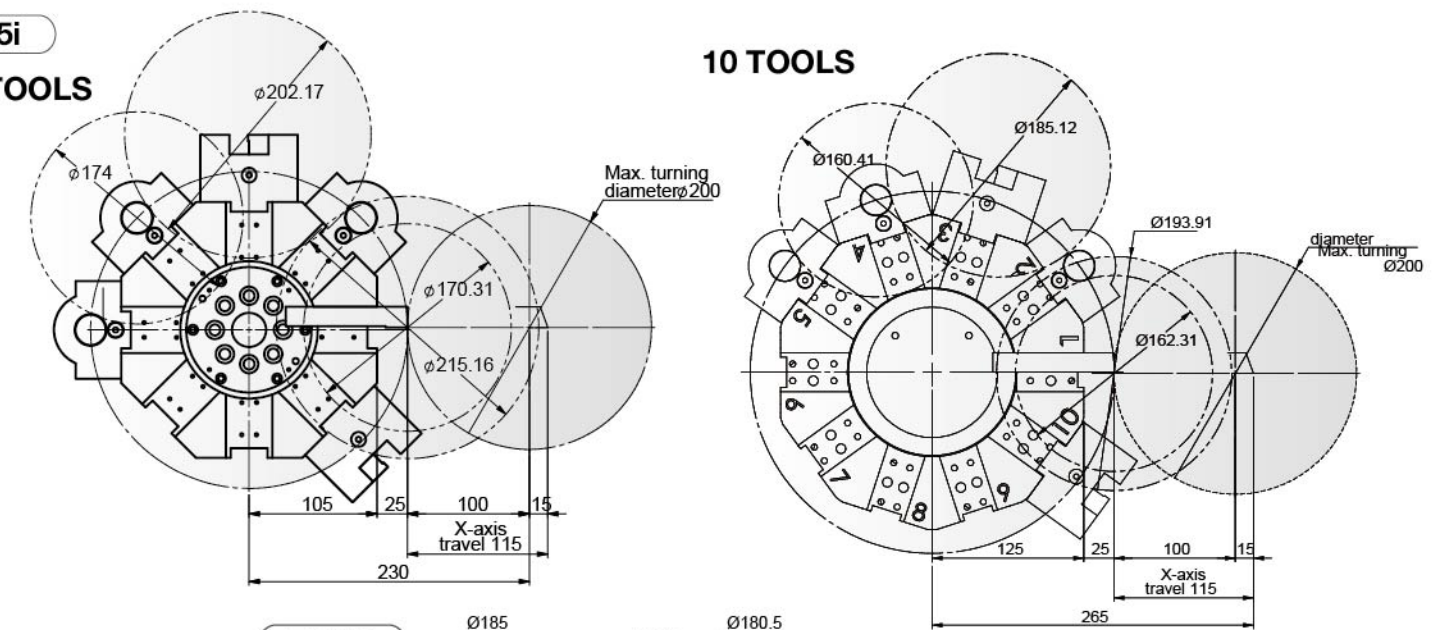
## LTC-200



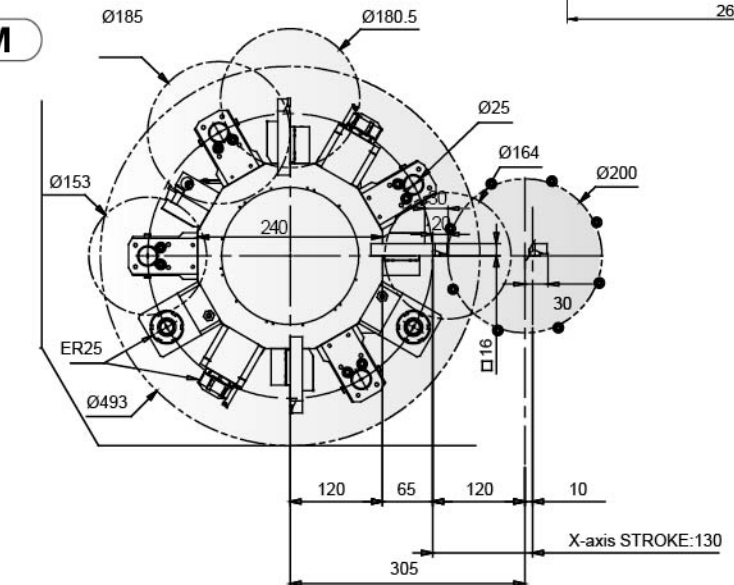
## TOOLING INTERFERENCE

**T-5i**

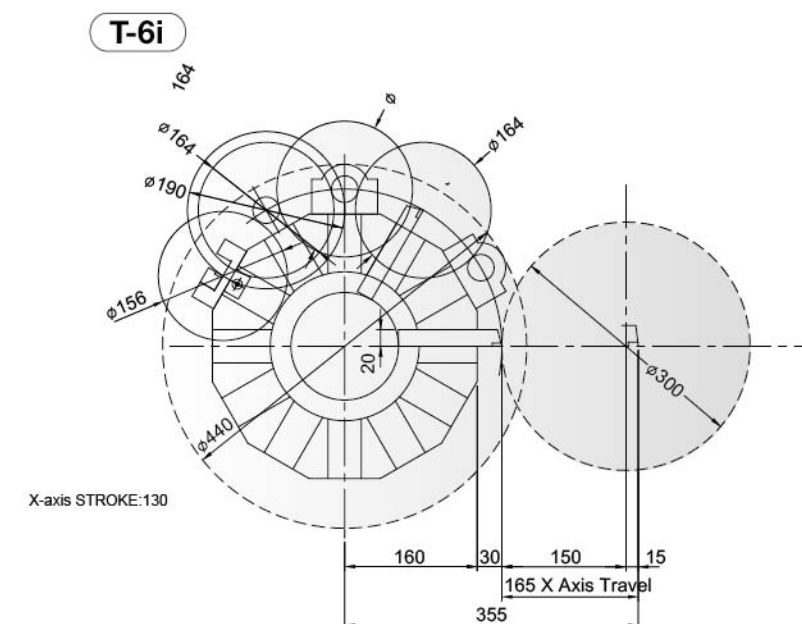
## 8 TOOLS



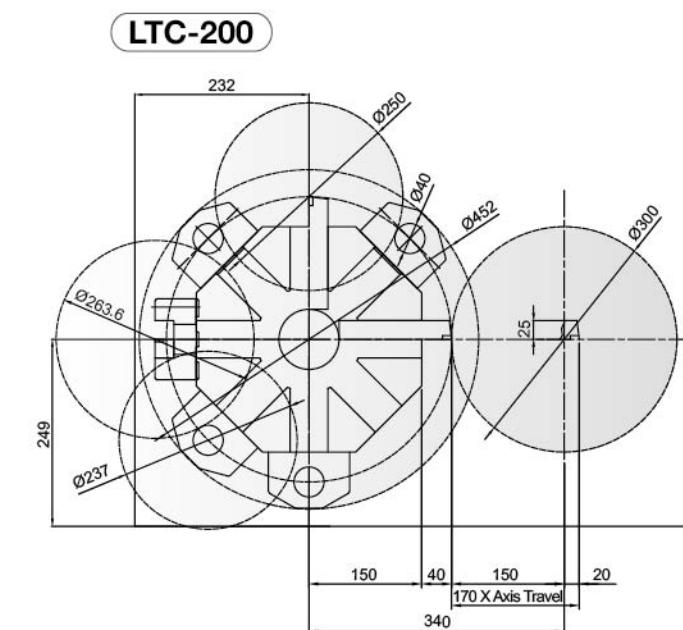
**T-5iM**



**T-6i**

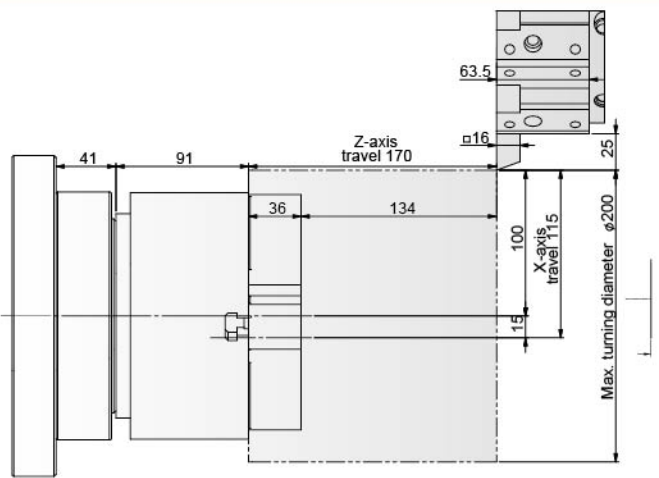


## LTC-200

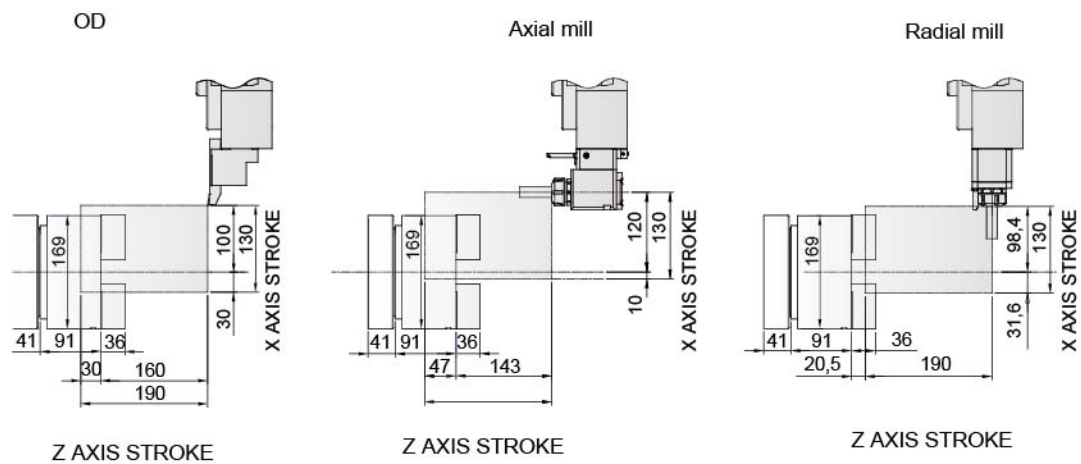


# WORKING CAPACITY

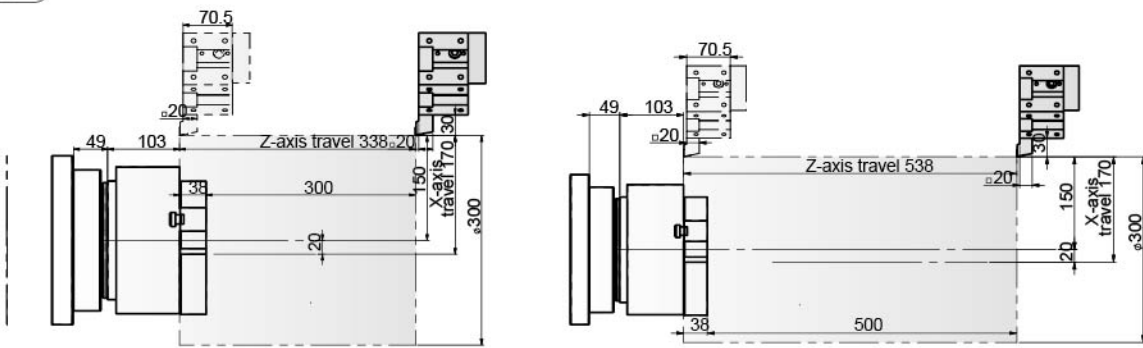
T-5i



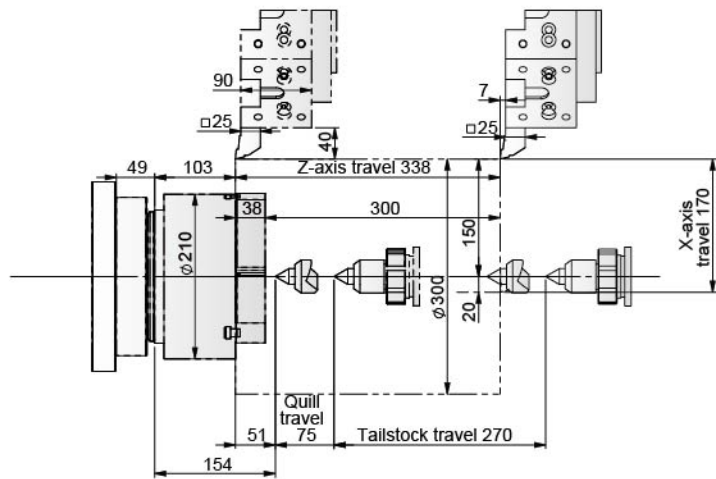
T-5iM



T-6i



LTC-200



# MACHINE SPECIFICATIONS

| ITEM                          | MODEL |           | T-5i                  | T-5iM                | T-6i                 | LTC-200          |
|-------------------------------|-------|-----------|-----------------------|----------------------|----------------------|------------------|
| CAPACITY                      |       | Unit      | with turret           |                      |                      |                  |
| Max. swing                    |       | mm(in)    |                       | 480 (18.9)           |                      | 500 (19.6)       |
| Max. turning diameter         |       | mm(in)    | 300(11.8)             | 200(7.8)             | 300 (11.8)           | 300 (11.8)       |
| Max. turning length           |       | mm(in)    | 150 (5.9)             | 150(5.9)             | 300 (11.8)           | 300 (11.8)       |
| Bar capacity                  |       | mm(in)    | 45 (1.77)             | 45(1.77)             | 45 (1.77)            | 52 (2)           |
| TRAVEL                        |       |           |                       |                      |                      |                  |
| X axis travel                 |       | mm(in)    | 150+15(5.9+0.6)       | 100+15(3.9+0.6)      | 150+15 (5.9+0.6)     | 150+20 (5.9+0.7) |
| Z axis travel                 |       | mm(in)    | 186 (7.32)            | 190(7.48)            | 338 (13.3)           | 338 (13.3)       |
| SPINDLE                       |       |           |                       |                      |                      |                  |
| Spindle speed                 |       | rpm       | 6000                  | 4000                 | 4500                 | 4500             |
| Chuck size                    |       | in        | 6                     |                      | 8                    | 8                |
| Type of spindle nose          |       |           | A2-5                  |                      | A2-6                 |                  |
| Spindle motor type            | FANUC |           | β6/10000i             | αiP12-6000           | β8/8000i             | β8/8000i         |
| Spindle motor power           |       | kw(hp)    | 7.5 (10)              | 5.5(7.4)             | 11 (14.7)            | 11 (14.7)        |
| TURRET                        |       |           |                       |                      |                      |                  |
| Number of tool stations       |       | pcs       | 8                     | 12                   | 12                   | 8                |
| Shank height for square tool  |       | mm(in)    | 16 (0.63)             | 16(0.63)             | 20 (0.78)            | 25 (1)           |
| Shank diameter for boring bar |       | mm(in)    | 25 (1)                | 25(1)                | 32 (1.25)            | 40 (1.6)         |
| FEED RATE                     |       |           |                       |                      |                      |                  |
| X/Z axis rapid traverse       |       | m(ft)/min | 30(1181)              |                      | 20 (787.5)           |                  |
| FEED MOTORS                   |       |           |                       |                      |                      |                  |
| X/Z axis motor                |       | kw(hp)    | 1.2 (1.6)             | 1.6(2.1)             | 1.2 (1.6)            | 1.2 (1.6)        |
| TAILSTOCK                     |       |           |                       |                      |                      |                  |
| Quill diameter                |       | mm(in)    | ---                   | ---                  | 75(3)                | 75 (3)           |
| Quill inside taper            |       | M.T       | ---                   | ---                  | 4                    | 4                |
| MACHINE SIZE                  |       |           |                       |                      |                      |                  |
| Height of machine (H)         |       | mm(in)    | 1700(67)              |                      |                      |                  |
| Floor space (LXW)             |       | mm(in)    | 1560x1530 (61.4x60.2) | 1560X1530(61.4X60.2) | 1815X1530(71.4X60.2) |                  |
| Total machine weight          |       | kg        | 2700                  | 3000                 | 3500                 | 3600             |
| Power requirement             |       | KVA       | 15                    | 15                   | 20                   | 20               |
| Controller                    | FANUC |           | 0i-T                  | 0i-T                 | 0i-T                 | 0i-T             |

\*AVAILABLE CONTROLLER: SIEMENS

## STANDARD ACCESSORIES

- Buzzer
- Heat exchanger
- Full enclosed splash guard
- 3 jaw open center chuck
- Foot switch
- Wide angle V-belt
- Metric disc
- Manual tailstock
- Leveling screws and pads
- Maintenance tool box
- Work light

## OPTIONAL ACCESSORIES

- 3 jaw close center chuck
- Auto door
- Main Spindle air outer blow
- Alarm lamp
- Air conditioner
- Bar feeder
- Chip conveyor
- Chip bucket
- Collet chuck
- High pressure pump
- Inch disc
- Oil mist collector
- Oil skimmer
- Parts catcher
- Programmable tailstock
- Robot
- Spindle air inner blow
- Transformer
- Tool setter