



ISO 9001
BSMI

ISO 14001
BSMI



"Exceeding Your Expectation"
"Leading Into A Greater Future"

LEADWELL
LEADWELL CNC MACHINES MFG., CORP.



LEADWELL CNC MACHINES MFG.,CORP.



No. 8, Xingke Road, Houli District, Taichung City 421007, Taiwan
TEL: 886-4-25589008
FAX: 886-4-25589027
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

**High Productivity
Horizontal Turning Center**

**T-7A/T-7AM
LTC-20D/LTC-20DM
LTC-20DMY/LTC-20DSMY**

HIGH PRODUCTIVITY CNC TURNING CENTER

This series has versatility and high-value performance also can choose power turret and C axis to machining such as turning, milling, and drilling applications may be completed in one single machine. It also can contour milling for the various workpieces.

CE-approved guarding is also available as an optional.



SHEET METAL

Fully enclosed splash guards keep chips and coolant contained for a safe clean working environment.

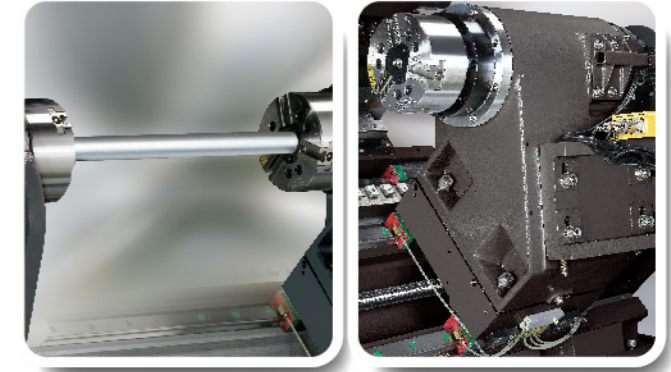
| MODEL | T-7A | | T-7AM | |
|---------------|----------|--|----------|--|
| X-AXIS TRAVEL | 190+20mm | | 160+20mm | |
| Z-AXIS TRAVEL | 450mm | | | |
| CHUCK SIZE | 8 | | | |
| BAR CAPACITY | 65mm | | | |

| MODEL | LTC-20D | LTC-20DM | LTC-20DMY | LTC-20DSMY |
|---------------|----------|----------|-----------|------------|
| X-AXIS TRAVEL | 190+20mm | 160+20mm | 160+35mm | 160+5mm |
| Z-AXIS TRAVEL | 540mm | | 510mm | 580mm |
| CHUCK SIZE | 8 | | | |
| BAR CAPACITY | 65mm | | | |

S

SUB SPINDLE

- The sub-spindle replaces the standard tailstock on turning centers.
- A position Czi sensor is attached to the sub-spindle so the sub-spindle can then by synchro nized with the main spindle.
- Special software allows the work piece to be transferred from the main spindle to the sub-spindle at any speed for secondary machining operations.
- Allows machining on both end of parts.



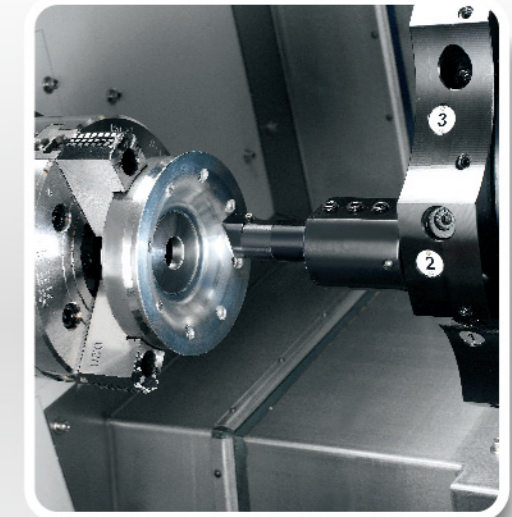
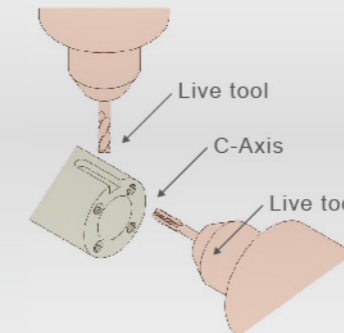
M

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 |



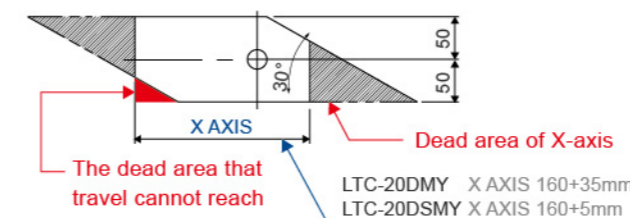
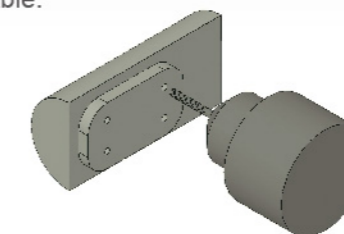
Y

LIVE TOOL TURRET

- The Y-axis design can decrease inaccuracy from machining and arithmetic errors.
- Complex workpieces available.

Virtual Y axis

- Short reaction force
- Good rigidity



STRUCTURE

High Rigid Superior Construction

The 30-degree slant bed design allows chips to fall directly into the chip tank, avoiding accumulation inside the machine. All major components are cast iron which has 10 times the dampening capacity of steel resulting in superior cutting performance.

FEA

Casting are well ribbed based on Finite Element Analysis for the size and location to ensure high torsional stiffness and minimum vibration.

Spindle

- *Precision spindle to ensure the parts life.
- *Special heat treatment for crucial components with highly accurate draw tube mechanism for highest rigidity.

LTC-20DSMY

Power Turret :

STD: BMT-55
OPT.: VDI-30

Sub-Spindle

To enhance efficiency and reduce accuracy lost due to reversing workpiece manually.

Tailstock

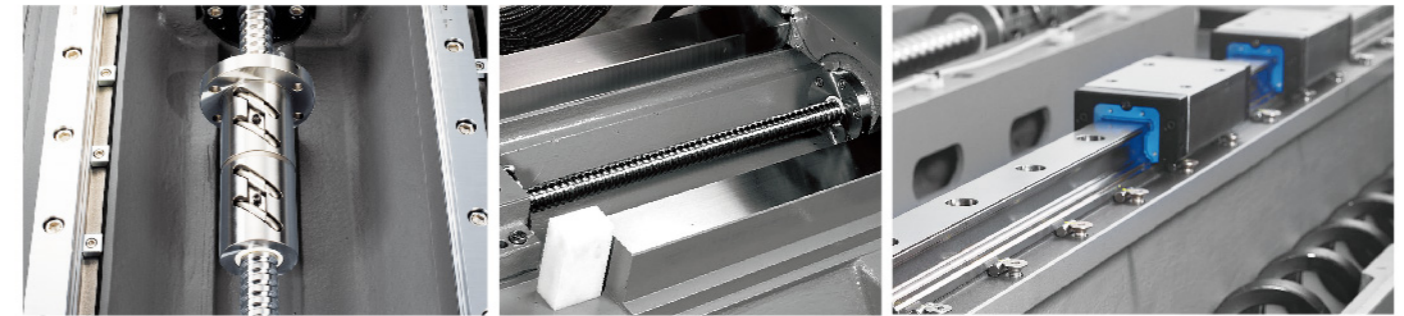
MT-4(MANUAL)

Programmable tailstock (optional)

Movement By Z-axis sliding plate by M code control.

| SPINDLE NOSE | SPINDLE SPEED | SPINDLE TORQUE | SPINDLE MOTOR | MODEL |
|--------------|---------------|----------------|---------------|--------------------|
| A2-6 8" | 4000 RPM | 148.2 NM | β12-11/15KW | T-7A(M)/LTC-20D(M) |
| A2-6 8" | 4000 RPM | 148.2 NM | α12-11/15KW | T-7A(M)/LTC-20D(M) |
| A2-6 8" | 4000 RPM | 147 NM | α12-11/15KW | LTC-20D(S)MY |

| MODEL | T-7A LTC-20D(M) | T-7AM LTC-20DMY |
|--------------------|--------------------|--------------------|
| TAILSTOCK MOVEMENT | 360 mm | 395 mm |
| QUILL DIAMETER | 75 mm | |
| QUILL INSIDE TAPER | MT-4 | |
| QUILL STROKE | 75 mm | |



Precision Ball Screw

To apply for high accuracy, low torque fluctuations, and long-term maintenance-free operation by using.

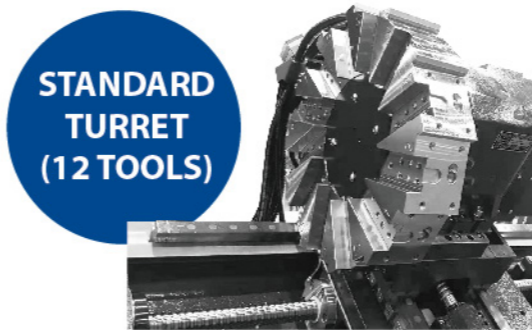
High Rigid Box way

For heavy-duty cutting, stability, fewer vibrations. (LTC series)

High Speed Linear way

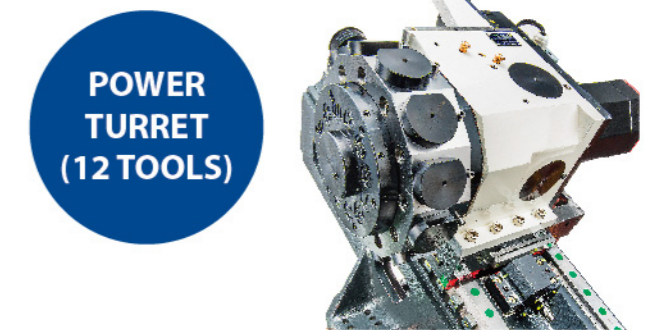
For high-speed cutting, light-duty, higher precision, and lower friction and motor lost. (T series)

HIGH ACCURACY TURRET



STANDARD TURRET (12 TOOLS)

Driven by servo, rotating smoothly and easily select the tools to avoid the collision.

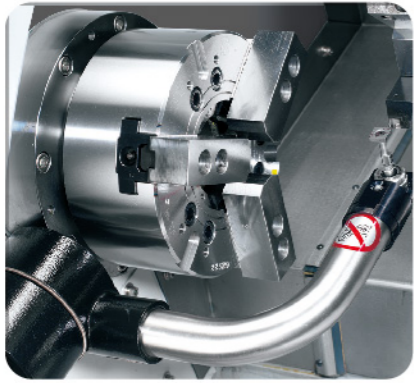


POWER TURRET (12 TOOLS)

With applying for three pieces of curve coupling, indexing belt and offset design to ensure lower noise and backlash while turret rotating.

| TOOLS | 12 | 12 | 12 | 12 |
|-------------|-----------------------------|-------------------------------|----------------------|----------------------|
| | □25 Ø40 | □25 Ø40 | □25 Ø40 | □25 Ø40 |
| TYPE | Servo motor | Power turret BMT-55/DIN1809 | Power turret BMT-55 | Power turret BMT-55 |
| CHANGE TIME | 0.72sec. | 1.125sec. | 0.15sec. | 1.13sec. |
| SPEED POWER | --- | 3000rpm 2.7kw(α12) | 6000rpm 2.2kw(α2) | 6000rpm 2.2kw(α2) |
| MODEL | T-7A---STD LTC-20D---STD | T-7AM---STD LTC-20DM---STD | LTC-20DMY---STD | LTC-20DSMY---STD |

HIGH PERFORMANCE OPTIONS



Tool Setter

The tool setter with probe can measure various tool lengths and detect the damaged of tools. Via tool life management, it can be saved all status automatically.



Bar Feeder

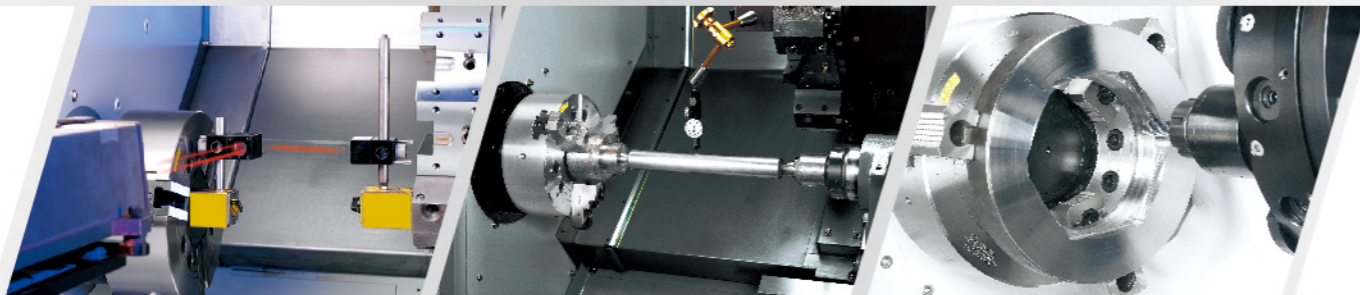
The bar feeder is suggested for unattended bar machining and high production requirements. It handles bars ranging from 5 to 65 mm in diameter. Bar loading can be quickly accomplished. Easy parameter setting for various bar sizes.



Parts Catcher

The unique parts catcher improves productivity with the bar feeder option, it also can automatically loaded the finished part into bucket, and then to enhance the productivity.

HIGH QUALITY ASSURANCE



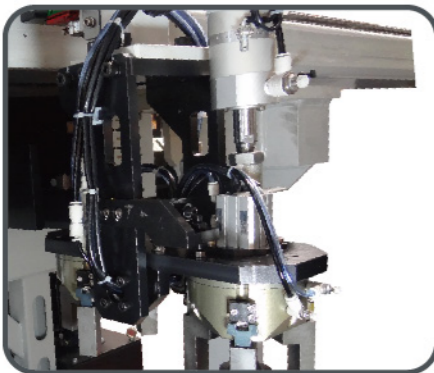
Laser Calibration

Machine Geometric Checking

Cutting Testing

AUTOMATION SYSTEM

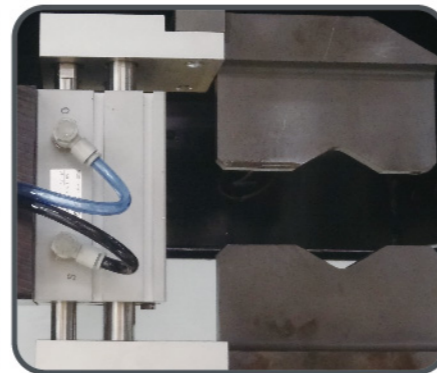
By loading & unloading components which have a different shape more convenient, it is also applicable for Gantry Robot System.



Gantry Robot (optional)



IN/OUT Stoker (optional)



External Turning Device (optional)

CHIP REMOVAL SYSTEM

| Type | Chain | Scraper | Precision Scraper |
|---------|---|---------------|-------------------|
| View | | | |
| Process | <p>*chain type : >6mm chips or with round & thin chips</p> <p>*chain type with cylinder brush : >2mm chips or non-round or thin chips</p> | 2mm-6mm chips | <6mm chips |

CUTTING PERFORMANCE

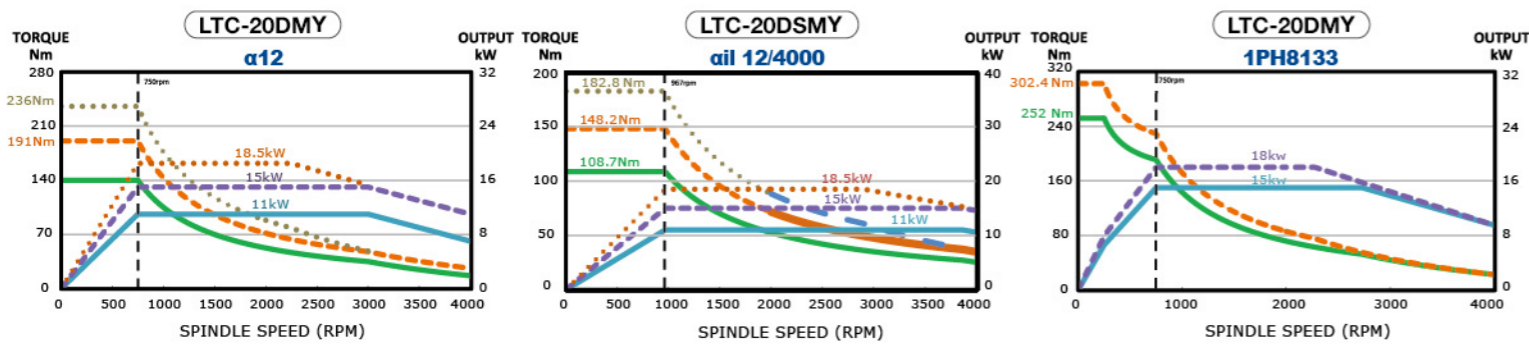
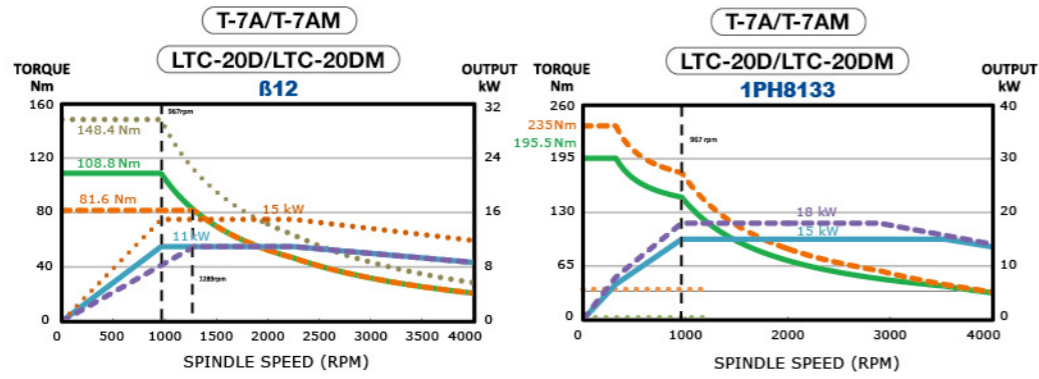


| | TOOL mm | CUTTING SPEED m/min | SPINDLE SPEED rpm | FEED PER mm/rev | FEED RATE mm/min | CUTTING DEPTH mm |
|--------------------------|---------|---------------------|-------------------|-----------------|------------------|------------------|
| Heavy Cutting | --- | 225 | 779 | 0.3 | 234 | 4 |
| Keyway | 5 | 140 | 637 | 0.15 | 96 | 5 |
| Fast Drilling | Ø50 | 157 | 1000 | 0.18 | 180 | 60 |
| Rigid Tapping | M20 | 11 | 180 | 2.5 | 450 | 35 |
| Power Drilling | Ø12 | 25 | 663 | 0.12 | 80 | 36 |
| Power Rigid Tapping | M14 | 13 | 300 | 2 | 600 | 28 |
| Power End Milling Keyway | Ø16 | 40 | 796 | 0.03 | 96 | 12 |

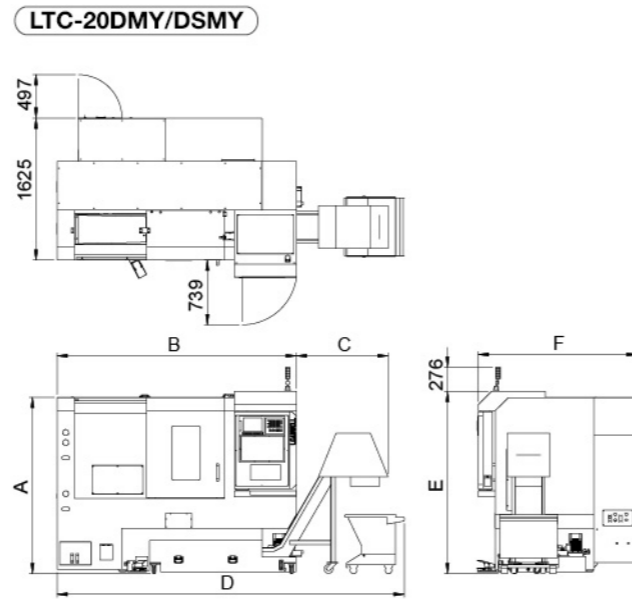
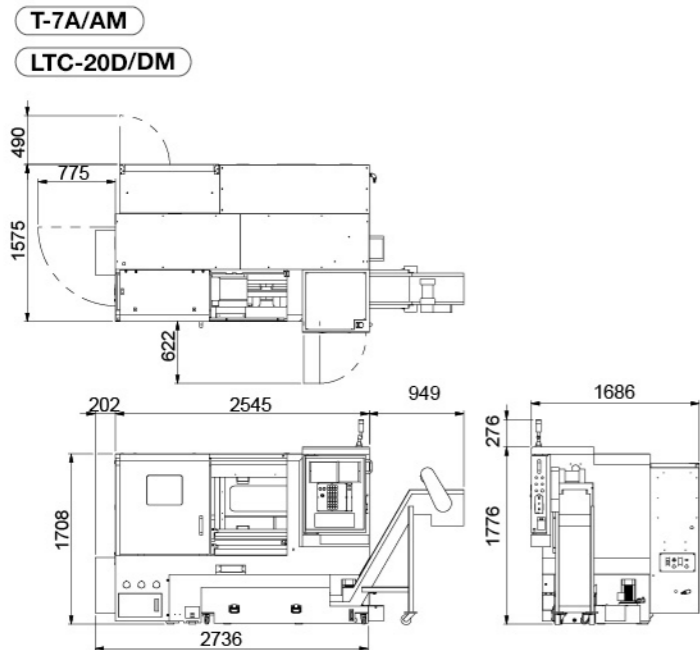
Material:S45C Model: LTC-20DM

SPINDLE POWER CURVE

— Torque- S1 (Nm) ⋯ Gbox Torque- S1 (Nm) — Output- S1 (kW) ⋯ Torque - S3-25% (Nm)
— Torque- S2 30 min (Nm) ⋯ Gbox Torque- S2 30 min (Nm) — Output- S2 30 min (kW) ⋯ Output - S3-25% (kW)



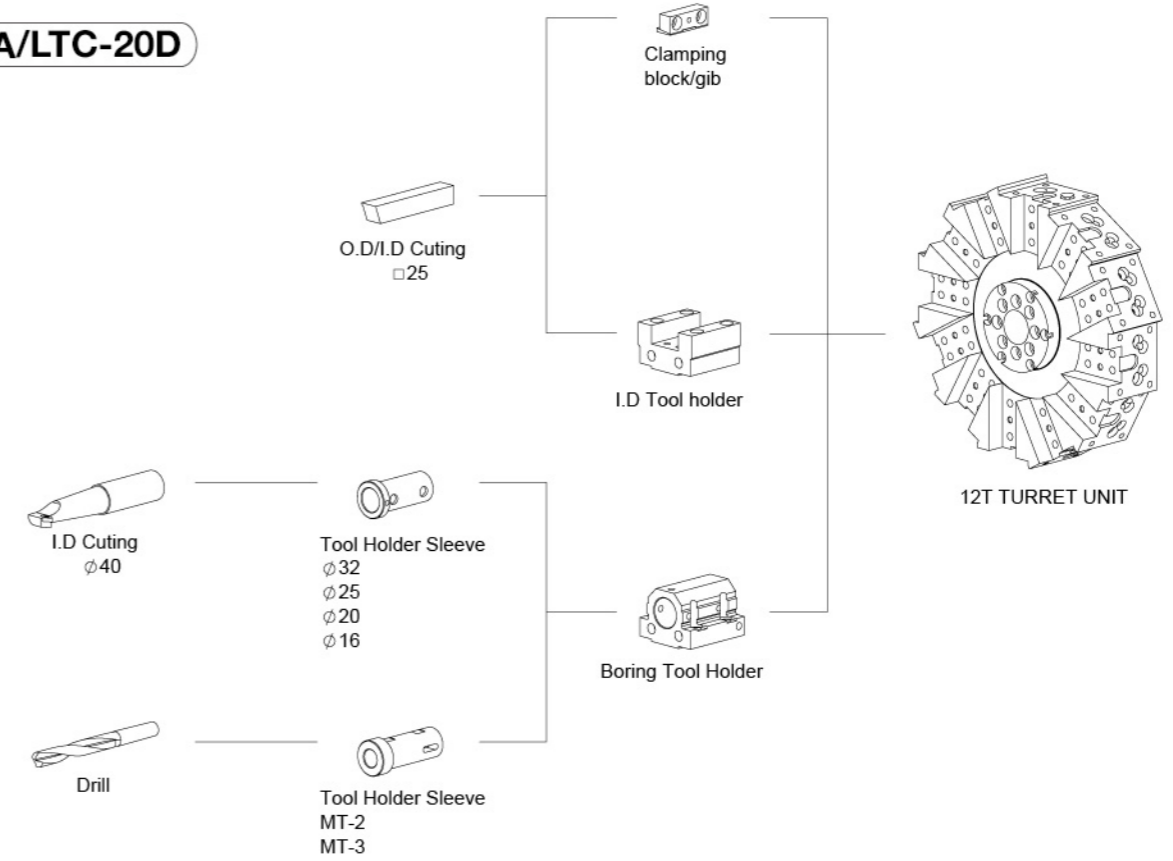
OUTLINE DIMENSION



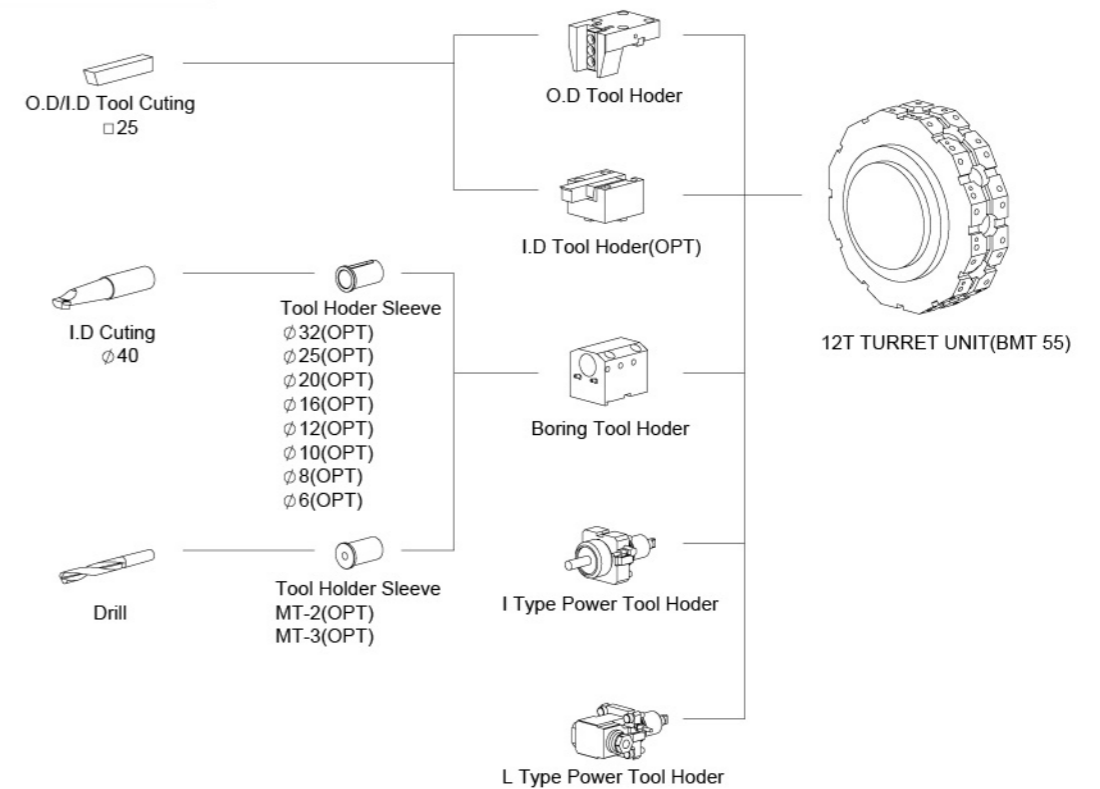
| MODEL | A | B | C | D | E | F |
|------------|------|------|------|------|------|------|
| LTC-20DMY | 2017 | 2738 | 1047 | 3970 | 2085 | 1816 |
| LTC-20DSMY | 1995 | 3049 | 1165 | 4489 | 2066 | 1838 |

TOOL SYSTEM

T-7A/LTC-20D

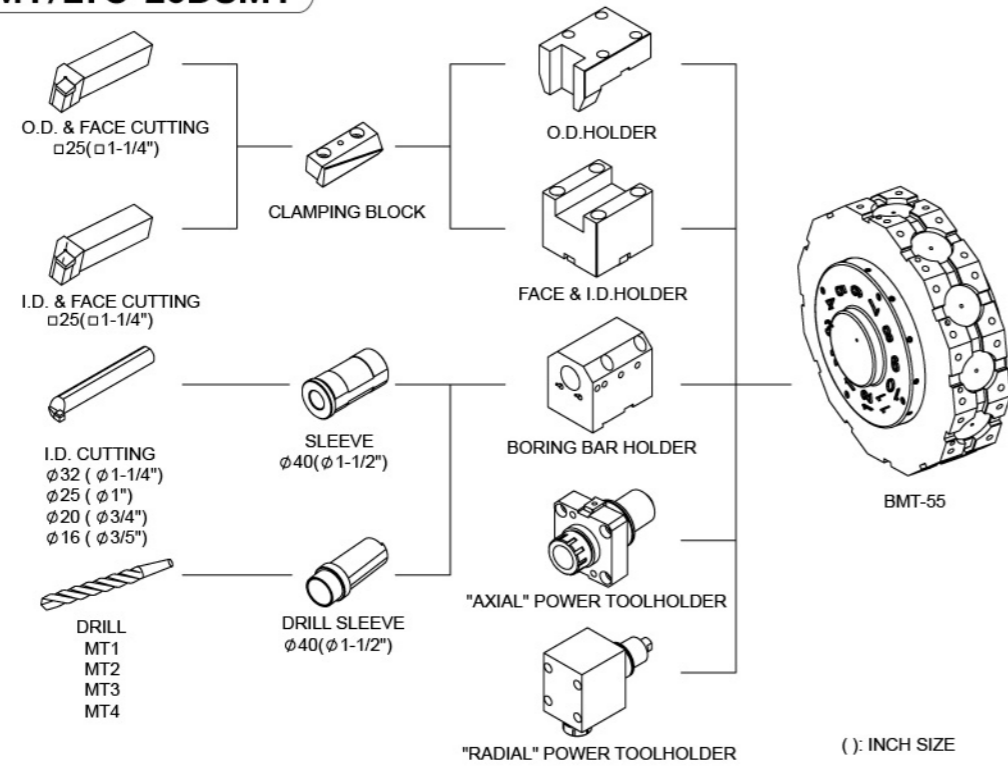


T-7AM/LTC-20DM



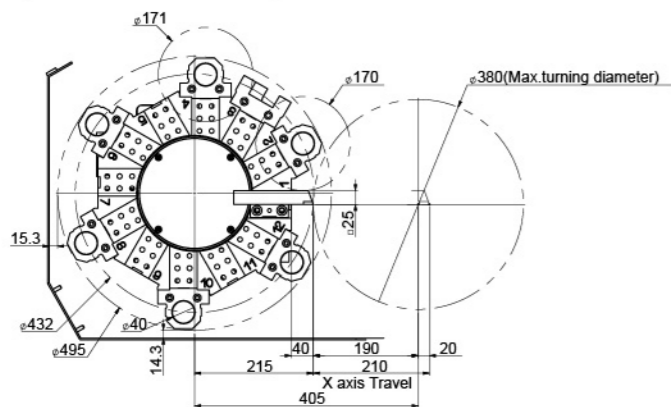
TOOLING SYSTEM

LTC-20DMY/LTC-20DSMY

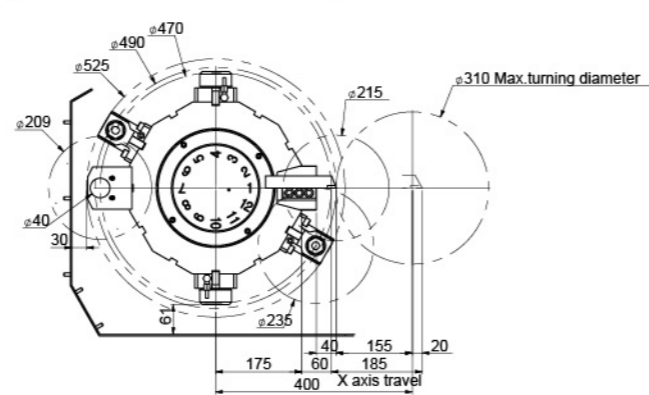


TOOLING INTERFERENCE

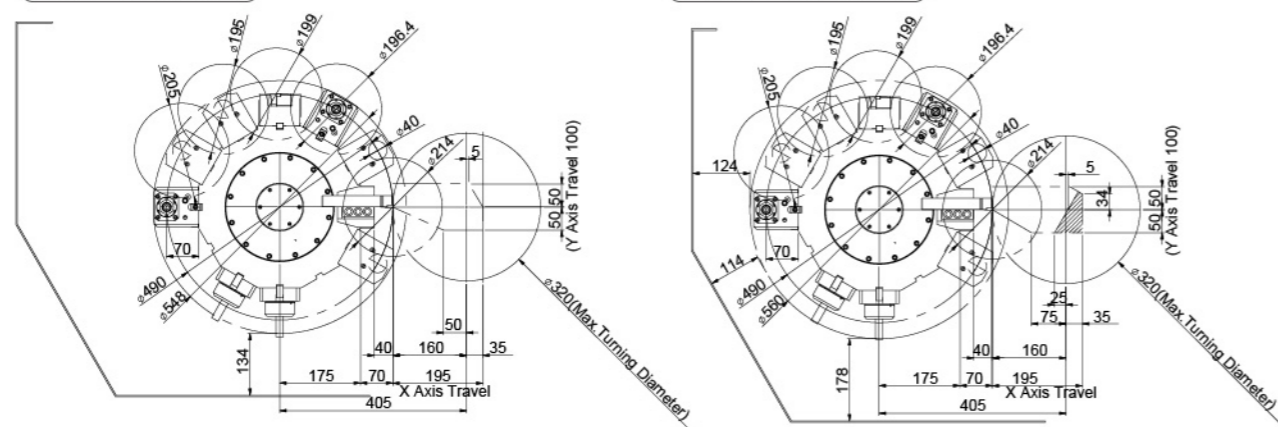
T-7A/LTC-20D



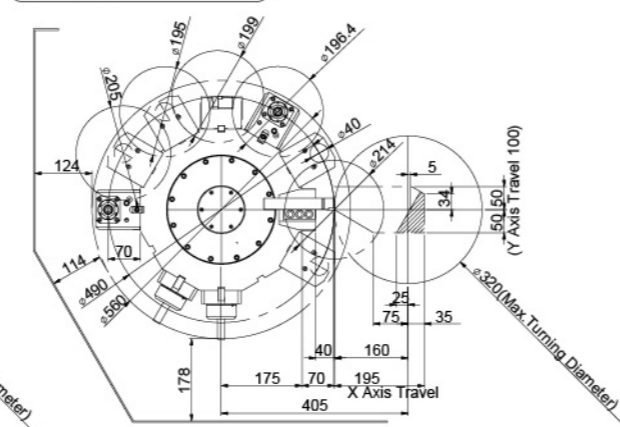
T-7AM/LTC-20DM



LTC-20DMY

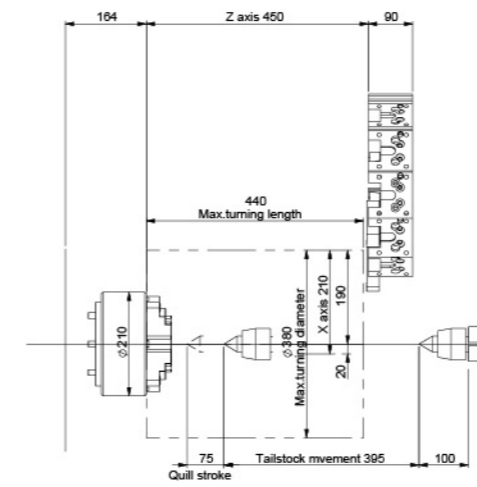


LTC-20DSMY

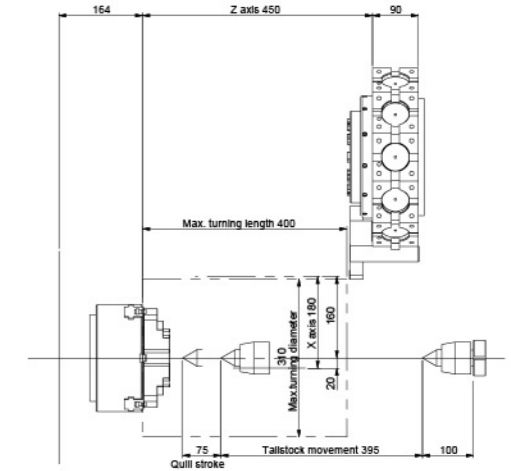


WORKING CAPACITY

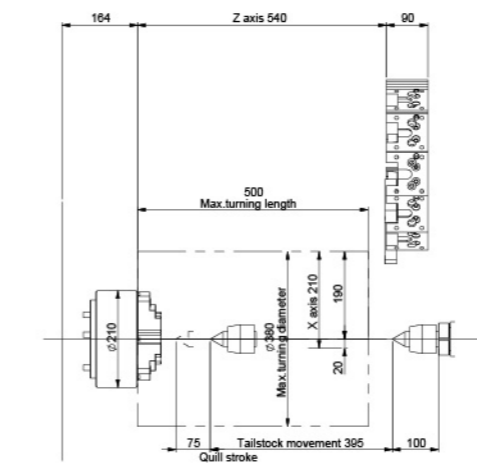
T-7A



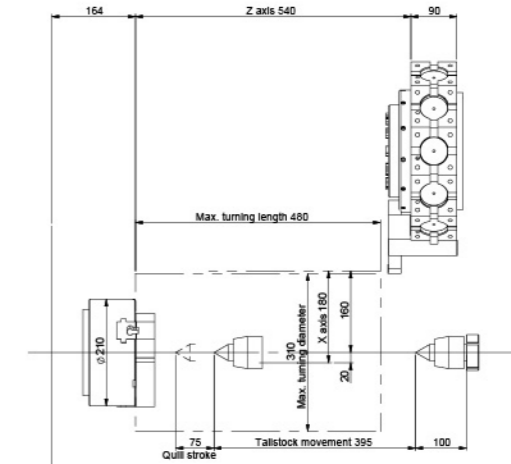
T-7AM



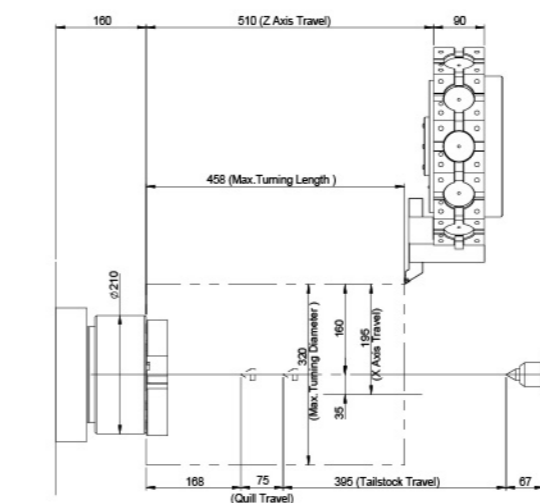
LTC-20D



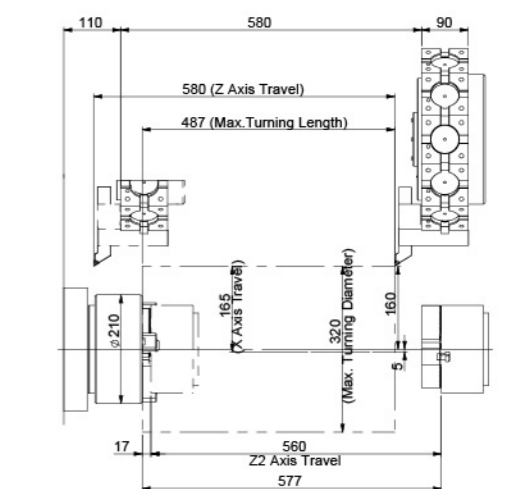
LTC-20DM



LTC-20DMY



LTC-20DSMY



MACHINE SPECIFICATIONS

| ITEM | MODEL | T-7A | T-7AM | LTC-20D | LTC-20DM |
|---|----------|------------------|------------------|--------------------|--------------------|
| CAPACITY | | | | | |
| Max. swing | mm(in) | 500(19.6) | 540(21.2) | 500(19.6) | 540(21.2) |
| Max. turning diameter | mm(in) | 380(14.9) | 310(12.2) | 380(14.9) | 310(12.2) |
| Max. turning length | mm(in) | 440(17.3) | 400(15.7) | 500(19.7) | 480(18.9) |
| Bar capacity | mm(in) | 65(2.5) | 65(2.5) | 65(2.5) | 65(2.5) |
| TRAVEL | | | | | |
| X-axis travel | mm(in) | 190+20(7.4+0.78) | 160+20(6.2+0.78) | 190+20(7.4+0.78) | 160+20(6.2+0.78) |
| Z-axis travel | mm(in) | 450(17.7) | 450(17.7) | 540(21.2) | 540(21.2) |
| SPINDLE | | | | | |
| Spindle speed | rpm | 4000 | 4000 | 4000 | 4000 |
| Chuck size | in | 8 | 8 | 8 | 8 |
| Type of spindle nose | | A2-6 | A2-6 | A2-6 | A2-6 |
| Spindle motor type | Fanuc | β12 | β12 | β12 | β12 |
| Spindle motor power (cont./15min) | kw(hp) | 11/15(14.7/20.1) | 11/15(14.7/20.1) | 11/15(14.7/20.1) | 11/15(14.7/20.1) |
| TURRET | | | | | |
| Number of tool stations | pcs | 12(SERVO) | 12 | 12(SERVO) | 12 |
| Shank height for square tool | mm(in) | 25(1) | 25(1) BMT-55 | 25(1) | 25(1) BMT-55 |
| Shank diameter for boring bar | mm(in) | 40(1.5) | 40(1.5) BMT-55 | 40(1.5) | 40(1.5) BMT-55 |
| Rotary tool spindle speed range: axis units | rpm | --- | 5000 | --- | 5000 |
| Rotary tool spindle speed range: radial units | rpm | --- | 5000 | --- | 5000 |
| Rotary tool motor power | kw(hp) | --- | 2.2(3) | --- | 2.2(3) |
| FEED RATE | | | | | |
| X/Z-axis rapid traverse | m/mm(in) | 30/30(1181/1181) | 30/30(1181/1181) | 20/20(787.4/787.4) | 20/20(787.4/787.4) |
| FEED MOTORS | | | | | |
| X/Z-axis motor | kw(hp) | 1.8/1.8(2.4/2.4) | 1.8/1.8(2.4/2.4) | 1.8/1.8(2.4/2.4) | 1.8/1.8(2.4/2.4) |
| TAILSTOCK | | | | | |
| Quill diameter | mm(in) | 75(3) | 75(3) | 75(3) | 75(3) |
| Quill inside taper | M.T | 4 | 4 | 4 | 4 |
| MACHINE SIZE | | | | | |
| Floor space(L) | mm(in) | 2745(108) | 2745(108) | 2745(108) | 2745(108) |
| Floor space(W) | mm(in) | 1680(66.1) | 1680(66.1) | 1680(66.1) | 1680(66.1) |
| Floor space(H) | mm(in) | 1780(70) | 1780(70) | 1780(70) | 1780(70) |
| Machine weight | kg | 4000 | 4000 | 4000 | 4000 |
| Power requirement | KVA | 30 | 35 | 30 | 35 |
| controller | | 0i-TF/T3 | 0i-TF/T3 | 0i-TF/T3 | 0i-TF/T3 |

*Available controller: SIEMENS/FAGOR/HEIDENHAIN

MACHINE SPECIFICATIONS

| ITEM | MODEL | LTC-20DMY | LTC-20DSMY |
|---|-----------|-----------------------------------|-----------------------------------|
| CAPACITY | | | |
| Max. swing | mm(in) | 570(22.4) | 570(22.4) |
| Max. turning diameter | mm(in) | 320(12.5) | 320(12.5) |
| Max. turning length | mm(in) | 458(18) | 487(19.1) |
| Bar capacity | mm(in) | 65(2.5) | 65(2.5) |
| TRAVEL | | | |
| X-axis travel | mm(in) | 160+35(6.2+1.37) | 160+5(6.2+0.2) |
| Z-axis travel | mm(in) | 510(20) | 580(22.8) |
| Y-axis travel | mm(in) | ±50(±1.96) | ±50(±1.96) |
| Z2-axis travel | mm(in) | --- | 560(22) |
| SPINDLE(MAIN) | | | |
| Spindle speed | rpm | 4000 | 4000 |
| Chuck size | in | 8 | 8 |
| Type of spindle nose | | A2-6 | A2-6 |
| Spindle motor type | Fanuc | α12 | α12 |
| Spindle motor power (cont./30min) | kw(hp) | 11/15(14.7/20.1) | 11/15(14.7/20.1) |
| SPINDLE(SUB) | | | |
| Spindle speed | rpm | --- | 4500 |
| Chuck size | in | --- | 6 |
| Type of spindle nose | | --- | A2-5 |
| Spindle motor type | Fanuc | --- | α6 |
| Spindle motor power (cont./30min) | kw(hp) | --- | 5.5/7.5(7.1/10) |
| TURRET | | | |
| Number of tool stations | pcs | 12 | 12 |
| Shank height for square tool | mm(in) | 25(1) BMT-55 | 25(1) BMT-55 |
| Shank diameter for boring bar | mm(in) | 40(1.5) BMT-55 | 40(1.5) BMT-55 |
| Rotary tool spindle speed range: axis units | rpm | 6000 | 6000 |
| Rotary tool spindle speed range: radial units | rpm | 6000 | 6000 |
| Rotary tool motor power (cont./30min) | kw(hp) | 2.2/3.7(3/5) | 2.2/3.7(3/5) |
| FEED RATE | | | |
| X/Z/Y/Z2-axis rapid traverse | m/min(in) | 30/30/30/--- (1181/1181/1181/---) | 30/30/30/30 (1181/1181/1181/1181) |
| FEED MOTORS | | | |
| X/Z/Y/Z2-axis motor | kw(hp) | 3/3/3/--- (4/4/4/---) | 3/3/3/1.6 (4/4/4/2.1) |
| TAILSTOCK | | | |
| Quill diameter | mm(in) | 75(3) | --- |
| Quill inside taper | M.T | 4 | --- |
| MACHINE SIZE | | | |
| Floor space(L) | mm(in) | 2680(105.5) | 3000(118.1) |
| Floor space(W) | mm(in) | 1625(64) | 1625(64) |
| Floor space(H) | mm(in) | 2170(85.4) | 2170(85.4) |
| Machine weight | kg | 4600 | 4850 |
| Power requirement | KVA | 35 | 35 |
| controller | | 0i-TF | 0i-TF |

*Available controller: SIEMENS/FAGOR/HEIDENHAIN

MACHINE ACCESSORIES

| ITEM \ MODEL | T-7A | T-7AM | LTC-20D | LTC-20DM |
|---------------------------------|------|-------|---------|----------|
| Metric disc | ● | X | ● | X |
| BMT-55 disc | X | ● | X | ● |
| Manual tailstock | ● | ● | ● | ● |
| Three layers warning light | ● | ● | ● | ● |
| Heat exchanger | ● | ● | ● | ● |
| Full enclosed splash guard | ● | ● | ● | ● |
| 3 jaw open center chuck | ● | ● | ● | ● |
| Foot switch | ● | ● | ● | ● |
| High pressure pump 3Bar | ● | ● | ● | ● |
| Auto door | ■ | ■ | ■ | ■ |
| Spindle air outer blow | ■ | ■ | ■ | ■ |
| Chip conveyor and bucket | ■ | ■ | ■ | ■ |
| Collet chuck | ■ | ■ | ■ | ■ |
| Transformer | ■ | ■ | ■ | ■ |
| Bar feeder | ■ | ■ | ■ | ■ |
| Parts catcher | ■ | ■ | ■ | ■ |
| Air conditioner | ■ | ■ | ■ | ■ |
| Oil skimmer | ■ | ■ | ■ | ■ |
| Oil mist collector | ■ | ■ | ■ | ■ |
| Programmable tailstock | ■ | ■ | ■ | ■ |
| Tool setter | ■ | ■ | ■ | ■ |
| Robot | ■ | ■ | ■ | ■ |
| 3 jaw close center chuck | ■ | ■ | ■ | ■ |
| Manual steady rest | X | X | X | X |
| Auto steady rest with hydraulic | X | X | X | X |
| Spindle air inner blow | X | X | X | X |
| Two speed gearbox | X | X | X | X |

● : STD / ■ : O.P.T(DESIGNED) / X : N/A(NOT AVAILABLE)

MACHINE ACCESSORIES

| ITEM \ MODEL | LTC-20DMY | LTC-20DSMY |
|---------------------------------|-----------|------------|
| BMT-55 disc | ● | ● |
| Programmable tailstock | ● | X |
| Buzzer | ● | ● |
| Heat exchanger | ● | ● |
| Full enclosed splash guard | ● | ● |
| 3 jaw open center chuck | ● | ● |
| Foot switch | ● | ● |
| High pressure pump 3Bar | ● | ● |
| Three layers warning light | ● | ● |
| Sub spindle air outer blow | X | ● |
| Robot | ■ | ■ |
| Spindle air outer blow | ■ | ■ |
| High pressure pump 4bar | ■ | ■ |
| Chip conveyor and bucket | ■ | ■ |
| Collet chuck | ■ | ■ |
| Transformer | ■ | ■ |
| Bar feeder | ■ | ■ |
| Parts catcher | ■ | ■ |
| Air conditioner | ■ | ■ |
| Oil skimmer | ■ | ■ |
| Oil mist collector | ■ | ■ |
| Robot | ■ | ■ |
| 3 jaw close center chuck | ■ | ■ |
| Manual steady rest | X | X |
| Auto steady rest with hydraulic | X | X |
| Spindle air inner blow | X | X |
| Two speed gearbox | X | X |

● : STD / ■ : O.P.T(DESIGNED) / X : N/A(NOT AVAILABLE)