



Great Turning Centers

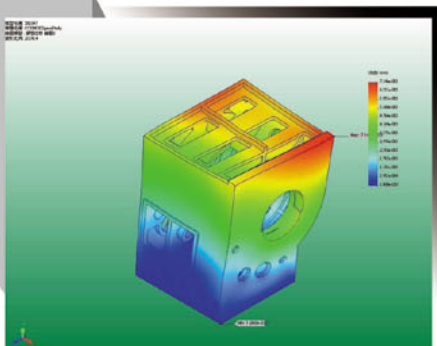


GT-40/80/120/160/200/240
275/320/355/395

Great *Turning* Centers



GT-80 / 275



Quality

Solidworks advanced engineering software is utilized for optimizing the design of the GT Series. It is used to calculate the physical and material properties of the components. ANSYS Finite element analysis (FEA) software is employed to analyze all components of the GT series to determine the optimal machine structure.

Both of the softwares help us to refine our design and ensure our machines without weakness.



GT- (+C)

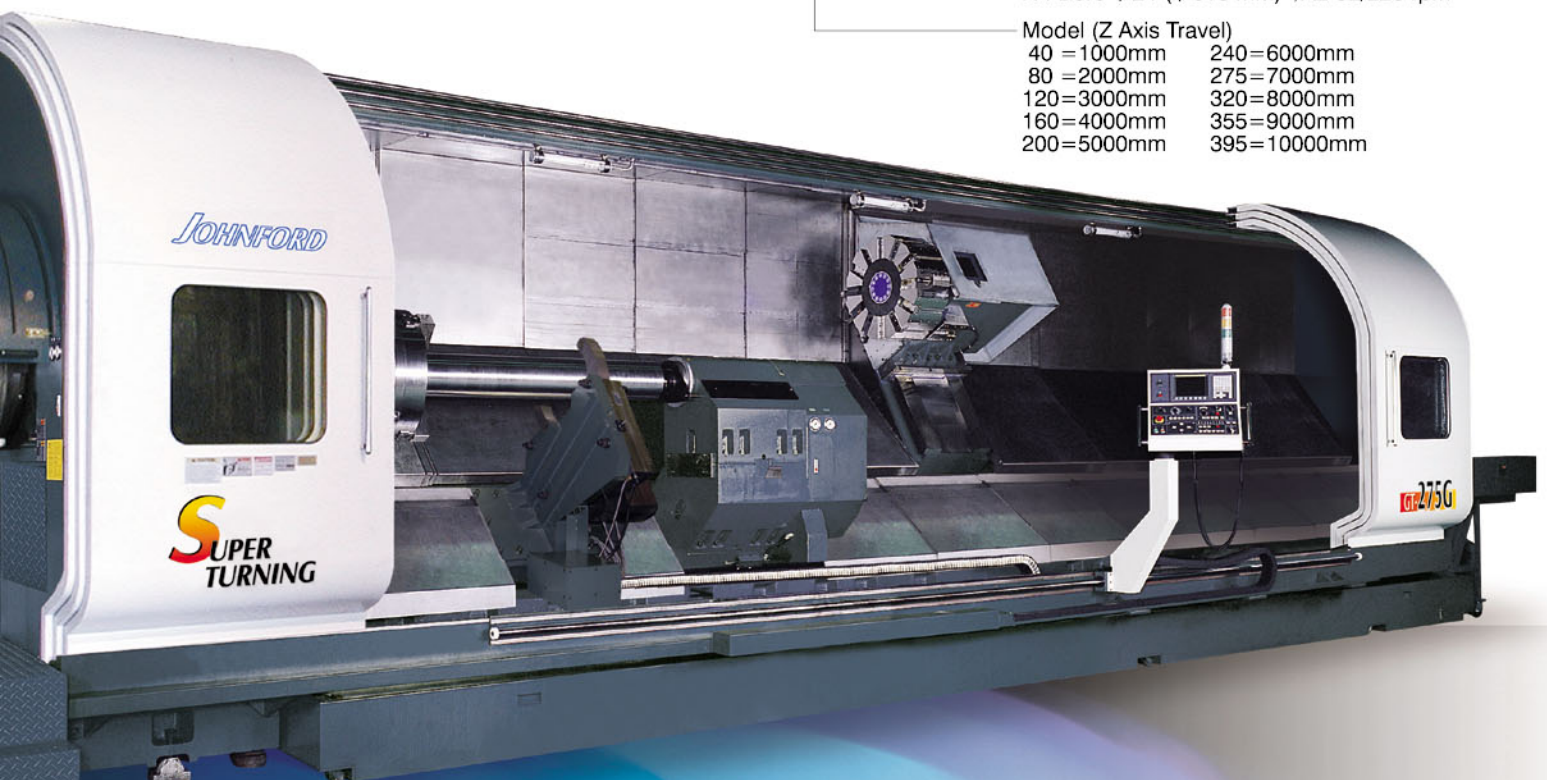
Option
C: C Axis

Spindle Type

D : Bore ϕ 7" (ϕ 185 mm) /A2-15/1000 rpm
 E : Bore ϕ 9" (ϕ 235 mm) /A2-15/750 rpm
 F : Bore ϕ 10" (ϕ 255 mm) /A2-15/600 rpm
 G : Bore ϕ 12" (ϕ 318 mm) /A2-20/500 rpm
 H : Bore ϕ 14" (ϕ 360 mm) /A2-20/400 rpm
 I : Bore ϕ 16" (ϕ 410 mm) /A2-28/300 rpm
 J : Bore ϕ 21" (ϕ 535 mm) /A2-28/250 rpm
 K : Bore ϕ 24" (ϕ 610 mm) /A2-32/220 rpm

Model (Z Axis Travel)

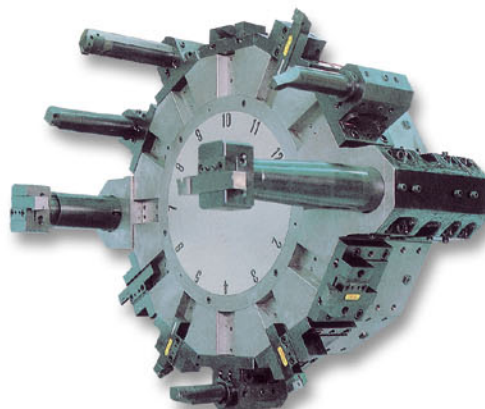
| | |
|--------------|---------------|
| 40 = 1000mm | 240 = 6000mm |
| 80 = 2000mm | 275 = 7000mm |
| 120 = 3000mm | 320 = 8000mm |
| 160 = 4000mm | 355 = 9000mm |
| 200 = 5000mm | 395 = 10000mm |



**Johnford Offers You the Best Performance
in Large Turning Centers with Our
Advanced Manufacturing Ability**

**Programmable Hydraulic
Tailstock**

Tailstock is designed for heavy duty operation and is fully automatic. Tailstock body and spindle is programmable and can also be operated by manual switches.



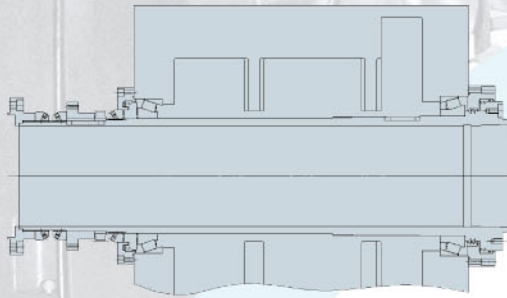
12-Position Vertical Turret

The heavy duty cutting turret with a clamping force of 20,000kg (35kg/cm²) and large cutting tool capacity provides for the use of ϕ 100mm diameter boring bar.

The turret indexing is a non-stop random selection system and allows high-speed indexes.

Powerful Spindle for Heavy Duty Cutting

Powerful Spindle for Heavy Duty Cutting

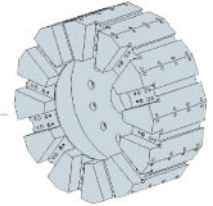
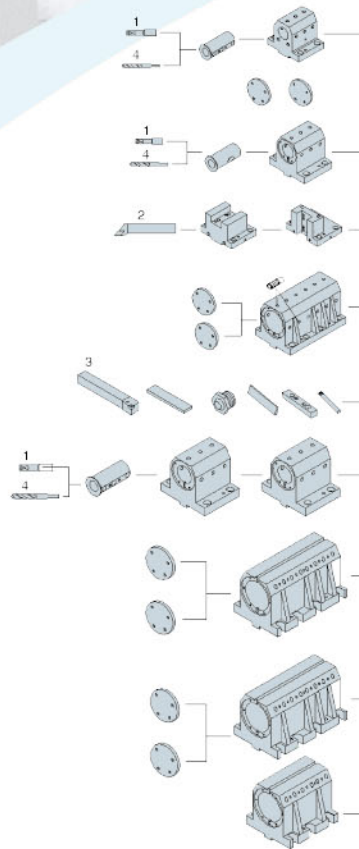


Headstock is a thick wall casting with special ribs arranged for maximum rigidity.

The main spindle adopts JOHNFORD's own 2-point supporting system. We can provide large size spindle bores: ϕ 185, ϕ 235, ϕ 255, ϕ 318, ϕ 360, ϕ 410, ϕ 535, ϕ 610 mm.

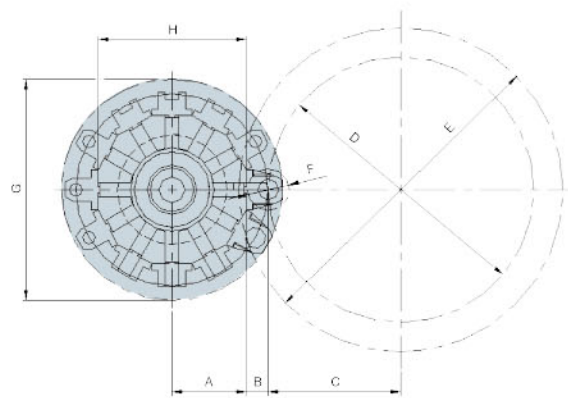
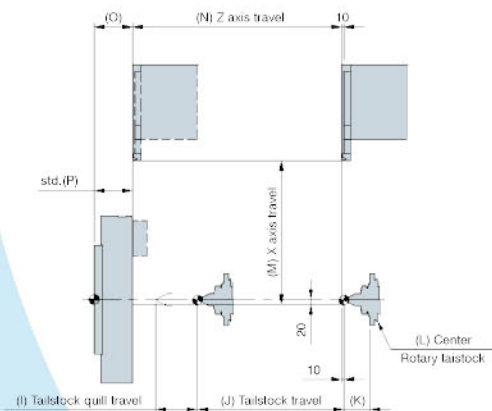
The 4-step geared headstock with automatic hydraulic shift and constant surface speed control ensures the proper cutting speed for a better surface finish and longer tool life while delivering awesome cutting power at any speed.

Tooling System



| No. | Model Taper Tool | Metric System | Empiral System |
|-----|------------------|--|---|
| 1 | Bore | ϕ 12, ϕ 16, ϕ 20, ϕ 25 | 1/2", 1", 1-1/4" |
| | | ϕ 32, ϕ 40, ϕ 50 | 1-1/2", 1-3/4" |
| 2 | End | <input type="checkbox"/> 32 | <input type="checkbox"/> 1" / <input type="checkbox"/> 1-1/4" |
| 3 | Outerdia | <input type="checkbox"/> 32 | <input type="checkbox"/> 1" / <input type="checkbox"/> 1-1/4" |
| 4 | Drill | MT#2, #3, #4, #5 | |

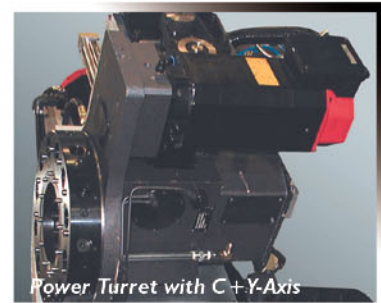
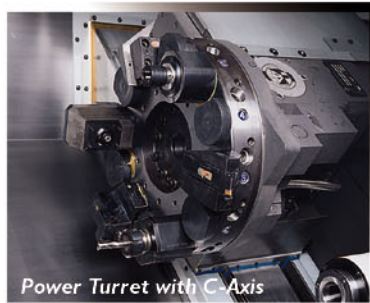
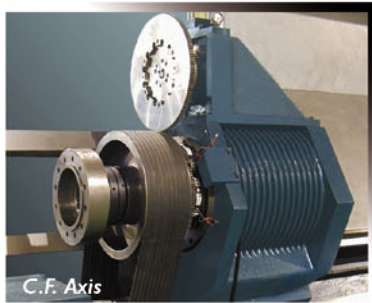
12-Angle Turret Working Capacity / Range



| Model | Item | A | B | C | D | E | F | G | H | I | J | K | L | M | N | |
|--------|-----------|------------|-----------|------------|------------|------------|--------------|-----------|------------|---|---------------|--------------|------|-----------|---------------|----------------|
| GT-40 | | | | | | | | | | | 700 (27.6") | | | | 1000 (39.4") | |
| GT-80 | | | | | | | | | | | 1700 (66.9") | | | | 2000 (78.7") | |
| GT-120 | | | | | | | | | | | 2700 (106.3") | | | | 3000 (118.1") | |
| GT-160 | | | | | | | | | | | 3700 (145.7") | | | | 4000 (157.5") | |
| GT-200 | 355 (14") | 105 (4.1") | 635 (25") | 1270 (50") | 1550 (61") | 200 (7.9") | 1060 (41.7") | 710 (28") | 200 (7.9") | | 4700 (185") | 125.5 (4.9") | MT#7 | 685 (27") | 5000 (196.9") | |
| GT-240 | | | | | | | | | | | 5700 (224.4") | | | | | 6000 (236.2") |
| GT-275 | | | | | | | | | | | 6700 (263.8") | | | | | 7000 (275.6") |
| GT-320 | | | | | | | | | | | 7700 (303.1") | | | | | 8000 (315") |
| GT-355 | | | | | | | | | | | 8700 (342.5") | | | | | 9000 (354.3") |
| GT-395 | | | | | | | | | | | 9700 (381.9") | | | | | 10000 (393.7") |

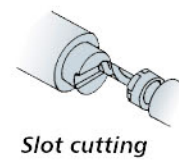
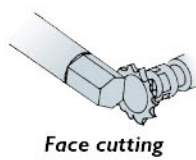
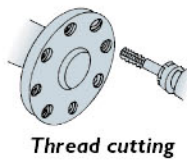
| Spindle Type | O | P |
|--------------|------------|------------|
| A Type | 122 (4.8") | 122 (4.8") |
| B Type | 149 (5.9") | 149 (5.9") |
| C Type | 155 (6.1") | 155 (6.1") |
| D Type | 155 (6.1") | 155 (6.1") |

Power Turret with C-Axis/C+Y-Axis Function



C-axis or C+Y-axis provides flexible turning performance for handling cam or special profiled parts that need milling / drilling / tapping operations. 0.001 degree indexing allows accurate circular positioning.

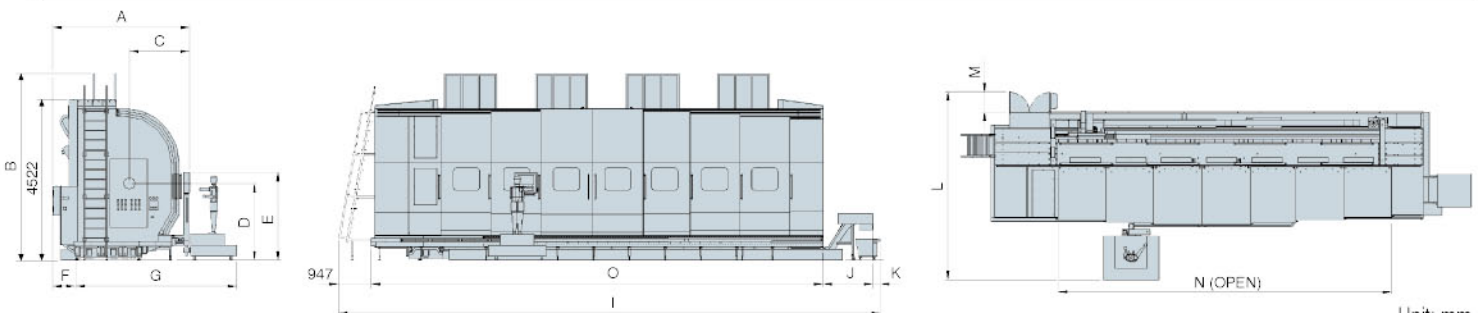
Examples for Machining with Live Tools



Standard Features-Great Equipment

| Item | Model | GT-40, 80, 120, 160, 200, 240, 275, 320, 355, 395 Series | GT-40~395 (All Series with Y-Axis) |
|-----------------------|---|--|---|
| Power turret model | | TBMA 320 | TBMA 400 |
| Max. speed of turret | | 2000 rpm | 3276 rpm |
| Twist drilling | $d \times a$ (mm)x(mm/μ) | 25 x 0.5 | 22 x 0.20 |
| Slot milling | $d \times P \times a$ (mm)x(mm)x(mm/min) | 40 x 20 x 35 (1.57" x 0.79" x 1.38") | 25 x 20 x 40 (0.98" x 0.79" x 1.57") |
| Tapping | $d \times p$ (mm)x(mm) | M24 x 3 | M18 x 2 |
| Toolholder shaft size | | φ 60 | φ 50 |
| Motor horsepower | | AC 5.5 / 7.5 kW | AC 5.5 / 3.7 kW |

Dimensions



Unit: mm

| Model | Item | A | B | C | D | E | F | G | I | J | K | L | M | N | O |
|--------|------|---------------|---------------|--------------|--------------|---------------|-------------|---------------|----------------|--------------|------------|---------------|-------------|----------------|----------------|
| GT-40 | | | | | | | | | 8800 (346.4") | | | | | 2240 (88.2") | 7733 (304.5") |
| GT-80 | | | | | | | | | 9900 (389.8") | | | | | 3240 (127.6") | 8833 (347.8") |
| GT-120 | | | | | | | | | 11000 (433") | | | | | 4240 (166.9") | 9933 (391") |
| GT-160 | | | | | | | | | 12100 (476.4") | | | | | 5240 (206.3") | 11033 (434.4") |
| GT-200 | | 4018 (158.2") | 5470 (215.4") | 1770 (69.7") | 2249 (88.5") | 2571 (101.2") | 671 (26.4") | 5389 (212.2") | 13200 (519.7") | 1470 (57.9") | 223 (8.8") | 5812 (228.8") | 650 (25.6") | 6240 (245.7") | 12133 (477.7") |
| GT-240 | | | | | | | | | 14300 (563") | | | | | 7240 (285") | 13233 (521") |
| GT-275 | | | | | | | | | 15400 (606.3") | | | | | 8240 (324.4") | 14333 (564.3") |
| GT-320 | | | | | | | | | 16500 (649.6") | | | | | 9240 (363.8") | 15433 (607.6") |
| GT-355 | | | | | | | | | 17600 (692.9") | | | | | 10240 (403.1") | 16533 (650.9") |
| GT-395 | | | | | | | | | 18700 (736.2") | | | | | 11240 (442.5") | 17633 (694.2") |

Specifications

| Item | Model | GT-40 | GT-80 | GT-120 | GT-160 | GT-200 | GT-240 | GT-275 | GT-320 | GT-355 | GT-395 |
|-----------------------------------|-------|---|---------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Swing over bed (mm) | | φ 1550 | | | | | | | | | |
| Swing over cross slide (mm) | | φ 1270 | | | | | | | | | |
| Distance between centers (mm) | | 1000 (39.3") | 2000 (78.7") | 3000 (118.1") | 4000 (157.5") | 5000 (196.9") | 6000 (236.2") | 7000 (275.6") | 8000(315") | 9000 (354.3") | 10000 (393.7") |
| Chuck size (in) | | D: 20" / E, F, G, H, I: 24" / J, K: 40" | | | | | | | | | |
| Spindle nose | | D, E, F: A2-15 / G, H: A2-20 / J, I: A2-28 / K: A2-32 | | | | | | | | | |
| Spindle bore (mm) | | D: φ 185 / E: φ 235 / F: φ 255 / G: φ 318 / H: φ 360 / I: φ 410 / J: φ 535 / K: φ 610 | | | | | | | | | |
| Spindle speed step (s) | | Auto 4-speeds | | | | | | | | | |
| Spindle speed range (rpm) | | D: 1000 / E: 750 / F: 600 / G: 500 / H: 400 / I: 300 / J: 250 / K: 220 | | | | | | | | | |
| Spindle motor (kW) | | 30 / 37 | | | | | 37 / 45 | | | | |
| Spindle bearing diameter (mm) | | D: φ 240 / E: φ 280 / F: φ 305 / G: φ 381 / H: φ 457 / I: φ 508 / J: φ 610 / K: φ 700 | | | | | | | | | |
| No. of tools | | 12 | | | | | | | | | |
| Cross travel (X-axis) (mm) | | 685 (27") | | | | | | | | | |
| Longitudinal travel (Z-axis) (mm) | | 1000 (39.3") | 2000 (78.7") | 3000 (118.1") | 4000 (157.5") | 5000 (196.9") | 6000 (236.2") | 7000 (275.6") | 8000 (315") | 9000 (354.3") | 10000 (393.7") |
| Rapid traverse (m/min) | | X: 12 / Z: 15 | X: 10 / Z: 12 | | | X: 10 / Z: 10 | | | | | |
| Tailstock travel (mm) | | 700 (27.6") | 1700 (66.9") | 2700 (106.3") | 3700 (145.6") | 4700(185") | 5700(224.4") | 6700(263.8") | 7700(303.1") | 8700(342.5") | 9700(381.9") |
| Tailstock quill travel (mm) | | 200 (7.9") | | | | | | | | | |
| Tailstock quill diameter (mm) | | φ 250 (9.8") | | | | | | | | | |
| Tailstock Spindle taper (Rotary) | | MT#7 | | | | | | | | | |
| Servo motor (X-axis) (kW) | | 7 | | | | | | | | | |
| Servo motor (Z-axis) (kW) | | 7 | | | 9 | | | | | | |
| Bed inclination | | 45° | | | | | | | | | |
| Weight (kg) (lb) | | 27650 (60830) | 32600 (71720) | 36350 (79970) | 40700 (89540) | 45050 (99110) | 49400 (108680) | 53750 (118250) | 58100 (127820) | 62450 (137390) | 66800 (146960) |
| Machine Dimensions (mm) | W x H | 4050 x 4700 (159.4" x 185") | | | | | | | | | |
| | L | 8900 (350.4") | 9900 (389.7") | 10900 (429.1") | 11900 (468.5") | 12900 (507.8") | 13900 (547.2") | 14900 (586.6") | 15900 (626") | 16900 (665.3") | 17900 (704.7") |

■ All data subject to change without notice.

■ All the specifications are listed with the FANUC CNC system and 12-angle turret.

Standard Accessories:

1. Coolant system
2. Splash guard
3. Through hole 3-jaw chuck
4. Programmable hydraulic tailstock
5. Chain type chip conveyor
6. Tool box and various manuals
7. Tool holders (direct mounting type)
8. Auto lubrication with alarm
9. Halogen work lamp

Optional Accessories:

1. C-axis (Live Tooling)
2. Contact tool setting system
(Renishaw TS-20 or BULM NT-A2 / NT-A3)
3. Tool holders (VDI type)
4. Twin spindle

CNC Control Specs

■ CNC system type

O: Std. △: Opt. -: Nil

| Type | Model | GT-40~395 |
|-----------------------|-------|-----------|
| Fanuc 0i-TD | | ○ |
| Fanuc 31i-B | | △ |
| Siemens 840D (572.5) | | △ |
| Siemens 840D (573.5) | | △ |
| Siemens 828D (PPU281) | | △ |

■ Fanuc specifications

O: Std. △: Opt. -: Nil

| | Item | Specifications | 0iTD | 31i-B | |
|------------------------|--|-----------------|--------------------------|-------|---|
| Display unit | 8.4" color LCD | | ○ | - | |
| | 10.4" color LCD | | △ | ○ | |
| Function | Data Server with 2GB CF card | | △ | △ | |
| | NC program memory | 1280M (512KB) | ○ | ○ | |
| | Conversational programming with graphic function | Manual guide 0i | 0iTD | ○ | - |
| | | Manual guide i | 31i-B / 0iTD (10.4" LCD) | △ | ○ |
| | No. of tool offset sets | | 64 | 99 | |
| | No. of variable command sets | | 500 | 500 | |
| Work coordinate system | G54~G59 | | ○ | ○ | |

■ Siemens specifications

O: Std. △: Opt. -: Nil

| | Item | Specifications | 828D | 840D |
|---|---|-----------------------|------|------|
| Operator Panel | 10.4" color LCD | | ○ | ○ |
| | 15.1" color LCD | | - | △ |
| | Machine panel MCP483C | | ○ | ○ |
| | PCU 20 without hard disk | | - | ○ |
| | Network/disk drive management | CF card | △ | △ |
| | PCU 50 with hard disk | Include HD & Ethernet | - | △ |
| Function | ShopTurn programming (copy licence) | | △ | △ |
| | Automatic residual material detection | | △ | △ |
| | Transmit / Peripheral surface transformation | | △ | ○ |
| | Thread cutting with constant or variable pitch | | ○ | ○ |
| | Tapping with compensating chunk / rigid tapping | | ○ | ○ |
| | Positioning axes and spindle via synchronized actions | | ○ | ○ |
| Measuring cycles for drilling/milling and turning | | △ | △ | |



**Whatever You Need
for Milling and Turning
We Offer the Best.**



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