SMEC

# PL 1600G/CG

GANG CNC TURNING CENTER


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SMEC
Smart One, Global One



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SMEC SMEC CO.,LTD.

SMEC *Smart One, Global One*

- 1988 - Started as Samsung Heavy Industries Machine Tools Business
- 1989 - Horizontal and vertical machining center technology partnership with OKK Japan
- 1991 - Turning center and vertical machining center technology partnership with Mori Seiki
- 1996 - 5-sided processing center technology partnership with Toshiba
- 1999 - Spun out from Samsung Aerospace Industries and established SMEC Co., Ltd

**S**amsung
**M**achine Tools
**E**ngineering
**C**ompany

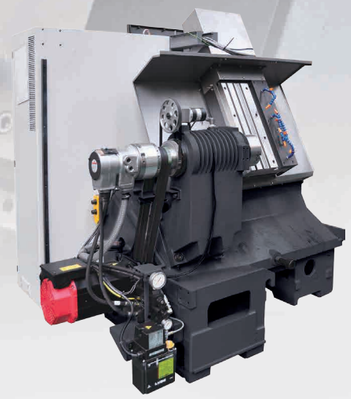
# PL 1600G/CG

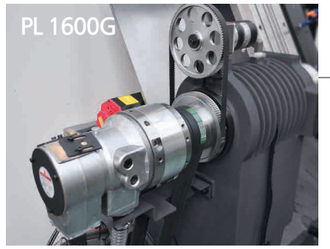

## Minimum Maintenance Cost, Wide Machining Range

### One Bed Casting Structure with High Rigidity

- Heavy duty cutting and Excellent vibration dampening made possible with 60 degree slant type.
- 2 way(Right, Rear) Chip Conveyor Available

- Available for Factory Automation
- Increased Repeatability
- Stable Traverse with LM Guide
- Large Diameter Ball Screw X-Ø32, Z-Ø36 applied



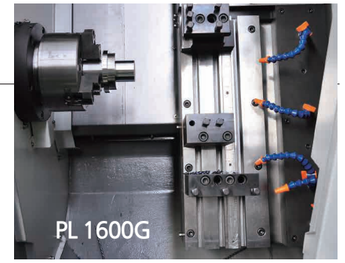



### High Accuracy and High Rigidity Spindle

- High precision angular ball bearings in the front of the spindle, High precision cylindrical roller bearings in the rear
- Spindle Structure with Hight Accuracy and High Rigidity
- Maintain Stability even during intermittent, heavy duty cutting.

### Gang Type Tool Post

- Maximum Productivity by maximizing Chip to Chip
- Easy Chip Disposal with 60 degree slant type
- Increased efficiency for work and tooling

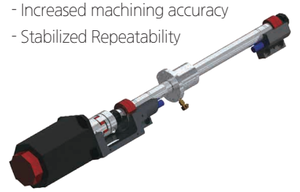



### Centralized Control Panel

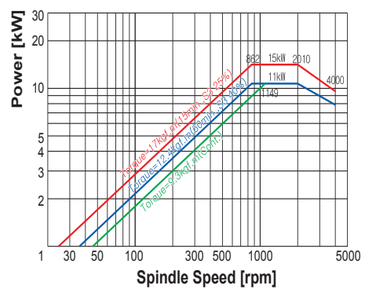
Centralized Control Panel is designed for workers to minimize unnecessary movement and demonstrate excellent control performance for worker's convenience.

### High Accuracy Double Anchored Ball Screws

- Minimizing thermal expansion.
- Increased machining accuracy
- Stabilized Repeatability

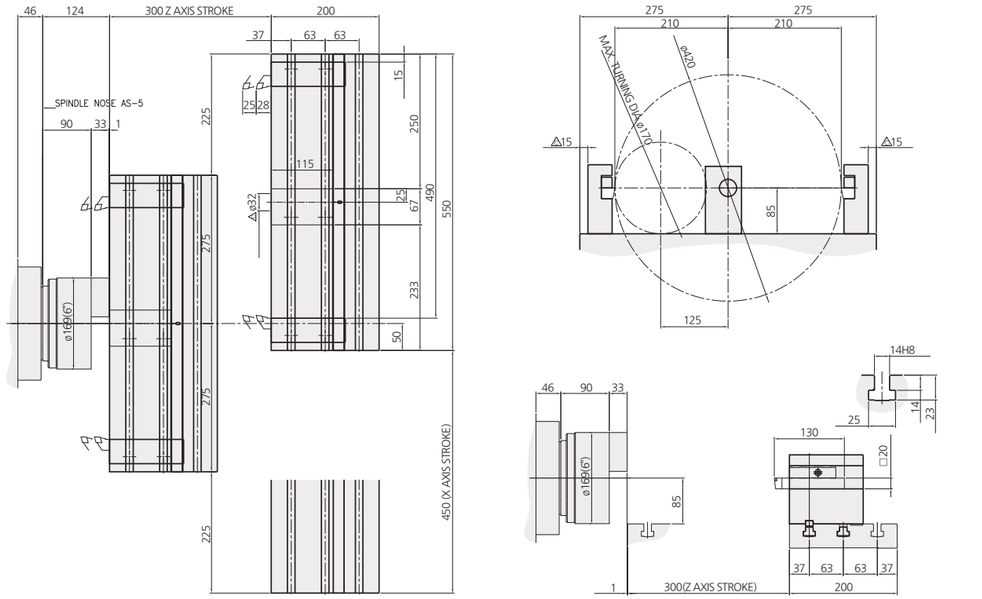


### Spindle Power & Torque Diagram



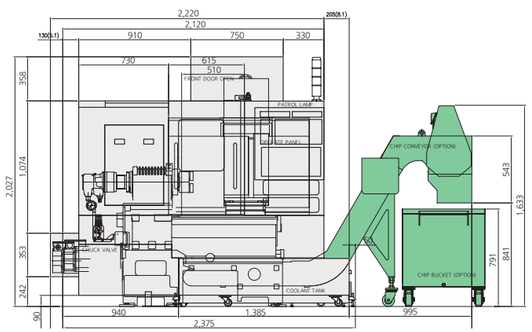
## Work Range

Unit : mm

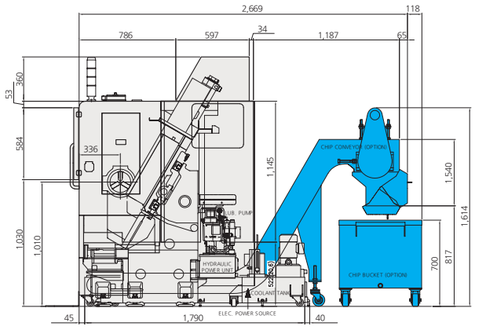



## Machine Dimensions

Unit : mm



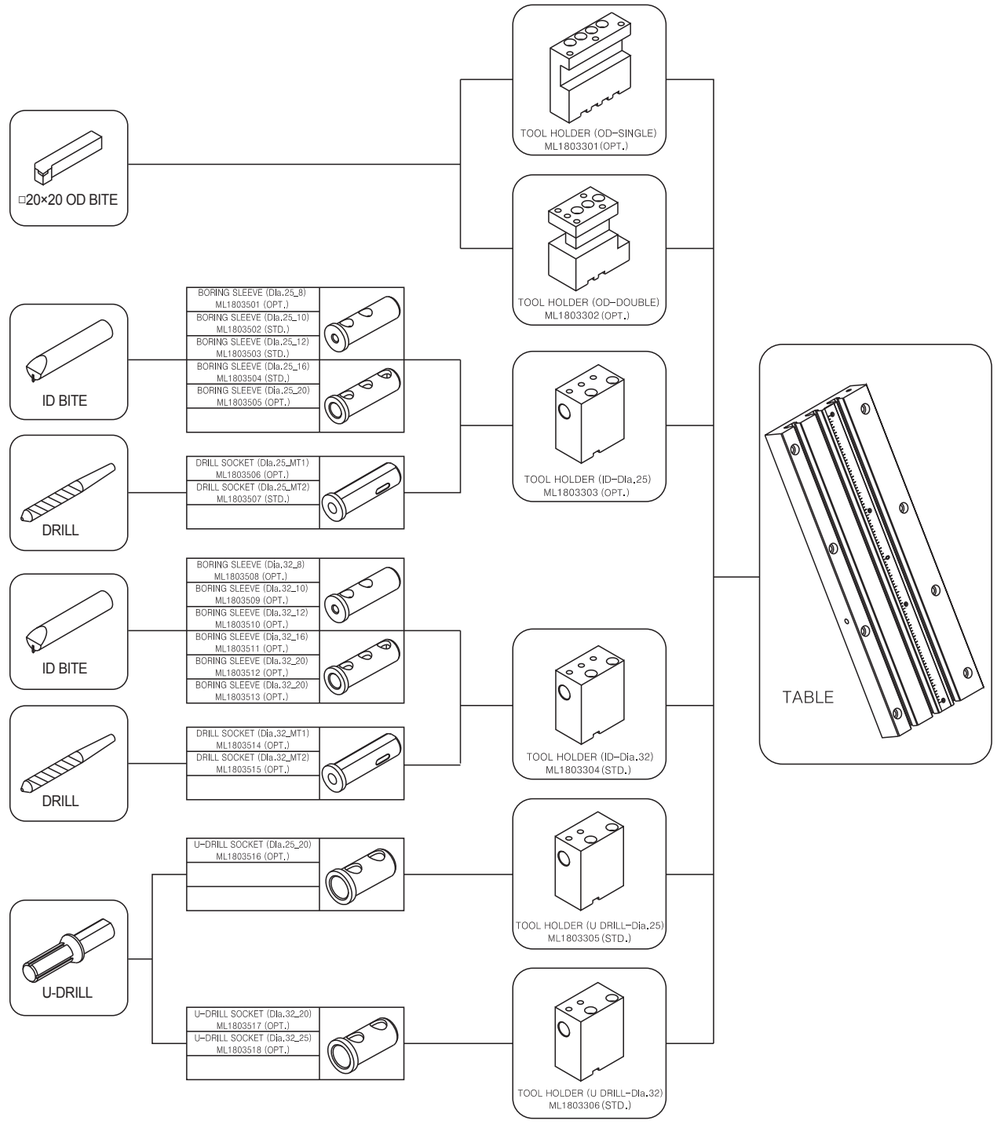

• Front view • Side chip discharge dimensions




• Side view • Rear chip discharge dimensions

## Tooling System

Unit : mm



## Machine Specification

| DESCRIPTION | | | PL 1600G | PL 1600CG |
|---|---|---|---|---|
| Capacity | Swing over bed | mm | 540 | 540 |
| | Swing over Cross Slide | mm | 170 | 170 |
| | Max. machining diameter | mm | 170 | 170 |
| | Max. machining length | mm | 300 | 270 |
| Main Spindle | Chuck Size | inch | 6 | 8 |
| | Spindle Speed | rpm | 6,000 | 4,500 |
| | Spindle Nose | ASA | A2-5 | A2-6 |
| | Bore Diameter | mm | 61 | 61 |
| | Draw Tube I.D | mm | 52 | 52 |
| | Spindle Motor(30min/cont.) | kW | 11 / 15 | 11 / 15 |
| Travel | X/Z axis travel | mm | 450 / 300 | 450 / 270 |
| | X/Z rapid traverse rate | m/min | 30 / 36 | 30 / 36 |
| | Servo Motor (X/Z) | kW | 1.8 / 1.8 | 1.8 / 1.8 |
| Turret | X/Z rapid traverse rate | st. | 3(6) | 3(6) |
| | Shank size for square tool | mm | 20 | 20 |
| | Shank diameter for boring bar | mm | 32 | 32 |
| Electric Power Supply | | kVA/V | 22 / 220 | 22 / 220 |
| Required Floor Space(L×W) | Side | mm | 2,375[3,421]×1,417 | 2,375[3,421]×1,417 |
| | Rear | mm | 1,790[2,669]×2,220 | 1,790[2,669]×2,220 |
| Machine Weight | | kg | 3,000 | 3,000 |
| Controller | | | Fanuc Series | |

※Design and specifications are subject to change without notice.

## Standard Accessories

- Hydraulic Chuck Cylinder
- Standard Work Tools(Holders included)
- Tools/Work Box
- Hydraulic Unit
- Coolant Unit (4.5 bar at 60Hz)
- Door Interlock
- Work Light
- Leveling Unit
- Soft Jaw 3 set
- Chuck Clamp Confirmation

* Door Interlock, Chuck Clamp Confirmation are CE, KCS standard.

## Optional Accessories

- Chip Conveyor & Bucket
- Coolant Gun
- Air Gun
- Mist Collector
- Special Chuck
- Oil Skimmer
- High Pressure Coolant
- Tool Holders & Sleeves
- Hard Jaw
- Signal Tower
- Dehumidifier
- Air Conditioner(for Elec. Cabinet)
- Autodoor & Edge Sensor
- Chucking Air Blower
- Tool Presetter(Manual/Auto)
- Automation Interface
- Material Auto Loading Device
- Parts Catcher
- Bar Feeder Interface
- Transformer
- Foot Switch
- CE

## NC Specification (FANUC Series)

| Item | | Specification | Fanuc Series |
|---|---|---|---|
| Controlled axis | Controlled Axes | | X,Y,(B) |
| | Max. simultaneosly controlled axis | | 3 |
| | Least command increment | 0.001mm / 0.0001" | ○ |
| Operation functions | Pulse handle feed | X1, X10, X100 | ○ |
| | Feedrate per minute | G98 | ○ |
| | Feedrate per revolution | G99 | ○ |
| Interpolation functions | Linear interpolation | G01 | ○ |
| | Circular interpolation | G02, G03 | ○ |
| | Dwell | G04 | ○ |
| | Cylindrical interpolation | G70.1 | ○ |
| | Reference position return | G28 | ○ |
| | Reference position return check | G27 | ○ |
| Feed function | Rapid traverse rate override | F0, 25%, 50%, 100% | ○ |
| | Feedrate override | | 0~150% |
| Spindle function | Spindle orientation | | ○ |
| | Rigid tapping | | ○ |
| Tool functions | Tool number command | T4-Digt / T2-Digt | T4-Digt |
| | Tool nose radius compensation | G40 ~ G42 | ○ |
| | Tool offset pairs | | 64 |
| | Tool geometry/wear offset | GEOMETRY & WEAR DATA | ○ |
| | Tool life management | | ○ |
| | Tool path graphic display | | ○ |
| | Automatic tool offset | | × |
| Program input | Absolute/incremental programming | | ○ |
| | Multiple repetitive cycle | G70 ~ G76 | ○ |
| | Canned cycles | G90, G92, G94 | ○ |
| | Inch/metric conversion | G20 / G21 | ○ |
| | Program restart | | ○ |
| | Retraction for rigid tapping | | ○ |
| | Max. programmable dimension | ±99999.999mm/±9999.9999" | ○ |
| | M function M3 digit | M3 digit | ○ |
| | Custom macro | | ○ |
| | Canned cycle for drilling | | ○ |
| | Direct drawing dimension programming | | ○ |
| | Programmable data input | G10 | ○ |
| | Optional block skip | | ○ |
| | Workpiece coordinate system | G52 ~ G59 | ○ |
| | Number of registerable programs | | 400EA |
| Setting and display | Alarm&Operation Display | ALARM & OPERATION DISPLAY | ○ |
| | Run hour and parts count display | RUNNING TIME & PART NO. DISPLAY | ○ |
| | Display spindle & servo overload | SPINDLE & SERVO LOAD DISPLAY | ○ |
| | Self-diagnosis function | | ○ |
| | Extended part program editing | COPY,MOVE, CHANGE OF NC PROGRAM | ○ |
| | Display screen | | 8.4" color |
| Data input/output | Memory card input/output | | ○ |
| | USB memory input/output | | ○ |
| Editing operation | Part program storage size | 512Kbyte(1280m) | 1280M |