

9 Sungsanpaechong-ro, Sungsan-gu, Changwon, Kyungnam, South Korea(59 Sungsan-dong)  
Tel. +82-55-280-4678 / +82-55-210-6419    Fax. +82-55-280-8930  
Email. mtinfo@hanwha.com

Experience Your **SMART FACTORY**

# Machine Tool Products



**Hanwha Europe GmbH**

Kölner Straße 10, 65760 Eschborn Germany  
**Hanwha Europe GmbH Technical Center**  
Hessenring 15B, 64546 Mörfelden-Walldorf, Germany  
· Tel. +49-(0)-6105-7035-911  
· Email. wsjung@hanwha.de

**Hanwha TechM (Suzhou) Co., Ltd**

North side of Sigang Segment, Zhangyang road, Zhangjiagang Economic and Technology development zone, Zhangjiagang, Jiangsu 215600, China  
· Tel. +86-512-8017-9914~5  
· Email. pjh1012@hanwha.com

**Hanwha Machinery America Inc.**

9750 South Oakwood Park Drive, Franklin, WI 53132, USA  
www.hanwhamachinery.com  
· Tel. +1-414-421-2300

**EUROPE**

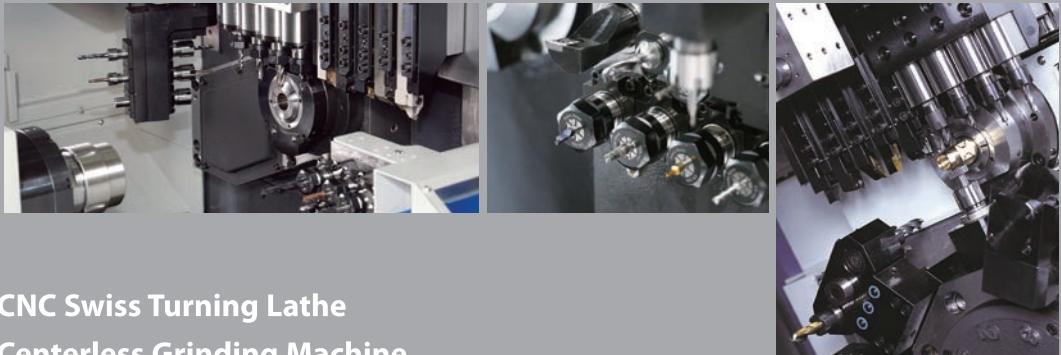
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**ASIA**

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**AMERICA**

U.S.A · Canada · Brazil · Argentina · Mexico  
Venezuela · Costa Rica · Colombia



**CNC Swiss Turning Lathe  
Centerless Grinding Machine**

# Enjoy Total Engineering Solution

After starting the machine tool business in 1977, Hanwha Precision Machinery has become a leading worldwide Smart Factory solutions provider, offering Surface Mount Technology (SMT) mounters, Machine Tool, Collaborative robots, industrial automation equipment, and integrated software solutions. We do this to develop customer-oriented solutions that deliver greater efficiency, versatility and value.

## Machine Tool Division

### CNC Swiss turning Lathe • Centerless Grinding Machine

Offers customized solutions with a wide range of line-up for automatic lathes in gang & turret type and centerless grinding machines.



## Surface Mounter Technology Division

### Chip Mounter • Screen Printer • Semiconductor Equipment

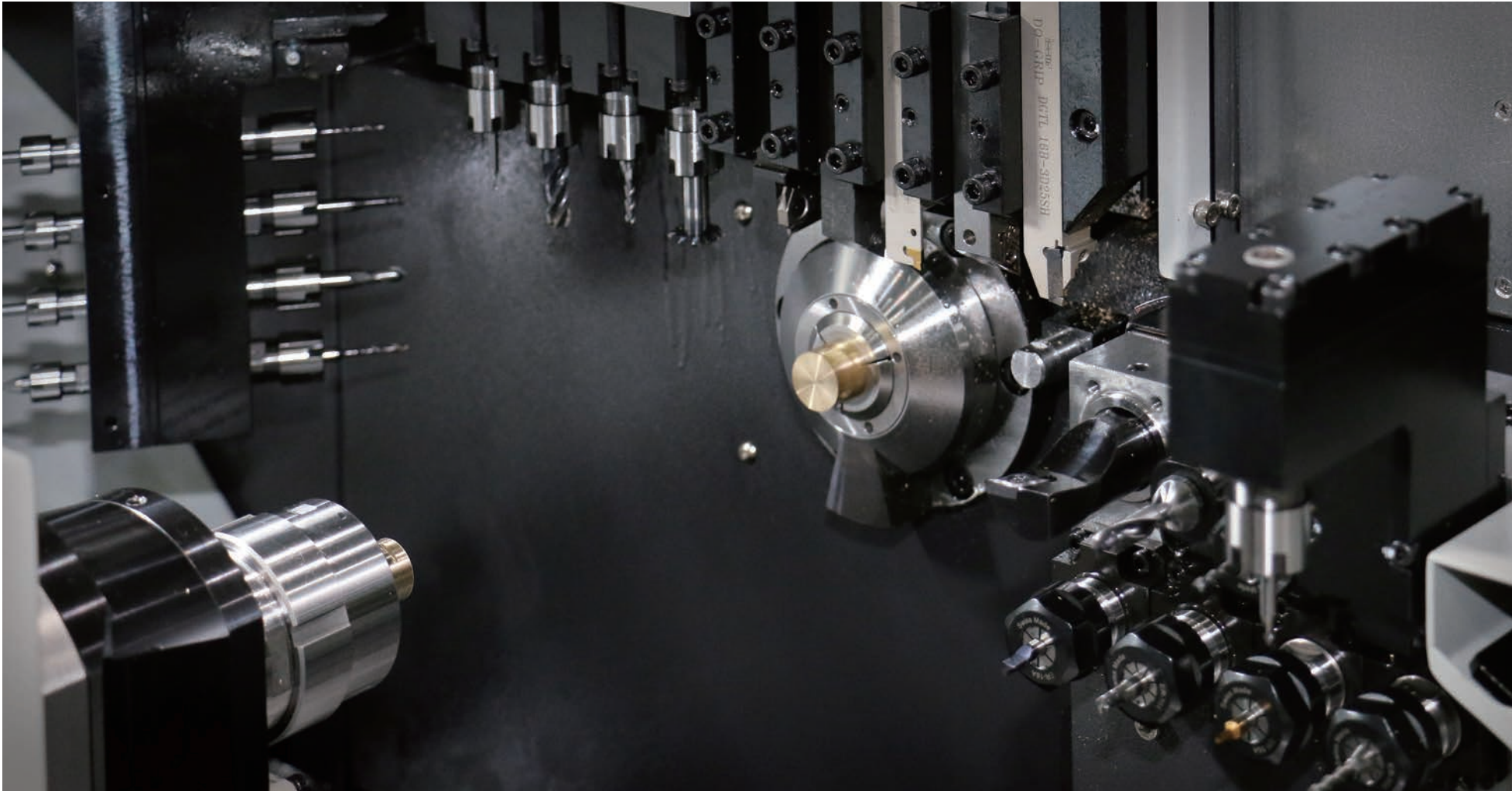
After developing its first chip mounter, offers SMT mounters, semiconductor equipment, industrial automation equipment and software solutions.



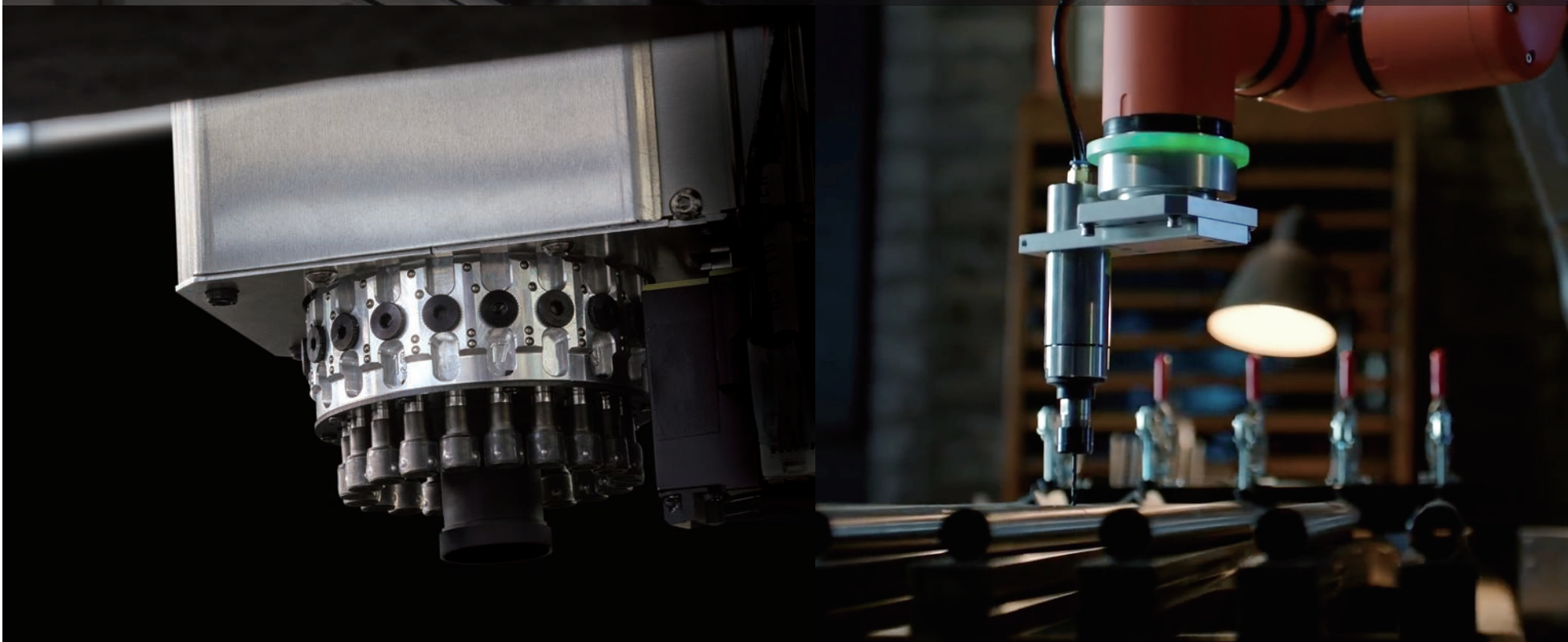
## Collaborative Robot Division

### HCR-3 • HCR-5 • HCR-12 Robot

Offers the collaborative robot HCR series for more convenient and safer future.



Hanwha Precision Machinery





# CNC Swiss Turning Lathe

Provides the best customized machining solution with a wide range of line-up from Ø3mm to Ø42mm and various options



# Centerless Grinding Machine

Develops and produces KCG and HCG series of centerless grinding machine with high precision & rigidity

# Machine Tool Division

## Turning forward to the Future

Starting the machine tool business 1977 and developing its first CNC Swiss turning machine in 1998, Hanwha machine tool division has been focusing on product development to best fit customer's various needs and resulted in a wide range of line-up of excellent gang & turret type series. We, as a leading Swiss turning solution provider, will continue to strive to reach the top position in the machine tool business, accelerating our innovation and growth based on our +50 years of business experience and ever-expanding Hanwha global network.

# To be the Global No.

Exports to more than 30 countries in the world



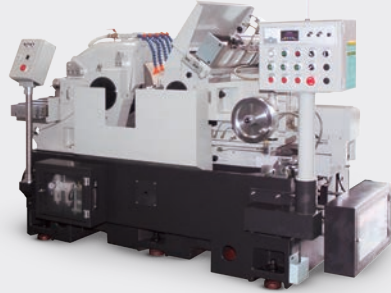
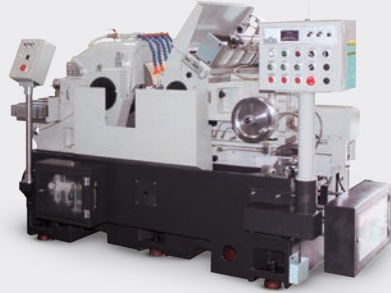
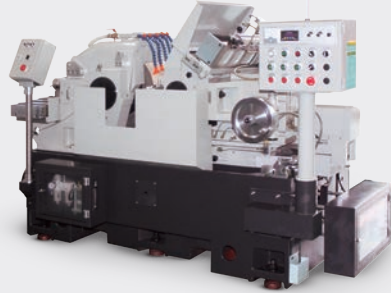
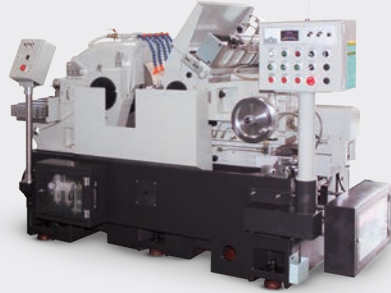
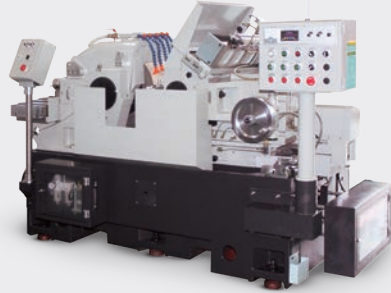
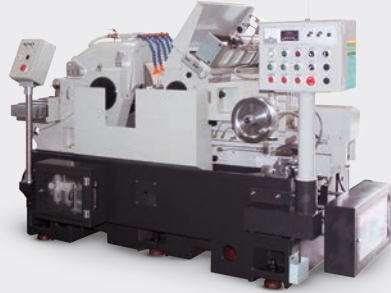
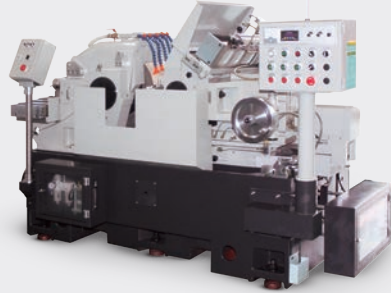
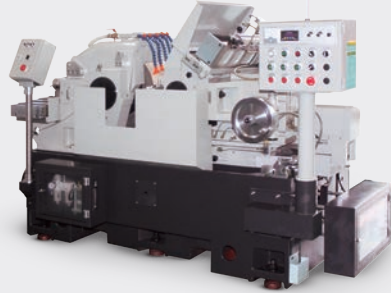
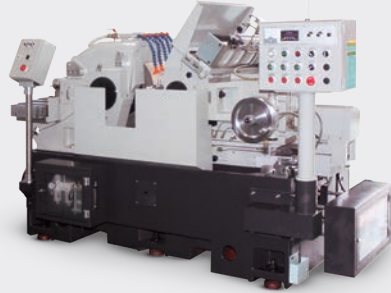
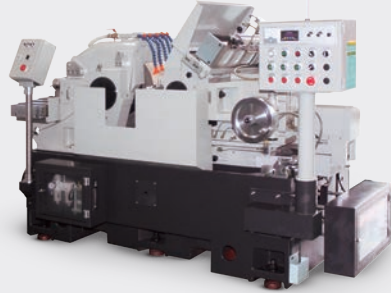
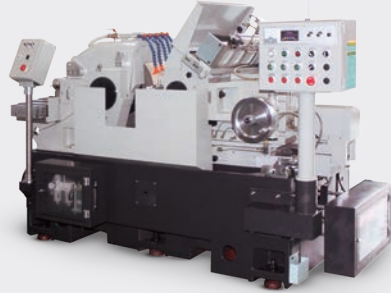
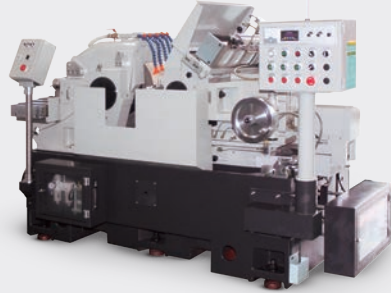
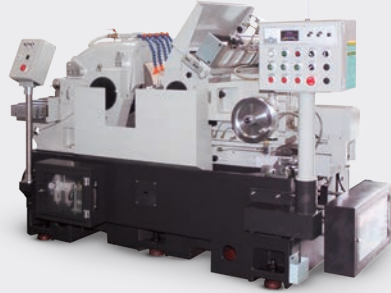
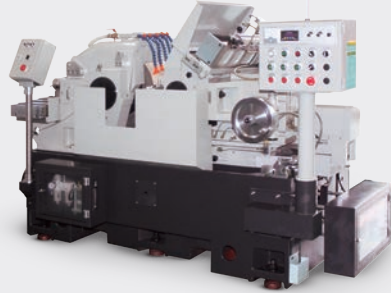
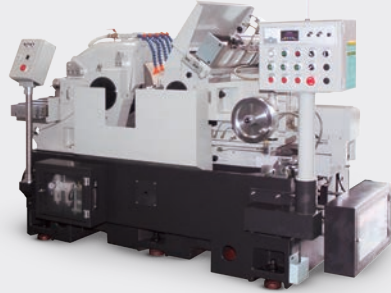
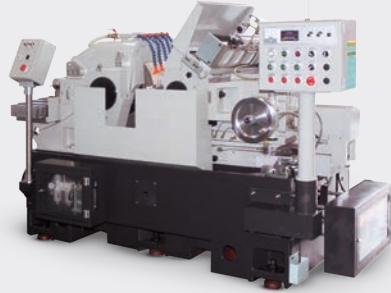
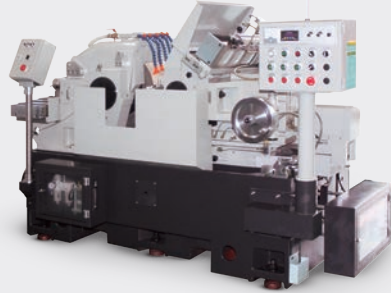
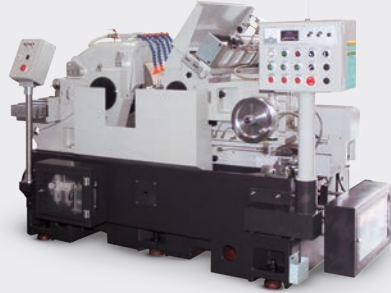
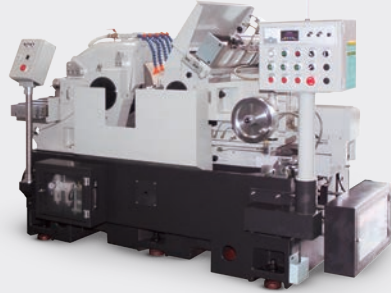
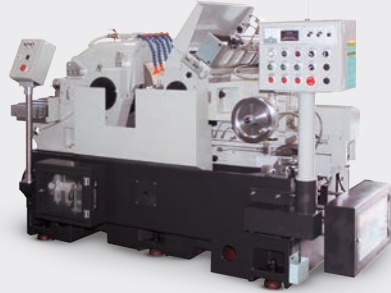
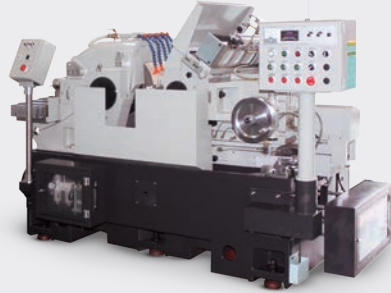
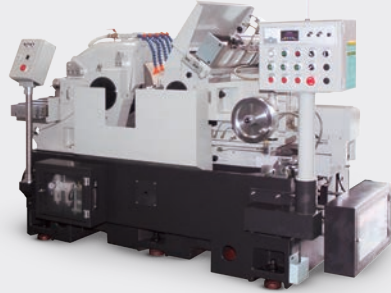
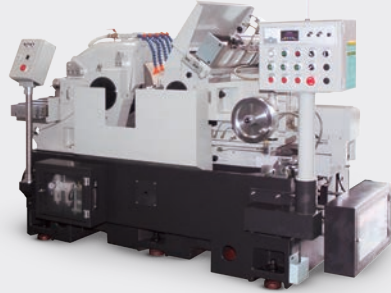
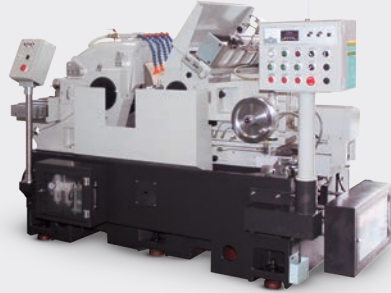
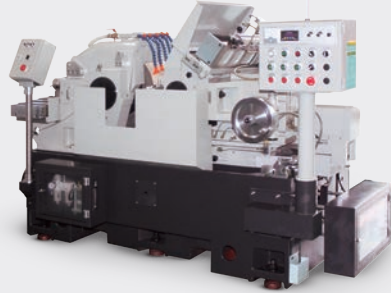
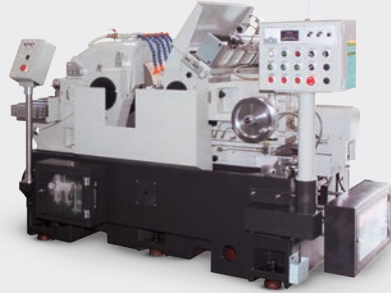
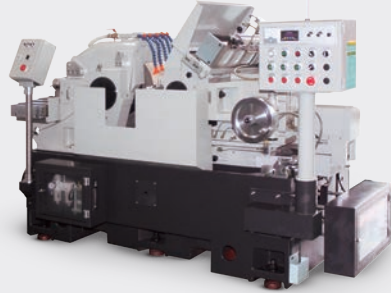
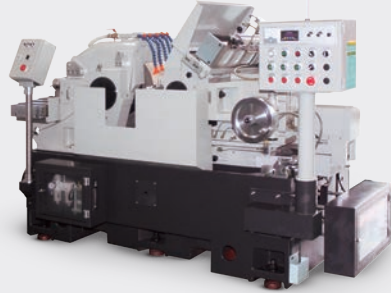
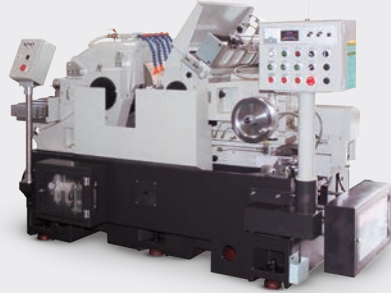
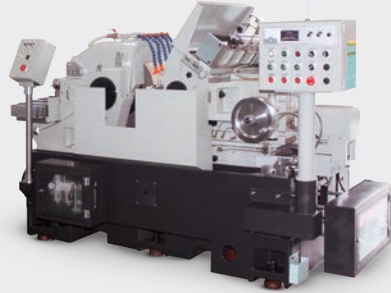
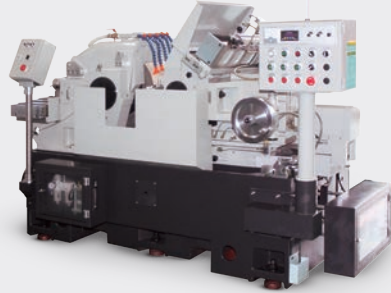
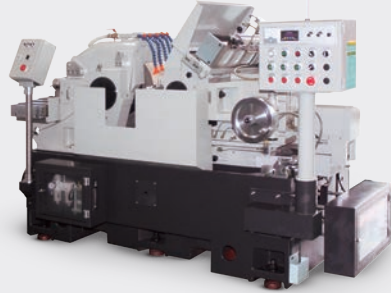
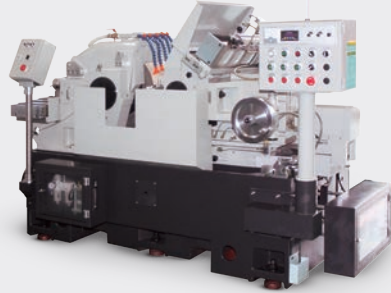
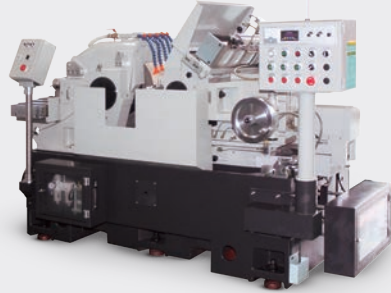
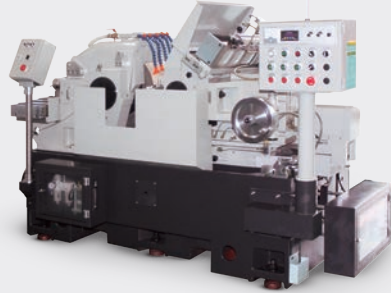
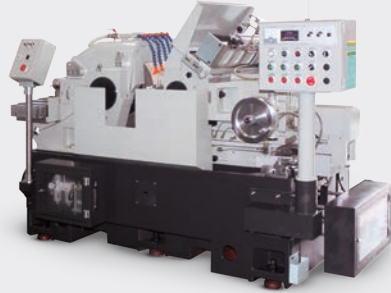
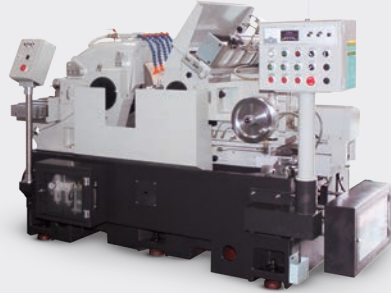
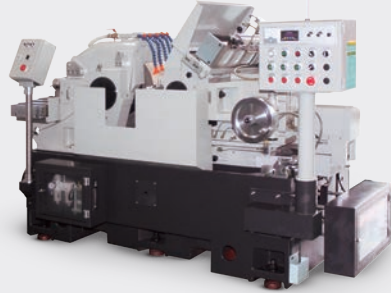
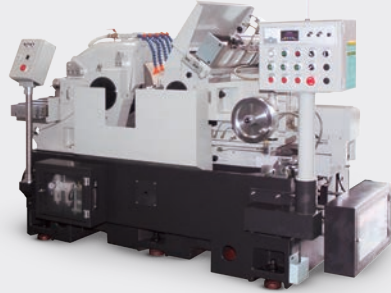
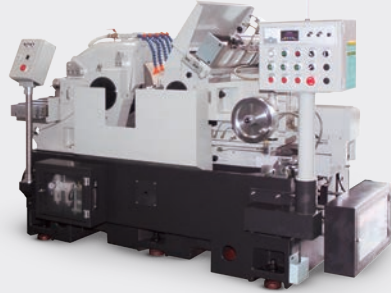
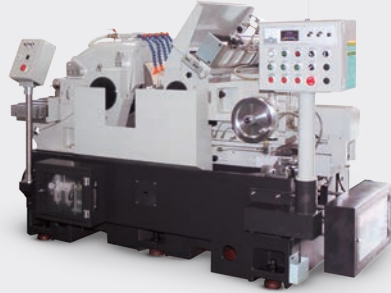
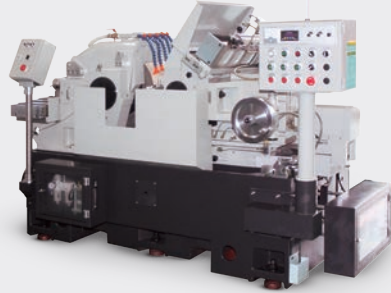
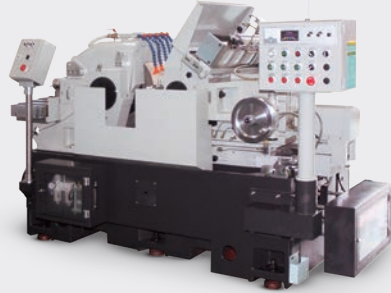
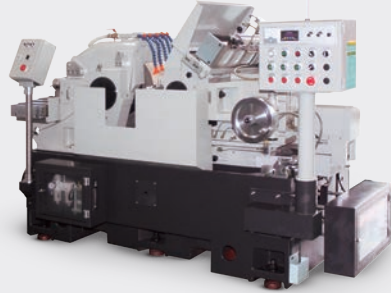
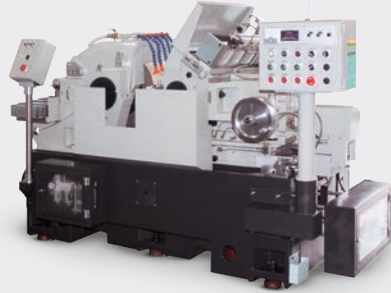
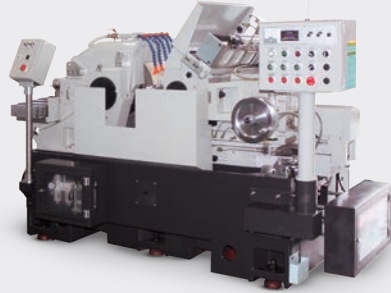
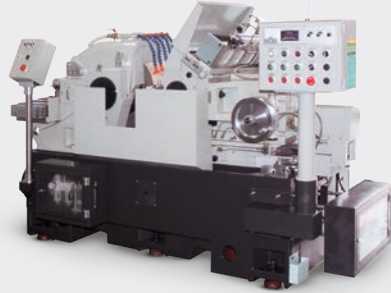
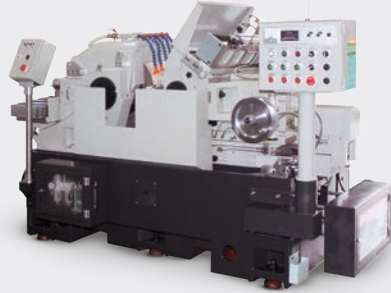
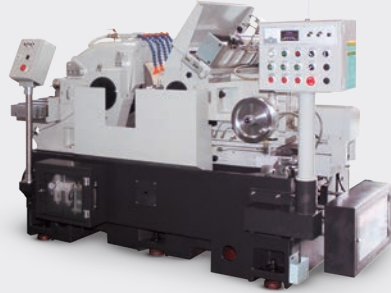
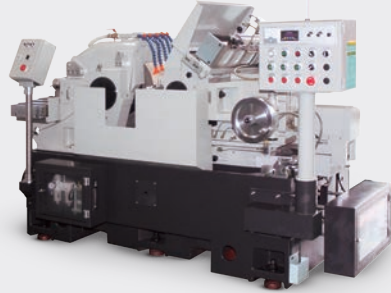
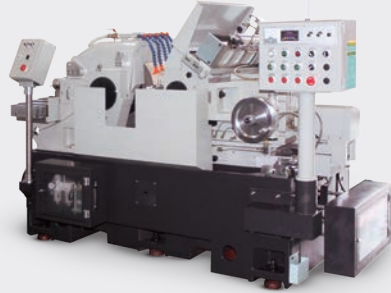
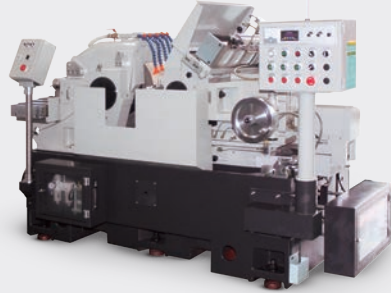
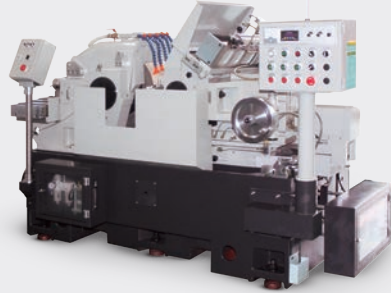
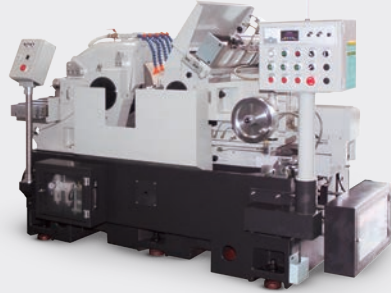
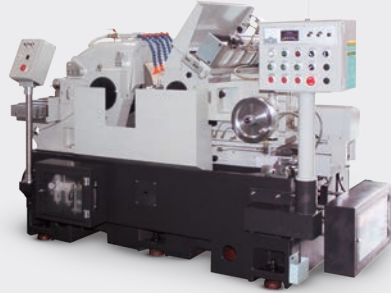
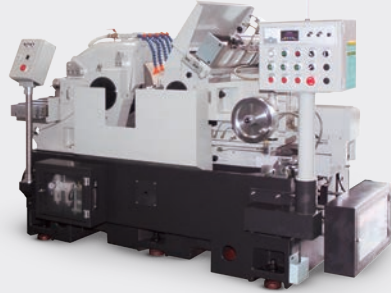
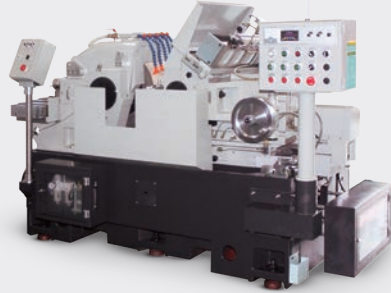
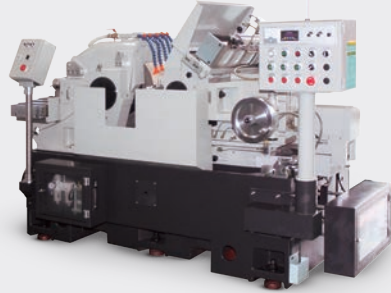
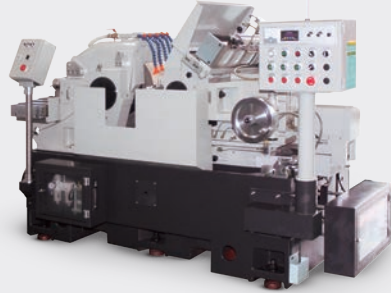
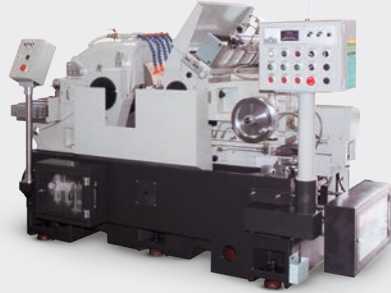
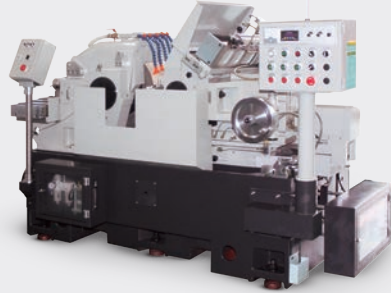
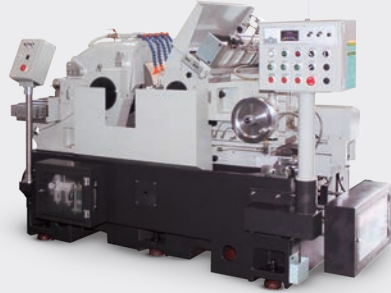
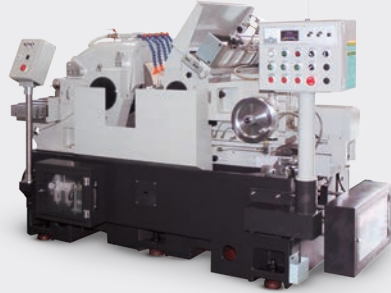
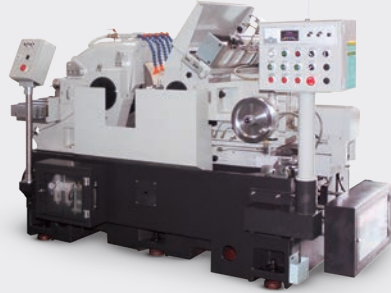
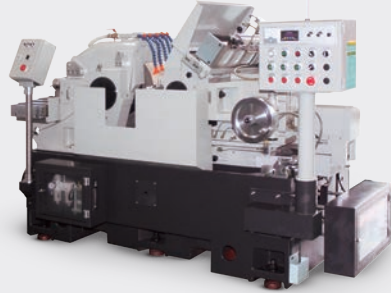
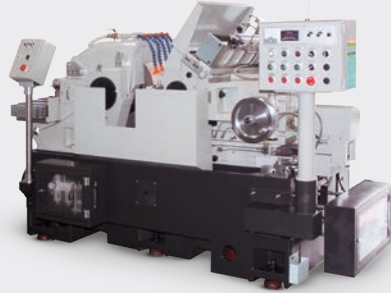
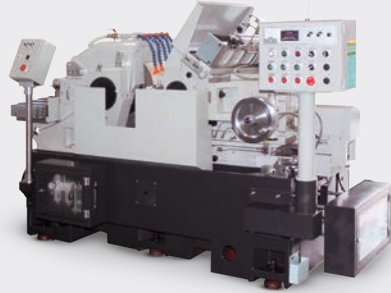
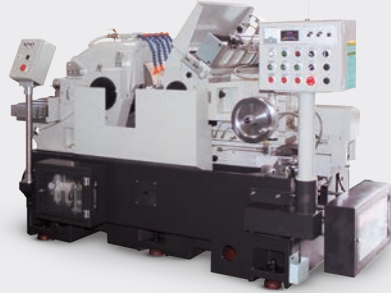
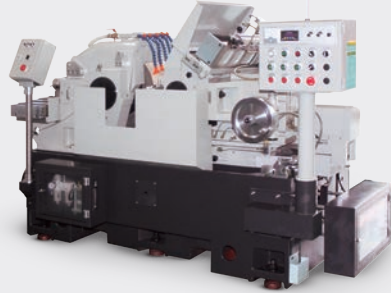
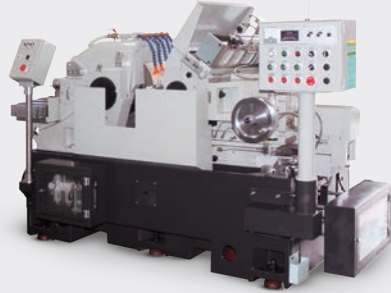
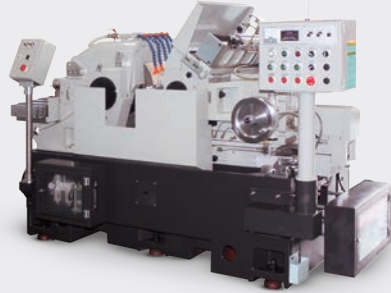
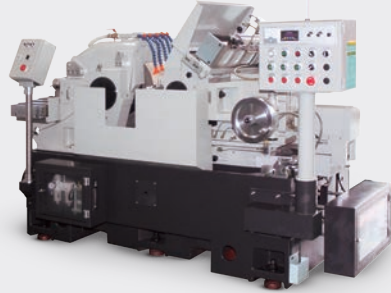
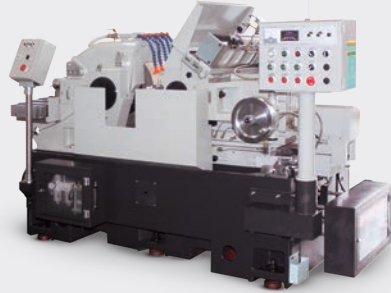
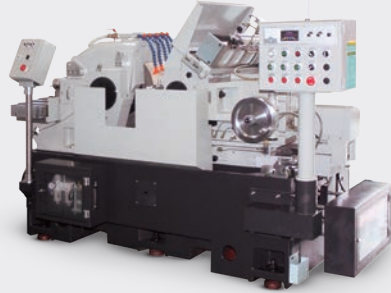
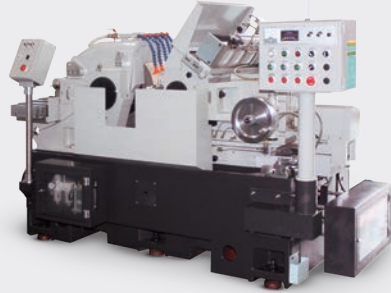
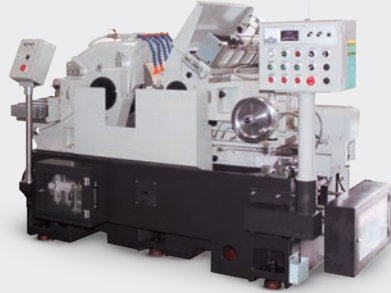
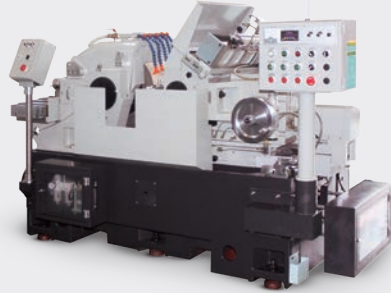
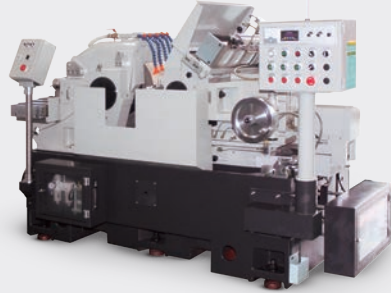
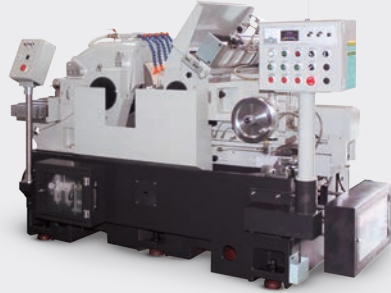
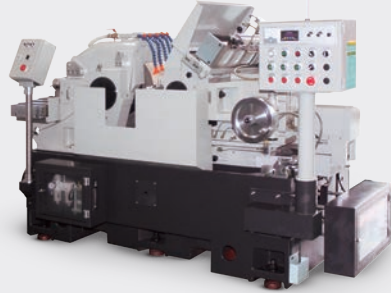
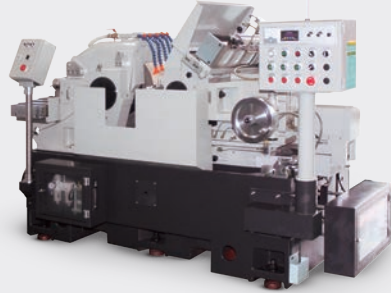
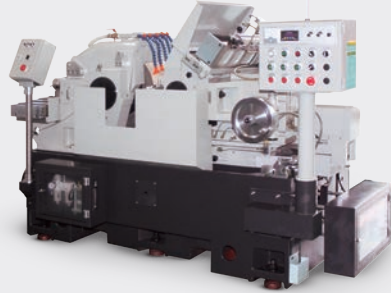
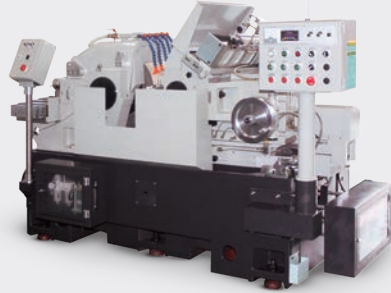
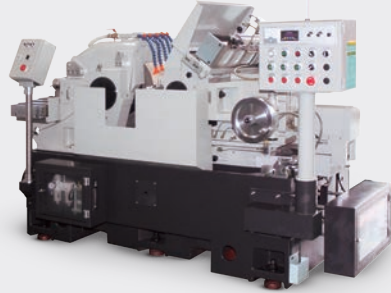
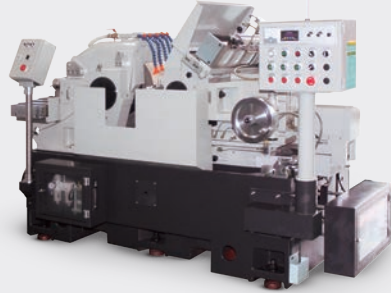
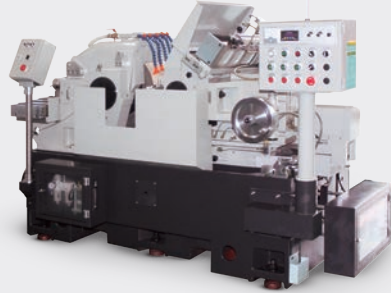
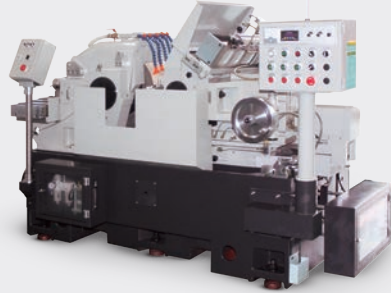
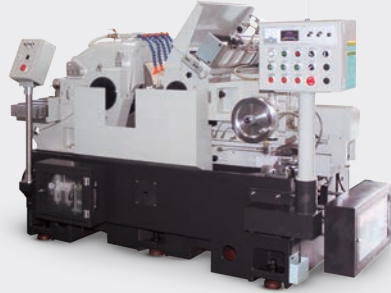
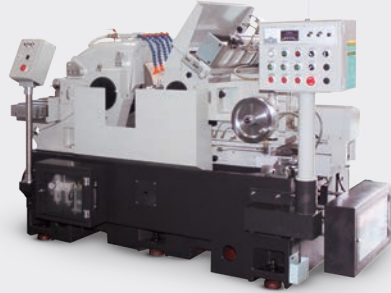
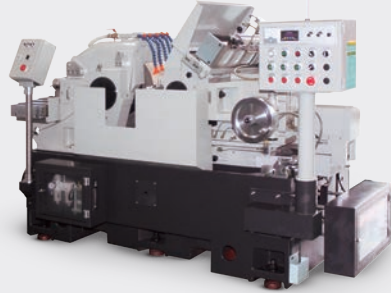
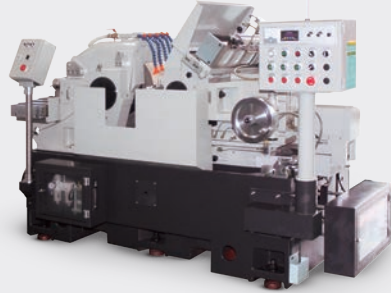
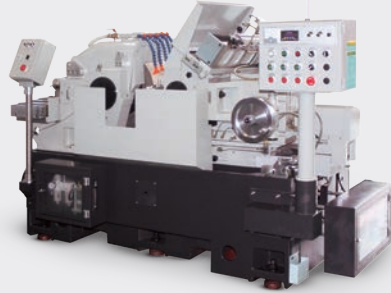
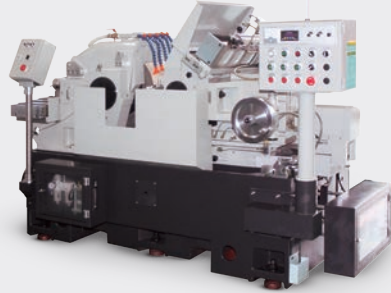
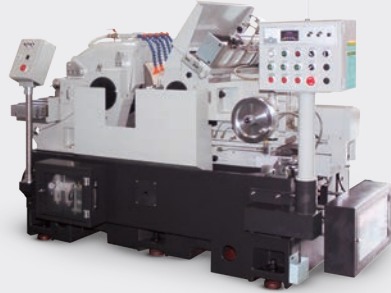
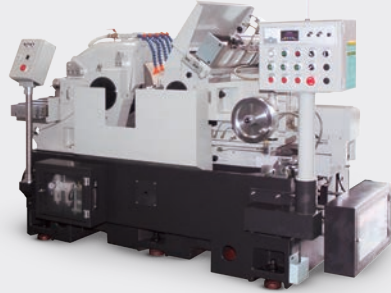
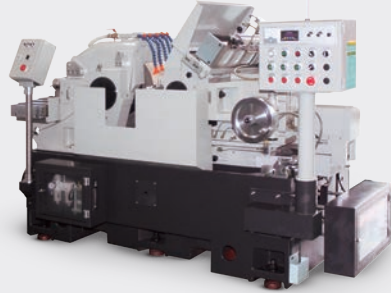
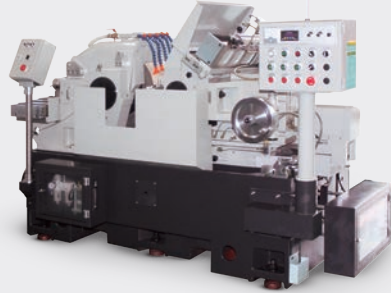
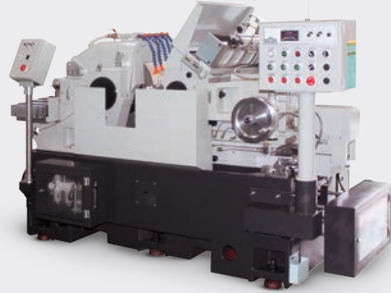
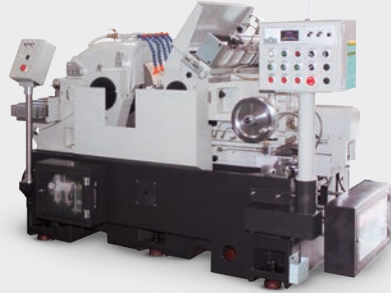
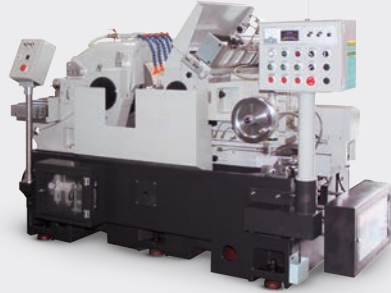
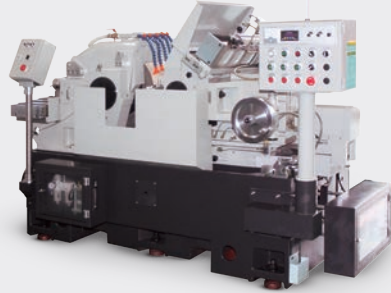
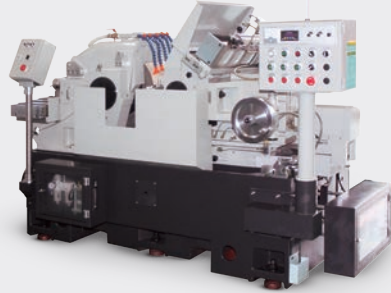
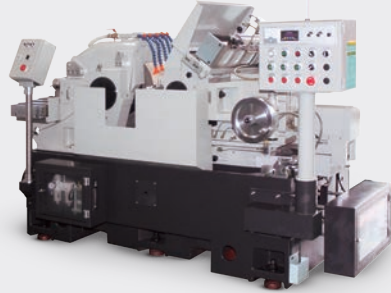
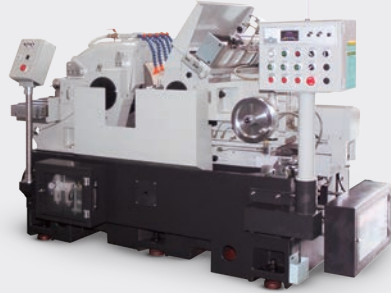
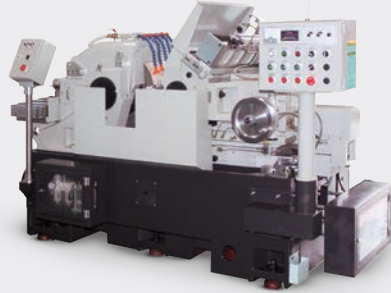
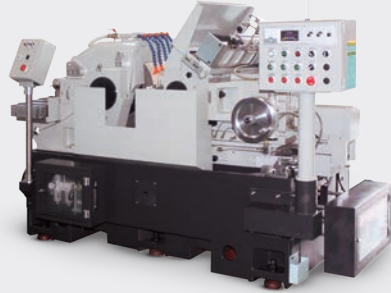
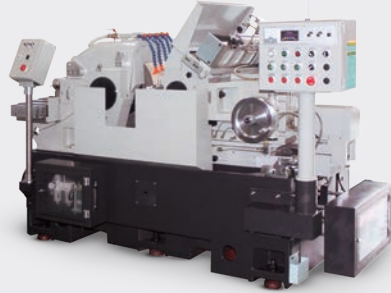
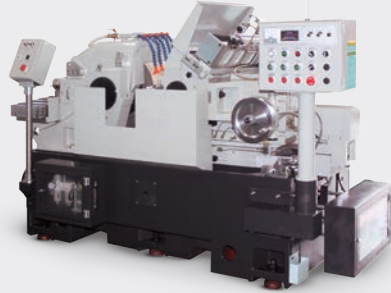
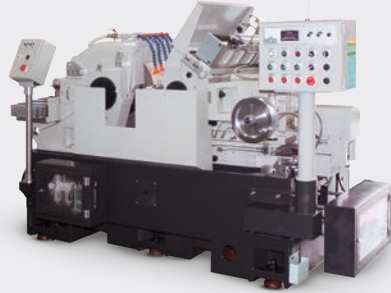
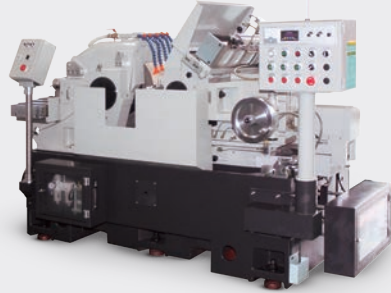
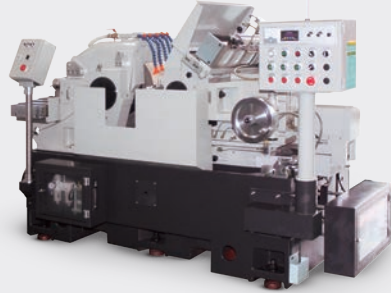
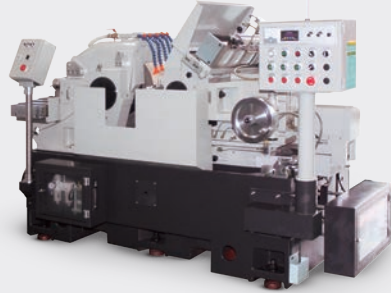
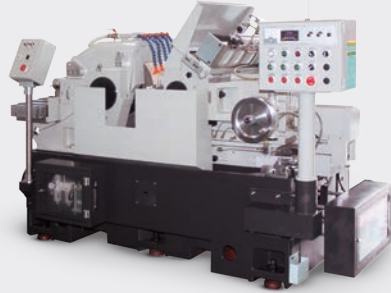
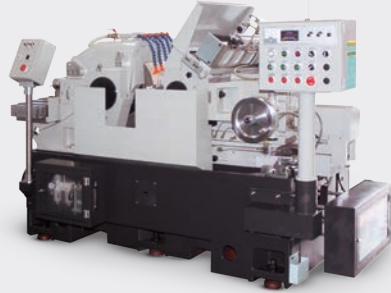
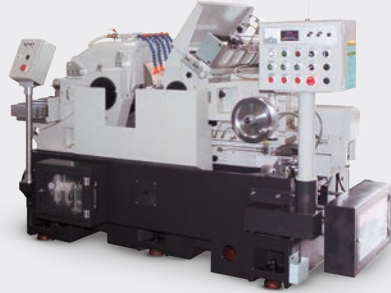
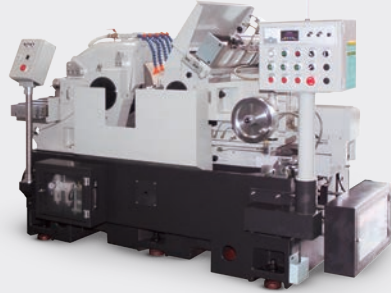
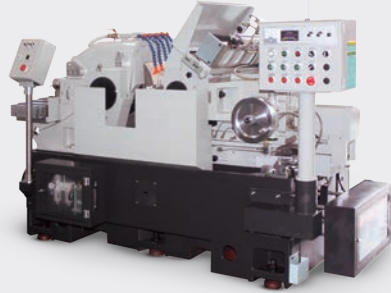
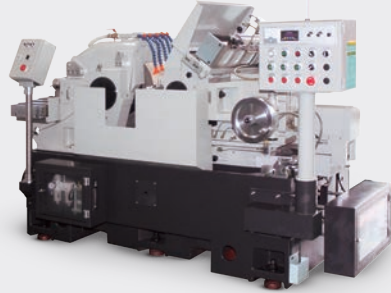
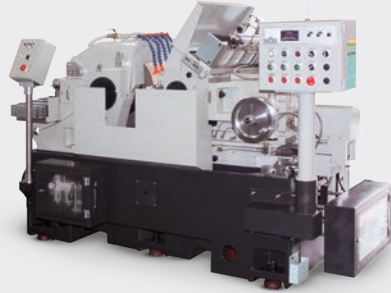
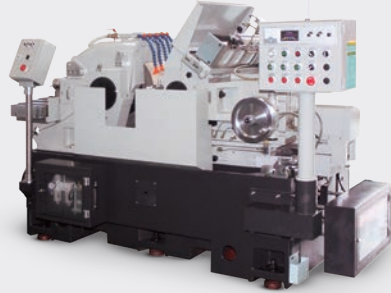
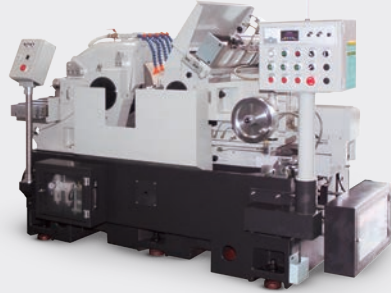
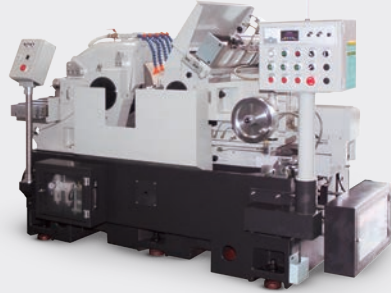
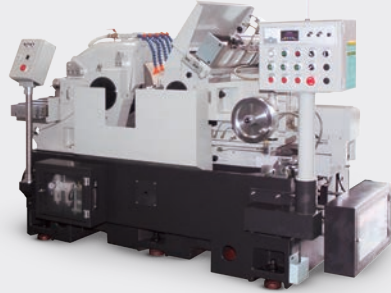
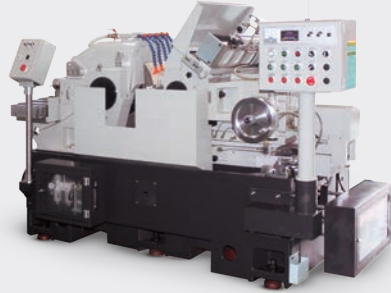
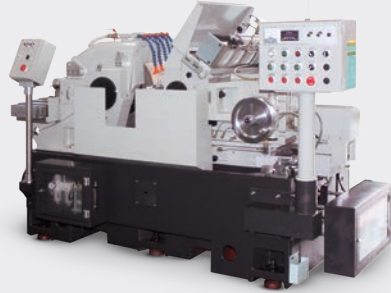
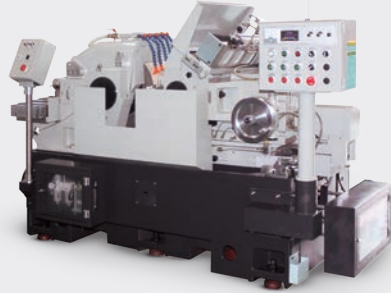
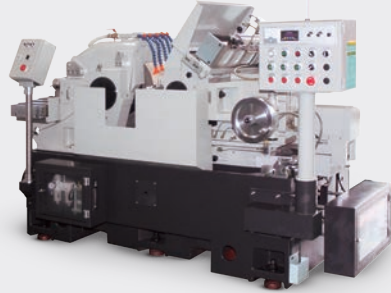
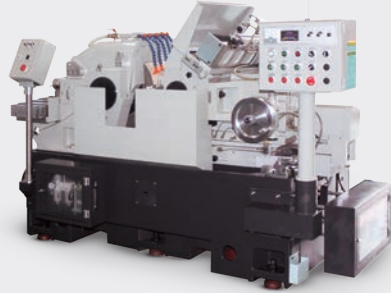
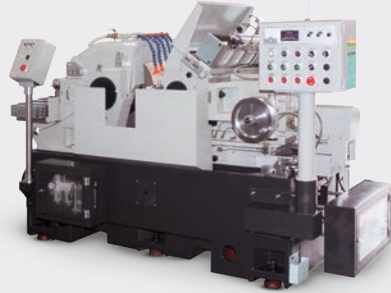
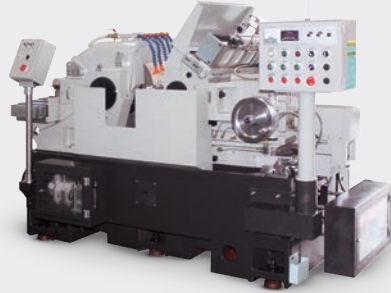
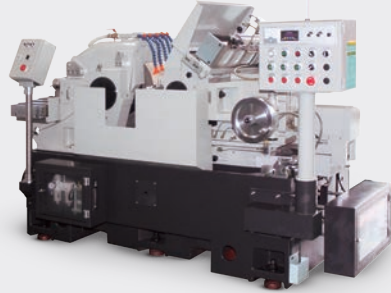
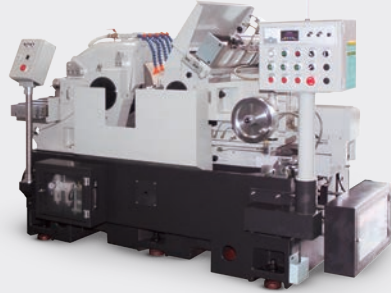
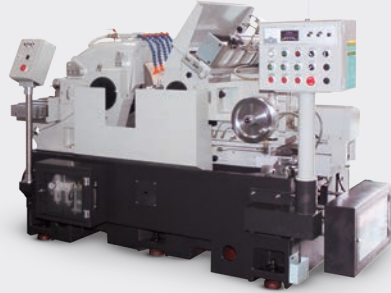
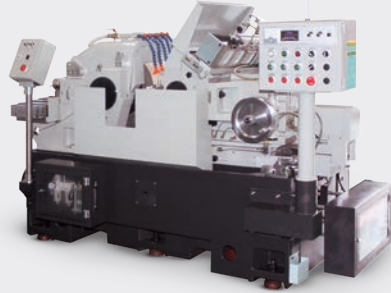
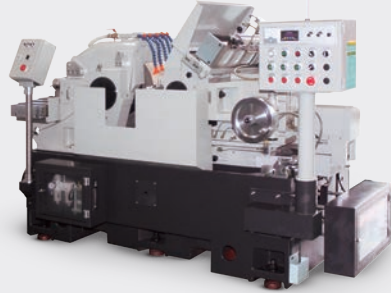
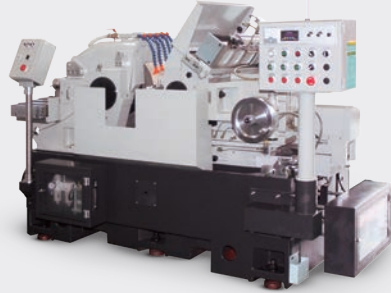
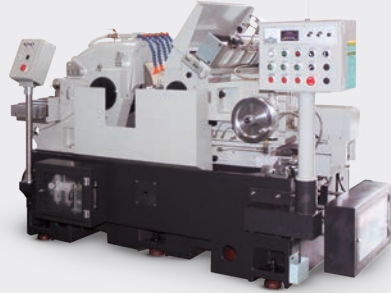
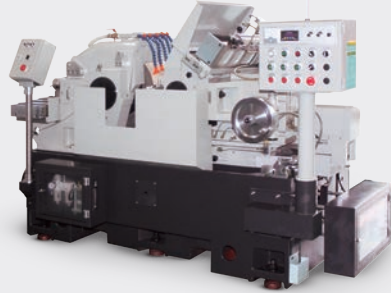
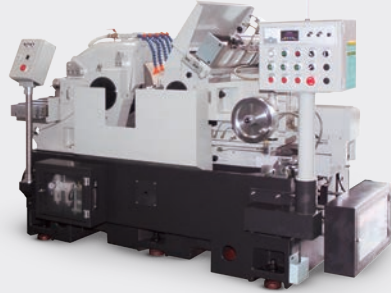
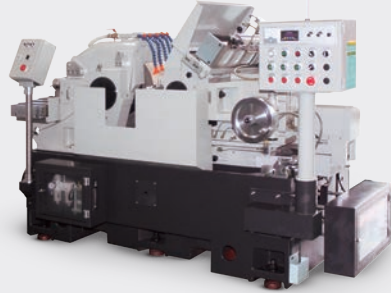
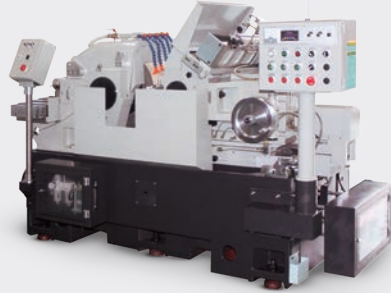
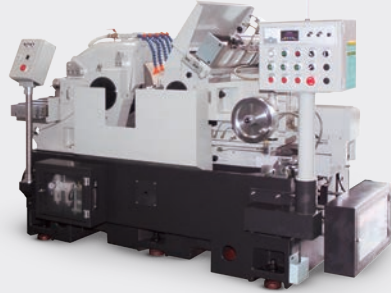
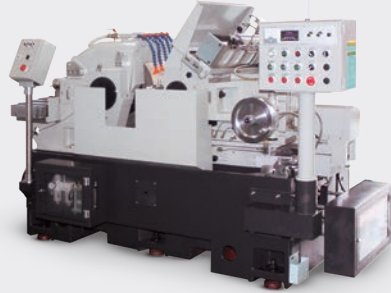
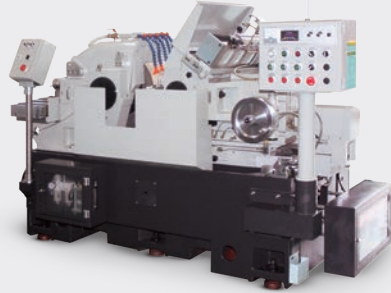
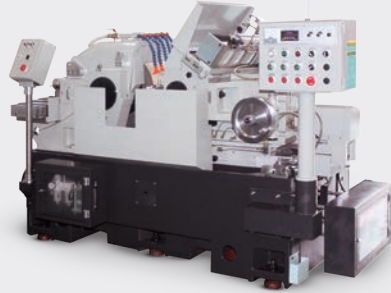
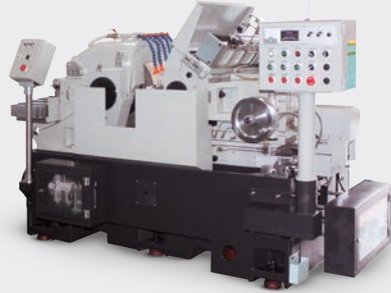
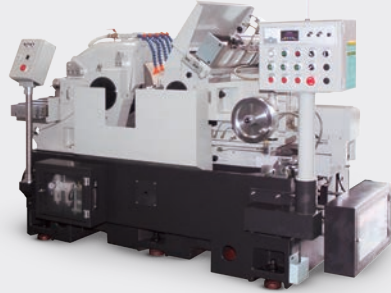
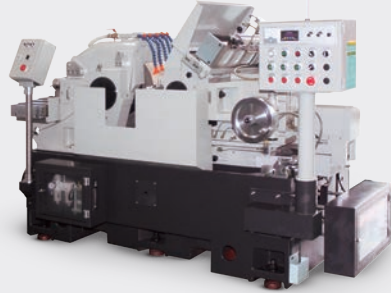
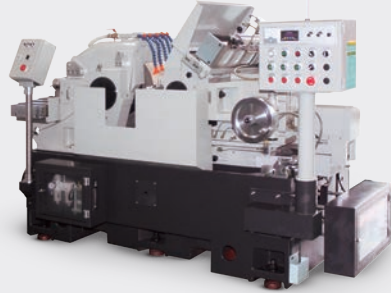
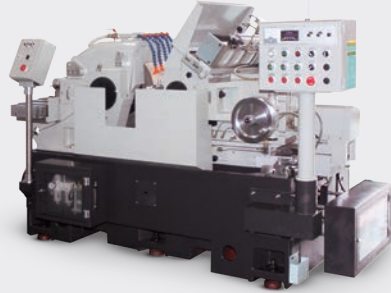
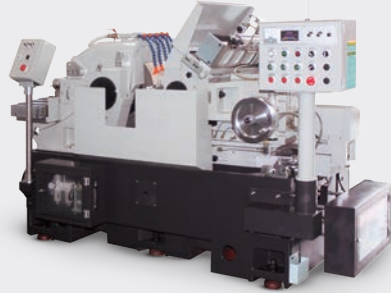
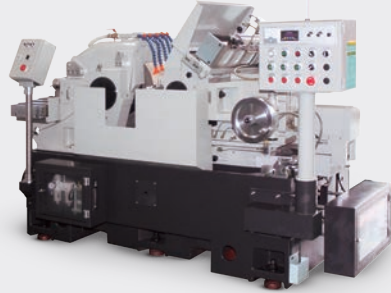
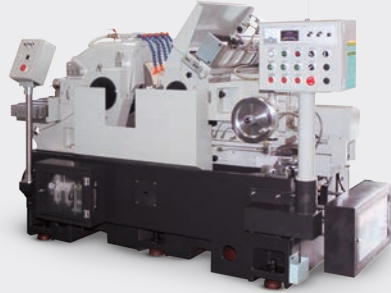
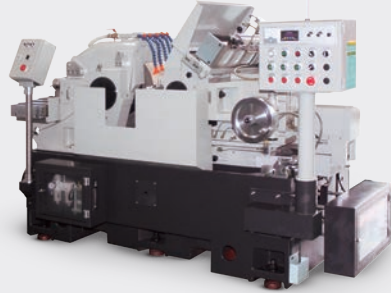
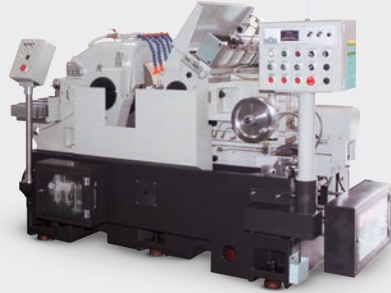
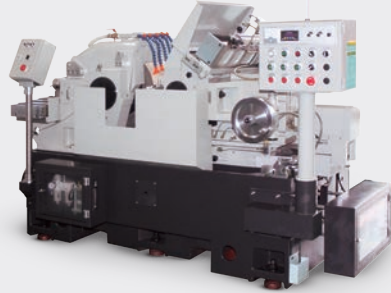
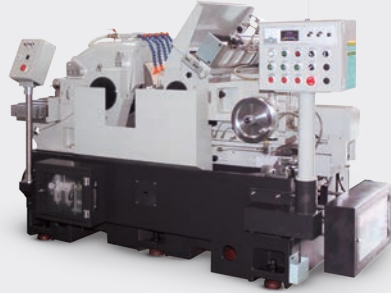
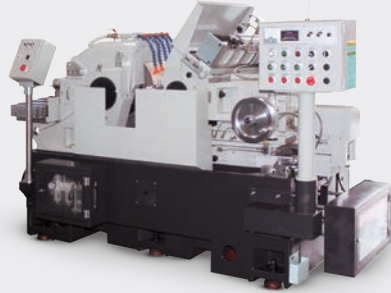
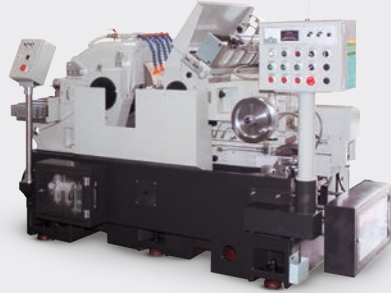
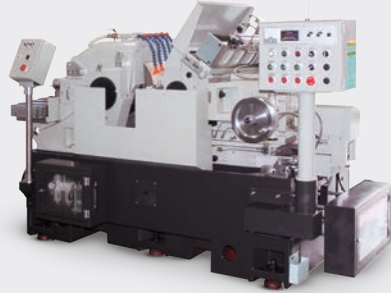
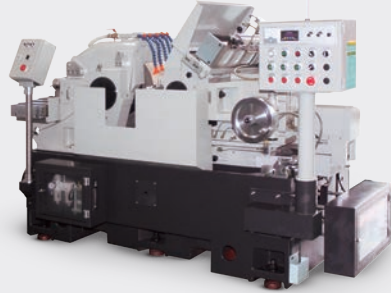
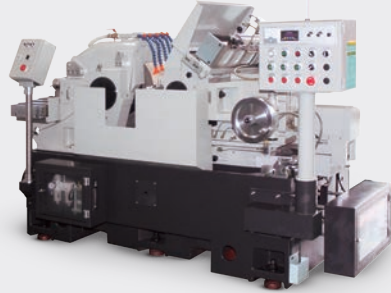
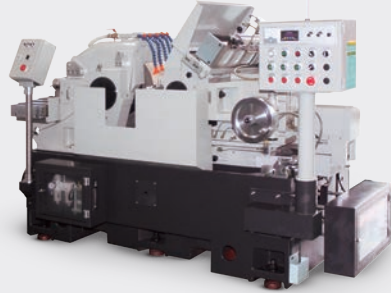
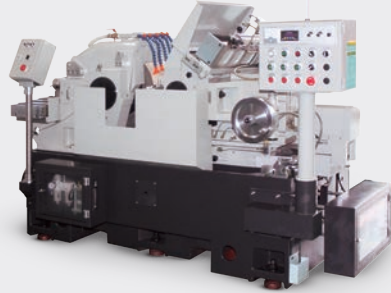
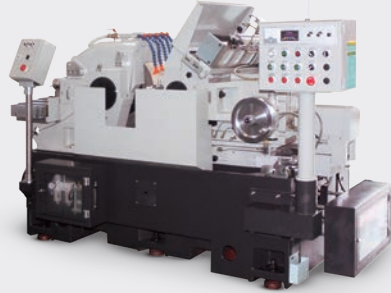
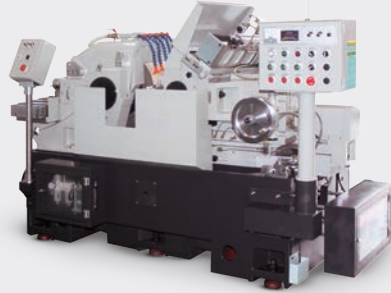
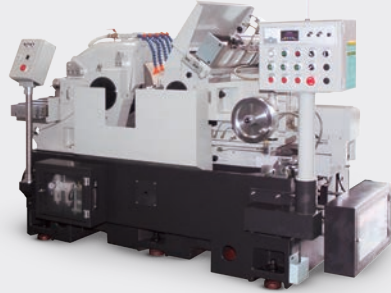
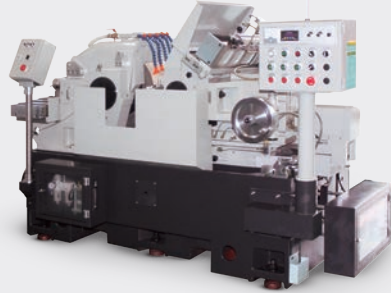
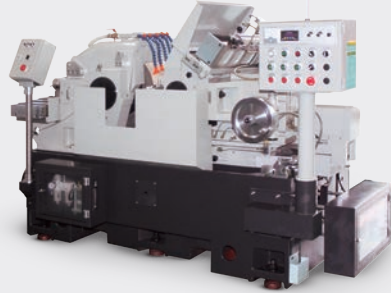
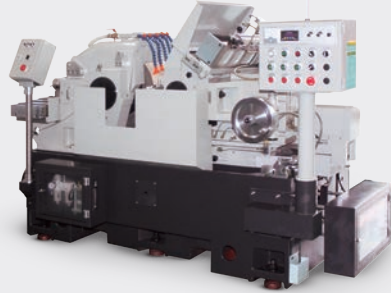
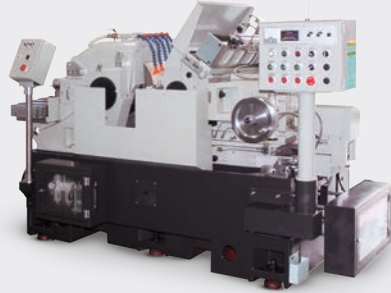
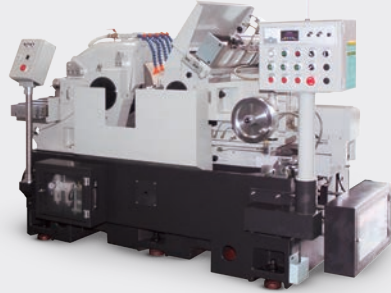
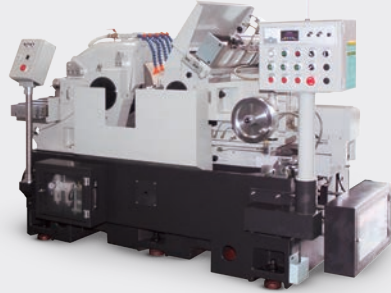
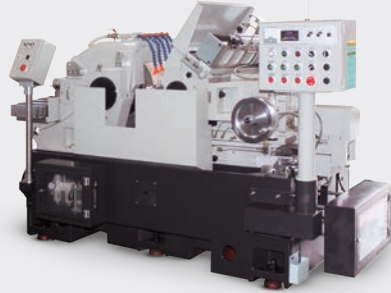
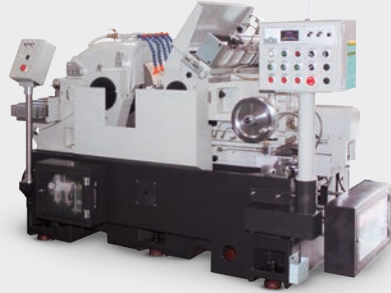
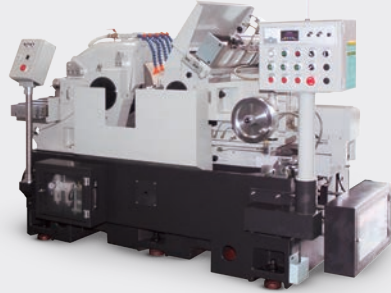
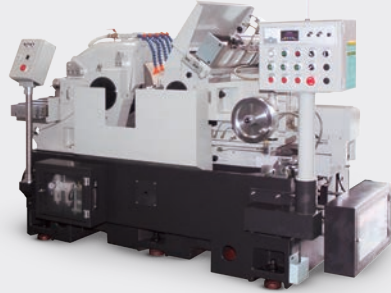
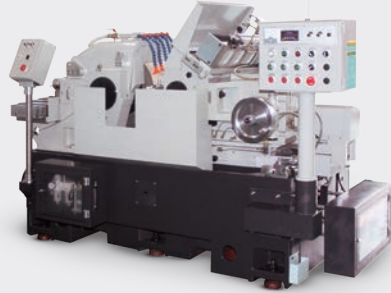
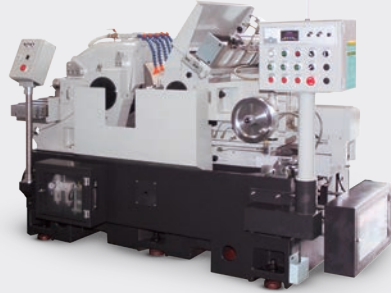
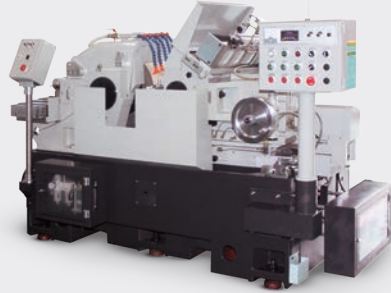
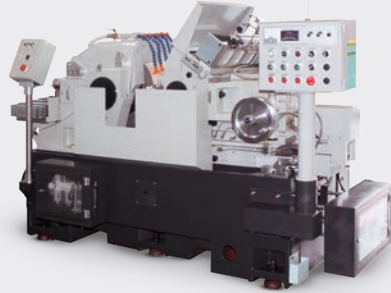
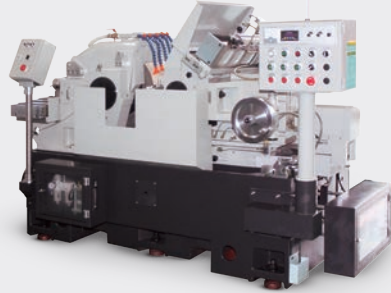
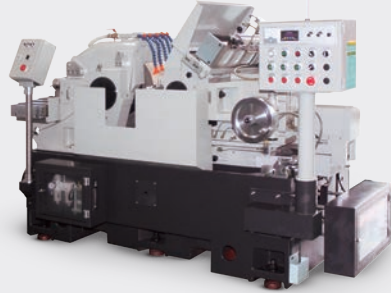
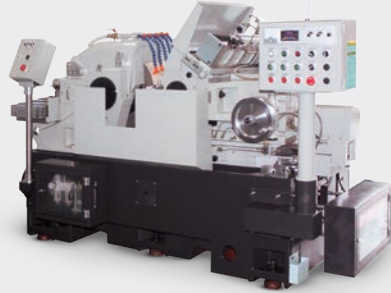
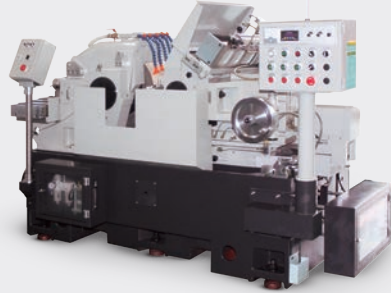
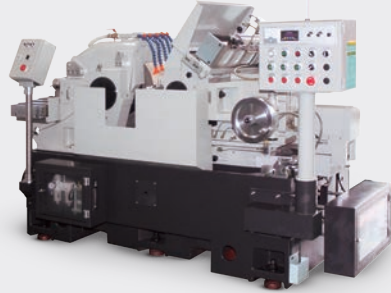
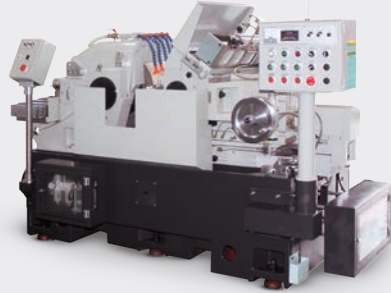
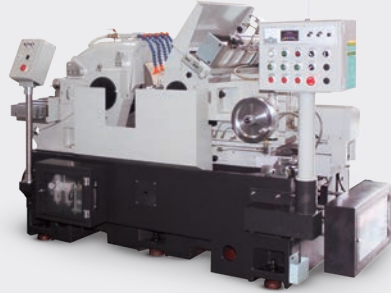
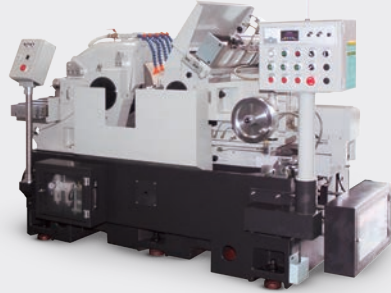
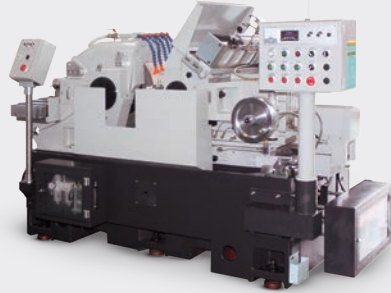
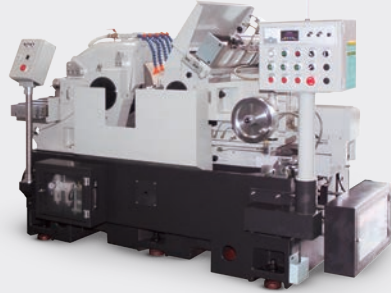
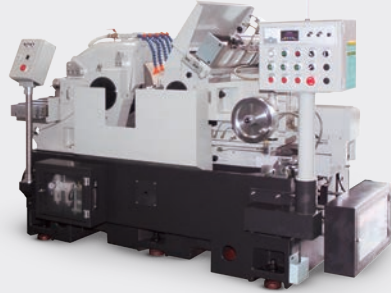
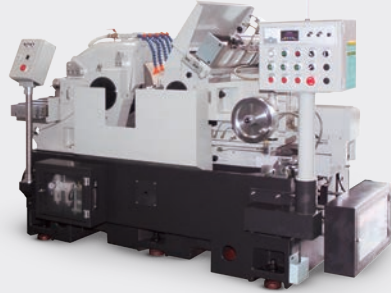
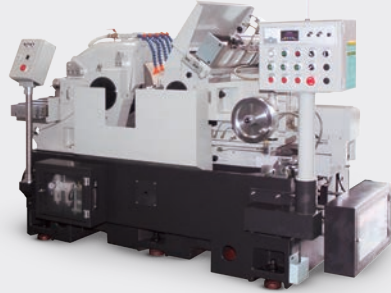
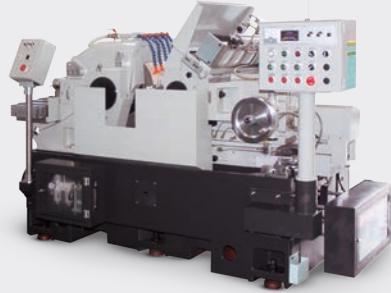
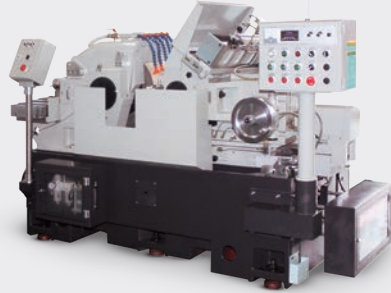
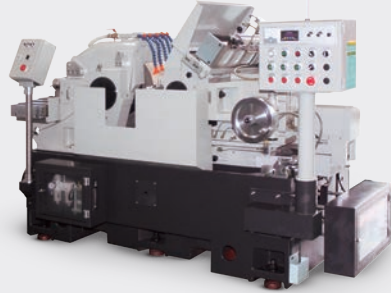
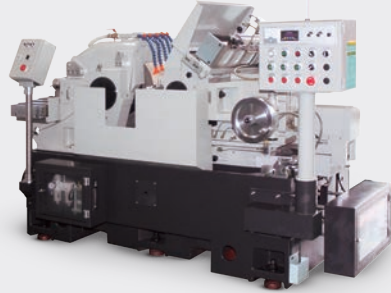
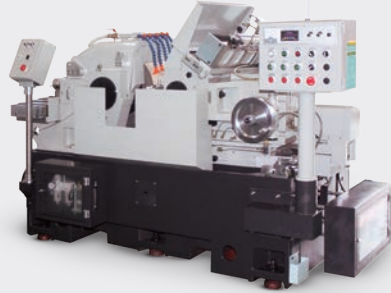
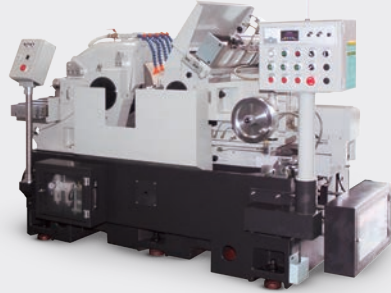
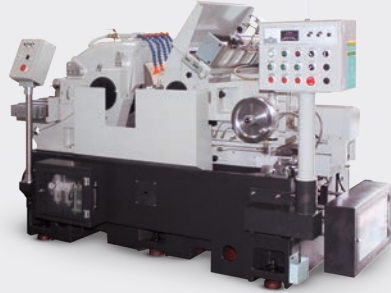
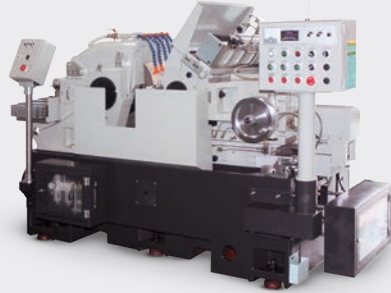
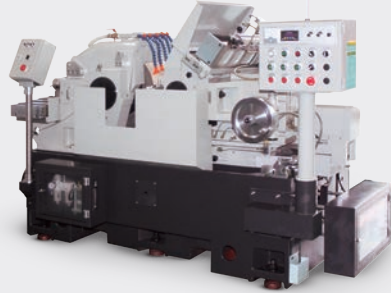
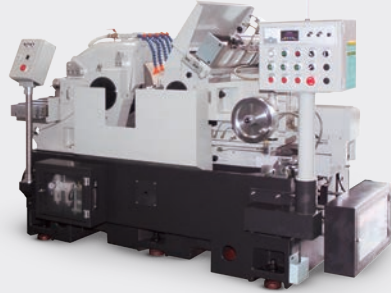
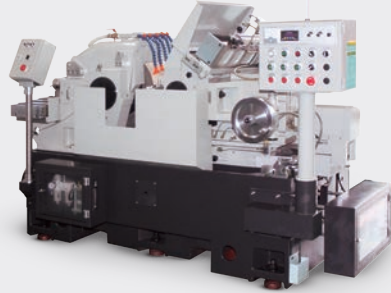
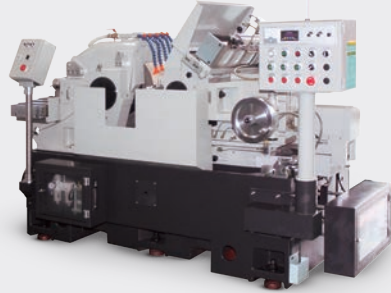
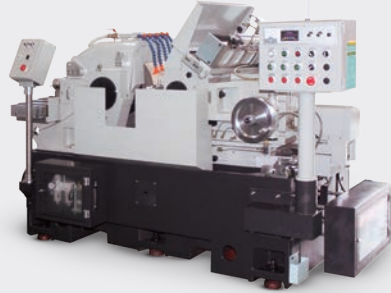
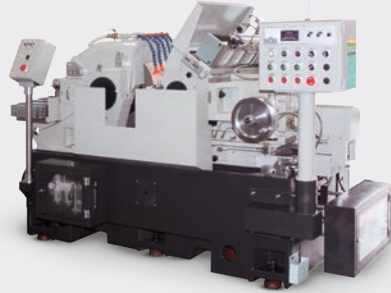
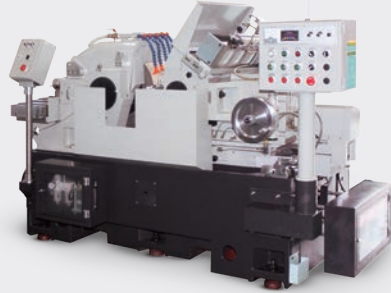
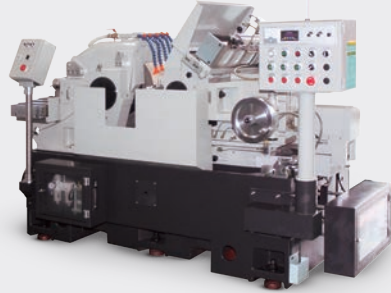
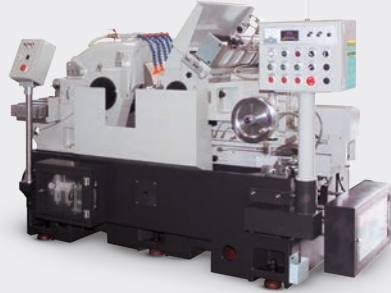
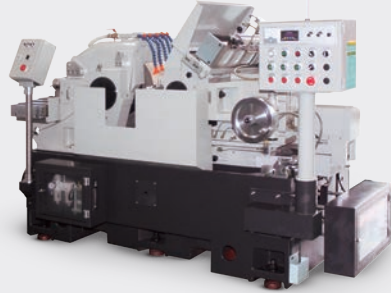
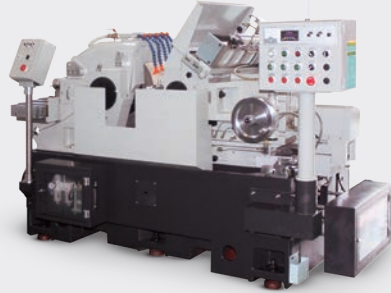
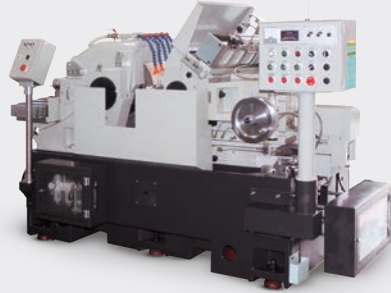
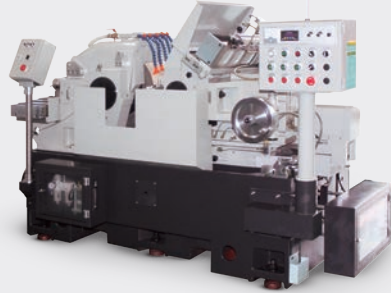
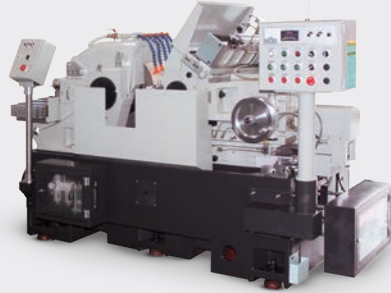
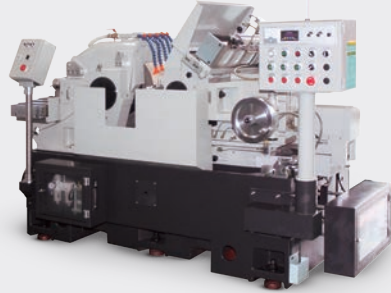
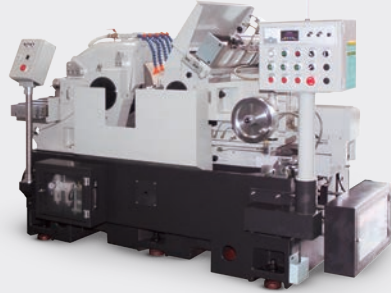
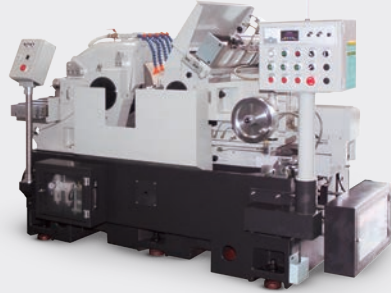
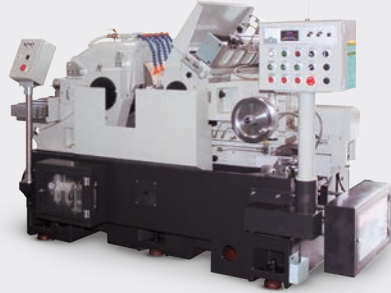
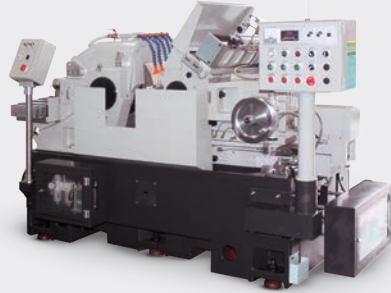
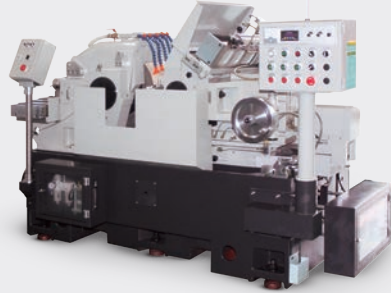
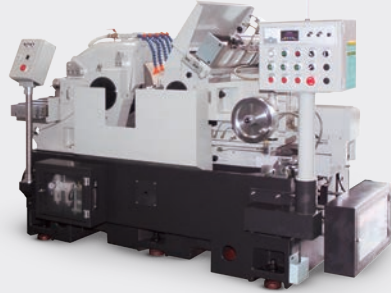
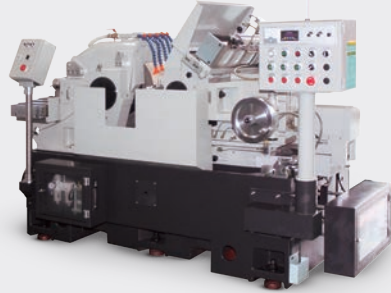
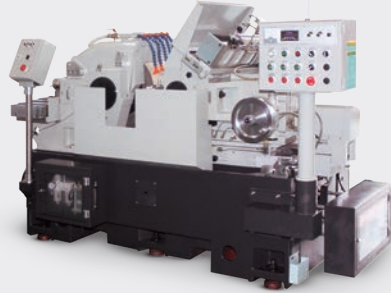
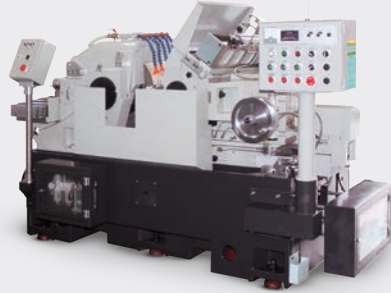
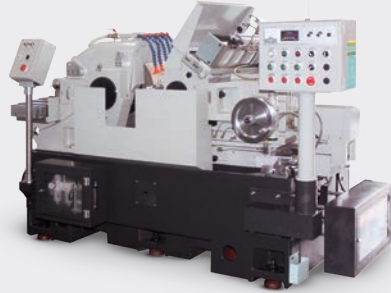
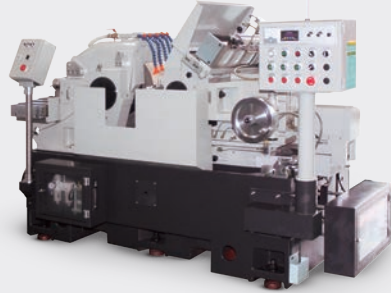
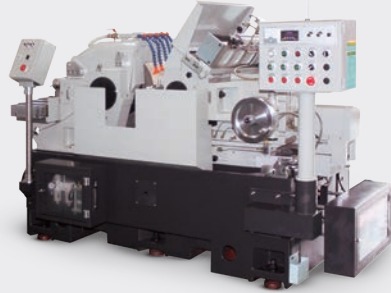
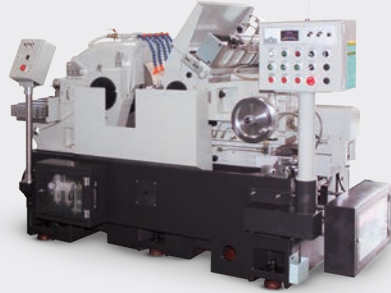
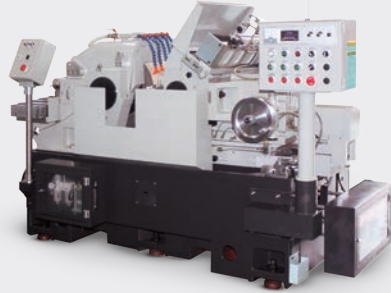
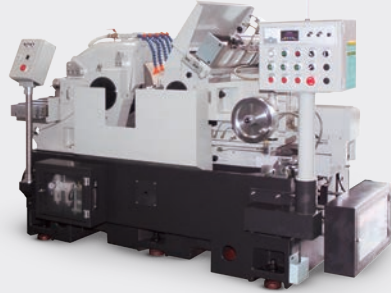
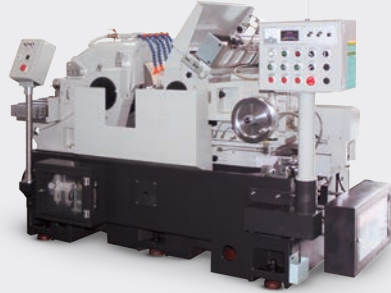
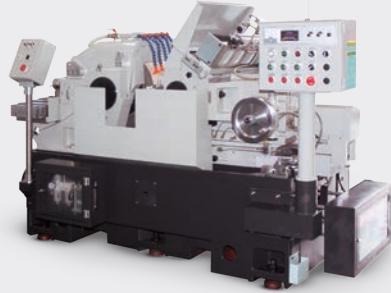
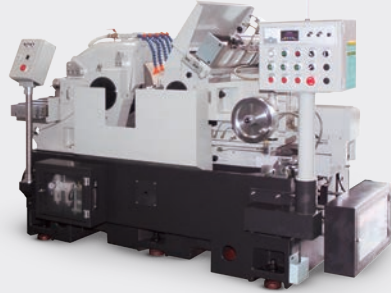
- **2020**  
Developed high-complex turret type, STL42  
Developed high-productive model, XD10
- **2010**  
2019 Developed XD38II-R, heavy duty cutting model  
Established Europe technical center in Germany  
2018 Developed Hi-CPS, Smart Factory MES system  
Developed XD20/26II-V, high complex model  
2016 Developed upgraded line-up; XD-II, XE series  
Developed XD12/16III, XD42  
2014 Established Hanwha machinery Suzhou in China  
Opened Stuttgart office in Germany  
2010 Developed XD07, compact and precise machine
- **2000**  
2008 Opened Milwaukee office in U.S.A  
2006 Developed XD20N, the first non-guide bush type CNC automatic lathe in Korea  
Developed XD32/35 series  
2005 Developed XP series, 4-axis CNC automatic lathe  
2004 Opened Suzhou office in China  
Developed XD20H, CNC automatic lathe
- **1990**  
1998 Developed ML series, the first CNC automatic lathe in Korea  
1994 Developed Centerless grinding machine KCG-200J  
1992 Developed the first internal grinding machine
- **1983**  
Developed SAL-10, the first cam type lathe in Korea
- **1977**  
Started machine tool business

# Platforms

Hanwha CNC Swiss turning machines with a full line-up ranging from 3 to 42 mm, featured with high-grade CNC unit, complex tooling and high-rigidity machine structure can achieve high complex and precision machining. The Hanwha sliding headstock machines offer various range of models with optimized design combination as per customer’s requirement.

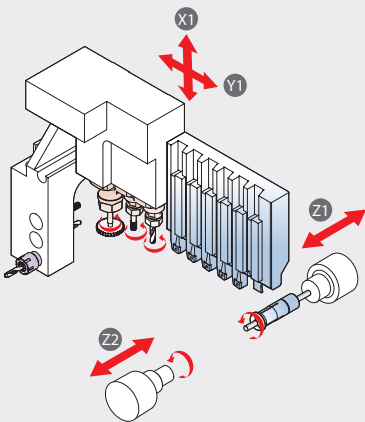
## CNC Swiss Turning Lathe

| XP Series                                                                                                                                                      | XE Series                                                                                                                                             | XD Series                                                                                                                                           | STL Series                                                                                                                                                                                                       | KCG Series                                                                                                                                                                                                                           |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Budget-friendly 4-axis entry models                                                                                                                            | Value for money 5-axis models                                                                                                                         | Flagship multi-axis models for high precision & complex machining                                                                                   | 3-path controlled, powerful turret type models                                                                                                                                                                   | Single grip spindle for easy replacement                                                                                                                                                                                             |
| <ul style="list-style-type: none"><li>CNC unit : Hanwha Fanuc-i</li><li>Ø12, 16, 20, 26, 32</li><li>High-productivity machining for simple workpiece</li></ul> | <ul style="list-style-type: none"><li>CNC unit : Hanwha Fanuc-i</li><li>Ø20, 26, 35</li><li>Affordability with stable and high productivity</li></ul> | <ul style="list-style-type: none"><li>CNC unit : Hanwha Fanuc-i, 32i-B<br/>Siemens 828D, 840D</li><li>Ø03, 07, 12, 16, 20, 26, 32, 38, 42</li></ul> | <ul style="list-style-type: none"><li>Covering almost entire range of material size</li><li>Equipped with high-end CNC for high precision</li><li>Specially structured for high rigidity and stability</li></ul> | <ul style="list-style-type: none"><li>CNC unit : Siemens 840D</li><li>Ø32, 38, 42</li><li>Synchronous machining &amp; 3 path control system</li><li>Ultimate tooling capability with 10 station turret (VDI30 &amp; BMT45)</li></ul> |
| 08 <b>XP12/16S</b><br>09 <b>XP20/26/32S</b>                                                                                                                    | 10 <b>XE20/26</b><br>11 <b>XE35</b>                                                                                                                   | 12 <b>XD03/07</b><br>13 <b>XD12/16III</b><br>14 <b>XD20/26II (F, S)</b><br>16 <b>XD20/26II-V (F, S)</b>                                             | 18 <b>XD32/38II</b><br>20 <b>XD38II-R (F, S)</b><br>22 <b>XD42</b><br>24 <b>STL32/38 (S)</b><br>26 <b>STL42 (S)</b>                                                                                              | 30 <b>KCG</b><br>KCG-150CNC, KCG-200J,<br>KCG-200/300 (CNC)                                                                                                                                                                          |



# XP12/16S

Compact, in-budget 4-axis model for max. dia. 12/16mm

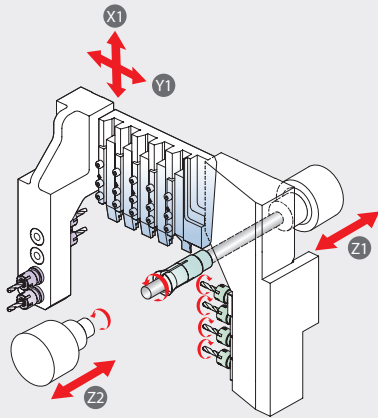


- OPTION**
- Cross 4
  - Gear hobbing unit



# XP20/26/32S

Compact, in-budget 4-axis model for max. dia. 20/26/32mm  
(with side cross tool)



**OPTION TOOLING**

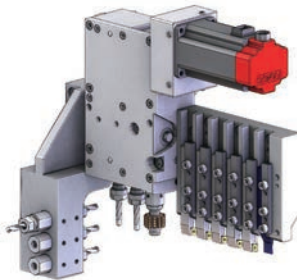
**Cross unit 4**

- OD 5 (□12),
- Cross 4 (ER16x1, ER11x3),
- Front 3 (ER11)



**Gear hobbing unit**

- Maker : Pibomulti
- Angle : -2° ~ 2°

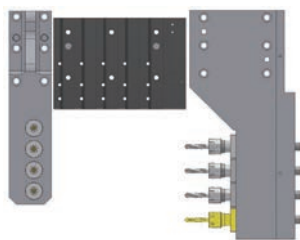


| Model                          |              | XP12S                         | XP16S |
|--------------------------------|--------------|-------------------------------|-------|
| NC                             |              | Hanwha Fanuc-i                |       |
| Max. machining diameter        |              | Ø12                           | Ø16   |
| Z1 Stroke (mm)                 |              | 140                           |       |
| Main spindle                   | rpm          | 12,000                        |       |
|                                | kW           | 2.2/5.5                       |       |
| OD tool                        | No. of tools | 6 (□12mm)                     |       |
|                                | No. of tools | 3 (ER11, Ø20)                 |       |
| Front tool                     | No. of tools | 3 (ER11 x 2, ER16 x 1)        |       |
|                                | No. of tools | 3 (ER11 x 2, ER16 x 1)        |       |
| Cross drill                    | rpm          | 6,000                         |       |
|                                | kW           | 0.5                           |       |
| Sub spindle                    | rpm          | 8,000                         |       |
|                                | kW           | 0.55/1.1                      |       |
| Machine size (L x W x H) (mm)  |              | 1,650 x 1,090 x 1,640         |       |
| Weight (kg)                    |              | 1,800                         |       |
| Power Consumption (Cable size) |              | 10kVA, 6.7kW (VCTF 10SQ x 4C) |       |
| Air Flow rate (Liter/Min)      |              | 120 ~ 150                     |       |

**OPTION TOOLING**

**Cross unit 4 (1 modular)**

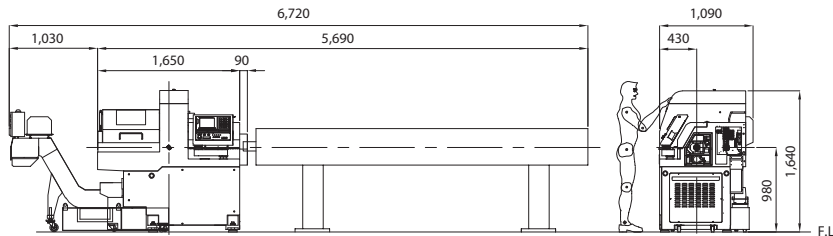
- ER16M x 4
- ※ Standard cross : Non-modular



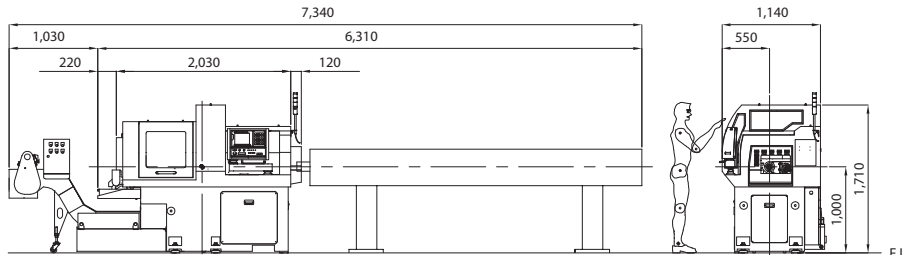
- Right choice for old cam lathe users who need better precision and productivity
- Steady selling model with proven performance & quality

| Model                          |              | XP20S                                                                            | XP26S     | XP32S |
|--------------------------------|--------------|----------------------------------------------------------------------------------|-----------|-------|
| NC                             |              | Hanwha Fanuc-i                                                                   |           |       |
| Max. machining diameter        |              | Ø20                                                                              | Ø26       | Ø32   |
| Z1 Stroke (mm)                 |              | 210                                                                              | 205       |       |
| Main spindle                   | rpm          | 8,000                                                                            |           |       |
|                                | kW           | 2.2/3.7                                                                          | 5.5/7.5   |       |
| OD tool                        | No. of tools | 6 (□12mm)                                                                        | 5 (□16mm) |       |
| Front tool                     | No. of tools | 4 (ER16M, Ø25)                                                                   |           |       |
| Cross drill                    | No. of tools | 4 (ER16M)                                                                        |           |       |
|                                | rpm          | 6,000                                                                            | 5,000     |       |
|                                | kW           | 1.0                                                                              |           |       |
| Sub spindle                    | rpm          | 8,000                                                                            |           |       |
|                                | kW           | 0.55/1.1                                                                         | 1.5/2.2   |       |
| Machine size (L x W x H) (mm)  |              | 2,030 x 1,140 x 1,710                                                            |           |       |
| Weight (kg)                    |              | 2,300                                                                            | 2,500     |       |
| Power Consumption (Cable size) |              | XP20S : 10kVA, 6.7kW (VCTF 10SQ x 4C)<br>XP26/32S : 15kVA, 10kW (VCTF 16SQ x 4C) |           |       |
| Air Flow rate (Liter/Min)      |              | 120 ~ 150                                                                        |           |       |

**Dimension**

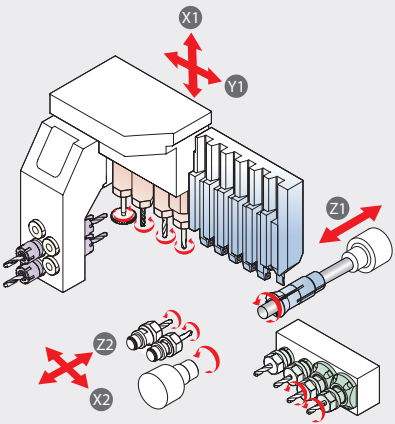


**Dimension**



# XE20/26

5-axis model with reliable performance for max. dia. 20/26mm

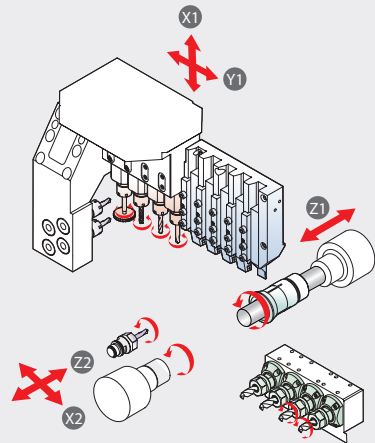


- OPTION**
- Off-center drill (Driven, Fixed) 2
  - Cross 5 ~ 6



# XE35

5-axis model with reliable performance for max. dia. 35mm



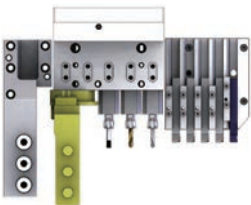
- OPTION**
- Off-center drill (Driven) 1
  - Cross 5



### OPTION TOOLING

**Cross unit 5**

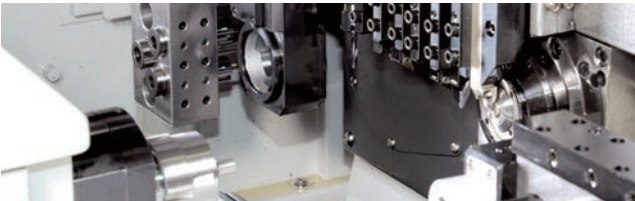
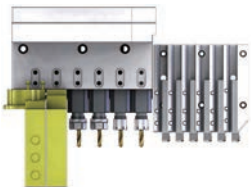
- OD 5 (□16),
- Cross 5 (ER16M),
- Front 3 (ER16M)



**Cross unit 6**

- OD 6 (□16x1 + □11x5),
- Cross 6 (ER11Mx2, ER16x4)

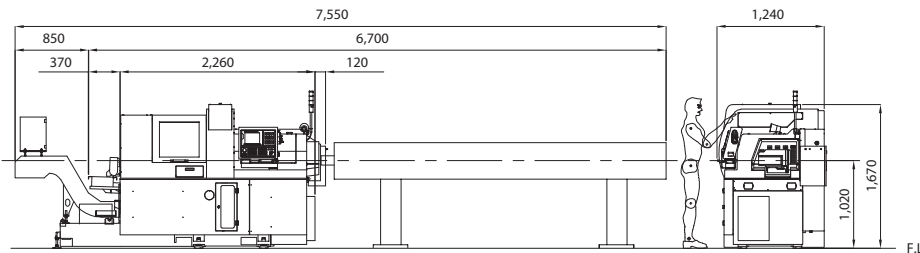
※ Option : 3 Face/counterface driven tool,  
3 Face/counterface angle driven tool



| Model                          |              | XE20/26                          |    |                    |                    |    |
|--------------------------------|--------------|----------------------------------|----|--------------------|--------------------|----|
|                                |              | H                                | N  | NH                 | J                  | Ne |
| NC                             |              | Hanwha Fanuc-i                   |    |                    |                    |    |
| Max. machining diameter        |              | Ø20/26                           |    |                    |                    |    |
| Z1 Stroke (mm)                 |              | 210                              | 60 | 160 (H),<br>50 (N) | 210                | 60 |
| Main spindle                   | rpm          | 10,000 (Ø20), 8,000 (Ø26)        |    |                    |                    |    |
|                                | kW           | 2.2/3.7 (Ø20), 2.2/5.5 (Ø26)     |    |                    |                    |    |
| OD tool                        | No. of tools | 6 (□12mm) (Ø20), 5 (□16mm) (Ø26) |    |                    |                    |    |
| Front tool                     | No. of tools | 5 (ER16M, Ø25)                   |    |                    |                    |    |
| Cross drill                    | No. of tools | 4 (ER16)                         |    |                    |                    |    |
|                                | rpm          | 6,000                            |    |                    |                    |    |
|                                | kW           | 1.0                              |    |                    |                    |    |
| Off-center drill (Option)      | No. of tools | 2 (ER16)                         |    |                    |                    |    |
| Sub spindle                    | rpm          | 8,000                            |    |                    |                    |    |
|                                | kW           | 1.5/2.2                          |    |                    |                    |    |
| Back tool                      | No. of tools | 4 (ER16) (2 Fixed + 2 Driven)    |    |                    | 4 (ER16) (4 Fixed) |    |
|                                | rpm          | 6,000                            |    |                    | -                  |    |
|                                | kW           | 1.0                              |    |                    | -                  |    |
| Machine size (L x W x H) (mm)  |              | 2,260 x 1,240 x 1,670            |    |                    |                    |    |
| Weight (kg)                    |              | 2,500                            |    |                    |                    |    |
| Power Consumption (Cable size) |              | 15kVA, 10kW (VCTF 10SQ x 4C)     |    |                    |                    |    |
| Air Flow rate (Liter/Min)      |              | 120 ~ 150                        |    |                    |                    |    |

\* **H** : G/B & Driven back tool(2), **J** : G/B & Fixed back tool  
\* **N** : Non-G/B & Driven back tool(2), **Ne** : Non-G/B & Fixed back tool, **NH** : Convertible G/B & Driven back tool(2)

### Dimension

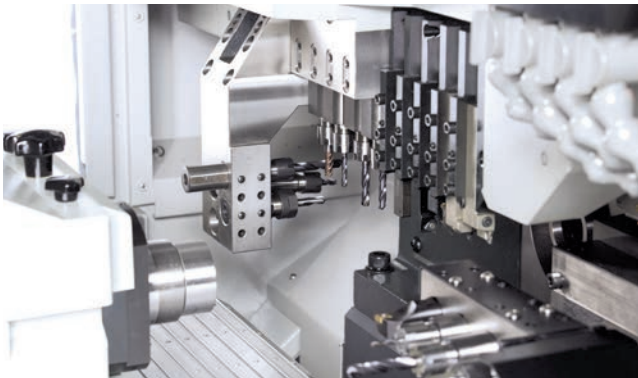
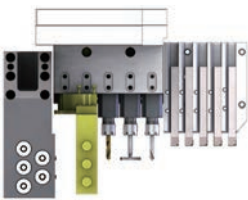


### OPTION TOOLING

**Cross unit 5**

- OD 5 (□12),
- Cross 5 (ER16M),
- Front 5 (ER16M)

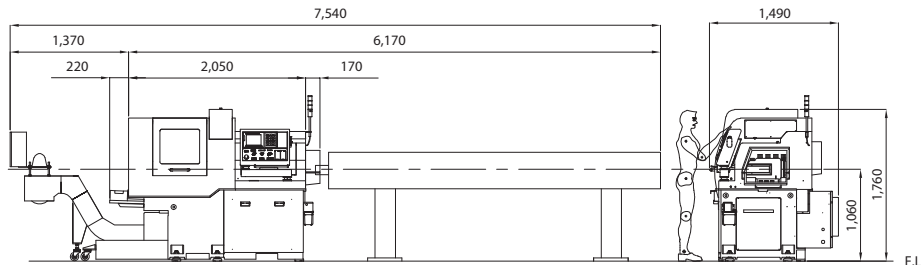
※ Cross(standard): Spline modular type  
※ Option : 3 Face/counterface driven tool,  
3 Face/counterface angle driven tool



| Model                          |              | XE35                             |    |                       |    |
|--------------------------------|--------------|----------------------------------|----|-----------------------|----|
|                                |              | H                                | N  | J                     | Ne |
| NC                             |              | Hanwha Fanuc-i                   |    |                       |    |
| Max. machining diameter        |              | Ø35                              |    |                       |    |
| Z1 Stroke (mm)                 |              | 210                              | 60 | 210                   | 60 |
| Main spindle                   | rpm          | 6,500                            |    |                       |    |
|                                | kW           | 2.2/5.5                          |    |                       |    |
| OD tool                        | No. of tools | 5 (□16mm)                        |    |                       |    |
| Front tool                     | No. of tools | 4 (ER16M, Ø25)                   |    |                       |    |
| Cross drill                    | No. of tools | 4 (ER16M)                        |    |                       |    |
|                                | rpm          | 6,000                            |    |                       |    |
|                                | kW           | 1.0                              |    |                       |    |
| Off-center drill (Option)      | No. of tools | 1 (ER16)                         |    |                       |    |
| Sub spindle                    | rpm          | 6,500                            |    |                       |    |
|                                | kW           | 1.5/2.2                          |    |                       |    |
| Back tool                      | No. of tools | 4 (ER16)<br>(2 Fixed + 2 Driven) |    | 4 (ER16)<br>(4 Fixed) |    |
|                                | rpm          | 6,000                            |    | -                     |    |
|                                | kW           | 1.0                              |    | -                     |    |
| Machine size (L x W x H) (mm)  |              | 2,050 x 1,490 x 1,760            |    |                       |    |
| Weight (kg)                    |              | 2,750                            |    |                       |    |
| Power Consumption (Cable size) |              | 15kVA, 10kW (VCTF 10SQ x 4C)     |    |                       |    |
| Air Flow rate (Liter/Min)      |              | 120 ~ 150                        |    |                       |    |

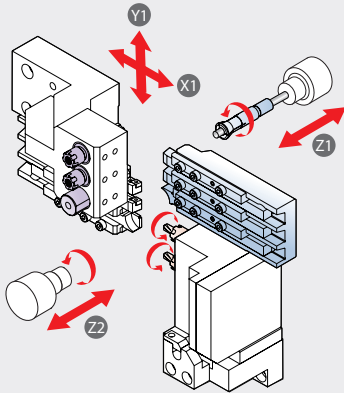
\* **H** : G/B & Driven back tool(2), **J** : G/B & Fixed back tool  
\* **N** : Non-G/B & Driven back tool(2), **Ne** : Non-G/B & Fixed back tool

### Dimension



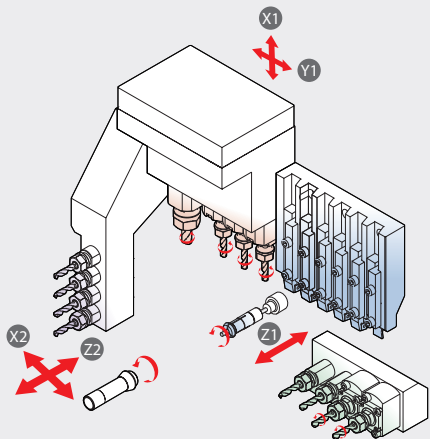
# XD03/07

High-performing 4-axis for small precision parts  
(Max. dia. 7mm)



# XD12/16III

High-speed 5-axis solution for max. dia. 12/16mm

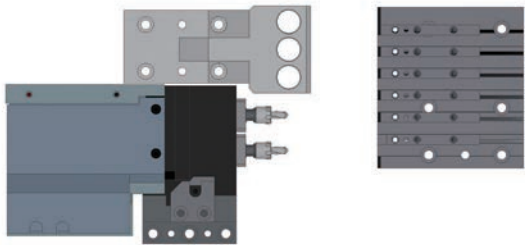


- OPTION**
- Long drill (Fixed) 1
  - Back tool 4 ~ 5
- ※ Cross(standard) : Non-modular type with single body

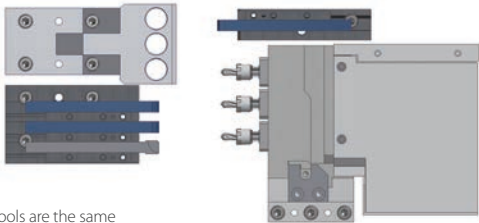


## OPTION TOOLING

**Cross unit 2**  
- Front 3, Cross 2, OD 6



**Cross unit 3**  
- Front 3, OD 4(3+1), Cross 3



※ Spec of tools are the same

| Model                          |              | XD03/07                        |
|--------------------------------|--------------|--------------------------------|
| NC                             |              | Hanwha Fanuc-i                 |
| Max. machining diameter        |              | Ø3/7                           |
| Z1 Stroke (mm)                 |              | 125                            |
| Main spindle                   | rpm          | 16,000 (Rotary G/B 10,000 rpm) |
|                                | kW           | 1.1/1.5                        |
| OD tool                        | No. of tools | 6 (□8mm) (3 + 3)               |
|                                | No. of tools | 3 (ER8M, Ø15.875)              |
| Front tool                     | No. of tools | 2 (ER8M)                       |
|                                | rpm          | 9,000                          |
|                                | kW           | 0.35                           |
| Cross drill                    | rpm          | 16,000                         |
|                                | kW           | 1.1/1.5                        |
| Machine size (L x W x H) (mm)  |              | 1,330 x 750 x 1,450            |
| Weight (kg)                    |              | 1,000                          |
| Power Consumption (Cable size) |              | 8kVA, 5.4kW (VCTF 65Q x 4C)    |
| Air Flow rate (Liter/Min)      |              | 120 ~ 150                      |

## OPTION UNIT

Special G/B units to enhance machining precision for small material under Ø7mm

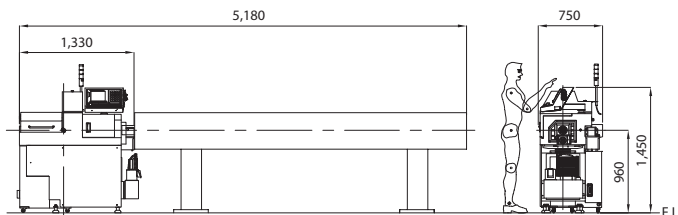


Rotary G/B



Stationary G/B with fine-adjustment

## Dimension

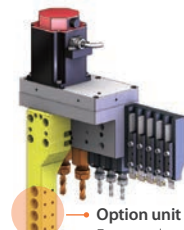


## OPTION TOOLING

**Cross unit 4 (modular 1)**  
- ER11x3, Modular ER16x1  
※ Standard cross : Non-modular



**Cross unit 5 (modular 2)**  
- ER11x3, Modular ER16x2



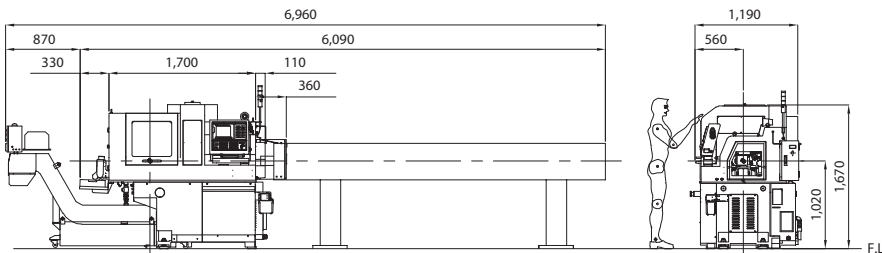
Option unit  
Front tool unit attached on cross body

- Fast cycle time
- High speed of spindle (Main : 15,000rpm, Sub : 10,000rpm)
- Great machining performance with strong motor power for back tool (Capacity : 1.0kW)

| Model                          | XD12/16III   |                                     |
|--------------------------------|--------------|-------------------------------------|
|                                | H            | J                                   |
| NC                             |              |                                     |
| Hanwha Fanuc-i                 |              |                                     |
| Max. machining diameter        |              |                                     |
| Ø12/16                         |              |                                     |
| Z1 Stroke (mm)                 |              |                                     |
| 155                            |              |                                     |
| Main spindle                   | rpm          | 15,000                              |
|                                | kW           | 2.2/3.7                             |
| OD tool                        | No. of tools | 5 (□12mm)                           |
|                                | No. of tools | 4 (ER11, Ø20)                       |
| Front tool                     | No. of tools | 4 (ER11 x 3 + ER16 x 1)             |
|                                | rpm          | 6,000 (ER11), 9,000 (ER16)          |
| Cross drill                    | rpm          | 10,000                              |
|                                | kW           | 1.0                                 |
| Long drill (Option)            | No. of tools | 1 (ER11)<br>drilling depth : 76.5mm |
|                                | rpm          | 10,000                              |
| Sub spindle                    | kW           | 0.55/1.1                            |
|                                | No. of tools | 4 (ER11)<br>(2 Fixed + 2 Driven)    |
| Back tool                      | rpm          | 4 (ER11)<br>(4 Fixed)               |
|                                | kW           | -                                   |
| Machine size (L x W x H) (mm)  |              |                                     |
| 1,700 x 1,190 x 1,670          |              |                                     |
| Weight (kg)                    |              |                                     |
| 2,200                          |              |                                     |
| Power Consumption (Cable size) |              |                                     |
| 15kVA, 10kW (VCTF 105Q x 4C)   |              |                                     |
| Air Flow rate (Liter/Min)      |              |                                     |
| 120 ~ 150                      |              |                                     |

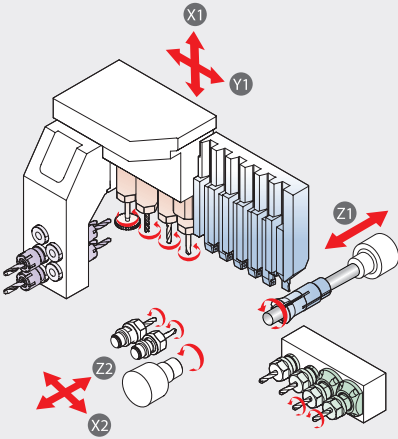
\* H : G/B & Driven back tool(2), J : G/B & Fixed back tool

## Dimension

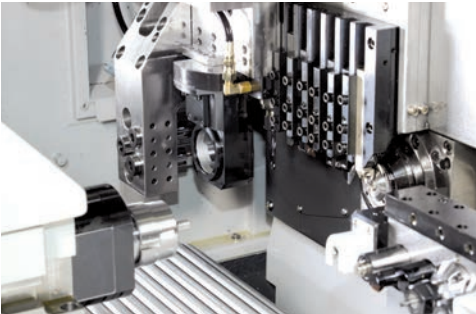


# XD20/26II

The best selling 5-axis for max. dia. 20/26mm



- OPTION**
- Off-center drill (Driven, Fixed) 2
  - Cross drill 5 ~ 6
  - Back tool 5 ~ 6

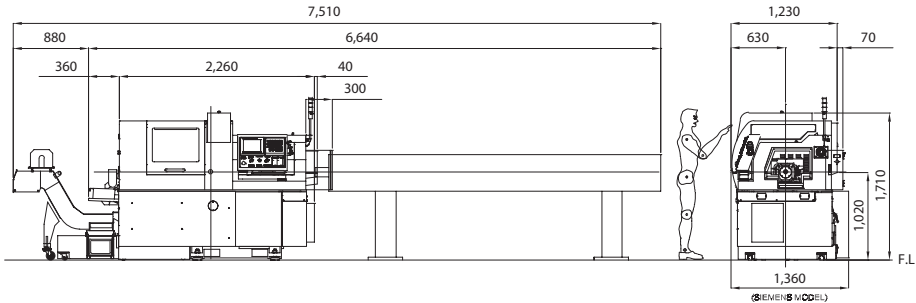


- Maximized tooling capability with a variety of customized options
- The best-suited for high precision and accuracy

| Model                          |              | XD20/26II                                              |      |                    |                            |
|--------------------------------|--------------|--------------------------------------------------------|------|--------------------|----------------------------|
|                                |              | H                                                      | N    | NH                 | M                          |
| NC                             |              | Fanuc 32i-B / Siemens 828D                             |      |                    |                            |
| Max. machining diameter        |              | Ø20/Ø26                                                |      |                    |                            |
| Z1 Stroke (mm)                 |              | 210 (Fanuc),<br>240 (Siemens)                          | 60mm | 160 (H),<br>50 (N) | 210                        |
| Main spindle                   | rpm          | 10,000 (Ø20), 8,000 (Ø26)                              |      |                    |                            |
|                                | kW           | Fanuc : 2.2/3.7 (Ø20), 2.2/5.5 (Ø26)<br>Siemens : 14.4 |      |                    |                            |
| OD tool                        | No. of tools | 6 (□12mm) (Ø20), 5 (□16mm) (Ø26)                       |      |                    | 5 (□12mm)                  |
| Front tool                     | No. of tools | 5 (ER16M, Ø25)                                         |      |                    |                            |
| Cross drill                    | No. of tools | 4 (ER16 (Ø20), ER16M (Ø26))                            |      |                    | 5 (ER16M)                  |
|                                | rpm          | 6,000                                                  |      |                    |                            |
| Off-center drill (Option)      | No. of tools | 2 (ER16) Driven                                        |      |                    | 2 (ER16M) Fixed long drill |
|                                | rpm          | 8,000                                                  |      |                    |                            |
| Sub spindle                    | kW           | Fanuc : 1.5/2.2, Siemens : 2.59                        |      |                    |                            |
|                                | No. of tools | 4 (ER16) (2 Fixed + 2 Driven)                          |      |                    |                            |
| Back tool                      | rpm          | 6,000                                                  |      |                    |                            |
|                                | kW           | Fanuc : 1.0, Siemens : 1.02                            |      |                    |                            |
| Machine size (L x W x H) (mm)  |              | 2,260 x 1,230 x 1,710                                  |      |                    |                            |
| Weight (kg)                    |              | 2,700                                                  |      |                    |                            |
| Power Consumption (Cable size) |              | 15kVA, 10kW (VCTF 10SQ x 4C)                           |      |                    |                            |
| Air Flow rate (Liter/Min)      |              | 120 ~ 150                                              |      |                    |                            |

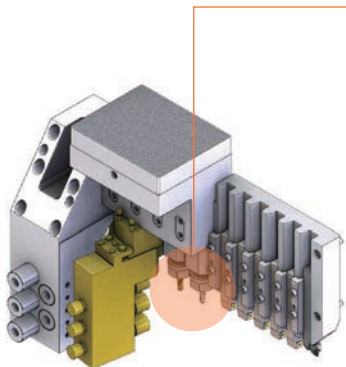
\* **H** : G/B, **N** : Non-G/B, **NH** : Convertible G/B, **M** : Cross 5-axis+Long drills

## Dimension



# Option Tooling

Offers various and flexible toolings for enhancing productivity and covering a variety of customer's needs

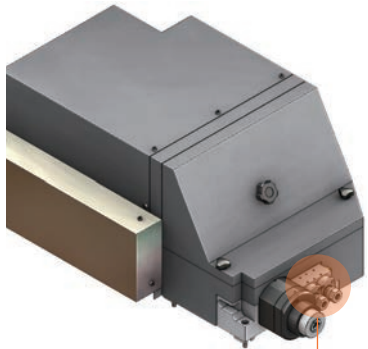
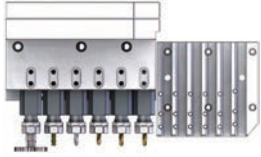
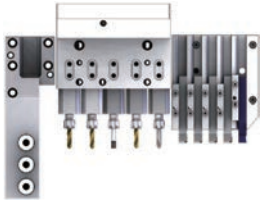
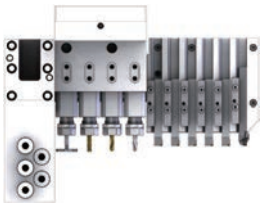


## Option Tool Layout

**Cross unit 4** (standard)  
- OD 6 (□12),  
Cross 4 (ER16),  
Front 5 (ER16M)

**Cross unit 5**  
- OD 5 (□16),  
Cross 5 (ER16M),  
Front 3 (ER16M)

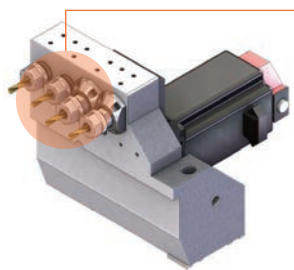
**Cross unit 6**  
- OD 6 (□16 x 1, □11 x 5),  
Cross 6 (ER11M x 2, ER16 x 4)



## Off-Center Unit

- Sub spindle unit provides 2 driven drills or 2 fixed long drills for deep hole machining (option)

### Option tool



## Back Tool Unit

- A total of 6 tools as an option and modular type for easy tool change / maintenance

### Option unit

### Option tool



Attachable fixed drill unit



Internal coolant driven tool



Back and cross tool



Burr removal

### Selectable modules of back tool

Driven max. 4



4 tools



5 tools



6 tools

※ Unable to use Off-center for 5 ~ 6 tools

## Standard

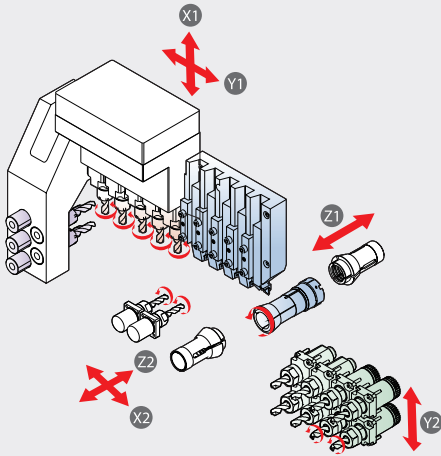
- Main-Sub Cs control (0.001°)
- Rotary Guide bush holder
- Cross drilling · milling unit (4, Gear modular type)
- MPG
- Part conveyor
- Door interlock
- Coolant flow sensor
- Work light
- Signal lamp (3color)
- LAN port
- Tool monitoring function
- Cut off tool breakage detector (S/W)
- Auto power off
- Bar feeder interface

## Option

- Bar feeder
- Chip conveyor
- Transformer
- Tap breakage detector
- Pipe type ejection unit
- Off center drill unit (2)
- Middle / High pressure pump
- Oil mist collector
- Oil chiller
- Memory card
- Tooling & Programming
- Internal coolant driven tool (cross, back, off-center)
- 3 Face/counterface driven tool (cross)
- 3 Face/counterface angle driven tool (cross)
- Extended coolant tank
- NC warranty for 2 years

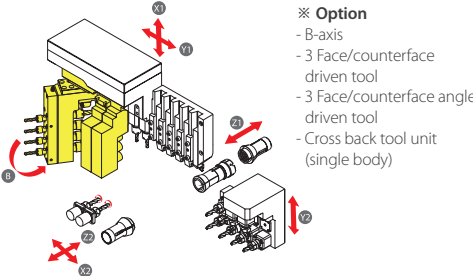
# XD20/26II-V

Multi-functional with B and Y2-axis



- OPTION**
- Off-center drill (Driven, Fixed) 2
  - B-axis tool post 8 (Front 4 + Back 4)
  - Y2 back tool cross unit (Max. Cross 2)

## OPTION TOOLING

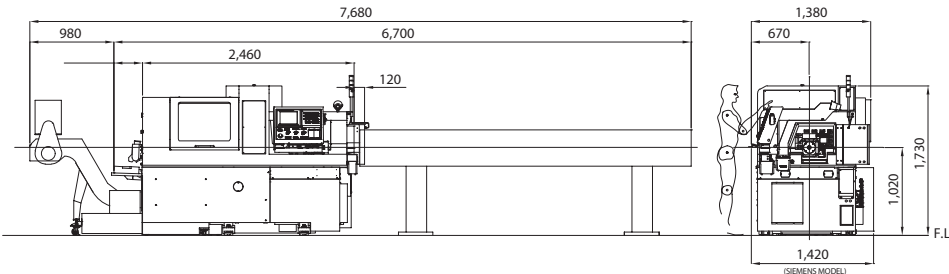


- Ultimate tooling capability adopting B-axis and Y2-axis
- Minimized thermal deformation with cooling system for Cross drilling/milling unit
- Adopted powerful built-in motor for main/sub spindle (2.2/3.7kW(Fanuc), 14.4kW(Siemens))

| Model                          |                               | XD20/26II-V                                            |                       |                 |
|--------------------------------|-------------------------------|--------------------------------------------------------|-----------------------|-----------------|
|                                |                               | H                                                      | N                     | NH              |
| NC                             |                               | Fanuc 32i-B / Siemens 828D (B-axis 840D)               |                       |                 |
| Max. machining diameter        |                               | Ø20/26                                                 |                       |                 |
| Z1 Stroke (mm)                 |                               | 210                                                    | 50                    | 210 (H), 50 (N) |
| Main spindle                   | rpm                           | 10,000 (Ø20), 8,000 (Ø26)                              |                       |                 |
|                                | kW                            | Fanuc : 2.2/3.7 (Ø20), 2.2/5.5 (Ø26)<br>Siemens : 14.4 |                       |                 |
| OD tool                        | No. of tools                  | 6 (□12mm) (Ø20), 5 (□16mm) (Ø26)                       |                       |                 |
| Front tool                     | No. of tools                  | 5 (ER16M, Ø25)                                         |                       |                 |
| Cross drill                    | No. of tools                  | 5 (ER16 (Ø20), ER16M (Ø26))                            |                       |                 |
|                                | rpm                           | 6,000                                                  |                       |                 |
| Off-center drill (Option)      | kW                            | 1.0 (Fanuc), 1.02 (Siemens)                            |                       |                 |
|                                | No. of tools                  | 2 (ER16) Modular                                       |                       |                 |
| Sub spindle                    | rpm                           | 8,000                                                  |                       |                 |
|                                | kW                            | 2.2/3.7 (Fanuc), 14.4 (Siemens)                        |                       |                 |
| Back tool                      | No. of tools                  | 8 (ER16) (4 Fixed + 4 Drvien)                          |                       |                 |
|                                | rpm                           | 6,000                                                  |                       |                 |
|                                | kW                            | 1.0 (Fanuc), 1.02 (Siemens)                            |                       |                 |
|                                | Machine size (L x W x H) (mm) |                                                        | 2,460 x 1,380 x 1,730 |                 |
| Weight (kg)                    |                               | 2,900                                                  |                       |                 |
| Power Consumption (Cable size) |                               | 15kVA, 10kW (VCTF 10SQ x 4C)                           |                       |                 |
| Air Flow rate (Liter/Min)      |                               | 120 ~ 150                                              |                       |                 |

\* H : G/B, N : Non-G/B, NH : Convertible G/B

## Dimension

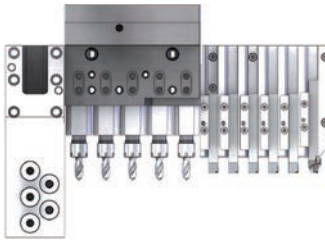


# Option Tooling

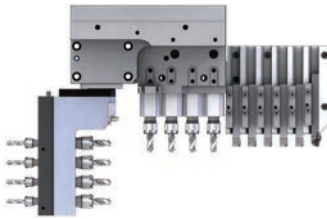
Complex & productive machining for multi shape parts with B-axis cross and Y2-axis back tooling

## Cross Drilling / Milling Unit

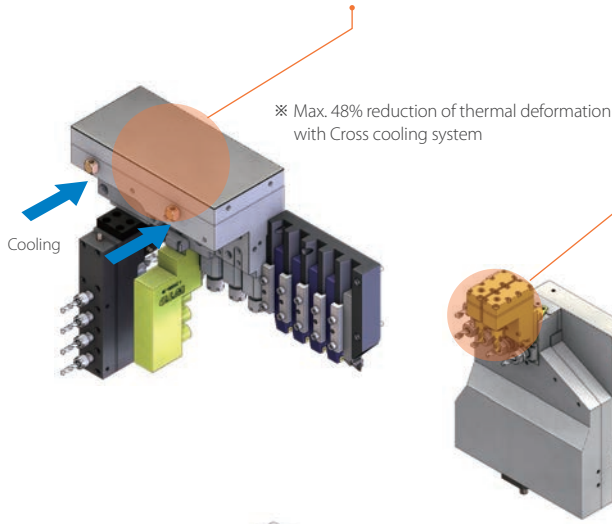
- Cross unit with gear modular type for various tooling and easy tool change / maintenance
- ※ Various option tool unit : Triple speed rotating drill, Internal coolant driven tool, 3 Face / counterface driven tool, 3 Face / counterface angle driven tool



**Cross unit 5**  
- OD 6 (□12),  
Cross 5 (ER16),  
Front 5 (ER16M)  
※ for XD20II-V



**B-axis Cross unit**  
- OD 6 (□12),  
Cross 4 (ER16),  
B-axis 4 (ER16x4, ER11x4)  
※ for XD20II-V



## Back Tool Unit

- Y2-axis tool post offering flexible & various tooling on Back
- Stable machining with enhanced structure & powerful motor

### Option tool



Internal coolant driven tool



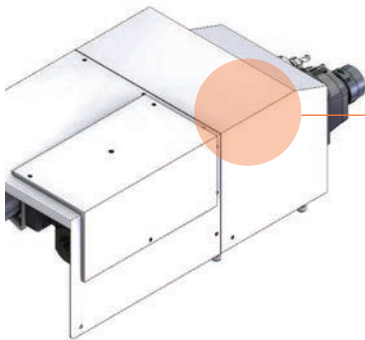
Back tool cross unit (Single body)



Back tool cross unit (Modular)

## Sub Spindle & Off-Center Unit

- Adopted built-in motor to sub spindle for precision machining
- ※ Off-center drill (Driven, Fixed) 2 is available



| Feature                        |                         | Value                                   |
|--------------------------------|-------------------------|-----------------------------------------|
| Sub spindle unit               | Max. machining diameter | Ø20/26 mm                               |
|                                | Rotation speed          | 8,000 rpm                               |
|                                | Motor                   | 2.2/3.7 kW (Fanuc)<br>14/4 kW (Siemens) |
| Off-center drill unit (Option) | Drill                   | 2 (ER16)                                |
|                                | Type                    | Gear modular                            |

## Standard

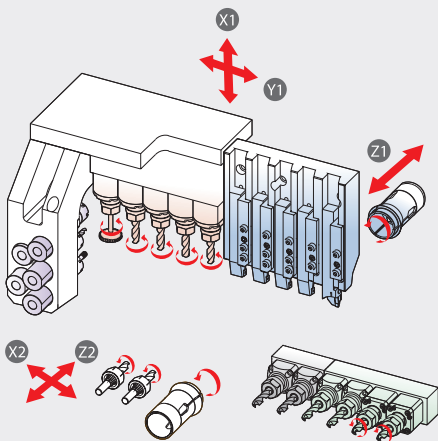
- Main · Sub Cs control (0.001°)
- Rotary Guide bush holder
- Cross drilling · milling unit (5, Gear modular type)
- MPG
- Part conveyor
- Door interlock
- Coolant flow sensor
- Work light
- Signal lamp (3color)
- LAN port
- Tool monitoring function
- Cut off tool breakage detector (S/W)
- Auto power off
- Bar feeder interface

## Option

- Bar feeder
- Chip conveyor
- Transformer
- Tap breakage detector
- Pipe type ejection unit
- Off center drill unit (2)
- Middle / High pressure pump
- Oil mist collector
- Oil chiller
- Memory card
- Tooling & Programming
- Internal coolant driven tool (cross, back, off-center)
- 3 Face/counterface driven tool (cross)
- 3 Face/counterface angle driven tool (cross)
- Extended coolant tank
- NC warranty for 2 years

# XD32/38II

Specialized 5/6/7-axis model for heavy duty cutting / milling

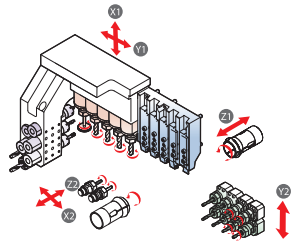


- OPTION**
- Off-center drill (Driven, Fixed) 2
  - Cross 6
  - B-axis tool post 6 (Front 3 + Back 3)
  - Back tool 4 ~ 6
  - Y2 back tool cross unit (Max. Cross 2)

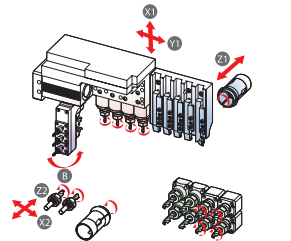


## TOOLING VARIATION

- Y2 Back tool 8 (Driven max. 8)
- Off-center drill (Driven) 2



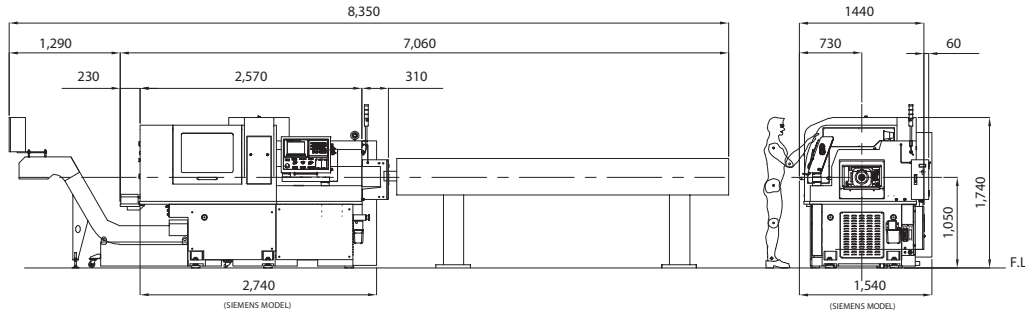
- B-axis tool post 6 (Front 3 + Back 3)



| Model                          |              | XD32/38II                      |    |                 |                               |
|--------------------------------|--------------|--------------------------------|----|-----------------|-------------------------------|
|                                |              | H                              | N  | NH              | He                            |
| NC                             |              | Fanuc 32i-B                    |    |                 | Hanwha Fanuc-i                |
| Max. machining diameter        |              | Ø32/38                         |    |                 |                               |
| Z1 Stroke (mm)                 |              | 320                            | 80 | 142 (H), 80 (N) | 320                           |
| Main spindle                   | rpm          | 6,500                          |    |                 |                               |
|                                | kW           | 5.5/7.5                        |    |                 |                               |
| OD tool                        | No. of tools | 5 (□16mm)                      |    |                 |                               |
| Front tool                     | No. of tools | 5 (ER20M, Ø32)                 |    |                 |                               |
| Cross drill                    | No. of tools | 5 (ER16)                       |    |                 |                               |
|                                | rpm          | 6,000                          |    |                 |                               |
|                                | kW           | 2.2                            |    |                 |                               |
| Off-center drill (Option)      | No. of tools | 2 (ER16) Modular               |    |                 | 2 (ER16) Non-modular          |
|                                | type         | Motor drive (6,000rpm, 1.0kW)  |    |                 | Gear drive                    |
| Sub spindle                    | rpm          | 6,500 (Built-in motor)         |    |                 | 6,500 (Spindle motor)         |
|                                | kW           | 2.2/5.5                        |    |                 | 1.1/3.7                       |
| Back tool                      | No. of tools | 6 (ER16) (4 Fixed + 2 Driven)  |    |                 | 4 (ER16) (2 Fixed + 2 Driven) |
|                                | rpm          | 6,000                          |    |                 |                               |
|                                | kW           | 1.0                            |    |                 |                               |
| Machine size (L x W x H) (mm)  |              | 2,570 x 1,440 x 1,740          |    |                 |                               |
| Weight (kg)                    |              | 3,600                          |    |                 |                               |
| Power Consumption (Cable size) |              | 25kVA, 16.7kW (VCTF 16SQ x 4C) |    |                 |                               |
| Air Flow rate (Liter/Min)      |              | 120 ~ 150                      |    |                 |                               |

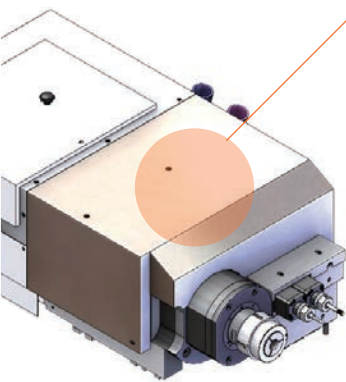
\* H : G/B, N : Non-G/B, NH : Convertible G/B, He : Hanwha Fanuc-i NC (with G/B)

## Dimension



# Option Tooling

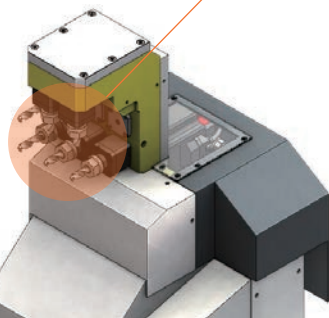
Various tooling options & sub-spindle type are offered for high-quality performance depending on product & machining condition



## Sub Spindle Unit

- Built-in motor for powerful cutting and spindle motor for high productivity are both available
- ※ Choose a right type of motor to generate the best performance depending on processing material and condition

| Sub spindle             |                |                | Spec               |
|-------------------------|----------------|----------------|--------------------|
| Max. machining diameter |                |                | Ø38 mm             |
| Rotating speed          |                |                | 6,500 rpm          |
| Motor spec              | Built-in motor | Fanuc 32i-B    | 2.2/5.5kW, 20/49Nm |
|                         | Spindle motor  | Hanwha Fanuc-i | 1.1/3.7kW, 7/28Nm  |

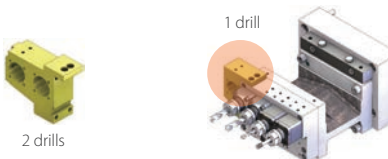


## Back Tool Unit

- A total of 8 tools with Y2-axis and modular type for easy tool change / maintenance

### Option unit

**Attachable fixed drill unit**  
Off-center can be available with 1 drill unit

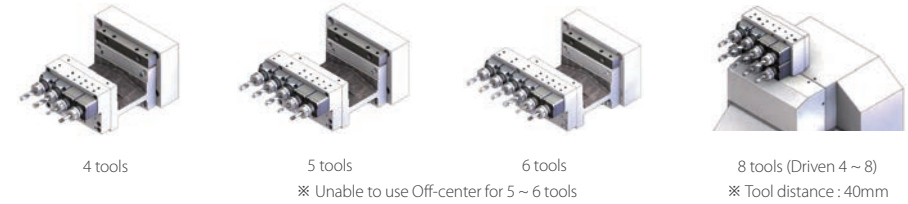


### Option tool



### Selectable modules of back tool

Driven max. 4



## Standard

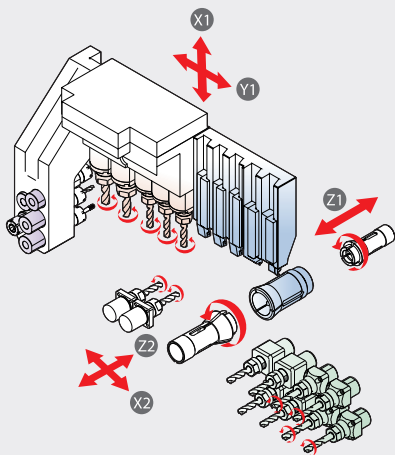
- Main-Sub Cs control (0.001°)
- Rotary Guide bush holder
- Cross drilling · milling unit (5, Gear modular type)
- MPG
- Part conveyor
- Door interlock
- Coolant flow sensor
- Work light
- Signal lamp (3color)
- LAN port
- Tool monitoring function
- Cut off tool breakage detector (S/W)
- Auto power off
- Bar feeder interface

## Option

- Bar feeder
- Chip conveyor
- Transformer
- Tap breakage detector
- Pipe type ejection unit
- Off center drill unit (2)
- Middle / High pressure pump
- Oil mist collector
- Oil chiller
- Memory card
- Tooling & Programming
- Internal coolant driven tool (cross, back, off-center)
- 3 Face/counterface driven tool (cross)
- 3 Face/counterface angle driven tool (cross)
- Extended coolant tank
- NC warranty for 2 years

# XD38II-R

The latest 5/6-axis, specialized in heavy duty cutting/ milling of max. dia. 38mm



- OPTION**
- Off-center drill (Driven, Fixed) 2
  - Cross 6
  - Y2 back tool cross unit (Max. Cross 2)



### Specification of G/B & Chuck

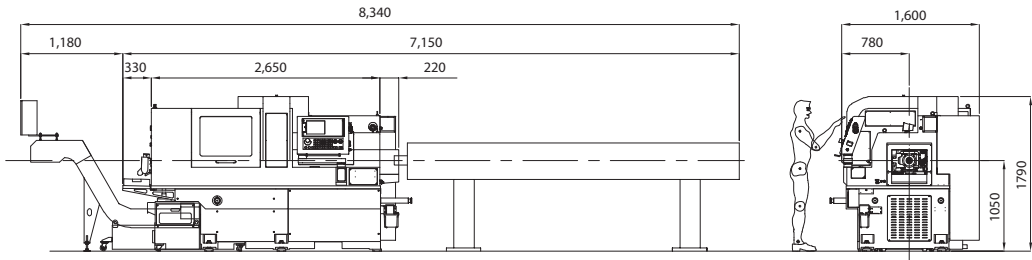
| Model      | XD38II-R        | XD38II    |                             |      |
|------------|-----------------|-----------|-----------------------------|------|
| NC         | Fanuc / Siemens | Fanuc     | Siemens (※ Production stop) |      |
| Type       | NH              | H/N/NH/He | H                           | N/NH |
| Guide bush | BRA-42          | TD38      | BRA-42                      |      |
| Main chuck | TF48            | TF44      | TF48                        | TF44 |
| Sub chuck  | TF48            | TF44      | TF48                        |      |

- Enhanced machining performance with optimized structure/ layout & widened distance between tools
- Easy switching between G/B & Non G/B and enhanced stroke, rigidity and chip disposal
- Flexible material feeding solution (bar feeder, automation unit and robot)

| Model                          | XD38II-R                                         |                               |
|--------------------------------|--------------------------------------------------|-------------------------------|
|                                | NH                                               |                               |
| NC                             | Fanuc 32i-B / Siemens 828D                       |                               |
| Max. machining diameter        | Ø38 (Option : Ø40)                               |                               |
| Z1 Stroke (mm)                 | 320 (H), 120 (N)                                 |                               |
| Main spindle                   | rpm                                              | 6,500                         |
|                                | kW                                               | 5.5/7.5 (Fanuc), 23 (Siemens) |
| OD tool                        | No. of tools                                     | 5 (□20mm x 2, □16mm x 3)      |
| Front tool                     | No. of tools                                     | 5 (ER20M, Ø32)                |
| Cross drill                    | No. of tools                                     | 5 (ER20 x 2, ER16 x 3)        |
|                                | rpm                                              | 6,000                         |
| Off-center drill (Option)      | No. of tools                                     | 2 (ER16) Modular              |
|                                | kW                                               | 2.2 (Fanuc), 2.13 (Siemens)   |
| Sub spindle                    | rpm                                              | 6,500                         |
|                                | kW                                               | 2.2/5.5 (Fanuc), 23 (Siemens) |
| Back tool                      | No. of tools                                     | 8 (ER16) (4 Fixed + 4 Driven) |
|                                | rpm                                              | 6,000                         |
|                                | kW                                               | 1.0 (Fanuc), 1.02 (Siemens)   |
|                                | Machine size (L x W x H) (mm)                    | 2,650 x 1,600 x 1,790         |
| Weight (kg)                    | 4,600                                            |                               |
| Power Consumption (Cable size) | 25kVA (Siemens : 40kVA), 16.7kW (VCTF 16SQ x 4C) |                               |
| Air Flow rate (Liter/Min)      | 120 ~ 150                                        |                               |

\* NH : Convertible G/B

### Dimension



# Optimized Structure & Spec for Ø38mm

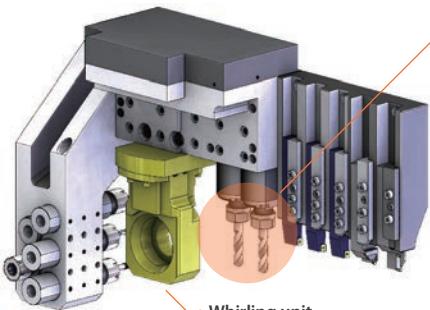
Possible to machine max. Ø40mm (Option)

### Stroke

- Extended stroke to cover various & flexible processing
- Widened distance between tools
- Upper size of tools
- Extended stroke of Z1 for convertible type of G/B (G/B : 205mm → 320mm, Non-G/B : 80mm → 120mm)

| Z1                         | X1 | Y1            | Z2            | X2            | Y2   |
|----------------------------|----|---------------|---------------|---------------|------|
| 320 (G/B)<br>120 (Non-G/B) | 80 | 467<br>(+55*) | 350<br>(+70*) | 450<br>(+55*) | 67.7 |

\* : increased stroke compared to XD38II



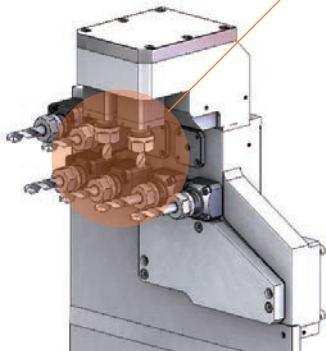
Whirling unit  
※ Other various option units are available

### Cross Drilling / Milling Unit

- Powerful cross machining
- Adopted the best-in-class motor (Capacity : Fanuc 2.2kW, Siemens 2.13kW)
- Gear driven modular
- Gear modular type as standard for various tooling and easy tool change / maintenance

### Specification

6,000rpm, 2.2kW(Fanuc), 2.13kW(Siemens)  
5 tools (ER20 x 2, ER16 x 3)



### Back Tool Unit

- Optimized structure for machining large bore material
- Extended tooling layout (Distance between tools : 52mm)
- Various option toolings are available
- Less chip trouble structure

### Specification

6,000rpm, 1.0kW(Fanuc), 1.02kW(Siemens)  
8 tools (4 Driven + 4 Fixed)

### Option tool



### Standard

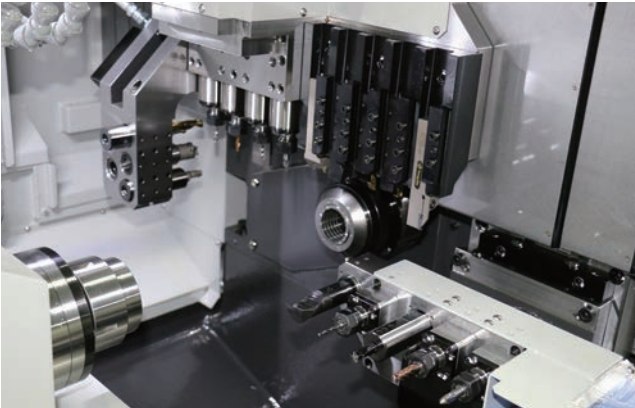
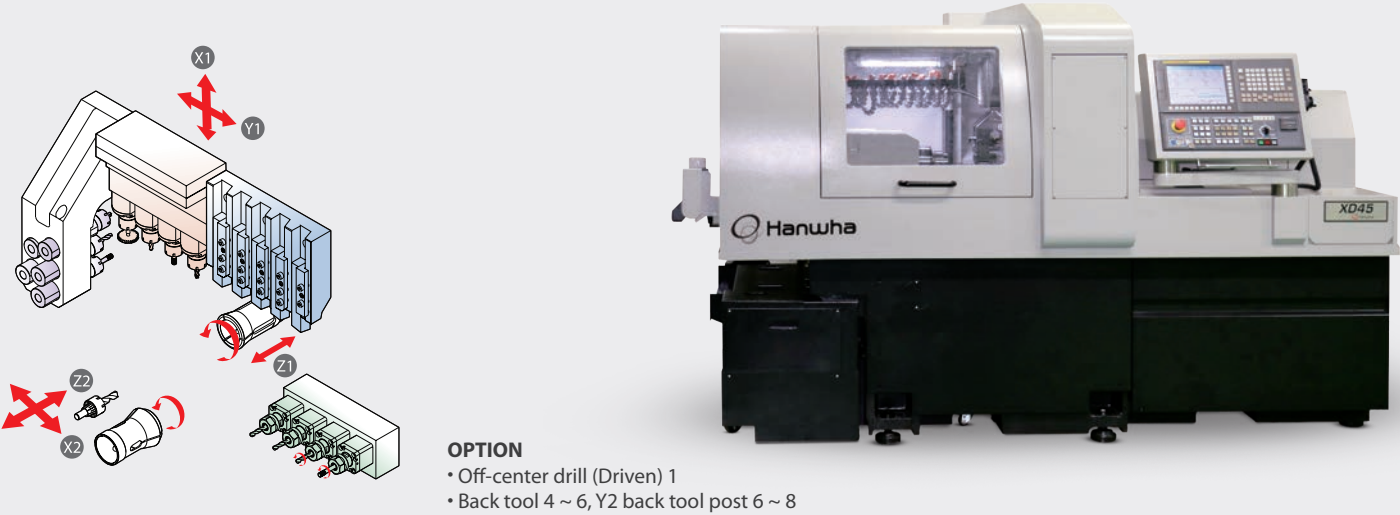
- Main · Sub Cs control (0.001°)
- Rotary Guide bush holder
- Cross drilling · milling unit (5, Gear modular type)
- MPG
- Part conveyor
- Door interlock
- Coolant flow sensor
- Work light
- Signal lamp (3color)
- LAN port
- Tool monitoring function
- Cut off tool breakage detector (S/W)
- Auto power off
- Bar feeder interface

### Option

- Bar feeder
- Chip conveyor
- Right-way part conveyor
- Transformer
- Tap breakage detector
- Pipe type ejection unit
- Off center drill unit (2)
- Middle / High pressure pump
- Oil mist collector
- Oil chiller
- Memory card
- Tooling & Programming
- Internal coolant driven tool (cross, back, off-center)
- 3 Face/counterface driven tool (cross)
- 3 Face/counterface angle driven tool (cross)
- Extended coolant tank
- NC warranty for 2 years

# XD42

Specialized 5/6-axis for larger dia. machining (42mm)

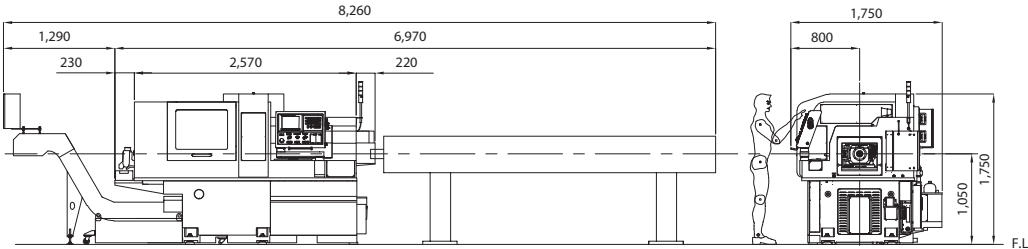


- Strong machining performance & high-productivity for large bore material
- Strong chucking force with hydraulic cylinder
- Improved bearing system for accuracy
- High rigidity of feed unit (Adopted linear roller guide)

| Model                          |              | XD42                            |                     |     |
|--------------------------------|--------------|---------------------------------|---------------------|-----|
|                                |              | H                               | NH                  | N   |
| NC                             |              | Hanwha Fanuc-i                  |                     |     |
| Max. machining diameter        |              | Ø42                             |                     | Ø45 |
| Z1 Stroke (mm)                 |              | 320                             | 207 (H),<br>100 (N) | 100 |
| Main spindle                   | rpm          | 6,000                           |                     |     |
|                                | kW           | 5.5/7.5                         |                     |     |
| OD tool                        | No. of tools | 5 (□20mm)                       |                     |     |
| Front tool                     | No. of tools | 5 (ER20M, Ø32)                  |                     |     |
| Cross drill                    | No. of tools | 4 (ER20M)                       |                     |     |
|                                | rpm          | 6,000                           |                     |     |
|                                | kW           | 2.2                             |                     |     |
| Off-center drill<br>(Option)   | No. of tools | 1 (ER20M)                       |                     |     |
|                                | type         | Gear drive (Modular type drill) |                     |     |
| Sub spindle                    | rpm          | 6,000                           |                     |     |
|                                | kW           | 2.2/5.5                         |                     |     |
| Back tool                      | No. of tools | 5 (ER20M) (3 Fixed + 2 Driven)  |                     |     |
|                                | rpm          | 6,000                           |                     |     |
|                                | kW           | 1.0                             |                     |     |
| Machine size (L x W x H) (mm)  |              | 2,570 x 1,750 x 1,750           |                     |     |
| Weight (kg)                    |              | 4,100                           |                     |     |
| Power Consumption (Cable size) |              | 25kVA, 16.7kW (VCTF 16SQ x 4C)  |                     |     |
| Air Flow rate (Liter/Min)      |              | 120 ~ 150                       |                     |     |

\* H : G/B, N : Non-G/B, NH : Convertible G/B

## Dimension



# Option Tooling

Offers various and flexible toolings for enhancing productivity and covering a variety of customer's needs

**Spindle Unit**

- Adopted built-in motor, hydraulic chucking cylinder & 3 toggle system for strong chucking power for Ø42mm material

**Specification**  
6,000rpm  
5.5/7.5kW (20 ~ 49Nm)

**Back Tool Unit**

- A total of 8 tools with Y2-axis and modular type for easy tool change / maintenance

**Specification**  
6,000rpm, 1.0kW (3 ~ 7.5Nm)  
5 tools (ER20M)

**Option tool**

Internal coolant driven tool      Fixed angle drilling unit (1-axis)

**Cross Drilling / Milling Unit**

- Powerful cross machining with upper size of tools and the best-in-class motor
- Cross unit with gear modular type as standard for various tooling and easy tool change / maintenance

**Specification**  
6,000rpm, 2.2kW (8 ~ 22Nm)  
4 tools (ER20M)

**Selectable modules of back tool**  
Driven max.4

4 tools (2 + 2)      5 tools (2 + 3) (Unable to use Off-center)      6 tools (Driven max. 5) ※ Tool distance : 50mm      8 tools (Driven max. 5) ※ With attachable fixed back tool unit (2 drills) ※ Unable to use Off-center

## Standard

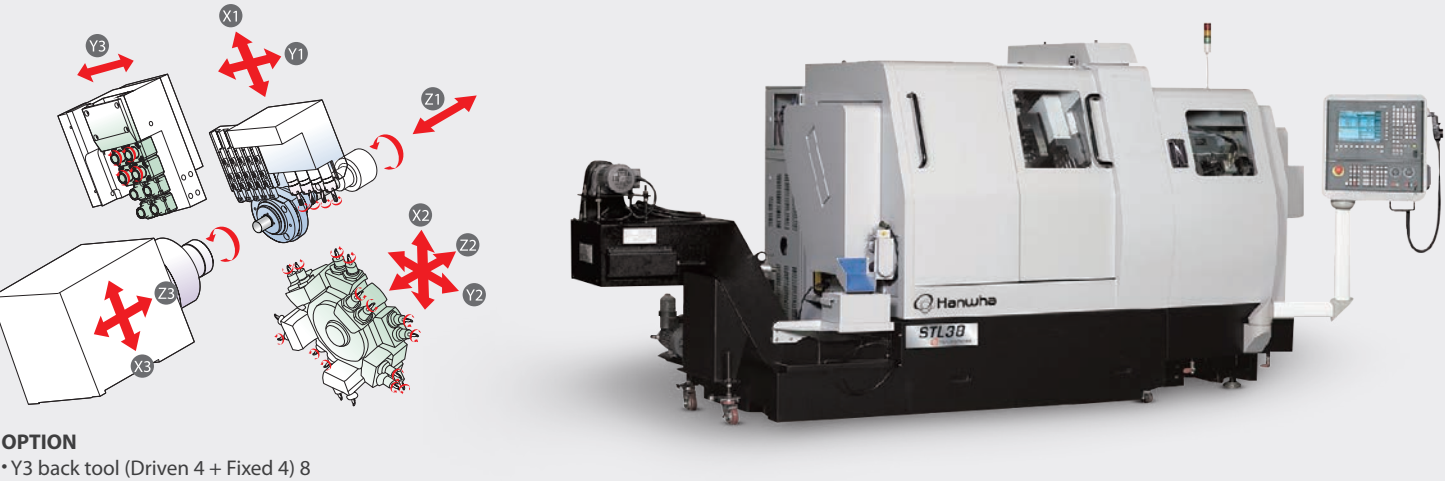
- Main · Sub Cs control (0.001°)
- Rotary Guide bush holder
- Cross drilling · milling unit (4, Gear modular type)
- MPG
- Part conveyor
- Door interlock
- Coolant flow sensor
- Work light
- Signal lamp (3color)
- LAN port
- Tool monitoring function
- Cut off tool breakage detector (S/W)
- Auto power off
- Bar feeder interface

## Option

- Bar feeder
- Chip conveyor
- Transformer
- Tap breakage detector
- Pipe type ejection unit
- Off center drill unit (2)
- Middle / High pressure pump
- Oil mist collector
- Oil chiller
- Memory card
- Tooling & Programming
- Internal coolant driven tool (cross, back, off-center)
- 3 Face/counterface driven tool (cross)
- 3 Face/counterface angle driven tool (cross)
- Extended coolant tank
- NC warranty for 2 years

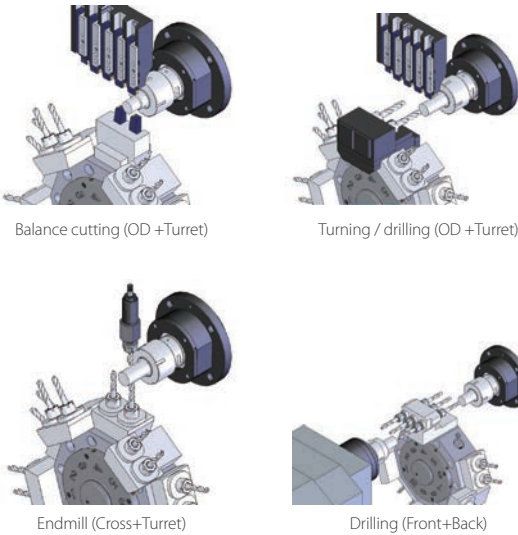
# STL32/38

Turret type, sliding head machine (9-axis) with powerful Siemens 840D controller



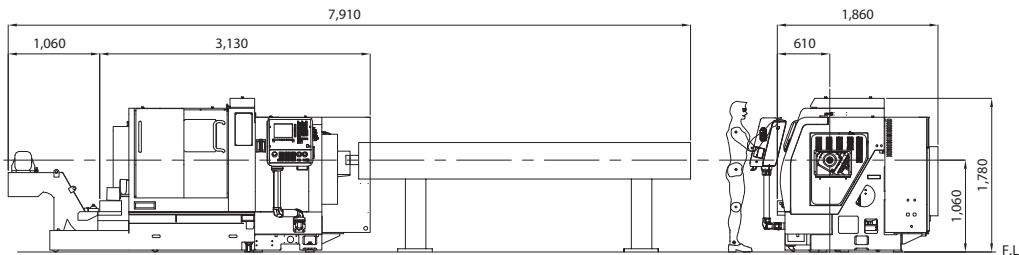
## COMPLEX MACHINING

Combination of gang & turret unit and 3 path control system enables complex machining in various shapes



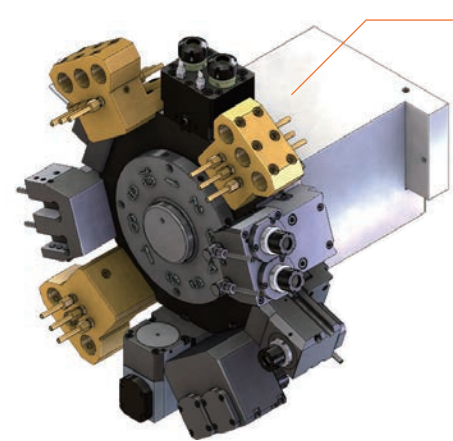
| Model                          |              | STL32/38                                  |                                   |
|--------------------------------|--------------|-------------------------------------------|-----------------------------------|
|                                |              | -                                         | Y3                                |
| NC                             |              | Siemens 840D                              |                                   |
| Max. machining diameter        |              | Ø32/38                                    |                                   |
| Z1 Stroke (mm)                 |              | 320                                       |                                   |
| Main spindle                   | rpm          | 6,500                                     |                                   |
|                                | kW           | 23                                        |                                   |
| OD tool                        | No. of tools | 5 (□16mm)                                 |                                   |
| Cross drill                    | No. of tools | 4 (ER20M)                                 |                                   |
|                                | rpm          | 6,000                                     |                                   |
|                                | kW           | 1.07                                      |                                   |
| Turret unit                    | No. of unit  | 1 Unit (10 Station)                       |                                   |
|                                | No. of tools | max. 30 (□20, ER20)                       |                                   |
|                                | Tool type    | VDI 30 (Option : BMT 45)                  |                                   |
| Sub spindle                    | rpm          | 6,500                                     |                                   |
|                                | kW           | 23                                        |                                   |
| Back tool                      | No. of tools | 3 (ER20M)<br>(3 Fixed)                    | 8 (ER20M)<br>(4 Fixed + 4 Driven) |
|                                | rpm          | -                                         | 6,000                             |
|                                | kW           | -                                         | 1.07                              |
| Machine size (L x W x H) (mm)  |              | 3,130 x 1,860 x 1,780                     |                                   |
| Weight (kg)                    |              | 4,400                                     | 4,500                             |
| Power Consumption (Cable size) |              | 40kVA, 26.7kW (VCTF 16SQ x 4C)            |                                   |
| Air Flow rate (Liter/Min)      |              | 20 ~ 30 (Hydraulic device capacity : 30L) |                                   |

## Dimension



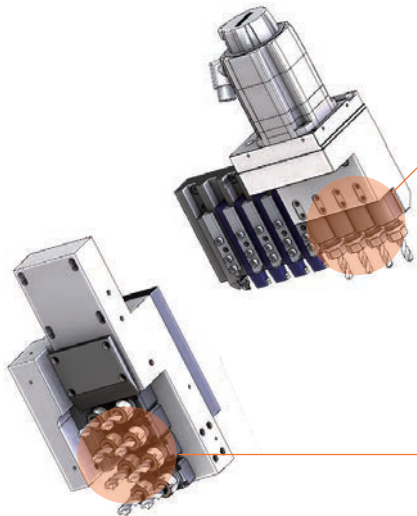
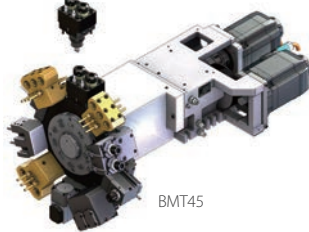
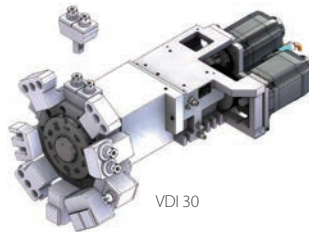
# Option Tooling

Max. 47 tools with gang & turret tool post are available, and customized high-complex tooling service is offered



## Turret Unit

- Type of turret unit is selectable; VDI (standard) or BMT (Option)
- 1 set turret (10 station)
- Tool holder type : VDI30, BMT45
- Tool size : □20, ER20
- Max. number of tools : 30



## Cross Drilling / Milling Unit

- Easy tool change for maintenance & installation

### Option tool



Internal coolant driven tool  
※ Spline modular

## Back Tool Unit

- Fixed 3 tools as standard and 8 tools of Y3 (4 driven, 4 fixed, ER20M) are available in modular type

### Option tool & unit



Internal coolant driven tool



Multi finger tool  
(Re-adjust machining point)



3 ~ 4 tools



8 tools  
(Max. 4 Driven)

### Specification of G/B & Chuck

| No. of Back tool | 3 Fixed | 4 Fixed | 8 (4 Driven + 4 Fixed, Y3) |
|------------------|---------|---------|----------------------------|
| G/B              | HW38    | HW38    | HW38                       |
| Main Chuck       | TF48    | TF48    | TF48                       |
| Sub Chuck        | TF48    | TF44    | TF44                       |

## Standard

- Main-Sub Cs control (0.001°)
- Rotary Guide bush holder
- MPG
- Chip conveyor
- Part conveyor
- Door interlock
- Work light
- Signal lamp (3color)
- Tool monitoring function
- Cut off tool breakage detector (S/W)
- Auto power off
- Bar feeder interface
- Middle pressure pump

## Option

- Bar feeder
- Transformer
- Tap breakage detector
- High pressure pump
- Oil mist collector
- Oil chiller
- Memory card
- Tooling & Programming
- Internal coolant driven tool (cross, back, off-center)
- NC warranty for 2 years
- Turret unit (BMT45)
- Turret Tool Holder

# STL42

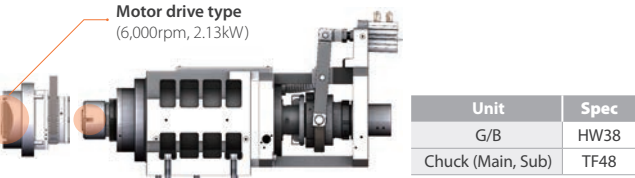
Specialized 9-axis turret type sliding head machine with powerful Siemens 840D controller (42mm)



**OPTION**  
• Back tool cross 9 (Cross 3, Driven 3 + Fixed 3)

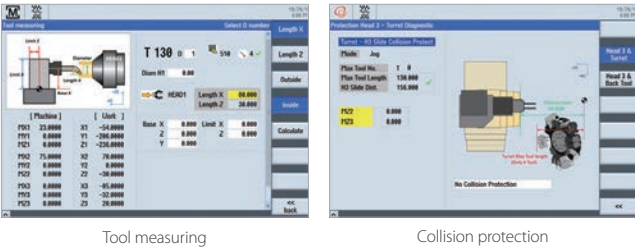
## OPTIMIZATION OF STRUCTURE & SPEC

Adopted built-in motor with hydraulic chucking cylinder for strong chucking power

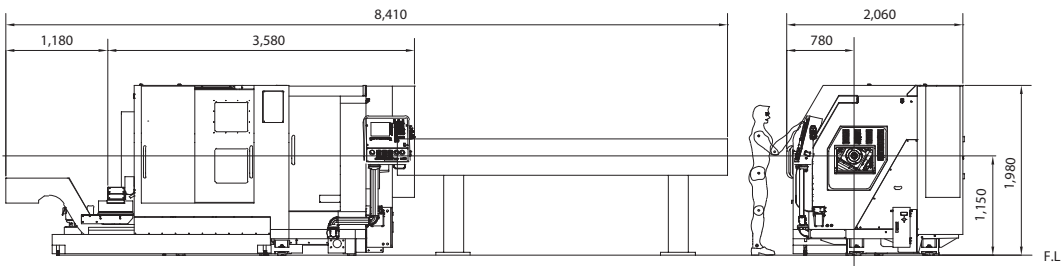


## UPGRADED SOFTWARE PLATFORM

Provides the new HMI screen and improved software functions for machining & operating convenience



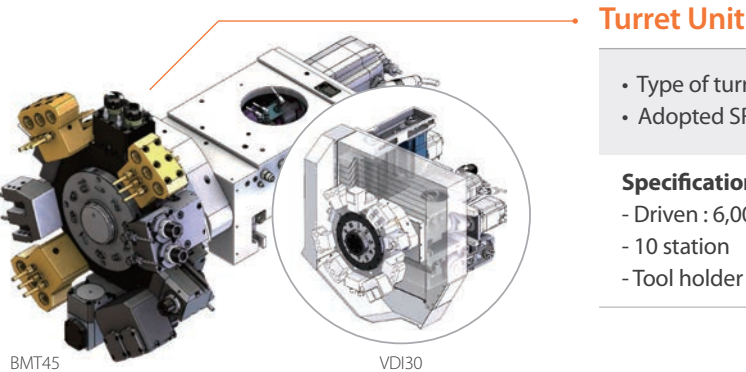
## Dimension



| Model                          | STL42                                     |                                  |
|--------------------------------|-------------------------------------------|----------------------------------|
|                                | H                                         | NH                               |
| NC                             | Siemens 840D                              |                                  |
| Max. machining diameter        | Ø42                                       |                                  |
| Z1 Stroke (mm)                 | 420                                       | 282 (H), 125 (N)                 |
| Main spindle                   | rpm                                       | 6,000                            |
|                                | kW                                        | 22                               |
| OD tool                        | No. of tools                              | 5 (□20mm)                        |
|                                | No. of tools                              | 5 (ER20)                         |
| Cross drill                    | rpm                                       | 6,000                            |
|                                | kW                                        | 2.59                             |
| Turret unit                    | No. of unit                               | 1 Unit (10 Station)              |
|                                | No. of tools                              | max. 30EA (□20, ER20)            |
|                                | Tool type                                 | VDI 30 (Option : BMT 45)         |
| Sub spindle                    | rpm                                       | 6,000                            |
|                                | kW                                        | 22                               |
| Back tool                      | No. of tools                              | 9 (ER20)<br>(3 Fixed + 6 Driven) |
|                                | rpm                                       | 6,000                            |
|                                | kW                                        | 2.13                             |
|                                |                                           |                                  |
| Machine size(L x W x H) (mm)   | 3,580 x 2,060 x 1,980                     |                                  |
| Weight (kg)                    | 7,330                                     |                                  |
| Power Consumption (Cable size) | 40kVA, 26.7kW (VCTF 16SQ x 4C)            |                                  |
| Air Flow rate (Liter/Min)      | 20 ~ 30 (Hydraulic device capacity : 30L) |                                  |

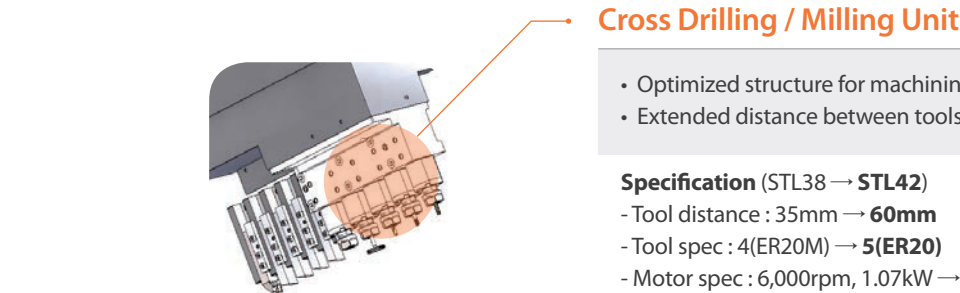
# Option Tooling

Max. 49 tools with gang & turret tool post are available, and structure, spec & tooling are optimized for material 42mm



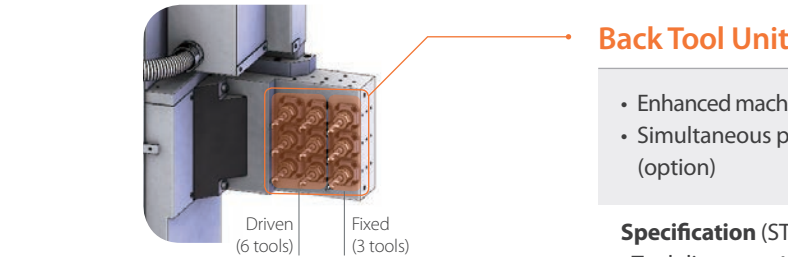
- Turret Unit**
- Type of turret unit is selectable; VDI (standard) or BMT (option)
  - Adopted SRG(Roller retainer) LM guide for feed of turret unit

**Specification**  
- Driven : 6,000rpm, 2.59kW - Tool size : □20, ER20  
- 10 station - Max. number of tools : 30  
- Tool holder type : VDI30(standard), BMT45(option)



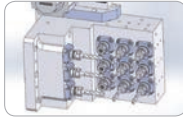
- Cross Drilling / Milling Unit**
- Optimized structure for machining large bore material
  - Extended distance between tools & increased no. of tools

**Specification (STL38 → STL42)**  
- Tool distance : 35mm → **60mm**  
- Tool spec : 4(ER20M) → **5(ER20)**  
- Motor spec : 6,000rpm, 1.07kW → **2.13kW**

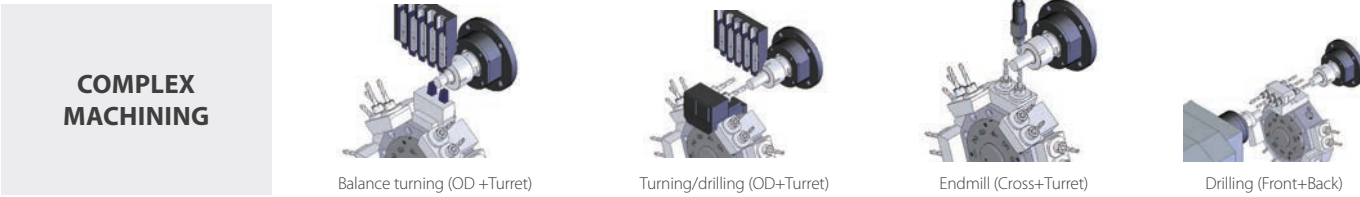


- Back Tool Unit**
- Enhanced machining capability with Y3-axis feed & increased no. of tools for back
  - Simultaneous processing & high complex machining with back tool cross unit (option)

**Specification (STL38 → STL42)**  
- Tool distance : 40mm → **60mm**  
- Tool spec : 8(ER20M) → **9(ER20)**  
- Motor spec : 6,000rpm, 1.07kW → **2.13kW**



※ Back tool Cross unit (Option)  
→ No. of tools : Back tool 6, Cross 3



## Standard

- Main-Sub Cs control (0.001°)
- Rotary Guide bush holder
- MPG
- Chip conveyor
- Part conveyor
- Door interlock
- Work light
- Signal lamp (3color)
- Tool monitoring function
- Cut off tool breakage detector (S/W)
- Auto power off
- Bar feeder interface
- Middle pressure pump

## Option

- Bar feeder
- Transformer
- Tap breakage detector
- High pressure pump
- Oil mist collector
- Oil chiller
- Memory card
- Tooling & Programming
- Internal coolant driven tool (cross, back, off-center)
- NC warranty for 2 years
- Turret unit (BMT45)
- Turret Tool Holder

Options

Customized special option units are available for qualified performance, enhanced productivity and convenience

| Standard & Option Accessory |                                               |                 | XE series |             | XP series |      | XD series |            |           |             |  | XD series |          |      | STL series |           |
|-----------------------------|-----------------------------------------------|-----------------|-----------|-------------|-----------|------|-----------|------------|-----------|-------------|--|-----------|----------|------|------------|-----------|
|                             |                                               |                 | XP12/16S  | XP20/26/32S | XE20/26   | XE35 | XD03/07   | XD12/16III | XD20/26II | XD20/26II-V |  | XD38II    | XD38II-R | XD42 | STL38      | STL42     |
| Off-cent unit               | Driven(2)                                     |                 | -         | -           | ★         | ★(1) | -         | -          | ★         | ★           |  | ★         | ★        | ★(1) | -          | -         |
|                             | Fixed (long drill, 2)                         |                 | -         | -           | ★         | -    | -         | ★(1)       | ★         | ★           |  | ★(1)      | ★(1)     | -    | -          | -         |
|                             | Off-center Tailstock                          |                 | -         | -           | ★         | ★    | -         | -          | ★         | ★           |  | ★         | ★        | ★    | -          | -         |
| Option tool unit            | Intenal coolant driven unit                   | Cross           | -         | -           | ★         | ★    | -         | ★(Modular) | ★         | ★           |  | ★         | ★        | ★    | ★          | ★         |
|                             |                                               | Back            | -         | -           | ★         | ★    | -         | -          | ★         | ★           |  | ★         | ★        | ★    | ★          | ★         |
|                             |                                               | Off-center      | -         | -           | ★         | ★    | -         | -          | ★         | ★           |  | ★         | ★        | ★    | -          | -         |
|                             | Fixed angle drilling unit                     | Cross, 1        | -         | -           | ▲         | ▲    | -         | -          | ▲         | ▲           |  | ★         | ★        | ★    | ★          | ★         |
|                             |                                               | Back, 1         | -         | -           | ▲         | ▲    | -         | -          | ▲         | ▲           |  | ★         | ★        | ★    | ★          | ★         |
|                             | Triple speed cross drill                      | Cross           | -         | -           | ★         | ★    | -         | ★(Modular) | ★         | ★           |  | ★         | ★        | ★    | ★          | ★         |
|                             | Triple speed reduction cross drill            | Cross           | -         | -           | ★         | ★    | -         | ★(Modular) | ★         | ★           |  | ★         | ★        | ★    | ★          | ★         |
|                             | 3 Face/counterface driven tool                | Cross           | -         | -           | ★         | ★    | -         | -          | ★         | ★           |  | ★         | ★        | ★    | -          | -         |
|                             | 3 Face/counterface angle driven tool          | Cross           | -         | -           | ★         | ★    | -         | -          | ★         | ★           |  | ★         | ★        | ★    | -          | -         |
|                             | Gear hobbing                                  | Cross           | ★         | -           | ★         | ★    | ▲         | ▲          | ★         | ★           |  | ★         | ★        | ★    | ★(Turret)  | ★(Turret) |
|                             | Whirling                                      | Cross           | -         | -           | ★         | ★    | -         | ★          | ★         | ★           |  | ★         | ★        | ★    | ★          | ★         |
|                             | Side cutter                                   | Back            | -         | -           | ★         | ★    | -         | ★          | ★         | ★           |  | ★         | ★        | ★    | ★(Turret)  | ★(Turret) |
|                             | Back tool cross                               | Modular(Y2)     | -         | -           | -         | -    | -         | -          | -         | ★           |  | ★         | ★        | ★    | -          | -         |
|                             |                                               | Single body(Y2) | -         | -           | -         | -    | -         | -          | -         | ★           |  | ★         | ★        | -    | -          | ★(Y3)     |
|                             |                                               | Horizontal      | -         | -           | ★         | ★    | -         | -          | ★         | ★           |  | ★         | ★        | ★    | -          | -         |
| Coolant unit                | Chiller integrated High pressure coolant pump |                 | ▲         | ★           | ★         | ★    | -         | ★          | ★         | ★           |  | ★         | ★        | ★    | ★          | ★         |
|                             | Extended coolant tank                         |                 | ★         | ★           | ★         | ★    | -         | ★          | ★         | ★           |  | ★         | ★        | ★    | -          | -         |
| Chip conveyor               | Standard chip conveyor                        |                 | ★         | ★           | ★         | ★    | -         | ★          | ★         | ★           |  | ★         | ★        | ★    | -          | -         |
|                             | Smart chip conveyor                           |                 | -         | -           | ★         | -    | -         | -          | ★         | ★           |  | ★         | ★        | ★    | -          | -         |
|                             | Lower type chip conveyor                      |                 | ★         | ★           | ★         | ★    | -         | ★          | ★         | ★           |  | ★         | ★        | ★    | ★          | ★         |

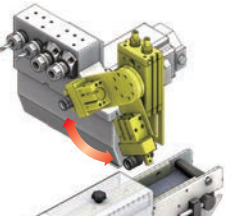
★ : Option   ▲ : Discussable   - : N/A

Special Accessories

Swing Gripper

Gripper fingers to grip and release finished parts on to conveyor belt for ejection  
- Applied example : vulnerable material, long parts

- XD20/26II, XD38II, XD42, XE20/26



Parts Auto Loading unit

Auto loader for forged or diecasted parts to supply through main spindle door

- XD20/26II, XD38II, XD42, XE20/26



Auto stacking unit for machined parts

Auto loader for ejected parts onto a stacking pallet

- XD38II

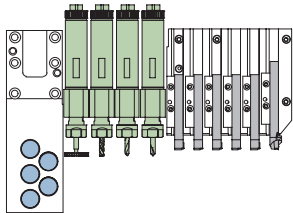


Tooling Variation

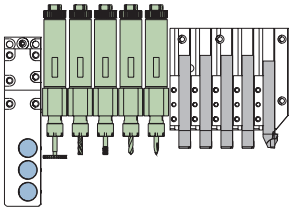
XD20/26II

- Front/Back Tool
- Cross Drill
- Special Option Tool
- OD Tool

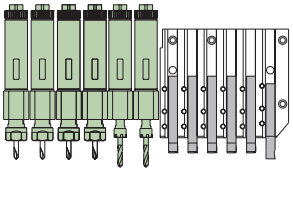
Cross 4



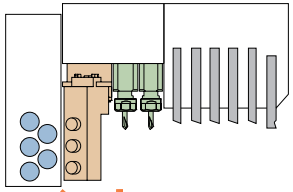
Cross 5



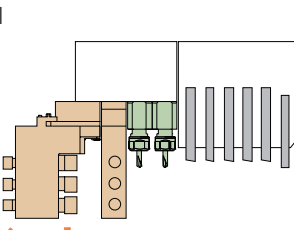
Cross 6



3 Face/counterface angle driven tool

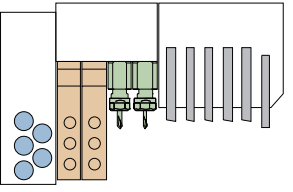


Angle: -20° ~ 0°



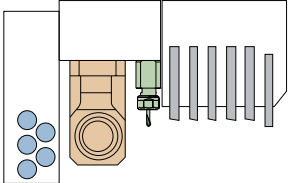
Angle: -90° ~ 0°

3 Face/counterface driven tool

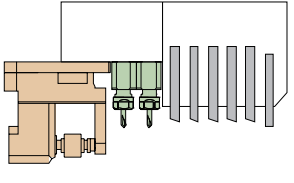


- Back tool : Max. 5 (1 unit applied)  
Max. 4 (2 unit applied)

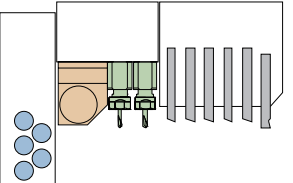
Whirling



Gear Hobbing



Polygon

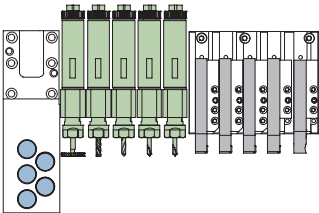


※ When special tool is installed, back tool unit should have max. 4 tools

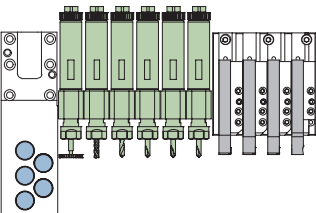
XD38II

- Front/Back Tool
- Cross Drill
- Special Option Tool
- OD Tool

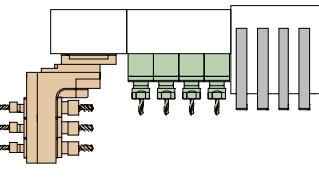
Cross 5



Cross 6

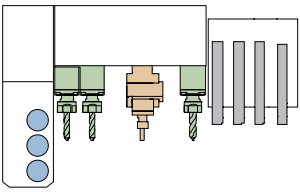


B-axis unit



- 3 Face driven tool can be limited the number of back tool

Fixed Angle Drilling

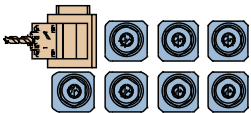


- Angle will be set as per requested

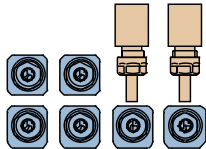
Back Tool Option Unit (Y2)

Fixed Angle Drilling

- Angle will be set as per requested

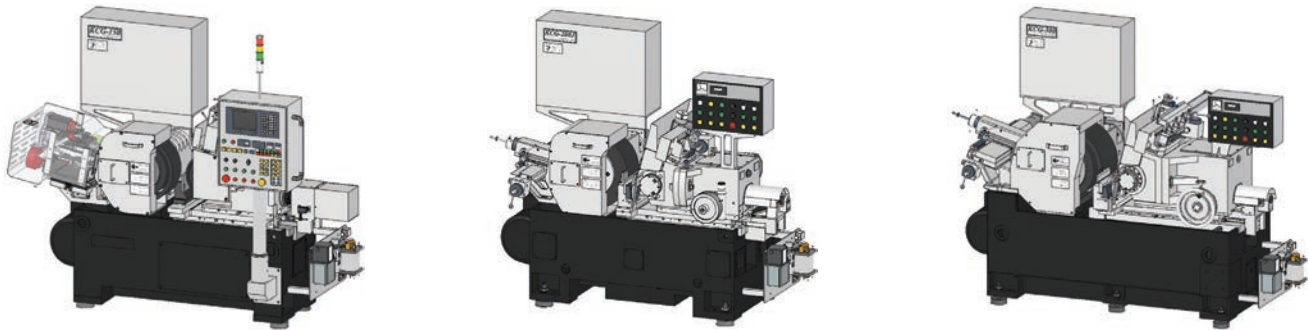


Back tool cross  
(Modular, Single body)



- ※ When special tool is installed, back tool unit should have max. 4 tools
- ※ Back tool option is available for both 6(Y2) and 8(Y2)

KCG Series



KCG-150 CNC

- B/R type G/W to secure accuracy
- Heat-treated slide and Anti-backlash gear to enhance repeatability of G/W Dresser
- Optimized design for installation of automation unit

KCG-200J

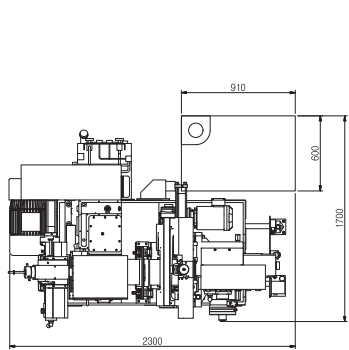
- Micro feeding unit
- Maximized wear resistance with turcite type of feeding table
- Selectable for Hydro-dynamic or B/R type of G/W

KCG-200/300 (CNC)

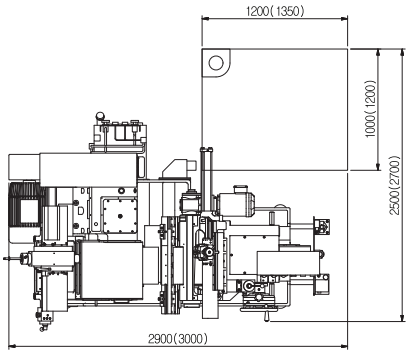
- Single grip G/W spindle for easy replacement of wheel
- Twin grip type of R/W for better precision
- Selectable for Hydro-dynamic or B/R type of G/W

| Model                |                                | KCG-150 CNC         | KCG-200J            | KCG-200 (CNC)       | KCG-300 (CNC)       |
|----------------------|--------------------------------|---------------------|---------------------|---------------------|---------------------|
| Grinding             | Max.grinding dia. (mm)         | Ø1.0 ~ Ø50          | Ø1.5 ~ Ø50          | Ø2.0 ~ Ø90          | Ø3.0 ~ Ø120         |
|                      | Max.grinding length(l/F) (mm)  | 145                 | -                   | 200                 | 300                 |
| Grinding wheel (G/W) | Size(O.DxWxI.D) (mm)           | Ø455 x 150 x Ø228.6 | Ø510 x 205 x Ø254   | Ø610 x 205 x Ø304.8 | Ø610 x 305 x Ø304.8 |
|                      | Peripheral velocity (m/min)    | 2,400               | 2,400               | 2,400               | 2,400               |
| Grinding wheel (R/W) | Size(O.DxWxI.D) (mm)           | Ø305 x 150 x Ø177.8 | Ø305 x 205 x Ø152.4 | Ø305 x 205 x Ø152.4 | Ø330 x 305 x Ø152.4 |
|                      | Rotational velocity (rpm)      | 10 ~ 200            | 10 ~ 200            | 10 ~ 200            | 10 ~ 200            |
| G/W dressing unit    | Traverse of diamond tool       | Servo motor         | Hydraulic           | Hydraulic           | Hydraulic           |
|                      | Feed of diamond tool           | Servo motor         | Manual              | Manual              | Manual              |
| R/W dressing unit    | Traverse of diamond tool       | Hydraulic           | Hydraulic           | Hydraulic           | Hydraulic           |
|                      | Feed of diamond tool           | Manual              | Manual              | Manual              | Manual              |
| Motor                | Grinding wheel driving (kW)    | 11                  | 11                  | 15                  | 22                  |
|                      | Regulating wheel driving (kW)  | 1.5                 | 2.2                 | 2.2                 | 3                   |
| Installation         | Installation area (L x W) (mm) | 2,300 x 1,700       | 2,300 x 1,700       | 2,900 x 2,500       | 3,000 x 2,700       |
|                      | Weight (kg)                    | 3,000               | 3,500               | 5,500               | 5,700               |

Dimension

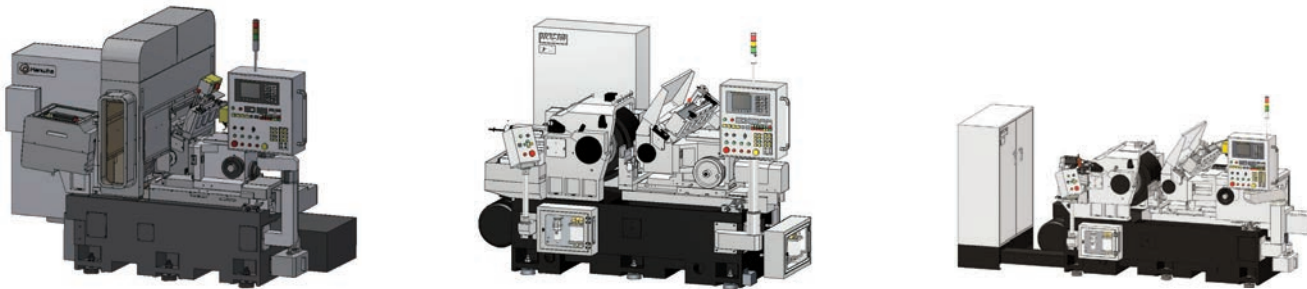


KCG-150/200J CNC



KCG-200/300 CNC

HCG Series



HCG-150 CNC

- Duct for pipe of grinding oil and adopted heat treatment under slide to enhance repeatability and reduce thermal deformation
- Upper slide handle & AC motor for R/W
- Full cover design to prevent coolant leakage

HCG-300 (CNC)

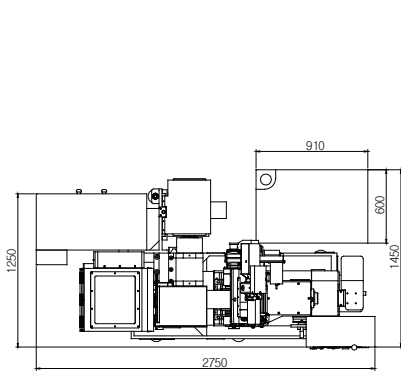
- Twin grip of G/W, R/W spindle for high precision & high stiffness
- Motor type of dresser for user convenience
- Full cover design to prevent coolant leakage

HCG-400 (CNC)

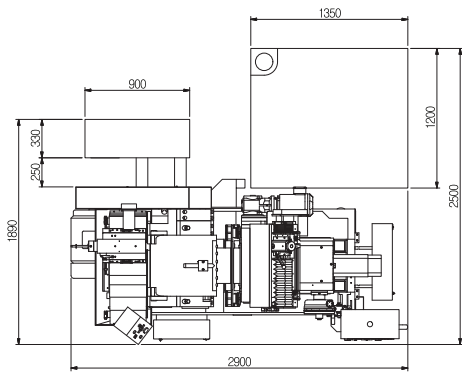
- CNC 4-axis (Max. control 6-axis)
- Twin grip of G/W, R/W spindle for high precision & high stiffness
- Motor type of dresser for user convenience
- Full cover design to prevent coolant leakage

| Model                |                                | HCG-150 CNC         | HCG-300 (CNC)       | HCG-400 (CNC)       |
|----------------------|--------------------------------|---------------------|---------------------|---------------------|
| Grinding             | Max.grinding dia. (mm)         | Ø1.0 ~ Ø50          | Ø3.0 ~ Ø120         | Ø3.0 ~ Ø150         |
|                      | Max.grinding length(l/F) (mm)  | 150                 | 300                 | 400                 |
| Grinding wheel (G/W) | Size(O.DxWxI.D) (mm)           | Ø455 x 150 x Ø228.6 | Ø610 x 305 x Ø304.8 | Ø610 x 405 x Ø304.8 |
|                      | Peripheral velocity (m/min)    | 2,600               | 2,600               | 2,600               |
| Grinding wheel (R/W) | Size(O.DxWxI.D) (mm)           | Ø305 x 150 x Ø177.8 | Ø330 x 305 x Ø203.2 | Ø330 x 405 x Ø203.2 |
|                      | Rotational velocity (rpm)      | 10 ~ 300            | 10 ~ 200            | 10 ~ 200            |
| G/W dressing unit    | Traverse of diamond tool       | Servo motor         | Oriental motor      | Servo motor         |
|                      | Feed of diamond tool           | Servo motor         | Manual              | Servo motor         |
| R/W dressing unit    | Traverse of diamond tool       | Servo motor         | Oriental motor      | Servo motor         |
|                      | Feed of diamond tool           | Servo motor         | Manual              | Manual              |
| Motor                | Grinding wheel driving (kW)    | 11                  | 30                  | 37                  |
|                      | Regulating wheel driving (kW)  | 1.4                 | 3.0                 | 3.0                 |
| Installation         | Installation area (L x W) (mm) | 2,750 x 1,450       | 2,900 x 2,500       | 4,500 x 2,750       |
|                      | Weight (kg)                    | 4,000               | 7,200               | 7,700               |

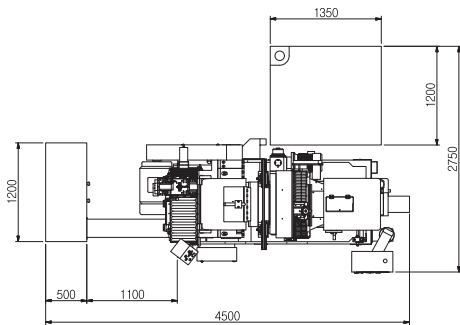
Dimension



HCG-150 CNC



HCG-300 CNC



HCG-400 CNC

Structure

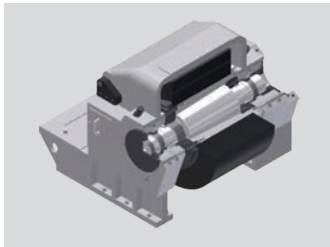
G/W Dresser

- 2-axis servo motor
- Adopted Backlash prevention gear to enhance repeatability



Grinding Wheel

- Twin grip type for high rigidity
- High stiffness roller bearing
- Easy maintenance



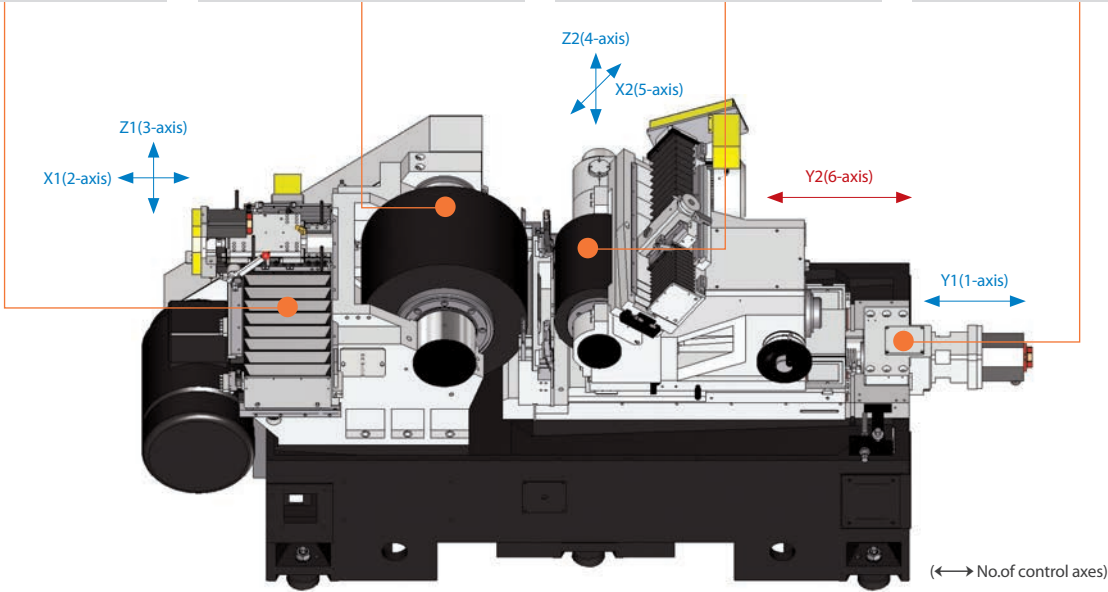
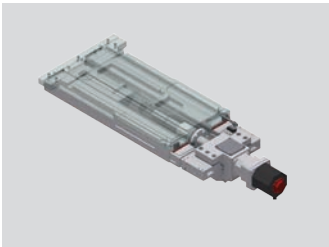
Regulating Wheel

- High stiffness roller bearing for high precision
- Easy maintenance



R/W Feed System

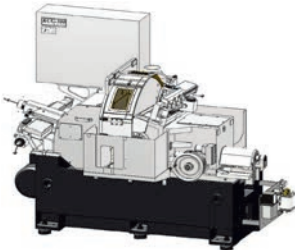
- High precision & rigidity
- Various slide type, turcite, roller guide type etc



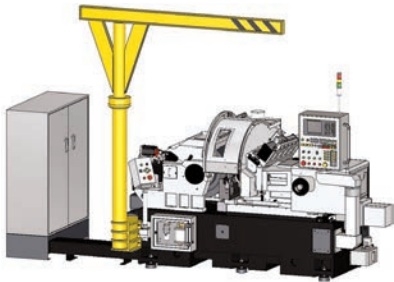
Special Feature

Mist Prevention Cover

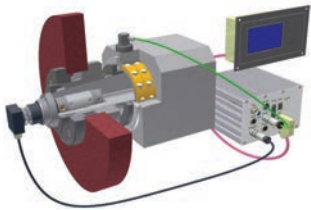
KCG Series Cover



HCG Series Cover



Auto Balance Unit



Standard/Option Accessories

| Description                                                | KCG-150 CNC | KCG-200J | KCG-200 (CNC) | KCG-300 (CNC) | HCG-150 CNC | HCG-300 (CNC) | HCG-400 (CNC) |
|------------------------------------------------------------|-------------|----------|---------------|---------------|-------------|---------------|---------------|
| Grinding Wheel                                             | ○           | ○        | ○             | ○             | ○           | ○             | ○             |
| Regulating Wheel                                           | ○           | ○        | ○             | ○             | ○           | ○             | ○             |
| Through Feed Workrest Body                                 | ○           | ○        | ○             | ○             | ○           | ○             | ○             |
| Through Feed Blade                                         | ○           | ○        | ○             | ○             | ○           | ○             | ○             |
| Guide Plate                                                | ○           | ○        | ○             | ○             | ○           | ○             | ○             |
| Coolant Tank                                               | ○           | ○        | ○             | ○             | ○           | ○             | ○             |
| Tool Box                                                   | ○           | ○        | ○             | ○             | ○           | ○             | ○             |
| Wheel Changer Unit                                         | ○           | ○        | ○             | ○             | ○           | ○             | ○             |
| Magnetic Separator                                         | ○           | ○        | ○             | ○             | ○           | ○             | ○             |
| G/W Auto Dressing Unit (Motor Type)                        | -           | ●        | ●             | ●             | -           | ●             | -             |
| Micro Feeding Unit (Motor Type)                            | -           | ●        | ●             | ●             | -           | ●             | -             |
| Roller Guide TYPe R/W Slide                                | X           | X        | ●             | ●             | ●           | ●             | ●             |
| G/W Exchange Device                                        | X           | X        | X             | X             | -           | ●             | ●             |
| R/W Exchange Device                                        | -           | ●        | ●             | ●             | -           | ●             | ●             |
| G/W Balancing Stand Ass'y                                  | ●           | ●        | ●             | ●             | -           | -             | -             |
| Auto Balancing Unit                                        | ●           | ●        | ●             | ●             | ●           | ●             | ●             |
| Jib Crane                                                  | ●           | ●        | ●             | ●             | ●           | ●             | ●             |
| CNC Controller                                             | ○           | ●        | ●             | ●             | ○           | ●             | ○             |
| Roller Guide Type R/W Dresser                              | ○           | ●        | ●             | ●             | ○           | ○             | ○             |
| Coolant Separator Unit (Paper Filter, Cyclone system, etc) | ●           | ●        | ●             | ●             | ●           | ●             | ●             |
| Mist Collector                                             | ●           | ●        | ●             | ●             | ●           | ●             | ●             |
| Oil Cooler                                                 | -           | ●        | ●             | ●             | -           | -             | -             |
| Coolant Cooler                                             | ●           | ●        | ●             | ●             | ●           | ●             | ●             |
| Table Oil Mist                                             | ●           | ●        | ●             | ●             | ●           | ●             | ●             |
| G/W Cooling Unit                                           | -           | ●        | ●             | ●             | -           | -             | -             |
| Hydro-Static Type G/W Spindle                              | ●           | ●        | ●             | ●             | -           | -             | -             |
| Bearing Type G/W Spindle                                   | ○           | ●        | ●             | ●             | ○           | ○             | ○             |
| In Feed Workrest Body                                      | ●           | ●        | ●             | ●             | ●           | ●             | ●             |
| In Feed Blade                                              | ●           | ●        | ●             | ●             | ●           | ●             | ●             |

○ : Standard   ● : Option   X : Not Applicable   - : CNC model includes functions as standard

Measuring Unit

Laser Scan Measuring

- Non-contact type O.D measuring
- Measurement accuracy  $\pm 2\mu\text{m}$
- Repeatability  $\pm 0.15\mu\text{m}$



Post Process Gauge

- Contact type O.D measuring unit
- Measurement accuracy: Less than  $0.1\mu\text{m}$
- Repeatability: Less than  $0.2\mu\text{m}$



Automation Unit

Through Feed



In Feed



Hi-CPS

Hanwha Intelligence CNC Prognostic System



Hi-CPS is a kind of smart factory solution to enable customers to manage factory in a smart & convenient way by providing real time onitoring on running status of machines at the facility. It is a cloud-based system so that one can access with ease from anywhere through internet.

Function

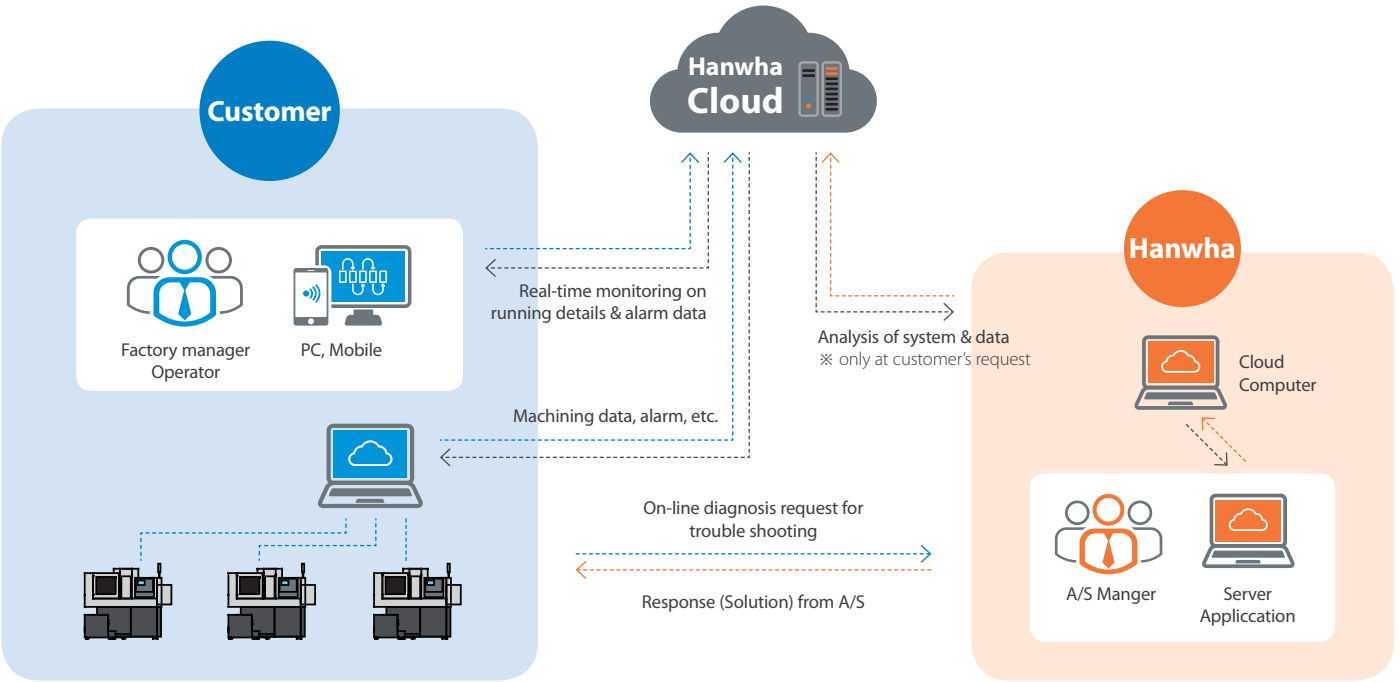
- 1

**Monitoring**
  - Monitors machine operation status from PC & Mobile
  - Check machining, repair, alarm, cycle time, etc.
- 2

**Diagnosis**
  - Remotely examines alarmed machines at user's online request

※ Only at customer's request, relevant machine data will be auto-transferred to Hanwha for analysis
- 3

**Prognosis**
  - Analyzes cutting load, tool change and offset



PCR / PCRS & Oscillation

Chip breaking solution



Hanwha provides chip cutting solution to break long and curled chips into small pieces through macro program.

Advantage

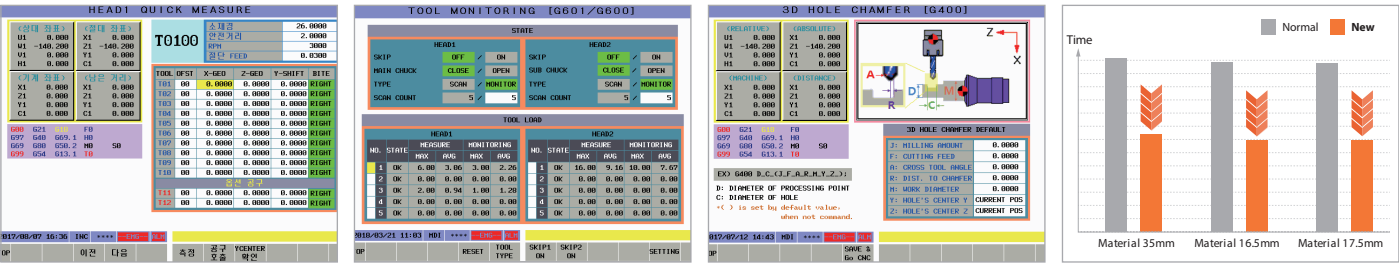
- Better tool life
- Build-up edge free
- Chip trouble free
- Coolant usage saved



| Model              | PCR                    | PCRS              | Oscillation                 |
|--------------------|------------------------|-------------------|-----------------------------|
| NC                 | FANUC 32i-B            | SIEMENS 828D/840D | Fanuc Oi-TD / Oi-TF / 32i-B |
| Machining function | Front turning          | ●                 | ●                           |
|                    | Back turning           | ●                 | ●                           |
|                    | Back drilling          | Fixed drills      | Fixed drills                |
|                    | Taper                  | ●                 | 45° angle                   |
|                    | Circular interpolation | ●                 | ●                           |
|                    | Synchronous control    | ●                 | x                           |
|                    | Threading              | ●                 | x                           |
|                    | Nose R compensation    | x                 | ●                           |

Customer & Performance Supporting Function

Hanwha offers various software for enhancing machining performance & supporting customer's convenience.



- Quick Measuring**  
**Setting time reduce system**  
Supports tools setting with minimal control and none of screen change
- Tool Load Monitoring**  
Alarms when abnormal load on tools are detected
- 3D Chamfer Solution**  
Uniform chamfer machining on cross hole with input of single code
- Motion Optimization**  
**C/T reduce system**  
Reduces cycle time by minimizing unnecessary motion (non processing time)
- Collision Protection**  
Easy setting of value to protect collision before occurring
- M7**  
Single code to command cut-off of material
- G301**  
Single code to set the position of Z2-axis for cut-off of material
- Help function**  
Provides description & graphic information about codes & alarms with



Automobile sample



Electronic sample



Industrial sample



Medical sample

|          |           |                |           |
|----------|-----------|----------------|-----------|
|          |           |                |           |
| NO.      | A001      | A002           | A003      |
| Material | ADC12     | SUS304         | SCM440H   |
|          |           |                |           |
| NO.      | A004      | A005           | A006      |
| Material | SUS304    | SUS304         | SUS304    |
|          |           |                |           |
| NO.      | A007      | A008           | A009      |
| Material | SUM22     | SUS630         | SUM24     |
|          |           |                |           |
| NO.      | A010      | A011           | A012      |
| Material | AL6062-T8 | AL6062-T8      | AL6062-T9 |
|          |           |                |           |
| NO.      | A013      | A014           | A015      |
| Material | Brass     | AL-Die Casting | SUM22     |
|          |           |                |           |
| NO.      | A016      | A017           | A018      |
| Material | SUS316    | SUS304         | SUS303    |
|          |           |                |           |
| NO.      | A019      | A020           | A021      |
| Material | SCM315    | AL6062         | Brass     |
|          |           |                |           |
| NO.      | A022      | A023           | A024      |
| Material | AL6061    | SUS304         | SUM202    |

|          |        |        |                 |
|----------|--------|--------|-----------------|
|          |        |        |                 |
| NO.      | E001   | I001   | M001            |
| Material | SUS316 | AL6062 | Titanium        |
|          |        |        |                 |
| NO.      | E002   | I002   | M002            |
| Material | AL6061 | SUS316 | SUS316L         |
|          |        |        |                 |
| NO.      | E003   | I003   | M003            |
| Material | AL6062 | AL2024 | Titanium        |
|          |        |        |                 |
| NO.      | E004   | I004   | M004            |
| Material | AL6061 | AL2024 | Titanium        |
|          |        |        |                 |
| NO.      | E005   | I005   | M005            |
| Material | Brass  | AL6062 | Titanium, Brass |
|          |        |        |                 |
| NO.      | E006   | I006   | M006            |
| Material | AL6061 | AL6062 | Titanium, Brass |
|          |        |        |                 |
| NO.      | E007   | I007   | M007            |
| Material | Brass  | SUS316 | SUS316          |
|          |        |        |                 |
| NO.      | E008   | I008   | M008            |
| Material | AL6062 | Brass  | Titanium        |