

# Hanwha Precision Machinery / Machine Tool Division

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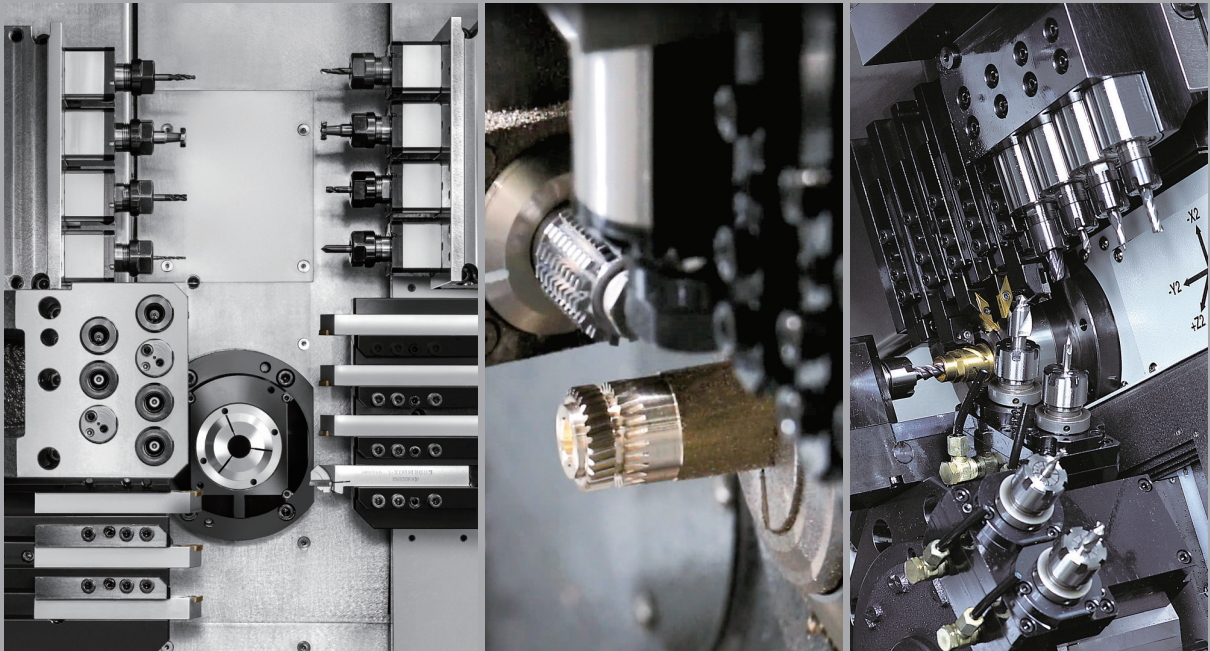
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Experience Your **SMART FACTORY**

# Hanwha Machine Tool

CNC Swiss Turning Lathe





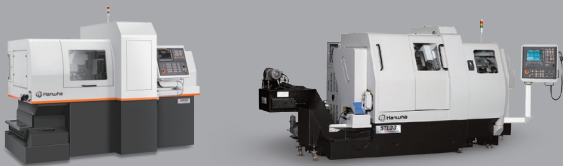
# Enjoy Total Engineering Solution

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, 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

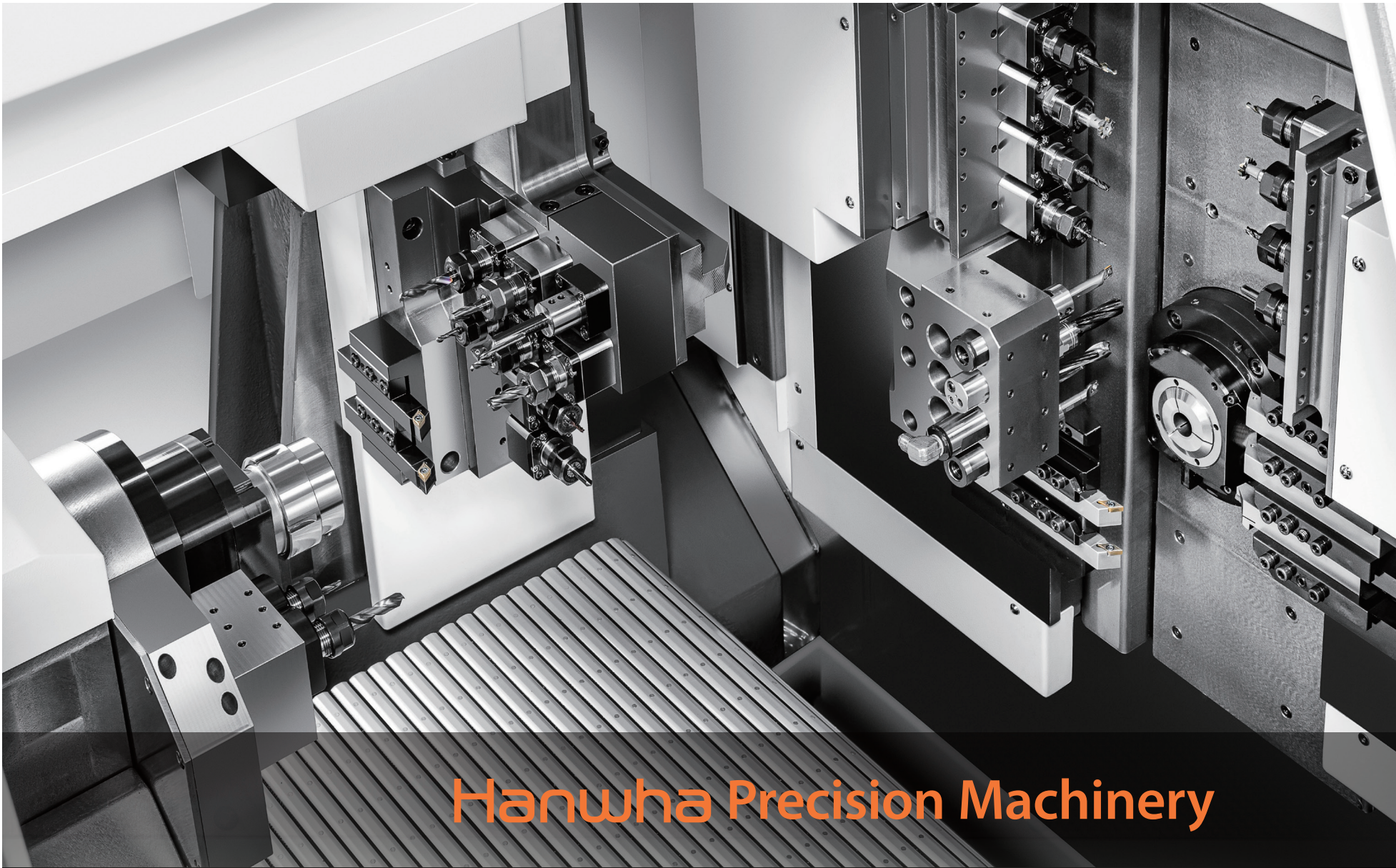
Offers customized solutions with a wide range of line-up for automatic lathes in gang & turret type.



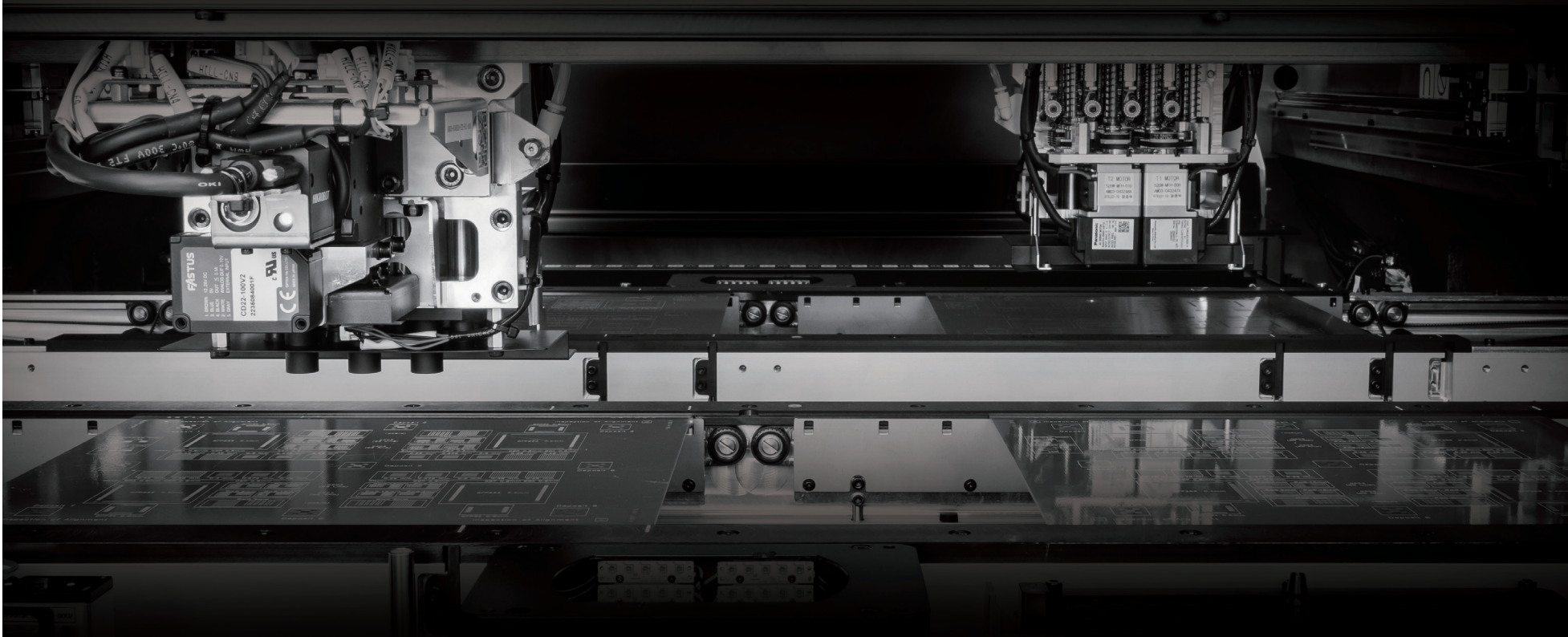
## Surface Mounter Technology Division

### Chip Mounter • Screen Printer • Semiconductor Equipment

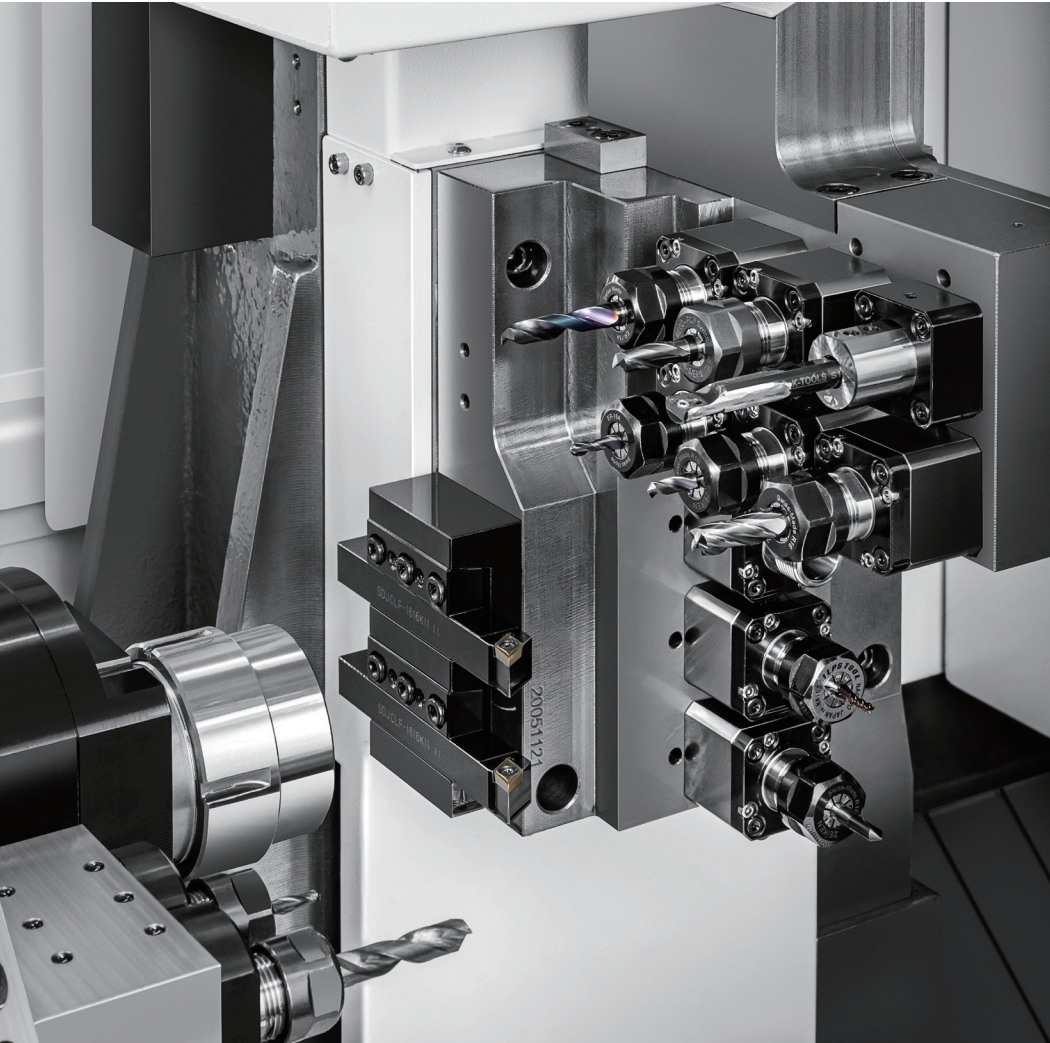
After developing its first chip mounter, offers SMT mounters, semiconductor equipment, industrial automation equipment and software solutions.



Hanwha Precision Machinery

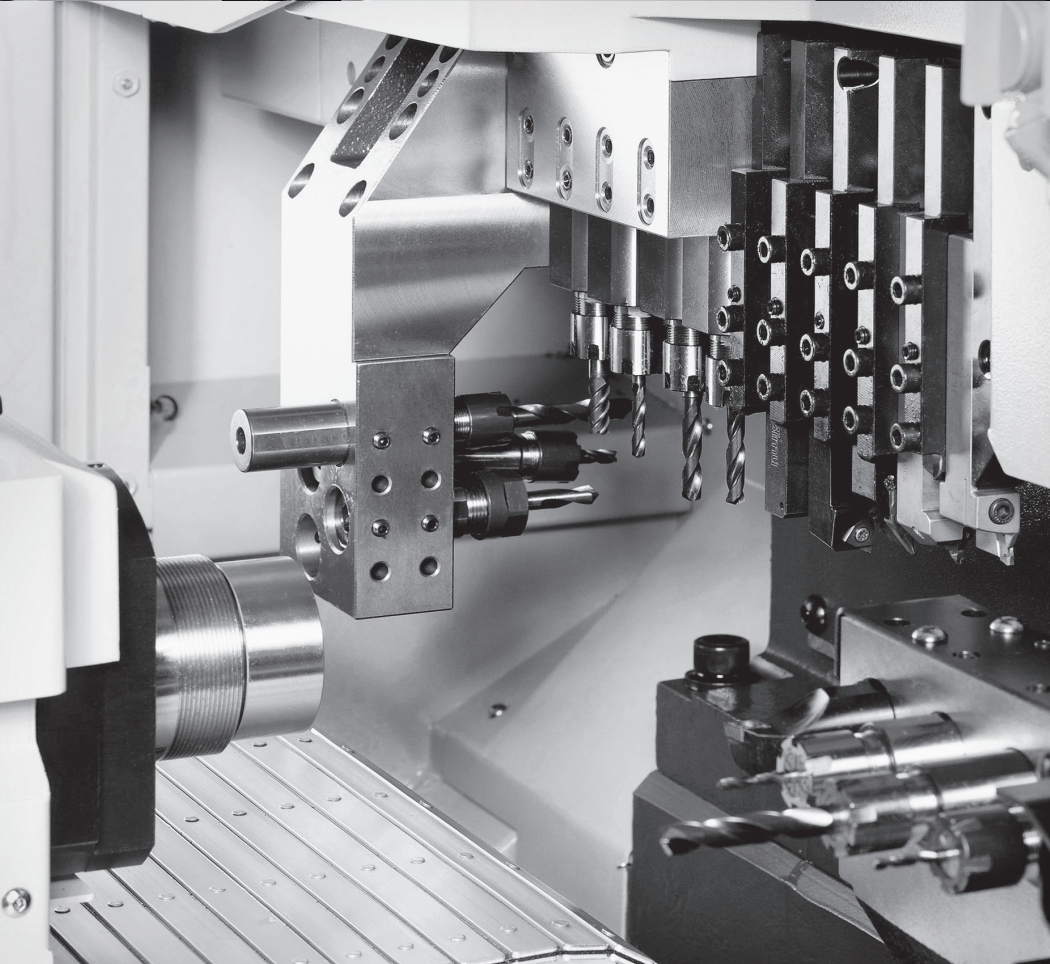






## CNC Swiss Turning Lathe

Provides the best customized machining solution with a wide range of line-up from Ø10mm to Ø42mm and various options



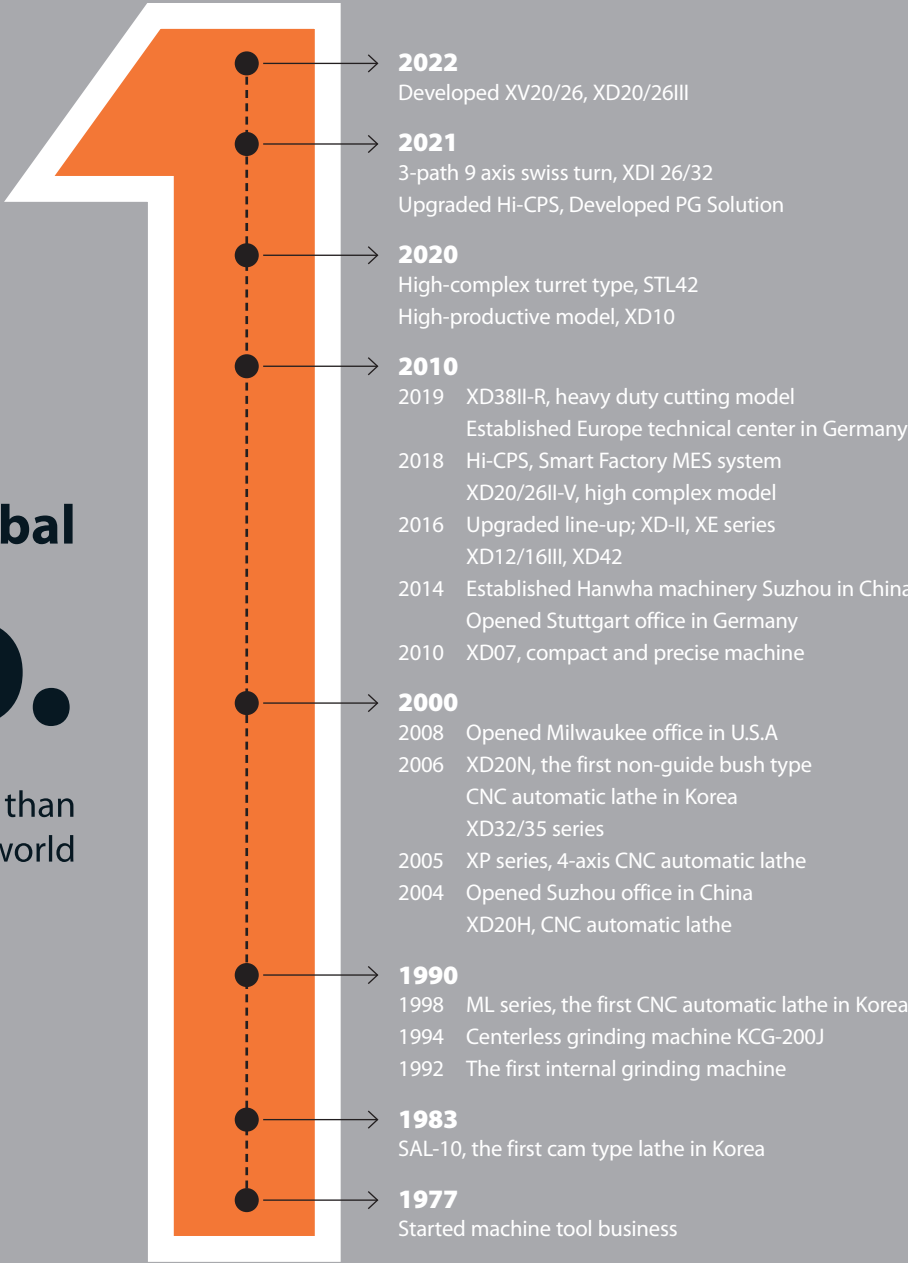
# Machine Tool Division

## Turning forward to the Future

Starting the machine tool business in 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





## High Complex & Precision Machining Based on the Rigid Design Policy

Hanwha CNC Swiss turning machines with a full line-up ranging from Ø10mm to Ø42mm, 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.



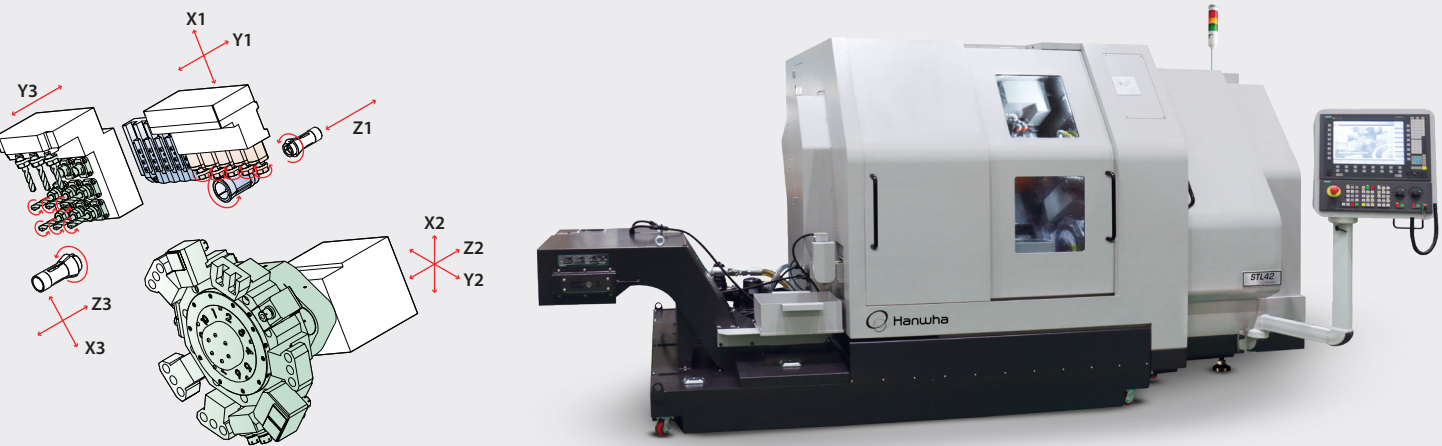
| Model                        | STL42               | STL38   | XDI 26/32  | XD42                         | XD38II-R        | XD38II                     | XV20/26                          | XD20/26II-V                |
|------------------------------|---------------------|---------|------------|------------------------------|-----------------|----------------------------|----------------------------------|----------------------------|
| Max. machining diameter (mm) | 42                  | 38      | 26<br>32   | 42                           | 38              | 38                         | 20<br>26                         | 20<br>26                   |
| Z1 stroke (mm)               | H 420<br>NH 282/125 | H 320   | NH 350/100 | H 320<br>N 100<br>NH 207/100 | NH 320          | H 320<br>N 80<br>NH 142/80 | NH(Ø20) 240/60<br>NH(Ø26) 240/80 | H 210<br>N 50<br>NH 210/50 |
| Tool layout                  |                     |         |            |                              |                 |                            |                                  |                            |
| NC                           | Siemens             | Siemens | Fanuc      | Fanuc                        | Fanuc / Siemens | Fanuc                      | Fanuc / Siemens                  | Fanuc / Siemens            |

| Model                        | XD20/26III                       | XD20/26II                  | XE35          | XE20/26                    | XD16III | XD10  | XP20/26/32S         | XP12/16S  |
|------------------------------|----------------------------------|----------------------------|---------------|----------------------------|---------|-------|---------------------|-----------|
| Max. machining diameter (mm) | 20<br>26                         | 20<br>26                   | 35            | 20<br>26                   | 16      | 10    | 20<br>26<br>32      | 12<br>16  |
| Z1 stroke (mm)               | NH(Ø20) 240/60<br>NH(Ø26) 240/80 | H 210<br>N 60<br>NH 160/50 | H 210<br>N 60 | H 210<br>N 60<br>NH 160/50 | H 155   | H 155 | 20 210<br>26/32 205 | 12/16 140 |
| Tool layout                  |                                  |                            |               |                            |         |       |                     |           |
| NC                           | Fanuc / Siemens                  | Fanuc / Siemens            | Fanuc         | Fanuc                      | Fanuc   | Fanuc | Fanuc               | Fanuc     |



# STL42

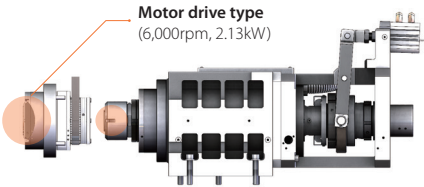
Specialized 9-axis turret type sliding head machine with powerful Siemens 840D controller (42mm)



| Model                          | STL42                                     |                                  |
|--------------------------------|-------------------------------------------|----------------------------------|
|                                | H                                         | NH                               |
| NC                             | Siemens 840D                              |                                  |
| Max. machining diameter (mm)   | Ø42                                       |                                  |
| Z1 Stroke (mm)                 | 420                                       | 282 (H), 125 (N)                 |
| Main spindle                   | Speed (rpm)                               | 6,000                            |
|                                | Motor (kW)                                | 22                               |
| OD tool                        | No. of tools                              | 5 (□20mm)                        |
|                                | No. of tools                              | 5 (ER20)                         |
| Cross drill                    | Speed (rpm)                               | 6,000                            |
|                                | Motor (kW)                                | 2.59                             |
| Turret unit                    | No. of unit                               | 1 Unit (10 Station)              |
|                                | No. of tools                              | max. 30EA (□20mm, ER20)          |
|                                | Tool type                                 | VDI 30 (Option : BMT 45)         |
|                                | Motor (kW)                                | 2.59                             |
| Sub spindle                    | Speed (rpm)                               | 6,000                            |
|                                | Motor (kW)                                | 22                               |
| Back tool                      | No. of tools                              | 9 (ER20)<br>(3 Fixed + 6 Driven) |
|                                | Speed (rpm)                               | 6,000                            |
|                                | Motor (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, 32kW (VCTF 16SQ x 4C)              |                                  |
| Air flow rate (Liter/Min)      | 20 ~ 30 (Hydraulic device capacity : 30L) |                                  |

## OPTIMIZATION OF STRUCTURE & SPEC

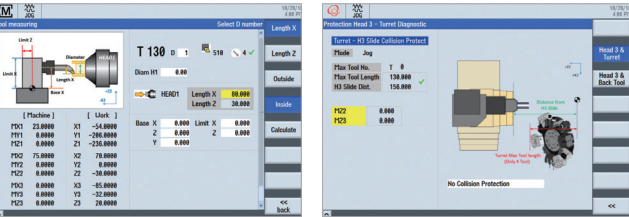
Adopted built-in motor with hydraulic chucking cylinder for strong chucking power



| Unit              | Spec   |
|-------------------|--------|
| G/B               | BRA-42 |
| Chuck (Main, Sub) | TF48   |

## UPGRADED SOFTWARE PLATFORM

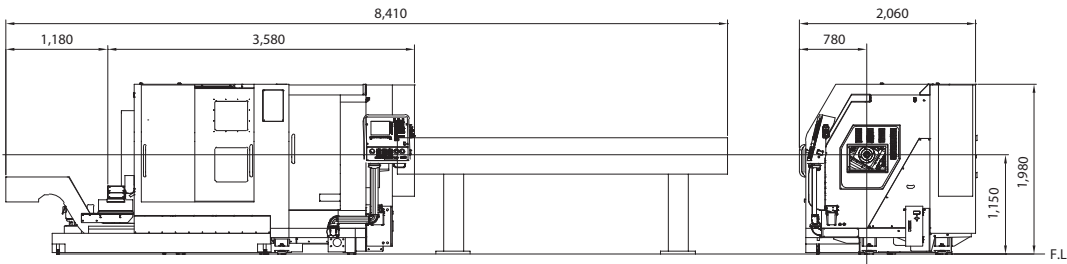
Provides the new HMI screen and improved software functions for machining & operating convenience



Tool measuring

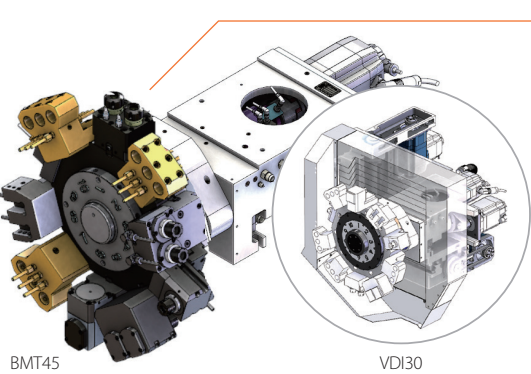
Collision protection

## Dimension



# Option Tooling

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

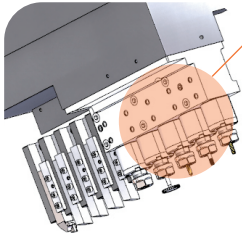


## Turret Unit

- 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)

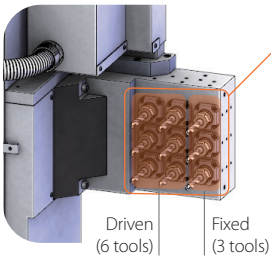


## Cross Drilling / Milling Unit

- 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**

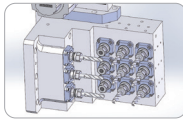


## Back Tool Unit

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

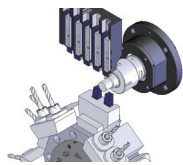
### Specification (STL38 → STL42)

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

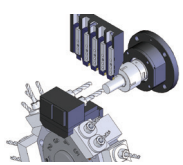


※ Back tool Cross unit (Option)  
→ No. of tools : Back tool 6, Cross 3

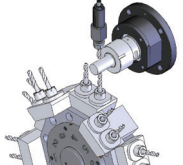
## COMPLEX MACHINING



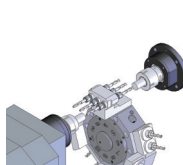
Balance turning (OD+Turret)



Turning/drilling (OD+Turret)



Endmill (Cross+Turret)



Drilling (Front+Back)

## 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

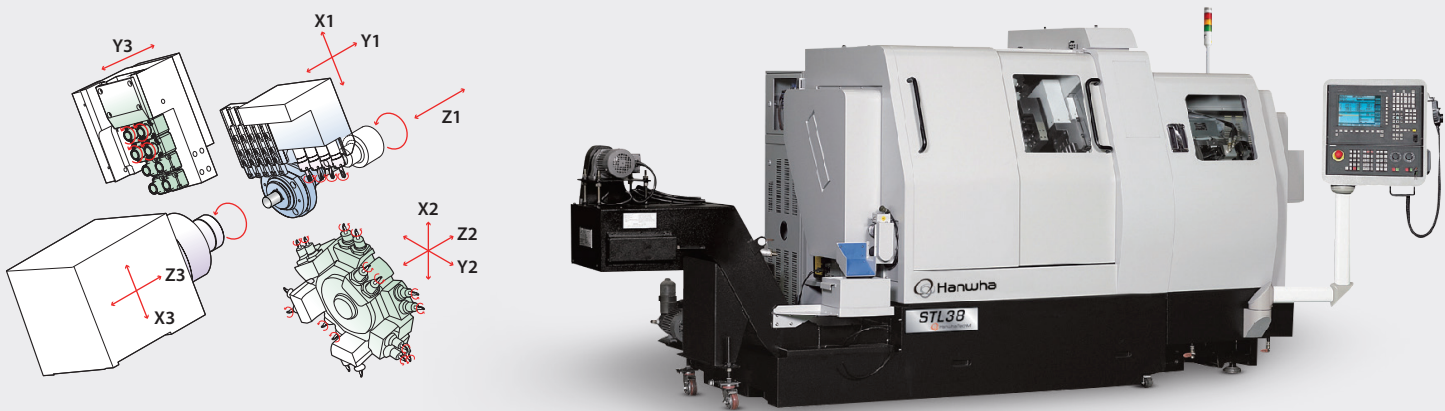
## Option

- 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



# STL38

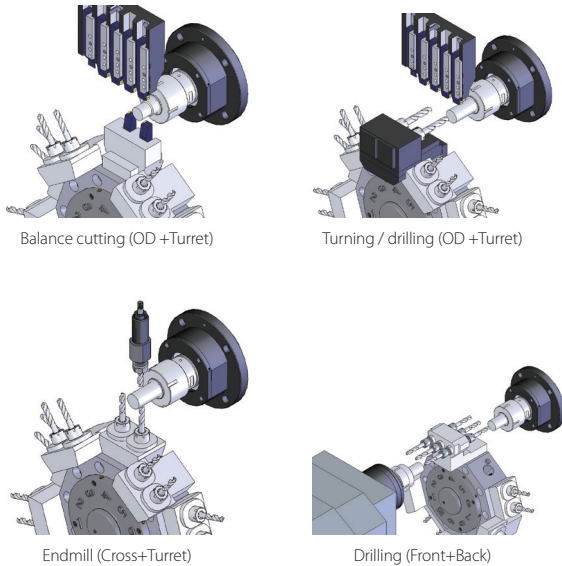
Turret type, sliding head machine (9-axis) with powerful Siemens 840D controller



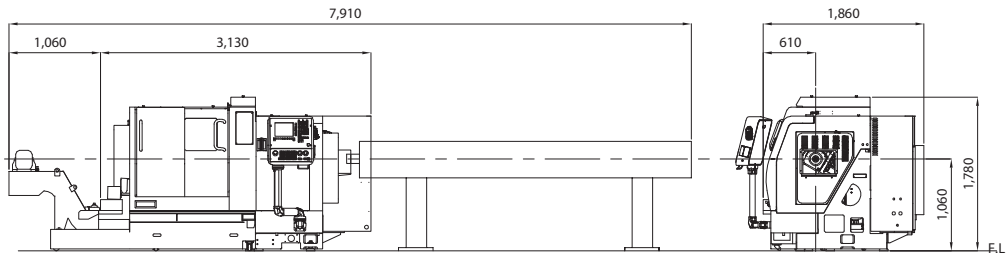
| Model                          | STL32/38                                  |                                   |
|--------------------------------|-------------------------------------------|-----------------------------------|
|                                | Y3                                        |                                   |
| NC                             | Siemens 840D                              |                                   |
| Max. machining diameter (mm)   | Ø32/38                                    |                                   |
| Z1 Stroke (mm)                 | 320                                       |                                   |
| Main spindle                   | Speed (rpm)                               | 6,500                             |
|                                | Motor (kW)                                | 23                                |
| OD tool                        | No. of tools                              | 5 (□16mm)                         |
|                                | No. of tools                              | 4 (ER20M)                         |
| Cross drill                    | Speed (rpm)                               | 6,000                             |
|                                | Motor (kW)                                | 1.07                              |
| Turret unit                    | No. of unit                               | 1 Unit (10 Station)               |
|                                | No. of tools                              | max. 30 (□20mm, ER20)             |
|                                | Tool type                                 | VDI 30 (Option : BMT 45)          |
|                                | Motor (kW)                                | 2.59                              |
| Sub spindle                    | Speed (rpm)                               | 6,500                             |
|                                | Motor (kW)                                | 23                                |
| Back tool                      | No. of tools                              | 8 (ER20M)<br>(4 Fixed + 4 Driven) |
|                                | Speed (rpm)                               | 6,000                             |
|                                | Motor (kW)                                | 1.07                              |
| Machine size (L x W x H) (mm)  | 3,130 x 1,860 x 1,780                     |                                   |
| Weight (kg)                    | 4,500                                     |                                   |
| Power consumption (Cable size) | 40kVA, 32kW (VCTF 16SQ x 4C)              |                                   |
| Air flow rate (Liter/Min)      | 20 ~ 30 (Hydraulic device capacity : 30L) |                                   |

## COMPLEX MACHINING

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

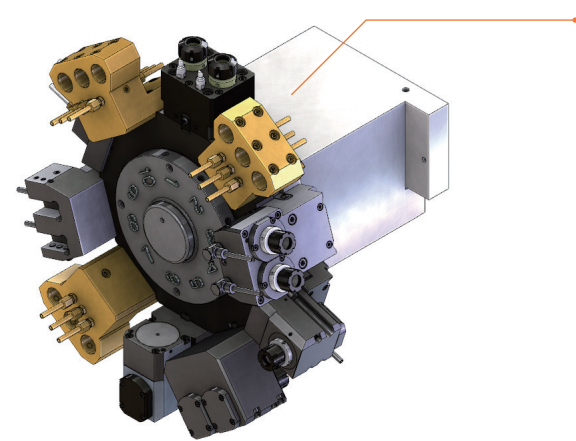


## Dimension



# Option Tooling

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

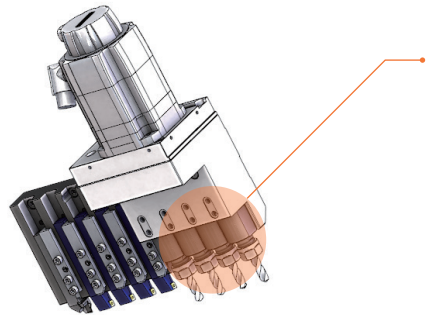
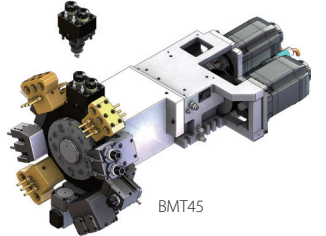
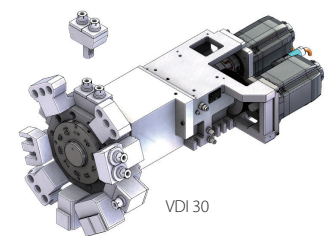


## Turret Unit

- Type of turret unit is selectable; VDI (standard) or BMT (Option)

### Specification

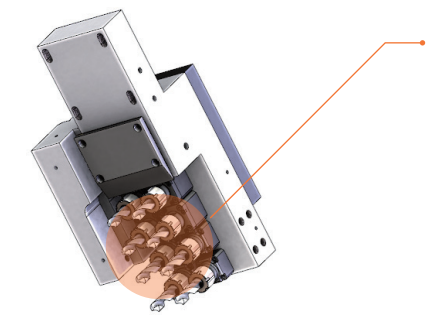
- 1set turret (10 station)
- Tool size : □20, ER20
- Tool holder type : VDI30, BMT45
- Max. number of tools : 30



## Cross Drilling / Milling Unit

- Easy tool change for maintenance & installation

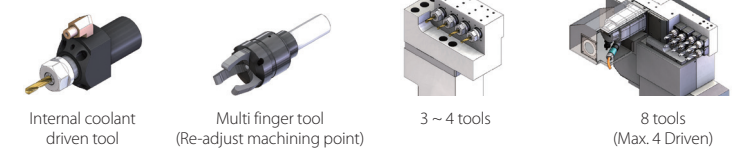
### Option tool



## 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



## 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

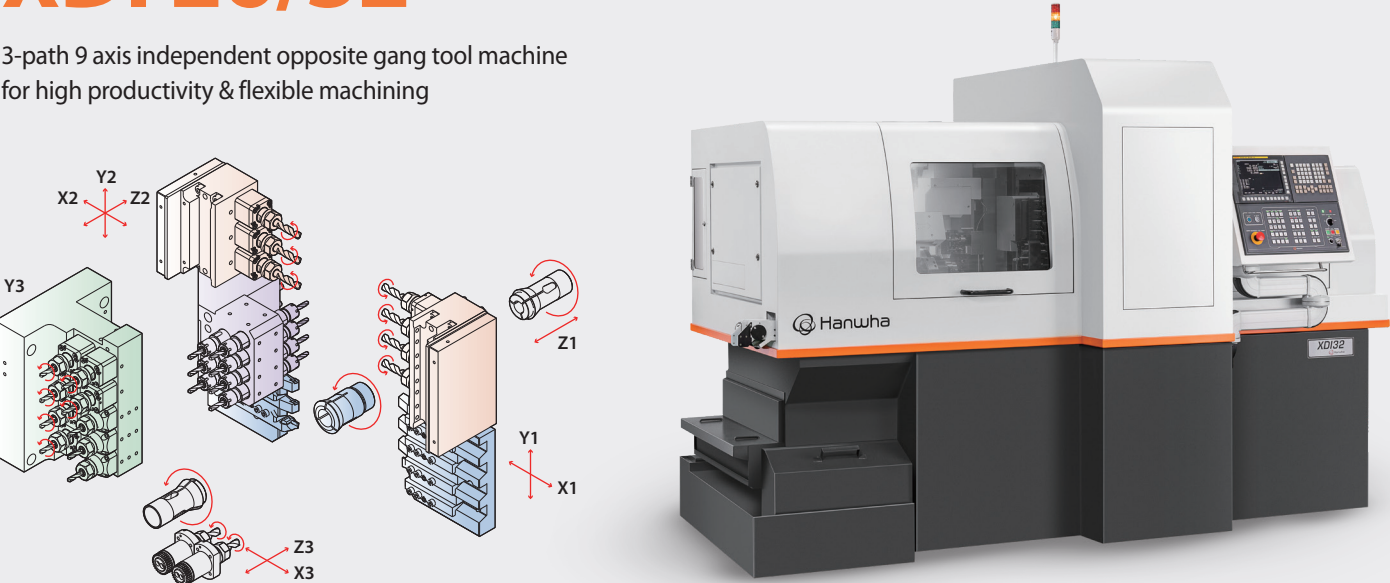
## Option

- 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



# XDI 26/32

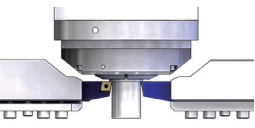
3-path 9 axis independent opposite gang tool machine  
for high productivity & flexible machining



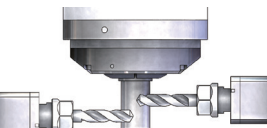
| Model                          |              | XDI 26                                                                     | XDI 32                           |
|--------------------------------|--------------|----------------------------------------------------------------------------|----------------------------------|
| NC                             |              | Fanuc – 31iB                                                               |                                  |
| Max. machining diameter (mm)   |              | Ø26                                                                        | Ø32                              |
| Z1 Stroke / NH (mm)            |              | 350 (H), 100 (N)                                                           |                                  |
| Main spindle                   | Speed (rpm)  | 8,000                                                                      | 6,500                            |
|                                | Motor (kW)   | 2.2 / 5.5                                                                  |                                  |
| Turning tool                   | No. of tools | □ 16mm x 7 (4 + 3)                                                         |                                  |
| Front tool                     | No. of tools | ER16M x 4 (Front 4 / Rear 7)                                               |                                  |
|                                | No. of tools | ER16 x 7 (4 + 3)                                                           |                                  |
| Cross drill                    | Speed (rpm)  | 6,000                                                                      |                                  |
|                                | Motor (kW)   | 1.0                                                                        | 2.2                              |
| B-axis cross (op.)             | No. of tools | ER16 x 4 (Front 4 / Rear 4)                                                |                                  |
|                                | Speed (rpm)  | 6,000                                                                      |                                  |
|                                | Motor (kW)   | 1.0                                                                        |                                  |
| Sub spindle                    | Speed (rpm)  | 8,000                                                                      | 6,500                            |
|                                | Motor (kW)   | 2.2 / 5.5                                                                  |                                  |
| Back tool                      | No. of tools | ER16 x 9 (Fixed 3 + Driven 6)<br>(Option : Driven 6 + Cross 3 + Turning 2) |                                  |
|                                | Speed (rpm)  | 6,000                                                                      |                                  |
|                                | Motor (kW)   | 1.0                                                                        |                                  |
| Machine size (L x W x H) (mm)  |              | 2,910 x 1,710 x 2,010                                                      |                                  |
| Weight (kg)                    |              | 6,300                                                                      |                                  |
| Power consumption (Cable size) |              | 13.5kVA, 10.8kW<br>(VCTF16SQ x 4C)                                         | 16.2kVA, 13kW<br>(VCTF16SQ x 4C) |
| Air flow rate (Liter/Min)      |              | 120 ~ 150                                                                  |                                  |

## VARIOUS SIMULTANEOUS MACHINING

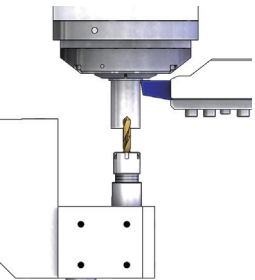
Reduced cutting time by simultaneous machining capacity with  
balance turning, drilling and milling



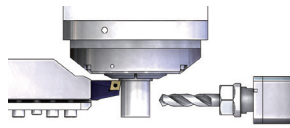
Balance turning



Balance drilling & Milling

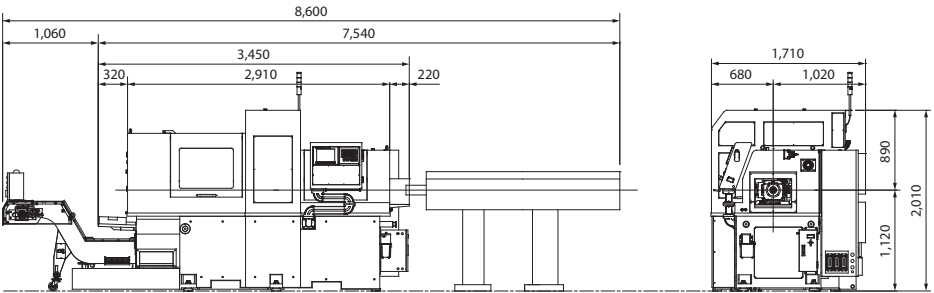


Simultaneous machining  
(Turning & Front drilling)



Pre-position of the next tool

## DIMENSION



# Option Tooling

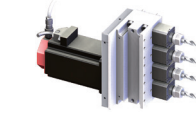
Providing variable option tools for the flexible machining

## Cross Drilling / Milling Unit

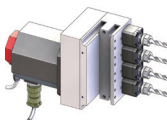
- Cross drill / Double-hinged B-axis tool

### Option Specification

- 4 cross drill (ER16, 1kW or 2.2 kW)
- The same cross modular with XD38II



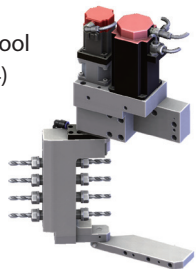
1 kW



2.2 kW

Double-hinged B-axis tool  
(ER16x8, Front 4/Back 4)

- Motor power : 1.0 kW
- Swivel angle :  
-40° ~ +100°

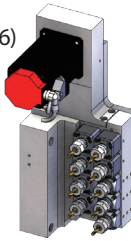


## Back Tool Unit

- Y3-axis 9 back tool / Y3-axis back tool cross

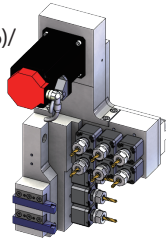
### Option Specification

- Standard 9 back tool
- 6 Driven/3 Fixed Modular (ER16)
- Motor power : 1.0 kW
- The same back tool modular  
with XD38II
- Whole gear driven system



Option Y3-axis back tool cross

- 6 Back/3 Cross Modular (ER16)/  
2 Bite (□ 16)
- Motor power : 1.0 kW
- The same back tool modular  
with XD38II
- Whole gear driven system

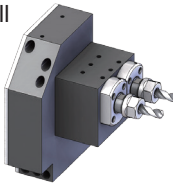


## Sub Off-center & Gun Drill Unit

- 2 off-center drills / 2 gun drills

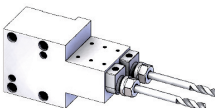
### Option Specification

- 2 off-center drill modular (ER16)
- Motor power : 2.2/5.5 kW
- The same off-center drill  
modular with XD26II-V



2 gun drill (ER16)

- Max. drill length 190 mm



## Standard

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

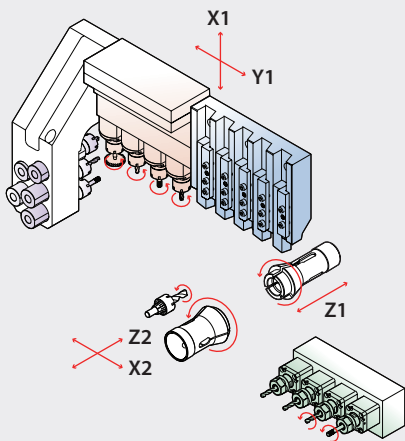
## Option

- Bar feeder
- Chip conveyor
- Extended coolant tank
- Transformer
- Tap breakage detector
- Pipe type ejection unit
- B-axis cross drill unit(4)
- Off-center drill unit(2)
- Gun drill unit(2)
- Cross turning back tool post
- Middle / High pressure pump
- Oil mist collector
- Oil chiller
- Memory card
- Tooling & Programming
- Additional M-code
- Helical interpolation
- 3 dimension conversion
- NC warranty for 2 years



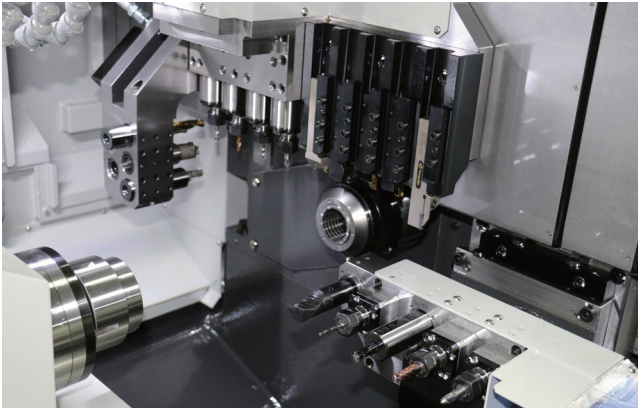
# XD42

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



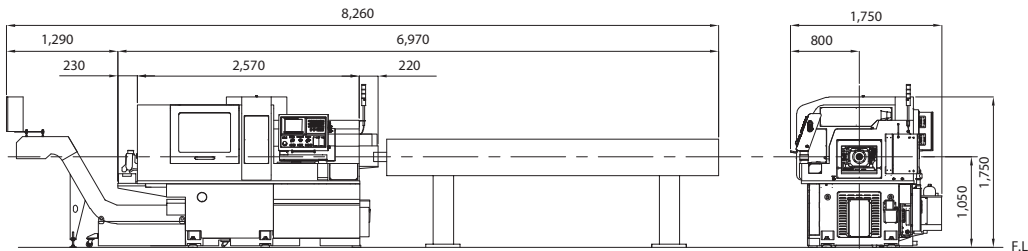
| Model                          |              | XD42                             |     |                     |
|--------------------------------|--------------|----------------------------------|-----|---------------------|
|                                |              | H                                | N   | NH                  |
| NC                             |              | Hanwha Fanuc-i                   |     |                     |
| Max. machining diameter (mm)   |              | Ø42                              |     |                     |
| Z1 Stroke (mm)                 |              | 320                              | 100 | 207 (H),<br>100 (N) |
| Main spindle                   | Speed (rpm)  | 6,000                            |     |                     |
|                                | Motor (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)                        |     |                     |
|                                | Speed (rpm)  | 6,000                            |     |                     |
|                                | Motor (kW)   | 2.2                              |     |                     |
| Off-center drill<br>(Option)   | No. of tools | 1 (ER20M)                        |     |                     |
|                                | type         | Gear drive (Modular type drill)  |     |                     |
| Sub spindle                    | Speed (rpm)  | 6,000                            |     |                     |
|                                | Motor (kW)   | 2.2/5.5                          |     |                     |
| Back tool                      | No. of tools | 5 (ER20M) (3 Fixed + 2 Driven)   |     |                     |
|                                | Speed (rpm)  | 6,000                            |     |                     |
|                                | Motor (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) |              | 13.3kVA, 10.6kW (VCTF 16SQ x 4C) |     |                     |
| Air flow rate (Liter/Min)      |              | 120 ~ 150                        |     |                     |

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



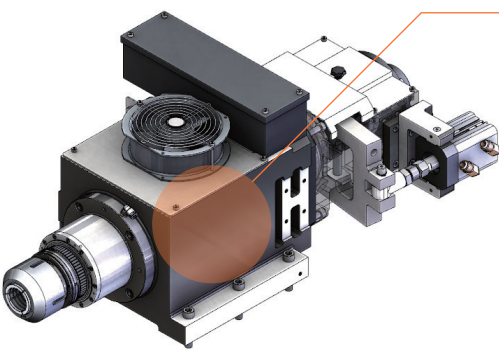
- Strong machining performance & high-productivity for large bore material
- Strong chucking force with hydraulic cylinder
- Improved bearing system for accuracy
- High rigidity of feed unit (Adopted linear roller guide)

## Dimension



# Option Tooling

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

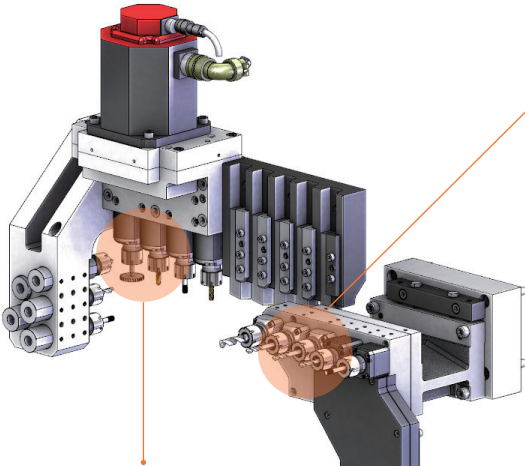


## Spindle Unit

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

### Specification

6,000rpm  
5.5/7.5kW



## Back Tool Unit

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

### Specification

6,000rpm, 1.0kW  
5 tools (ER20M)

### Option tool



## Cross Drilling / Milling Unit

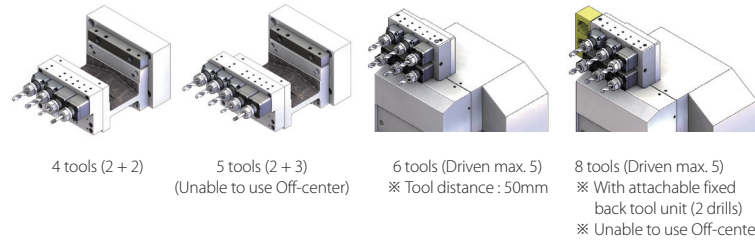
- Powerful cross machining with upper size of tools and the best-in-class motor
- Cross unit with gear modular type as standard for various tooling and easy tool change / maintenance

### Specification

6,000rpm, 2.2kW  
4 tools (ER20M)

### Selectable modules of back tool

Driven max.4



## 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

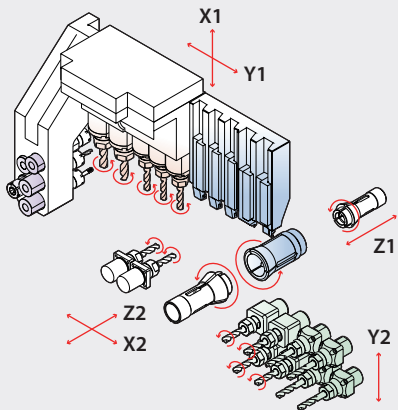
## Option

- 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



# XD38II-R

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



| Model                          |              | XD38II-R                                     |
|--------------------------------|--------------|----------------------------------------------|
|                                |              | NH                                           |
| NC                             |              | Fanuc 32i-B / Siemens 828D                   |
| Max. machining diameter (mm)   |              | Ø38 (Option : Ø40)                           |
| Z1 Stroke (mm)                 |              | 320 (H), 120 (N)                             |
| Main spindle                   | Speed (rpm)  | 6,500                                        |
|                                | Motor (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)                               |
|                                | No. of tools | 5 (ER20 x 2, ER16 x 3)                       |
| Cross drill                    | Speed (rpm)  | 6,000                                        |
|                                | Motor (kW)   | 2.2 (Fanuc), 2.13 (Siemens)                  |
| Off-center drill (Option)      | No. of tools | 2 (ER16) Modular                             |
| Sub spindle                    | Speed (rpm)  | 6,500                                        |
|                                | Motor (kW)   | 2.2/5.5 (Fanuc), 23 (Siemens)                |
| Back tool                      | No. of tools | 8 (ER16) (4 Fixed + 4 Driven)                |
|                                | Speed (rpm)  | 6,000                                        |
|                                | Motor (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) |              | 14.6kVA, 11.7kW<br>(Siemens : 36kVA, 28.8kW) |
| Air flow rate (Liter/Min)      |              | 120 ~ 150                                    |

\* NH : Convertible G/B

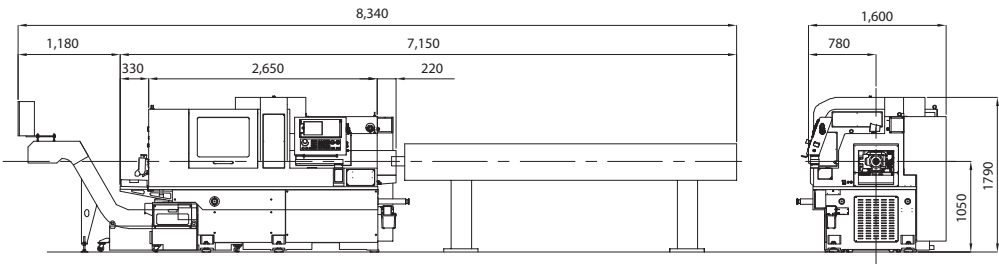
## OPTIMIZATION OF STRUCTURE & SPEC

### Specification of G/B & Chuck

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

- 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)

## Dimension



# Optimized Structure & Spec for Ø38mm

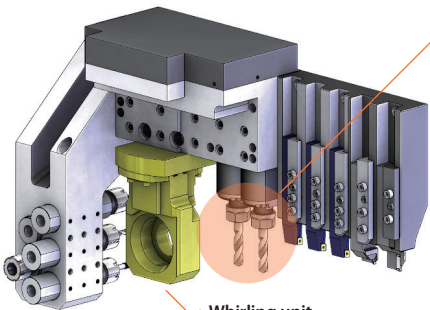
Possible to machine max. Ø40mm (Option)

## 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



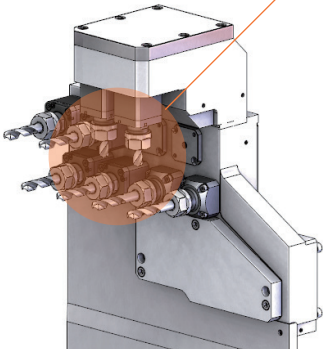
Whirling unit  
※ Other various option units are available

## 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

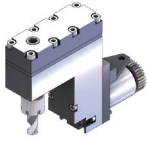
### Specification

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

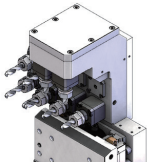
### Option tool



Internal coolant driven tool



Back tool cross unit (Modular)



Back tool cross unit (Single body)

## 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

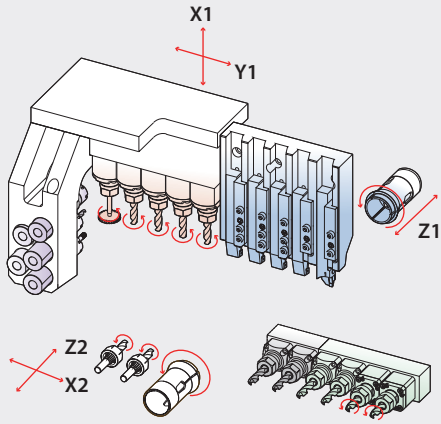
## Option

- 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



# XD38II

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



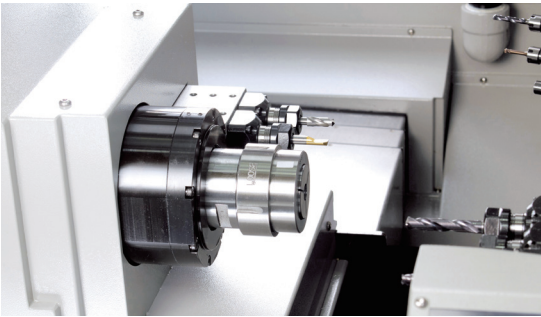
| Model                          |              | XD32/38II                        |    |                 |                               |
|--------------------------------|--------------|----------------------------------|----|-----------------|-------------------------------|
|                                |              | H                                | N  | NH              | He                            |
| NC                             |              | Fanuc 32i-B                      |    |                 | Hanwha Fanuc-i                |
| Max. machining diameter (mm)   |              | Ø32/38                           |    |                 |                               |
| Z1 Stroke (mm)                 |              | 320                              | 80 | 142 (H), 80 (N) | 320                           |
| Main spindle                   | Speed (rpm)  | 6,500                            |    |                 |                               |
|                                | Motor (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)                         |    |                 |                               |
|                                | Speed (rpm)  | 6,000                            |    |                 |                               |
|                                | Motor (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                    | Speed (rpm)  | 6,500 (Built-in motor)           |    |                 | 6,500 (Spindle motor)         |
|                                | 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) |
|                                | Speed (rpm)  | 6,000                            |    |                 |                               |
|                                | Motor (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) |              | 15.8kVA, 12.6kW (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)

## OFF-CENTER UNIT

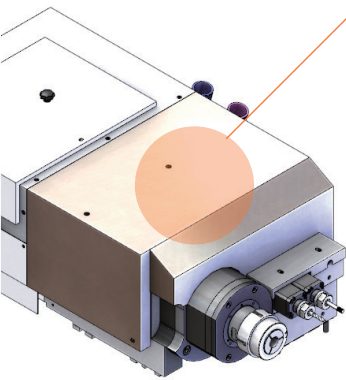
### 2 off-center drills by individual motor drive

- No. of tools : 2 (ER16)
- Speed & motor power: 6,500rpm, 1.0kW



# Option Tooling

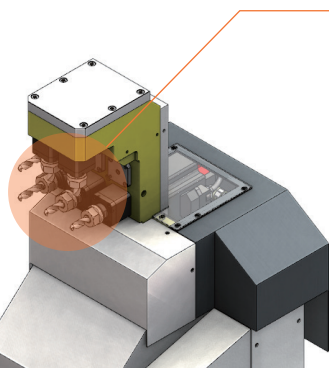
Various tooling options & sub-spindle type are offered for high-quality performance depending on product & machining condition



## 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  |



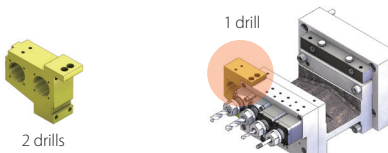
## Back Tool Unit

- 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

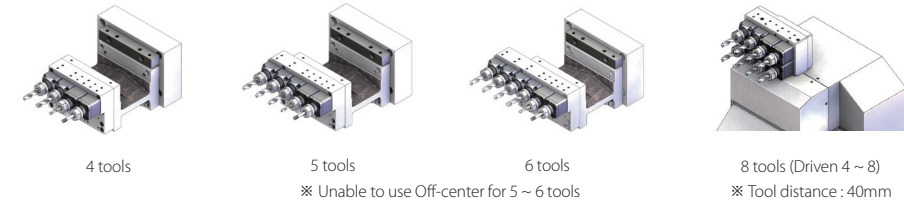


### Option tool

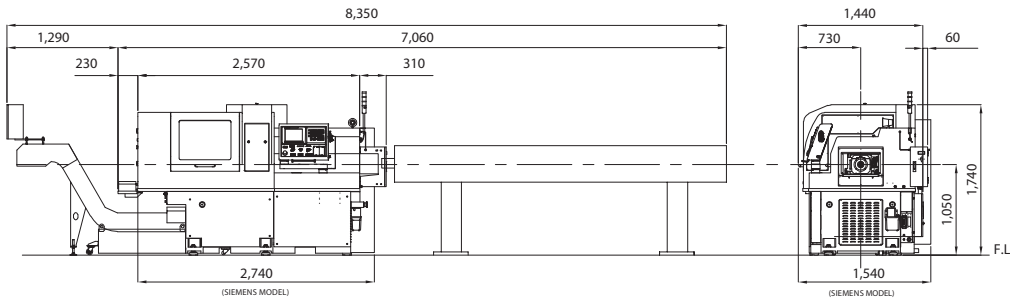


### Selectable modules of back tool

Driven max. 4



## Dimension



## 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

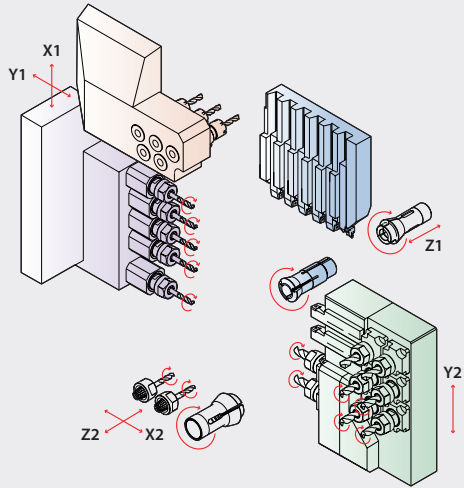
## Option

- 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



# XV20/26

Incredible Ø20/26 model with rigid double hinged B-axis unit and way better back tool unit (Y2)

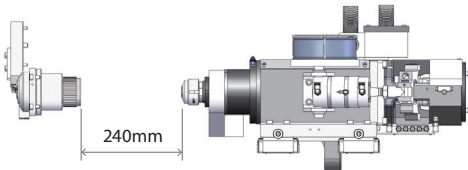


| Model                          |                               | XV20/26                                                                                           |
|--------------------------------|-------------------------------|---------------------------------------------------------------------------------------------------|
|                                |                               | NH                                                                                                |
| NC                             |                               | Fanuc 32i-B / Siemens 828D (* B-axis : 840D)                                                      |
| Max. machining diameter (mm)   |                               | Ø20/26                                                                                            |
| Z1 Stroke (mm)                 |                               | H : 240, N : 60 (Ø20), 80 (Ø26)                                                                   |
| Main spindle                   | Speed (rpm)                   | 10,000 (Ø20), 8,000 (Ø26)                                                                         |
|                                | Motor (kW)                    | Fanuc : 2.2/3.7 (Ø20), 2.2/5.5 (Ø26)<br>Siemens : 16                                              |
| OD tool                        | No. of tools                  | 6 (□12mm) (Ø20), 5 (□16mm) (Ø26)                                                                  |
|                                | No. of tools                  | 5EA (ER16M, Ø25)                                                                                  |
| Front tool                     | No. of tools                  | 5 (ER16) (Ø20), 5 (ER16M) (Ø26)                                                                   |
|                                | Speed (rpm)                   | 9,000                                                                                             |
| Cross drill                    | Motor (kW)                    | 2.2 (Fanuc), 2.13 (Siemens)                                                                       |
|                                | No. of tools                  | 2 (ER16)                                                                                          |
| Off-center drill (Option)      | Speed (rpm)                   | 10,000 (Ø20), 8,000 (Ø26)                                                                         |
|                                | Motor (kW)                    | 2.2/3.7 (Fanuc) , 16 (Siemens)                                                                    |
| Back tool                      | No. of tools                  | Back tool : 6 (ER16) (6 driven)<br>OD tool : 3 (□12mm) (Ø20), 2 (□16mm) (Ø26)<br>Cross : 2 (ER16) |
|                                | Speed (rpm)                   | 8,000                                                                                             |
|                                | Motor (kW)                    | 1.0 (Fanuc), 1.02 (Siemens)                                                                       |
|                                | Machine size (L x W x H) (mm) | 2,460 x 1,390 x 1,900                                                                             |
| Weight (kg)                    |                               | 3,100                                                                                             |
| Power consumption (Cable size) |                               | 9kVA, 7.2kW (VCTF 105Q x 4C)                                                                      |
| Air flow rate (Liter/Min)      |                               | 120 ~ 150                                                                                         |

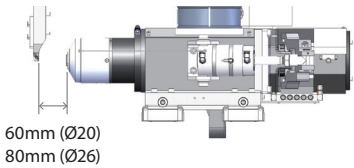
## ADVANTAGES

- Improved new layout is adopted to make easy setting of tool and nozzle
- Double hinged type B axis is adopted with front tool post
- Extended stroke of Z1 240mm and Z2 290mm(Ø20), 286mm(Ø26)

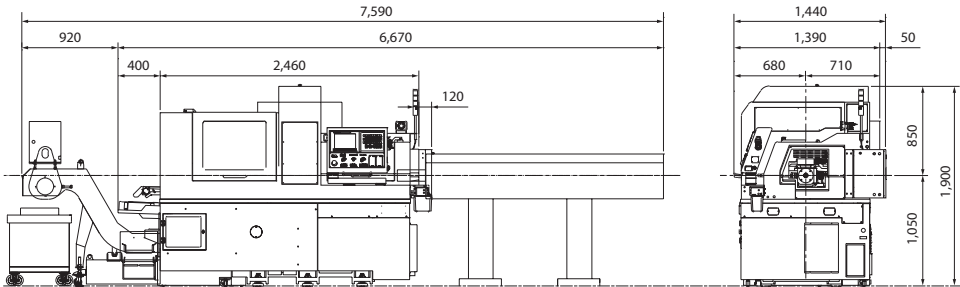
### Guide bush



### None Guide bush



## Dimension



# Efficient and Flexible Structure

Innovative tooling capability with reinforced back tool and double hinged B-axis unit

## Cross Drilling / Milling Unit

- Double hinged B-axis unit on gang type tool layout
- Front tool post can be applied with B axis

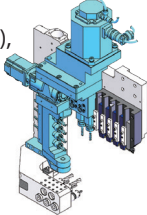
### Standard Specification

- Powerful cross motor
- Motor power : 2.2kW (Fanuc), 2.13kW (Siemens)
- The same modular with XD20/26II



### Option Specification

- Double-hinged B-axis tool
- B-axis tools : ER16M x 4, ER11M x 4
- Cross tools : ER16 x 2
- Motor power : 2.2kW (Fanuc), 2.13kW (Siemens)
- Swivel angle : -50° ~ +90°

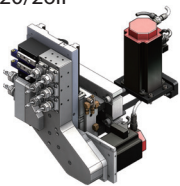


## Back Tool Unit

- Y2-axis back tool cross / Y2-axis 8 back tool

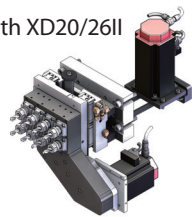
### Standard Specification

- Back tool cross
- 6 back tools / 2 cross (ER16) / 3 turning (□12) (Ø20) or 2 turning (□16) (Ø26)
- Motor power : 1.0kW (Fanuc), 1.02kW (Siemens)
- The same modular with XD20/26II
- Gear driven modular



### Option Specification

- 8 back tools
- 4 driven / 4 fixed (ER16)
- Motor power : 1.0kW (Fanuc), 1.02kW (Siemens)
- The same modular with XD20/26II
- Gear driven modular

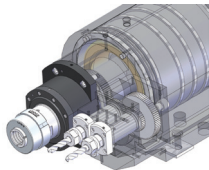


## Sub Built-in Motor & Off-center Unit

- Built-in spindle with off-center drills

### Option Specification

- 2 off-center drill (ER16)
- Motor power : 2.2/3.7kW (Fanuc), 16kW (Siemens)
- Gear driven of one body type



## 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



# XD20/26II-V

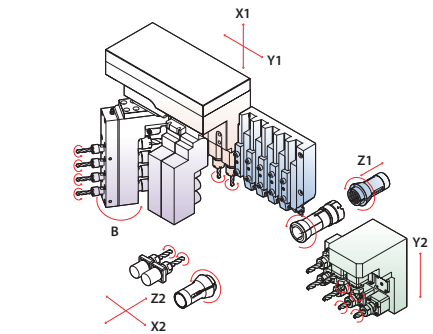
Multi-functional with B and Y2-axis



| Model                          |              | XD20/26II-V                                            |    |                 |
|--------------------------------|--------------|--------------------------------------------------------|----|-----------------|
|                                |              | H                                                      | N  | NH              |
| NC                             |              | Fanuc 32i-B / Siemens 828D (B-axis 840D)               |    |                 |
| Max. machining diameter (mm)   |              | Ø20/26                                                 |    |                 |
| Z1 Stroke (mm)                 |              | 210                                                    | 50 | 210 (H), 50 (N) |
| Main spindle                   | Speed (rpm)  | 10,000 (Ø20), 8,000 (Ø26)                              |    |                 |
|                                | Motor (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))                            |    |                 |
|                                | Speed (rpm)  | 6,000                                                  |    |                 |
|                                | Motor (kW)   | 1.0 (Fanuc), 1.02 (Siemens)                            |    |                 |
| Off-center drill (Option)      | No. of tools | 2 (ER16) Modular                                       |    |                 |
| Sub spindle                    | Speed (rpm)  | 8,000                                                  |    |                 |
|                                | Motor (kW)   | 2.2/3.7 (Fanuc), 14.4 (Siemens)                        |    |                 |
| Back tool                      | No. of tools | 8 (ER16) (4 Fixed + 4 Drvien)                          |    |                 |
|                                | Speed (rpm)  | 6,000                                                  |    |                 |
|                                | Motor (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) |              | 7.7kVA, 6.1kW (VCTF 10SQ x 4C)                         |    |                 |
| Air flow rate (Liter/Min)      |              | 120 ~ 150                                              |    |                 |

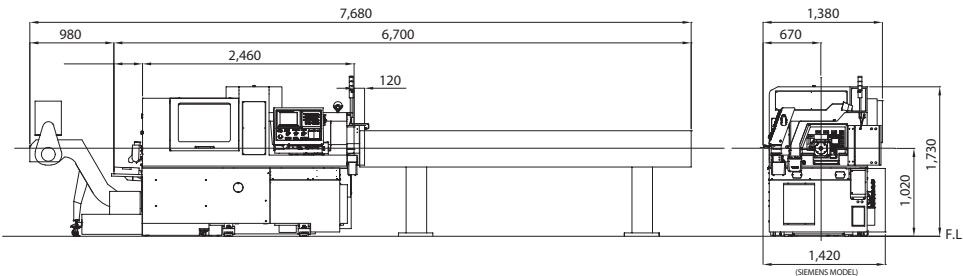
\* H : G/B, N : Non-G/B, NH : Convertible G/B

## 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))

## Dimension



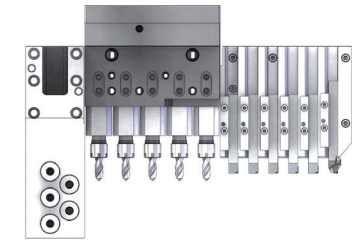
# Option Tooling

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

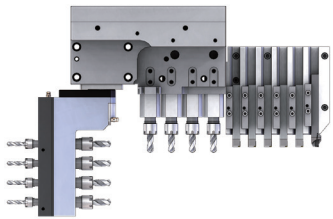
## Cross Drilling / Milling Unit

- 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

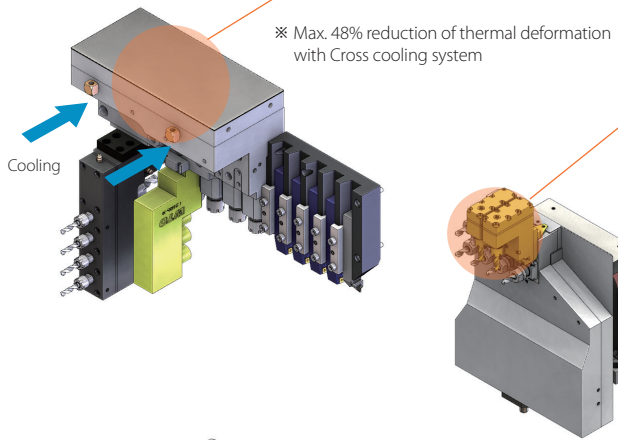
### Option Specification



- 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 (ER16 x 4, ER11 x 4)
  - ※ for XD20II-V



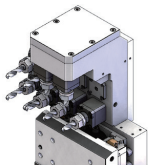
## Back Tool Unit

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

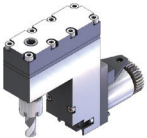
### Option tool



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



# XD20/26III

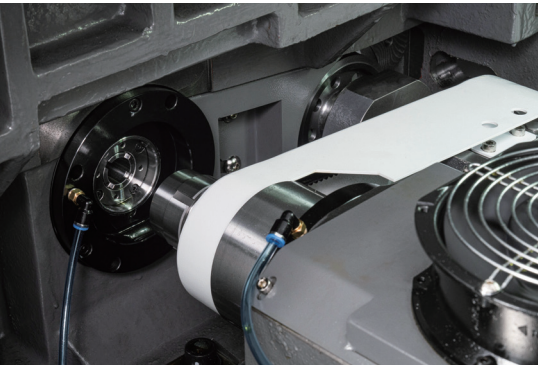
The 3rd generation of Ø20/26 model equipped with powerful back tool unit (Y2)



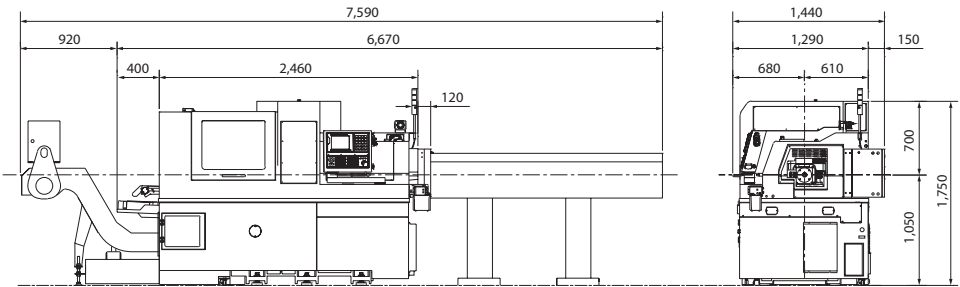
| Model                          |                               | XD20/26III                                           |
|--------------------------------|-------------------------------|------------------------------------------------------|
|                                |                               | NH                                                   |
| NC                             |                               | Hanwha Fanuc i / Siemens 828D                        |
| Max. machining diameter (mm)   |                               | Ø20/26                                               |
| Z1 Stroke (mm)                 |                               | H : 240, N : 60 (Ø20), 80 (Ø26)                      |
| Main spindle                   | Speed (rpm)                   | 10,000 (Ø20), 8,000 (Ø26)                            |
|                                | Motor (kW)                    | Fanuc : 2.2/3.7 (Ø20), 2.2/5.5 (Ø26)<br>Siemens : 16 |
| OD tool                        | No. of tools                  | 6 (□12mm) (Ø20), 5 (□16mm) (Ø26)                     |
|                                | No. of tools                  | 5 (ER16M, Ø25)                                       |
| Front tool                     | No. of tools                  | 5 (ER16) (Ø20), 5 (ER16M) (Ø26)                      |
|                                | Speed (rpm)                   | 6,000                                                |
| Cross drill                    | Motor (kW)                    | 1.0 (Fanuc), 1.02 (Siemens)                          |
|                                | No. of tools                  | 2 (ER16)                                             |
| Off-center drill (Option)      | Speed (rpm)                   | 8,000                                                |
|                                | Motor (kW)                    | 1.5/2.2 (Fanuc) , 2.59 (Siemens)                     |
| Sub spindle                    | No. of tools                  | 8 (ER16) (4 fixed + 4 driven)                        |
|                                | Speed (rpm)                   | 8,000                                                |
| Back tool                      | Motor (kW)                    | 1.0 (Fanuc), 1.02 (Siemens)                          |
|                                | Machine size (L x W x H) (mm) | 2,460 x 1,290 x 1,750                                |
| Weight (kg)                    |                               | 3,000                                                |
| Power consumption (Cable size) |                               | 6.9kVA, 5.5kW (VCTF 10SQ x 4C)                       |
| Air flow rate (Liter/Min)      |                               | 120 ~ 150                                            |

## ADVANTAGES

- Optimized & flexible machining for both long and short workpiece with convertible guide bush unit as standard.
- Extended stroke of Z1 240mm with guide bush.



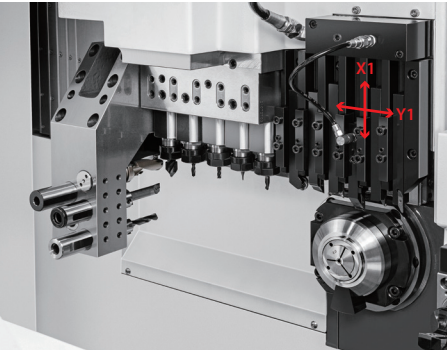
## Dimension



# Enhanced Machining Performance

Upgraded structure and specification with various options

## Cross Drilling / Milling Unit



- Improved cross machining performance with increased tool amount of cross
- Powerful cutting available with enhanced power of motor as an option

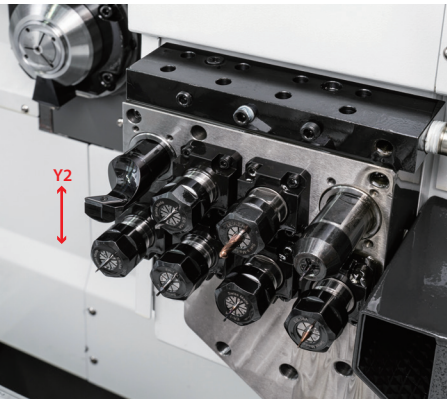
### Standard Specification

- 5 cross drills (ER16)
- Motor power : 1.0kW (Fanuc), 1.02kW (Siemens)
- The same modular with XD20/26II

### Option Specification

- Powerful cross motor
- 5 cross drills (ER16)
- Motor power : 2.2kW (Fanuc)
- The same modular with XD20/26II

## Back Tool Unit



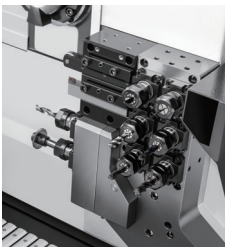
- Y2-axis 8 back tool / Y2-axis back tool cross

### Standard Specification

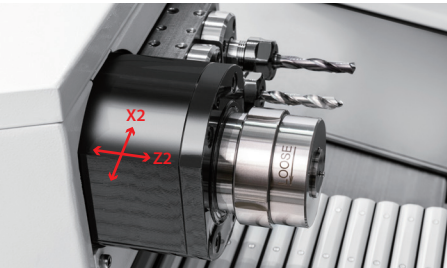
- 8 back tools
- 4 driven / 4 fixed (ER16)
- Motor power : 1.0kW (Fanuc), 1.02kW (Siemens)
- The same modular with XD20/26II
- Gear driven modular

### Option Specification

- Back tool cross
- 6 back tools / 2 cross (ER16) / 3 turning (□12) (Ø20) or 2 turning (□16) (Ø26)
- Motor power : 1.0kW (Fanuc), 1.02kW (Siemens)
- The same modular with XD20/26II
- Gear driven modular



## Sub spindle & Off-center Unit



- Spindle motor type of sub spindle with off-center drill

### Option Specification

- 2 off-center drill (ER16)
- Motor power : 1.5/2.2kW (Fanuc), 16kW (Siemens)
- Gear driven of one body type

## 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

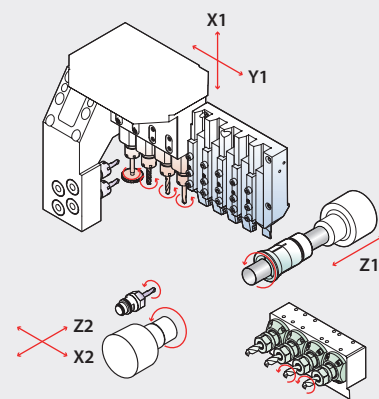






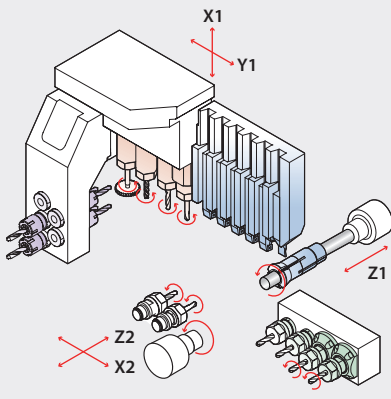
XE35

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



XE20/26

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



| Model                          |              | XE35                             |    |                       |    |
|--------------------------------|--------------|----------------------------------|----|-----------------------|----|
|                                |              | H                                | N  | J                     | Ne |
| NC                             |              | Hanwha Fanuc-i                   |    |                       |    |
| Max. machining diameter (mm)   |              | Ø35                              |    |                       |    |
| Z1 Stroke (mm)                 |              | 210                              | 60 | 210                   | 60 |
| Main spindle                   | Speed (rpm)  | 6,500                            |    |                       |    |
|                                | Motor (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)                        |    |                       |    |
|                                | Speed (rpm)  | 6,000                            |    |                       |    |
|                                | Motor (kW)   | 1.0                              |    |                       |    |
| Off-center drill (Option)      | No. of tools | 1 (ER16)                         |    |                       |    |
| Sub spindle                    | Speed (rpm)  | 6,500                            |    |                       |    |
|                                | Motor (kW)   | 1.5/2.2                          |    |                       |    |
| Back tool                      | No. of tools | 4 (ER16)<br>(2 Fixed + 2 Driven) |    | 4 (ER16)<br>(4 Fixed) |    |
|                                | Speed (rpm)  | 6,000                            |    | -                     |    |
|                                | Motor (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) |              | 6.9kVA, 5.5kW (VCTF 10SQ x 4C)   |    |                       |    |
| Air flow rate (Liter/Min)      |              | 120 ~ 150                        |    |                       |    |

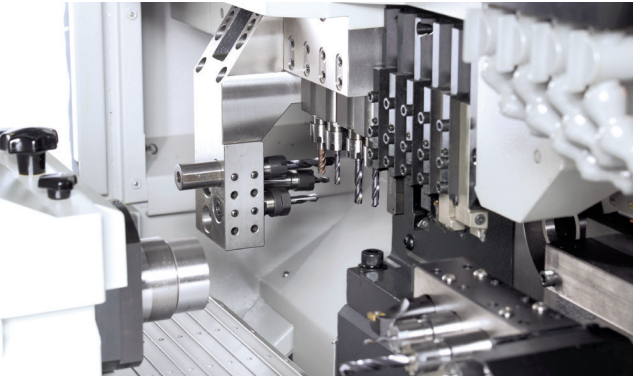
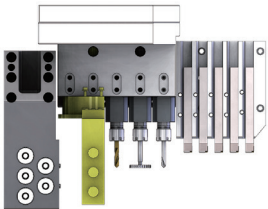
\* H : G/B & Driven back tool(2), J : G/B & Fixed back tool  
\* N : Non-G/B & Driven back tool(2), Ne : Non-G/B & Fixed back tool

OPTION TOOLING

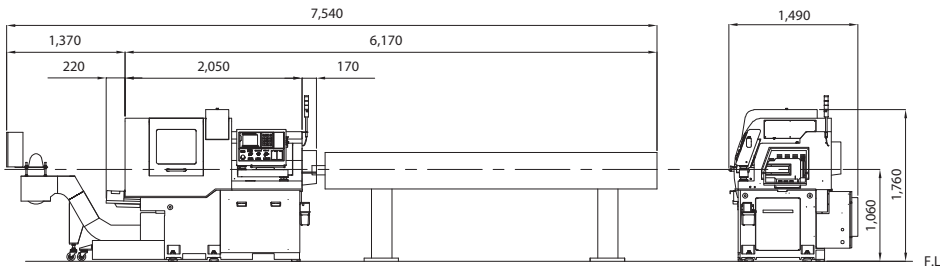
Cross unit 5

- 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



Dimension



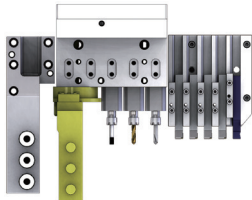
| Model                          |              | XE20/26                          |    |                    |                    |    |
|--------------------------------|--------------|----------------------------------|----|--------------------|--------------------|----|
|                                |              | H                                | N  | NH                 | J                  | Ne |
| NC                             |              | Hanwha Fanuc-i                   |    |                    |                    |    |
| Max. machining diameter (mm)   |              | Ø20/26                           |    |                    |                    |    |
| Z1 Stroke (mm)                 |              | 210                              | 60 | 160 (H),<br>50 (N) | 210                | 60 |
| Main spindle                   | Speed (rpm)  | 10,000 (Ø20), 8,000 (Ø26)        |    |                    |                    |    |
|                                | Motor (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)                         |    |                    |                    |    |
|                                | Speed (rpm)  | 6,000                            |    |                    |                    |    |
|                                | Motor (kW)   | 1.0                              |    |                    |                    |    |
| Off-center drill<br>(Option)   | No. of tools | 2 (ER16)                         |    |                    |                    |    |
| Sub spindle                    | Speed (rpm)  | 8,000                            |    |                    |                    |    |
|                                | Motor (kW)   | 1.5/2.2                          |    |                    |                    |    |
| Back tool                      | No. of tools | 4 (ER16) (2 Fixed + 2 Driven)    |    |                    | 4 (ER16) (4 Fixed) |    |
|                                | Speed (rpm)  | 6,000                            |    |                    | -                  |    |
|                                | Motor (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) |              | 6.9kVA, 5.5kW (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)

OPTION TOOLING

Cross unit 5

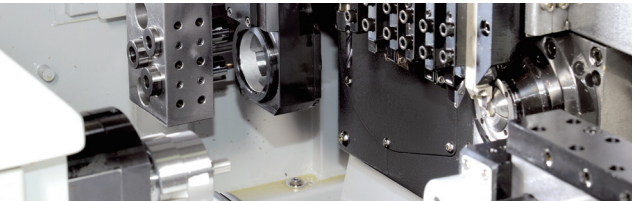
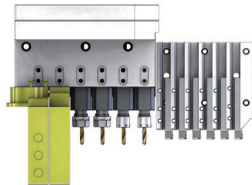
- OD 5 (□16)
- Cross 5 (ER16M)
- Front 3 (ER16M)



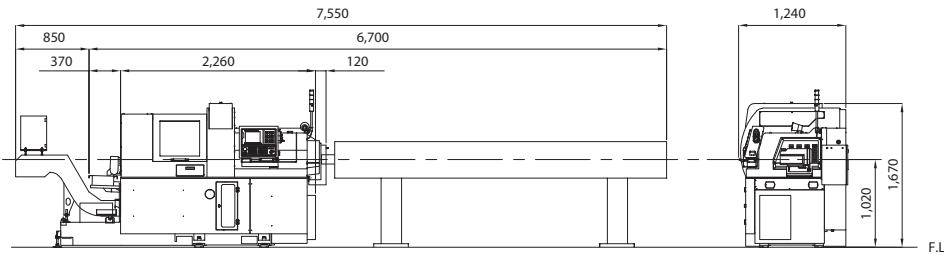
Cross unit 6

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

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



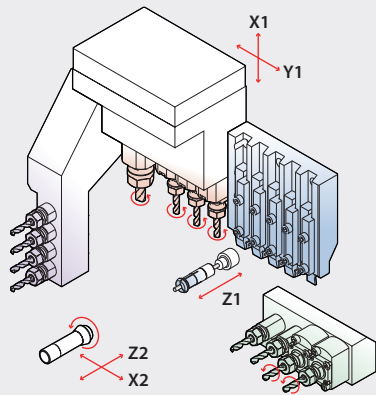
Dimension





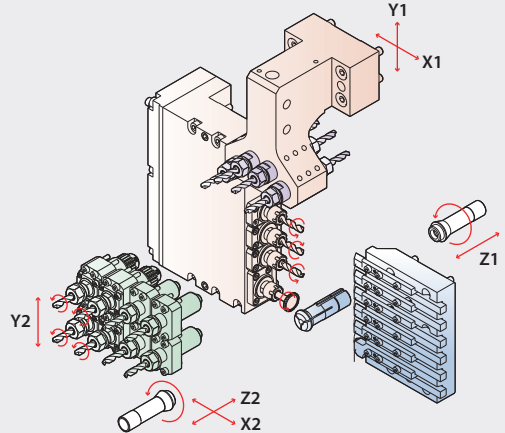
# XD16III

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



# XD10

High productivity & precision 5/6-axis solution for max. dia. 10mm

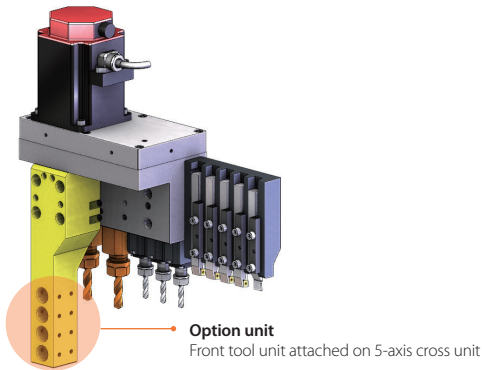


| Model                          |              | XD16III                             |                       |
|--------------------------------|--------------|-------------------------------------|-----------------------|
|                                |              | H                                   | J                     |
| NC                             |              | Hanwha Fanuc-i                      |                       |
| Max. machining diameter (mm)   |              | Ø16                                 |                       |
| Z1 Stroke (mm)                 |              | 155                                 |                       |
| Main spindle                   | Speed (rpm)  | 15,000                              |                       |
|                                | Motor (kW)   | 2.2/3.7                             |                       |
| OD tool                        | No. of tools | 5 (□12mm)                           |                       |
| Front tool                     | No. of tools | 4 (ER11, Ø20)                       |                       |
| Cross drill                    | No. of tools | 4 (ER11 x 3 + ER16 x 1)             |                       |
|                                | Speed (rpm)  | 6,000(ER16), 9,000(ER11)            |                       |
|                                | Motor (kW)   | 1.0                                 |                       |
| Long drill (Option)            | No. of tools | 1 (ER11)<br>drilling depth : 76.5mm |                       |
|                                | No. of tools |                                     |                       |
| Sub spindle                    | Speed (rpm)  | 10,000                              |                       |
|                                | Motor (kW)   | 0.55/1.1                            |                       |
| Back tool                      | No. of tools | 4 (ER11)<br>(2 Fixed + 2 Driven)    | 4 (ER11)<br>(4 Fixed) |
|                                | Speed (rpm)  | 9,000                               | -                     |
|                                | Motor (kW)   | 1.0                                 | -                     |
| Machine size (L x W x H) (mm)  |              | 1,700 x 1,190 x 1,670               |                       |
| Weight (kg)                    |              | 2,200                               |                       |
| Power consumption (Cable size) |              | 5.6kVA, 4.5kW (VCTF 10SQ x 4C)      |                       |
| Air flow rate (Liter/Min)      |              | 120 ~ 150                           |                       |

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

## OPTION TOOLING

- Cross unit 5 (modular 2)**
- ER11 x 3, Modular ER16 x 2



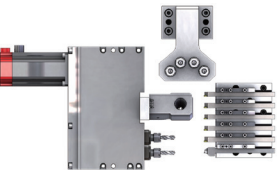
- Fast cycle time
- High speed of spindle (Main : 15,000 rpm, Sub : 10,000 rpm)
- Great machining performance with strong motor power for back tool (Capacity : 1.0 kW)

| Model                          | XD10                           |                                                                   |
|--------------------------------|--------------------------------|-------------------------------------------------------------------|
|                                | Hanwha Fanuc-i                 |                                                                   |
| NC                             | Hanwha Fanuc-i                 |                                                                   |
| Max. machining diameter (mm)   | Ø10                            |                                                                   |
| Z1 Stroke (mm)                 | 155                            |                                                                   |
| Main spindle                   | Speed (rpm)                    | 15,000                                                            |
|                                | Motor (kW)                     | 2.2/3.7                                                           |
| Turning tool                   | No. of tools                   | □8mm x 6                                                          |
| Front tool                     | No. of tools                   | ER11 x 4                                                          |
|                                | No. of tools                   | ER11M x 4 (Option: ER11M x 5)                                     |
| Cross drill                    | Speed (rpm)                    | 10,000                                                            |
|                                | Motor (kW)                     | 0.55                                                              |
| Sub spindle                    | Speed (rpm)                    | 10,000                                                            |
|                                | Motor (kW)                     | 0.55 / 1.1                                                        |
| Back tool                      | No. of tools                   | ER11 x 8 (Y2: Fixed 4 + Driven 4)<br>(Option: Fixed 2 + Driven 2) |
|                                | Speed (rpm)                    | 9,000                                                             |
|                                | Motor (kW)                     | 0.55                                                              |
| Machine size (L x W x H) (mm)  | 1,810 x 1,150 x 1,770          |                                                                   |
| Weight (kg)                    | 2,200                          |                                                                   |
| Power consumption (Cable size) | 4.6kVA, 3.7kW (VCTF 10SQ x 4C) |                                                                   |
| Air flow rate (Liter/Min)      | 120 ~ 150                      |                                                                   |

## OPTION TOOLING

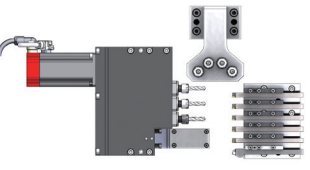
### Whirling Tool

- ER11M x 2
- Modular Whirling x 1



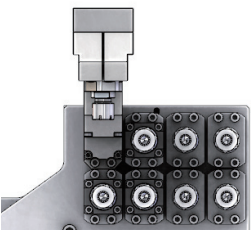
### Cross unit 4 (modular 1)

- ER11M x 3
- Modular ER11M x 1



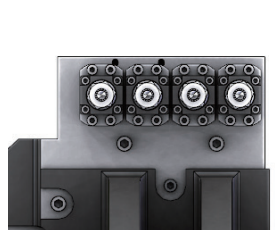
### Back tool 8 (Driven max. 4)

- ER11 x 8

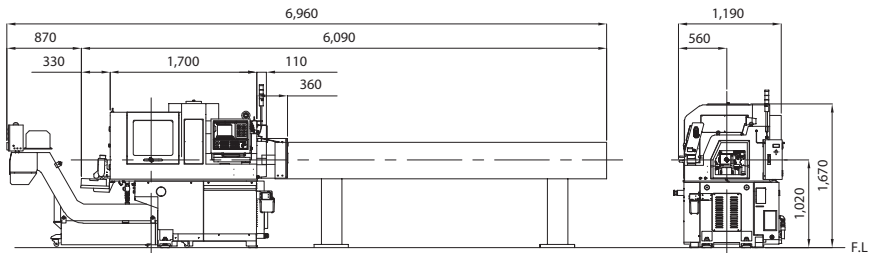


### Back tool 4 (Driven max. 4)

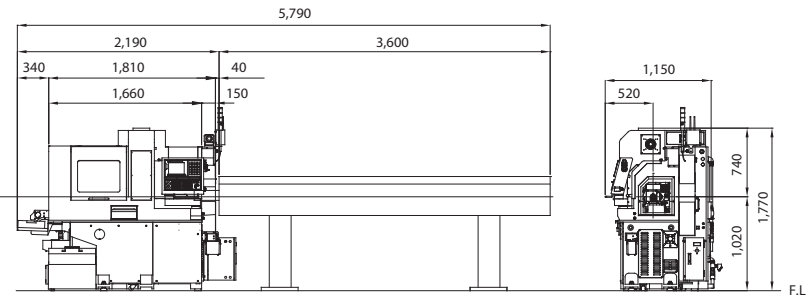
- ER11 x 4



## Dimension



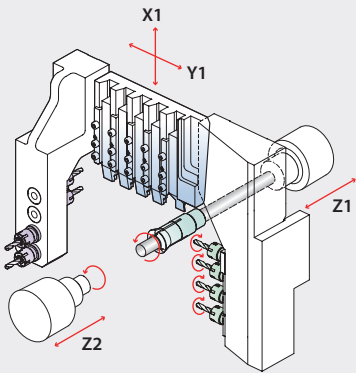
## Dimension





# XP20/26/32S

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

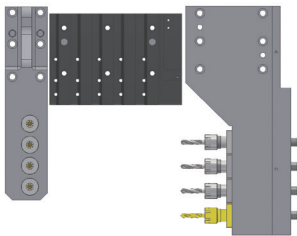


| Model                          |              | XP20S                             | XP26S                             | XP32S |
|--------------------------------|--------------|-----------------------------------|-----------------------------------|-------|
| NC                             |              | Hanwha Fanuc-i                    |                                   |       |
| Max. machining diameter (mm)   |              | Ø20                               | Ø26                               | Ø32   |
| Z1 Stroke (mm)                 |              | 210                               | 205                               |       |
| Main spindle                   | Speed (rpm)  | 8,000                             |                                   |       |
|                                | Motor (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)                         |                                   |       |
|                                | Speed (rpm)  | 6,000                             | 5,000                             |       |
|                                | Motor (kW)   | 1.0                               |                                   |       |
| Sub spindle                    | Speed (rpm)  | 8,000                             |                                   |       |
|                                | Motor (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) |              | 4.7kVA, 3.7kW<br>(VCTF 10SQ x 4C) | 9.5kVA, 7.6kW<br>(VCTF 16SQ x 4C) |       |
| Air flow rate (Liter/Min)      |              | 120 ~ 150                         |                                   |       |

## OPTION TOOLING

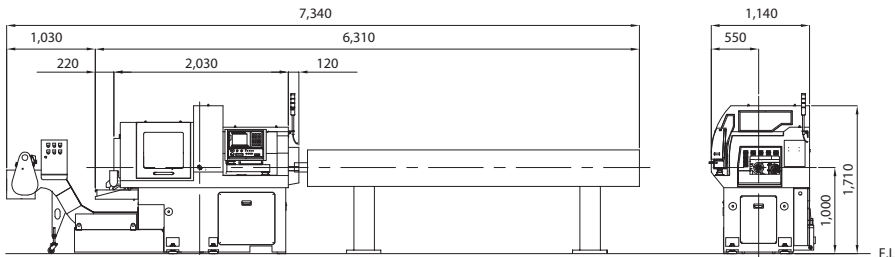
### Cross unit 4 (1 modular)

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



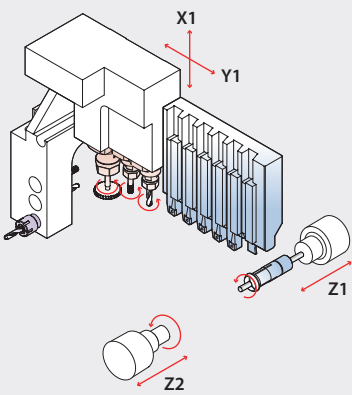
- Right choice for old cam lathe users who need better precision and productivity
- Steady selling model with proven performance & quality

## Dimension



# XP12/16S

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

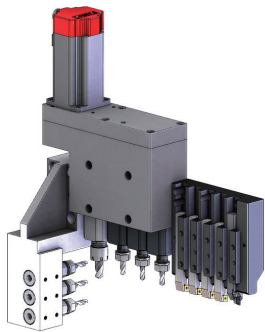


| Model                          |              | XP12S                          | XP16S |
|--------------------------------|--------------|--------------------------------|-------|
| NC                             |              | Hanwha Fanuc-i                 |       |
| Max. machining diameter (mm)   |              | Ø12                            | Ø16   |
| Z1 Stroke (mm)                 |              | 140                            |       |
| Main spindle                   | Speed (rpm)  | 12,000                         |       |
|                                | Motor (kW)   | 2.2/5.5                        |       |
| OD tool                        | No. of tools | 6 (□12mm)                      |       |
| Front tool                     | No. of tools | 3 (ER11, Ø20)                  |       |
| Cross drill                    | No. of tools | 3 (ER11 x 2, ER16 x 1)         |       |
|                                | Speed (rpm)  | 6,000                          |       |
|                                | Motor (kW)   | 0.5                            |       |
| Sub spindle                    | Speed (rpm)  | 8,000                          |       |
|                                | Motor (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) |              | 3.9kVA, 3.2kW (VCTF 10SQ x 4C) |       |
| Air flow rate (Liter/Min)      |              | 120 ~ 150                      |       |

## OPTION TOOLING

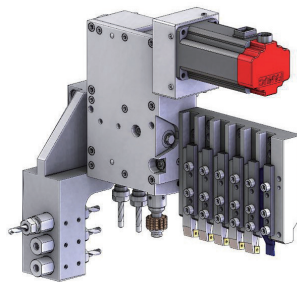
### Cross unit 4

- OD 5 (□12)
- Cross 4 (ER16 x 1, ER11 x 3)
- Front 3 (ER11)

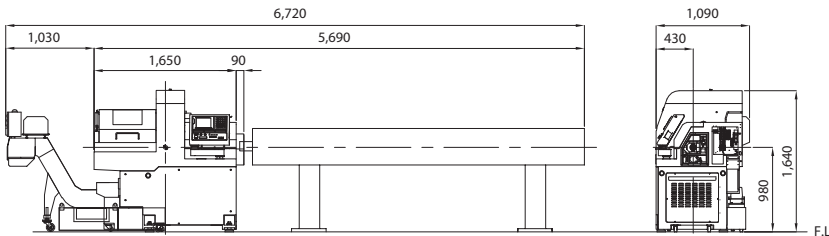


### Gear hobbing unit

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



## Dimension





Options

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

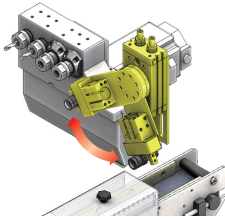
| Standard & Option Accessory |                                               |              | STL42     | STL38     | XDI 26/32 | XD42 | XD38II-R | XD38II | XV20/26  | XD20/26II-V |  | XD20/26III | XD20/26II | XD16III    | XD10 | XE35 | XE20/26 | XP20/26/32S | XP12/16S |
|-----------------------------|-----------------------------------------------|--------------|-----------|-----------|-----------|------|----------|--------|----------|-------------|--|------------|-----------|------------|------|------|---------|-------------|----------|
| 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)                     | Vertical(Y2) | -         | -         | ★         | ★    | ★        | ★      | ▲        | ★           |  | ▲          | -         | -          | ★    | -    | -       | -           | -        |
|                             |                                               | Horizontal   | -         | -         | ★         | ★    | ★        | ★      | ▲        | ★           |  | ▲          | ★         | -          | ▲    | ★    | ★       | -           | -        |
| Option Unit                 | B-axis cross unit                             |              | -         | -         | ★         | -    | ★        | -      | ★        | ★           |  | -          | -         | -          | -    | -    | -       | -           | -        |
|                             | Back tool cross unit                          |              | ★(Y3)     | -         | Standard  | -    | ★        | ★      | Standard | ★           |  | ★          | -         | -          | ▲    | -    | -       | -           | -        |
| 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

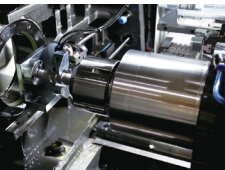
Swing Gripper

Gripper fingers to grip and release finished parts onto 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

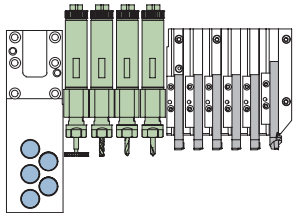


Tooling Variation

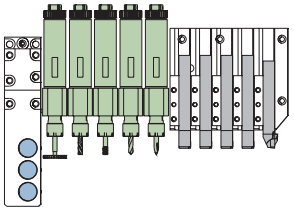
XD20/26II

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

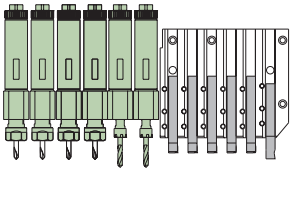
Cross 4



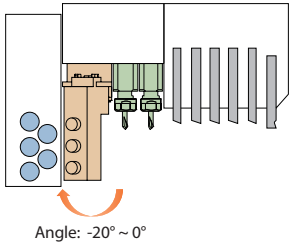
Cross 5



Cross 6

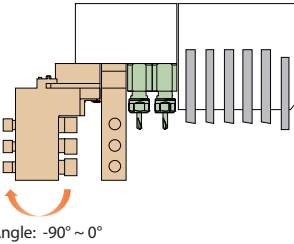


3 Face/counterface angle driven tool



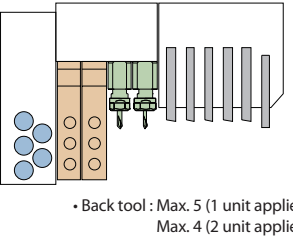
Angle: -20° ~ 0°

3 Face/counterface driven tool



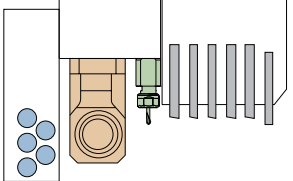
Angle: -90° ~ 0°

3 Face/counterface driven tool

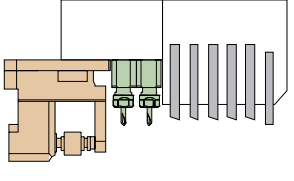


• Back tool : Max. 5 (1 unit applied)  
Max. 4 (2 unit applied)

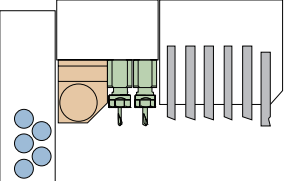
Whirling



Gear Hobbing



Polygon

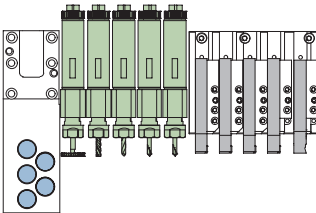


※ When special tool is installed, back tool unit should have max. 4 tools

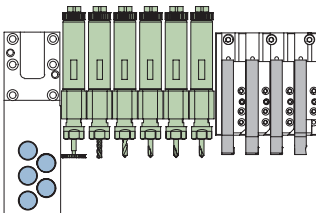
XD38II

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

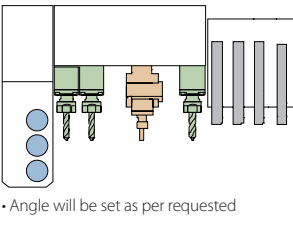
Cross 5



Cross 6



Fixed Angle Drilling



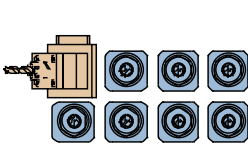
• Angle will be set as per requested

Back Tool Option Unit (Y2)

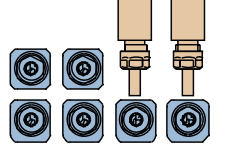
※ When special tool is installed, back tool unit should have max. 4 tools  
※ Back tool option is available for both 6(Y2) and 8(Y2)

Fixed Angle Drilling

• Angle will be set as per requested



Back tool cross  
(Modular, Single body)



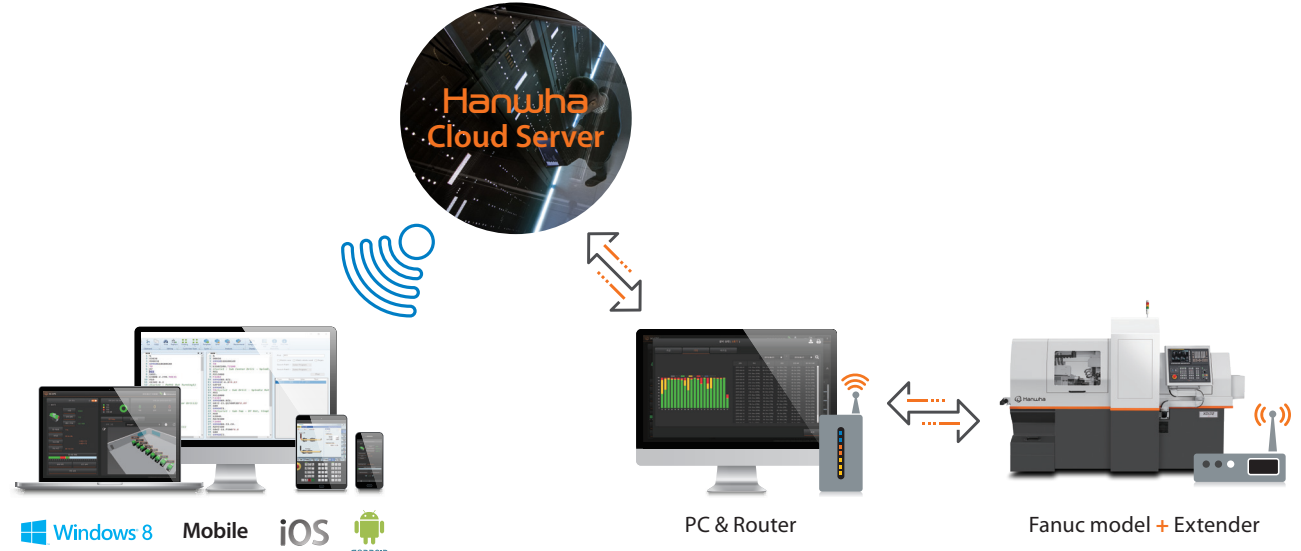


Hi-CPS

Hanwha Intelligence CNC Prognostic System



- Enables customers to manage factory in a smart & convenient way by providing real time monitoring of running status of machines
- Based on cloud system so that one can access with ease from anywhere through the internet



Windows 8   Mobile   iOS   Android

PC & Router

Fanuc model + Extender

**Man Power & Cost Down**

**Management efficiency Increase**

**Productivity & Quality Increase**

**Minimize Down time**

**MONITORING**  
Monitor and control all machines in real time away from factory through PC & Mobile minimizing man powers

**DIAGNOSIS**  
Simply click "Request for Diagnosis" and ask for S/W alarm diagnosis not wasting your time to report it via email

**PROGNOSIS**  
By remote control, input offset value and transfer & modify programs without direct access to the machine

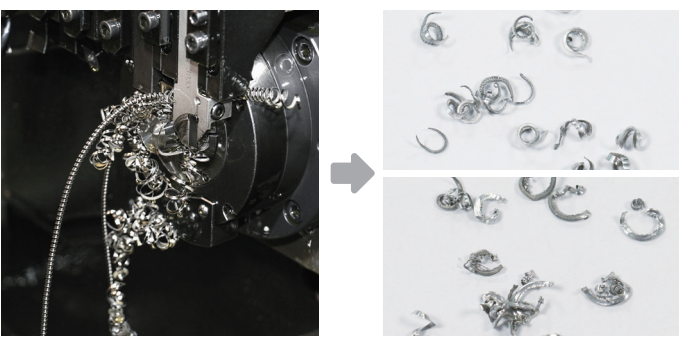
**PRE-NOTIFY**  
Minimize down time through Pre-notification prior to machine stop by tool wear or broken

PCR<sup>III</sup>

Programmable Chip Removal



- Cutting technology from Hanwha
- It solves chip troubles of spiraling, entanglement of chips and pile up on cutting tool edges
  - Enhanced quality of machined surface with finishing mode



None applied      PCR<sup>III</sup> applied

**Advantage**

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

**Applied Process**

- Front turning, drilling & boring
- Back turning, drilling
- Taper, Circular interpolation
- Synchronous control
- Threading
- Nose R compensation

P/G Editor



Easy, Quick, Convenient programming guide solution



HMI based  
\* NC : Siemens

PC based  
\* NC : Fanuc, Siemens

**Simple & Clear Instruction**

- Provide guide of each code for input correct value
- Simply create program with input value and single button click

**Various Template**

- Provide variable templates of machining process
- Simply entering values into provided template enables create program

**Optimized Cycle Recommendation**

- Optimized SIEMENS cycle for CNC swiss lathe (drill, tap, tread cycle)

**User-friendly Function**

- Quick search and easy check PDF manual
- Code comment for beginner (Available to Off)

**Easy Program Creation**

- Simply create program with select process and input value

**3D Viewer**  
\* Only Fanuc

- Check expected shape of machined part in 3D

**Error Check**

- Pre-check typo of program
- Minimize time loss by program error

**Pre-CT Calculation**

- Check expected machining time
- Provide graph for analyzing process

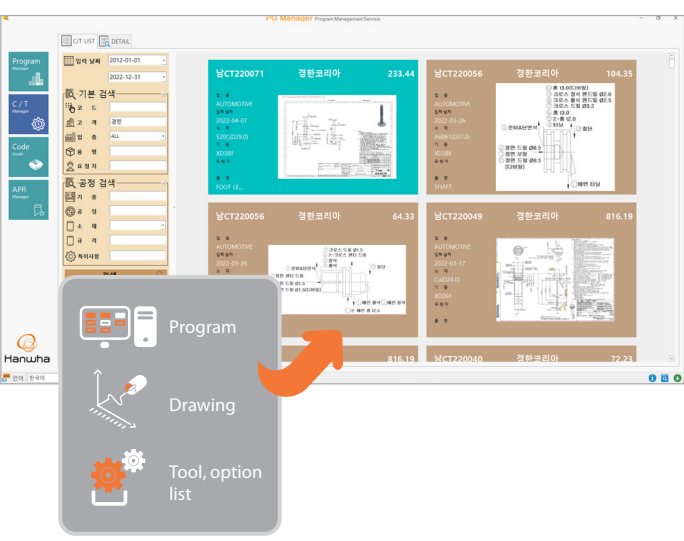
**Connected through Hi-CPS**  
\* Only Fanuc

- Possible to download P/G program from Hi-CPS
- Transfer program from PC to machine through Hi-CPS

P/G Manager

Simple, efficient, safe data managing solution

- drawing, program, tool list, option list



**Save & build up the data**

- Store process data and know-how in P/G manager based on cloud server safely

**Search & find the data user needs**

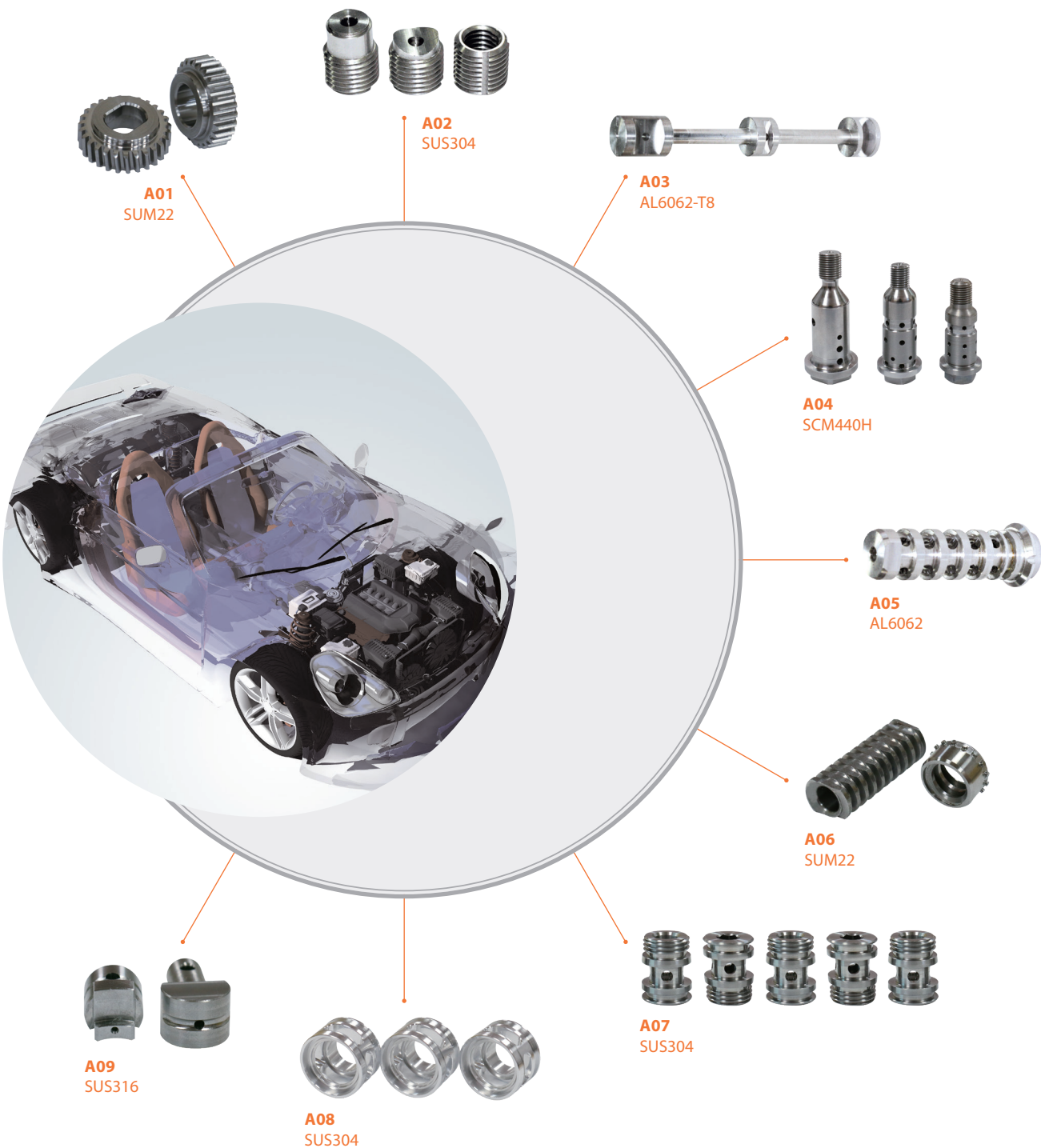
- Easy to find the data of products previously manufactured
- Print out data in format of work order included specification of tool, chuck, setting information etc.

**Support reference by machining condition**

- Based on stored data, provide reference of parameter suitable for the desired condition (APR, Auto Parameter function)



# Automobile

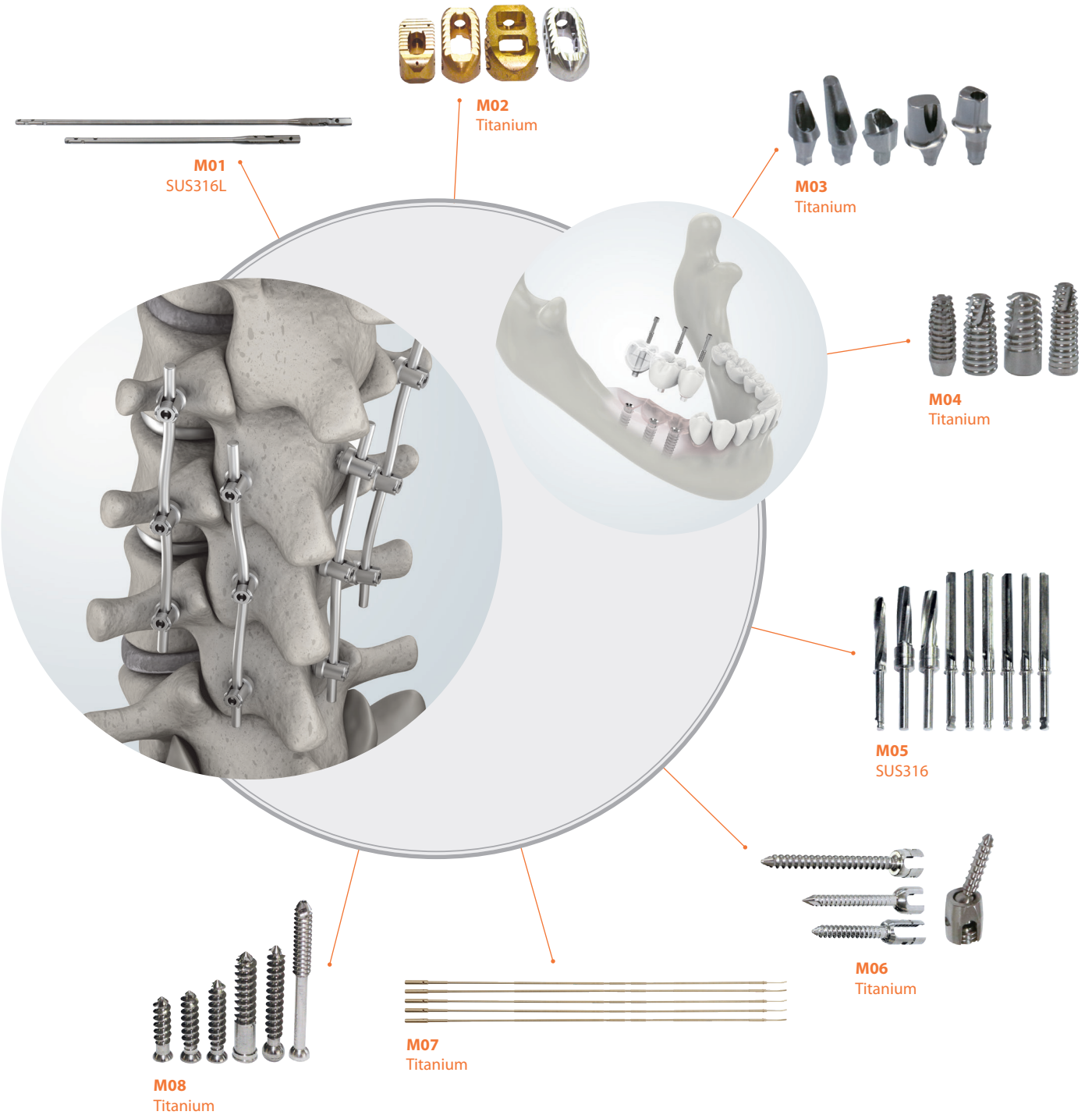


# Electronic





# Medical



# Industrial

