

Hanwha Precision Machinery / Machine Tool Division

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Experience Your **SMART FACTORY**

Machine Tool Products



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CNC Swiss Turning Lathe
Centerless Grinding Machine

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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 • Centerless Grinding Machine

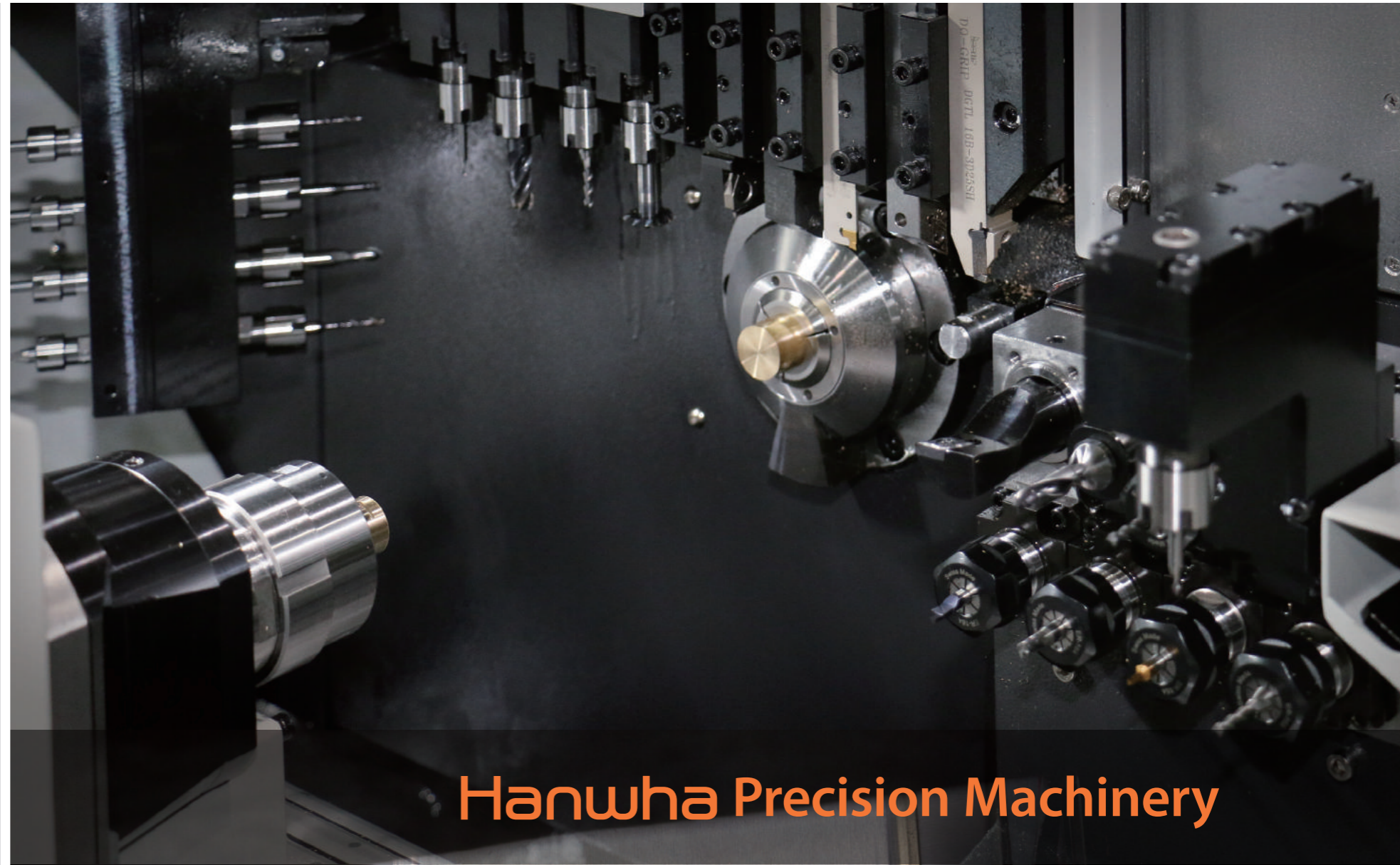
Offers customized solutions with a wide range of line-up for automatic lathes in gang & turret type and centerless grinding machines.



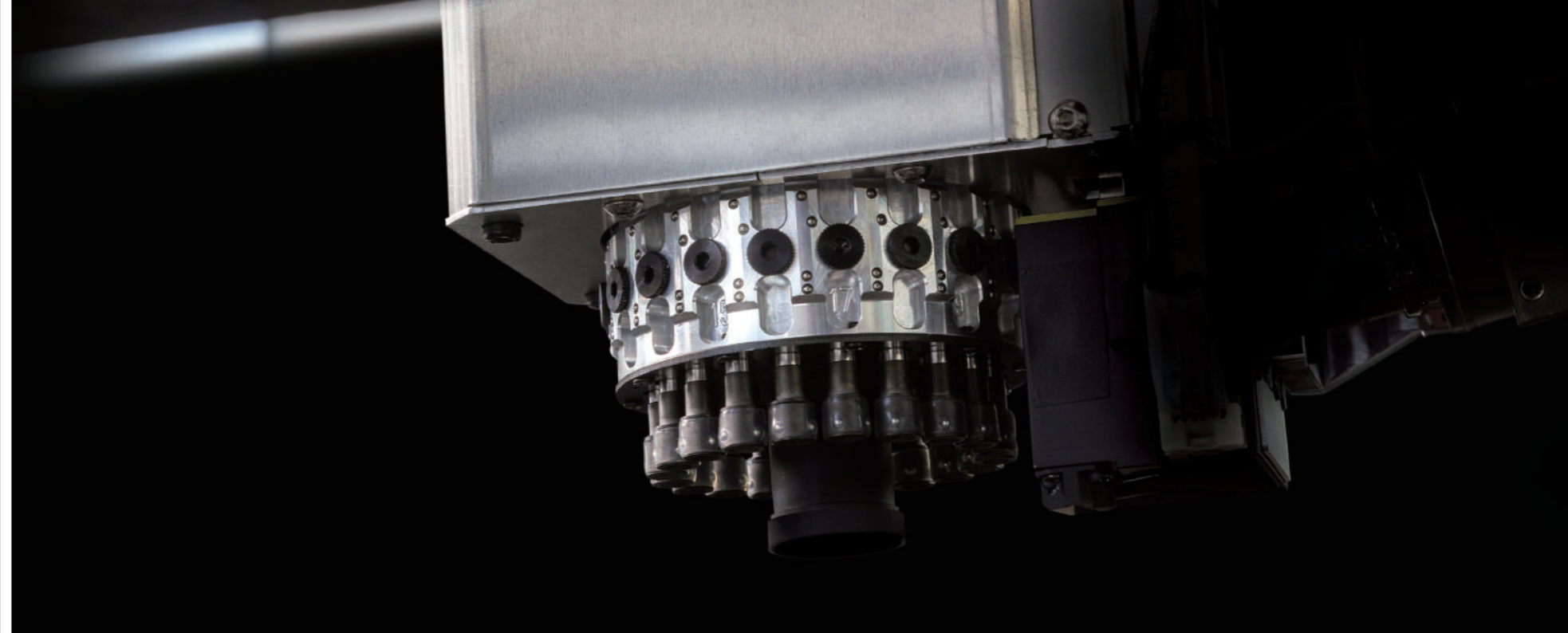
Surface Mounter Technology Division

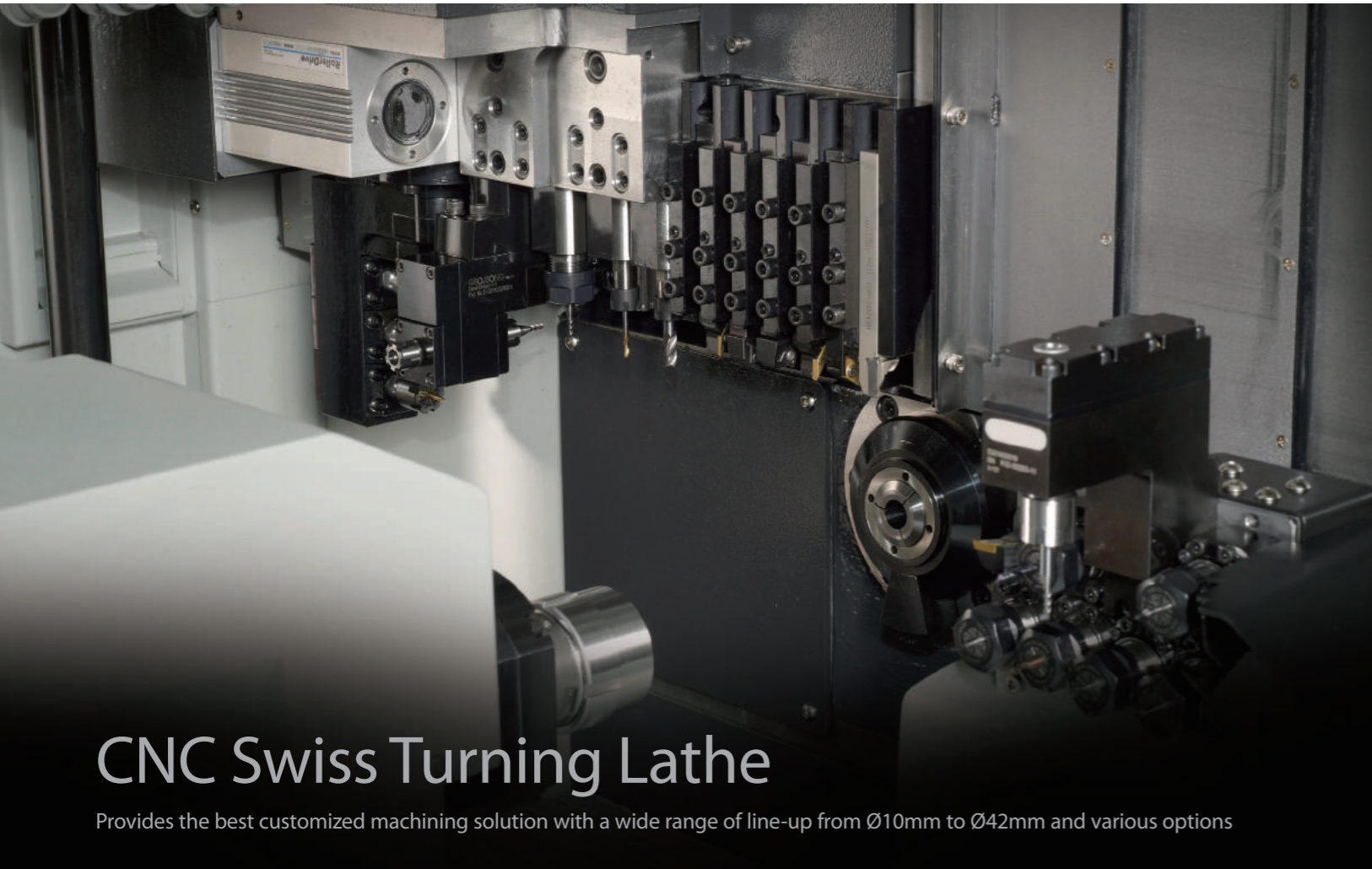
Chip Mounter • Screen Printer • Semiconductor Equipment

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



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



Centerless Grinding Machine

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

Machine Tool Division

Turning forward to the Future

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

To be the Global No.

Exports to more than **30 countries** in the world



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

Platforms

Hanwha CNC Swiss turning machines with a full line-up ranging from 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.

CNC Swiss Turning Lathe

XP Series

Budget-friendly 4-axis entry models

- CNC unit : Hanwha Fanuc-i
- Ø12, 16, 20, 26, 32
- High-productivity machining for simple workpiece

08 **XP12/16S**

09 **XP20/26/32S**

XE Series

Value for money 5-axis models

- CNC unit : Hanwha Fanuc-i
- Ø20, 26, 35
- Affordability with stable and high productivity

10 **XE20/26**

11 **XE35**

XD Series

Flagship multi-axis models for high precision & complex machining

- CNC unit : Hanwha Fanuc-i, 32i-B
Siemens 828D, 840D
- Ø10, 16, 20, 26, 32, 38, 42

12 **XD10**

13 **XD16III**

14 **XD20/26II (F, S)**

16 **XD20/26II-V (F, S)**

STL Series

3-path controlled, powerful turret type models

- CNC unit : Siemens 840D
- Ø32, 38, 42
- Synchronous machining & 3 path control system
- Ultimate tooling capability with 10 station turret (VDI30 & BMT45)

24 **STL32/38 (S)**

26 **STL42 (S)**

34 Special Functions

Hi-CPS

Hanwha Smart Factory Solution

PCR / PCRS & Oscillation

Chip breaking solution

Customer & Performance Supporting Function

Centerless Grinding Machine

KCG Series

Single grip spindle for easy replacement

30 **KCG**

KCG-150CNC, KCG-200J,
KCG-200/300 (CNC)

HCG Series

High precision & rigidity centerless grinding machine with twin grip G/W and R/W spindle
※ HCG-150CNC : Single grip G/W spindle

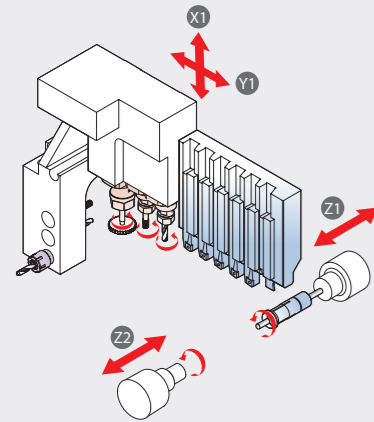
31 **HCG**

HCG-150CNC, HCG-300 (CNC),
HCG-400 (CNC)



XP12/16S

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

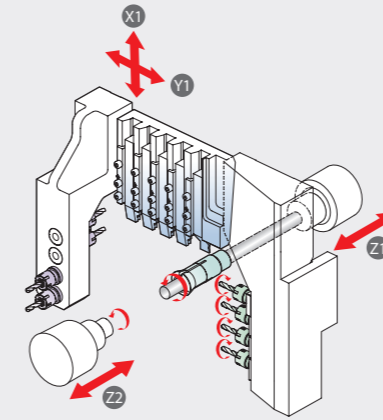


- OPTION**
- Cross 4
 - Gear hobbing unit



XP20/26/32S

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



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)
	No. of tools	3 (ER11, Ø20)
Cross drill	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)	10kVA, 6.7kW (VCTF 10SQ x 4C)	
Air flow rate (Liter/Min)	120 ~ 150	

OPTION TOOLING

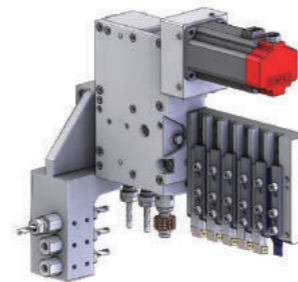
Cross unit 4

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

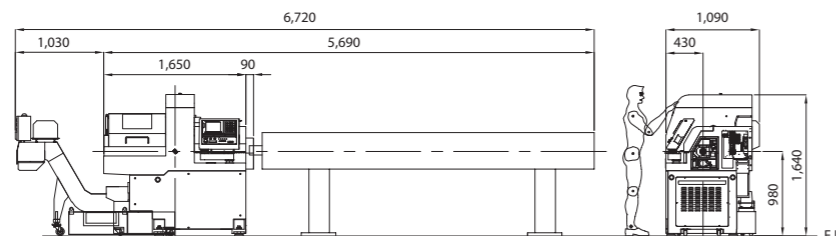


Gear hobbing unit

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



Dimension

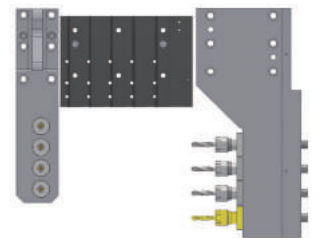


Model	XP20S	XP26S	XP32S	
NC	Hanwha Fanuc-i			
Max. machining diameter (mm)	Ø20	Ø26	Ø32	
Z1 Stroke (mm)	210	205		
Main spindle	Speed (rpm)	8,000		
	Motor (kW)	2.2/3.7	5.5/7.5	
OD tool	No. of tools	6 (□12mm)	5 (□16mm)	
	No. of tools	4 (ER16M, Ø25)		
Cross drill	Speed (rpm)	6,000	5,000	
	Motor (kW)	1.0		
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)	XP20S : 10kVA, 6.7kW (VCTF 10SQ x 4C) XP26/32S : 15kVA, 10kW (VCTF 16SQ x 4C)			
Air flow rate (Liter/Min)	120 ~ 150			

OPTION TOOLING

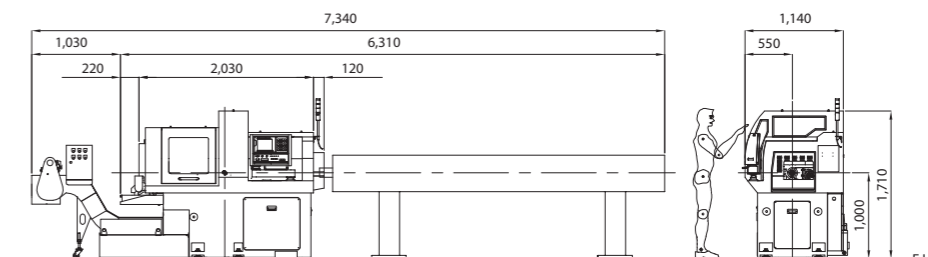
Cross unit 4 (1 modular)

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



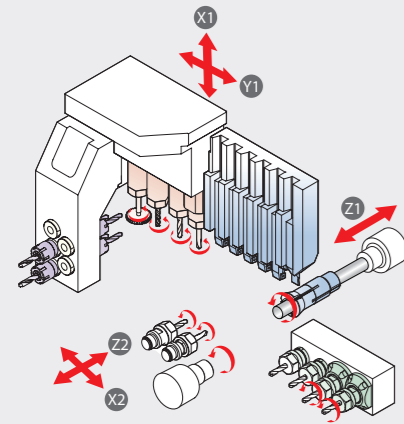
- Right choice for old cam lathe users who need better precision and productivity
- Steady selling model with proven performance & quality

Dimension



XE20/26

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

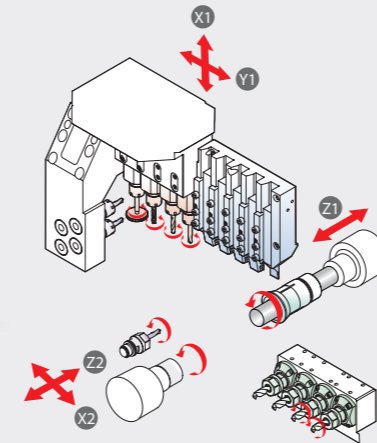


OPTION
 • Off-center drill (Driven, Fixed) 2
 • Cross 5 ~ 6



XE35

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



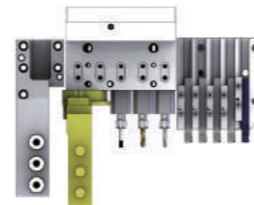
OPTION
 • Off-center drill (Driven) 1
 • Cross 5



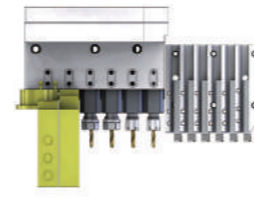
Model	XE20/26				
	H	N	NH	J	Ne
NC	Hanwha Fanuc-i				
Max. machining diameter (mm)	Ø20/26				
Z1 Stroke (mm)	210	60	160 (H), 50 (N)	210	60
Main spindle	Speed (rpm)	10,000 (Ø20), 8,000 (Ø26)			
	Motor (kW)	2.2/3.7 (Ø20), 2.2/5.5 (Ø26)			
OD tool	No. of tools 6 (□12mm) (Ø20), 5 (□16mm) (Ø26)				
Front tool	No. of tools	5 (ER16M, Ø25)			
	No. of tools	4 (ER16)			
Cross drill	Speed (rpm)	6,000			
	Motor (kW)	1.0			
Off-center drill (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)	15kVA, 10kW (VCTF 10SQ x 4C)				
Air flow rate (Liter/Min)	120 ~ 150				

OPTION TOOLING

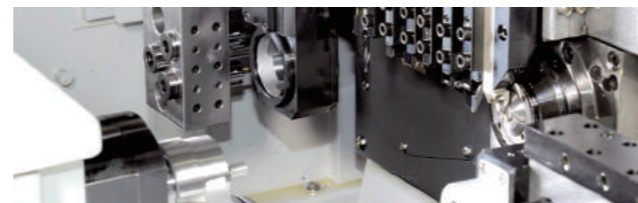
Cross unit 5
 - OD 5 (□16),
 Cross 5 (ER16M),
 Front 3 (ER16M)



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

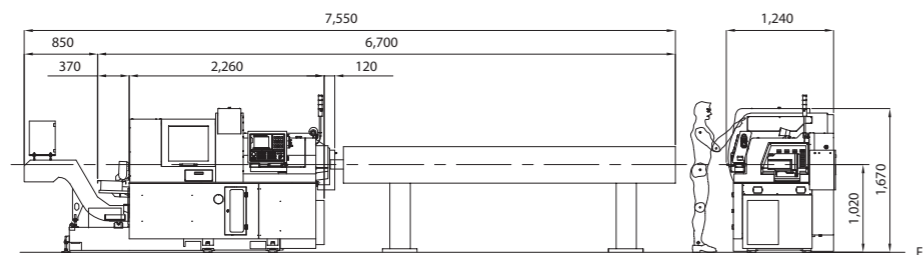


※ Option : 3 Face/counterface driven tool,
 3 Face/counterface angle driven tool



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

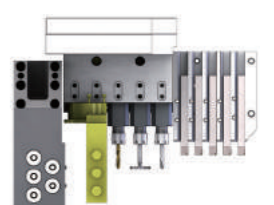
Dimension



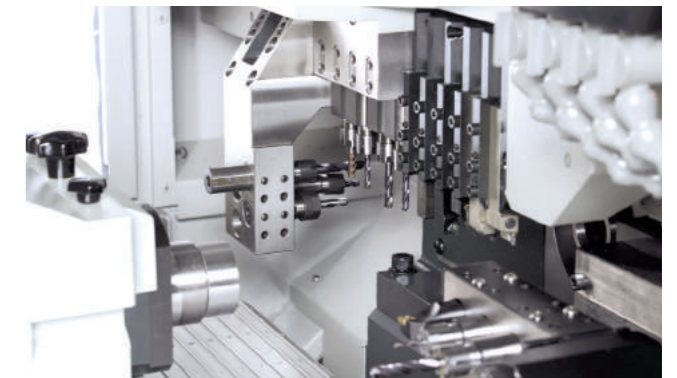
Model	XE35			
	H	N	J	Ne
NC	Hanwha Fanuc-i			
Max. machining diameter (mm)	Ø35			
Z1 Stroke (mm)	210	60	210	60
Main spindle	Speed (rpm)	6,500		
	Motor (kW)	2.2/5.5		
OD tool	No. of tools 5 (□16mm)			
Front tool	No. of tools 4 (ER16M, Ø25)			
Cross drill	No. of tools	4 (ER16M)		
	Speed (rpm)	6,000		
	Motor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

OPTION TOOLING

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

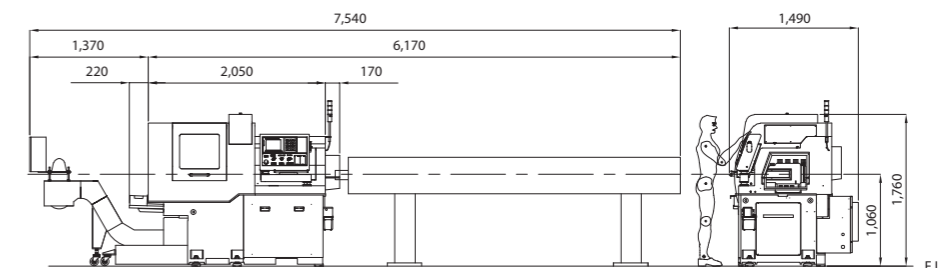


※ Cross(standard): Spline modular type
 ※ Option : 3 Face/counterface driven tool,
 3 Face/counterface angle driven tool



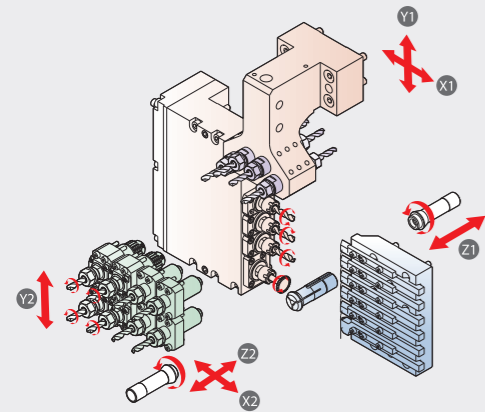
* H : G/B & Driven back tool(2), J : G/B & Fixed back tool
 * N : Non-G/B & Driven back tool(2), Ne : Non-G/B & Fixed back tool

Dimension



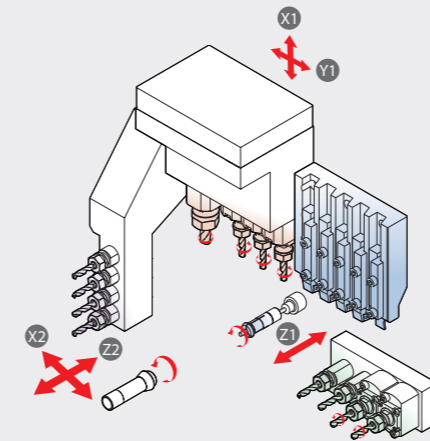
XD10

High productivity & precision 5/6-axis solution for max. dia. Ø10mm



XD16III

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



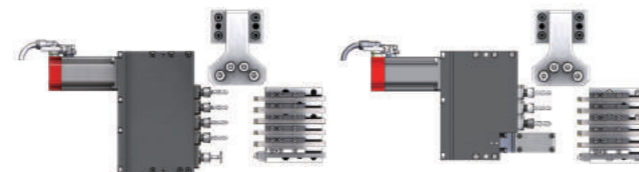
- OPTION**
- Long drill (Fixed) 1
 - Back tool 4 ~ 5
 - ※ Cross(standard) : Non-modular type with single body



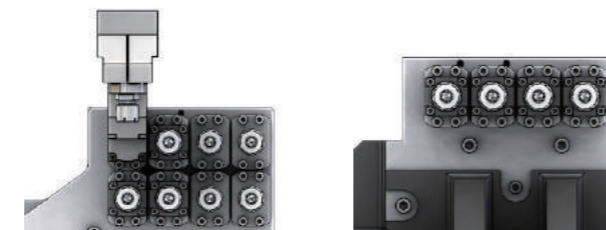
Model	XD10	
NC	Hanwha Fanuc-i	
Max. machining diameter (mm)	Ø10	
Z1 Stroke (mm)	155	
Main spindle	Speed (rpm)	15,000
	Motor (kW)	2.2/3.7
Turning tool	No. of tools	□8 x 6
Front tool	No. of tools	ER11 x 4
	No. of tools	ER11M x 4 (Option: ER11M x 5)
Cross drill	Speed (rpm)	10,000
	Motor (kW)	0.55
Sub spindle	Speed (rpm)	10,000
	Motor (kW)	0.55 / 1.1
Back tool	No. of tools	ER11 x 8 (Y2: Fixed 4 + Driven 4) (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)	15kVA, 10kW (VCTF 10SQ x 4C)	
Air flow rate (Liter/Min)	120 ~ 150	

OPTION TOOLING

- Cross unit 5** - ER11Mx5
- Cross unit 4 (modular 1)** - ER11Mx3, Modular ER11Mx1



- Back tool 8 (Driven max. 4)** - ER11x8
- Back tool 4 (Driven max. 4)** - ER11x4

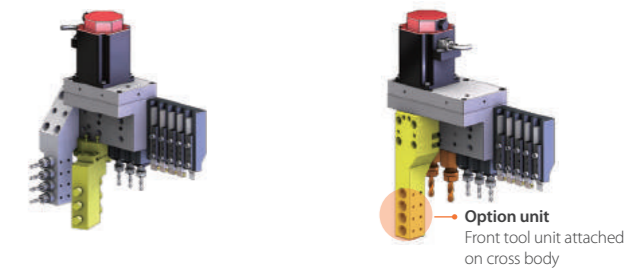


Model	XD16III	
	H	J
NC	Hanwha Fanuc-i	
Max. machining diameter (mm)	Ø16	
Z1 Stroke (mm)	155	
Main spindle	Speed (rpm)	15,000
	Motor (kW)	2.2/3.7
OD tool	No. of tools	5 (□12mm)
Front tool	No. of tools	4 (ER11, Ø20)
	No. of tools	4 (ER11 x 3 + ER16 x 1)
Cross drill	Speed (rpm)	6,000(ER16), 9,000(ER11)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

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

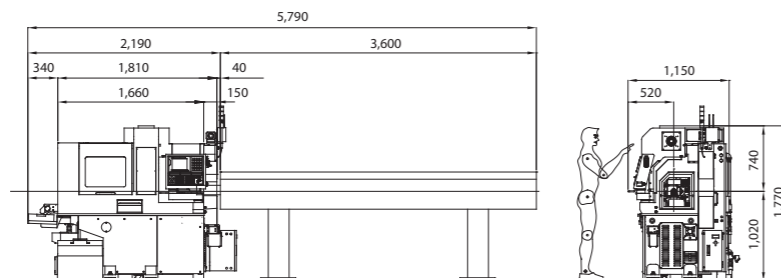
OPTION TOOLING

- Cross unit 4 (modular 1)** - ER11x3, Modular ER16x1
- ※ Standard cross : Non-modular
- Cross unit 5 (modular 2)** - ER11x3, Modular ER16x2

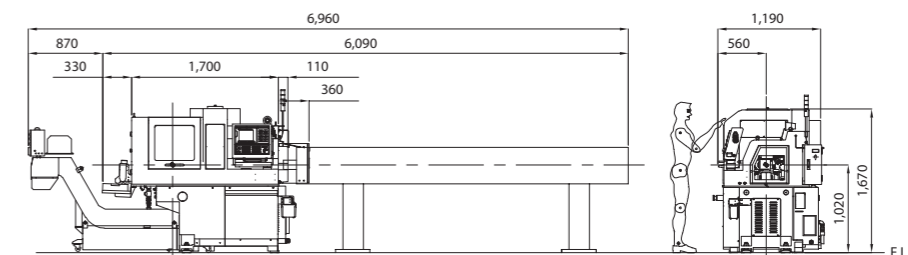


- Fast cycle time
- High speed of spindle (Main : 15,000rpm, Sub : 10,000rpm)
- Great machining performance with strong motor power for back tool (Capacity : 1.0kW)

Dimension

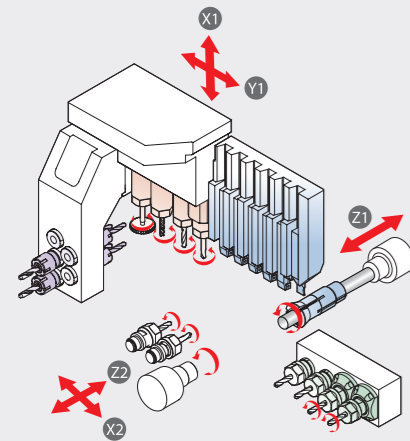


Dimension



XD20/26II

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



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



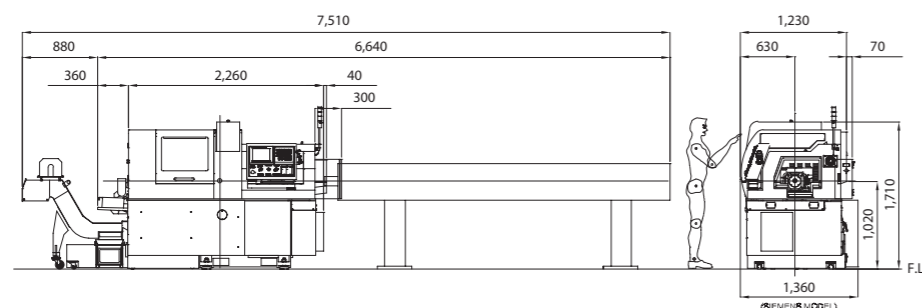
Model	XD20/26II			
	H	N	NH	M
NC	Fanuc 32i-B / Siemens 828D			
Max. machining diameter (mm)	Ø20/Ø26			
Z1 Stroke (mm)	210 (Fanuc), 240 (Siemens)	60mm	160 (H), 50 (N)	210
Main spindle	Speed (rpm)	10,000 (Ø20), 8,000 (Ø26)		
	Motor (kW)	Fanuc : 2.2/3.7 (Ø20), 2.2/5.5 (Ø26) Siemens : 14.4		
OD tool	No. of tools	6 (□12mm) (Ø20), 5 (□16mm) (Ø26)		5 (□12mm)
Front tool	No. of tools	5 (ER16M, Ø25)		
Cross drill	No. of tools	4 (ER16 (Ø20), ER16M (Ø26))		5 (ER16M)
	Speed (rpm)	6,000		
Off-center drill (Option)	Motor (kW)	Fanuc : 1.0, Siemens : 1.02		
	No. of tools	2 (ER16) Driven	2 (ER16M) Fixed long drill	
Sub spindle	Speed (rpm)	8,000		
	Motor (kW)	Fanuc : 1.5/2.2, Siemens : 2.59		
Back tool	No. of tools	4 (ER16) (2 Fixed + 2 Driven)		
	Speed (rpm)	6,000		
Machine size (L x W x H) (mm)	Motor (kW)	Fanuc : 1.0, Siemens : 1.02		
	Weight (kg)	2,260 x 1,230 x 1,710		
Power consumption (Cable size)	2,700			
Air flow rate (Liter/Min)	15kVA, 10kW (VCTF 105Q x 4C)			
	120 ~ 150			



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

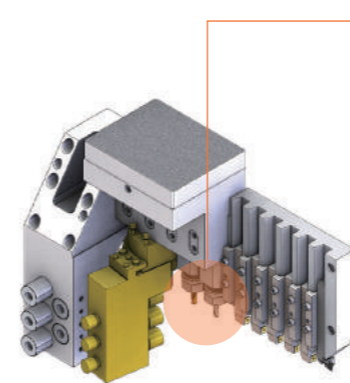
* H : G/B, N : Non-G/B, NH : Convertible G/B, M : Cross 5-axis+Long drills

Dimension



Option Tooling

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

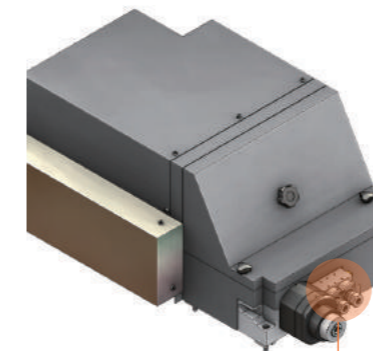
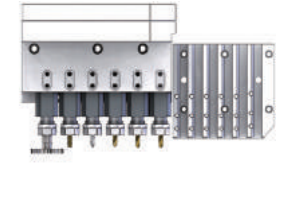
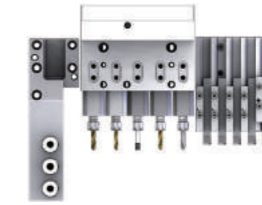
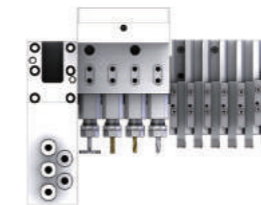


Option Tool Layout

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

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

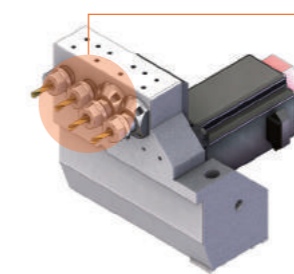
Cross unit 6
- OD 6 (□16 x 1, □11 x 5),
Cross 6 (ER11M x 2, ER16 x 4)



Off-Center Unit

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

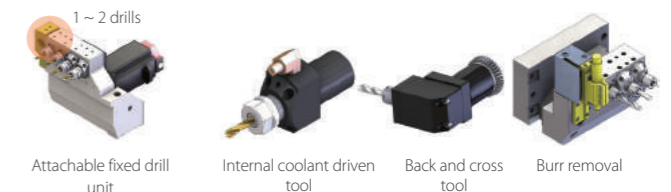
Option tool



Back Tool Unit

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

Option unit Option tool



Selectable modules of back tool

Driven max. 4



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

Standard

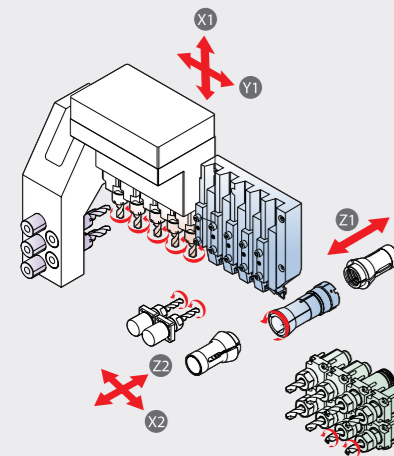
- Main-Sub Cs control (0.001°)
- Rotary Guide bush holder
- Cross drilling · milling unit (4, Gear modular type)
- MPG
- Part conveyor
- Door interlock
- Coolant flow sensor
- Work light
- Signal lamp (3color)
- LAN port
- Tool monitoring function
- Cut off tool breakage detector (S/W)
- Auto power off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

Option

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

XD20/26II-V

Multi-functional with B and Y2-axis



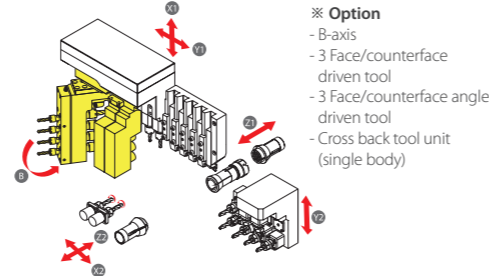
- OPTION**
- Off-center drill (Driven, Fixed) 2
 - B-axis tool post 8 (Front 4 + Back 4)
 - Y2 back tool cross unit (Max. Cross 2)



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) Siemens : 14.4	
OD tool	No. of tools	6 (□12mm) (Ø20), 5 (□16mm) (Ø26)	
Front tool	No. of tools	5 (ER16M, Ø25)	
	No. of tools	5 (ER16 (Ø20), ER16M (Ø26))	
Cross drill	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 Driven)	
	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)	15kVA, 10kW (VCTF 10SQ x 4C)		
Air flow rate (Liter/Min)	120 ~ 150		

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

OPTION TOOLING



- ※ Option
- B-axis
 - 3 Face/counterface driven tool
 - 3 Face/counterface angle driven tool
 - Cross back tool unit (single body)

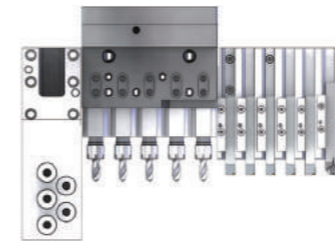
- Ultimate tooling capability adopting B-axis and Y2-axis
- Minimized thermal deformation with cooling system for Cross drilling/milling unit
- Adopted powerful built-in motor for main/sub spindle (2.2/3.7kW(Fanuc), 14.4kW(Siemens))

Option Tooling

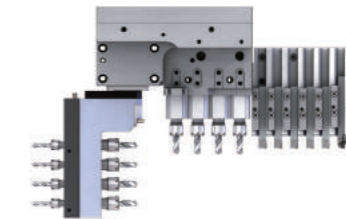
Complex & productive machining for multi shape parts with B-axis cross and Y2-axis back tooling

Cross Drilling / Milling Unit

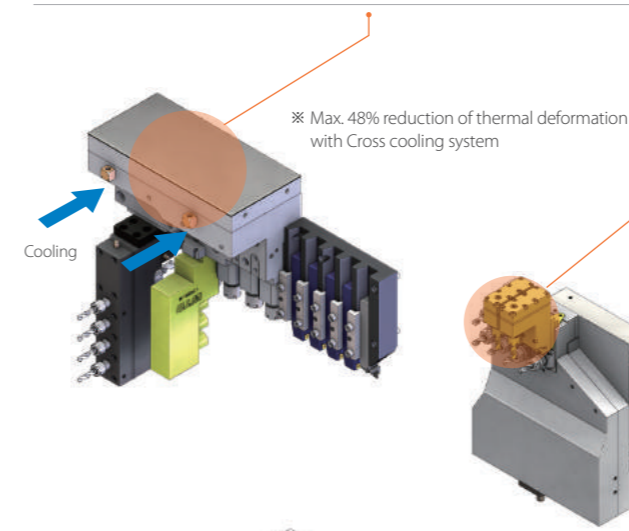
- Cross unit with gear modular type for various tooling and easy tool change / maintenance
- ※ Various option tool unit : Triple speed rotating drill, Internal coolant driven tool, 3 Face / counterface driven tool, 3 Face / counterface angle driven tool



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



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

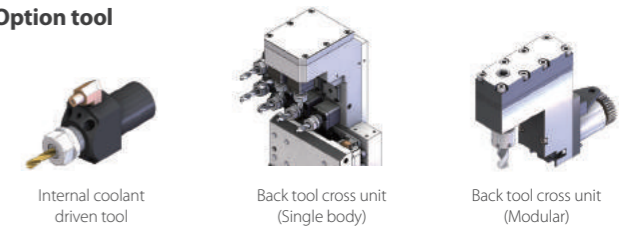


※ Max. 48% reduction of thermal deformation with Cross cooling system

Back Tool Unit

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

Option tool

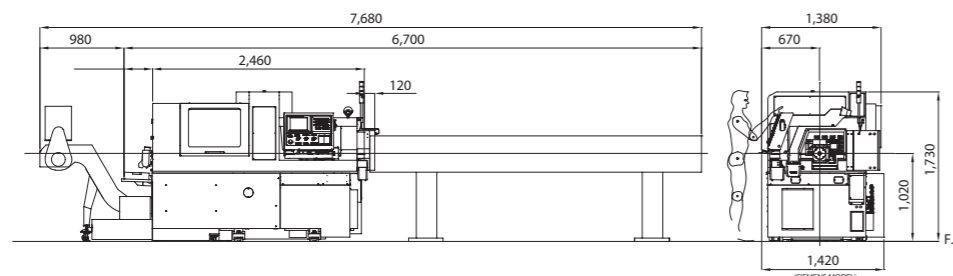


Sub Spindle & Off-Center Unit

- 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) 14/4 kW (Siemens)
Off-center drill unit (Option)	Drill	2 (ER16)
	Type	Gear modular

Dimension



Standard

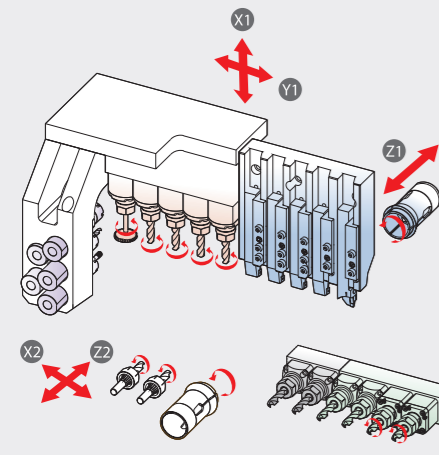
- Main - Sub Cs control (0.001°)
- Rotary Guide bush holder
- Cross drilling · milling unit (5, Gear modular type)
- MPG
- Part conveyor
- Door interlock
- Coolant flow sensor
- Work light
- Signal lamp (3color)
- LAN port
- Tool monitoring function
- Cut off tool breakage detector (S/W)
- Auto power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

XD32/38II

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

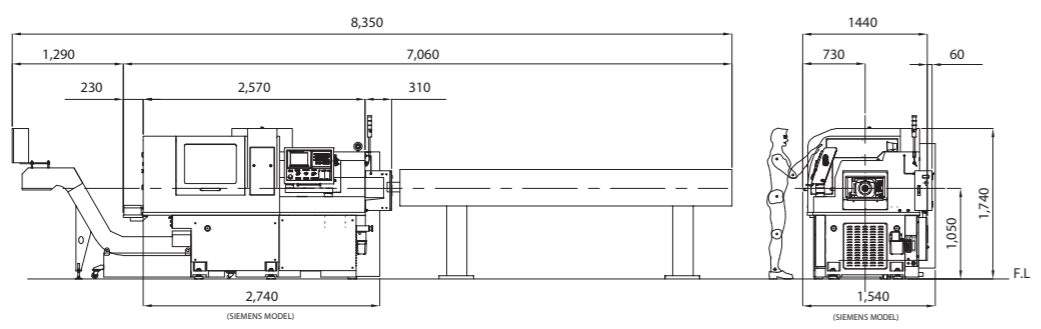


- OPTION**
- Off-center drill (Driven, Fixed) 2
 - Cross 6
 - B-axis tool post 6 (Front 3 + Back 3)
 - Back tool 4 ~ 6
 - Y2 back tool cross unit (Max. Cross 2)

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)		
	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)	25kVA, 16.7kW (VCTF 16SQ x 4C)			
Air flow rate (Liter/Min)	120 ~ 150			

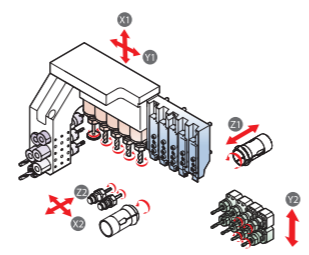
* H : G/B, N : Non-G/B, NH : Convertible G/B, He : Hanwha Fanuc-i NC (with G/B)

Dimension

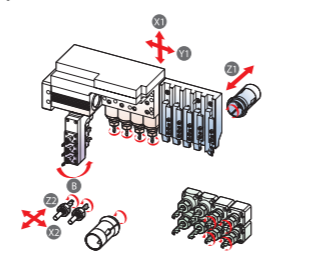


TOOLING VARIATION

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

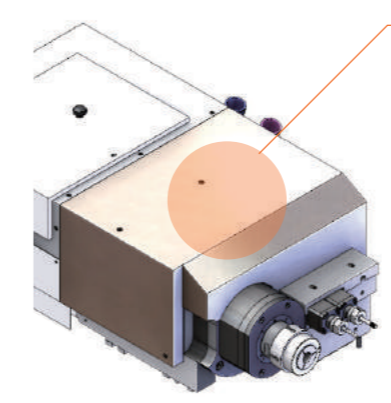


- B-axis tool post 6 (Front 3 + Back 3)



Option Tooling

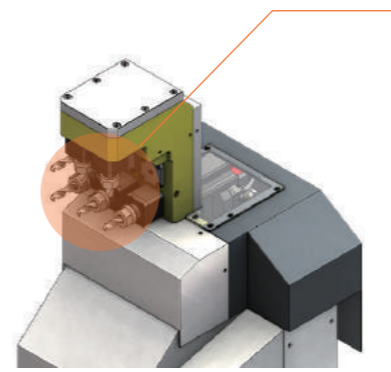
Various tooling options & sub-spindle type are offered for high-quality performance depending on product & machining condition



Sub Spindle Unit

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

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



Back Tool Unit

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

Option unit

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

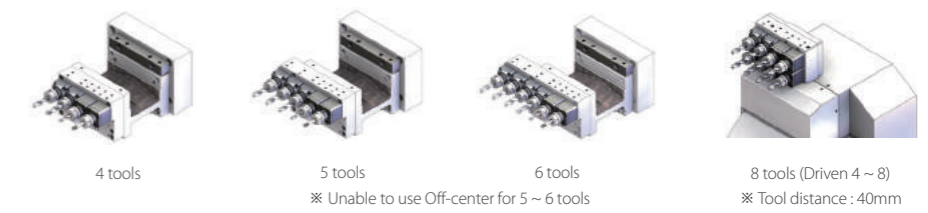


Option tool



Selectable modules of back tool

Driven max. 4



Standard

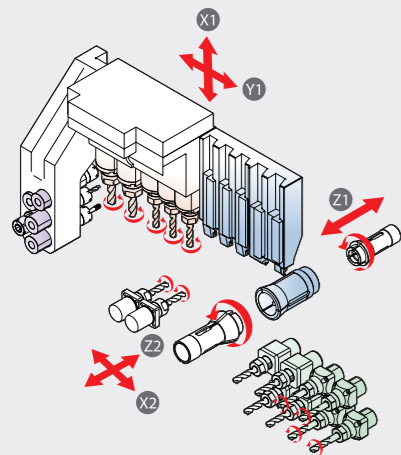
- Main-Sub Cs control (0.001°)
- Rotary Guide bush holder
- Cross drilling · milling unit (5, Gear modular type)
- MPG
- Part conveyor
- Door interlock
- Coolant flow sensor
- Work light
- Signal lamp (3color)
- LAN port
- Tool monitoring function
- Cut off tool breakage detector (S/W)
- Auto power off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

Option

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

XD38II-R

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



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



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)
	No. of tools	5 (ER20M, Ø32)
Cross drill	No. of tools	5 (ER20 x 2, ER16 x 3)
	Speed (rpm)	6,000
Off-center drill (Option)	Motor (kW)	2.2 (Fanuc), 2.13 (Siemens)
	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
Machine size (L x W x H) (mm)	Motor (kW)	1.0 (Fanuc), 1.02 (Siemens)
	Weight (kg)	2,650 x 1,600 x 1,790
Power consumption (Cable size)	4,600	
Air flow rate (Liter/Min)	25kVA (Siemens : 40kVA), 16.7kW (VCTF 16SQ x 4C)	
	120 ~ 150	

* NH : Convertible G/B

Specification of G/B & Chuck

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

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

Optimized Structure & Spec for Ø38mm

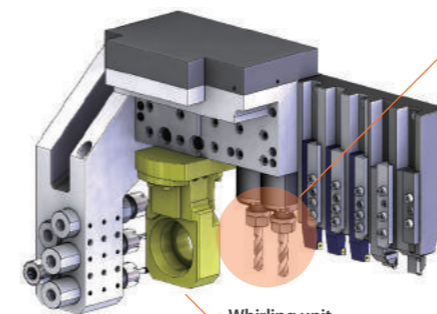
Possible to machine max. Ø40mm (Option)

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) 120 (Non-G/B)	80	467 (+55*)	350 (+70*)	450 (+55*)	67.7

* : increased stroke compared to XD38II



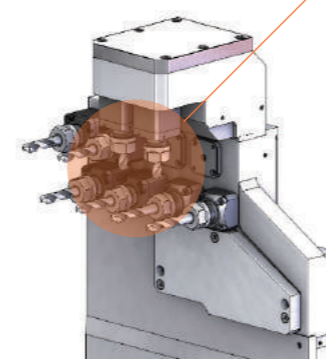
Whirling unit
※ Other various option units are available

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)



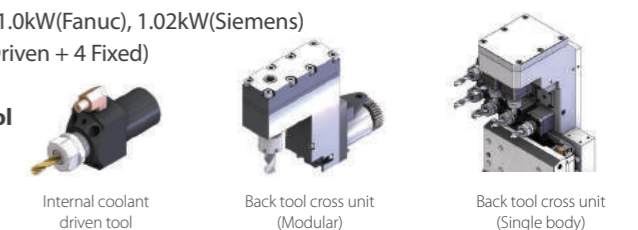
Back Tool Unit

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

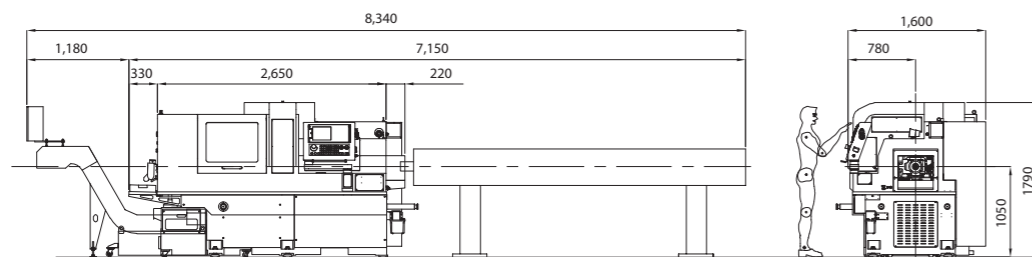
Specification

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

Option tool



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

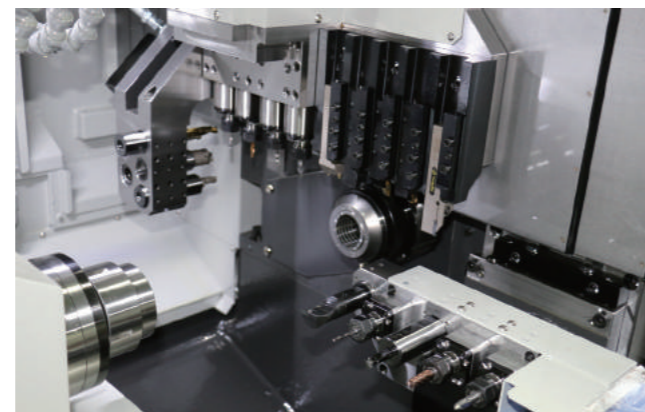
- Bar feeder
- Chip conveyor
- Right-way part conveyor
- Transformer
- Tap breakage detector
- Pipe type ejection unit
- Off center drill unit (2)
- Middle / High pressure pump
- Oil mist collector
- Oil chiller
- Memory card
- Tooling & Programming
- Internal coolant driven tool (cross, back, off-center)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

XD42

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



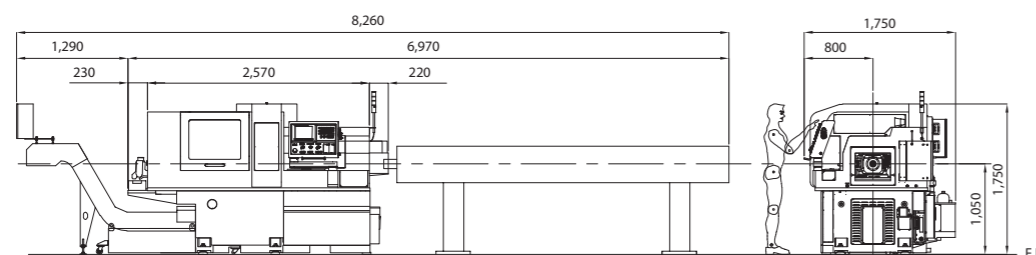
Model	XD42		
	H	NH	N
NC	Hanwha Fanuc-i		
Max. machining diameter (mm)	Ø42		
Z1 Stroke (mm)	320	207 (H), 100 (N)	100
Main spindle	Speed (rpm)	6,000	
	Motor (kW)	5.5/7.5	
OD tool	No. of tools	5 (□20mm)	
Front tool	No. of tools	5 (ER20M, Ø32)	
Cross drill	No. of tools	4 (ER20M)	
	Speed (rpm)	6,000	
Off-center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



- 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)

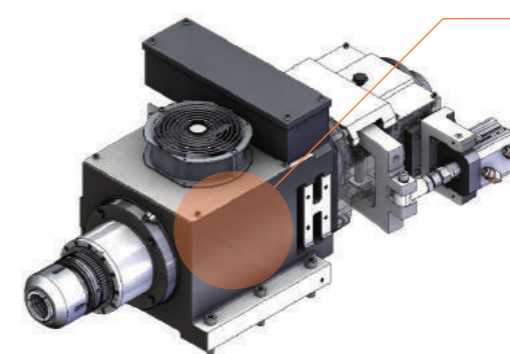
* H : G/B, N : Non-G/B, NH : Convertible G/B

Dimension



Option Tooling

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

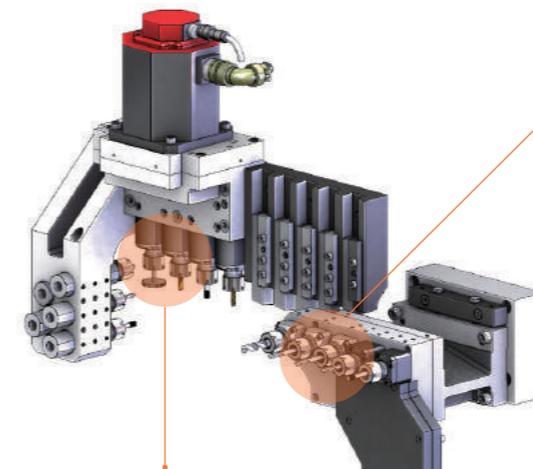


Spindle Unit

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

Specification

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



Back Tool Unit

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

Specification

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

Option tool



Cross Drilling / Milling Unit

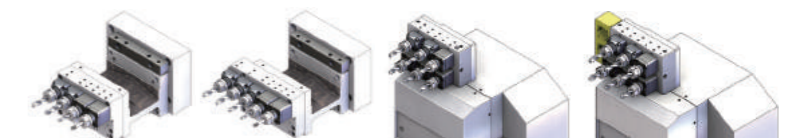
- Powerful cross machining with upper size of tools and the best-in-class motor
- Cross unit with gear modular type as standard for various tooling and easy tool change / maintenance

Specification

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

Selectable modules of back tool

Driven max.4



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

Standard

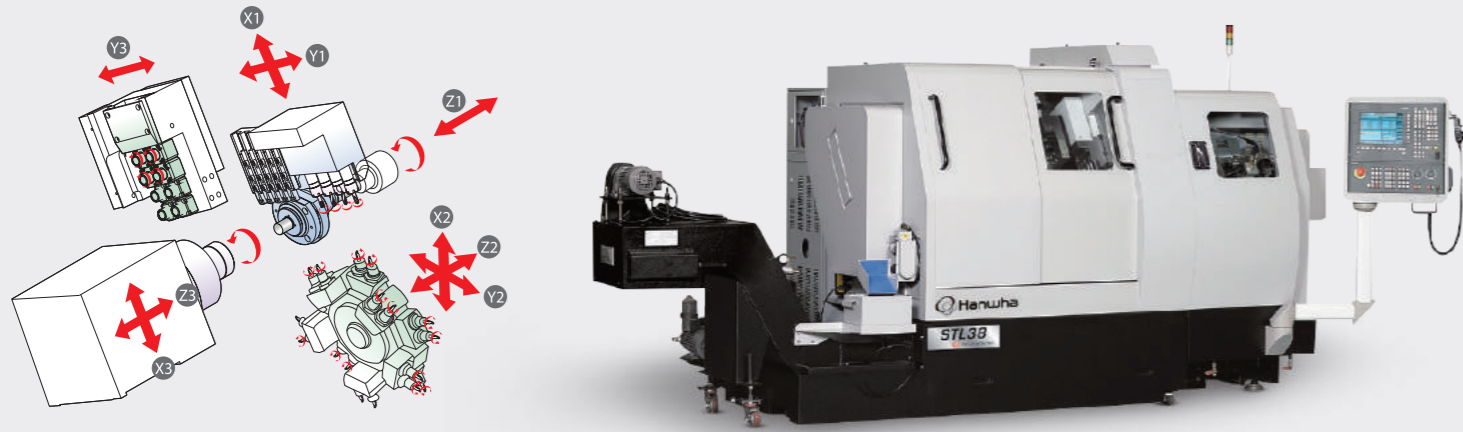
- Main - Sub Cs control (0.001°)
- Rotary Guide bush holder
- Cross drilling · milling unit (4, Gear modular type)
- MPG
- Part conveyor
- Door interlock
- Coolant flow sensor
- Work light
- Signal lamp (3color)
- LAN port
- Tool monitoring function
- Cut off tool breakage detector (S/W)
- Auto power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

Option

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

STL32/38

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

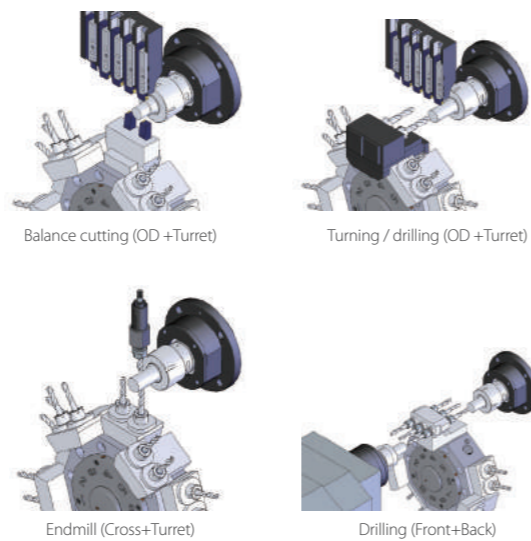


OPTION
• Y3 back tool (Driven 4 + Fixed 4) 8

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 (□20, ER20)	
	Tool type	VDI 30 (Option : BMT 45)	
Sub spindle	Speed (rpm)	6,500	
	Motor (kW)	23	
Back tool	No. of tools	3 (ER20M) (3 Fixed)	8 (ER20M) (4 Fixed + 4 Driven)
	Speed (rpm)	-	
	Motor (kW)	-	
Machine size (L x W x H) (mm)	3,130 x 1,860 x 1,780		
Weight (kg)	4,400	4,500	
Power consumption (Cable size)	40kVA, 26.7kW (VCTF 16SQ x 4C)		
Air flow rate (Liter/Min)	20 ~ 30 (Hydraulic device capacity : 30L)		

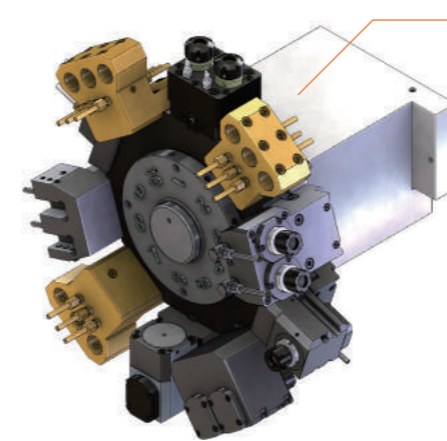
COMPLEX MACHINING

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



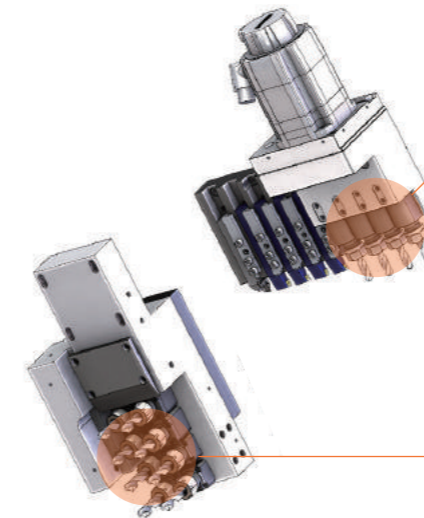
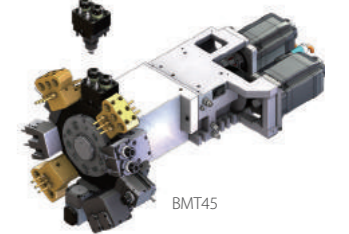
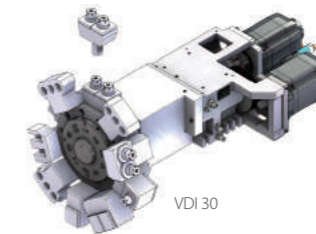
Option Tooling

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



Turret Unit

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



Cross Drilling / Milling Unit

- Easy tool change for maintenance & installation

Option tool



Internal coolant driven tool
※ Spline modular

Back Tool Unit

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

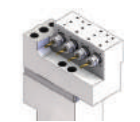
Option tool & unit



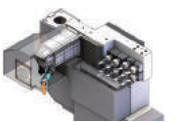
Internal coolant driven tool



Multi finger tool
(Re-adjust machining point)



3 ~ 4 tools

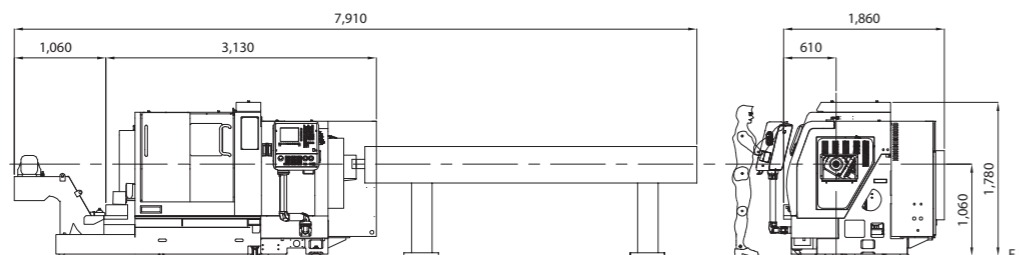


8 tools
(Max. 4 Driven)

Specification of G/B & Chuck

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

Dimension



Standard

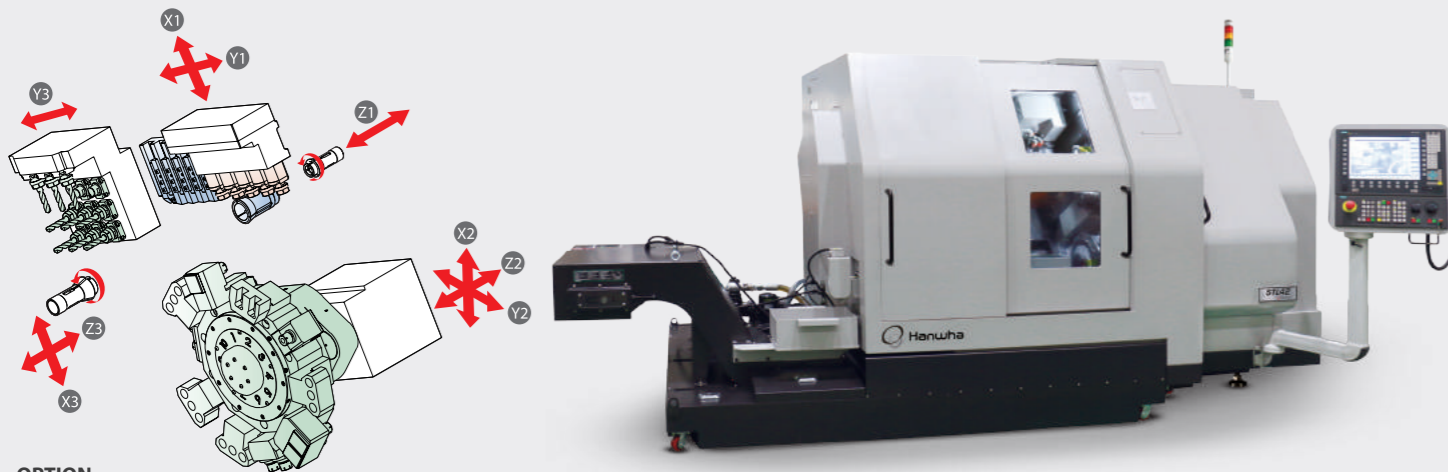
- Main-Sub Cs control (0.001°)
- Rotary Guide bush holder
- MPG
- Chip conveyor
- Part conveyor
- Door interlock
- Work light
- Signal lamp (3color)
- Tool monitoring function
- Cut off tool breakage detector (S/W)
- Auto power off
- Bar feeder interface
- Middle pressure pump

Option

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

STL42

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

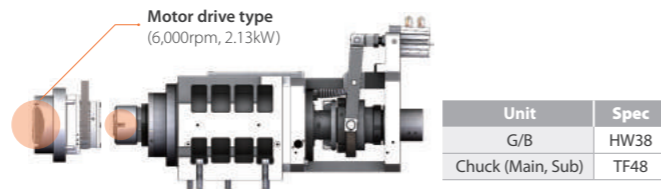


OPTION
• Back tool cross 9 (Cross 3, Driven 3 + Fixed 3)

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 (□20, ER20)
	Tool type	VDI 30 (Option : BMT 45)
Sub spindle	Speed (rpm)	6,000
	Motor (kW)	22
Back tool	No. of tools	9 (ER20) (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, 26.7kW (VCTF 16SQ x 4C)	
Air flow rate (Liter/Min)	20 ~ 30 (Hydraulic device capacity : 30L)	

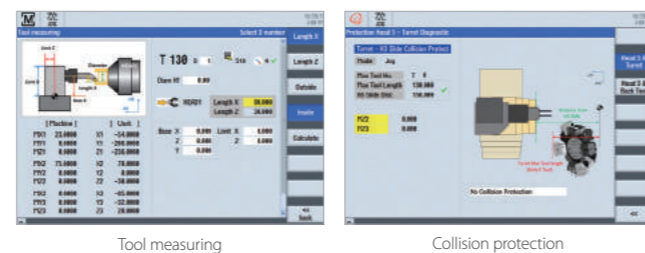
OPTIMIZATION OF STRUCTURE & SPEC

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

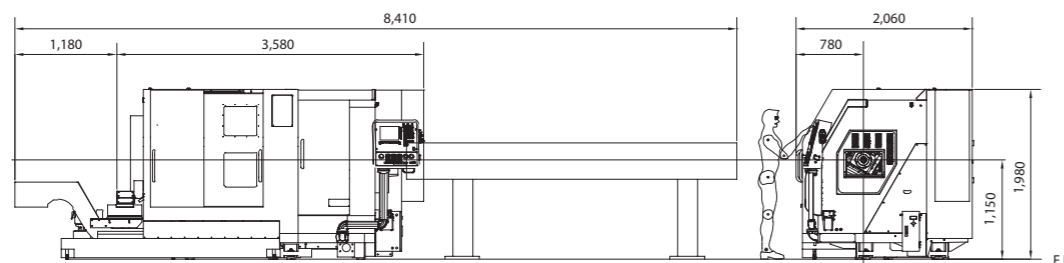


UPGRADED SOFTWARE PLATFORM

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

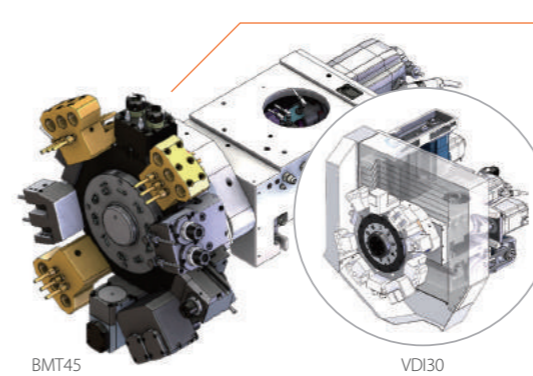


Dimension



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)

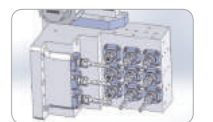
- Tool distance : 35mm → **60mm**
- Tool spec : 4(ER20M) → **5(ER20)**
- Motor spec : 6,000rpm, 1.07kW → **2.13kW**

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)

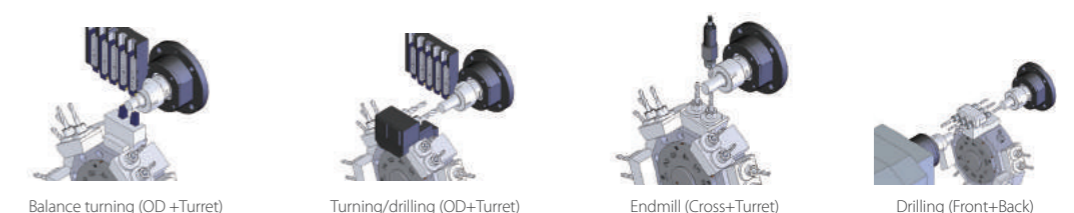
Specification (STL38 → STL42)

- 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



Standard

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

Option

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

Options

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

Standard & Option Accessory		XE series		XP series		XD series				XD series			STL series		
		XP12/16S	XP20/26/32S	XE20/26	XE35	XD10	XD16III	XD20/26II	XD20/26II-V	XD38II	XD38II-R	XD42	STL38	STL42	
Off-cent unit	Driven(2)	-	-	★	★(1)	-	-	★	★	★	★	★(1)	-	-	
	Fixed (long drill, 2)	-	-	★	-	-	★(1)	★	★	★(1)	★(1)	-	-	-	
	Off-center Tailstock	-	-	★	★	-	-	★	★	★	★	-	-	-	
Intenal coolant driven unit	Cross	-	-	★	★	▲	★(Modular)	★	★	★	★	★	★	★	
	Back	-	-	★	★	▲	-	★	★	★	★	★	★	★	
	Off-center	-	-	★	★	-	-	★	★	★	★	-	-	-	
Fixed angle drilling unit	Cross, 1	-	-	▲	▲	-	-	▲	▲	★	★	★	★	★	
	Back, 1	-	-	▲	▲	▲	-	▲	▲	★	★	★	★	★	
Option tool unit	Triple speed cross drill	-	-	★	★	▲	★(Modular)	★	★	★	★	★	★	★	
	Triple speed reduction cross drill	-	-	★	★	▲	★(Modular)	★	★	★	★	★	★	★	
	3 Face/counterface driven tool	-	-	★	★	-	-	★	★	★	★	-	-	-	
	3 Face/counterface angle driven tool	-	-	★	★	-	-	★	★	★	★	-	-	-	
	Gear hobbing	★	-	★	★	▲	▲	★	★	★	★	★(Turret)	★(Turret)	-	
	Whirling	-	-	★	★	-	★	★	★	★	★	★	★	★	
	Side cutter	-	-	★	★	★	★	★	★	★	★	★(Turret)	★(Turret)	-	
	Back tool cross	Modular(Y2)	-	-	-	-	★	-	-	-	★	★	-	-	-
		Single body(Y2)	-	-	-	-	▲	-	-	-	★	★	-	-	★(Y3)
Horizontal		-	-	★	★	▲	-	★	★	★	★	-	-	-	
Coolant unit	Chiller integrated High pressure coolant pump	▲	★	★	★	★	★	★	★	★	★	★	★	★	
	Extended coolant tank	★	★	★	★	★	★	★	★	★	★	-	-	-	
Chip conveyor	Standard chip conveyor	★	★	★	★	★	★	★	★	★	★	-	-	-	
	Smart chip conveyor	-	-	★	-	-	-	★	★	★	★	-	-	-	
	Lower type chip conveyor	★	★	★	★	-	★	★	★	★	★	★	★	★	

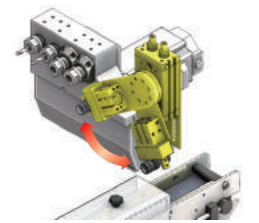
★ : Option ▲ : Discussable - : N/A

Special Accessories

Swing Gripper

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

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



Parts Auto Loading unit

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

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



Auto stacking unit for machined parts

Auto loader for ejected parts onto a stacking pallet

- XD38II

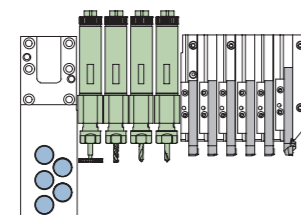


Tooling Variation

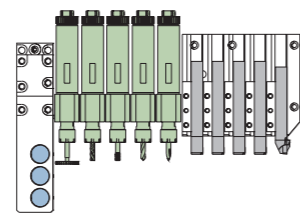
XD20/26II

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

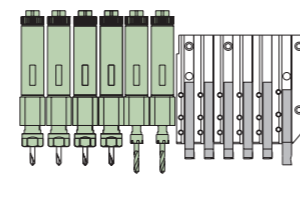
Cross 4



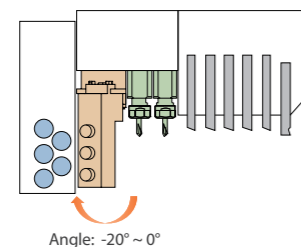
Cross 5



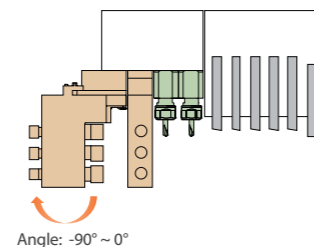
Cross 6



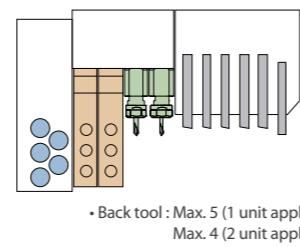
3 Face/counterface angle driven tool



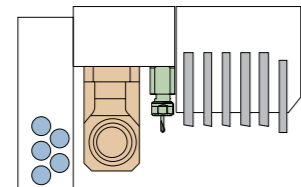
3 Face/counterface driven tool



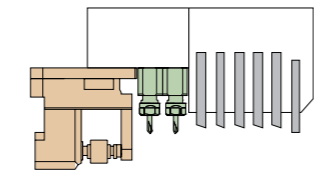
3 Face/counterface driven tool



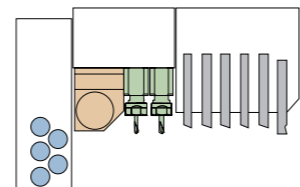
Whirling



Gear Hobbing



Polygon

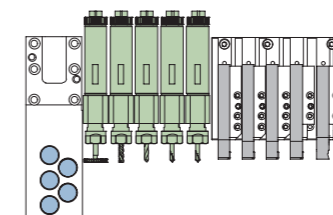


※ When special tool is installed, back tool unit should have max. 4 tools

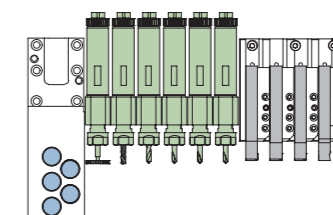
XD38II

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

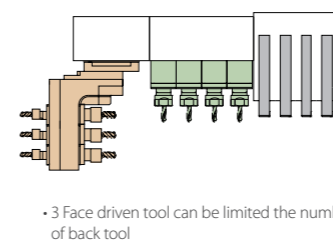
Cross 5



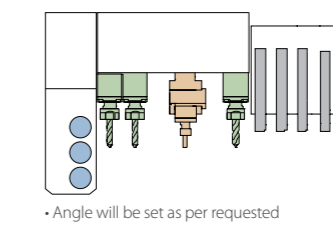
Cross 6



B-axis unit



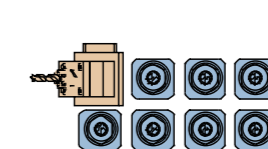
Fixed Angle Drilling



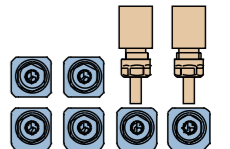
Back Tool Option Unit (Y2)

Fixed Angle Drilling

• Angle will be set as per requested

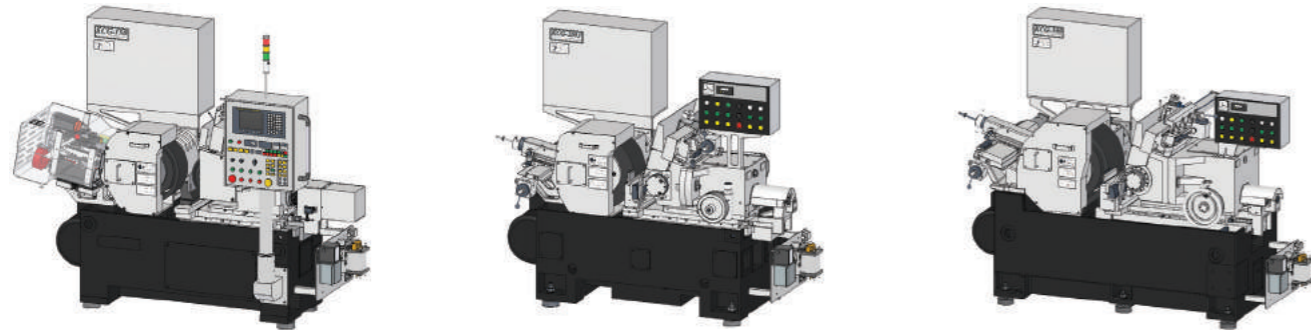


Back tool cross (Modular, Single body)



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

KCG Series



KCG-150 CNC

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

KCG-200J

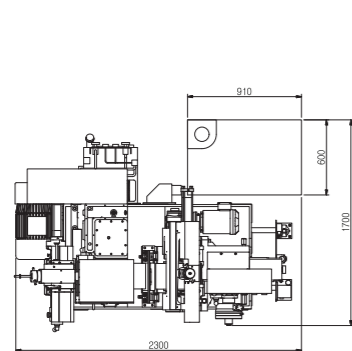
- Micro feeding unit
- Maximized wear resistance with turcite type of feeding table
- Selectable for Hydro-dynamic or B/R type of G/W

KCG-200/300 (CNC)

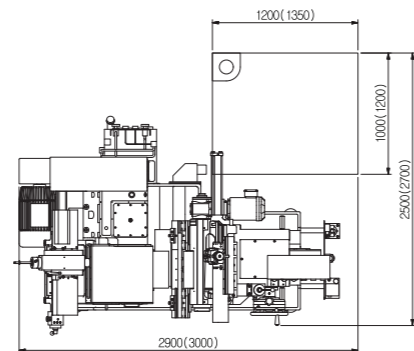
- Single grip G/W spindle for easy replacement of wheel
- Twin grip type of R/W for better precision
- Selectable for Hydro-dynamic or B/R type of G/W

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

Dimension

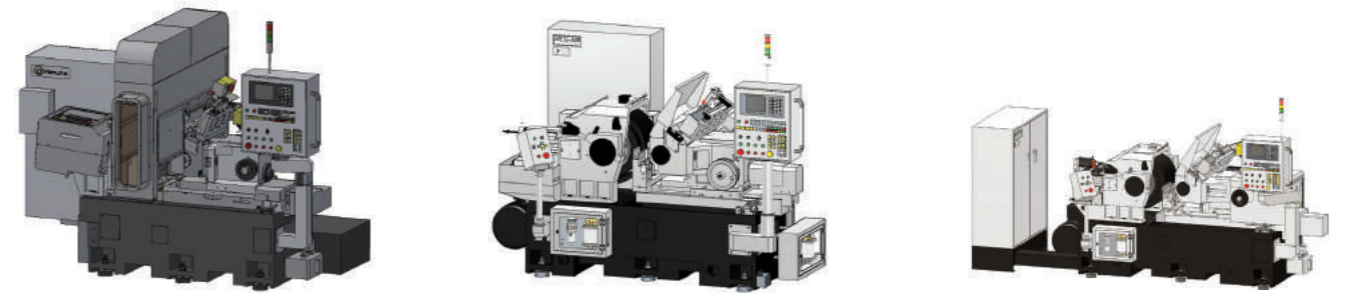


KCG-150/200J CNC



KCG-200/300 CNC

HCG Series



HCG-150 CNC

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

HCG-300 (CNC)

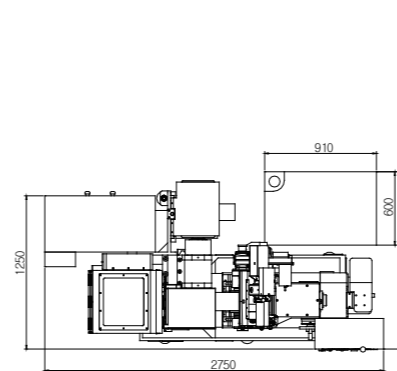
- Twin grip of G/W, R/W spindle for high precision & high stiffness
- Motor type of dresser for user convenience
- Full cover design to prevent coolant leakage

HCG-400 (CNC)

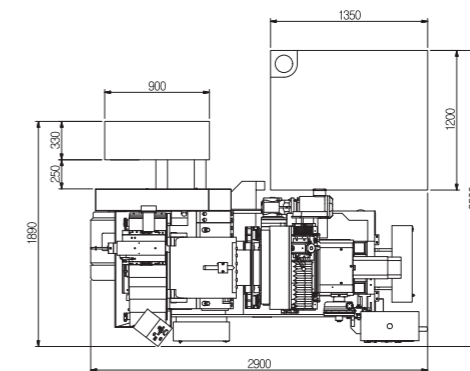
- CNC 4-axis (Max. control 6-axis)
- Twin grip of G/W, R/W spindle for high precision & high stiffness
- Motor type of dresser for user convenience
- Full cover design to prevent coolant leakage

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

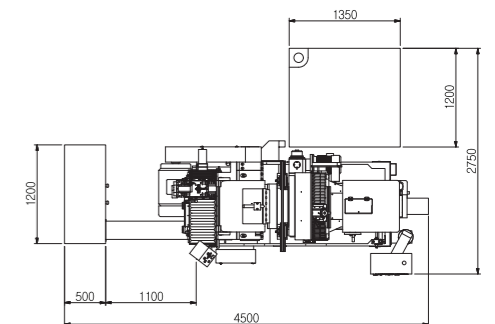
Dimension



HCG-150 CNC



HCG-300 CNC

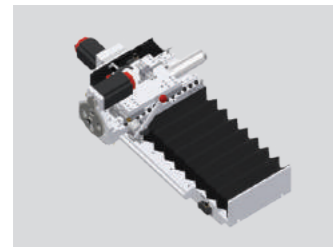


HCG-400 CNC

Structure

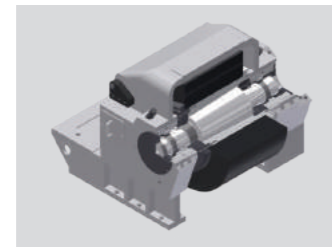
G/W Dresser

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



Grinding Wheel

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



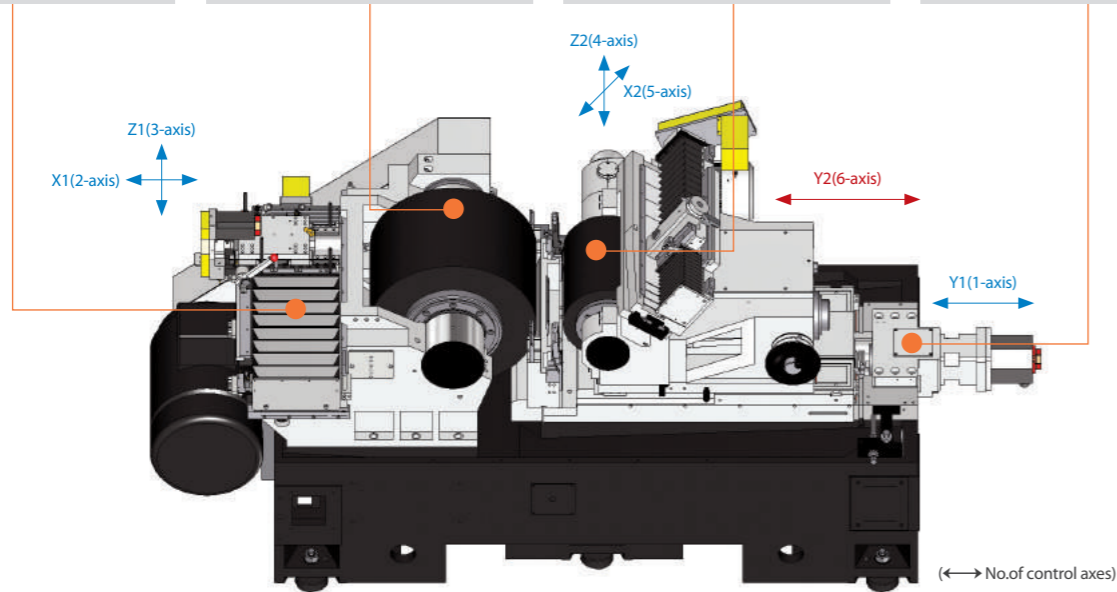
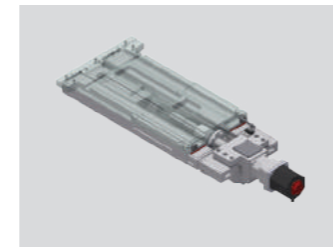
Regulating Wheel

- High stiffness roller bearing for high precision
- Easy maintenance



R/W Feed System

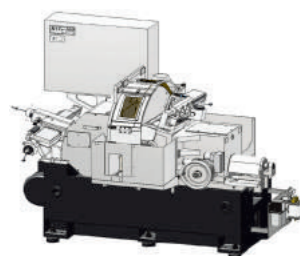
- High precision & rigidity
- Various slide type, turcite, roller guide type etc



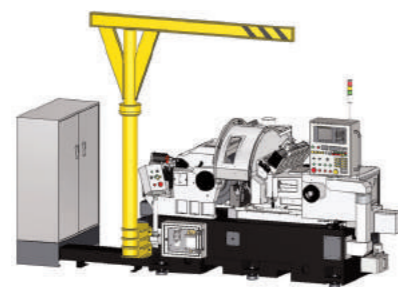
Special Feature

Mist Prevention Cover

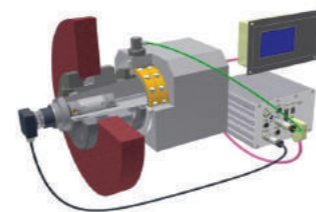
KCG Series Cover



HCG Series Cover



Auto Balance Unit



Standard/Option Accessories

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

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

Measuring Unit

Laser Scan Measuring

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



Post Process Gauge

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



Automation Unit

Through Feed



In Feed



Hi-CPS

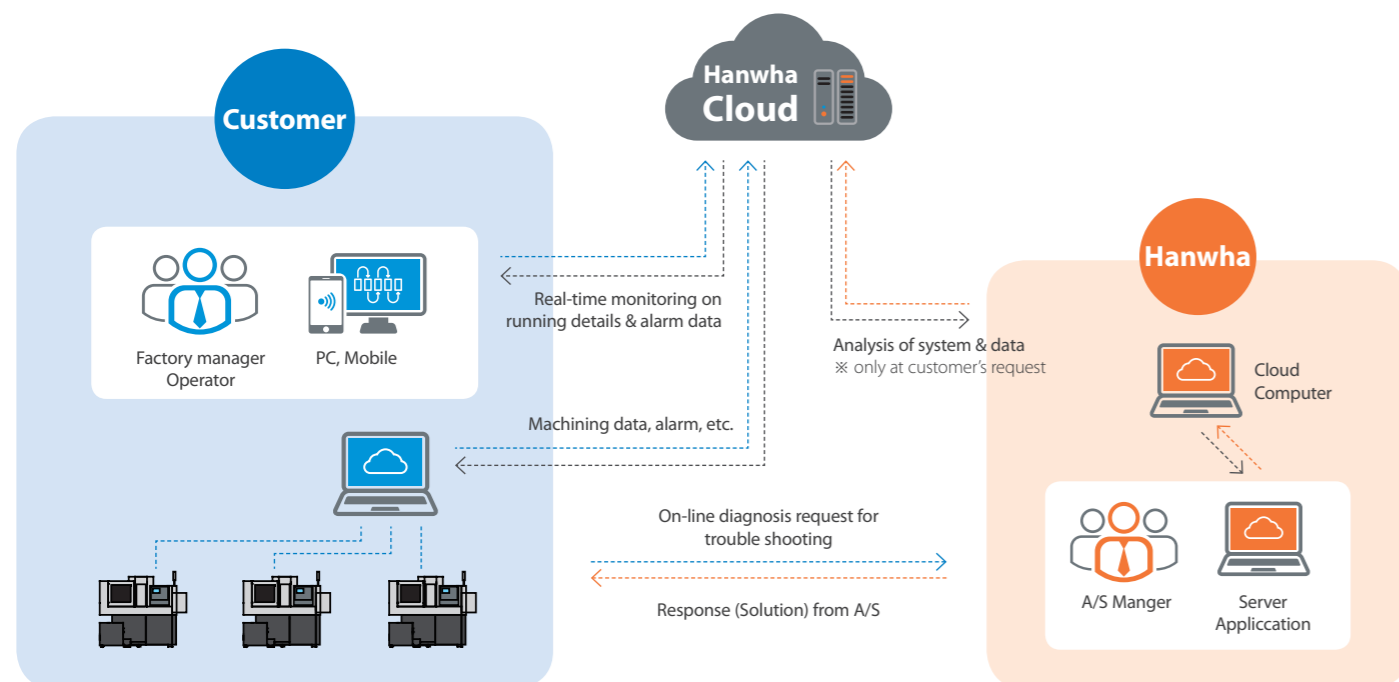
Hanwha Intelligence CNC Prognostic System



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

Function

- 1 Monitoring**
 - Monitors machine operation status from PC & Mobile
 - Check machining, repair, alarm, cycle time, etc.
- 2 Diagnosis**
 - Remotely examines alarmed machines at user's online request
 - ※ Only at customer's request, relevant machine data will be auto-transferred to Hanwha for analysis
- 3 Prognosis**
 - Analyzes cutting load, tool change and offset



PCR / PCRS & Oscillation

Chip breaking solution



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

Advantage

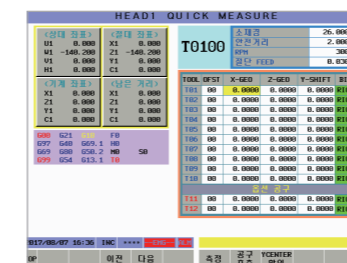
- Better tool life
- Build-up edge free
- Chip trouble free
- Coolant usage saved



Model	PCR	PCRS	Oscillation
NC	FANUC 32i-B	SIEMENS 828D/840D	Fanuc 0i-TD / 0i-TF / 32i-B
Front turning	•	•	•
Back turning	•	•	•
Back drilling	Fixed drills	•	Fixed drills
Taper	•	•	45° angle
Circular interpolation	•	•	•
Synchronous control	•	•	x
Threading	•	•	x
Nose R compensation	x	•	x

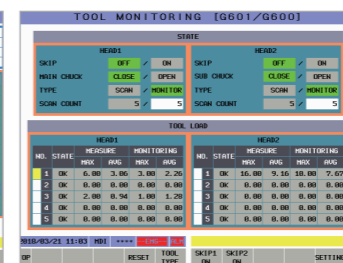
Customer & Performance Supporting Function

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



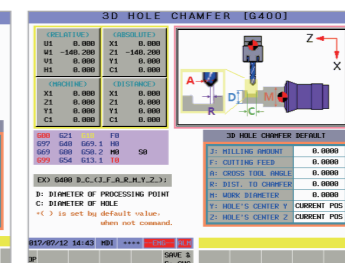
Quick Measuring Setting time reduce system
Supports tools setting with minimal control and none of screen change

Collision Protection
Easy setting of value to protect collision before occurring



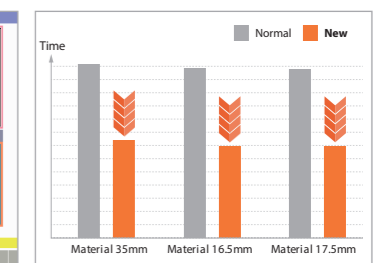
Tool Load Monitoring
Alarms when abnormal load on tools are detected

M7
Single code to command cut-off of material



3D Chamfer Solution
Uniform chamfer machining on cross hole with input of single code

G301
Single code to set the position of Z2-axis for cut-off of material



Motion Optimization C/T reduce system
Reduces cycle time by minimizing unnecessary motion (non processing time)

Help function
Provides description & graphic information about codes & alarms with



Automobile sample



Electronic sample



Industrial sample



Medical sample

NO. Material	 A001 SUM22	 A002 SUS304	 A003 SCM440H	NO. Material	 E001 SUS316	 I001 AL6062	 M001 Titanium
NO. Material	 A004 SUS304	 A005 SUS304	 A006 SUS304	NO. Material	 E002 AL6061	 I002 SUS316	 M002 SUS316L
NO. Material	 A007 SUM22	 A008 SUS630	 A009 SUM24	NO. Material	 E003 AL6062	 I003 AL2024	 M003 Titanium
NO. Material	 A010 AL6062-T8	 A011 AL6062-T8	 A012 AL6062-T9	NO. Material	 E004 AL6061	 I004 AL2024	 M004 Titanium
NO. Material	 A013 Brass	 A014 AL-Die Casting	 A015 SUM22	NO. Material	 E005 Brass	 I005 AL6062	 M005 Titanium, Brass
NO. Material	 A016 SUS316	 A017 SUS304	 A018 SUS303	NO. Material	 E006 AL6061	 I006 AL6062	 M006 Titanium, Brass
NO. Material	 A019 SCM315	 A020 AL6062	 A021 Brass	NO. Material	 E007 Brass	 I007 SUS316	 M007 SUS316
NO. Material	 A022 AL6061	 A023 SUS304	 A024 SUM202	NO. Material	 E008 AL6062	 I008 Brass	 M008 Titanium