

# Hanwha Precision Machinery / Machine Tool Division

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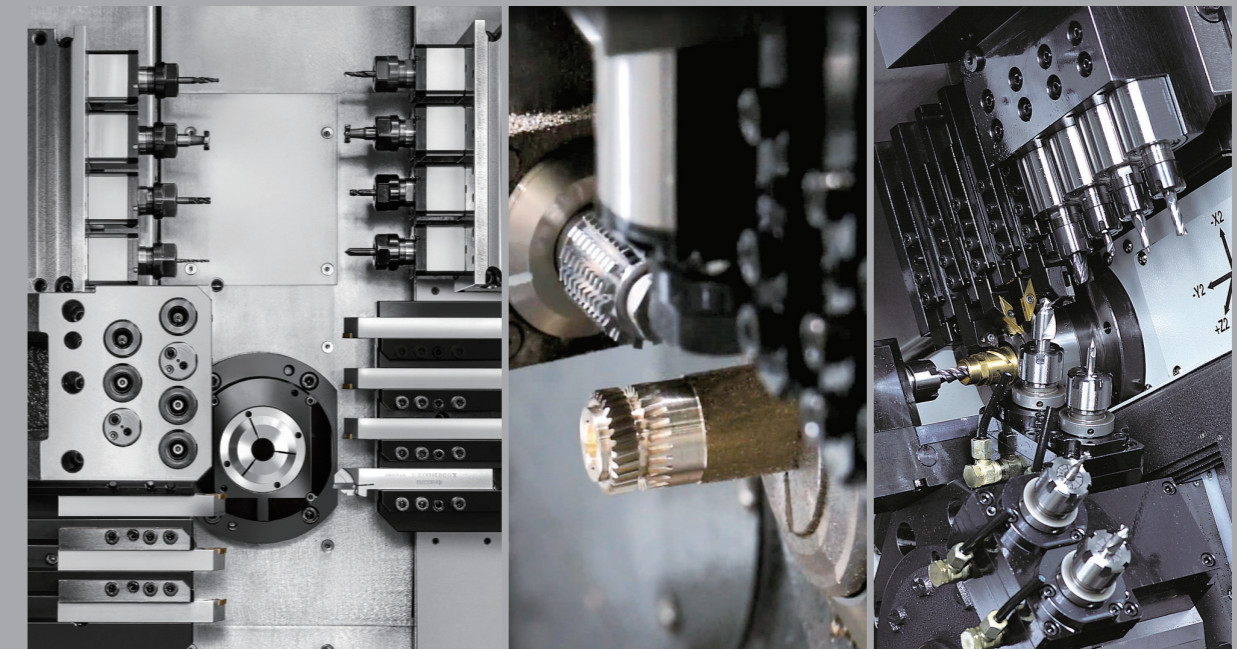
## AMERICA

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Experience Your **SMART FACTORY**

# Hanwha Machine Tool

CNC Swiss Turning Lathe



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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

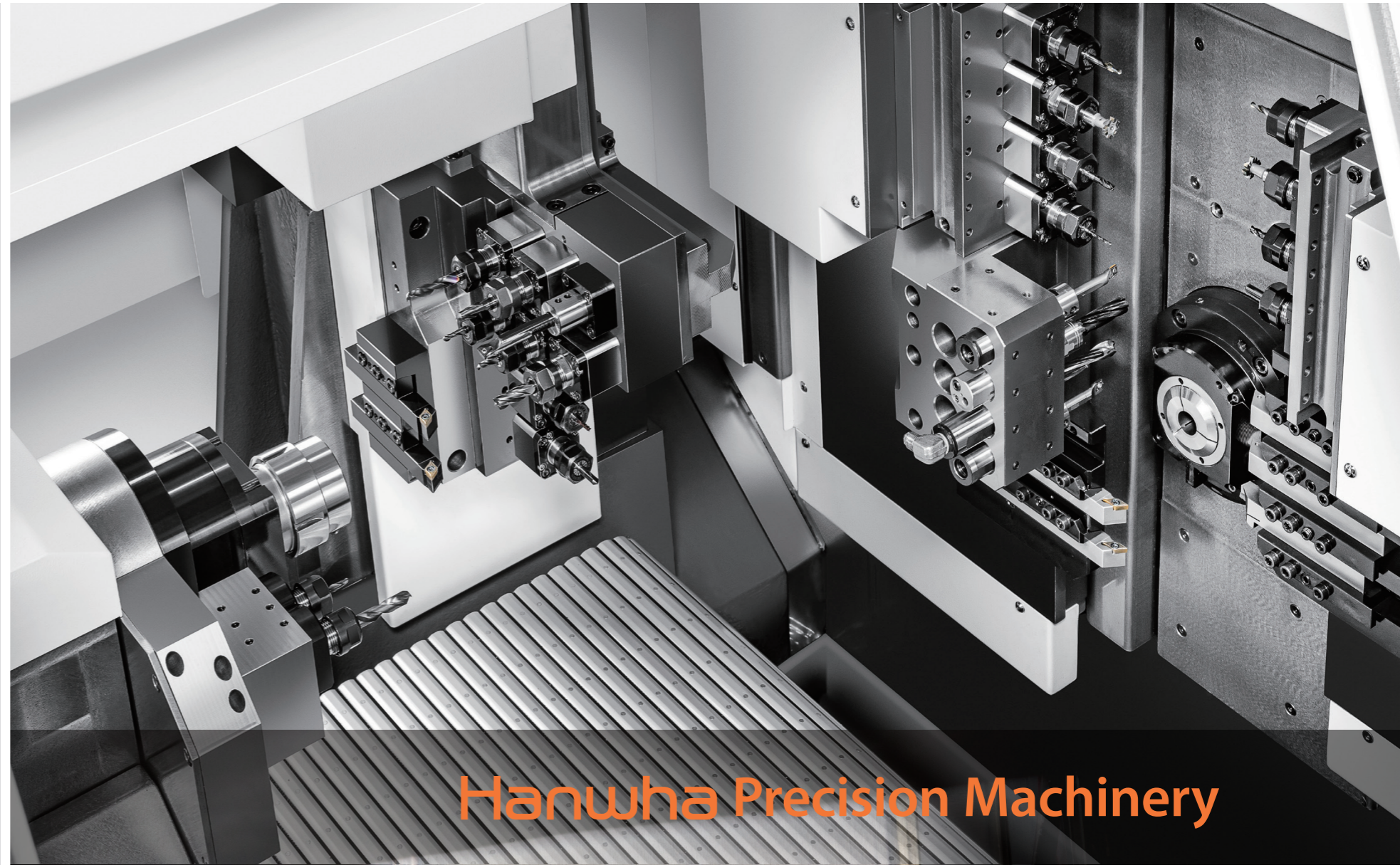
Offers customized solutions with a wide range of line-up for automatic lathes in gang & turret type.



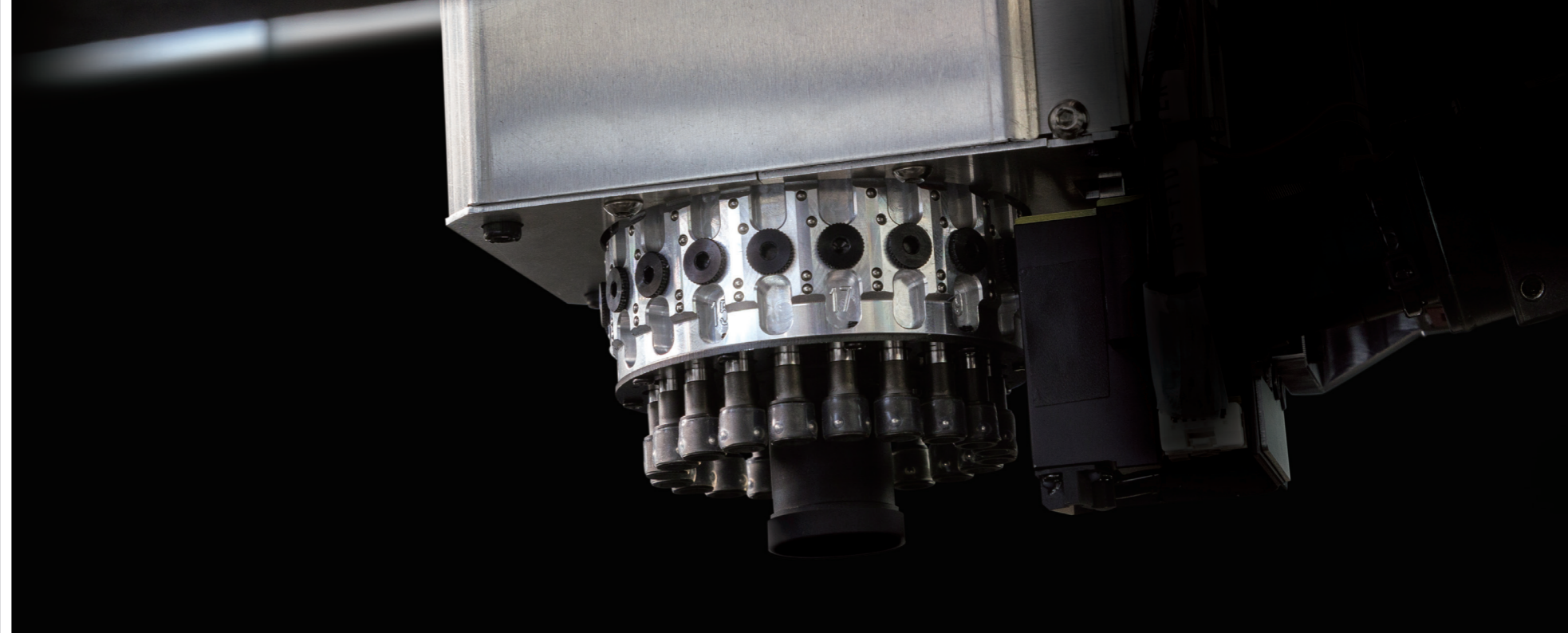
## Surface Mounter Technology Division

### Chip Mounter • Screen Printer • Semiconductor Equipment

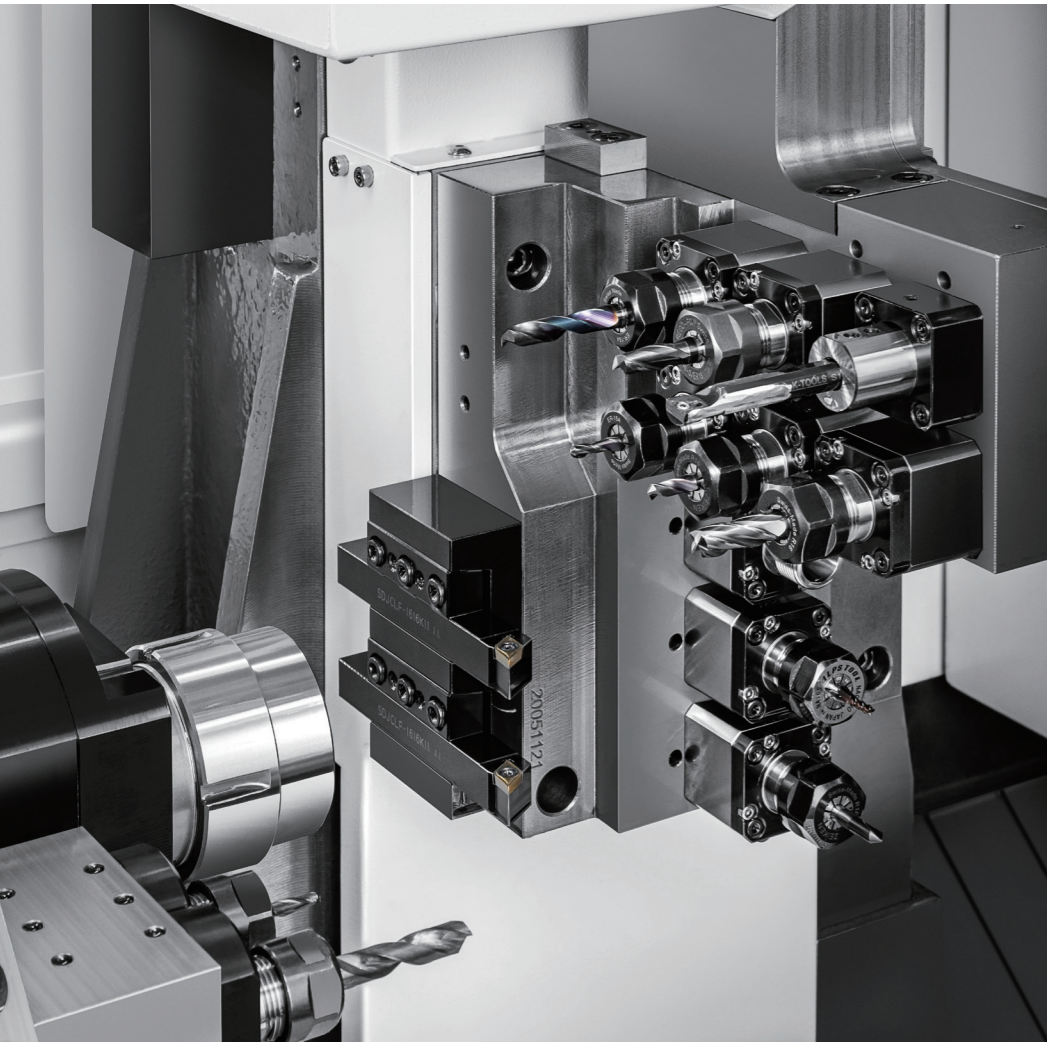
After developing its first chip mounter, offers SMT mounters, semiconductor equipment, industrial automation equipment and software solutions.



Hanwha Precision Machinery

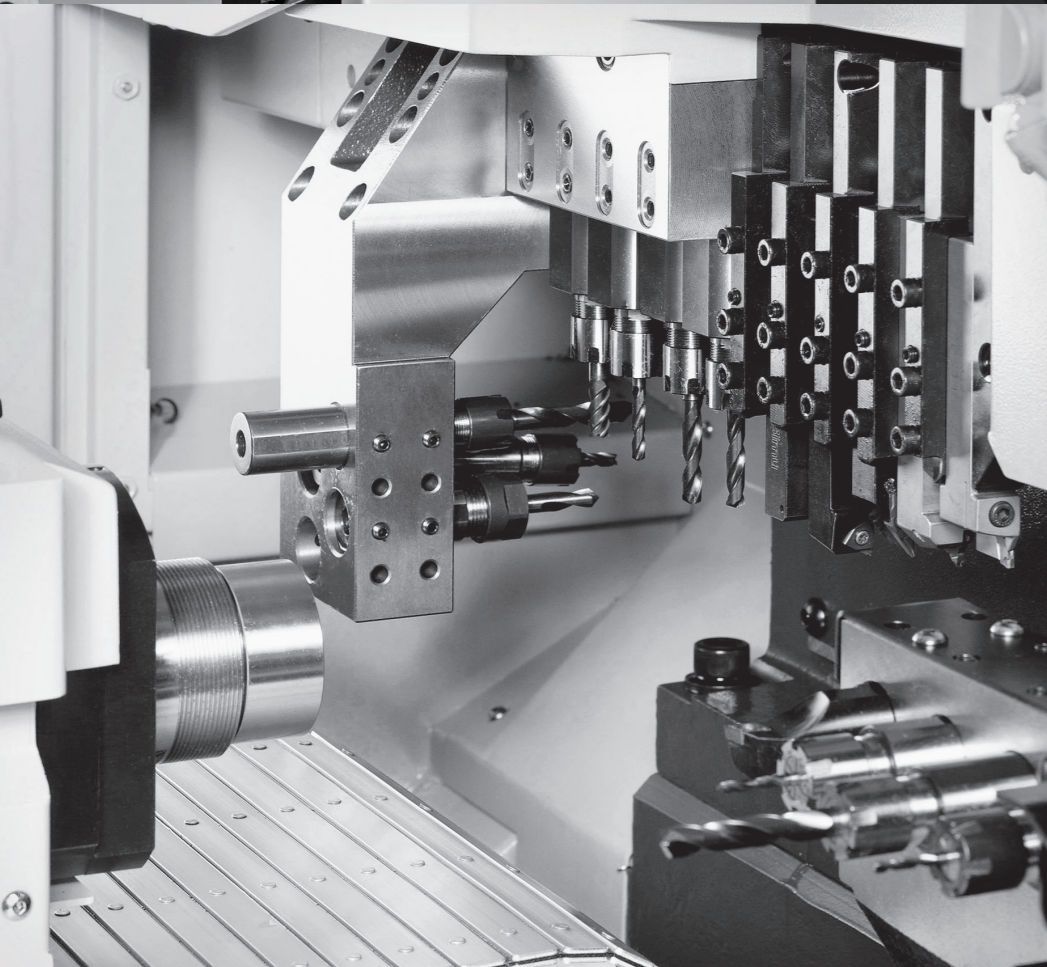






## CNC Swiss Turning Lathe

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 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



- **2021**  
3-path 9 axis swiss turn, XDI 26/32
- **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

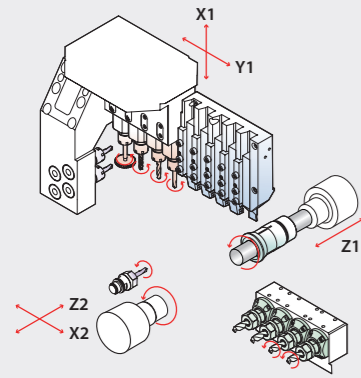






# XE35

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

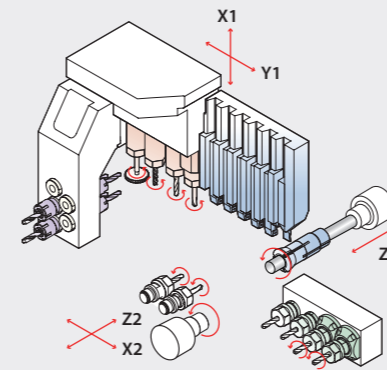


- OPTION**
- Off-center drill 1 (Driven)
  - Cross 5



# XE20/26

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



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

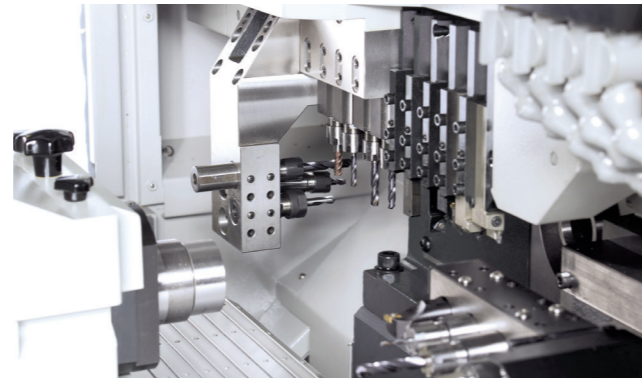
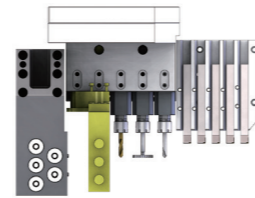


Model	XE35			
	H	N	J	Ne
NC	Hanwha Fanuc-i			
Max. machining diameter (mm)	Ø35			
Z1 Stroke (mm)	210	60	210	60
Main spindle	Speed (rpm)	6,500		
	Motor (kW)	2.2/5.5		
OD tool	No. of tools	5 (□16mm)		
	No. of tools	4 (ER16M, Ø25)		
Cross drill	Speed (rpm)	6,000		
	Motor (kW)	1.0		
Off-center drill (Option)	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)

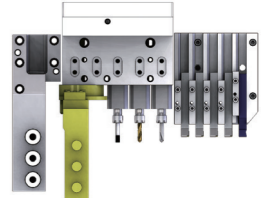
- ※ Cross(standard): Spline modular type
- ※ Option : 3 Face/counterface driven tool, 3 Face/counterface angle driven tool



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)			
	No. of tools	5 (ER16M, Ø25)			
Cross drill	No. of tools	4 (ER16)			
	Speed (rpm)	6,000			
Off-center drill (Option)	Motor (kW)	1.0			
	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				

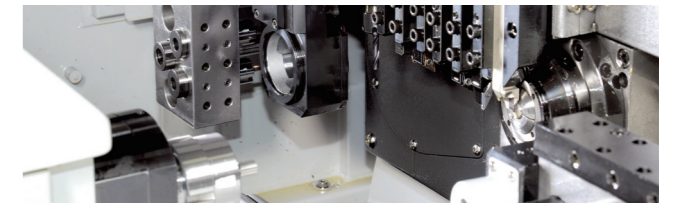
### OPTION TOOLING

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



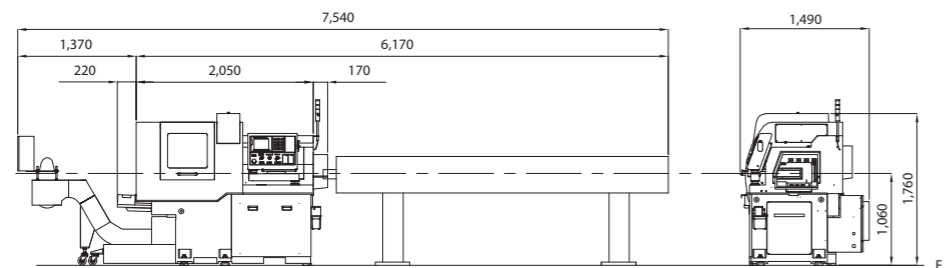
- Cross unit 6**
- OD 6 (□16x1 + □11x5),
  - Cross 6 (ER11Mx2, ER16x4)

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

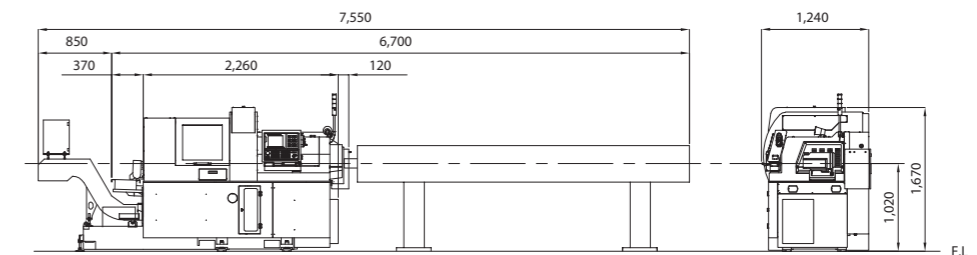


- \* H : G/B & Driven back tool(2), J : G/B & Fixed back tool
- \* N : Non-G/B & Driven back tool(2), Ne : Non-G/B & Fixed back tool

### Dimension



### Dimension





# Hi-CPS

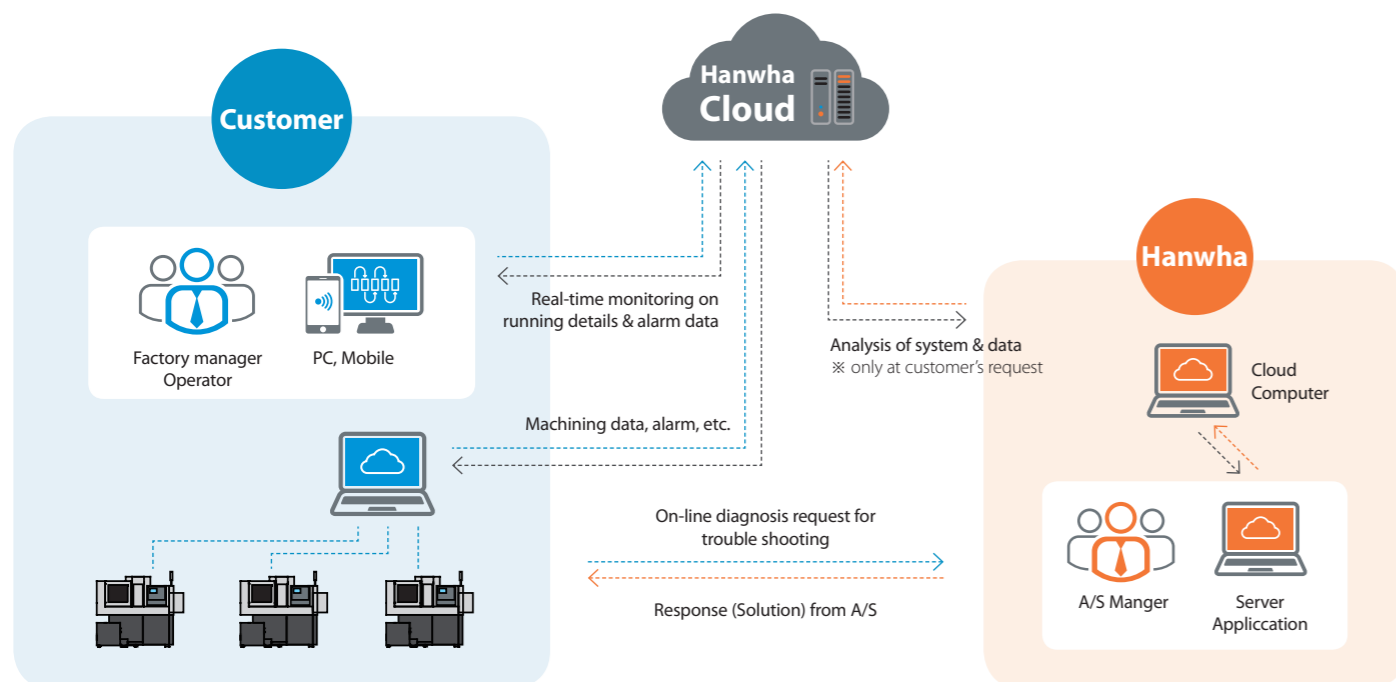
## Hanwha Intelligence CNC Prognostic System



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

### Function

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



# PCR / PCRS & Oscillation

## Chip breaking solution



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

### Advantage

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



Model	PCR	PCRS	Oscillation
NC	FANUC 32i-B	SIEMENS 828D/840D	Fanuc 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

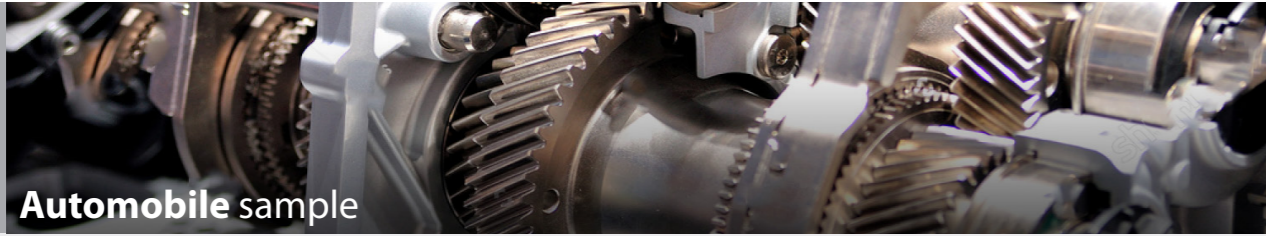
**3D Chamfer Solution**  
Uniform chamfer machining on cross hole with input of single code

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

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