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Experience Your **SMART FACTORY**

Machine Tool Products



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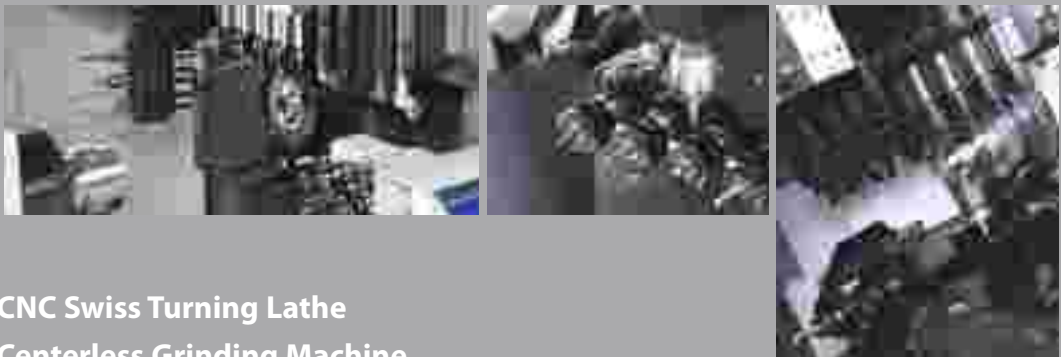
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**CNC Swiss Turning Lathe
Centerless Grinding Machine**

Platforms

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

CNC Swiss Turning Lathe

XP Series

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
- Ø03, 07, 12, 16, 20, 26, 32, 38, 42

- 12 **XD03/07**
- 13 **XD12/16III**
- 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)**

KCG Series

Single grip spindle for easy replacement

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

HCG Series

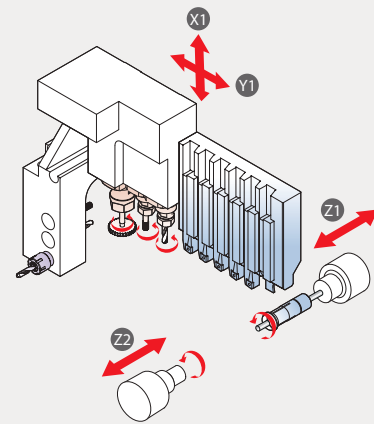
High precision & rigidity centerless grinding machine with twin grip G/W and R/W spindle
※ HCG-150CNC : Single grip G/W spindle

- 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



OPTION TOOLING

Cross unit 4

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



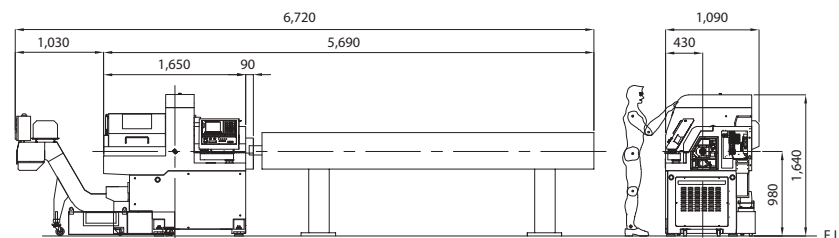
Gear hobbing unit

- Maker : Pibomulti
- Angle : $-2^{\circ} \sim 2^{\circ}$



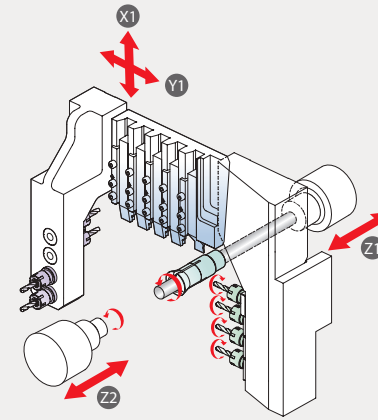
Model		XP12S	XP16S
NC		Hanwha Fanuc-i	
Max. machining diameter		Ø12	Ø16
Z1 Stroke (mm)		140	
Main spindle	rpm	12,000	
	kW	2.2/5.5	
OD tool	No. of tools	6 (□12mm)	
Front tool	No. of tools	3 (ER11, Ø20)	
Cross drill	No. of tools	3 (ER11 x 2, ER16 x 1)	
	rpm	6,000	
	kW	0.5	
Sub spindle	rpm	8,000	
	kW	0.55/1.1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

Dimension



XP20/26/32S

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

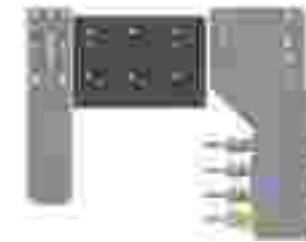


OPTION TOOLING

Cross unit 4 (1 modular)

- ER16M x 4

✖ Standard cross : Non-modular

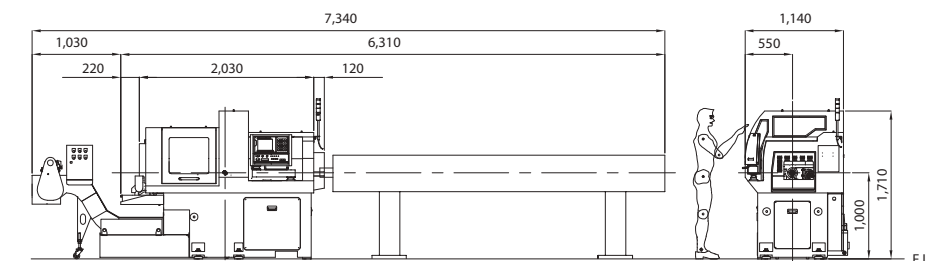


- Right choice for old cam lathe users who need better precision and productivity

- Steady selling model with proven performance & quality

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

Dimension



Options

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

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

★ : Option ▲ : Discussable - : N/A

Special Accessories

Swing Gripper

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

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



Parts Auto Loading unit

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

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



Auto stacking unit for machined parts

Auto loader for ejected parts onto a stacking pallet

- XD38II

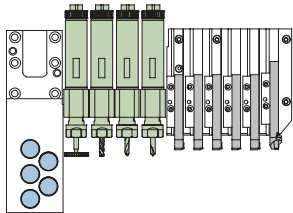


Tooling Variation

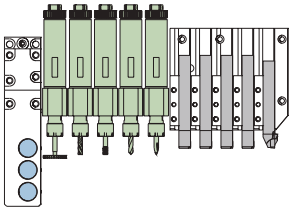
XD20/26II

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

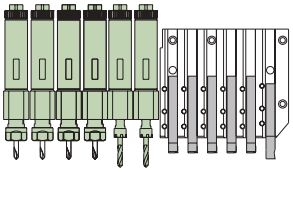
Cross 4



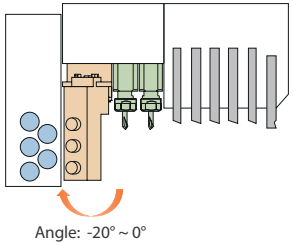
Cross 5



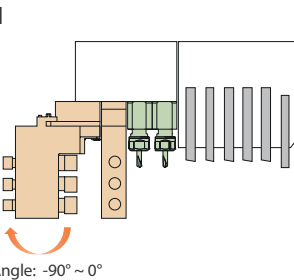
Cross 6



3 Face/counterface angle driven tool

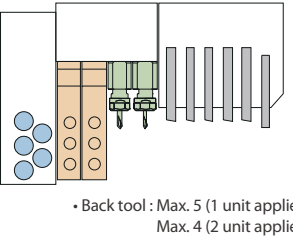


Angle: -20° ~ 0°



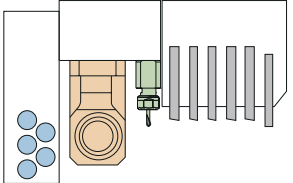
Angle: -90° ~ 0°

3 Face/counterface driven tool

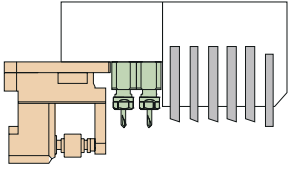


- Back tool : Max. 5 (1 unit applied)
Max. 4 (2 unit applied)

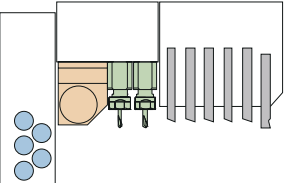
Whirling



Gear Hobbing



Polygon

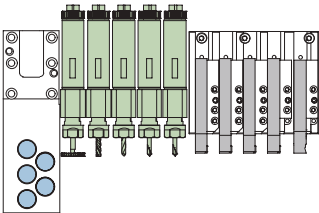


※ When special tool is installed, back tool unit should have max. 4 tools

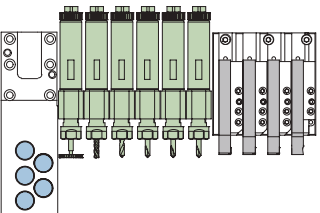
XD38II

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

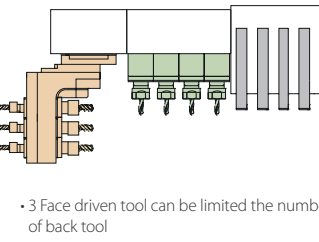
Cross 5



Cross 6

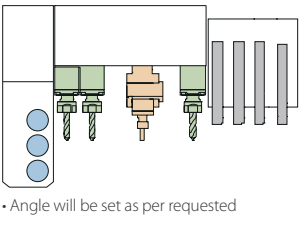


B-axis unit



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

Fixed Angle Drilling

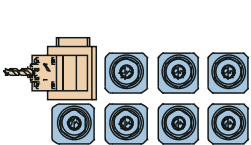


- Angle will be set as per requested

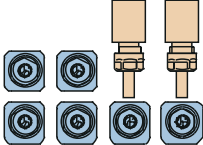
Back Tool Option Unit (Y2)

Fixed Angle Drilling

- Angle will be set as per requested



Back tool cross
(Modular, Single body)



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

Hi-CPS

Hanwha Intelligence CNC Prognostic System



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

Function

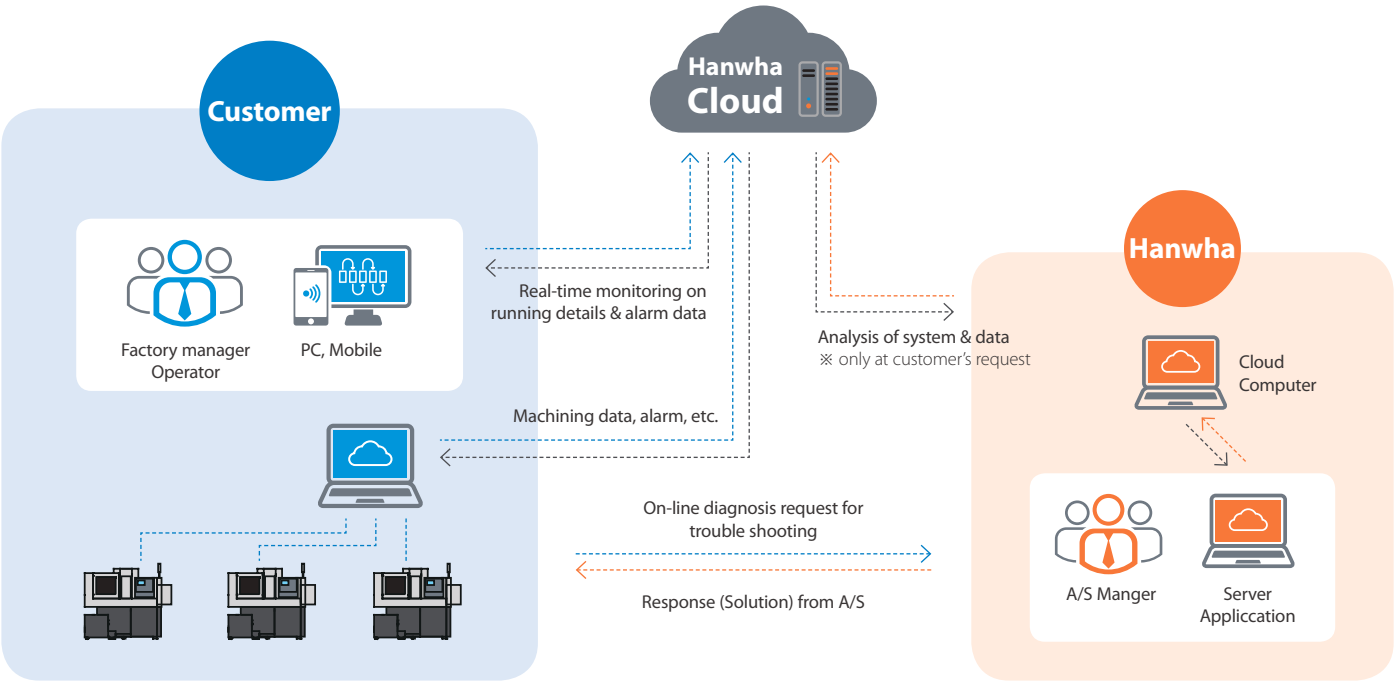
- 1

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

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

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

Prognosis
 - Analyzes cutting load, tool change and offset



PCR / PCRS & Oscillation

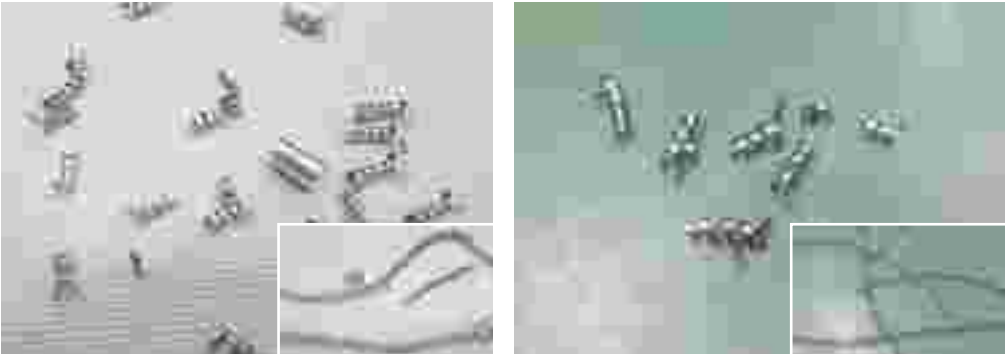
Chip breaking solution



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

Advantage

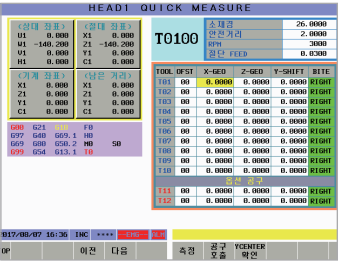
- Better tool life
- Build-up edge free
- Chip trouble free
- Coolant usage saved



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

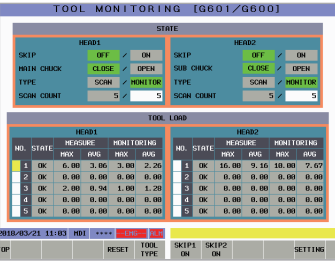
Customer & Performance Supporting Function

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



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

Collision Protection
Easy setting of value to protect collision before occurring



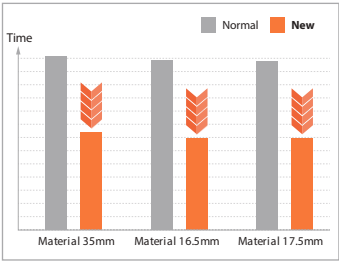
Tool Load Monitoring
Alarms when abnormal load on tools are detected

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