

Hanwha Precision Machinery / Machine Tool Division

www.hanwhaprecisionmachinery.com

9 Sungsanpaechong-ro, Sungsan-gu, Changwon, Kyungnam, South Korea(59 Sungsan-dong)

Tel. +82-55-280-4678 / +82-55-210-6419 Fax. +82-55-280-8930

Email. mtinfo@hanwha.com

Experience Your **SMART FACTORY**

Machine Tool Products



Hanwha Europe GmbH

Kölner Straße 10, 65760 Eschborn Germany

Hanwha Europe GmbH Technical Center

Hessenring 15B, 64546 Mörfelden-Walldorf, Germany

· Tel. +49-(0)-6105-7035-911

· Email. wsjung@hanwha.de

Hanwha TechM (Suzhou) Co., Ltd

North side of Sigang Segment, Zhangyang road, Zhangjiagang Economic and Technology development zone, Zhangjiagang, Jiangsu 215600, China

· Tel. +86-512-8017-9914~5

· Email. pjh1012@hanwha.com

Hanwha Machinery America Inc.

9750 South Oakwood Park Drive, Franklin, WI 53132, USA

www.hanwhamachinery.com

· Tel. +1-414-421-2300

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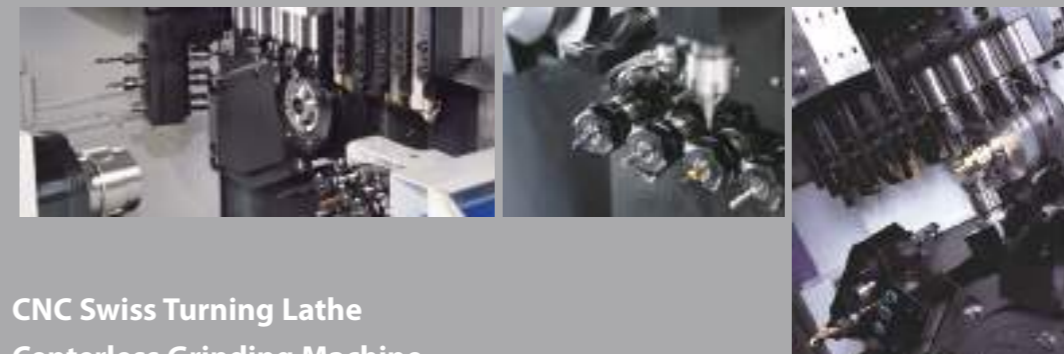
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CNC Swiss Turning Lathe
Centerless Grinding Machine



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)**

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)



STL32/38

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



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

COMPLEX MACHINING

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



Balance cutting (OD +Turret)

Turning / drilling (OD +Turret)

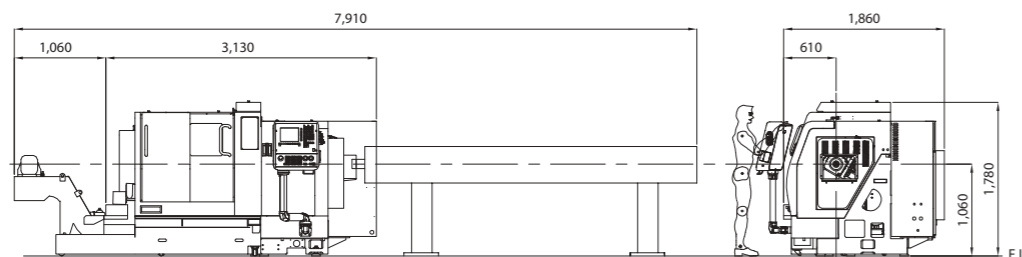


Endmill (Cross+Turret)

Drilling (Front+Back)

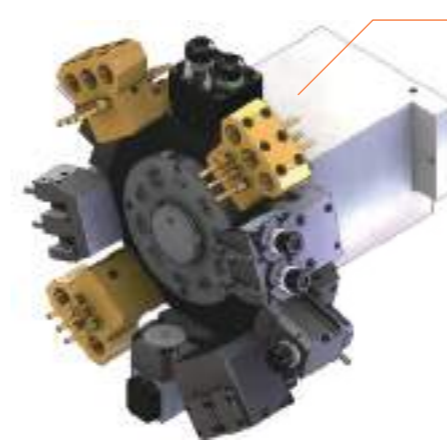
Model	STL32/38		
	-	Y3	
NC	Siemens 840D		
Max. machining diameter	Ø32/38		
Z1 Stroke (mm)	320		
Main spindle	rpm	6,500	
	kW	23	
OD tool	No. of tools	5 (□16mm)	
	No. of tools	4 (ER20M)	
Cross drill	rpm	6,000	
	kW	1.07	
Turret unit	No. of unit	1 Unit (10 Station)	
	No. of tools	max. 30 (□20, ER20)	
	Tool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

Dimension



Option Tooling

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



Turret Unit

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



VDI 30



BMT45



Cross Drilling / Milling Unit

- Easy tool change for maintenance & installation

Option tool



Internal coolant driven tool
※ Spline modular

Back Tool Unit

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

Option tool & unit



Internal coolant driven tool



Multi finger tool
(Re-adjust machining point)



3 ~ 4 tools



8 tools
(Max. 4 Driven)

Specification of G/B & Chuck

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

Standard

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

Option

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

STL42

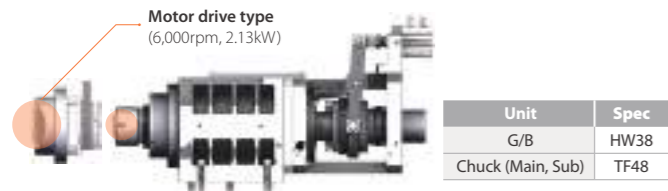
Specialized 9-axis turret type sliding head machine with powerful Siemens 840D controller (42mm)



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

OPTIMIZATION OF STRUCTURE & SPEC

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



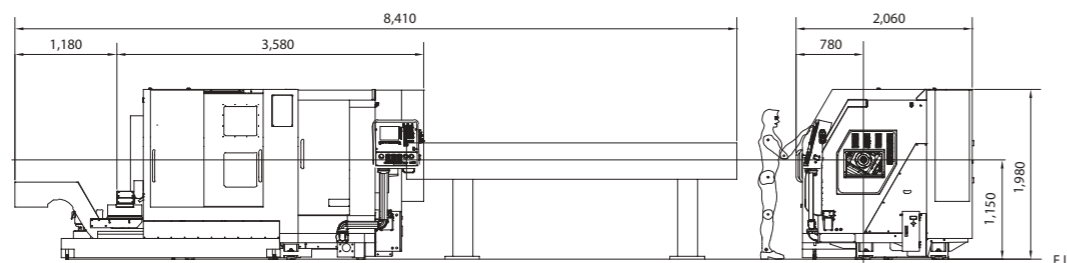
UPGRADED SOFTWARE PLATFORM

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



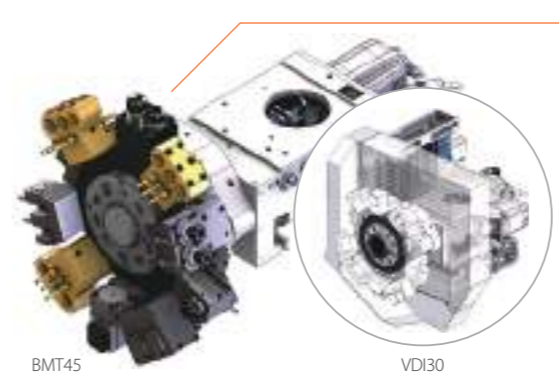
Model	STL42	
	H	NH
NC	Siemens 840D	
Max. machining diameter	Ø42	
Z1 Stroke (mm)	420	282 (H), 125 (N)
Main spindle	rpm	6,000
	kW	22
OD tool	No. of tools	5 (□20mm)
	No. of tools	5 (ER20)
Cross drill	rpm	6,000
	kW	2.59
Turret unit	No. of unit	1 Unit (10 Station)
	No. of tools	max. 30EA (□20, ER20)
	Tool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

Dimension



Option Tooling

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

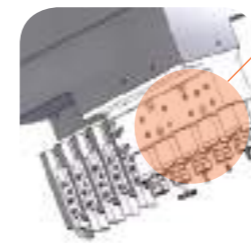


Turret Unit

- 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)

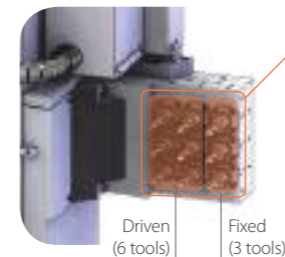


Cross Drilling / Milling Unit

- 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)

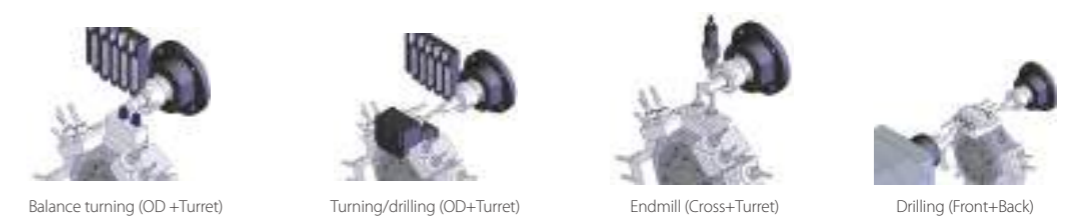
Specification (STL38 → STL42)

- 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	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	-	-	★	★	-	-	★	★		★	★	★	-	-
Intenal coolant driven unit	Cross	-	-	★	★	-	★(Modular)	★	★		★	★	★	★	★
	Back	-	-	★	★	-	-	★	★		★	★	★	★	★
Fixed angle drilling unit	Off-center	-	-	★	★	-	-	★	★		★	★	★	-	-
	Cross, 1	-	-	▲	▲	-	-	▲	▲		★	★	★	★	★
Triple speed cross drill	Back, 1	-	-	▲	▲	-	-	▲	▲		★	★	★	★	★
	Cross	-	-	★	★	-	★(Modular)	★	★		★	★	★	★	★
Triple speed reduction cross drill	Cross	-	-	★	★	-	★(Modular)	★	★		★	★	★	★	★
	Cross	-	-	★	★	-	-	★	★		★	★	★	-	-
3 Face/counterface driven tool	Cross	-	-	★	★	-	-	★	★		★	★	★	-	-
	Cross	-	-	★	★	-	-	★	★		★	★	★	-	-
Gear hobbing	Cross	★	-	★	★	▲	▲	★	★		★	★	★	★(Turret)	★(Turret)
	Cross	-	-	★	★	-	★	★	★		★	★	★	★	★
Whirling	Cross	-	-	★	★	-	★	★	★		★	★	★	★	★
	Cross	-	-	★	★	-	★	★	★		★	★	★	★	★
Side cutter	Back	-	-	★	★	-	★	★	★		★	★	★	★(Turret)	★(Turret)
	Modular(Y2)	-	-	-	-	-	-	-	★		★	★	★	-	-
Back tool cross	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	★	★	★	★	-	★	★	★		★	★	★	★	★

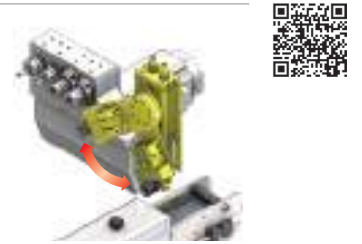
★ : Option ▲ : Discussable - : N/A

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

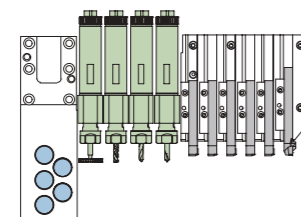


Tooling Variation

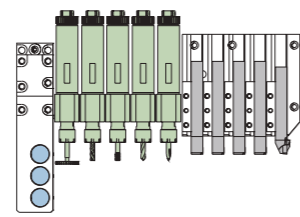
XD20/26II

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

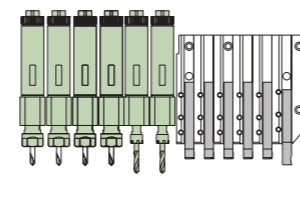
Cross 4



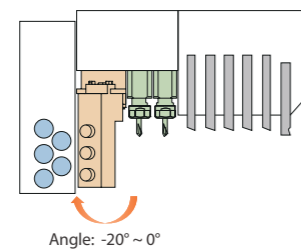
Cross 5



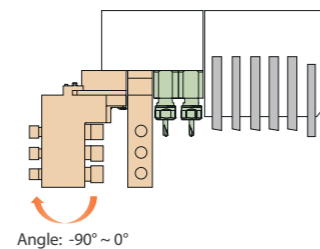
Cross 6



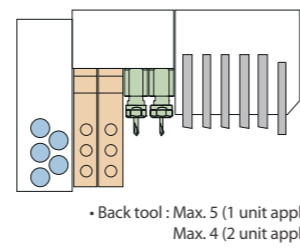
3 Face/counterface angle driven tool



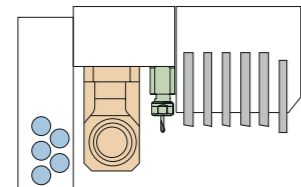
3 Face/counterface driven tool



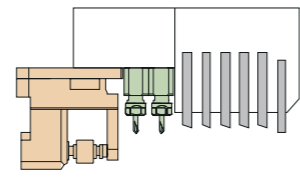
3 Face/counterface driven tool



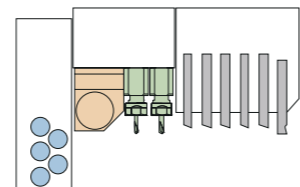
Whirling



Gear Hobbing



Polygon

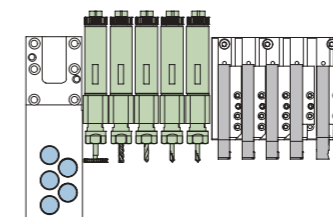


※ When special tool is installed, back tool unit should have max. 4 tools

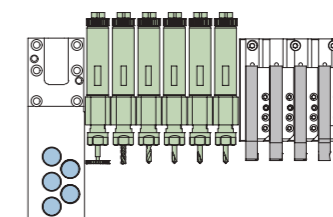
XD38II

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

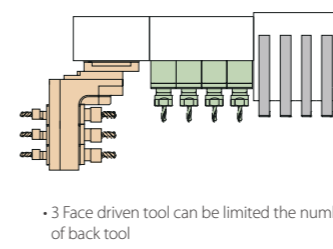
Cross 5



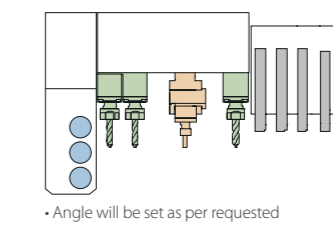
Cross 6



B-axis unit



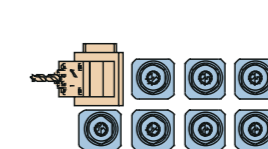
Fixed Angle Drilling



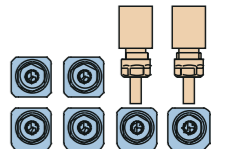
Back Tool Option Unit (Y2)

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)

Hi-CPS

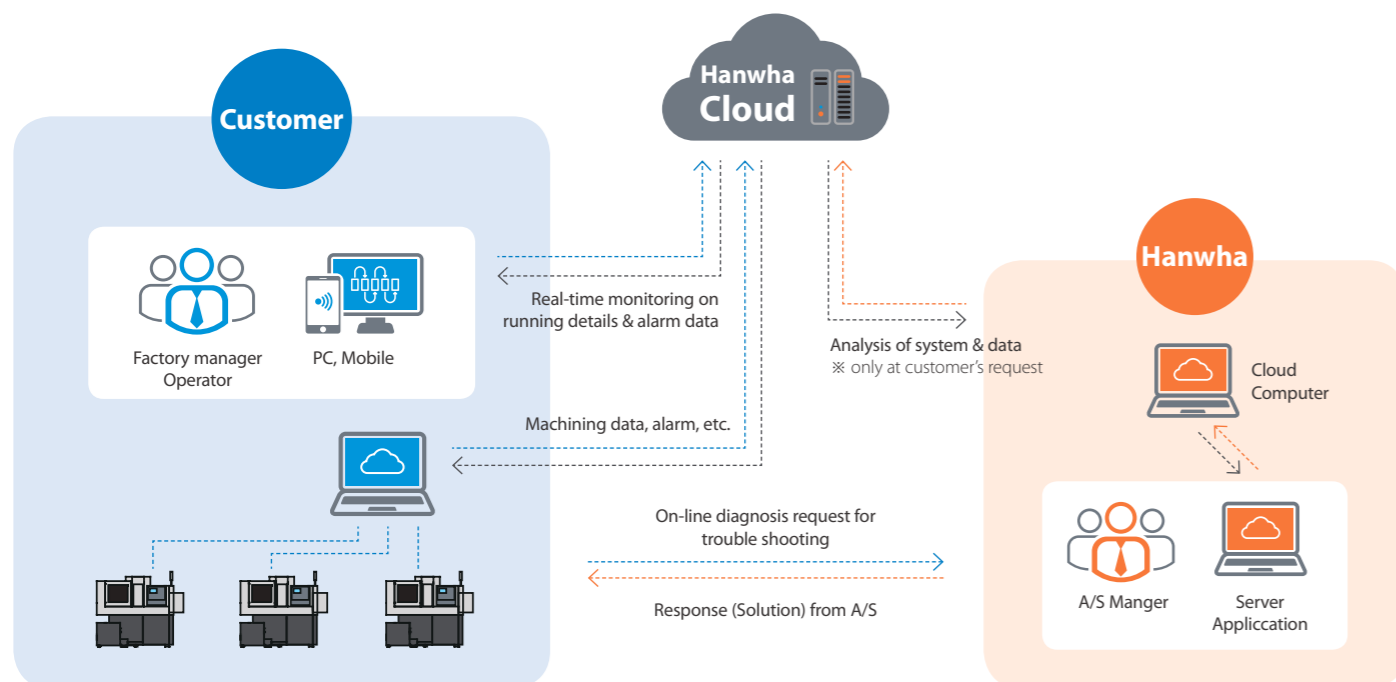
Hanwha Intelligence CNC Prognostic System



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

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

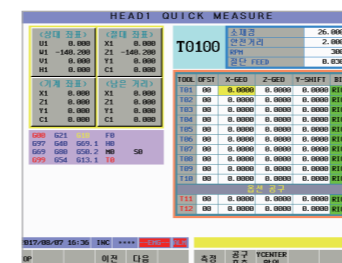
- Better tool life
- Build-up edge free
- Chip trouble free
- Coolant usage saved



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

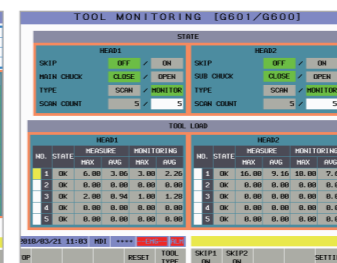
Customer & Performance Supporting Function

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



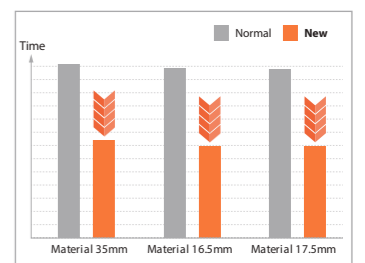
Tool Load Monitoring
 Alarms when abnormal load on tools are detected

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