

Hanwha Precision Machinery / Machine Tool Division

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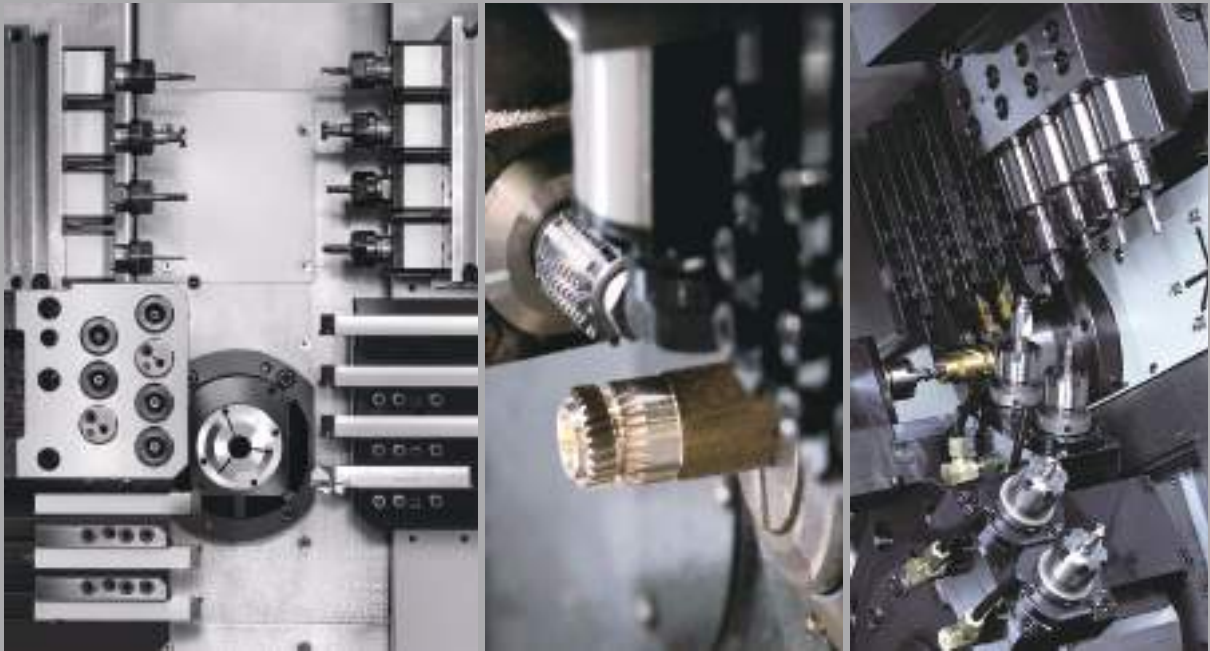
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Experience Your **SMART FACTORY**

Hanwha Machine Tool

CNC Swiss Turning Lathe



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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

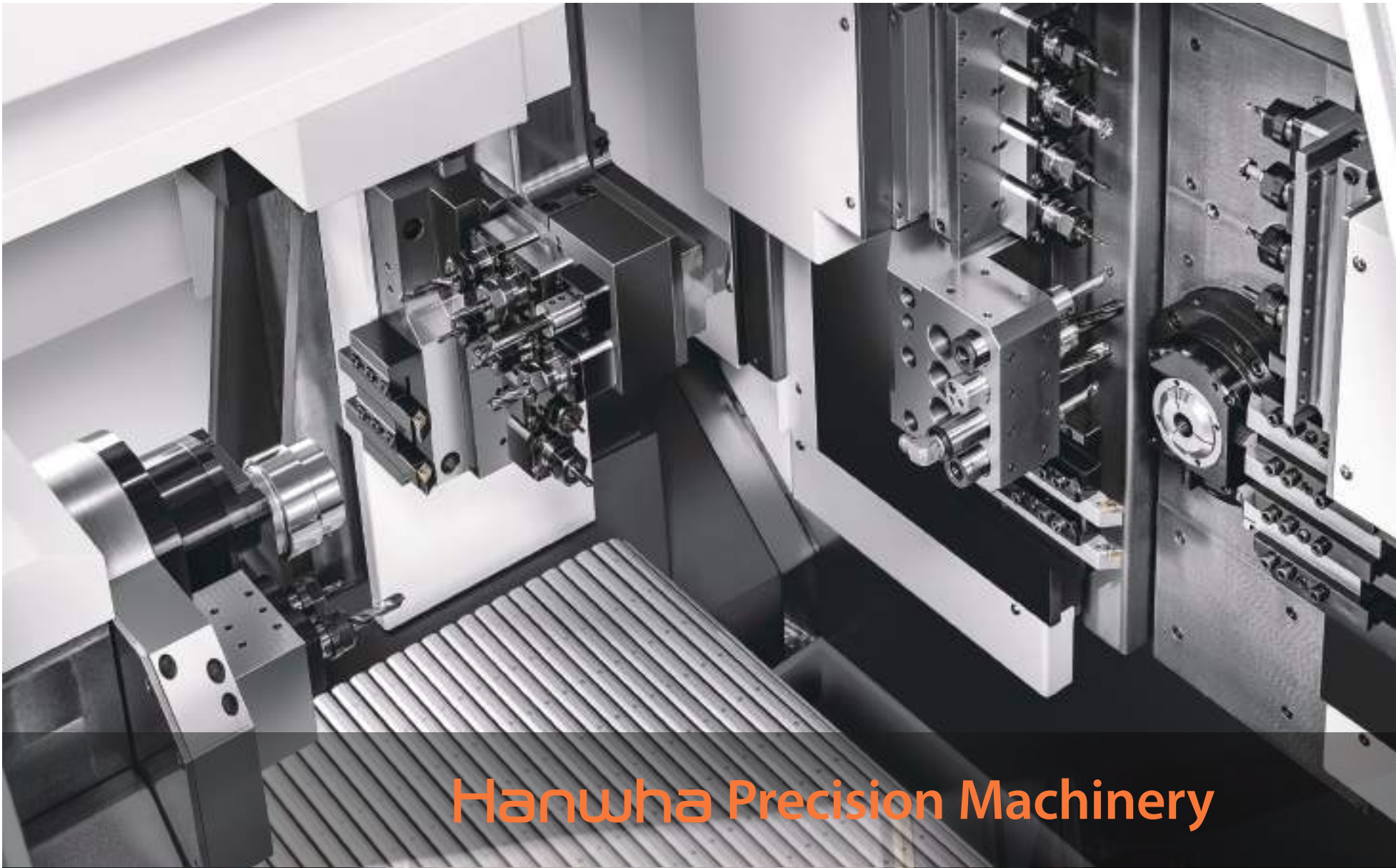
Offers customized solutions with a wide range of line-up for automatic lathes in gang & turret type.



Surface Mounter Technology Division

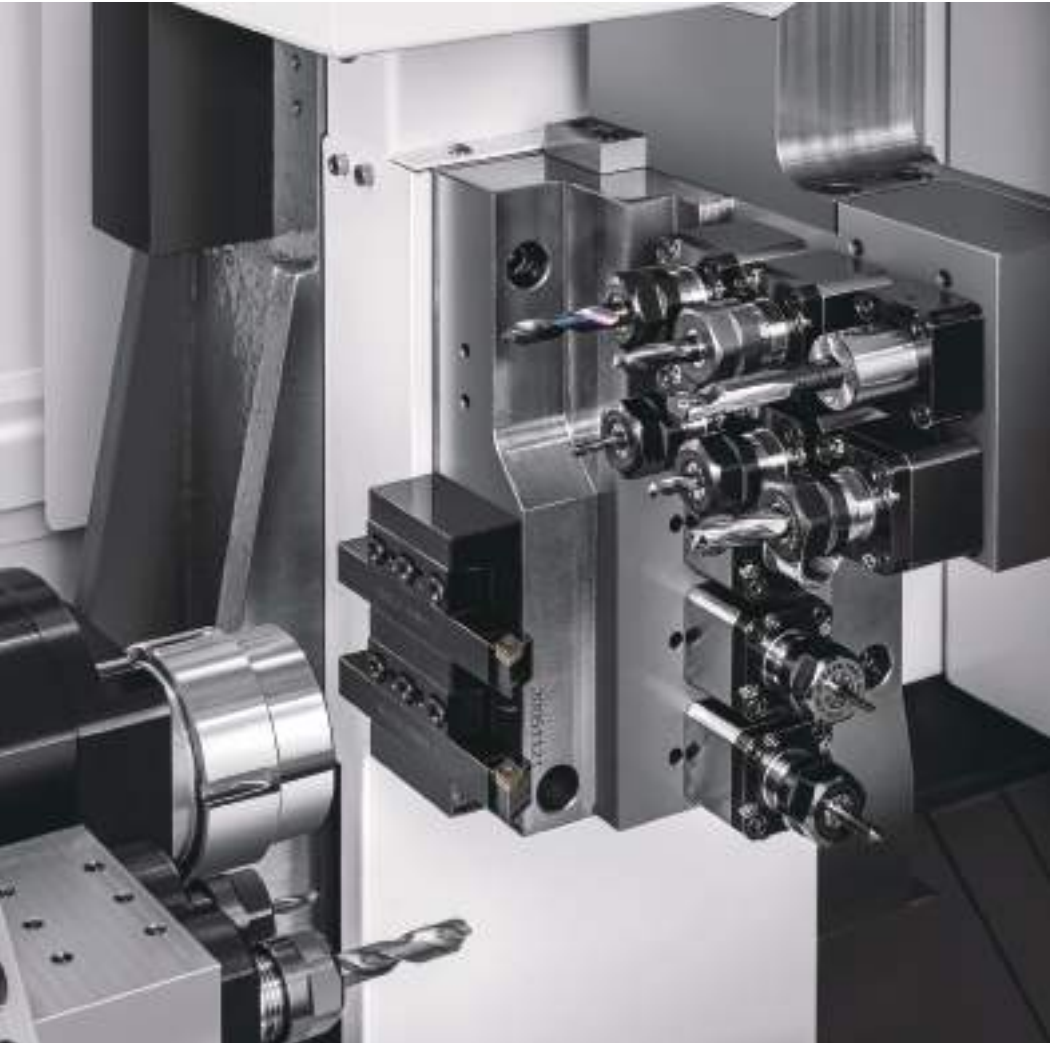
Chip Mounter • Screen Printer • Semiconductor Equipment

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



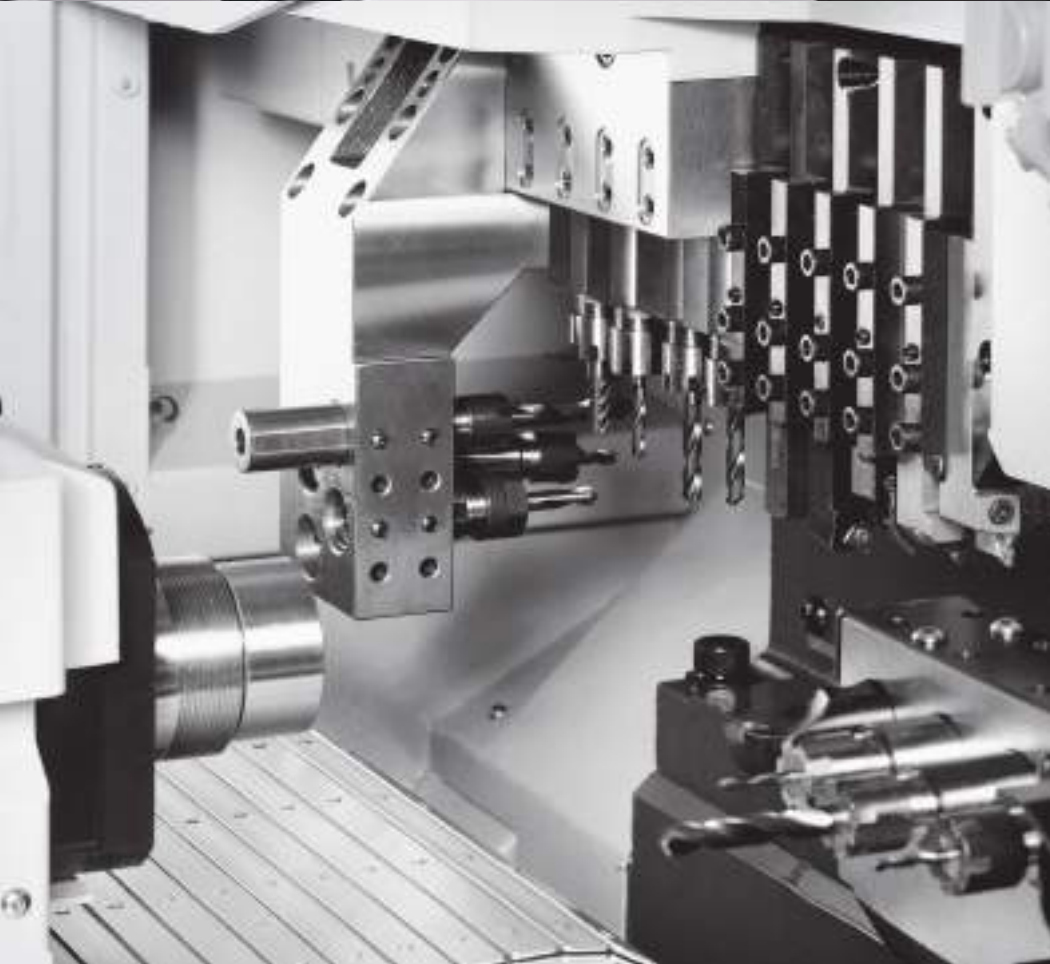
Hanwha Precision Machinery





CNC Swiss Turning Lathe

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



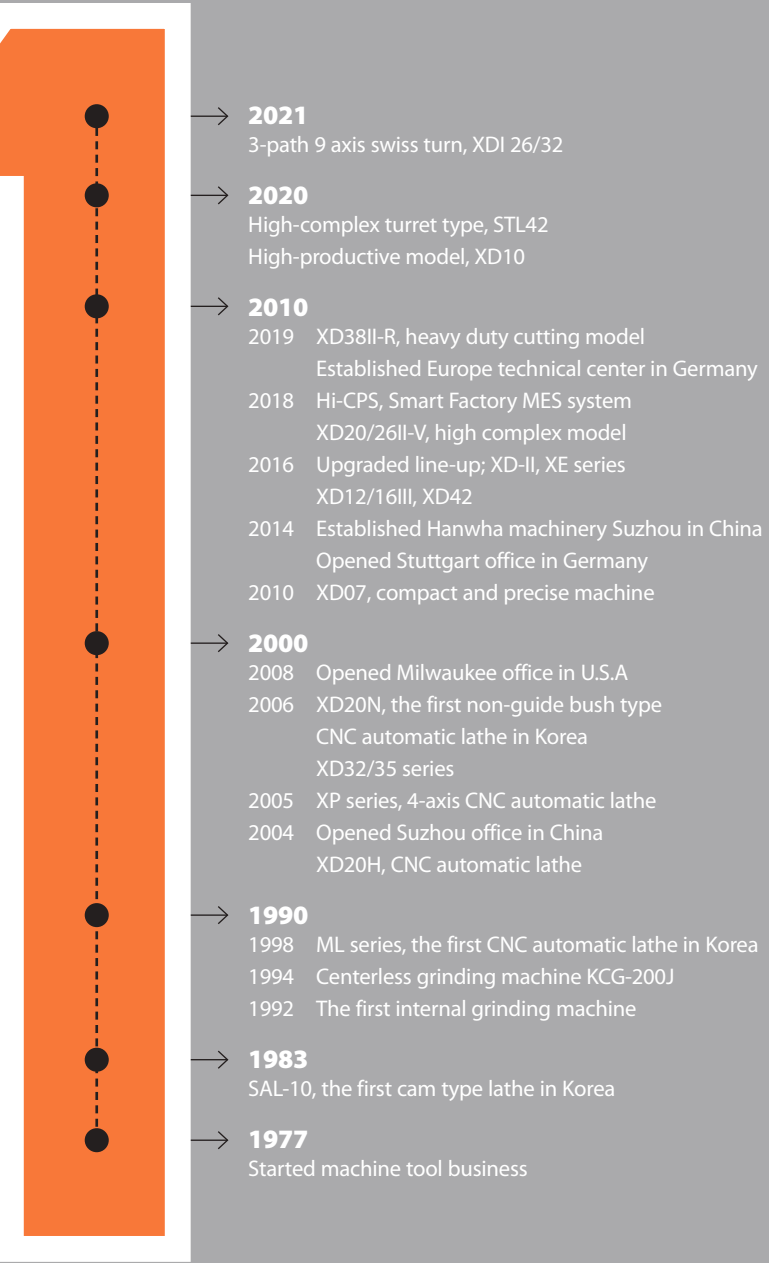
Machine Tool Division

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



STL42

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

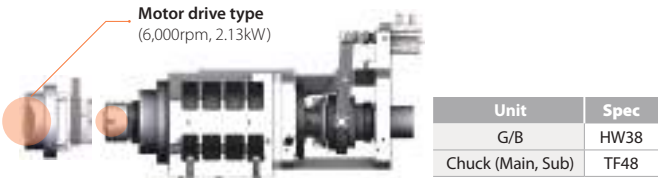


OPTION
• Back tool cross 9 (Cross 3, Driven 3 + Fixed 3)

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 (□20mm, 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

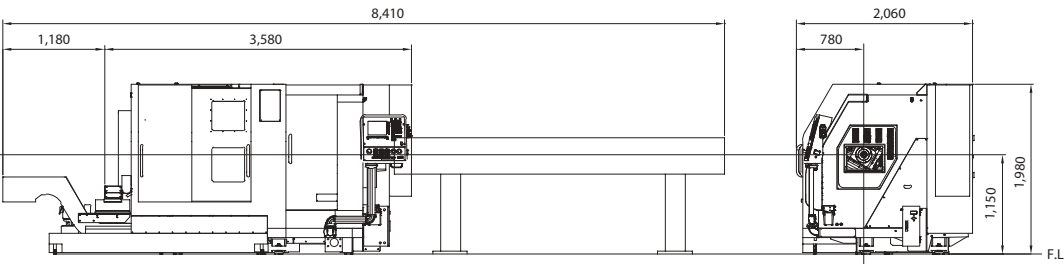


UPGRADED SOFTWARE PLATFORM

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

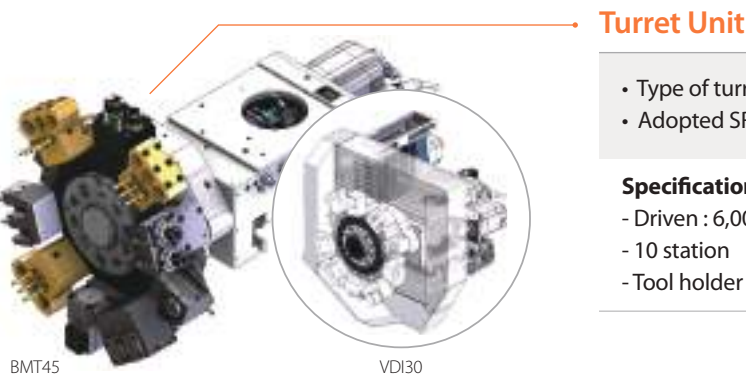


Dimension



Option Tooling

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



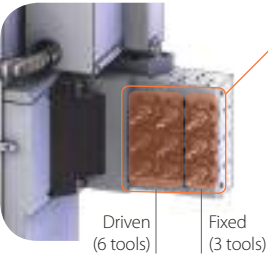
- Turret Unit**
- Type of turret unit is selectable; VDI (standard) or BMT (option)
 - Adopted SRG(Roller retainer) LM guide for feed of turret unit

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



Balance turning (OD +Turret)



Turning/drilling (OD+Turret)



Endmill (Cross+Turret)



Drilling (Front+Back)

Standard

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

Option

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

STL38

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

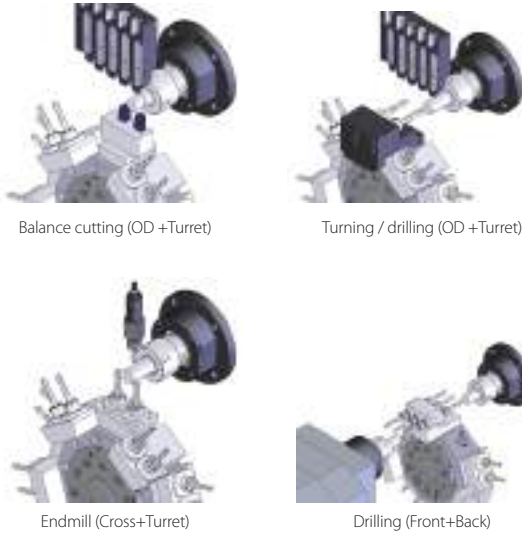


OPTION
• Y3 back tool 8 (Driven 4 + Fixed 4)

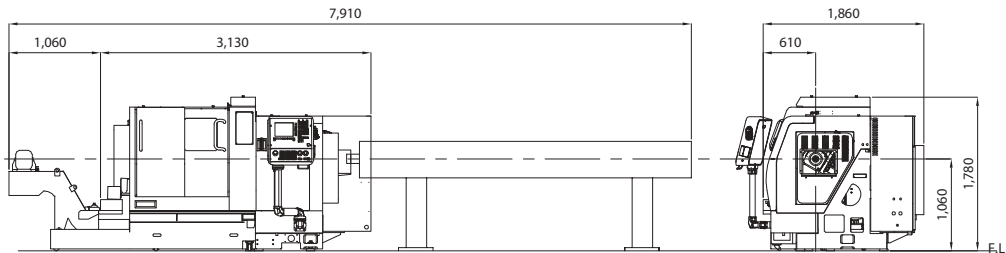
Model		STL32/38	
		-	Y3
NC		Siemens 840D	
Max. machining diameter (mm)		Ø32/38	
Z1 Stroke (mm)		320	
Main spindle	Speed (rpm)	6,500	
	Motor (kW)	23	
OD tool	No. of tools	5 (□16mm)	
Cross drill	No. of tools	4 (ER20M)	
	Speed (rpm)	6,000	
	Motor (kW)	1.07	
Turret unit	No. of unit	1 Unit (10 Station)	
	No. of tools	max. 30 (□20mm, ER20)	
	Tool type	VDI 30 (Option : BMT 45)	
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)	-	6,000
	Motor (kW)	-	1.07
Machine size (L x W x H) (mm)		3,130 x 1,860 x 1,780	
Weight (kg)		4,400	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

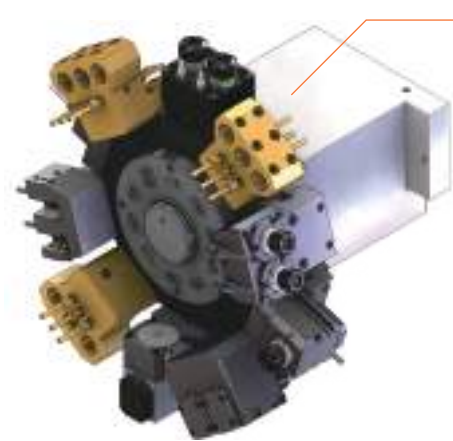


Dimension



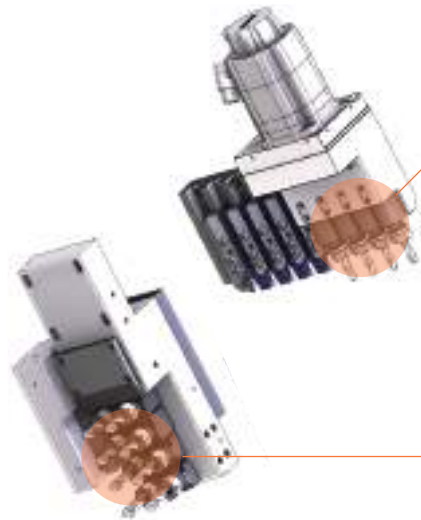
Option Tooling

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)
- 1set 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

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			STL series		XDI series	XD series						XD series		XE series		XP series	
			STL42	STL38	XDI 26/32	XD42	XD38II-R	XD38II	XD20/26II-V	XD20/26II		XD16III	XD10	XE35	XE20/26	XP20/26/32S	XP12/16S
Off-cent unit	Driven(2)		-	-	★	★(1)	★	★	★	★		-	-	★(1)	★	-	-
	Fixed (long drill, 2)		-	-	★	-	★(1)	★(1)	★	★		★(1)	-	-	★	-	-
	Off-center Tailstock		-	-	▲	★	★	★	★	★		-	-	★	★	-	-
Option tool unit	Intenal coolant driven unit	Cross	★	★	★	★	★	★	★	★		★(Modular)	▲	★	★	-	-
		Back	★	★	★	★	★	★	★	★		-	▲	★	★	-	-
		Off-center	-	-	▲	★	★	★	★	★		-	-	★	★	-	-
	Fixed angle drilling unit	Cross, 1	★	★	★	★	★	★	▲	▲		-	-	▲	▲	-	-
		Back, 1	★	★	★	★	★	★	▲	▲		-	▲	▲	▲	-	-
	Triple speed cross drill	Cross	★	★	▲	★	★	★	★	★		★(Modular)	▲	★	★	-	-
	Triple speed reduction cross drill	Cross	★	★	▲	★	★	★	★	★		★(Modular)	▲	★	★	-	-
	3 Face/counterface driven tool	Cross	-	-	▲	★	★	★	★	★		-	-	★	★	-	-
	3 Face/counterface angle driven tool	Cross	-	-	▲	★	★	★	★	★		-	-	★	★	-	-
	Gear hobbing	Cross	★(Turret)	★(Turret)	▲	★	★	★	★	★		▲	▲	★	★	-	★
	Whirling	Cross	★	★	▲	★	★	★	★	★		★	-	★	★	-	-
	Side cutter	Back	★(Turret)	★(Turret)	▲	★	★	★	★	★		★	★	★	★	-	-
	Back tool cross	Modular(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



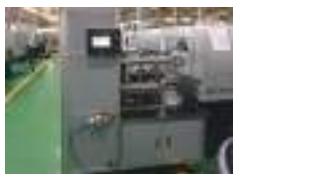
Parts Auto Loading unit

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

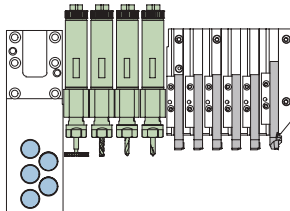


Tooling Variation

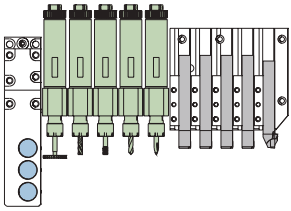
XD20/26II

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

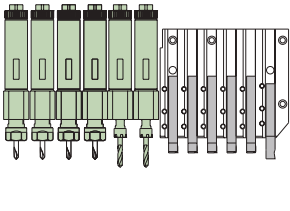
Cross 4



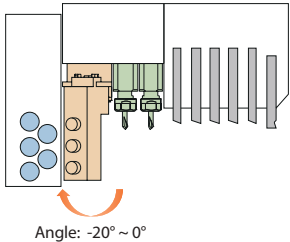
Cross 5



Cross 6

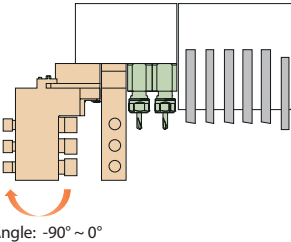


3 Face/counterface angle driven tool



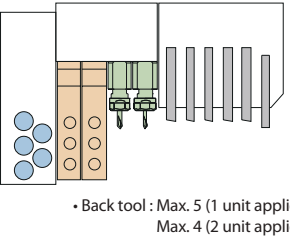
Angle: -20° ~ 0°

3 Face/counterface driven tool



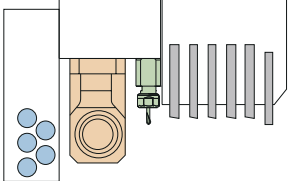
Angle: -90° ~ 0°

3 Face/counterface driven tool

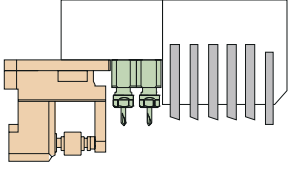


• Back tool : Max. 5 (1 unit applied)
Max. 4 (2 unit applied)

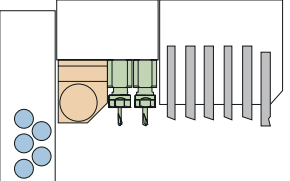
Whirling



Gear Hobbing



Polygon

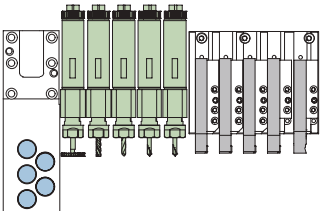


※ When special tool is installed, back tool unit should have max. 4 tools

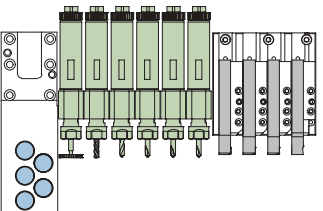
XD38II

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

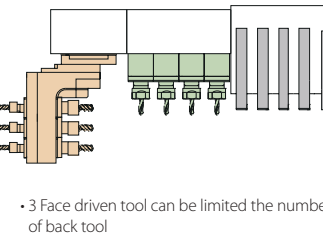
Cross 5



Cross 6

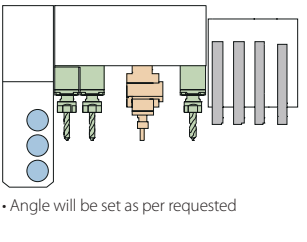


B-axis unit



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

Fixed Angle Drilling



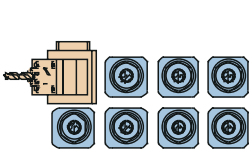
• Angle will be set as per requested

Back Tool Option Unit (Y2)

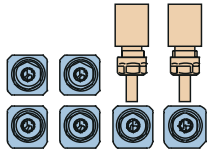
※ When special tool is installed, back tool unit should have max. 4 tools
※ Back tool option is available for both 6(Y2) and 8(Y2)

Fixed Angle Drilling

• Angle will be set as per requested



Back tool cross
(Modular, Single body)



Hi-CPS

Hanwha Intelligence CNC Prognostic System

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

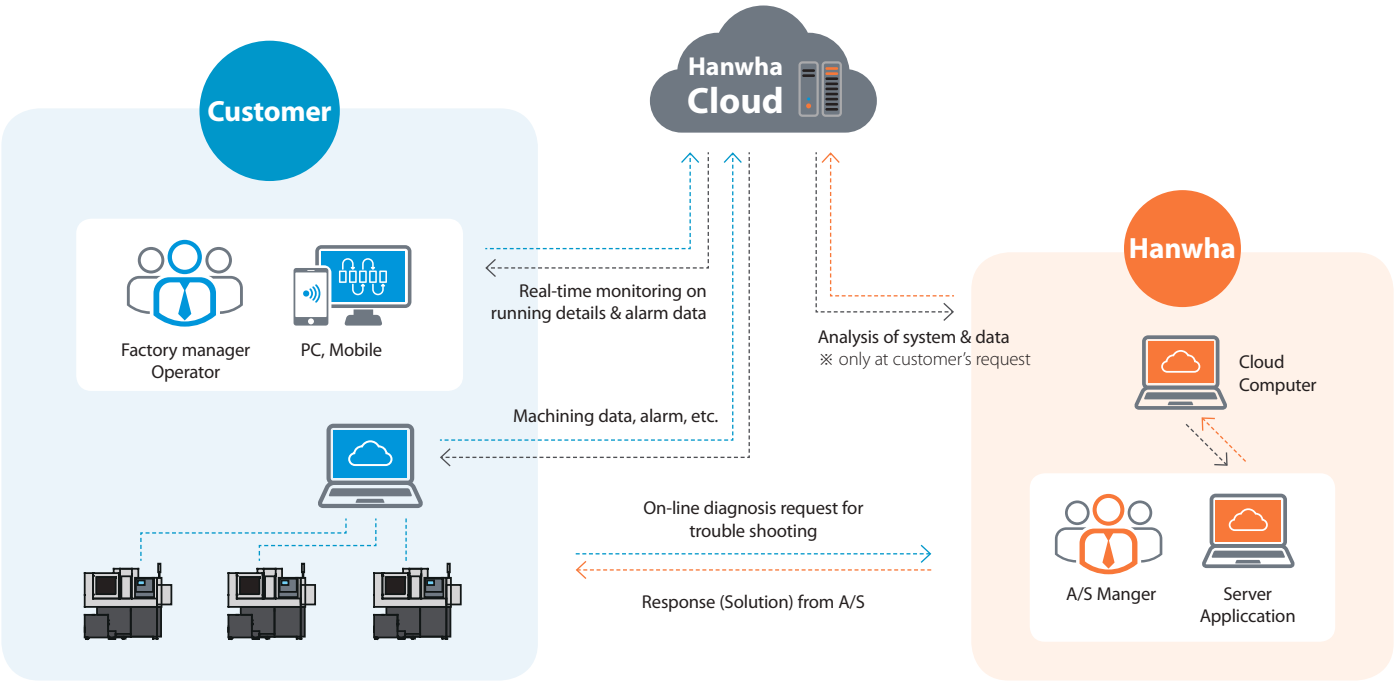
※ Only at customer's request, relevant machine data will be auto-transferred to Hanwha for analysis

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

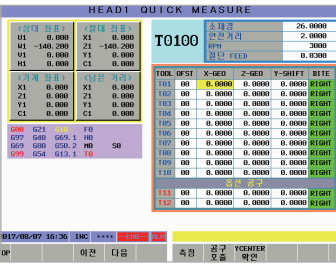
- Better tool life
- Build-up edge free
- Chip trouble free
- Coolant usage saved



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

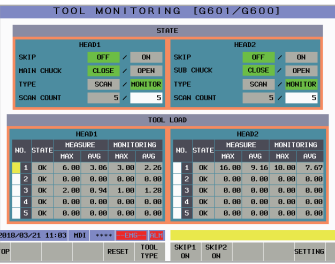
Customer & Performance Supporting Function

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



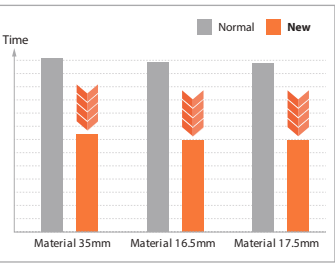
Tool Load Monitoring
Alarms when abnormal load on tools are detected

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

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