

Office 7F, 20, Pangyoyeok-ro 241beon-gil, Bundang-gu, Seongnam-si, Gyeonggi-do, Republic of Korea
Tel. +82-70-7147-5071 Email. mtinfo@hanwha.com

Factory 9, Seongsanpaechong-ro, Seongsan-gu, Changwon-si, Gyeongsangnam-do, Republic of Korea



Hanwha Europe GmbH Technical Center

Hessenring 15B, 64546 Mörfelden-Walldorf, Germany
· Tel. +49-(0)-6105-7035-911
· E mail. wsjung@hanwha.de

Hanwha Europe Istanbul Branch

İstasyon Mah. Yarış Çıkmazı Sk. No:1 Dükkan No: B/ 24
Tuzla/ İstanbul
· Tel. +90-531-435-1744
· E mail. djkoo@hanwha.de

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Hanwha Machinery America Inc.

9750 South Oakwood Park Drive, Franklin, WI 53132, USA
· Tel. +1-414-421-2300
· E mail. jeff@hanwhamachinery.com

Hanwha Machinery America Chicago Office

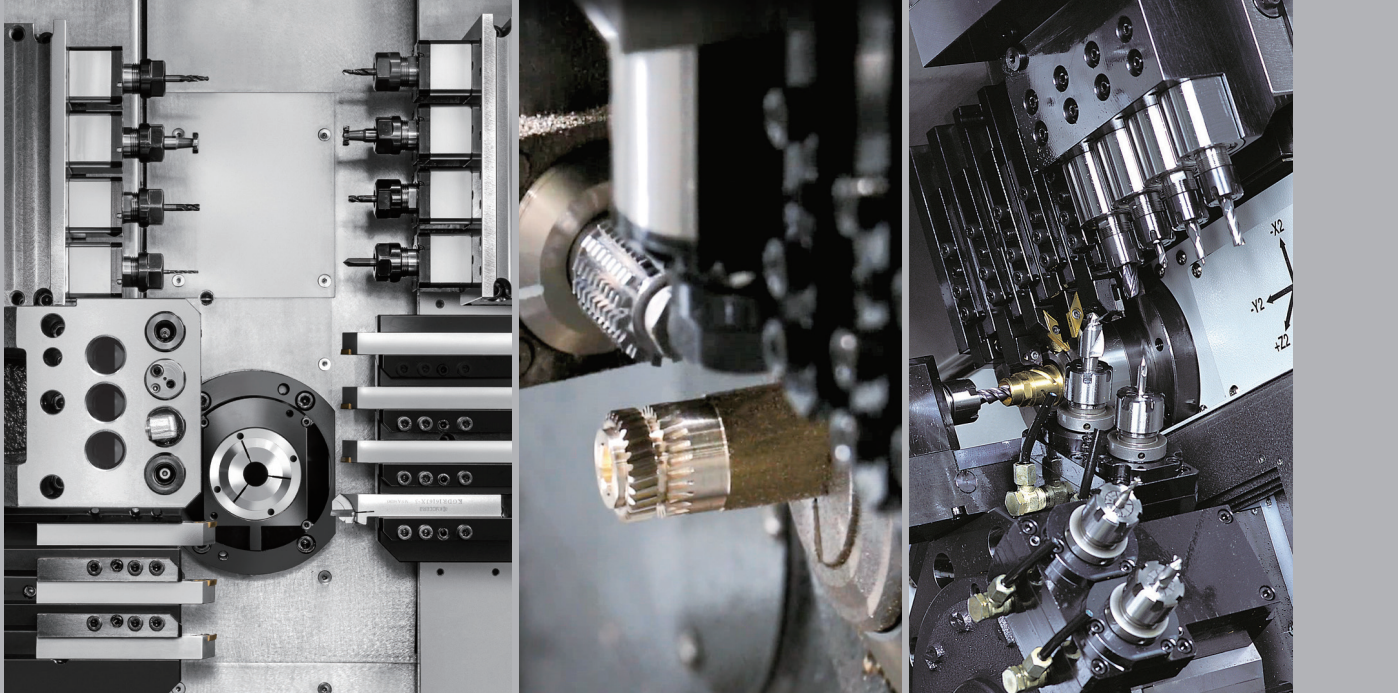
1455 Payne Road, Schaumburg, IL, 60173
· Mobile. +1-224-833-1860
· E mail. tommy@hanwhamachinery.com

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※ Please note specifications are based on an optimized condition, and a subject to change without prior notification.

Hanwha Machine Tools

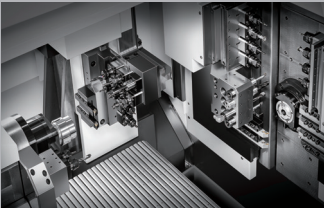
CNC Swiss Turning Lathe



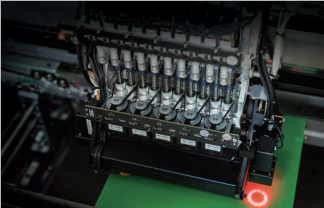
Advanced Manufacturing Solution Creator

Hanwha Precision Machinery is a leading global equipment manufacturer with business in Machine Tools, SMT, Semiconductor and manufacturing software solutions for automation. Machine Tools started back in 1977 and has been growing in both business and technology. In 2024, using 47 years of expertise and experience in machine tools, Hanwha is launching a new business where an exquisite level of precision is required – machine tools for medical. Hanwha Precision Machinery will continue to work on creating innovative technology and advanced solution for our customers. Our value has been, and always will continue to be, centered on our customer - to enhance productivity, efficiency and quality.

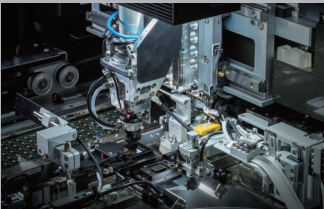
Business Area



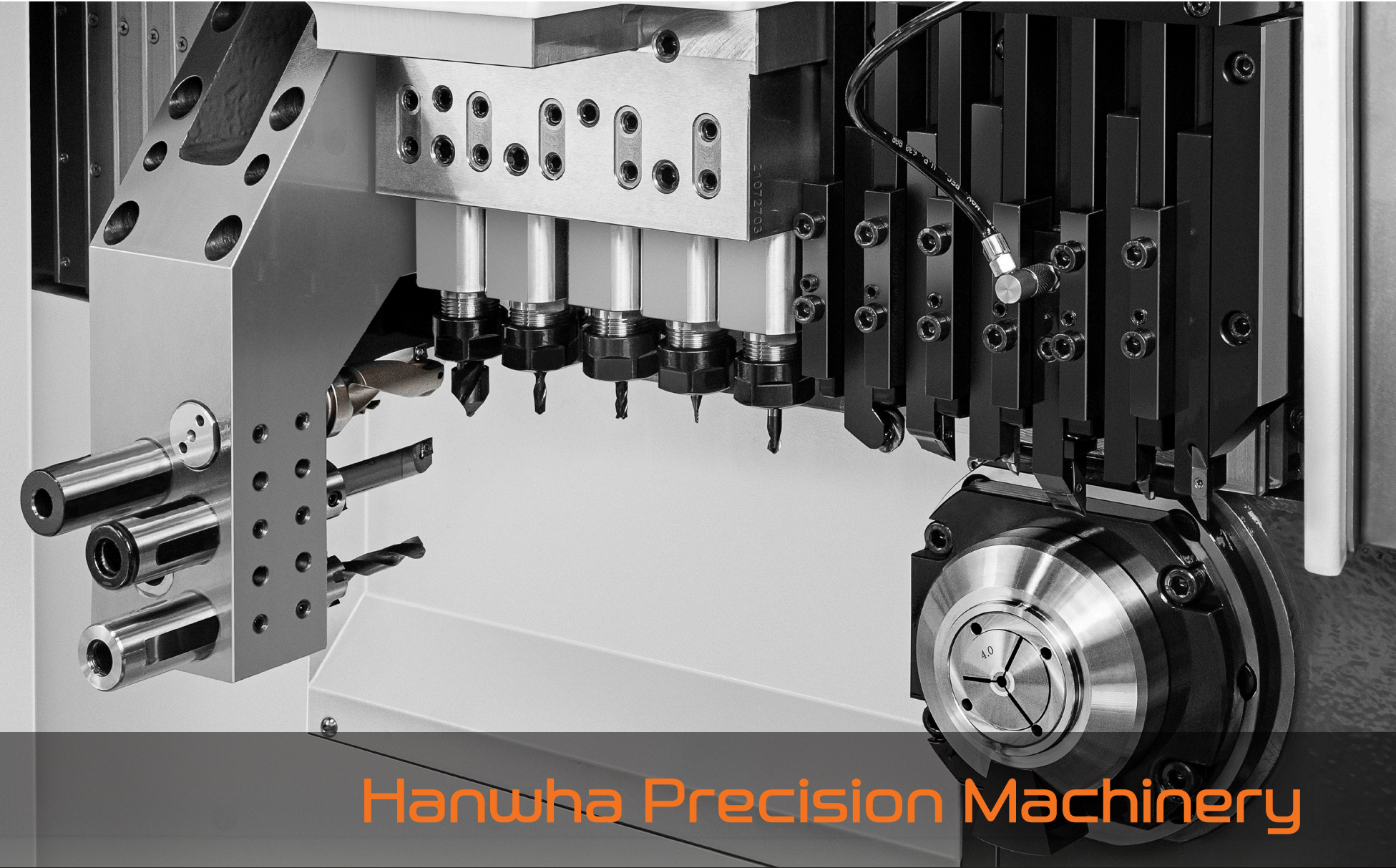
Machine Tool Division
Expert in CNC swiss lathes, centerless grinding, medical component tool and dental milling machine.



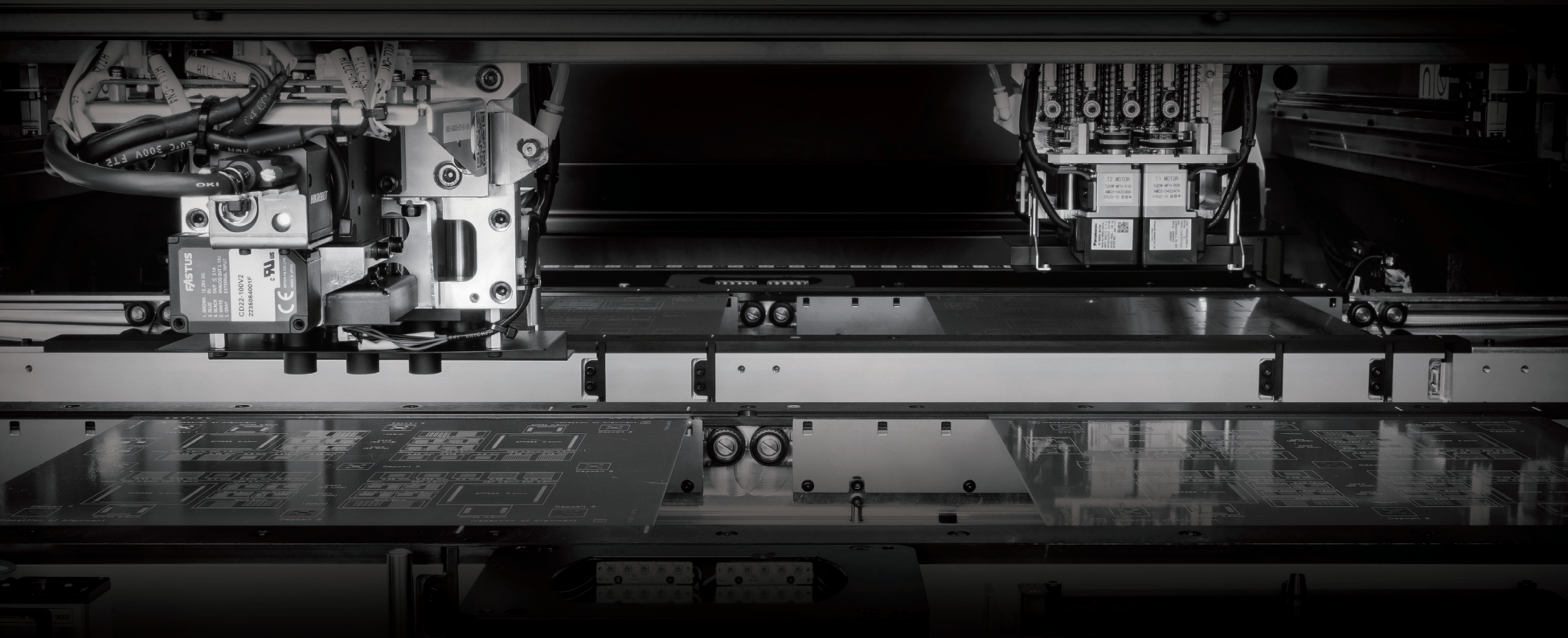
SMT Division
Automated component mounting equipment for electronic circuit boards with single and high-mix production.

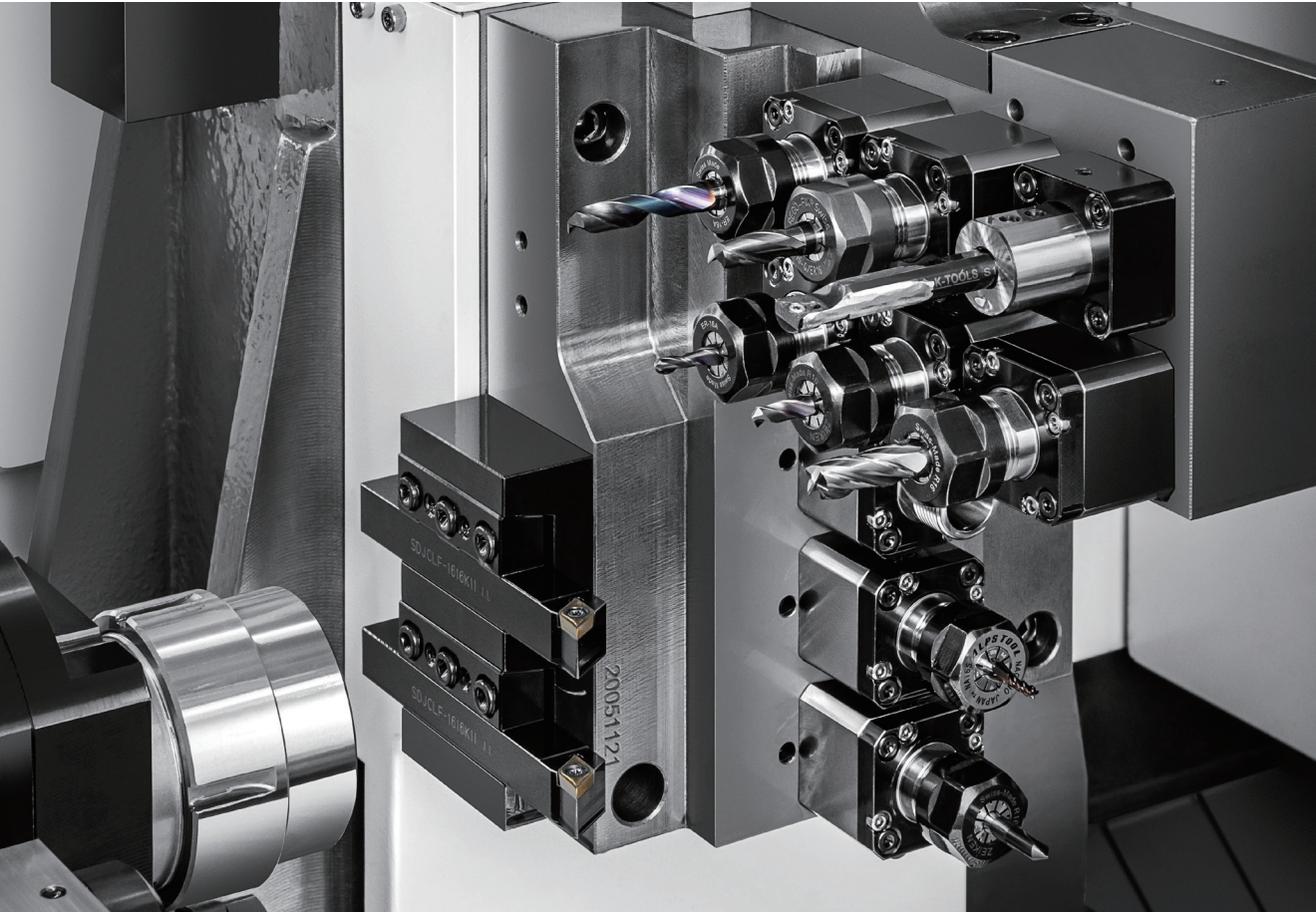


Semiconductor Division
World's 1st front & back-end process equipment maker for AP, CPU and other semiconductors.



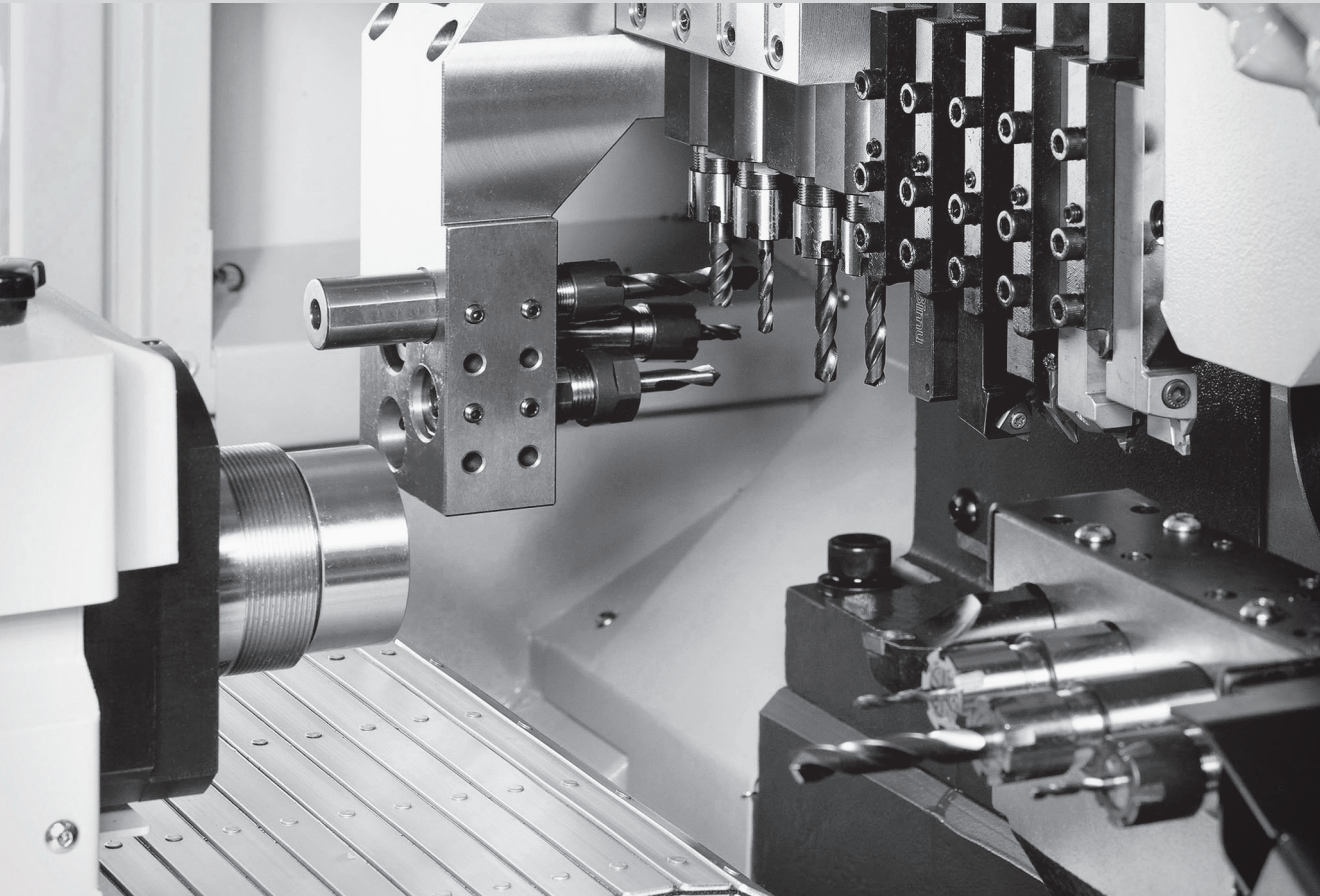
Hanwha Precision Machinery





CNC Swiss Turning Lathe

Optimized machine tool solution with a wide coverage from Ø10 to Ø 42mm, customizable with various options



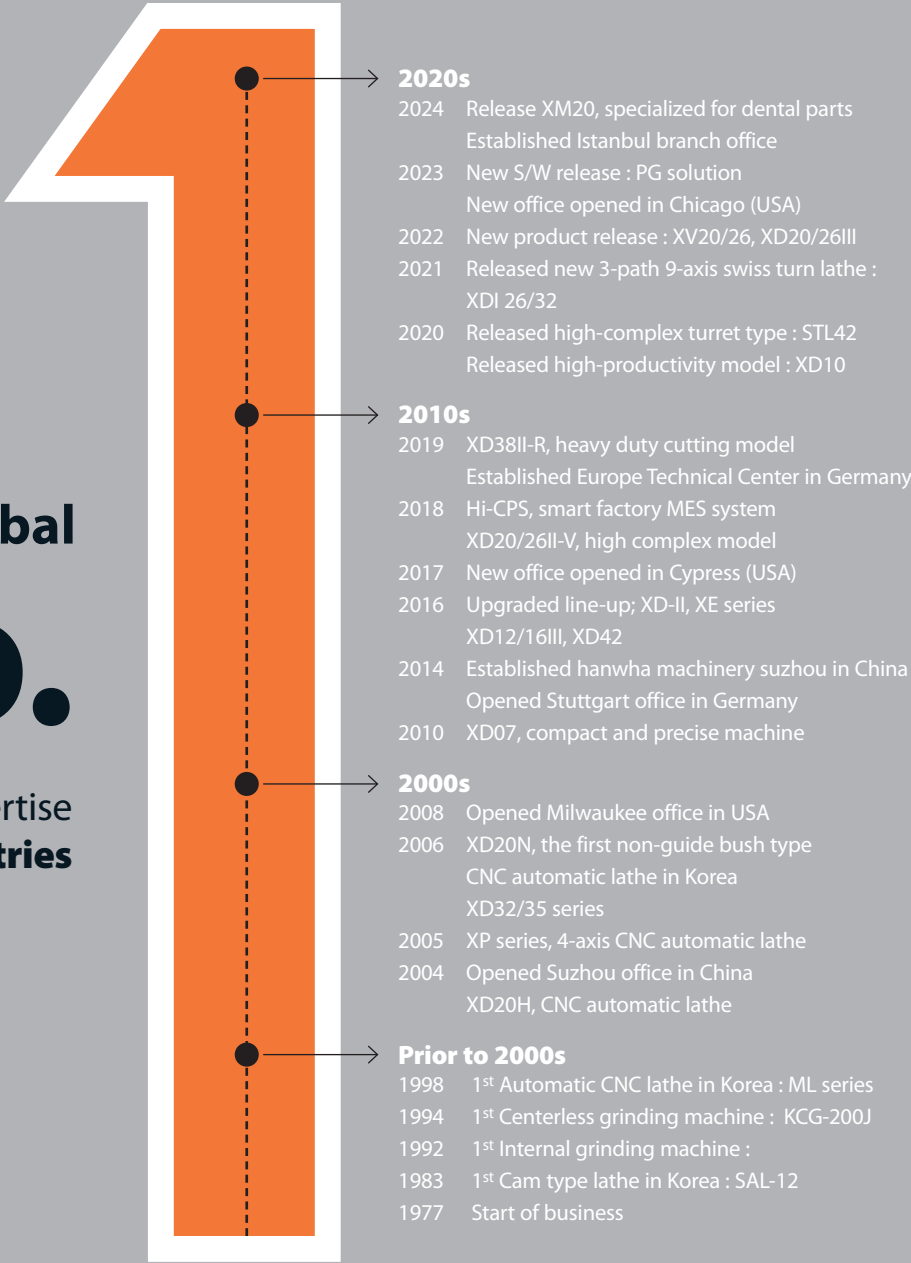
Machine Tool Division

"Machine of Machines", Now Shaping the Future

47 years of experience and expertise in Machine Tools helped us to become a manufacturing solution provider – who creates both equipment and software solution to enhance customer’s production experience. We will not stop moving forward to find a way to provide the best solution in machine tools. Our specialty in this business combined with our global networks around the globe will indeed help us to become the No. 1 in the market.

To be the Global No.

47 Years of Expertise
Sold over **30 Countries**



High Complexity & Precision Machining with a Rigid Design

Hanwha's sliding headstock machines offer a wide range of models to meet each customer's need

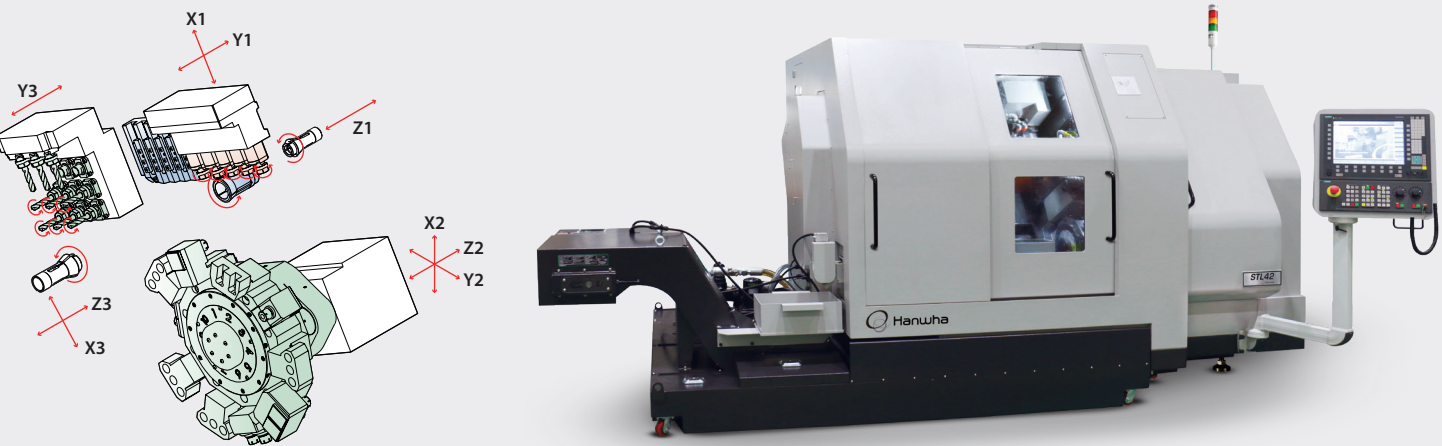


Model	STL42	STL38	XDI 26/32	XD42	XD38II-R	XD38II	XM20	XM20 Y2+B	XD20/26II-V
Max. Machining Diameter (mm)	42	38	26 32	42	38	38	20	20	20 26
Z1 Stroke (mm)	H 420 NH 282/125	H 320	NH 350/100	H 320 N 100 NH 207/100	NH 320/120	H 320 N 80 NH 142/80	NH 205/55	NH 205/55	H 210 N 50 NH 210/50
Tool Layout									
NC	Siemens	Siemens	Fanuc	Fanuc	Fanuc / Siemens	Fanuc	Fanuc	Fanuc	Fanuc / Siemens

Model	XD20/26III	XD20/26II	XE35	XE20/26	XD16III	XD10	XP20/26/32S	XP12/16S
Max. Machining Diameter (mm)	20 26	20 26	35	20 26	16	10	20 26 32	12 16
Z1 Stroke (mm)	NH(Ø20) 240/60 NH(Ø26) 240/80	H 210 N 60 NH 160/50	H 210 N 60	H 210 N 60 NH 160/50	H 155	H 155	20 210 26/32 205	12/16 140
Tool Layout								
NC	Fanuc / Siemens	Fanuc / Siemens	Fanuc	Fanuc	Fanuc	Fanuc	Fanuc	Fanuc

STL42

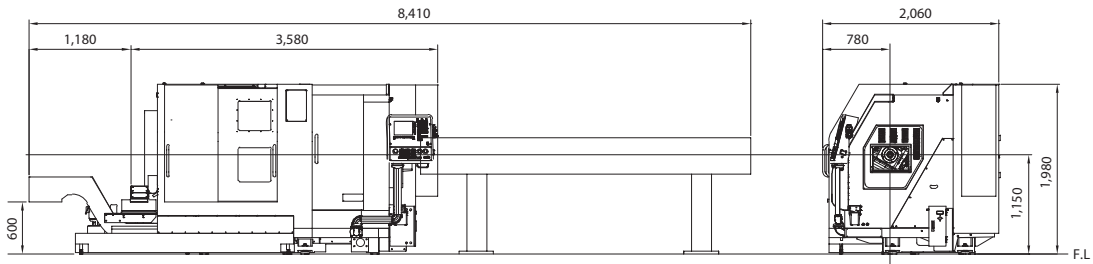
Specialized 9-axis turret type sliding head machine with a powerful Siemens 840D controller (42mm)



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)
	Motor (kW)	2.59
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) *	7.8kVA (Rated : 40kVA) (16SQ)	
Air Flow Rate (Liter/Min)	20 ~ 30 (Hydraulic device capacity : 30L)	

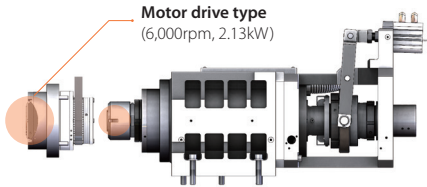
* Based on Stainless Steel. May vary depending on machining condition.

Dimension



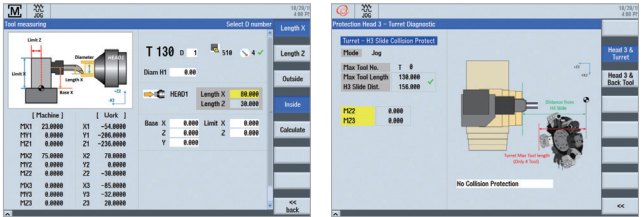
OPTIMIZATION OF STRUCTURE & SPEC

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



UPGRADED SOFTWARE PLATFORM

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

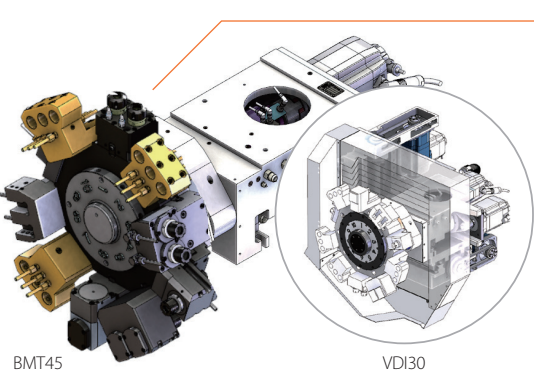


Tool Measuring

Collision Protection

Option Tooling

Meets customer's need in high-mix machining work with ≤49 gang & turret tool posts & optimized tool for Ø42mm material



Turret Unit

- Turret unit (selectable) : VDI (standard) or BMT (option)
- SRG (Roller Retainer) LM guide used to strengthen to transfer the 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

- Enhance productivity & optimization with large material by extending tool distance, using high-powered motor and increasing number of tools

Specification (STL38 → STL42)

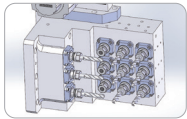
- Tool Distance : 35mm → **60mm**
- Tool Spec : 4(ER20M) → **5(ER20)**
- Motor Spec : 6,000rpm, 1.07kW → **2.59kW**

Back Tool Unit

- Expand machining range with Y3 axis feed & increased tool numbers
- Simultaneous on main & sub, as well as, high-complex machining possible with back tool cross unit (option)

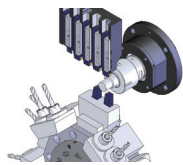
Specification (STL38 → STL42)

- Tool Distance : 40mm → **60mm**
- Tool Spec : 8(ER20M) → **9(ER20)**
- Motor Spec : 6,000rpm, 1.07kW → **2.13kW**

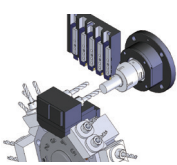


※ Back tool Cross unit (Option)
→ No. of Tools : Back Tool 6, Cross 3

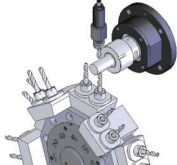
COMPLEX MACHINING



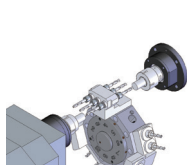
Balance turning (OD+Turret)



Turning/drilling (OD+Turret)



Endmill (Cross+Turret)



Drilling (Front+Back)

Standard

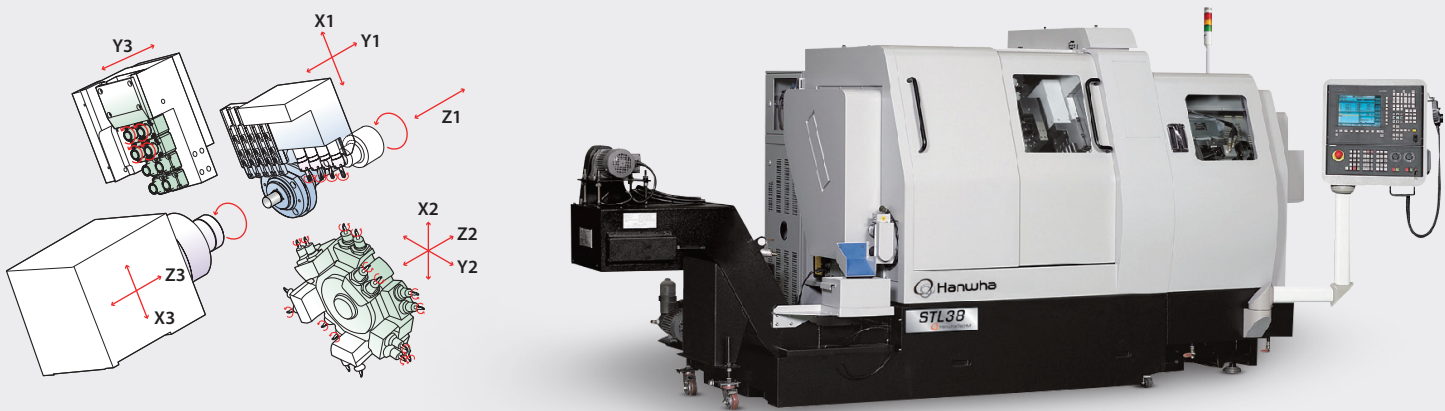
- Main-Sub Cs control (0.001°)
- Rotary Guide bush holder
- MPG
- Chip conveyor
- Part conveyor
- Door interlock
- Work light
- Signal lamp (3color)
- Tool monitoring function
- Cut-off tool breakage detector (S/W)
- Auto power-off
- Bar feeder interface
- Middle pressure pump

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 a powerful Siemens 840D controller

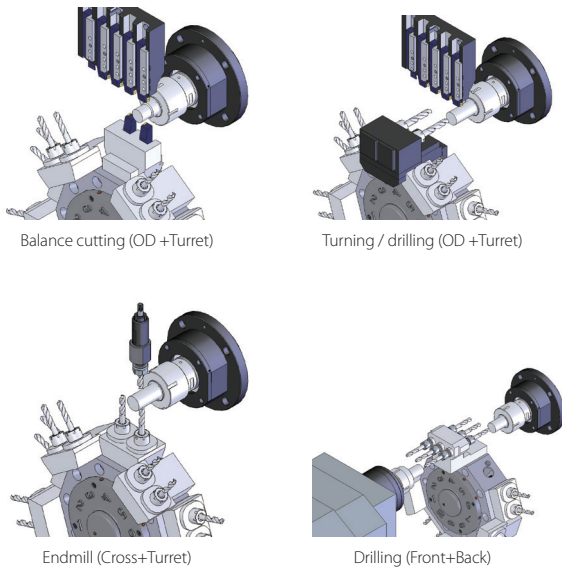


Model		STL32/38
		Y3
NC		Siemens 840D
Max. Machining Diameter (mm)		Ø32/38
Z1 Stroke (mm)		320
Main Spindle	Speed (rpm)	6,500
	Motor (kW)	23
OD Tool	No. of Tools	5 (□16mm)
	No. of Tools	4 (ER20M)
Cross Drill	Speed (rpm)	6,000
	Motor (kW)	1.07
Turret Unit	No. of unit	1 Unit (10 Station)
	No. of Tools	max. 30 (□20mm, ER20)
	Tool type	VDI 30 (Option : BMT 45)
	Motor (kW)	2.59
Sub Spindle	Speed (rpm)	6,500
	Motor (kW)	23
Back Tool	No. of Tools	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)		4,500
Power Consumption (Cable Size) *		7.7kVA (Rated : 40kVA) (16SQ)
Air Flow Rate (Liter/Min)		20 ~ 30 (Hydraulic device capacity : 30L)

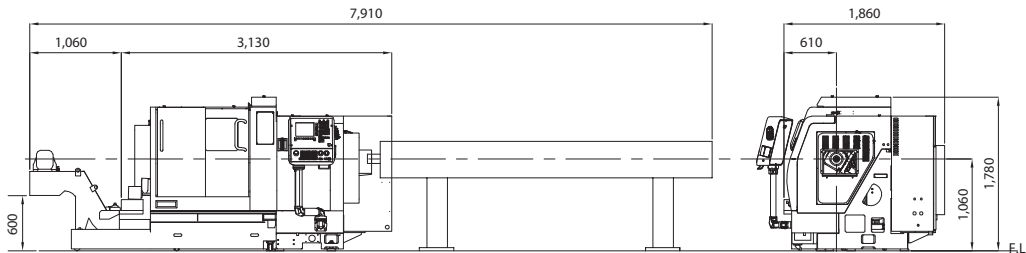
* Based on Stainless Steel. May vary depending on machining condition.

COMPLEX MACHINING

Supports complex machining with a combination of gang & turret units and 3-path control system.

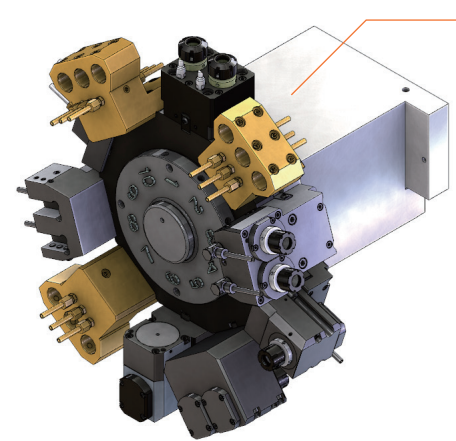


Dimension



Option Tooling

Customer optimized high-complex tooling is supported with ≤49 gang & turret tool posts and multiple layout options

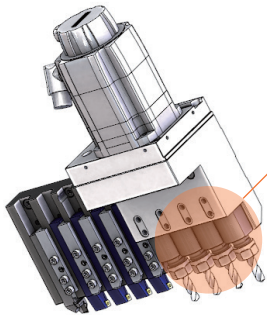
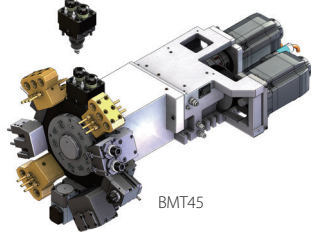
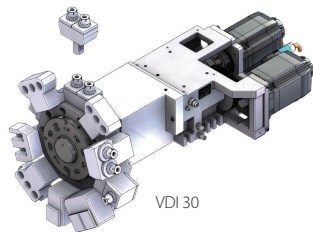


Turret Unit

- Turret unit (selectable) : VDI (standard) or BMT (option)

Specification

- 1set Turret (10 station)
- Tool Size : □20, ER20
- Tool Holder Type : VDI30, BMT45
- Max. Number of Tools : 30



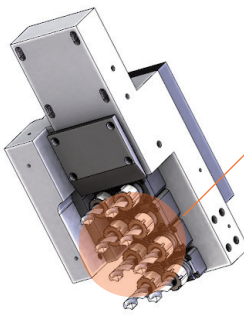
Cross Drilling / Milling Unit

- Easy tool change for maintenance & installation

Option Tool



Internal coolant-driven tool
※ Spline Modular



Back Tool Unit

- Standard : Fixed 3 tool
- Modular Type : 8 tools of Y3 (4 driven, 4 fixed, ER20M)

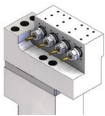
Option tool & unit



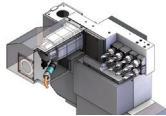
Internal
coolant-driven tool



Multi finger tool
(Re-adjust machining point)



3 ~ 4 tools



8 tools
(Max. 4 Driven)

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

XDI 26/32

3-path, 9-axis, independent opposite-gang tool machine for higher productivity & flexibility

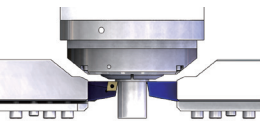


Model		XDI 26	XDI 32
NC		Fanuc – 31iB	
Max. Machining Diameter (mm)		Ø26	Ø32
Z1 Stroke / NH (mm)		350 (H), 100 (N)	
Main Spindle	Speed (rpm)	8,000	6,500
	Motor (kW)	2.2 / 5.5	
Turning Tool	No. of Tools	□ 16mm x 7 (4 + 3)	
	No. of Tools	ER16M x 4 (Front 4 / Rear 7)	
Cross Drill	No. of Tools	ER16 x 7 (4 + 3)	
	Speed (rpm)	6,000	
B-axis Cross (op.)	Speed (rpm)	6,000	
	Motor (kW)	1.0	
Sub Spindle	Speed (rpm)	8,000	6,500
	Motor (kW)	2.2 / 5.5	
Back Tool	No. of Tools	ER16 x 9 (Fixed 3 + Driven 6) (Option : Driven 6 + Cross 3 + Turning 2)	
	Speed (rpm)	6,000	
	Motor (kW)	1.0	
Machine Size (L x W x H) (mm)		2,910 x 1,710 x 2,010	
Weight (kg)		6,300	
Power Consumption (Cable Size) *		4.3kVA (Rated : 13.5kVA) (165Q)	
Air Flow Rate (Liter/Min)		120 ~ 150	

* Based on Stainless Steel. May vary depending on machining condition.

VARIOUS SIMULTANEOUS MACHINING

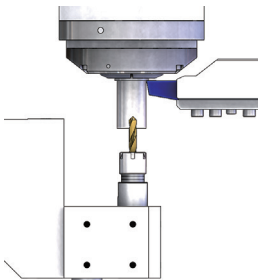
Reduced cutting time with simultaneous machining by using the stand-alone opposite tool stage



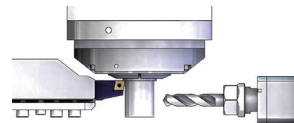
Balance Turning



Balance Drilling & Milling

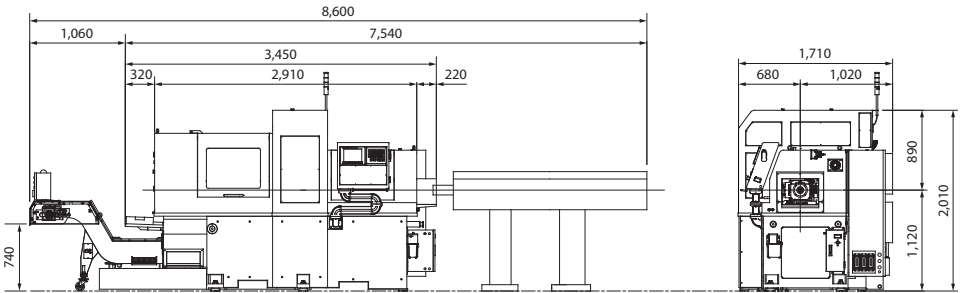


Simultaneous Machining
(Turning & Front drilling)



Pre-position of the Next Tool

DIMENSION



Option Tooling

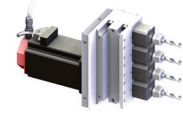
Provides flexible option tools for a higher productivity on complex machining

Cross Drilling / Milling Unit

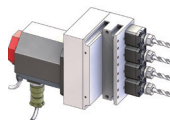
- Cross drill / Double-hinged B-axis Tool

Option Specification

- 4 cross drill (ER16, 1kW or 2.2 kW)
- The same cross modular with XD38II



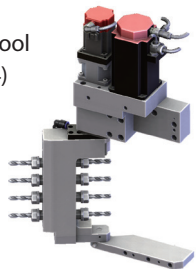
1 kW



2.2 kW

Double-hinged B-axis tool
(ER16x8, Front 4/Back 4)

- Motor Power : 1.0 kW
- Swivel Angle :
-40° ~ +100°

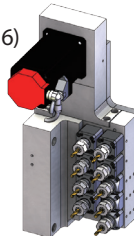


Back Tool Unit

- Y3-axis 9 back tool / Y3-axis back tool cross

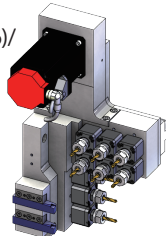
Option Specification

- Standard 9 back tool
- 6 Driven/3 Fixed Modular (ER16)
- Motor Power : 1.0 kW
- The same back tool modular with XD38II
- Whole gear-driven system



Option Y3-axis back tool cross

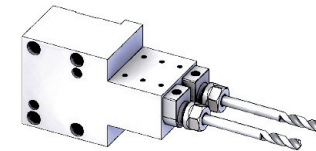
- 6 Back/3 Cross Modular (ER16)/
2 Bite (□ 16)
- Motor Power : 1.0 kW
- The same back tool modular with XD38II
- Whole gear-driven system



Sub Gun Drill Unit

- 2 gun drills

- 2 gun drill (ER16)
- Max. drill length 190 mm



Standard

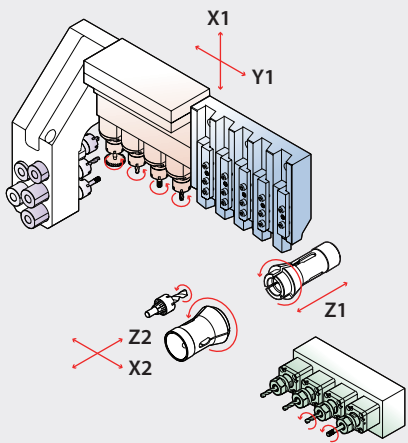
- Main · Sub Cs control (0.001°)
- Rotary Guide bush holder
- Cross drilling · milling unit
- 2 MPG
- Door interlock
- Coolant flow sensor
- Work light
- Signal lamp (3color)
- LAN port
- Tool monitoring function
- Cut-off detector (S/W)
- Super imposed control
- Auto power-off
- Bar feeder interface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

Option

- Bar feeder
- Chip conveyor
- Extended coolant tank
- Transformer
- Tap breakage detector
- Pipe type ejection unit
- B-axis cross drill unit(4)
- Gun drill unit(2)
- Cross turning back tool post
- Middle / High pressure pump
- Oil mist collector
- Oil chiller
- Memory card
- Tooling & Programming
- Additional M-code
- Helical interpolation
- 3 dimension conversion
- NC warranty for 2 years

XD42

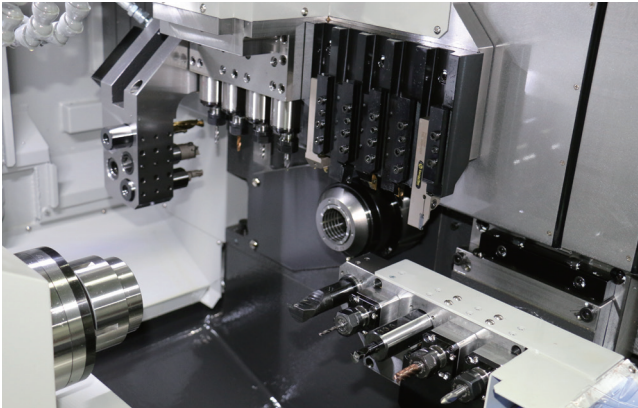
Specialized 5/6-axis for larger diameter machining (≤42mm)



Model		XD42		
		H	N	NH
NC		Hanwha Fanuc-i		
Max. Machining Diameter (mm)		Ø42		
Z1 Stroke (mm)		320	100	207 (H), 100 (N)
Main Spindle	Speed (rpm)	6,000		
	Motor (kW)	5.5/7.5		
OD Tool		5 (□20mm)		
Front Tool		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)		4.3kVA (Rated : 13.3kVA) (16SQ)		
		120 ~ 150		

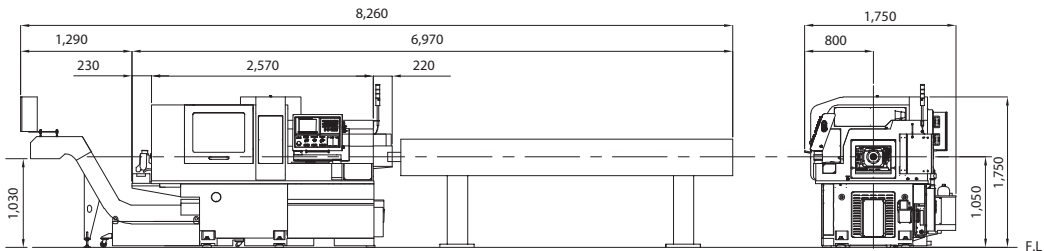
* Based on Stainless Steel. May vary depending on machining condition.

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



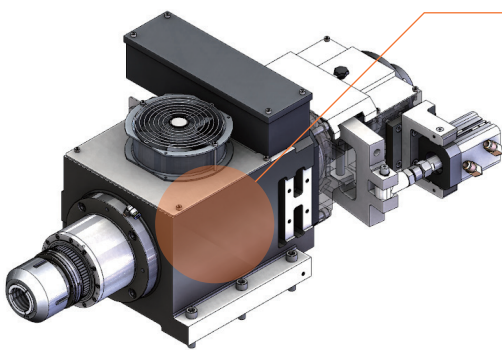
- Strong machining performance & high-productivity with large radii material
- Strong chucking force with hydraulic cylinder
- Improved bearing system for accuracy
- High rigidity of feed unit (with linear roller guide)

Dimension



Option Tooling

Offers flexible tool options to enhance productivity and to meet customer's needs

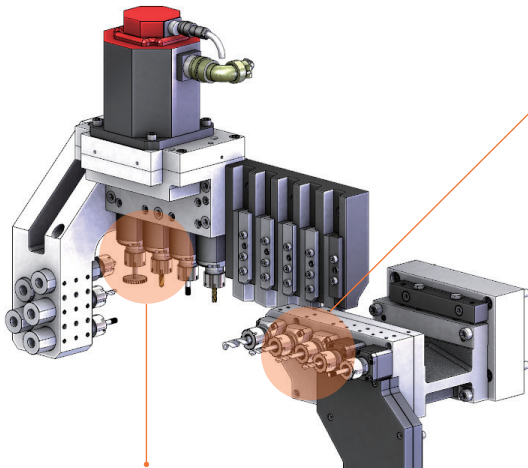


Spindle Unit

- Adopted built-in motor, hydraulic chucking cylinder & 3 toggle system for a stronger chucking power to process Ø42mm material

Specification

6,000 rpm
5.5/7.5kW



Back Tool Unit

- Total of 8 tools with Y2-axis & modular type for an easy tool change and maintenance

Specification

6,000rpm, 1.0kW
5 tools (ER20M)

Option tool



Cross Drilling / Milling Unit

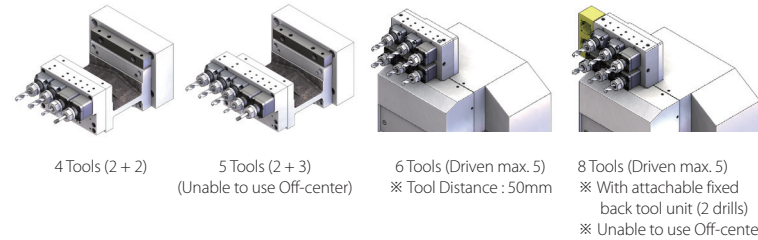
- Powerful cross-machining with the best-in-class motor and expanded tool size coverage
- Easy to change and maintain with a gear modular type cross unit and flexible option tool support

Specification

6,000 rpm, 2.2kW
4 Tools (ER20M)

Selectable Modules on Back Tool

Max. 4 (driven)



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

XD38II-R

The latest special heavy duty cutting/milling with 5/6-axis,
Optimized for high-complexity (max. Ø38mm)



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)
Front Tool	No. of Tools	5 (ER20 x 2, ER16 x 3)
	No. of Tools	5 (ER20 x 2, ER16 x 3)
Cross Drill	Speed (rpm)	6,000
	Motor (kW)	2.2 (Fanuc), 2.13 (Siemens)
Off-Center Drill (Option)	No. of Tools	2 (ER16) Modular
	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
	Motor (kW)	1.0 (Fanuc), 1.02 (Siemens)
Machine Size (L x W x H) (mm)		2,650 x 1,600 x 1,790
Weight (kg)		4,600
Power Consumption (Cable Size) *		3.7kVA (Rated: 14.6kVA) (16SQ) Siemens : 5.4kVA (Rated : 36kVA)
Air Flow Rate (Liter/Min)		120 ~ 150

* Based on Stainless Steel. May vary depending on machining condition.
* NH : Convertible G/B

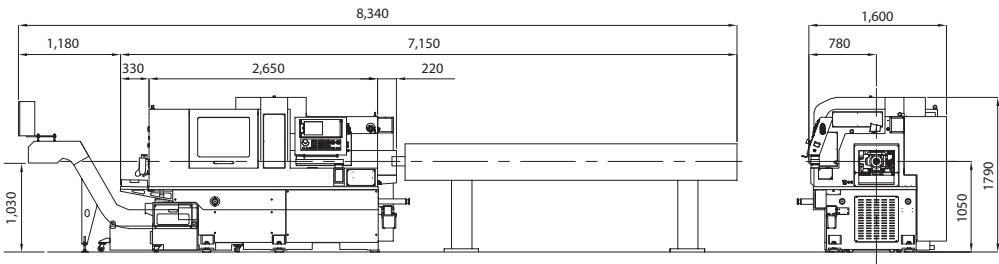
OPTIMIZATION OF STRUCTURE & SPEC

Specification of G/B & Chuck

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

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

Dimension



Optimized Structure & Spec for Ø38mm

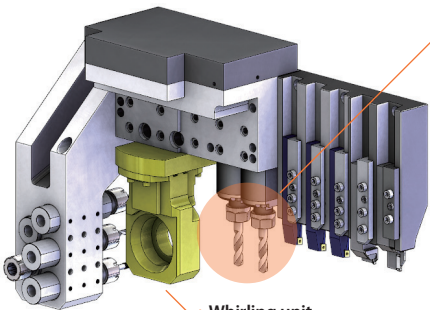
Possible to support ≤ Ø40mm (Option)

Stroke

- Extended stroke & expanded processing area
 - Larger distance between tools
 - Support upper size tools
 - Extended stroke in Z1 on the convertible type 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
 - The best-in-class motor (Capacity : Fanuc 2.2kW, Siemens 2.13kW)
- Gear-driven modular
 - Easy to change and maintain with a gear modular type cross unit and flexible option tool support

Specification

6,000 rpm, 2.2kW (Fanuc), 2.13kW (Siemens)
5 Tools (ER20 x 2, ER16 x 3)

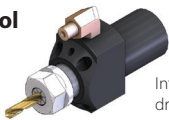
Back Tool Unit

- Optimized structure for large material
- Extended tooling layout (Distance between tools : 52mm)
- Various option toolings
- Structure to have a less chip trouble

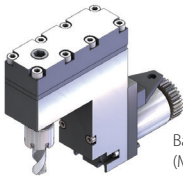
Specification

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

Option tool



Internal coolant driven tool



Back tool cross unit (Modular)

Standard

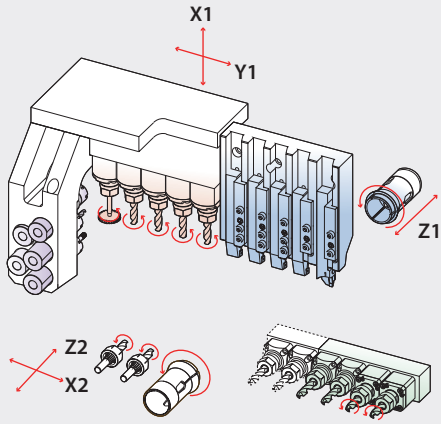
- Main · Sub Cs control (0.001°)
- Rotary Guide bush holder
- Cross drilling · milling unit (5, Gear modular type)
- MPG
- Part conveyor
- Door interlock
- Coolant flow sensor
- Work light
- Signal lamp (3color)
- LAN port
- Tool monitoring function
- Cut-off tool breakage detector (S/W)
- Auto power-off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

XD38II

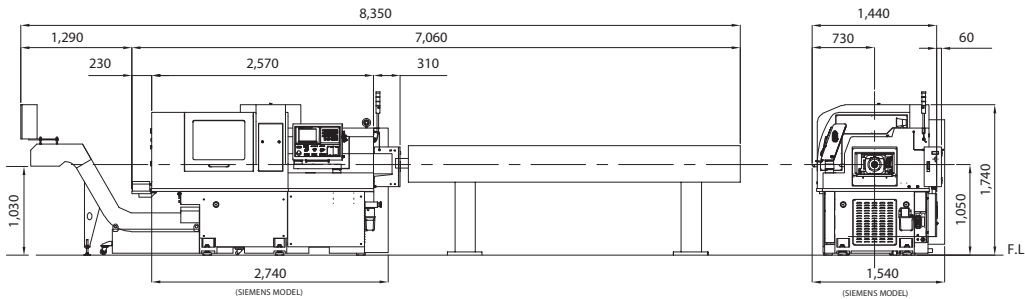
Specialized 5/6/7-axis for heavy duty cutting/milling



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)			
Front Tool	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) *		3.7kVA (Rated : 15.8kVA) (16SQ)			
Air Flow Rate (Liter/Min)		120 ~ 150			

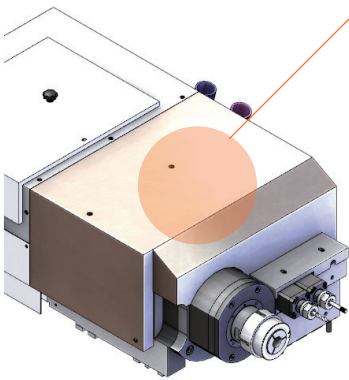
* Based on Stainless Steel. May vary depending on machining condition.
* H : G/B, N : Non-G/B, NH : Convertible G/B, He : Hanwha Fanuc-i NC (with G/B)

Dimension



Option Tooling

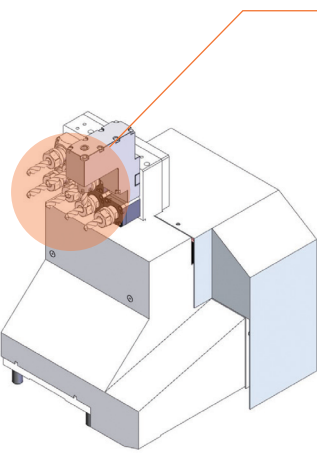
Customizable tooling layout and spindle structure to provide the most optimized solution for your machining condition & higher product quality



Sub Spindle Unit

- Choice available between the powerful built-in motor and cost-effective spindle for Ø38mm
- ※ Possible to choose the motor type suitable for each material and production 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

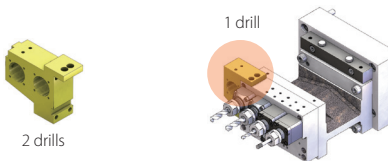


Back Tool Unit

- Total of 8 tools with Y2-axis & modular type for an easy tool change/maintenance

Option Unit

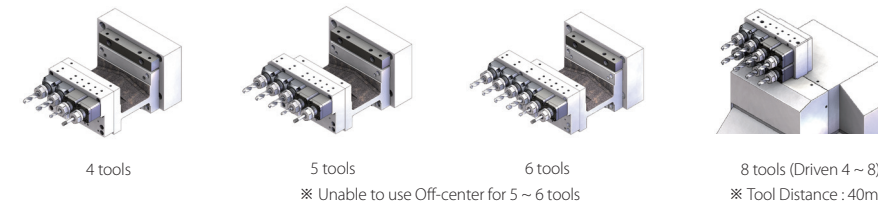
Attachable fixed drill unit
Off-center available with 1 drill unit



Option Tool



Selectable Modules on Back Tool
Max. 4 (driven)



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

XM20 eXcellent Medical Dental

Powerful 7-axis automatic lathe, specialized in dental products

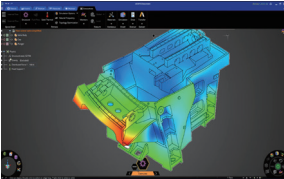


Model		XM20	XM20 Y2	XM20 Y2+B
		NH		
NC		Fanuc 32i-B Plus		
Max. Machining Diameter (mm)		Ø20 (option : Ø25)		
Z1 Stroke (mm)		205 (H), 55 (N)		
Main Spindle	Speed (rpm)	10,000		
	Motor (kW)	2.2/3.7		
OD Tool	No. of Tools	6 (□12mm)		
Front Tool	No. of Tools	3 (ER16)		
Cross Drill	No. of Tools	7 (4+3) (ER16)		3 (ER16)
	Speed (rpm)	6,000		
	Motor (kW)	2.5		
B-axis	No. of Tools	-		8 (ER11)
	Speed (rpm)	-		8,000
Sub Spindle	Speed (rpm)	10,000		
	Motor (kW)	2.2/3.7		
Back Tool Fixed : ER16 Driven : ER11	No. of Tools	4 (2 fixed + 2 driven)	8 (4 fixed + 4 driven)	
	Speed (rpm)	9,000		
	Motor (kW)	1.0		
Machine Size (L x W x H) (mm)		2,160 x 1,200 x 1,900		
Weight (kg)		2,900	2,950	3,000
Power Consumption (Cable Size) *		3kVA (Rated : 7kVA) (10SQ)		
Air Flow Rate (Liter/Min)		62		

* Based on Stainless Steel. May vary depending on machining condition.

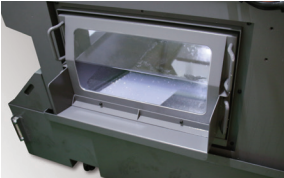
PRECISE & STABLE STRUCTURE

- High rigidity, low vibration structure with CAE technology
- Special structure to minimize thermal deformation
- Lighter tool post & Cooling jacket on spindle

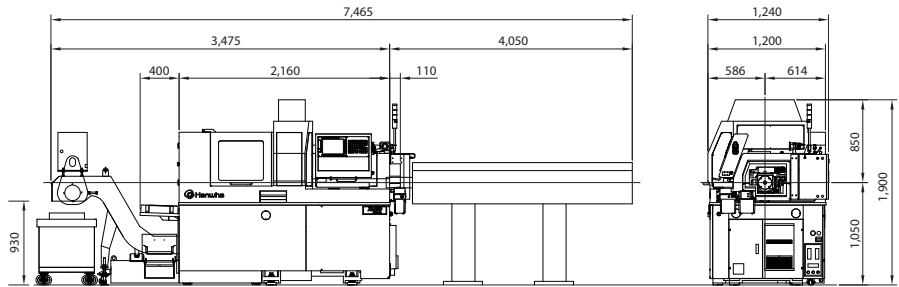


CONVENIENT & ECONOMICAL MODEL

- Latest energy efficient technology (Energy Saving)
- Reduced maintenance cost by using common parts
- Improved convenience with mountable window cover & a large oil tank (208ℓ)



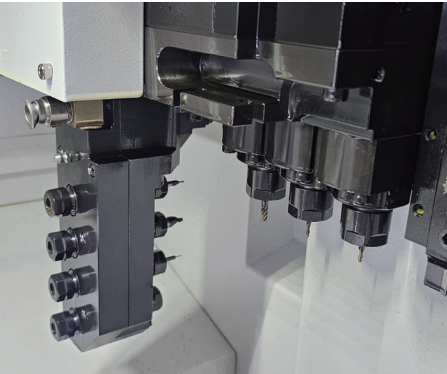
DIMENSION



Excellent Performance for Dental Products

Specially designed for dental parts : minimized thermal deformation while performing a stable and high-precision work.

Cross Drilling / Milling Unit



- Improved surface roughness and tool life with a high-performance, a high-efficient cross motor & NC 32iB Plus - all supporting to cut difficult materials
- Compatible with various option tools (4x modular, back cross, 3-axis live tool, etc.)
- High precision LM and B/S applied to improve roughness on taper processing

Option Specification

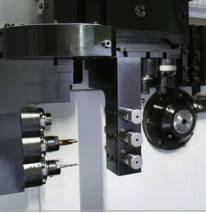
Automatic B-axis cross drill unit

- ER16 x 3+ER11 x 8 (3+8)
- Motor power : 2.5kW
- Swivel angle : 0° ~ +90°

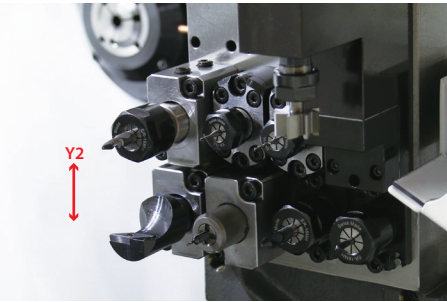
Standard Specification

Manually adjustable,

- Side cross drill unit
- ER16 x 7 (4+3)
- Motor power : 2.5kW
- Angle : 0° ~ +135°



Back Tool Unit



- High rigidity Y2 structure design
- Reduced lead-time on fixed-tool replacement by using a guide pin

Standard Specification

8 Back Tools

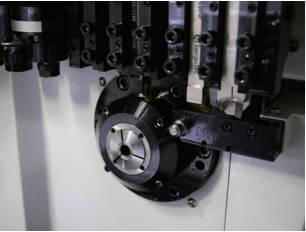
- 4 Fixed (ER16) / 4 Driven (ER11)
- Motor Power : 1.0kW
- Gear-Driven Modular

Option Specification

4 Back Tools

- 2 Fixed (ER16) / 2 Driven (ER11)
- Motor Power : 1.0kW

Guide Bush



- NH (convertible guide bush)
- Easy setting for nozzle and tool

Z1 Stroke

- Guide bush 205mm
- Non Guide bush 55mm

Sub Spindle & Off-Center Unit



- Powerful sub-spindle motor
- Sub-attached front tool

- Speed : 10,000rpm
- Motor power : 2.2/3.7kW
- Fixed tool : ER16 x 3



Standard

- Main-Sub Cs control (0.001°)
- Rotary guide bush holder
- Cross drilling · milling unit (7, Gear modular type)
- Sub-attached 3-axis front tool (ER16)
- MPG
- Part receiver (Drawer type)
- Door interlock
- Coolant flow sensor
- Work light
- Signal lamp (3color)
- LAN port
- Tool monitoring function
- Cut-off tool breakage detector (H/W)
- Auto power-off
- Bar feeder interface

Option

- Bar feeder
- Chip conveyor
- Transformer
- Modular type front tool holder
- Modular type OD tool holder
- Tap breakage detector
- Part conveyor
- Pipe type ejection unit
- Middle / High pressure pump
- Oil mist collector
- Oil chiller
- Memory card
- Tooling & Programming
- Extended coolant tank
- NC warranty for 2 years

XD20/26II-V

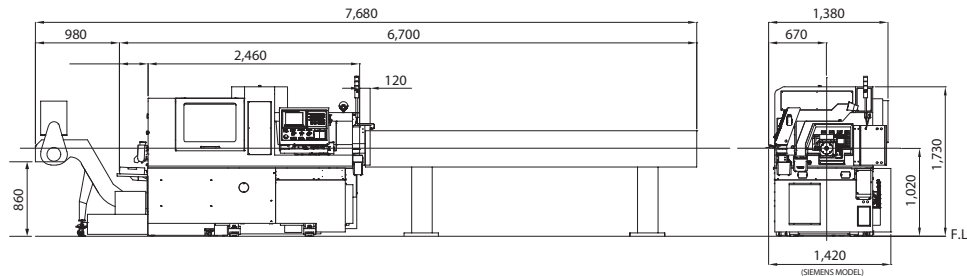
Multi-functional with B and Y2-axis



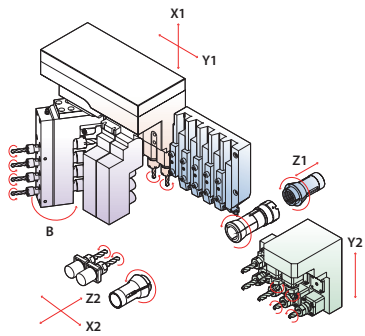
Model		XD20/26II-V		
NC		H	N	NH
Max. Machining Diameter (mm)		Ø20/26		
Z1 Stroke (mm)		210	50	210 (H), 50 (N)
Main Spindle	Speed (rpm)	10,000 (Ø20), 8,000 (Ø26)		
	Motor (kW)	Fanuc : 2.2/3.7 (Ø20), 2.2/5.5 (Ø26) Siemens : 14.4		
OD Tool	No. of Tools	6 (□12mm) (Ø20), 5 (□16mm) (Ø26)		
Front Tool	No. of Tools	5 (ER16M, Ø25)		
Cross Drill	No. of Tools	5 (ER16 (Ø20), ER16M (Ø26))		
	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 Drvien)		
	Speed (rpm)	6,000		
	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) *		4kVA (Rated : 7.7kVA) (10SQ)		
Air Flow Rate (Liter/Min)		120 ~ 150		

* Based on Stainless Steel. May vary depending on machining condition.
* H : G/B, N : Non-G/B, NH : Convertible G/B

Dimension



OPTION TOOLING



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

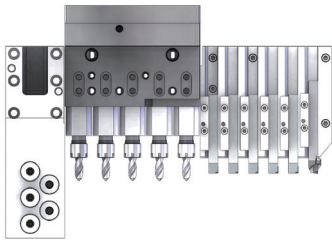
Option Tooling

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

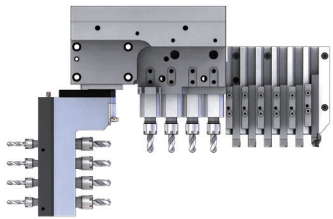
Cross Drilling / Milling Unit

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

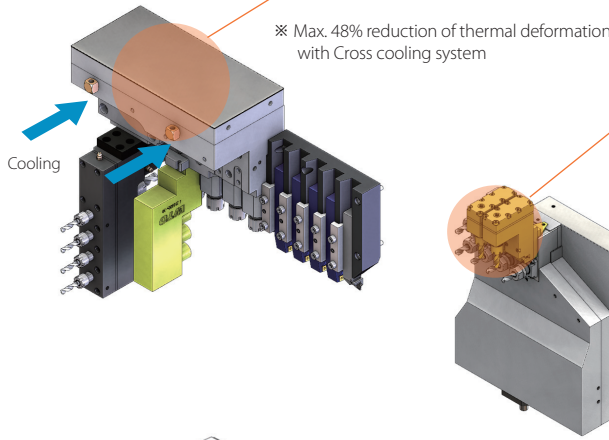
Option Specification



- 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 (ER16 x 4, ER11 x 4)
 - ※ for XD20II-V



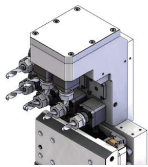
Back Tool Unit

- Y2-axis tool post for flexible tooling
- Stable machining with enhanced structure & a powerful motor

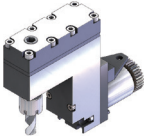
Option Tool



Internal coolant driven tool



Back tool cross unit (Single body)



Back tool cross unit (Modular)

Sub Spindle & Off-Center Unit

- Built-in motor on sub-spindle for a precision machining
 - ※ 2 Off-Center Drill (Driven, Fixed) 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

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

XD20/26III

The 3rd generation of Ø20/26,
equipped with a powerful back tool unit (Y2)

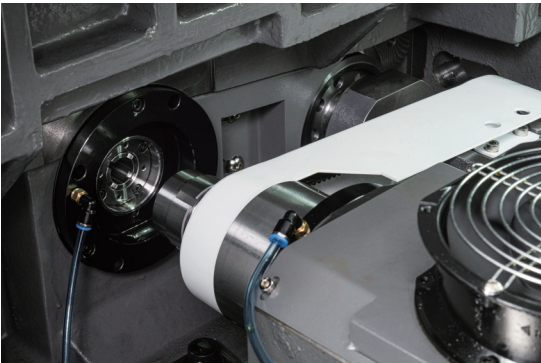


Model		XD20/26III
		NH
NC		Hanwha Fanuc i / Siemens 828D
Max. Machining Diameter (mm)		Ø20/26
Z1 Stroke (mm)		H : 240, N : 60 (Ø20), 80 (Ø26)
Main Spindle	Speed (rpm)	10,000 (Ø20), 8,000 (Ø26)
	Motor (kW)	Fanuc : 2.2/3.7 (Ø20), 2.2/5.5 (Ø26) Siemens : 16
OD Tool	No. of Tools	6 (□12mm) (Ø20), 5 (□16mm) (Ø26)
Front Tool	No. of Tools	5 (ER16M, Ø25)
Cross Drill	No. of Tools	5 (ER16) (Ø20), 5 (ER16M) (Ø26)
	Speed (rpm)	6,000
	Motor (kW)	1.0 (Fanuc), 1.02 (Siemens)
Off-Center Drill (Option)	No. of Tools	2 (ER16)
Sub Spindle	Speed (rpm)	8,000
	Motor (kW)	1.5/2.2 (Fanuc) , 2.59 (Siemens)
Back Tool	No. of Tools	8 (ER16) (4 fixed + 4 driven)
	Speed (rpm)	8,000
	Motor (kW)	1.0 (Fanuc), 1.02 (Siemens)
Machine Size (L x W x H) (mm)		2,460 x 1,290 x 1,750
Weight (kg)		3,000
Power Consumption (Cable Size) *		5.3kVA (Rated : 9kVA) (10SQ)
Air Flow Rate (Liter/Min)		120 ~ 150

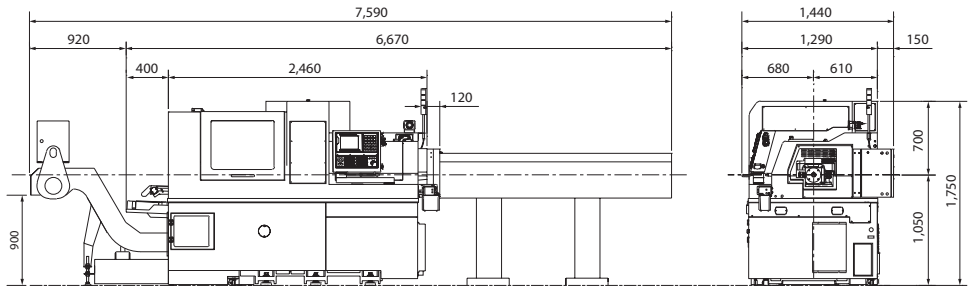
* Based on Stainless Steel. May vary depending on machining condition.

ADVANTAGES

- Optimized & flexible machining for both long and short workpiece with a convertible guide bush unit. (standard)
- Extended stroke of Z1 240mm with a guide bush.



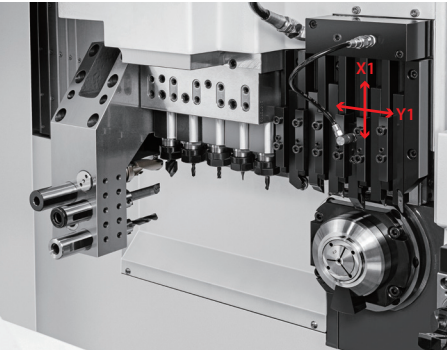
Dimension



Enhanced Machining Performance

Upgraded structure and performance with a wide range of options

Cross Drilling / Milling Unit



- Improved cross machining performance with an increased cross tools
- More powerful cutting with an enhanced motor power (option)

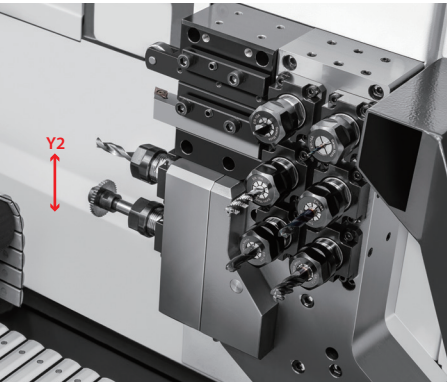
Standard Specification

- 5 cross drills (ER16)
- Motor power : 1.0kW (Fanuc), P1.02kW (Siemens)
- The same cross-drill modular with XD20/26II

Option Specification

- Powerful cross motor
- 5 cross drills (ER16)
- Motor Power : 2.2kW (Fanuc)
- The same cross-drill modular with XD20/26II

Back Tool Unit



- Y2-axis 8 back tool / Y2-axis back cross tool

Option Specification

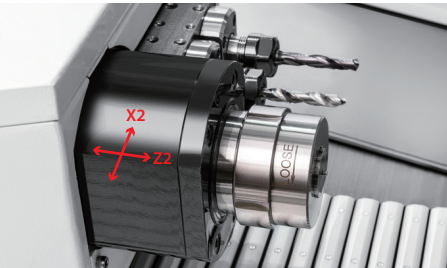
- Back cross tools
- 6 back tools (6 driven) / 2 cross (ER16) / 3 turning (□12) (Ø20) or 2 turning (□16) (Ø26)
- Motor Power : 1.0kW (Fanuc), 1.02kW (Siemens)
- Gear-driven modular

Standard Specification

- 8 back tools
- 4 fixed, 4 driven (ER16)
- ※ Option : Max 8 driven (ER16)
- Motor Power : 1.0kW (Fanuc), 1.02kW (Siemens)
- The same back modular with XD20/26II
- Gear-driven modular



Sub-Spindle & Off-Center Unit



- Motor-driven, off-center drill sub-spindle

Option Specification

- 2 off-center drill (ER16)
- Motor Power : 1.5/2.2kW (Fanuc), 2.59kW (Siemens)
- Gear-driven one body type

Standard

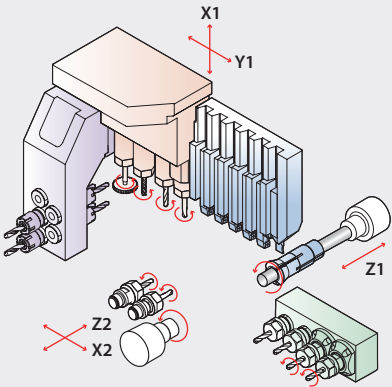
- Main-Sub Cs control (0.001°)
- Rotary Guide bush holder
- Cross drilling · milling unit (5, Gear modular type)
- MPG
- Part conveyor
- Door interlock
- Coolant flow sensor
- Work light
- Signal lamp (3color)
- LAN port
- Tool monitoring function
- Cut-off tool breakage detector (S/W)
- Auto power-off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

XD20/26II

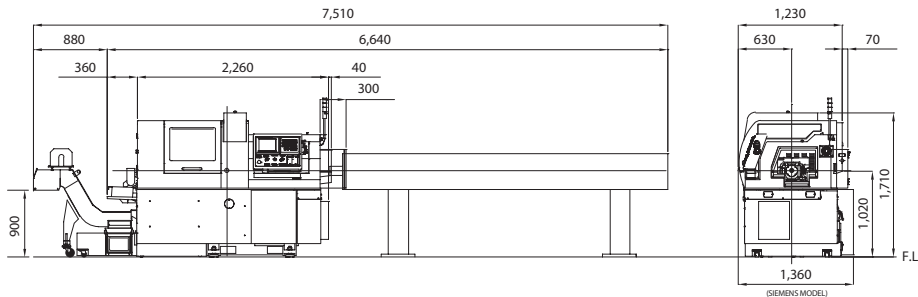
The best selling 5-axis with max. Ø20/26mm



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			
		2,260 x 1,230 x 1,710			
Weight (kg)		2,700			
Power Consumption (Cable Size) *		2.5kVA (Rated : 6.9kVA) (10SQ)			
Air Flow Rate (Liter/Min)		120 ~ 150			

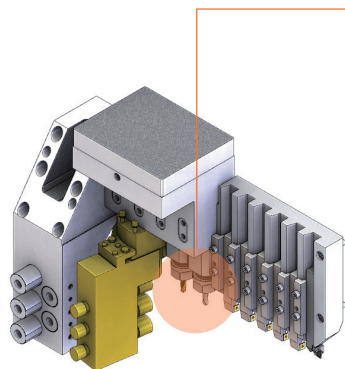
* Based on Stainless Steel. May vary depending on machining condition.
* **H** : G/B, **N** : Non-G/B, **NH** : Convertible G/B, **M** : Cross 5-axis+Long drills

Dimension



Option Tooling

Offers a wide range of flexible tooling for a higher productivity and to cover customer's needs



Option Tool Layout

Cross Unit 4 (Standard)

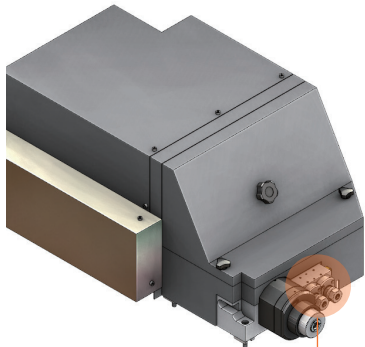
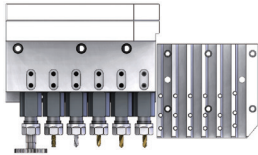
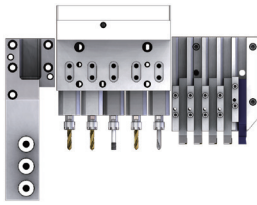
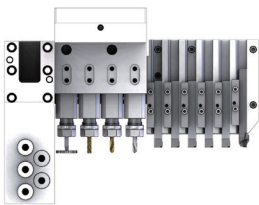
- OD 6 (□12)
- Cross 4 (ER16)
- Front 5 (ER16M)

Cross Unit 5

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

Cross Unit 6

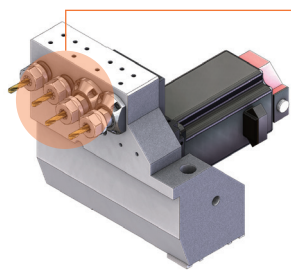
- OD 6 (□16 x 1, □11 x 5)
- Cross 6 (ER11M x 2, ER16 x 4)



Off-Center Unit

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

Option tool

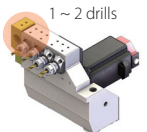


Back Tool Unit

- Total of 6 tools as an option & a modular type for an easy tool change / maintenance

Option Unit

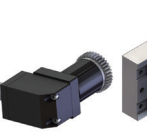
Option Tool



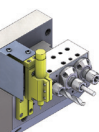
Attachable fixed drill unit



Internal coolant driven tool



Back and cross tool



Burr removal

Choice of Back Tool Modules

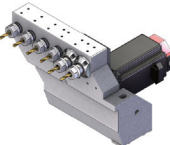
Max. 4 (driven)



4 tools



5 tools



6 tools

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

Standard

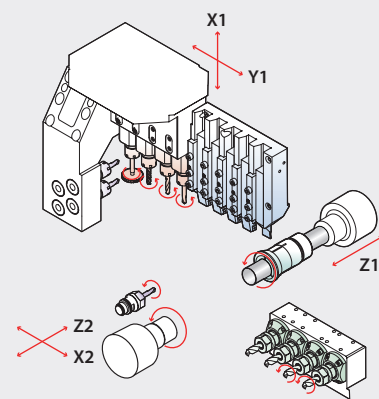
- Main-Sub Cs control (0.001°)
- Rotary Guide bush holder
- Cross drilling · milling unit (4, Gear modular type)
- MPG
- Part conveyor
- Door interlock
- Coolant flow sensor
- Work light
- Signal lamp (3color)
- LAN port
- Tool monitoring function
- Cut-off tool breakage detector (S/W)
- Auto power-off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

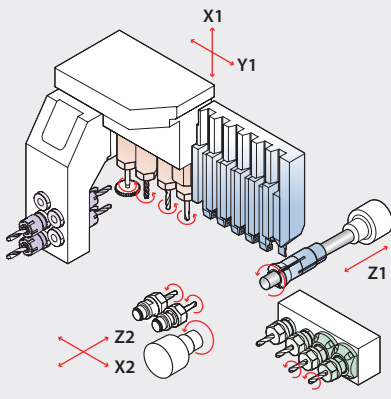
XE35

Reliable 5-axis model with max. Ø35mm



XE20/26

Reliable 5-axis model with max. Ø20/26mm



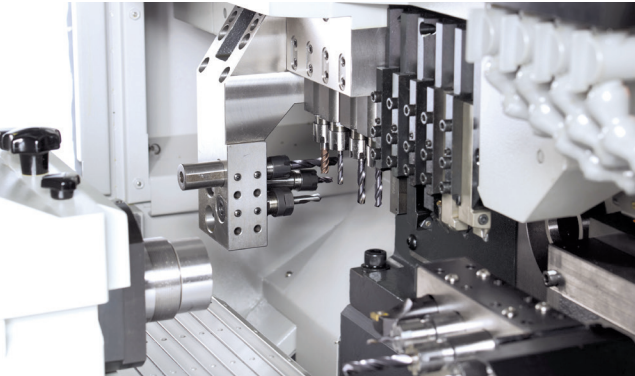
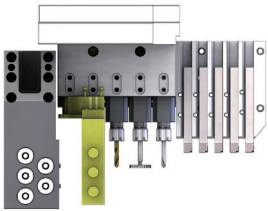
Model		XE35			
		H	N	J	Ne
NC		Hanwha Fanuc-i			
Max. Machining Diameter (mm)		Ø35			
Z1 Stroke (mm)		210	60	210	60
Main Spindle	Speed (rpm)	6,500			
	Motor (kW)	2.2/5.5			
OD Tool	No. of Tools	5 (□16mm)			
Front Tool	No. of Tools	4 (ER16M, Ø25)			
Cross Drill	No. of Tools	4 (ER16M)			
	Speed (rpm)	6,000			
	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) *		2.2kVA (Rated : 6.9kVA) (10S)			
Air Flow Rate (Liter/Min)		120 ~ 150			

* Based on Stainless Steel. May vary depending on machining condition.
* 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

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

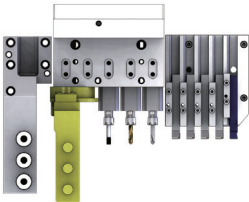


Model		XE20/26				
		H	N	NH	J	Ne
NC		Hanwha Fanuc-i				
Max. Machining Diameter (mm)		Ø20/26				
Z1 Stroke (mm)		210	60	160 (H), 50 (N)	210	60
Main Spindle	Speed (rpm)	10,000 (Ø20), 8,000 (Ø26)				
	Motor (kW)	2.2/3.7 (Ø20), 2.2/5.5 (Ø26)				
OD Tool	No. of Tools	6 (□12mm) (Ø20), 5 (□16mm) (Ø26)				
Front Tool	No. of Tools	5 (ER16M, Ø25)				
Cross Drill	No. of Tools	4 (ER16)				
	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) *		2.2kVA (Rated : 6.9kVA) (10SQ)				
Air Flow Rate (Liter/Min)		120 ~ 150				

* Based on Stainless Steel. May vary depending on machining condition.
* 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)

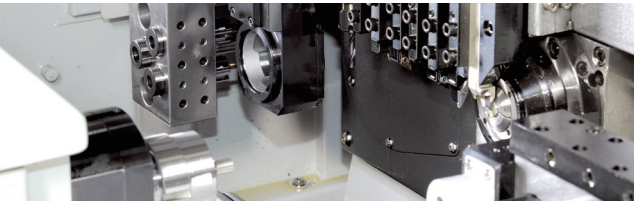
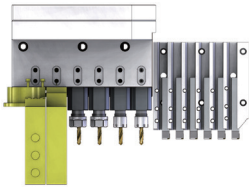
OPTION TOOLING

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

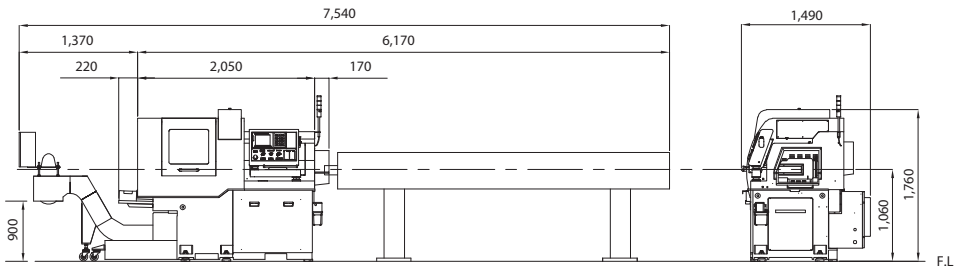


- Cross Unit 6**
- OD 6 (□16 x 1 + □11 x 5)
 - Cross 6 (ER11M x 2, ER16 x 4)

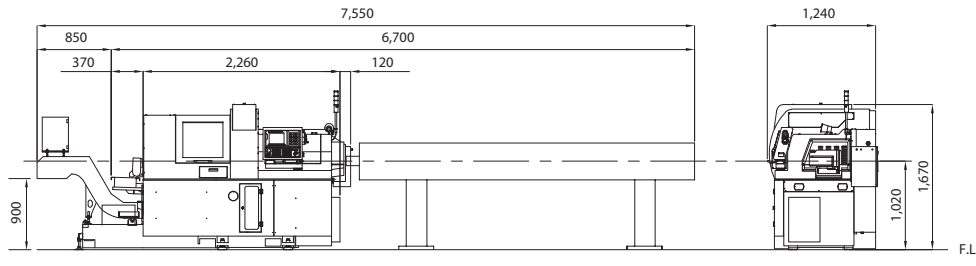
※ Option : 3 Face/counterface-driven tool,
3 Face/counterface angle-driven tool



Dimension

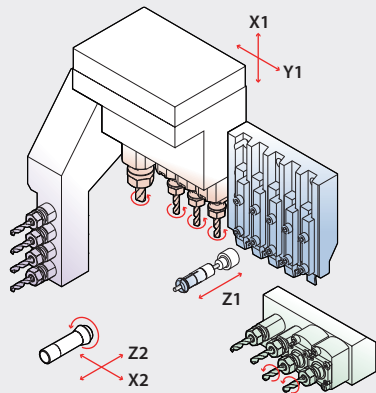


Dimension



XD16III

High-speed 5-axis solution for max. Ø16mm

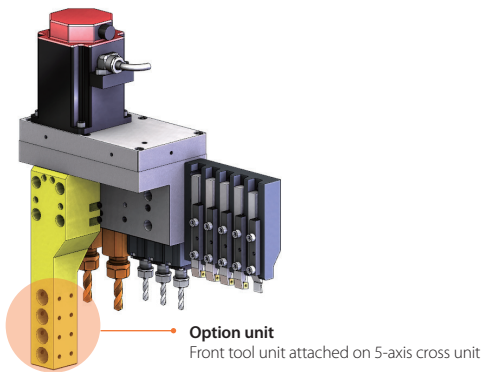


Model		XD16III	
		H	J
NC		Hanwha Fanuc-i	
Max. Machining Diameter (mm)		Ø16	
Z1 Stroke (mm)		155	
Main Spindle	Speed (rpm)	15,000	
	Motor (kW)	2.2/3.7	
OD Tool	No. of Tools	5 (□12mm)	
Front Tool	No. of Tools	4 (ER11, Ø20)	
Cross Drill	No. of Tools	4 (ER11 x 3 + ER16 x 1)	
	Speed (rpm)	6,000(ER16), 9,000(ER11)	
	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)	4 (ER11) (4 Fixed)
	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) *		1.8VA (Rated : 5.6kVA) (10SQ)	
Air Flow Rate (Liter/Min)		120 ~ 150	

* Based on Stainless Steel. May vary depending on machining condition.
* H : G/B & Driven back tool(2), J : G/B & Fixed back tool

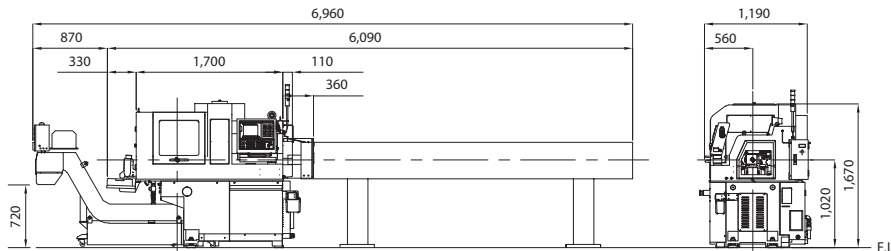
OPTION TOOLING

- Cross Unit 5 (modular 2)**
- ER11 x 3, Modular ER16 x 2



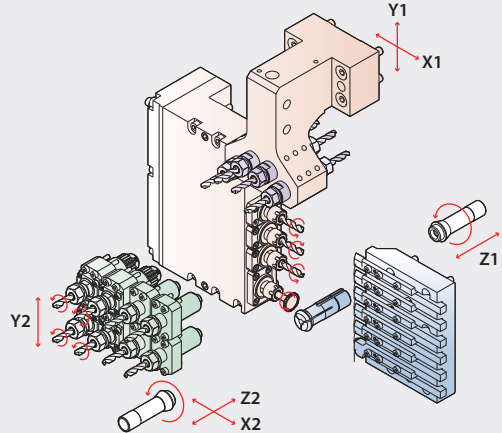
- Fast cycle time
- High speed spindle (Main : 15,000 rpm, Sub : 10,000 rpm)
- Great machining performance with a strong motor power on back tool (Capacity : 1.0 kW)

Dimension



XD10

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



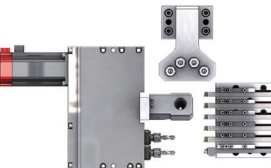
Model	XD10	
	Hanwha Fanuc-i	
NC	Hanwha Fanuc-i	
Max. Machining Diameter (mm)	Ø10	
Z1 Stroke (mm)	155	
Main Spindle	Speed (rpm)	15,000
	Motor (kW)	2.2/3.7
Turning Tool	No. of Tools	□ 8mm x 6
Front Tool	No. of Tools	ER11 x 4
	No. of Tools	ER11M x 4 (Option: ER11M x 5)
Cross Drill	Speed (rpm)	10,000
	Motor (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 (W type : 1,810 x 970 x 1,850)	
Weight (kg)	2,200	
Power Consumption (Cable Size) *	1.8VA (Rated : 5.6kVA) (10SQ)	
Air Flow Rate (Liter/Min)	120 ~ 150	

* Based on Stainless Steel. May vary depending on machining condition.

OPTION TOOLING

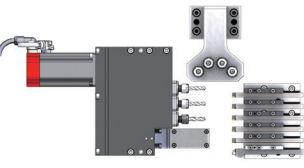
Whirling Tool

- ER11M x 2
- Modular Whirling x 1



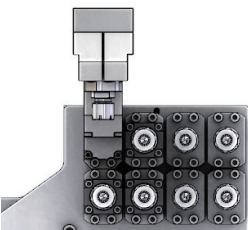
Cross Unit 4 (Modular 1)

- ER11M x 3
- Modular ER11M x 1



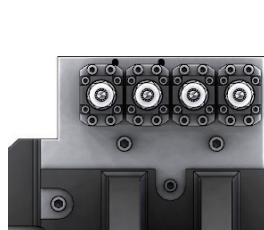
Back Tool 8 (Max. 4/Driven)

- ER11 x 8

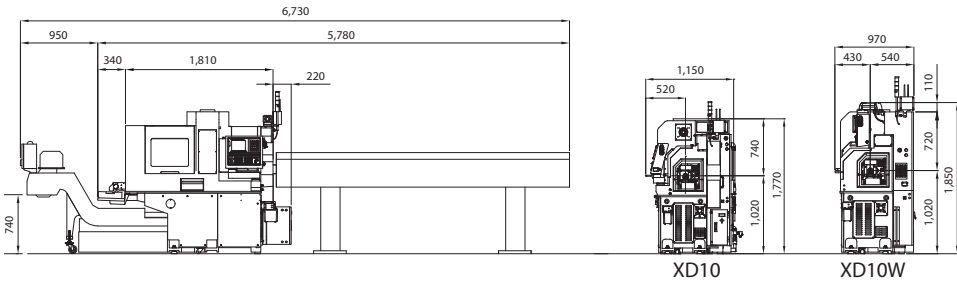


Back Tool 4 (Max. 4/Driven)

- ER11 x 4

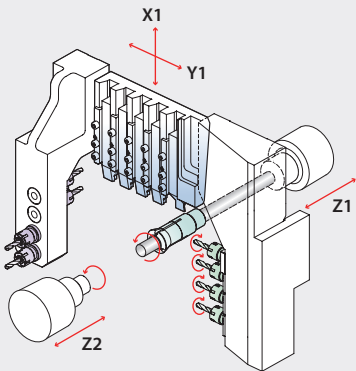


Dimension



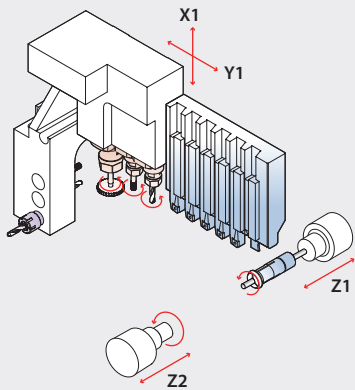
XP20/26/32S

Compact, cost-efficient 4-axis model
for max. Ø20/26/32mm (with a side cross tool)



XP12/16S

Compact & cost efficient 4-axis model
for max. Ø12/16mm



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)	
Front Tool	No. of Tools	4 (ER16M, Ø25)		
Cross Drill	No. of Tools	4 (ER16M)		
	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) *		2.2VA (Rated : 4.7kVA) (10SQ)	2.2VA (Rated : 9.5kVA) (16SQ)	
Air Flow Rate (Liter/Min)		120 ~ 150		

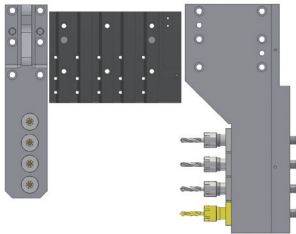
* Based on Stainless Steel. May vary depending on machining condition.

OPTION TOOLING

Cross Unit 4 (1 modular)

- ER16M x 4

※ Cross (standard) : Non-modular



- Perfect for an old cam lathe user who seek a higher precision and productivity
- A long-runner with a proven record of performance & production quality

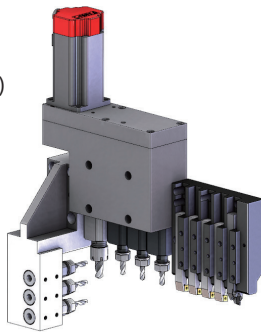
Model		XP12S	XP16S
NC		Hanwha Fanuc-i	
Max. Machining Diameter (mm)		Ø12	Ø16
Z1 Stroke (mm)		140	
Main Spindle	Speed (rpm)	12,000	
	Motor (kW)	2.2/5.5	
OD Tool	No. of Tools	6 (□12mm)	
Front Tool	No. of Tools	3 (ER11, Ø20)	
	No. of Tools	3 (ER11 x 2, ER16 x 1)	
Cross Drill	Speed (rpm)	6,000	
	Motor (kW)	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) *		1.8VA (Rated : 3.9kVA) (10SQ)	
Air Flow Rate (Liter/Min)		120 ~ 150	

* Based on Stainless Steel. May vary depending on machining condition.

OPTION TOOLING

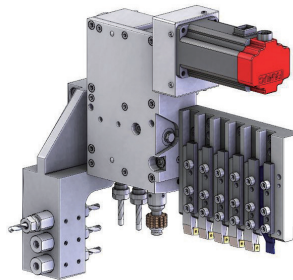
Cross Unit 4

- OD 5 (□12)
- Cross 4 (ER16 x 1, ER11 x 3)
- Front 3 (ER11)

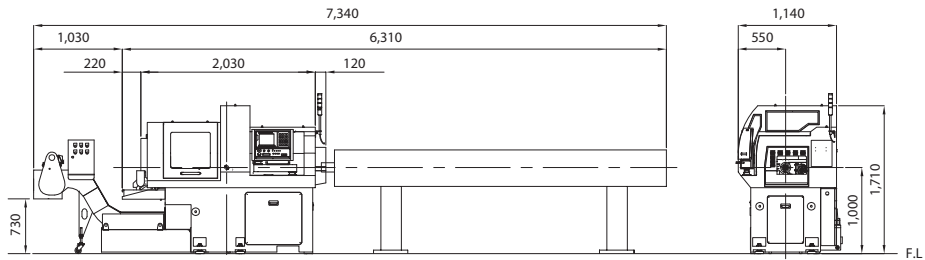


Gear-Hobbing Unit

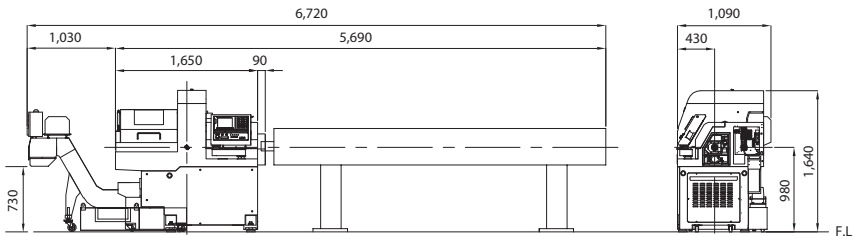
- Maker : Pibomulti
- Angle : -2° ~ 2°



Dimension



Dimension



Options Your customizable choice in option units to enhance performance, productivity and convenience

Standard & Option Accessory			STL42	STL38	XDI 26/32	XD42	XD38II-R	XD38II	XD20/26II-V	XD20/26III		XM20	XD20/26II	XD16III	XD10	XE35	XE20/26	XP20/26/32S	XP12/16S
Off-cent unit	Driven(2)		-	-	★	★(1)	★	★	★	★		N/A	★	-	-	★(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	★	★	▲	★	★	★	★	★		★(4x Speed)	★	★(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)	Vertical(Y2)	-	-	★	★	★	★	★	▲		★	-	-	★	-	-	-	-
		Horizontal	-	-	★	★	★	★	★	▲		-	★	-	▲	★	★	-	-
Option Unit	B-axis cross unit		-	-	★	-	-	-	★	-		Standard	-	-	-	-	-	-	-
	Back tool cross unit		★(Y3)	-	Standard	-	-	-	★	★		-	-	-	▲	-	-	-	-
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

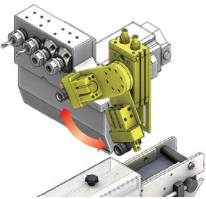
Special Accessories

Swing Gripper

Gripper fingers grip and release finished parts onto the conveyor belt for ejection

- Application Example :
Vulnerable material, Long parts

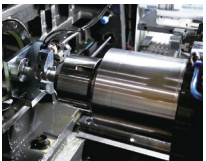
• XD20/26II, XD38II, XD42, XE20/26



Auto-Loading Parts Unit

Auto loader for a forged or diecasted part to supply via the main spindle door

• XD20/26II, XD38II, XD42, XE20/26



Auto-Stacking Unit for Machined Parts

Auto-loader for ejected parts onto the stacking pallet

• XD38II

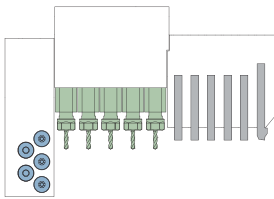


Tooling Variation

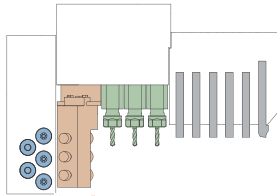
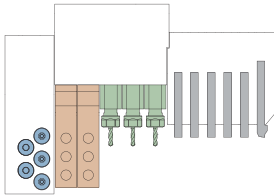
XD20/26III

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

5-axis Cross

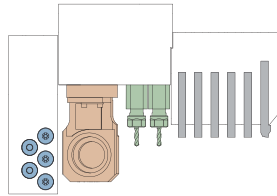


3-axis Face Drilling



Angle: -20° ~ 0°

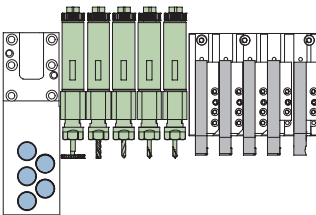
Whirling Unit



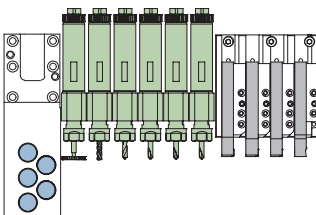
XD38II

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

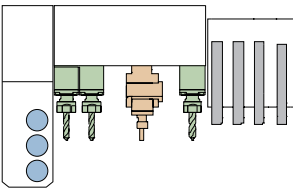
Cross 5



Cross 6



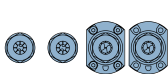
Fixed Angle Drilling



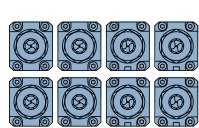
• Angle will be set as per requested

Back Tool Option Unit

Back Tool 4

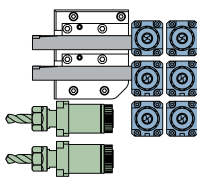


Back Tool Y2



Back Tool Y2 Cross

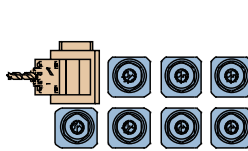
- XD20III : Front 12 x 12 3EA
- XD26III : Front 16 x 16 2EA



Back Tool Option Unit (Y2)

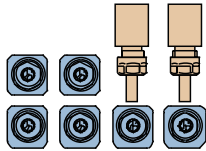
Fixed Angle Drilling

• Angle will be set as requested



Back Tool Cross

(Modular, Single body)



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

Hi-CPS

Hanwha Intelligence CNC Prognostic System

- Enable customers to manage factory in a smart & convenient way by providing a real-time monitoring on machine status
- Based on a Cloud system for an easier access with a simple internet service



Windows 8 Mobile iOS android

PC & Router

Fanuc model + Extender

**Man Power & Cost Reduction**

**Management Efficiency Increase**

**Productivity & Quality Increase**

**Minimize Down time**

MONITORING
Possible to monitor and control all machines in real-time away from the production line with a PC & Mobile devices

DIAGNOSIS
A simple click on "Request for Diagnosis" to request S/W alarm diagnostics - no need to make an additional report

PROGNOSIS
A remote control to input offset value, transfer and modify programs without a direct access to the machine

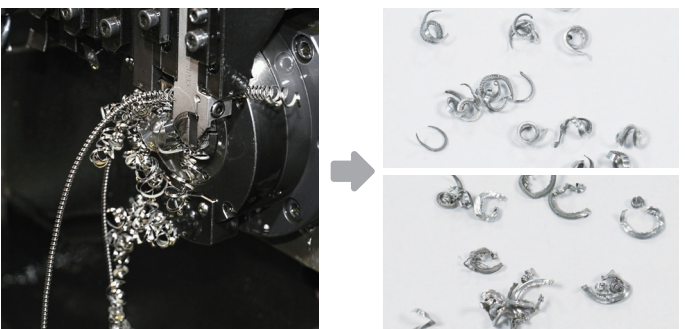
PRE-NOTIFY
Minimize machine down-time with forecasted notification before a machine stop from a simple tool wearing-off or an error

PCR^{III}

Programmable Chip Removal

Hanwha's Chip Control Technology

- Solves chip troubles from spiraling, entangling or piling-up around cutting tool edges
- Enhanced quality of machined surface with the finishing mode



Without PCR III applied

With PCR III

Advantage

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

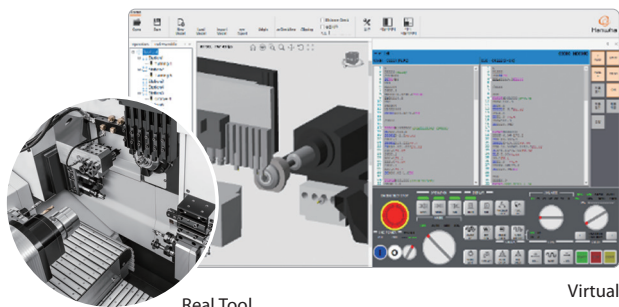
Applied Process

- Front turning, drilling & boring
- Back turning, drilling
- Taper, circular interpolation
- Synchronous control
- Threading
- Nose R compensation

PG Simulation

3D Processing Simulation System

- Processing simulation with the same tool layout/condition as in a real-life
- Prevent collisions with simulation in advance
- Easy for new operators with the OP panel to practice

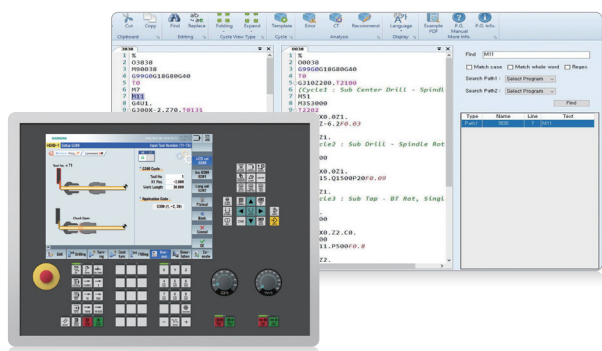


PG Editor

Easy, Quick, Convenient Programming Guide Solution

- PC based (Fanuc), NC based (Siemens)

- Easy program creation
- Provides a preview on expected result in 3D
- Minimize time loss by with the pre-check typo

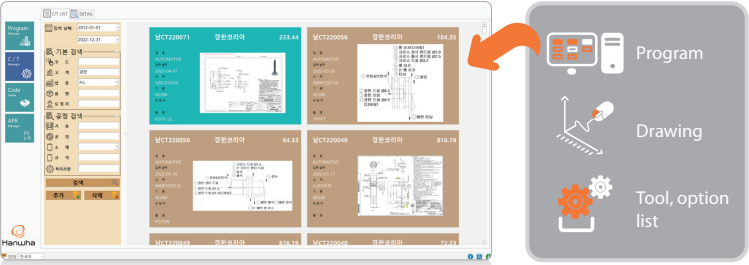


PG Manager

Simple, Efficient, Safe Data Managing Solution

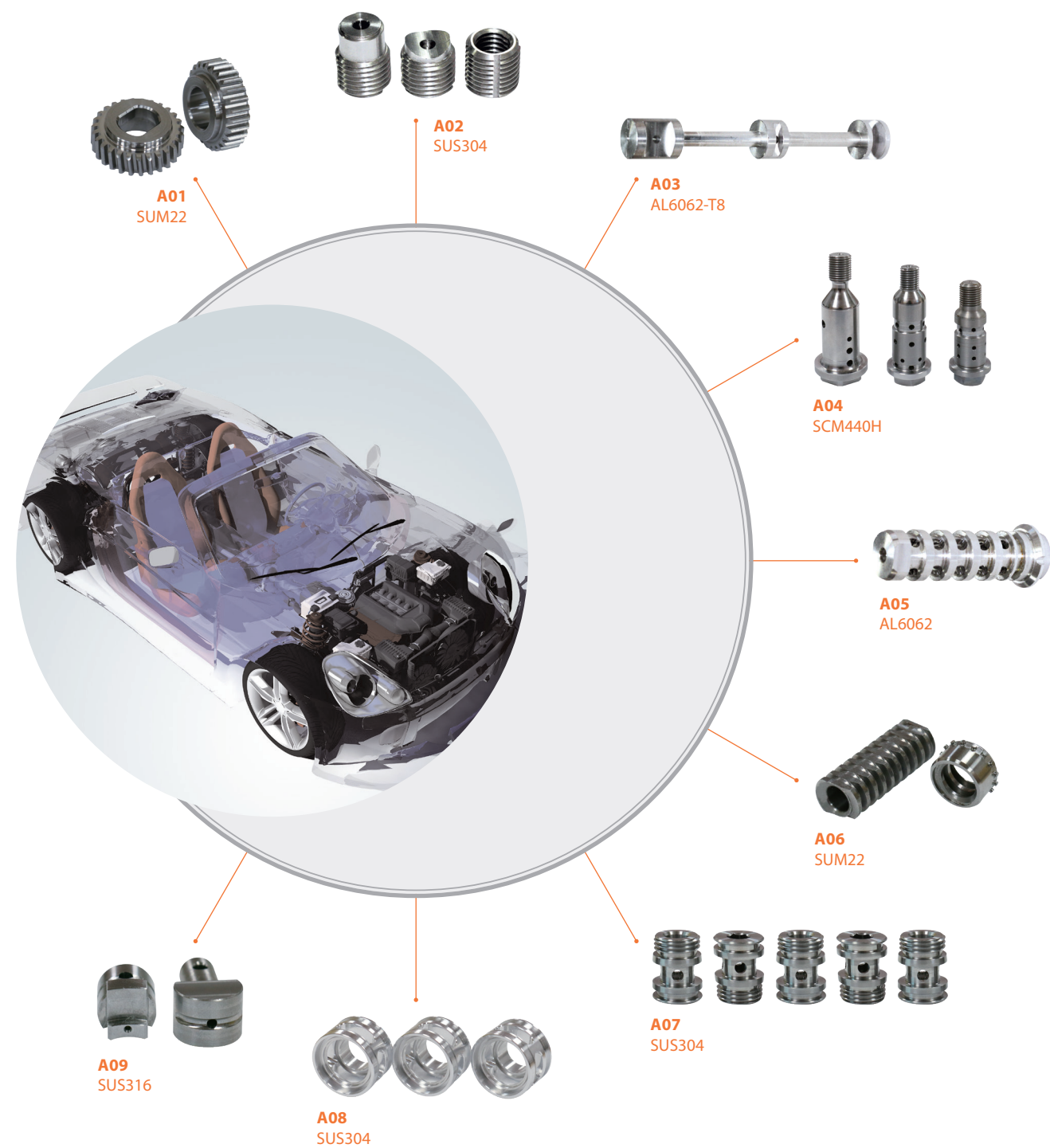
- Drawing, Program, Tool & Option List

- Save & build-up your production data
- Search & find similar production data as needed
- Support reference by each machining condition

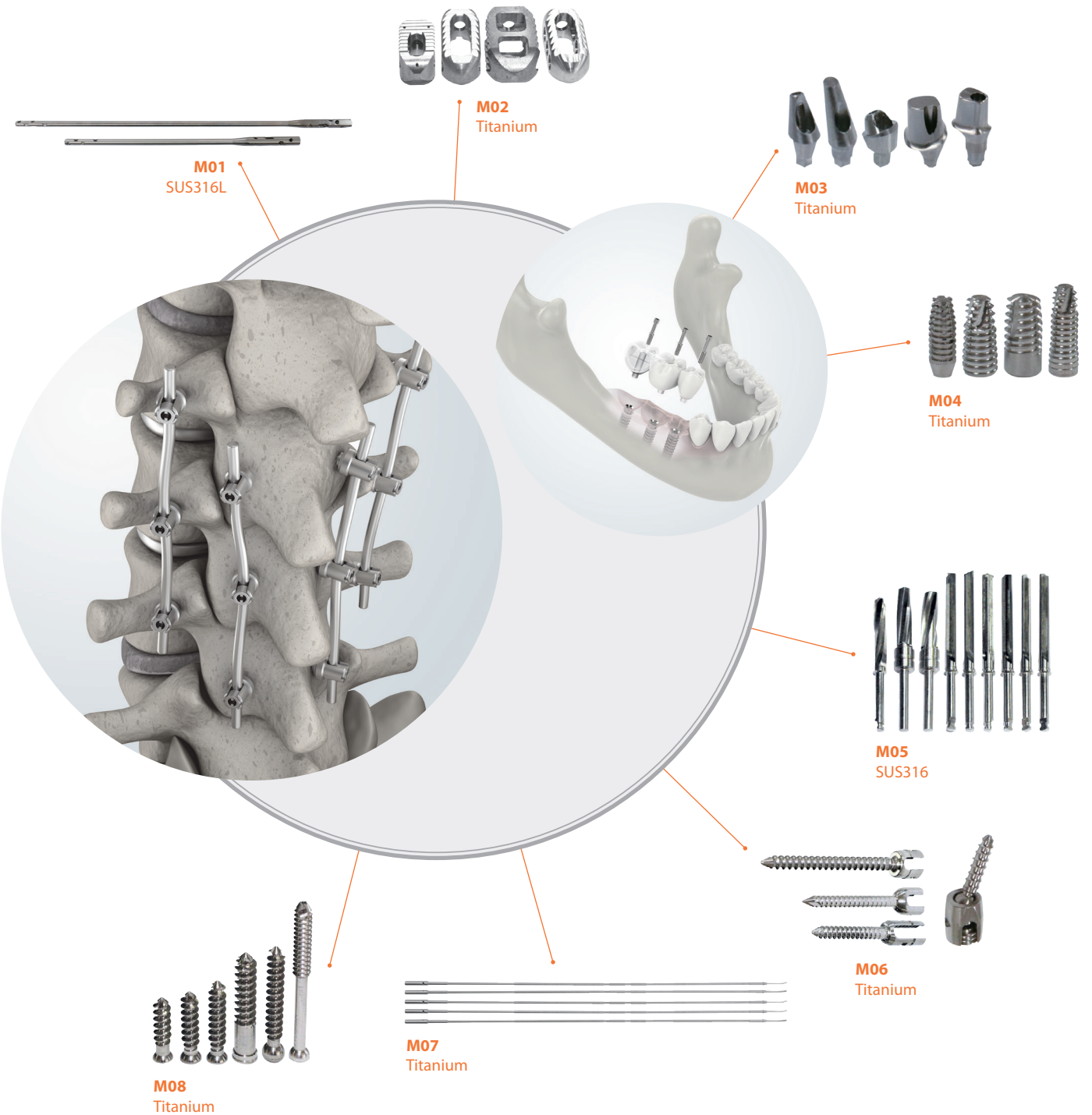


Automobile

Electronic



Medical



Industrial

