

Global Technology & Machinery



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Hanwha Corporation

■ Hanwha Corporation Headquarters Machine Tools Division

9 Sungsanpaechong-ro, Sungsan-gu, Changwon, Kyungnam,
South Korea(59 Sungsan- dong)
TEL:+82-55-280-4678/4670 FAX:+82-55-280-8997
Web: www.hanwhacorpmach.co.kr
Email: mtinfo@hanwha.com

■ Hanwha Machinery America Inc

9750 South Oakwood Park Drive, Franklin, WI 53132, USA
TEL:+1-414-421-2300
Web: www.hanwhamachinery.com

■ Hanwha Europe GmbH

Mergenthalerallee 79-81 65760 Eschborn, Germany

■ Hanwha Corporation Stuttgart Representative office

Tilsiter Str. 6 71065 Sindelfingen, Stuttgart, Germany
TEL:+49-7031-4699-211

■ HanwhaTechM (Suzhou) Co., Ltd

North Side of Sigang Segment, Zhangyang Road,
Zhangjiagang Economic And Technology Development
Zone, Zhangjiagang, Jiangsu 215600, China
TEL:+86-512-8959-8361

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 Hanwha Corporation

History

“To be the Global No.1 CNC Automatic Lathe Manufacturer, Hanwha will keep moving forward and never stop technology innovation.”



Machine tool division has released unique gang type models such as SAL, ML, SL, XD, XDII, XE so far and is now focusing on developing customized products through constant investment in R&D ever since starting the business in 1977 and developing the first turning machine in the nation in 1983.

Now we are striving to carry on the momentum of growth towards the top of the machine tool industry through globalization with 50 years of accumulated expertise and affiliates overseas in China, Europe & USA.

1950

1953. Founded Shinhan Bearing Industry

1970

1977. Started machine tool business

1983. Developed centerless/surface grinding machine
Developed SAL-10, the first cam type automatic lathe in Korea

1990

1992. Developed the first internal grinding machine

1993. Developed NC GANG TYPE(TG-1G)
Participated in the ministry of commerce and industry's industrial base technology process(developed schematic of CNC automatic lathe for mirror surface manufacturing)

1994. Developed KCG 200-J, centerless grinding machine

1998. Developed ML series, the first automatic lathe in Korea

2000

2002. Developed SL32HPD, the first 3 paths control CNC automatic lathe

2003. Established Hanwha Machinery America Inc(U.S.A)

2004. Developed XD20H, 7 axes BEST selling model
Developed STL series, turret type & 11 axes machine

2005~2006. Developed XD32/35/38, high productivity & precision
Developed XD20N, non-guide bush type machine

2008~2009. Developed XD03 for small precision parts
Developed HCG400(CNC TYPE), centerless grinding machine

2010

2013. Developed XD12II, XD38II

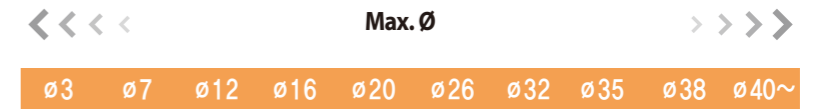
2014. Developed XD20/26II, XE20/26
Established Hanwha TechM (Suzhou) Co., Ltd(China)
Established Hanwha Corporation Stuttgart Representative office(Germany)



PRODUCT GUIDE

NX series

Ultra-precision machine with nano NC control



- 1 micron tolerance control for roundness and cylindricity
- 10 nano ultra precision control

STL Series

The most powerful 3 paths turret machine



- Ultimate tooling capability with 10 station turret(VDI, BMT)
- Synchronous machining & 3 paths control system

XDII Series

Leading Hanwha CNC automatic lathes with enhanced out put, precision and rigidity



- Improved C/T with enhanced rigidity and stability
- Minimized vibration and thermal deformation

XE Series

New generation of best selling machine



- Attractive price with stable machining & high productivity
- All-around machine with great value

XD Special Series

Specialized tool layout for medical & electric parts



- Ultimate tooling capability with B-axis & Y2-axis(XD20V)
- Perfect solution for small precision parts(XD03/07)

XP Series

Best solution for simple parts machining



- Cost-effective machine with high productivity
- Optimized structure for better space utilization

MACHINE	NAME	XP12	XP16	XP20	XP26	XP32	XE12	XE16	XE20			XE26			XE35			
	TYPE	S		S	S		J		H	J	Ne (Non G/B type)	H	J	Ne (Non G/B type)	H	J	Ne (Non G/B type)	
	NC	Hanwha Fanuc-i		Hanwha Fanuc-i	Hanwha Fanuc-i		Hanwha Fanuc-i		Hanwha Fanuc-i			Hanwha Fanuc-i			Hanwha Fanuc-i			
SPECIFICATION	PHOTO																	
	TOOL LAYOUT																	
	SIZE(LxWxH)	[mm]	1,650 X 1,090 X 1,640	2,030 X 1,140 X 1,720	2,030 X 1,140 X 1,720		1,860 X 1,000 X 1,680		2,330 X 1,230 X 1,670			2,330 X 1,230 X 1,670			2,060 X 1,440 X 1,760			
	WEIGHT	[kg]	1,800	2,300	2,500		1,900		2,500			2,500			2,750			
MAIN SPINDLE	MAX. RPM	[rpm]	12,000	8,000	8,000		12,000		10,000			8,000			6,500			
	POWER	[kW]	2.2/5.5	2.2/3.7	5.5/7.5		2.2/3.7		2.2/3.7			2.2/5.5			2.2/5.5			
	Max. Turning Ø(Main)	[mm]	Ø12 Ø16	Ø20	Ø26 Ø32		Ø12 Ø16		Ø20			Ø26			Ø35			
SUB SPINDLE	MAX. RPM	[rpm]	8,000	8,000	8,000		8,000		8,000			8,000			6,500			
	POWER	[kW]	0.55/1.1	0.55/1.1	1.5/2.2		0.55/1.1		1.5/2.2			1.5/2.2			1.5/2.2			
SPECIFICATION																		
	MAX. TOOLING	[EA]	15	18	17		23		24			23			18			
MAIN	OD	NO. OF TOOLS	[EA]	6	6	5		5		6			5			5		
		BITE SIZE	[mm]	□ 12 x 12	□ 12 x 12	□ 16 x 16		□ 12 x 12		□ 12 x 12			□ 16 x 16			□ 16 x 16		
	FRONT	NO. OF TOOLS	[EA]	6(FRONT 3, BACK 3)	8(FRONT 4, BACK 4)	8(FRONT 4, BACK 4)		10(FRONT 5, BACK 5)		10(FRONT 5, BACK 5)			10(FRONT 5, BACK 5)			8(FRONT 4, BACK 4)		
		MAX. RPM	[rpm]	6,000	6,000	5,000		6,000		6,000			6,000			6,000		
	CROSS	POWER	[kW]	0.5	1.0	1.0		1.0		1.0			1.0			1.0		
		NO. OF TOOL	[EA]	3	4	4		4		4			4			4		
OFF CENTER	NO. OF TOOL	[EA]							2(OPTION)			2(OPTION)			1			
BACKTOOL	MAX. RPM	[rpm]							6,000			6,000			6,000			
	POWER	[kW]							1.0			1.0			1.0			
	NO. OF TOOL (BACKTOOL)	[EA]					4 (FIXED)		4 (2 DRIVEN, 2 FIXED)			4 (FIXED)			4 (2 DRIVEN, 2 FIXED)			
COOLANT TANK	TANK CAPACITY	[Liter]	120	160	160		140		170			170			170			
	PUMP POWER	[kW]	0.25	0.4	0.4		0.25		0.4			0.4			0.4			
STROKE	Z1	[mm]	140	210	205		150		210 60			210 60			210 60			
	X1	[mm]	50	145	145		170		70			70			62			
	Y1	[mm]	272	253	253		110		340			340			340			
	Z2	[mm]	140	210	204		170		215			211			205			
	X2	[mm]					200		315			315			312			
ETC	POWER CONSUMPTION(CABLE SIZE)	[kVA]	10(Min. 10 SQ)	15(Min. 16 SQ)	20(Min. 25 SQ)		15(Min. 16 SQ)		15(Min. 16 SQ)			15(Min. 16 SQ)			15(Min. 16 SQ)			
	AIR FLOW RATE	[Liter/min]	120~150	120~150	120~150		120~150		120~150			120~150			120~150			
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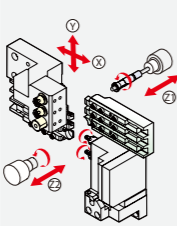
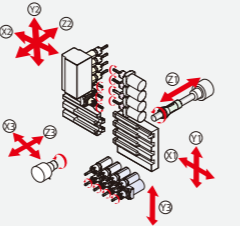
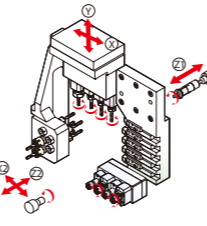
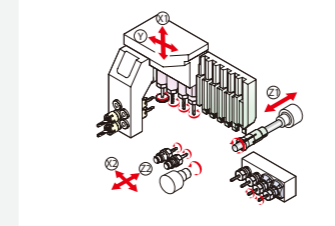
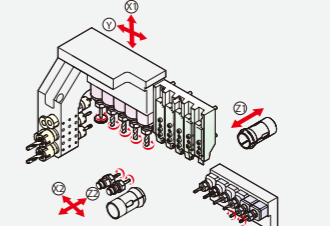
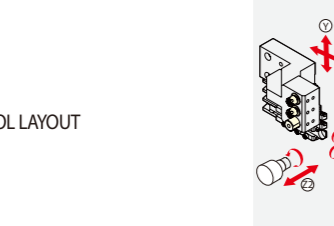
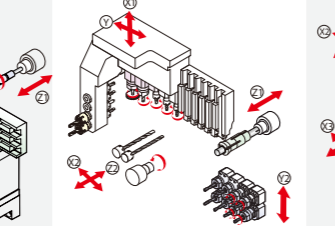
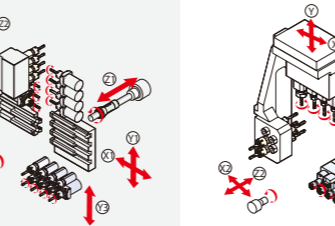
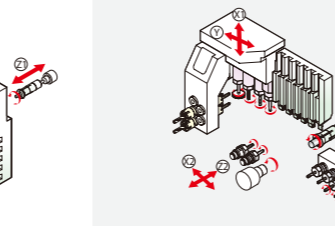
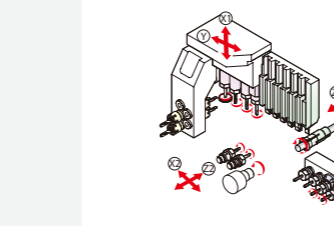
INTRODUCTION
PRODUCT GUIDE

MACHINE LINE UP

MACHINE SPECIFICATION

OPTIONS(SPECIAL)

SAMPLES

MACHINE	NAME	XD07	XD20V	XD120	XD12II	XD16II	XD20II				XD26II			XD32II			XD38II		STL38	
	TYPE	-	-	-	H		H	N	NH	M	H	N	NH	H	N	NH	He	H	H(Y3)	
	NC	Hanwha Fanuc-i	Fanuc 32i-B	Fanuc 31i-A	Fanuc 32i-B		Fanuc 32i-B				Fanuc 32i-B			Fanuc 32i-B			Hanwha Fanuc-i	Siemens 840D		
SPECIFICATION	PHOTO																			
	TOOL LAYOUT																			
SIZE(LxWxH)	[mm]	1,230 X 910 X 1,520	2,160 X 1,160 X 1,690	2,680 X 1,250 X 1,850	1,860 X 1,000 X 1,680		2,340 X 1,230 X 1,720				2,340 X 1,230 X 1,720			2,640 X 1,390 X 1,750			2,800 X 1,840 X 1,790			
WEIGHT	[kg]	1,000	2,500	4,000	1,900		2,700				2,700			3,600			4,600 4,700			
MAIN SPINDLE	MAX. RPM	[rpm]	16,000	10,000	10,000	12,000		10,000				8,000			6,500			7,000		
	POWER	[kW]	1.1/1.5	2.2/3.7	2.2/3.7	2.2/3.7		2.2/3.7				2.2/5.5			5.5/7.5			23		
	Max. Turning Ø(Main)	[mm]	Ø7	Ø20	Ø20	Ø12 Ø16		Ø20				Ø26			Ø32 Ø38			Ø32/38		
SUB SPINDLE	MAX. RPM	[rpm]	16,000	8,000	10,000	8,000		8,000				8,000			6,500			7,000		
	POWER	[kW]	1.1/1.5	1.5/2.2	2.2/3.7	0.55/1.1		1.5/2.2				1.5/2.2			2.2/5.5 1.1/3.7			23		
SPECIFICATION																				
MAX. TOOLING		[EA]	14	29	29	23		26				25			28 26			34 (Max. 43) 38 (Max. 47)		
MAIN	OD	NO. OF TOOLS	[EA]	6	6	6	5		6 5				5			5			5	
		BITE SIZE	[mm]	□ 8 x 8	□ 12 x 12	□ 12 x 12	□ 12 x 12		□ 12 x 12				□ 16 x 16			□ 16 x 16			□ 16 x 16	
	FRONT	NO. OF TOOLS	[EA]	6(FRONT 3, BACK 3)	8(FRONT 4, BACK 4)	8(FRONT 4, BACK 4)	10(FRONT 5, BACK 5)		10(FRONT 5, BACK 5)				10(FRONT 5, BACK 5)			10(FRONT 5, BACK 5)				
		MAX. RPM	[rpm]	9,000	6,000	6,000	6,000		6,000				6,000			6,000			6,000	
	CROSS	POWER	[kW]	0.35	1.0	1.0	1.0		1.0				1.0			2.2			1.07	
		NO. OF TOOL	[EA]	2	5	7	4		4 5				4			5			4	
OFF CENTER	NO. OF TOOL	[EA]		2(GUN DRILL)				2 2(GUN DRILL)				2			2(OPTION) 2					
BACKTOOL	MAX. RPM	[rpm]		6,000	6,000	6,000		6,000				6,000			6,000			6,000		
	POWER	[kW]		0.5	1.0	0.5		1.0				1.0			1.0			1.07		
	NO. OF TOOL (BACKTOOL)	[EA]		8 (4 DRIVEN, 4 FIXED)	8 (4 DRIVEN, 4 FIXED)	4 (2 DRIVEN, 2 FIXED)		4 (2 DRIVEN, 2 FIXED)				4 (2 DRIVEN, 2 FIXED)			6 (2 DRIVEN, 4 FIXED) 4 (2 DRIVEN, 2 FIXED)			4 (FIXED) 8 (4 DRIVEN, 4 FIXED)		
COOLANT TANK	TANK CAPACITY	[Liter]	100	170	180	170		170				170			230			300		
	PUMP POWER	[kW]	0.18	0.4	0.4	0.25		0.4				0.4			1.1			1.1		
STROKE	Z1	[mm]	125	210	210	150		210 60 160(H), 50(N) 210				210 60 160(H), 50(N)			320 80 142(H), 80(N) 320			320		
	X1	[mm]	26	77	45	170		70				70			80			60		
	Y1	[mm]	92	354	290	110		340				340			422			296		
	Z2	[mm]	105	210	50	170		215				211			280			120		
	X2	[mm]		306	45	200		315				315			395			115(VDI), 105(BMT)		
ETC	POWER CONSUMPTION(CABLE SIZE)	[kVA]	12(Min. 6 SQ)	15(Min. 16 SQ)	20(Min. 16 SQ)	15(Min. 16 SQ)		20(Min. 16 SQ)				20(Min. 16 SQ)			25(Min. 35 SQ)			40(Min. 35 SQ)		
	AIR FLOW RATE	[Liter/min]	120~150	120~150	120~150	120~150		120~150				120~150			120~150			20~30		
PAGE		Page. 12	Page. 13	Page. 14	Page. 15		Page. 16~17				Page. 16~17			Page. 18~19			Page. 20~21			

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MACHINE LINE UP

MACHINE SPECIFICATION

OPTIONS(SPECIAL)

SAMPLES

Cost-effective machine with high productivity

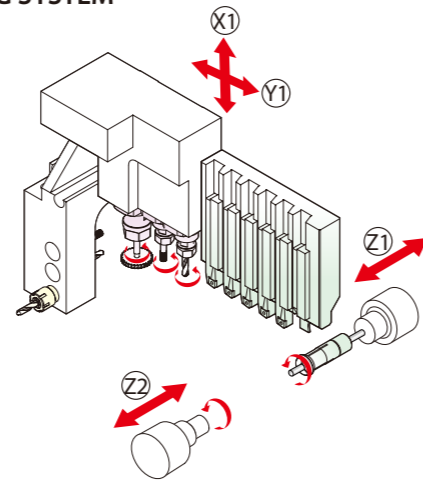
XP12/16S



Efficient structure
Optimized structure enabling better space utilization

High productivity
Excellent chip discharge and rapid traverse

TOOLING SYSTEM



SPECIFICATION

MODEL		XP12	XP16
		S	
NC		Hanwha Fanuc-i	
Max. Turning Ø(Main)		Ø12	Ø16
Max. Stroke		140mm	
OD Tool		6EA	
No. of Tools	Front Tool	6EA(Front 3, Back 3)	
	Cross Tool	3EA	
Motor	Main spindle	rpm	12,000rpm
	Power		2.2/5.5kW
	Cross Drill	rpm	6,000rpm
	Power		0.5kW
Pump	Coolant	Capacity	120L
	Pump Motor		0.25kW
SUB Motor	Sub spindle	rpm	8,000rpm
	Power		0.55/1.1kW
Weight		1,800kg	
Size(L x W x H)		1,650 X 1,090 X 1,640	
Power Consumption(Cable size)		10kVA(Min. 10 SQ)	
Air Flow Rate		120~150Liter/Min	

MAIN SUB ETC

High productivity



- Achieving shorten cycle time
- High productivity by rapid traverse rate in the same class

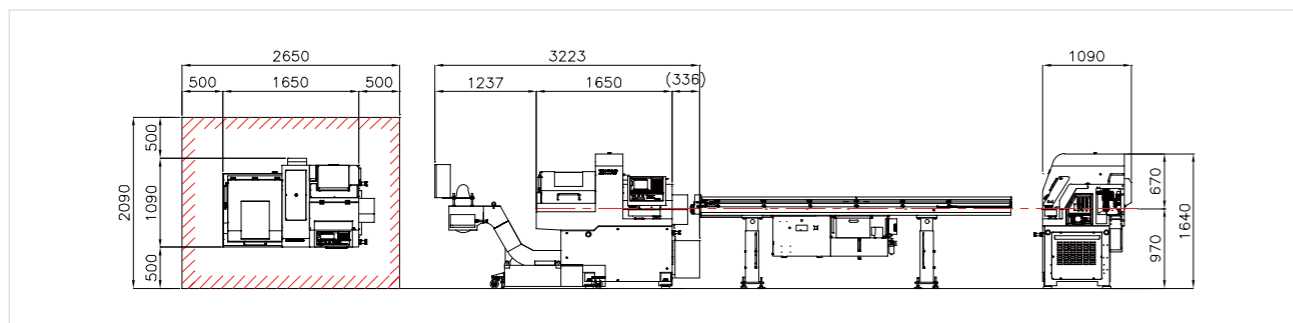
Easy maintenance



- Built-in spindle motor with low vibration
- Easy to maintenance and repair
- Movable OP for convenient work

Stroke	Z1	X1	Y1	Z2
XP12/16S	140mm	50mm	272mm	140mm

DIMENSION



* These products are dual-use items of strategic goods and strictly prohibited from manufacturing illegal weapons. We are not responsible for any effects resulting from the illegal use.

Best 4-axes machine in same class

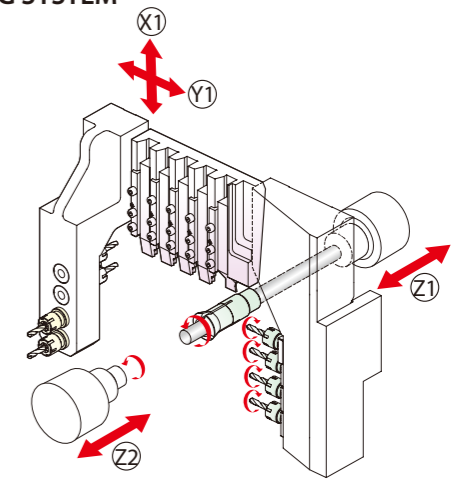
XP20/26/32S



Best tooling capacity in the same class
Max. 18ea tooling capacity

Built-in motor
Optimized for high precision and high speed

TOOLING SYSTEM



SPECIFICATION

MODEL		XP20	XP26	XP32	
		S			
NC		Hanwha Fanuc-i			
Max. Turning Ø(Main)		Ø20	Ø26	Ø32	
Max. Stroke		210mm	205mm		
OD Tool		6EA	5EA		
No. of Tools	Front Tool	8EA(Front 4, Back 4)			
	Cross Tool	4EA			
Motor	Main spindle	rpm	8,000rpm		
	Power	2.2/3.7kW	5.5/7.5kW		
	Cross Drill	rpm	6,000rpm	5,000rpm	
	Power		1.0kW		
Pump	Coolant	Capacity	160L		
	Pump Motor		0.4kW		
SUB Motor	Sub spindle	rpm	8,000rpm		
	Power	0.55/1.1kW	1.5/2.2kW		
Weight		2,300kg	2,500kg		
Size(L x W x H)		2,030 X 1,140 X 1,720			
Power Consumption(Cable size)		15kVA(Min. 16 SQ)	20kVA(Min. 25 SQ)		
Air Flow Rate		120~150Liter/Min			

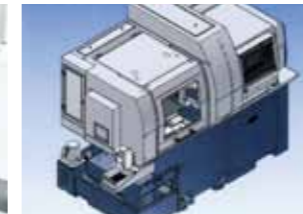
MAIN SUB ETC

Efficient tool layout



- Various tooling(Max. 18ea)
- Improved C/T and high productivity by horizontal type cross tool

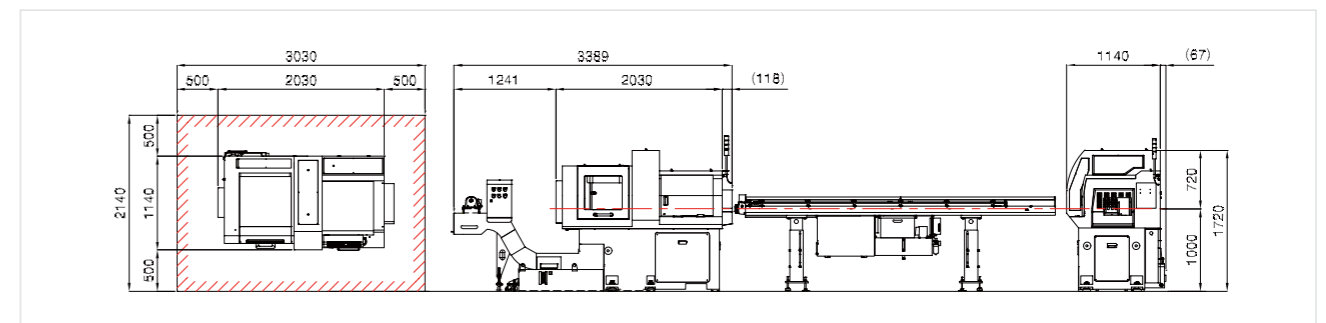
Optimized structure



- Solid and single bed structure
- High rigidity and high precision for long time operation

Stroke	Z1	X1	Y1	Z2
XP20S	210mm	145mm	253mm	210mm
XP26/32S	205mm	145mm	253mm	204mm

DIMENSION



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All-around machine with great value

XE12/16

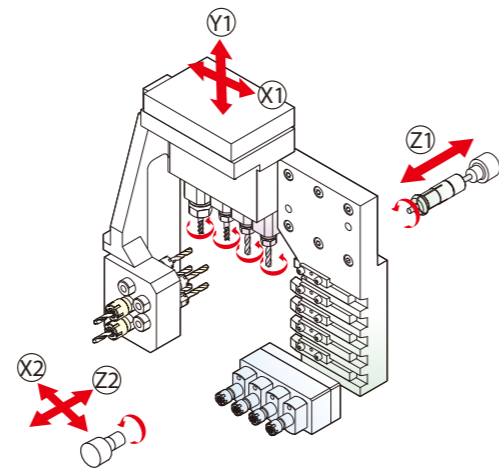


Easy and convenient of use
Fast set-up & change-overs



Minimized vibration and thermal deformation
Optimize structure of casting body & rib by finite element analysis(FEM)

TOOLING SYSTEM



SPECIFICATION

MODEL		XE12	XE16
NC		Hanwha Fanuc-i	
Max. Turning Ø(Main)		Ø12	Ø16
Max. Stroke		150mm	
No. of Tools	OD Tool	5EA	
	Front Tool	10EA(Front 5, Back 5)	
	Cross Tool	4EA	
	Back Tool	4EA(Fixed)	
Motor	Main spindle	rpm	12,000rpm
	Power		2.2/3.7kW
Cross Drill	rpm		6,000rpm
	Power		1.0kW
Pump	Coolant	Capacity	140L
	Pump Motor		0.25kW
SUB MOTOR	Sub spindle	rpm	8,000rpm
	Power		0.55/1.1kW
Weight		1,900kg	
Size(L x W x H)		1,860 X 1,000 X 1,680	
Power Consumption(Cable size)		15kVA(Min. 16 SQ)	
Air Flow Rate		120~150Liter/Min	

Minimized vibration & thermal deformation

Improved chucking system



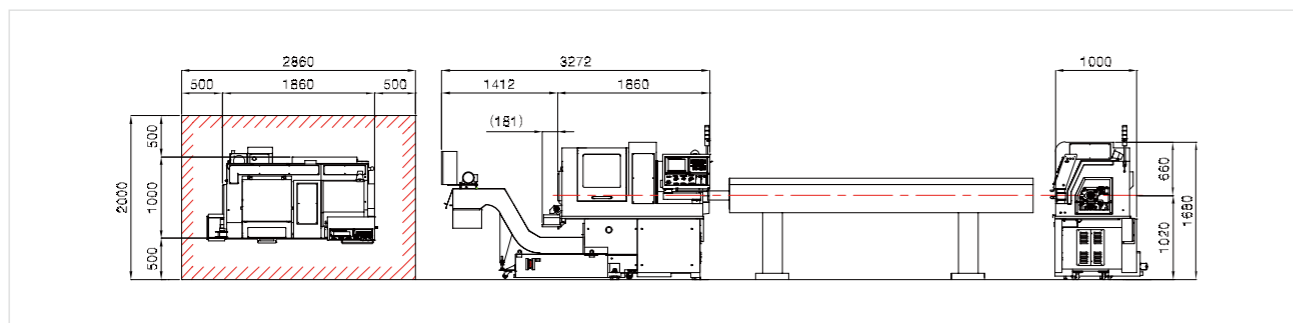
- Back tool post on sub bed for separation with main operation
- OD tool post vertical arrangement



- Enhanced chucking power by outer toggle

Stroke	Z1	X1	Y1	Z2	X2
XE12/16	150mm	170mm	110mm	170mm	200mm

DIMENSION



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All-around machine with great value

XE20/26/35



Strong and rigid tool post
Cross live tool motor(1kW), modular type

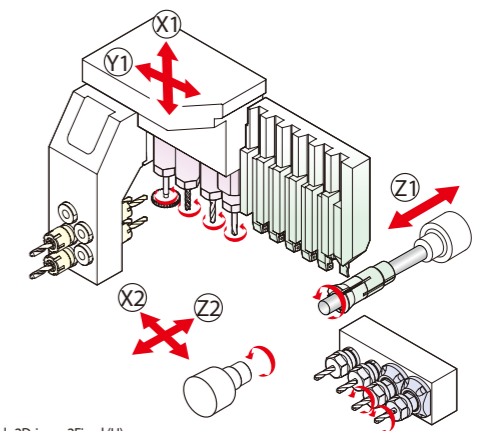


Great value for 5-axis machine
Achieving cost effective 20mm machine



Compact design to minimize the floor space

TOOLING SYSTEM



* Back Tool : 2Driven, 2Fixed (H)

Gear type modular live tool



- Optimal for heavy drilling & milling
- Improved live motor power

Enhanced durability



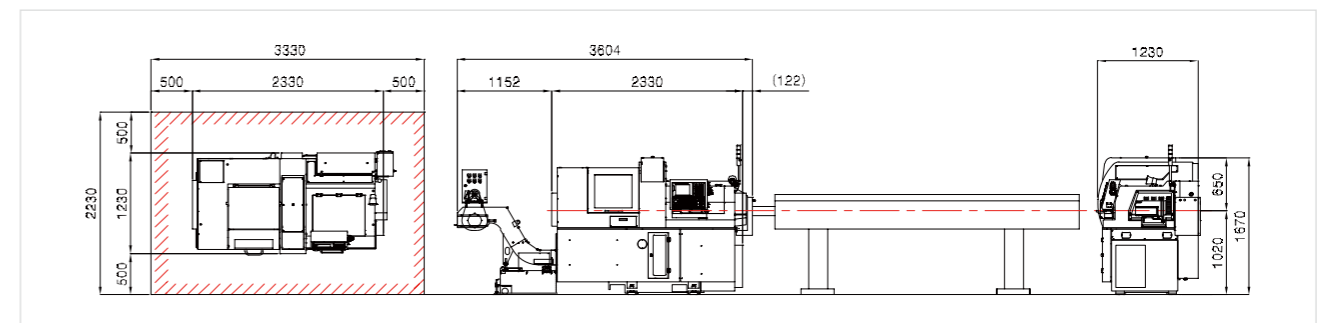
- Powerful chucking by outer toggle
- Increased belt strength and applied air purge on spindle

Stroke	Z1	X1	Y1	Z2	X2
XE20/26	210mm (Ne:60mm)	70mm	340mm	215mm (Ø26.21mm)	315mm
XE35	210mm (Ne:60mm)	62mm	340mm	205mm	312mm

SPECIFICATION

MODEL		XE20/26/35		
		H	J	Ne
NC		Hanwha Fanuc-i		
Max. Turning Ø(Main)		Ø20/Ø26/Ø35		
Max. Stroke		210mm	60mm	
No. of Tools	OD Tool	6EA(Ø20), 5EA(Ø26/Ø35)		
	Front Tool	10EA(Ø20/Ø26), 8EA(Ø35)		
	Cross Tool	4EA		
	Back Tool	4EA(Fixed)		
Off Center Drill	2EA-Option(Ø20/Ø26), 1EA(Ø35)			
	Main spindle	rpm	10,000rpm(Ø20), 8,000rpm(Ø26), 6,500rpm(Ø35)	
Motor	Power	2.2/3.7kW(Ø20/Ø26), 2.2/5.5kW(Ø35)		
	Cross Drill	rpm	6,000rpm	
Pump	Power	1.0kW		
	Coolant	Capacity	170L	
Pump Motor	Power	0.4kW		
	Sub spindle	rpm	8,000rpm(Ø20/Ø26), 6,500rpm(Ø35)	
SUB MOTOR	Power	1.5/2.2kW		
	Back Tool	rpm	6,000rpm	
SUB MOTOR	Power	1.0kW		
	Weight		2,500kg(Ø20/Ø26), 2,750kg(Ø35)	
Size(L x W x H)		2,330 X 1,230 X 1,670(Ø20/Ø26), 2,060 X 1,440 X 1,760(Ø35)		
Power Consumption(Cable size)		15kVA(Min. 16 SQ)		
Air Flow Rate		120~150Liter/Min		

DIMENSION



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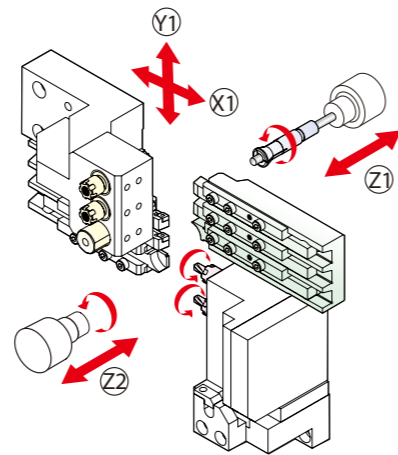
Perfect solution for small precision parts

XD07



- Various tooling**
Cutting edge compact machine for 7mm workpiece
- High precision**
Pursue high productivity with oil cooling system
- Compact design**
Minimum installation space is required and guarantee high productivity

TOOLING SYSTEM



Excellent performance



- High precision and ultra speed built-in motor(16,000rpm)
- Realized various tooling with cross rotary tool
- Shortened cycle time and reinforced productivity

Easy maintenance



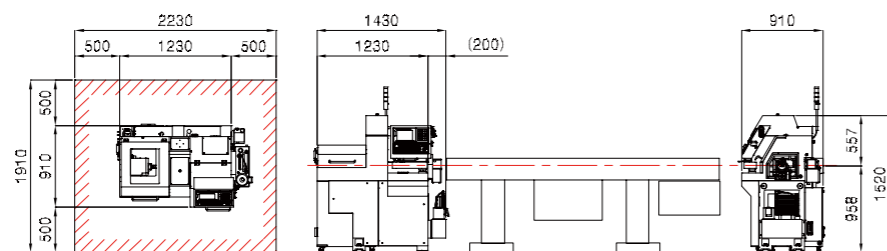
- Opposed gang type tool post
- Efficient chip discharge and smooth coolant flow enables stable continuous machining

Stroke	Z1	X1	Y1	Z2
XD07	125mm	26mm	92mm	105mm

SPECIFICATION

MODEL	XD07	
NC	Hanwha Fanuc-i	
Max. Turning Ø(Main)	Ø7	
Max. Stroke	125mm	
OD Tool	6EA	
No. of Tools	Front Tool 6EA(Front 3, Back 3)	
Cross Tool	2EA(3EA Option)	
Motor	Main spindle rpm	16,000rpm
	Power	1.1/1.5kW
Cross Drill	rpm	9,000rpm
	Power	0.35kW
Pump	Coolant Capacity	100L
	Pump Motor	0.18kW
SUB Motor	rpm	16,000rpm
	Power	1.1/1.5kW
Back Tool	rpm	-
	Power	-
Weight	1,000kg	
Size(L x W x H)	1,230 x 910 x 1,520	
Power Consumption(Cable size)	12kVA(Min. 16 SQ)	
Air Flow Rate	120~150 Liter/Min	

DIMENSION



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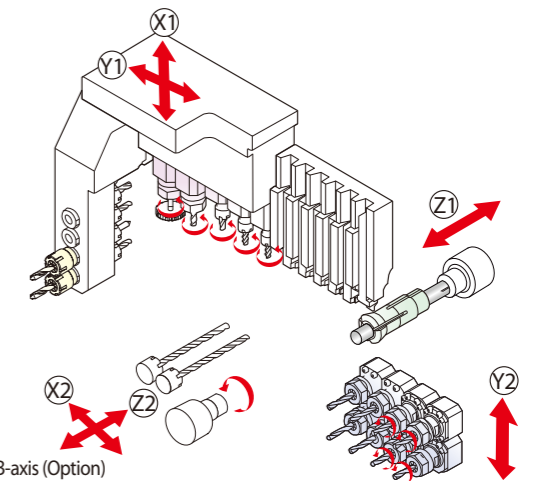
Ultimate tooling capability with B-axis & Y2-axis

XD20V



- Outstanding machining capability**
Y2-axis & B-axis(Op) available for complex parts
- Enhanced C/T and productivity**
Ensure better C/T by reduction of idle time
- Strong casting structure**
Secured both stable machining and high rigidity

TOOLING SYSTEM



* B-axis (Option)

SPECIFICATION

MODEL	XD20V	
NC	Fanuc 32i-B	
Max. Turning Ø(Main)	Ø20	
Max. Stroke	210mm	
OD Tool	6EA	
No. of Tools	Front Tool 8EA(Front 4, Back 4)	
Cross Tool	5EA	
Gun Drill	2EA(Fixed, Gun Drill Max 110mm)	
Back Tool	8EA(4Driven, 4Fixed)	
Main spindle	rpm	10,000rpm
	Power	2.2/3.7kW
Cross Drill	rpm	6,000rpm
	Power	1.0kW
Pump	Coolant Capacity	170L
	Pump Motor	0.4kW
SUB Motor	Sub spindle rpm	8,000rpm
	Power	1.5/2.2kW
Back Tool	rpm	6,000rpm
	Power	0.5kW
Weight	2,500kg	
Size(L x W x H)	2,160 x 1,160 x 1,690	
Power Consumption(Cable size)	15kVA(Min. 16 SQ)	
Air Flow Rate	120~150 Liter/Min	

Various tooling capability



- Y2-axis(8ea, 4Driven/4Fixed)
- Back tool cross tool(Op)
- Rapid traverse 40m/min
- Fixed long gun drill 2ea(Max.110mm)

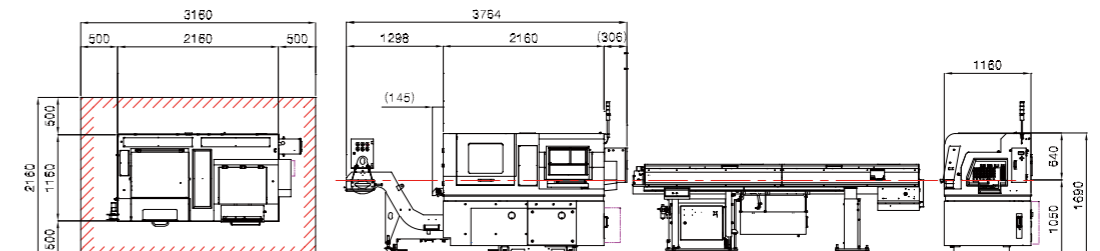
B-axis live tool



- B-axis(6ea, ER16x3ea/ER11x3ea)
- Motor power/rpm : 1kW/6,000rpm
- Gear hobbing & angle adjustment

Stroke	Z1	X1	Y1	Z2	X2	Y2
XD20V	210mm	77mm	354mm	210mm	306mm	60mm

DIMENSION



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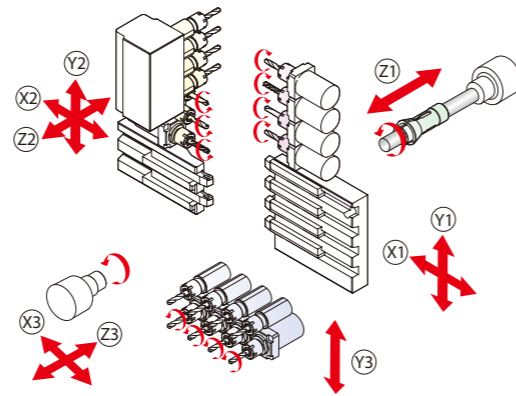
3 channels, 11 axes gang type machine

XDI20

Innovative tooling system
Y2-axis, various machining capability
(Balance cutting)

Enhanced C/T and productivity
Powerful built-in motors on main & sub spindle

TOOLING SYSTEM



Innovative tool layout



- Opposed gang type tool post
- Synchronized control between main spindle and rotary guide bush unit by spindle motor
- Various special tools are available

Various machining capabilities



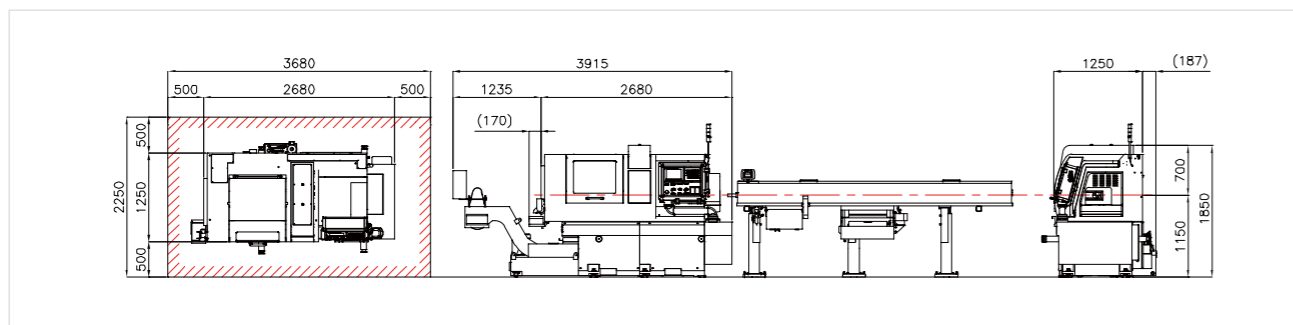
- Y2-axis(8ea, 4Driven/4Fixed)
- Ideal machine for manufacturing various parts utilizing simultaneous machining with 3 path controller

Stroke	Z1	X1	Y1	Z3	X2	Y2
XDI20	210mm	45mm	290mm	300mm	45mm	290mm

SPECIFICATION

MODEL	XDI20	
NC	FANUC 31i-A	
Max. Turning Ø(Main)	Ø20	
Max. Stroke	210mm	
No. of Tools	OD Tool	6EA
	Front Tool	8EA(Front 4, Back 4)
	Cross Tool	7EA
	Back Tool	8EA(4Driven, 4Fixed)
Motor	Main spindle	rpm: 10,000rpm Power: 2.2/3.7kW
	Cross Drill	rpm: 6,000rpm Power: 1.0kW
Pump	Coolant Capacity	180L
	Pump Motor	0.4kW
SUB Motor	Sub spindle	rpm: 10,000rpm Power: 2.2/3.7kW
	Back Tool	rpm: 6,000rpm Power: 1.0kW
Weight	4,000kg	
Size(L x W x H)	2,680x1,250x1,850	
Power Consumption(Cable size)	20kVA(Min 16 SQ)	
Air Flow Rate	120~150 Liter/Min	

DIMENSION



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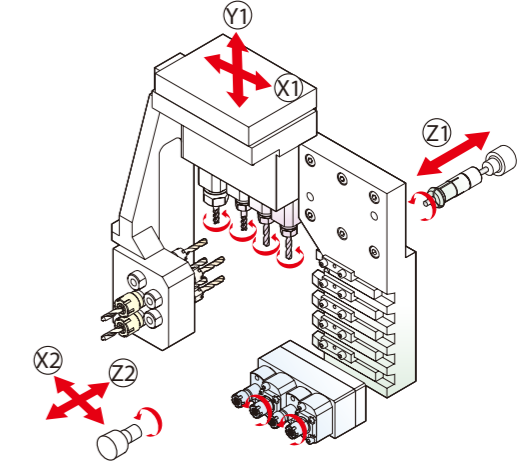
High precision & productivity

XD12/16II

Spindle motor with Increased output
Cross & Back live motor 1.0kW

Improved accuracy & cutting time shortened
Minimized idle time by a new controller & Custom macro

TOOLING SYSTEM



Built-in motor enabling high accuracy



- Keeping low noise & temperature

High rigidity mechanism



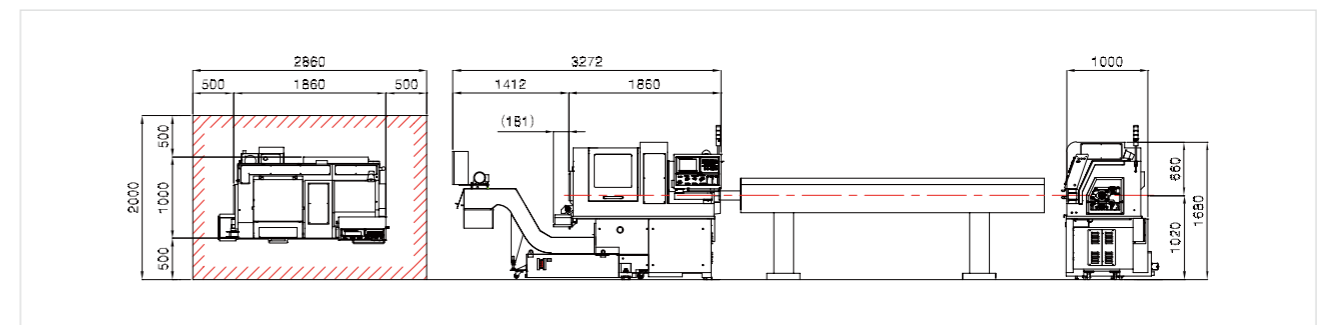
- Minimized heat displacement
- Back tool post on sub bed for separation with main operation

Stroke	Z1	X1	Y1	Z2	X2
XD12/16II	150mm	170mm	110mm	170mm	200mm

SPECIFICATION

MODEL	XD12II		XD16II	
	H			
NC	Fanuc 32i-B			
Max. Turning Ø(Main)	Ø12		Ø16	
Max. Stroke	150mm			
No. of Tools	OD Tool	5EA		
	Front Tool	10EA(Front 5, Back 5)		
	Cross Tool	4EA		
	Back Tool	4EA(2Driven, 2Fixed)		
Motor	Main spindle	rpm: 12,000rpm Power: 2.2/3.7kW		
	Cross Drill	rpm: 6,000rpm Power: 1.0kW		
Pump	Coolant Capacity	170L		
	Pump Motor	0.25kW		
SUB Motor	Sub spindle	rpm: 8,000rpm Power: 0.55/1.1kW		
	Back Tool	rpm: 6,000rpm Power: 0.5kW		
Weight	1,900kg			
Size(L x W x H)	1,860 x 1,000 x 1,680			
Power Consumption(Cable size)	15kVA(Min. 16 SQ)			
Air Flow Rate	120~150 Liter/Min			

DIMENSION



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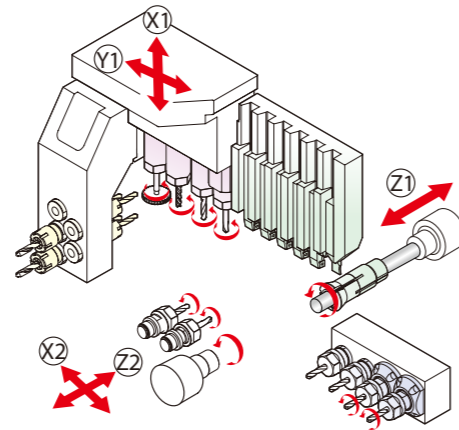
The evolutionary best selling machines ever

XD20/26 II



- High precision & rigidity**
Improved machining accuracy by minimizing vibration and thermal deformation
- Best structure for hard material machining**
Applied strong tool post and modular live tool with gear
- Convertible guide bush type available**
Shorten remnant length

TOOLING SYSTEM

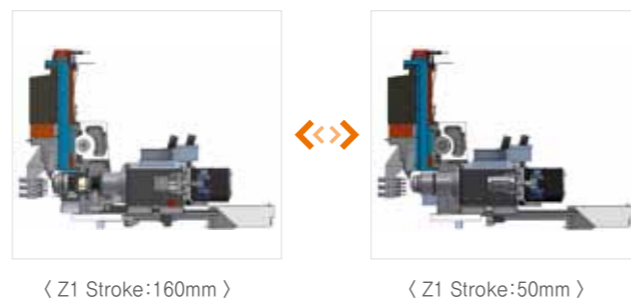


<p>Efficient tool layout</p> <ul style="list-style-type: none"> Extended spindle stroke Max. 26ea tool(Max. 20ea live tool) 	<p>Improved durability</p> <ul style="list-style-type: none"> External toggle type, Stronger belt Air purge in G/B & spindle 	<p>Various special tool holders</p> <ul style="list-style-type: none"> Easy set up & various tool holder available Coolant through live tool(Option) 	<p>Convertible guide bush type available</p> <ul style="list-style-type: none"> Easy to switch from G/B to non G/B to shorten remnant length
--	---	---	--

1 Enhance precision and minimize dimensional change with Integrated X2 base on bed structure



2 Easy to convert G/B to Non G/B



Various special options are available

SPECIAL TOOL

SIDE CUTTER UNIT (Back tool)	THREAD WHIRLING UNIT (Cross tool)	3-AXIS FACE UNIT (Cross tool)	3-AXIS ADJUSTABLE FACE UNIT(0~90°) (Cross tool)	3-AXIS COUNTER FACE UNIT (Cross tool)	GEAR HOBBING UNIT (Cross tool)
• Slotting for back tool	• Screw for cross tool	• Drilling/Milling/Tapping for cross tool	• Drilling/Milling/Tapping for cross tool (angle)	• Drilling/Milling/Tapping for cross tool	• Hobbing for cross tool

SPECIFICATION

MODEL	XD20/26 II			
	H	N	NH	M
NC	Fanuc 32i-B			
Max. Turning Ø(Main)	Ø20/Ø26			
Max. Stroke	210mm	60mm	160mm(H) 50mm(N)	210mm
No. of Tools	OD Tool	6EA(Ø20), 5EA(Ø26)		
	Front Tool	10EA(Front 5, Back 5)		
	Cross Tool	4EA		5EA
	Back Tool	4EA(2Driven, 2Fixed)		
Off Center Drill	2EA, Gun Drill 2EA(M Type)			
	Main spindle	rpm	10,000rpm(Ø20), 8,000(Ø26)	
Motor	Power	2.2/3.7kW(Ø20), 2.2/5.5kW(Ø26)		
	Cross Drill	rpm	6,000rpm	
Pump	Capacity	170L		
	Pump Motor	0.4kW		
Sub spindle	rpm	8,000rpm		
	Power	1.5/2.2kW		
Back Tool	rpm	6,000rpm		
	Power	1.0kW		
Weight	2,700kg			
Size(L x W x H)	2,340 x 1,230 x 1,720			
Power Consumption(Cable size)	20kVA(Min. 16 SQ)			
Air Flow Rate	120~150Liter/Min			

STANDARD

- FULL C AXIS CONTROL ON MAIN & SUB SPINDLE
- V-PULLEY TYPE INDEXING UNIT ON MAIN SPINDLE
- ROTARY GUIDE BUSH HOLDER UNIT(H, NH, M TYPE)
- CROSS DRILL/MILLING UNIT(4EA, MODULAR TYPE)
- OFF CENTER DRILL UNIT (2EA, DRIVEN)
- MPG
- DOOR INTERLOCK
- COOLANT FLOW SENSOR
- COOLANT UNIT
- LUBRICATOR UNIT
- WORK LIGHT
- SIGNAL LAMP(3COLOR)
- LAN PORT
- TOOL MONITORING FUNCTION
- TOOL BOX
- DRILL HOLDERS
- BAR FEEDER INTERFACE

OPTION

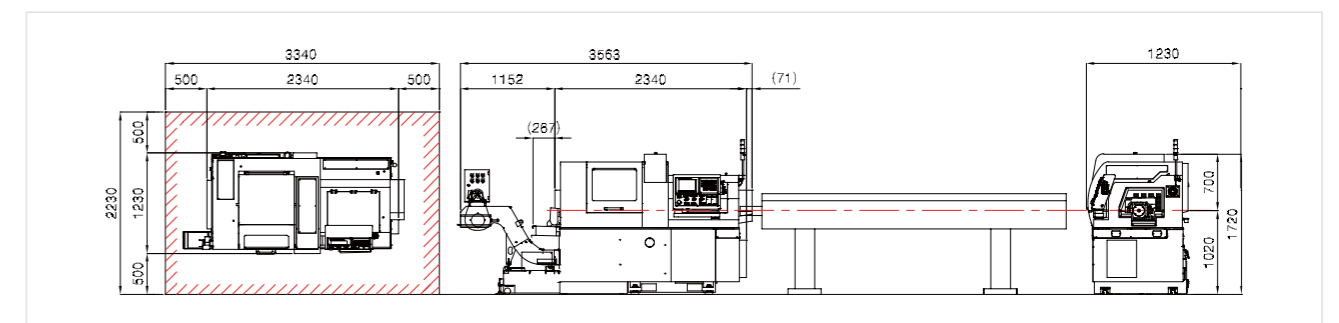
- TRANSFORMER
- PART CONVEYOR
- CHIP CONVEYOR
- CUT OFF TOOL BREAKAGE DETECTOR(S/W)
- TAP BREAKAGE DETECTOR
- PIPE TYPE EJECTION UNIT
- ADDITIONAL 1 PIPE SET
- MIDDLE / HIGH PRESSURE PUMP
- SPARE M CODE KIT
- OIL MIST COLLECTOR
- OIL CHILLER
- NC WARRANTY FOR 2 YEARS
- CROSS / BACK INTERNAL COOLANT DRIVEN TOOL
- 4 DRIVEN BACK TOOL
- BAR FEEDER
- LENGTH MEASURING UNIT
- MEMORY CARDS
- TOOLING & PROGRAMMING
- GRIPPER UNIT
- POWER GUIDE BUSH UNIT
- RS232C I/O INTERFACE

* N: Non G/B type

* NH: G/B convertible type

Stroke	Z1	X1	Y1	Z2	X2
XD20II	210mm(N:60mm)	70mm	340mm	215mm	315mm
XD26II	210mm(N:60mm)	70mm	340mm	211mm	315mm

DIMENSION



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The ultimate machine in high rigidity

XD32/38II

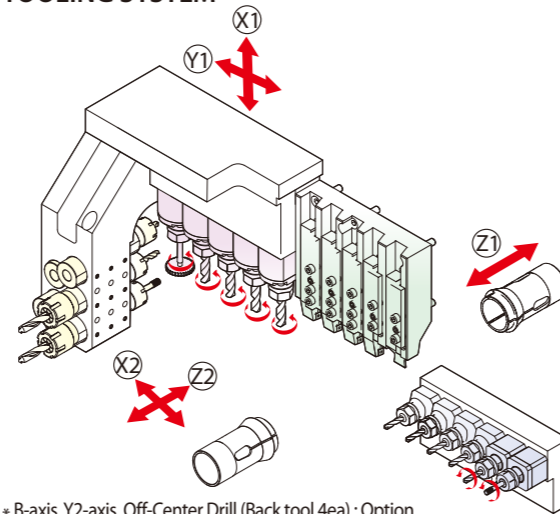


Strong casting structure allows for high rigidity

Complex machining by various tooling
Modular cross live drill(5ea), Y2-axis & B-axis(Optional)

Improved C/T and productivity
Reduced idle time by the latest NC
Powerful cross motor output(2.2kW)

TOOLING SYSTEM



Various special options are available

SPECIAL TOOL



SPECIFICATION

MODEL	XD32/38II			
	H	N	NH	He
NC	Fanuc 32i-B		Hanwha Fanuc-i	
Max. Turning Ø(Main)	Ø32/Ø38			
Max. Stroke	320mm	80mm	142mm 80mm	320mm
No. of Tools	OD Tool	5EA		
	Front Tool	10EA(Front 5, Back 5)		
	Cross Tool	5EA		
	Back Tool	6EA(2Driven, 4Fixed) 8EA(4Driven, 4Fixed)-Option	4EA(2Driven, 2Fixed)	
Off Center Drill	2EA(Optional)		2EA	
	Main spindle	rpm	6,500rpm	
Motor	Power	5.5/7.5kW		
	Cross Drill	rpm	6,000rpm	
Pump	Power	2.2kW		
	Coolant	Capacity	230L	
Pump Motor	Power	1.1kW		
	Sub spindle	rpm	6,500rpm	
Motor		Power	2.2/5.5kW	1.1/3.7kW
Back Tool	rpm	6,000rpm		
	Power	1.0kW		
Weight	3,600kg			
Size(L x W x H)	2,640 x 1,390 x 1,750			
Power Consumption(Cable size)	25kVA(Min. 35 SQ)			
Air Flow Rate	120~150 Liter/Min			

STANDARD

- FULL C AXIS CONTROL ON MAIN & SUB SPINDLE
- V-PULLEY TYPE INDEXING UNIT ON MAIN SPINDLE
- ROTARY GUIDE BUSH HOLDER UNIT
- CROSS DRILL/MILLING UNIT(5EA, MODULAR TYPE)
- OFF CENTER DRILL UNIT(2EA, DRIVEN) *He TYPE
- MPG
- DOOR INTERLOCK
- COOLANT FLOW SENSOR
- COOLANT UNIT
- LUBRICATION UNIT
- WORK LIGHT
- SIGNAL LAMP(3COLOR)
- LAN PORT
- TOOL MONITORING FUNCTION
- TOOL BOX
- DRILL HOLDERS
- BAR FEEDER INTERFACE
- PART CONVEYOR

OPTION

- TRANSFORMER
- CHIP CONVEYOR
- CUT OFF TOOL BREAKAGE DETECTOR(S/W)
- TAP BREAKAGE DETECTOR
- PIPE TYPE EJECTION UNIT
- ADDITIONAL 1 PIPE SET
- MIDDLE / HIGH PRESSURE PUMP
- SPARE M CODE KIT
- OIL MIST COLLECTOR
- OIL CHILLER
- NC WARRANTY FOR 2 YEARS
- 4 DRIVEN BACK TOOL
- BAR FEEDER / 2ND ANTI VIBRATION UNIT
- 2nd ANTI VIBRATION UNIT
- OFF CENTER DRILL UNIT *H, N, NH TYPE
- MEMORY CARDS
- TOOLING & PROGRAMMING
- GRIPPER UNIT
- POWER GUIDE BUSH UNIT
- RS232C I/O INTERFACE

MAIN

SUB

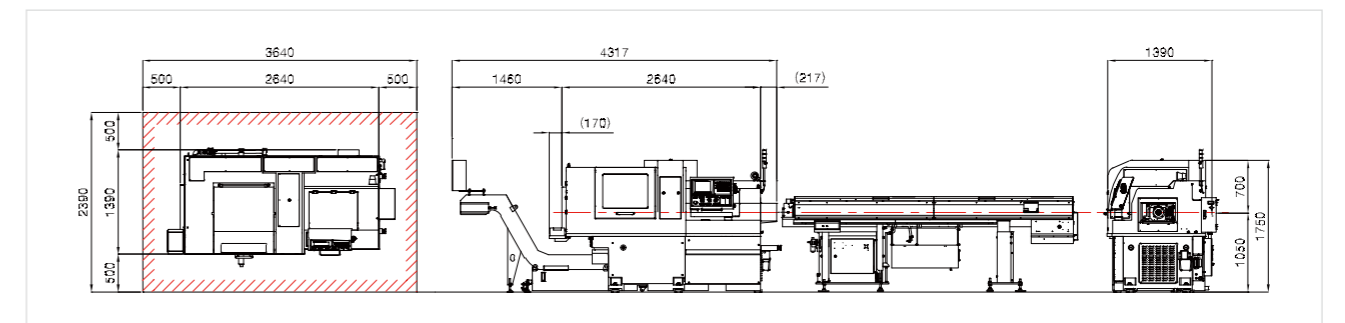
ETC

* N: Non G/B type
* NH: G/B convertible type

Stroke	Z1	X1	Y1	Z2	X2	Y2
XD32/35/38 II	320mm(N:80mm)	80mm	422mm	280mm	395mm	72mm

*Y2 is not available for He Type

DIMENSION



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Optimized tool layout



- Secure accuracy and minimized heat displacement
- Easy chip discharge and efficient coolant circulation system

Excellent motor power



- Stability of hard cutting by high output motor and built-in motor
- Increase rigidity by direct connecting motor

Innovation tooling system



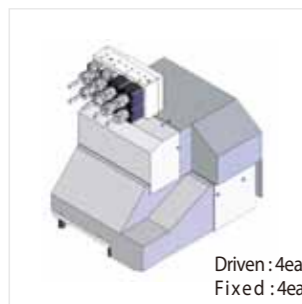
- Y2 & B-axis allow for complex machining parts
- Easy to use various special tool holders

Enhanced machine durability

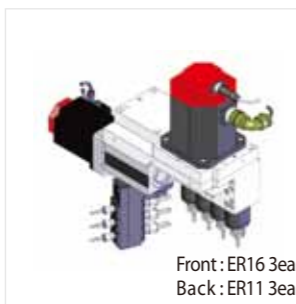


- Improved slide covers by sealed connection
- Free positioned OP to increase the work efficiency

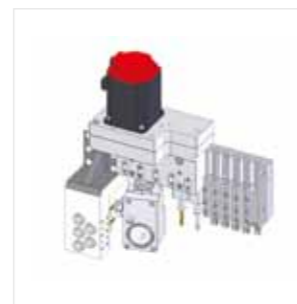
Various special option tools are available



<Y2-axis on back tool>



<B-axis>



<Thread whirling>



<3-axis adjustable face unit>

The most powerful 3 paths turret machine

STL38H



Various tooling for complex parts

M8 rigid tapping & Y3-axis(Option)
Max 47ea tooling capacity



Innovative performance

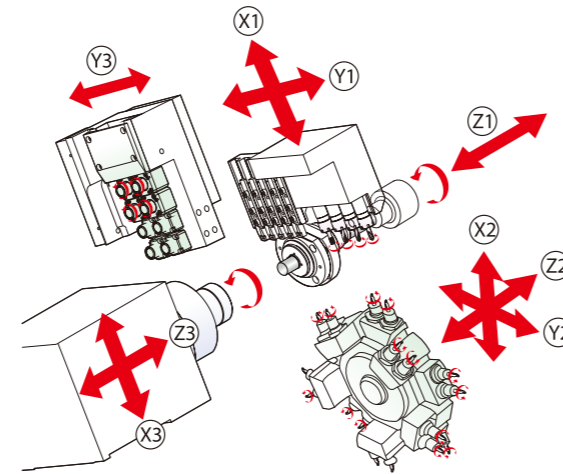
High-performance built-in motor(23kW) for main & sub spindle



Enhanced durability

Enhance durability & stability with improved structure & function of slide cover

TOOLING SYSTEM



* Y3-axis (Option)

High power & rigidity



- The most powerful built-in motor (23.0kW) in same class for main & sub spindle
- Synchronous rotary guide bush unit by spindle motor
- Strong indexing & Cs contouring by hydraulic disk brake

Maximized tooling capabilities



- Turret indexing by servo motor enables to save tool changing time
- Rigid tapping on all spindles enables to expand the range of working
- Various special tools: polygon, thread whirling and angle adjustable driven tool BMT45 turret available

Conspicuous conveniences



- Free position typed operation panel
- Ethernet outlet & pendant MPG as standard
- Turret spindle locates on main spindle side for easy tooling and tool change(center height:1,050mm)height

SIEMENS SINUMERIK 840D



- WINDOWS 7 and 15" color LCD display
- Contribute to save tooling time and improved productivity by advanced dialogic programming
- Programming guidance function (G/M code) & alarm help function

COMPLEX MACHINING



Balance cutting
OD + Turret



Synchronous
OD + Turret



Endmill
Turret + Cross



Drilling
Turret + Cross

Stroke	Z1	Y1	X1	Z2	Y2	X2	Z3	Y3	X3
STL38H	320mm	296mm	60mm	120mm	100mm	115mm(VDI) 105mm(BMT)	330mm	NA	300mm

SPECIFICATION

MODEL	STL38H		
	H	H(Y3)	
NC	SIEMENS 840D		
Max. Turning Ø(Main)	Ø32/Ø38		
No. of Tools	OD Too	5EA	
	Cross Tool	4EA	
	Turret Tool	10Station (ST:VDI30, OP: BMT45)	
Back Tool	4EA(Fixed)	8EA(4Driven, 4Fixed)	
	Main spindle	rpm	7,000rpm
Power		23kW	
Motor	rpm	6,000rpm	
	Power	1.07kW	
Pump	Coolant Capacity	300L	
	Pump Motor	1.1kW	
Sub spindle	rpm	7,000rpm	
	Power	23kW	
Motor	rpm	-	6,000rpm
	Power	-	1.07kW
Weight	4,600kg		
Size(L x W x H)	2,800 x 1,840 x 1,790		
Power Consumption(Cable size)	40KVA(Min. 35 SQ)		
Air Flow Rate	20~30 Liter/Min		

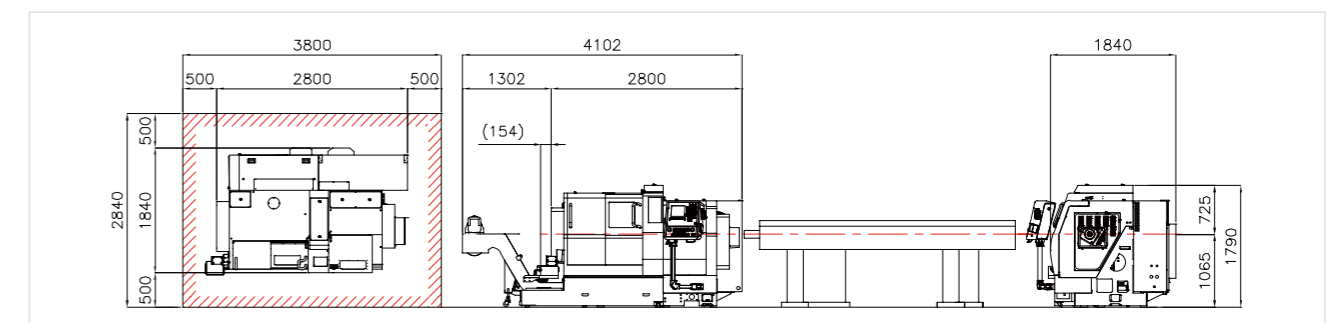
STANDARD

- FULL C AXIS CONTROL ON MAIN & SUB SPINDLE
- ROTARY GUIDE BUSH HOLDER UNIT
- CROSS DRILL/MILLING UNIT(4EA, MODULARTYPE)
- MPG
- DOOR INTERLOCK
- COOLANT FLOW SENSOR
- COOLANT UNIT
- LUBRICATION UNIT
- WORK LIGHT
- SIGNAL LAMP(3COLOR)
- LAN PORT
- TOOL MONITORING FUNCTION
- TOOL BOX
- DRILL HOLDERS
- BAR FEEDER INTERFACE
- PART CONVEYOR

OPTION

- CHIP CONVEYOR
- CUT OFF TOOL BREAKAGE DETECTOR(S/W)
- TAP BREAKAGE DETECTOR
- PIPE TYPE EJECTION UNIT
- ADDITIONAL 1 PIPE SET
- MIDDLE / HIGH PRESSURE PUMP
- SPARE M CODE KIT
- OIL MIST COLLECTOR
- OIL CHILLER
- NC WARRANTY FOR 2 YEARS
- Y3-AXIS(4DRIVEN/4FIXED)
- TURRET TOOL HOLDERS
- BAR FEEDER / 2ND ANTI VIBRATION UNIT
- TRANSFORMER(FOR 220V)
- MEMORY CARDS
- RS232C I/O INTERFACE

DIMENSION



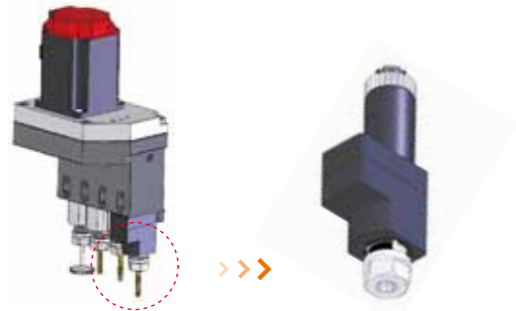
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Special option

“Machines with only Hanwha's special options could be utilized more than 100%”

Triple speed cross drill

- Enhance cross drilling performance with triple speed of cross drill rotation
- Achieving high-precision surface roughness with high rpm



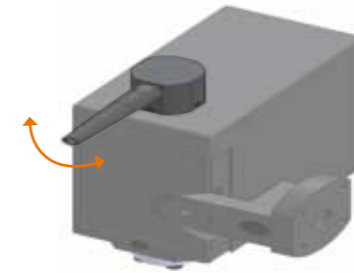
Internal coolant driven tool

- By supplying coolant through the inner drill and spraying the coolant to the machining point, improve machining performance and prolong tool life



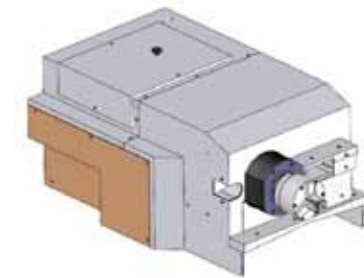
Wave nozzle unit

- By spraying coolant oil to the machining points (G/B, back tools) with waving nozzle, help to remove chips



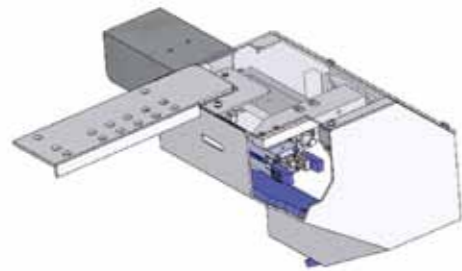
Precision pneumatic chucking unit (OPA & UBL chuck)

- Fast reaction speed
- Excellent repeatability & concentricity
- Constant part length



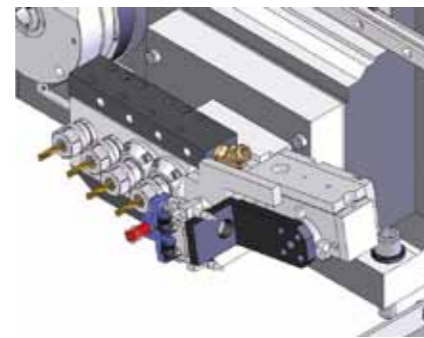
Gripper unit(32 type)

- Minimized damage for material surface during part ejection



Gripper unit(20/26 type)

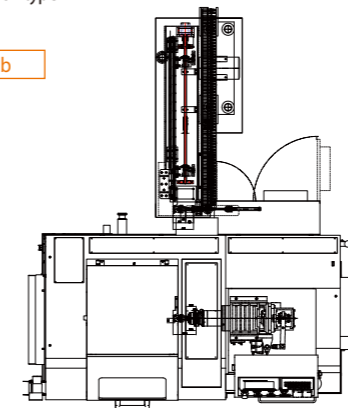
- Minimized damage for material surface during part ejection



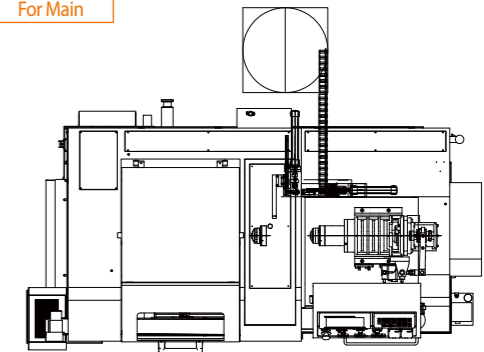
Automatic loading device

- Forging, die casting materials with automation, minimize machining process & C/T
- Non-guide bush type

For Sub

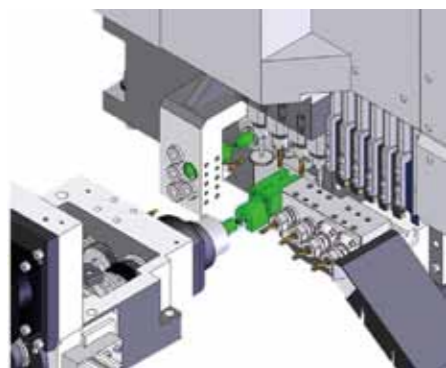


For Main



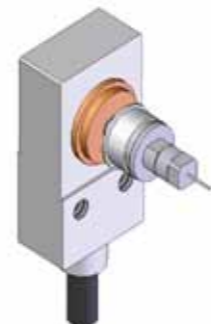
Length measuring unit (main & sub)

- Measuring the length of part inside machine



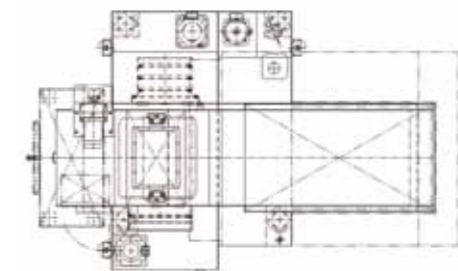
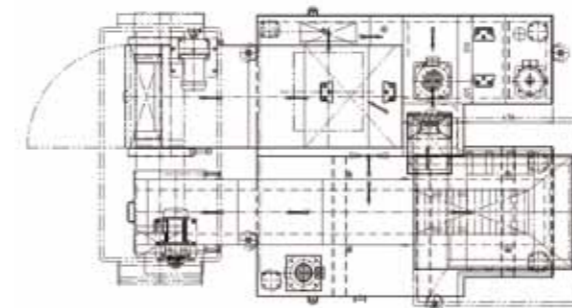
Out diameter measuring unit (back)

- Sensor touches 3-point by rotation 120°, when average value of 3-points exceeds value user sets, it turn on the alarm

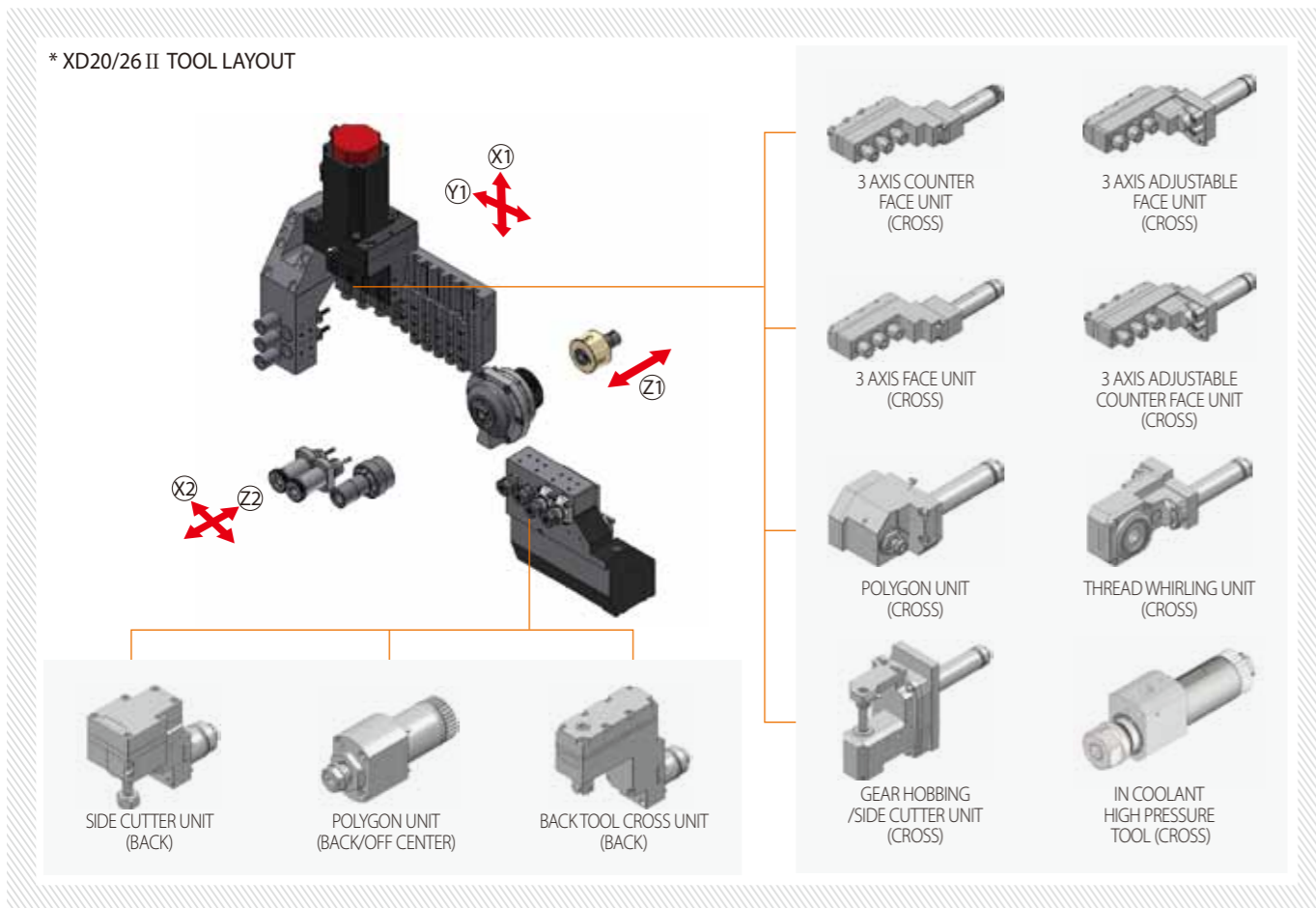


Chip conveyor for aluminium material

- Exclusive chip conveyor(drum filter + Hinge belt type) to efficiently remove aluminium chips



Various special tool holders are available



Customized tools are available

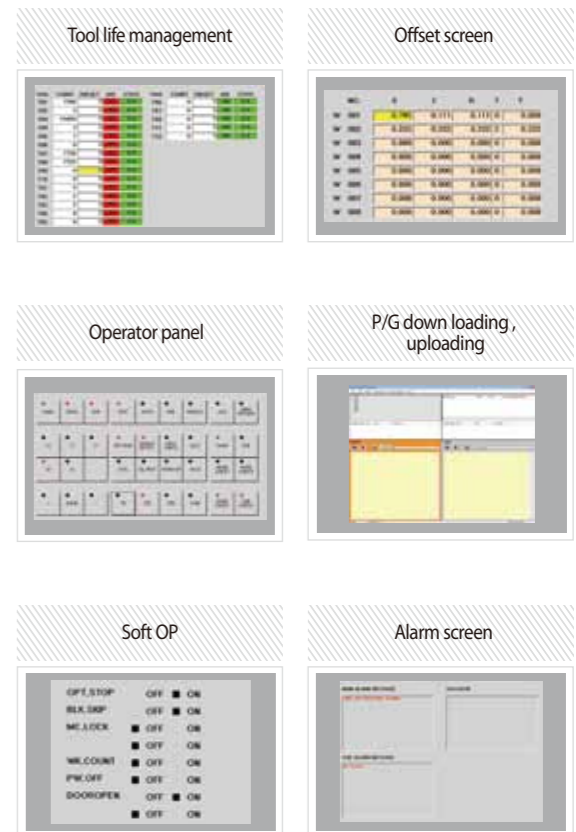
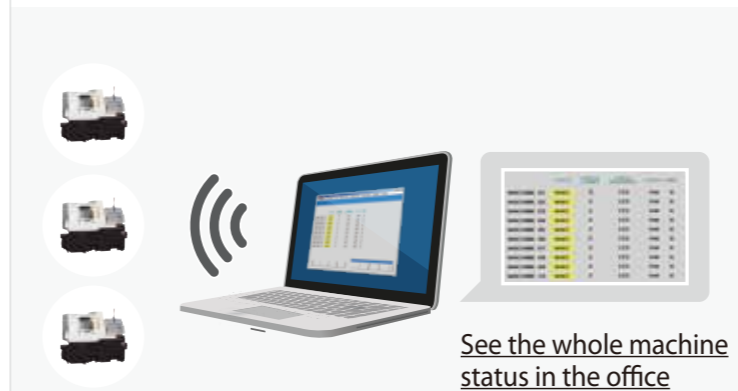


HMS (Hanwha Monitoring System)

PC Version

Possible to check conditions of machines & plants even in your office through PC by Ethernet communication.

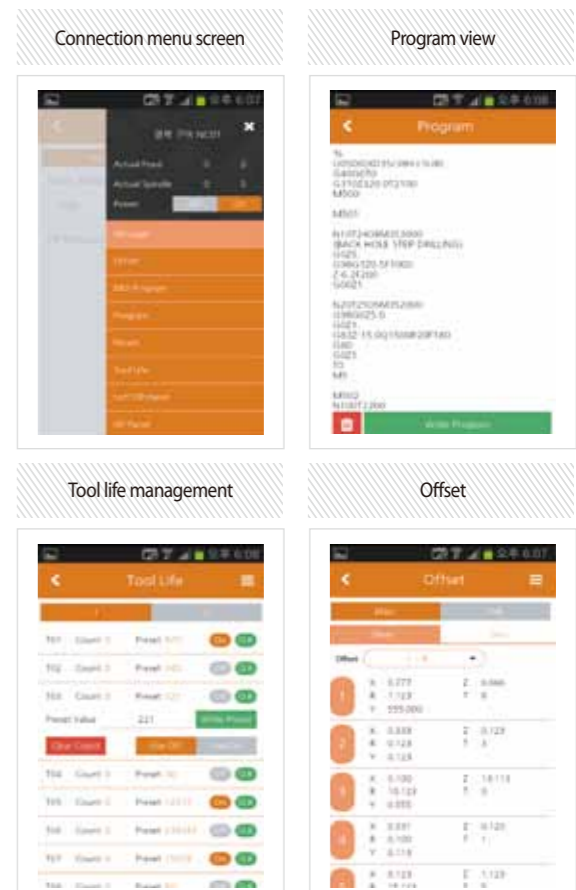
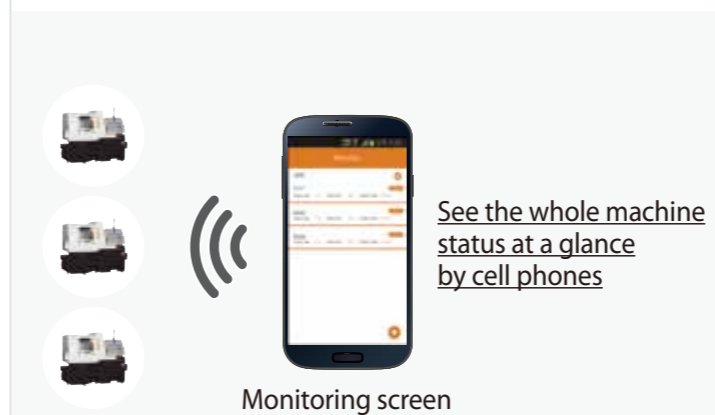
- Whole machines in the factory can be monitored by one PC
- Cycle Time / Work Count / Parts PG No/ Alarm
- Program Down loading, Uploading and Modification



Mobile Version

The machine status of the factory can be seen at a glance via the mobile apps (Android-based)

- Minimized warm up time by cell phones operating the machine from the outside (switch on)
- Monitoring several machines at once
- If alarm occurs, it sends text message to the user's phone immediately



Automobile samples

No	A001	A002	A003	A004
Photo				
Material	ADC12	SUS304	AL6062	SUS304

No	A005	A006	A007	A008
Photo				
Material	SUS316	SUS304	SUM22	SUS630

No	A009	A010	A011	A012
Photo				
Material	SUM24	AL6062-T8	AL6062-T8	AL6062-T9

No	A013	A014	A015	A016
Photo				
Material	Brass	AL-Die Casting	SUM22	SUS316

No	A017	A018	A019	A020
Photo				
Material	SUS304	SUS303	SCM315	AL6062

No	A021	A022	A023	A024
Photo				
Material	Brass	AL6061	SUS304	SUM202

Electronic samples

No	E001	E002	E003	E004
Photo				
Material	SUS316	AL6061	AL6062	AL6061

No	E005	E006	E007	E008
Photo				
Material	Brass	AL6061	Brass	AL6062

Medical samples

No	M001	M002	M003	M004
Photo				
Material	Titanium	SUS316L	Titanium	Titanium

No	M005	M006	M007	M008
Photo				
Material	Titanium, Brass	Titanium, Brass	SUS316	Titanium

Industrial samples

No	I001	I002	I003	I004
Photo				
Material	AL6062	SUS316	AL2024	AL2024

No	I005	I006	I007	I008
Photo				
Material	AL6062	AL6062	SUS316	Brass