

Investec

4.  **INDUSTRY** | **iHT Series**

High Rigidity & High Precision Turning Center



CE

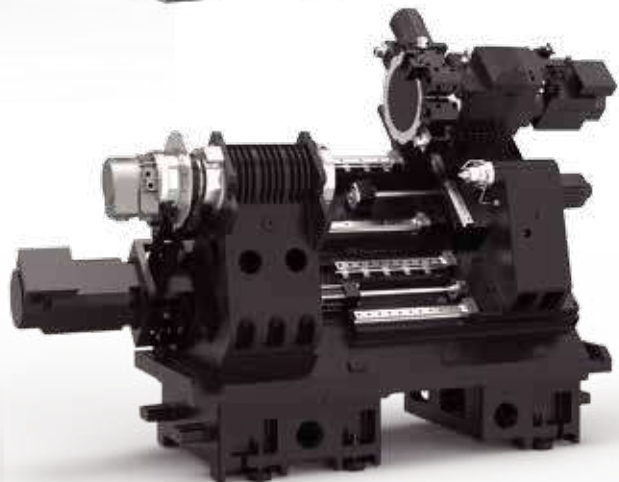
Advantages

Highlights
Technologies
Options
Automation Solutions
Environment Friendly
Processing Capacity
Technical Data

iHT2



iHT3



Super Rigidity

The machine structure is integrated into a strong base, lower barycenter, 45 ° saddle design to achieve better vibration damping and reduce deformation, providing headstock & turret with a very stable base.

45 ° slant bed structure, more convenient for bar loading & unloading, smoother for chip removal.

Customized CNC Package

HT series have optional FANUC 0i-TF+ control with Manual Guide i package & Siemens 828D control with Shopturn package, 10.4" display, extra interfaces etc. ready for customers.

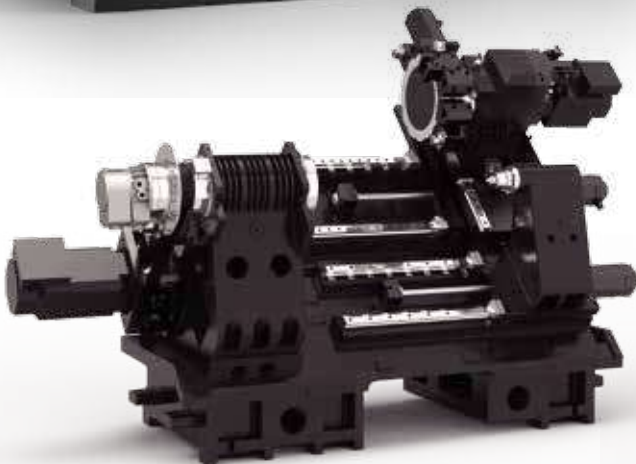
Abundant Options

Servo turret, servo-driven turret, upgrade spindle power, upgrade spindle torque, upgrade bore of cylinder & chuck, drawer type coolant tank, tool probe, oil-mist separator etc. options ready for customers.

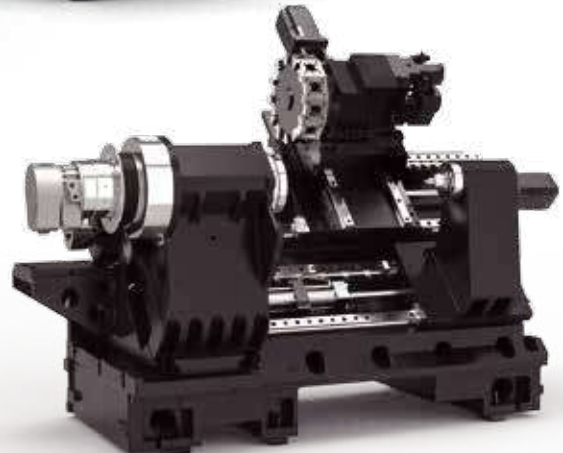
High efficiency line operation(optional)

Thanks to the advanced truss transmission device, it is possible to combine multiple machines with a single task, greatly reducing the transmission time between each process and increasing efficiency.

iHT5



iHT6



Advantages

Highlights

Technologies

Options







Automation Solutions

Environment Friendly

Processing Capacity

Technical Data



		iHT2	iHT3	iHT5	iHT5L	iHT6	iHT6L	
Maximum processing range	mm							
		200	350	500	800	550	1000	
Maximum swing	Over bed	mm	520	558	576	576	670	680
	Over slide	mm	380	420	430	430	460	460
Main drive spindle	rpm	5000 / 6000	4500 / 5000	4500 / 5000	4500	4000	3000	
Spindle power	kw	5.5/7.5/11	7.5/11/15	7.5/11/15	11/15	15/18.5	15/18.5	
Space requirement	m ²	About 2.5	About 3.5	About 4.5	About 5.5	About 5	About 7.5	



① Distributor | iHT5M | Industry: Fluidics | Material: 16MnCr5 | Size: 32×150mm | Complete machining with driven tools

② Flange | iHT6M | Industry: Machinery | Material: Ck45 | Size: 200×40mm | Drilling holes with driven tools

③ Shaft | iHT6M | Industry: Machinery | Material: 42CrMo4 | Size: 40×100mm | Profile groove with repeat function in the groove cycle

④ Connector | iHT5M | Industry: Machinery | Material: Ck45 | Size: 80×20mm | Complete machining with driven tools

⑤ Sealing Shaft | iHT6 | Industry: Hydraulics | Material: 42CrMo4 | Size: 60×320mm | Turning of complex internal and external profiles

⑥ Reduce sleeve | iHT5 | Industry: Hydraulics | Material: Ck45 | Size: 70×80mm | Chatter-free surfaces using the 'Alternating Speed' technology cycle

Highlights

- Compact design with HT300 high tension Meehanite cast-iron machine bed
- Perfect accessibility and optimal working depth
- The ideal machine for training, with minimal space occupy and suitable working depth to the spindle
- Increased productivity with up to 16 driven tools (optional)
- Most updated CNC control technologies: FANUC 0iTF+ with Manual Guide i (as standard package) or SIEMENS 828D with Shopturn function (as standard package), and plenty of customized interface prepared



Minimal Space Occupation



User-Friendly Operation Panel



Maximum Working Space



Abundant Options

Advantages
 Highlights
Technologies
 Options
 Automation Solutions
 Environment Friendly
 Processing Capacity
 Technical Data



B Axis

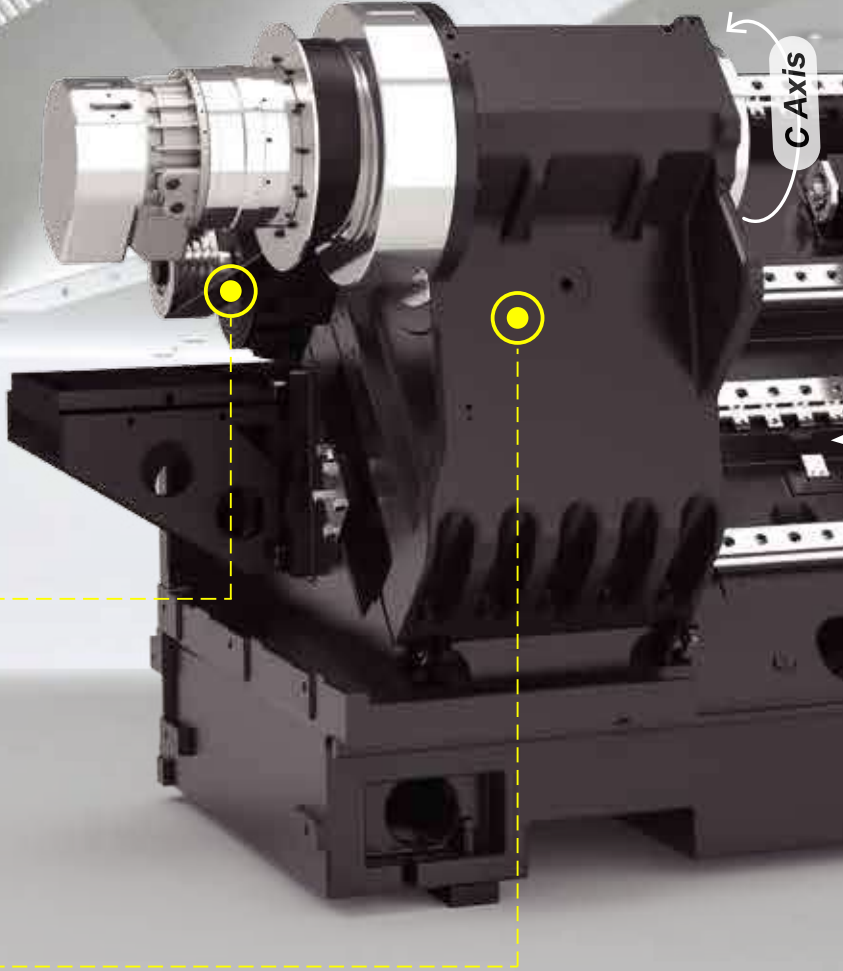


Ultimate cutting capability

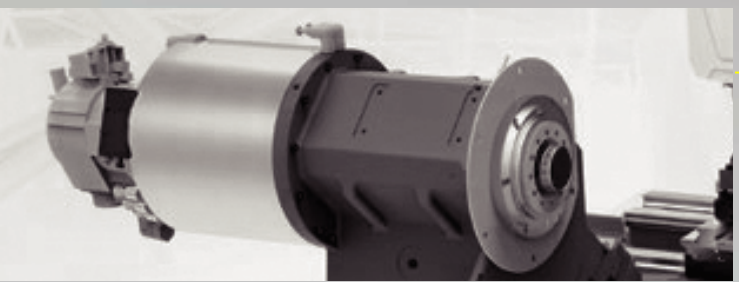
Headstock with heat sink design is integrated casting. Rigid tapping function as standard to realize high-speed precise tapping without floating tapping collets. Easy to program & better tapping accuracy, offers maximum tapping productivity. With high performance V-belt driving spindle, make maintenance easier, also reduce the impact of the spindle accuracy from the heat on spindle motor conducting. By adjusting pulley reduction ratio, to synchronize the spindle & the motor maximum rpm, thereby reducing the minimum rpm of the maximum power output & increasing torque, which maximize spindle motor's potential & achieve maximum turning capability.

Main Drive Spindle Motor

Main drive system using FANUC/SIEMENS high performance servo spindle motor, through V-belt transmission power, to the patent design of high rigidity spindle structure with 3 angular contact ball bearings in front and 2 large aperture angular contact ball or roller(optional) bearings in rear side, to fulfil axial and radial cutting carrying requirements at same time.



Built-in motor spindle



High Precesion

The bigger spindle bearings and the appropriate wide spacing between the guideways ensure that HT series machines by high accuracy and rigidity.



Twin Turret

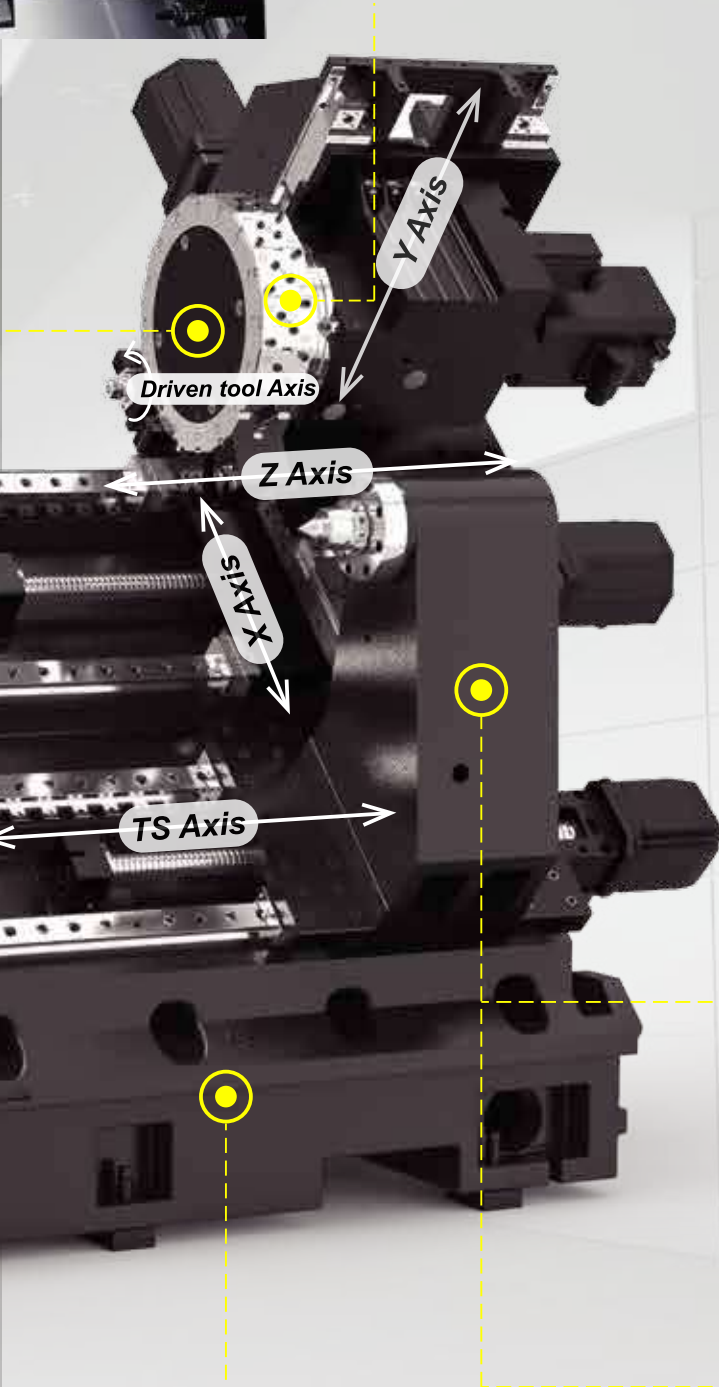
Quick and precise production thanks to the rapid servo-driven turret for maximum process reliability. One time clamping finish turning, milling, drilling & tapping operations.

HT2M: 12positions VDI30 / 8 positions BMT45

HT3M: 12positions VDI30/12positions BMT55

HT5M: 12positions BMT55/12positions VD140

HT6M/Y: 12positions BMT55/12positions VD140/16 positions BMT45 Driven tools for machining complex workpieces 12 tool stations, 4,000 rpm, 362Nm, 3 kW



Y Axis

CT5: 12positions BMT55 turret, Y axis travel ± 35

CT6: 12positions BMT55 turret, Y axis travel ± 50
16positions BMT45 turret, Y axis travel ± 45



Servo Tailstock

Substantially shorten un-processing time due to servo driven high rigidity tailstock.

Less operation steps.

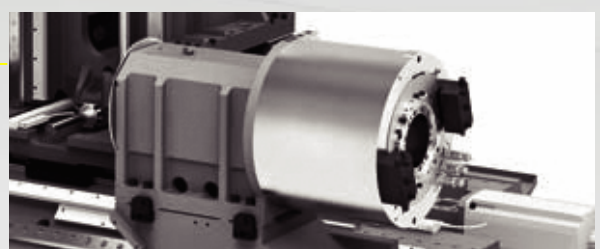
Setup time: reduce 50%

Operation time: reduce 20%

Program different pressure by codes



Sub Spindle



Iron bed

High stability and perfect machining results thanks to the integrally molded massive HT300 cast iron bed.

Advantages

Highlights

Technologies

Options

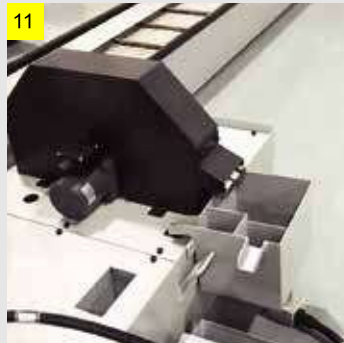
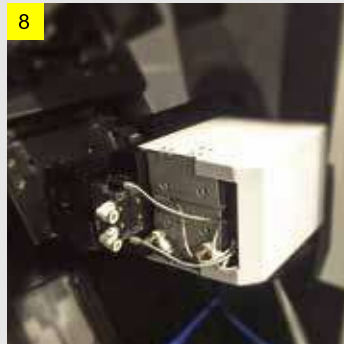
Automation Solutions

Environment Friendly

Processing Capacity

Technical Data

Abundant Options Providing advanced operability



- ① Yaxis(Orthogonal) $\pm 35\text{mm}/\pm 50\text{mm}$
- ② Tool Pre-setter
- ③ Steady Rest
- ④ Automatic Top/Front Door
- ⑤ High Pressure Coolant Pump
- ⑥ Bar Feeder
- ⑦ Linear Scale
- ⑧ Secondary clamping jaws
- ⑨ Customized chuck
- ⑩ Oil-Mist Collector
- ⑪ Oil-Water Separator

Advantages
Highlights
Technologies
Options

Automation Solutions

Environment Friendly
Processing Capacity
Technical Data



Automation Solutions

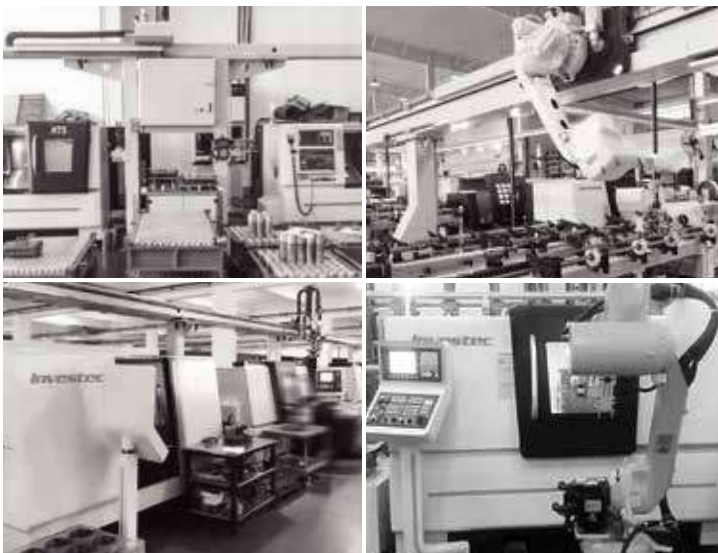
- Compact design delivery system provide unmanned production capacity with maximum work piece weight up to 6KG.
- Sieglo is prepared to design customized product process for all HT series endusers.

Intelligent Manufacturing



Features

- Thanks to intergrated into machine CNC control, programming & setup is direct and simpler.
- Automatic truss delivery system with 3 jaws clamping grapper and rotating cylinder.
- Optimized housing simplified equipment maintenance.
- Linear robot system with high speed & high precesion gear & rack structure.
- Telescop arm optional ready for low workshop roof endusers.
- Work piece measuring system & tool measuring system.
- All new overall outlook design style.



Automatic truss delivery system optional for all HT series machine models
Developed automatic truss delivery system based on HT series, is specially designed for HT models. Sieglo provides one-stop service of complete intergrated system including turning center and automation system.

Therefore machines and automatic system only need one control system to manage all jobs. This helps maintain and operate the whole system more easier.

Up to 6 KGs work piece loading capacity, faster, simpler to operator and more flexible.

Maximum availbale work piece size is $\phi 200 \times 150$ mm.

We only build environment friendly machine tools & technologies

Under normal temperature environment, achieve same processing precision performance compared to constant temperature workshop, no need to equip air conditioning system for precision control purpose.

Energy saving Functions & Technologies

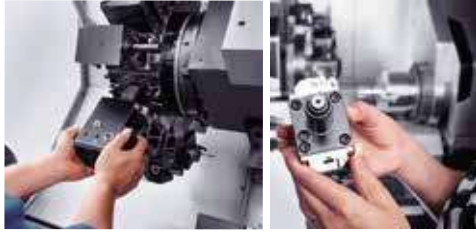
- Spindle Chiller System
- Automatic power-off all accessories after automation producing cycles.
- Automatic power saving mode under no load rotating
- Lightweight design & low inertia design ideas
- High performance single CPU structure
- Simplified mechanic structure design for energy saving
- Displayer auto power saving mode
- Complete thermal equilibrium design ideas

Environmental Protection

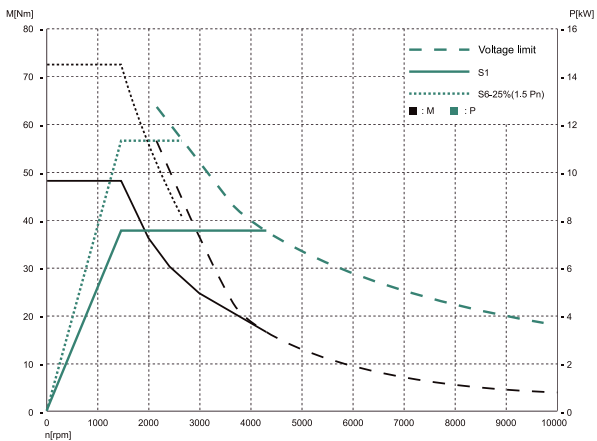
- Oil recycling system as standard
- Oil-water separator as standard for HT5 and above
- Self-recycle system of coolant tank in case of long term machine power-off



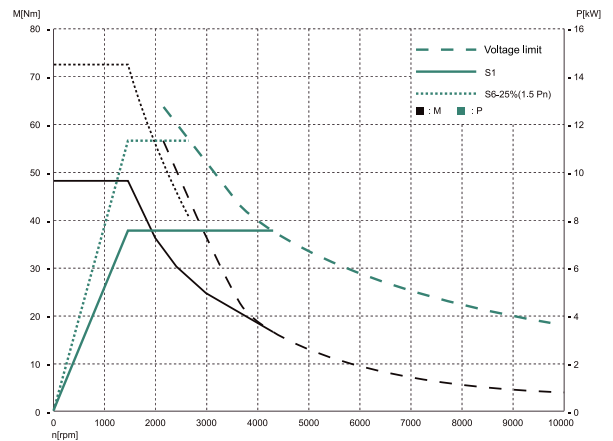
Advantages
 Highlights
 Technologies
 Options
 Automation Solutions
 Environment Friendly
Processing Capacity
 Technical Data



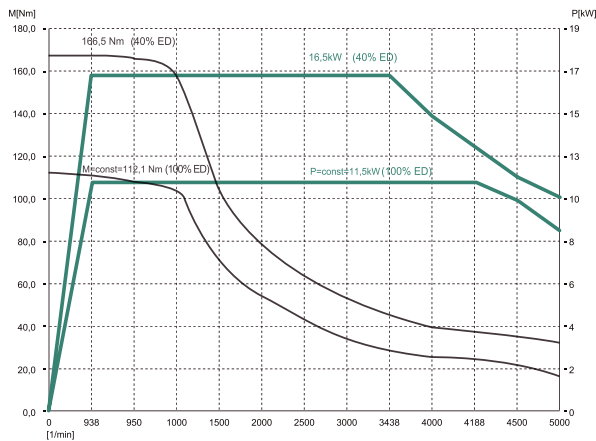
iHT2 Series power torque chart



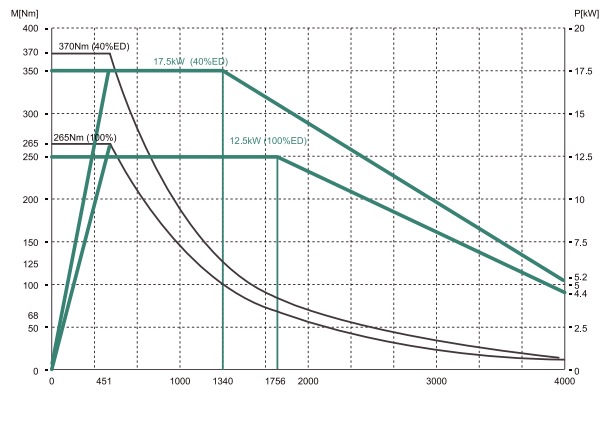
iHT3 Series power torque chart



iHT5 Series power torque chart



iHT6 Series power torque chart

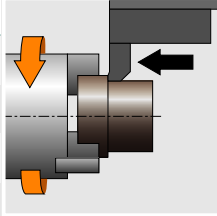


Advantages
 Highlights
 Technologies
 Options
 Automation Solutions
 Environment Friendly

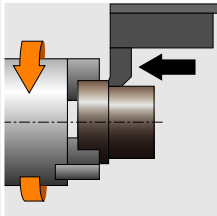
Processing Capacity

Technical Data

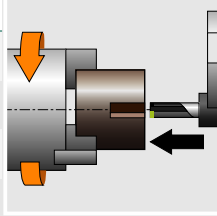
iHT6	
Heavy-duty cutting (OD)	
Material	AL 6061
Diameter	Φ50 mm
Insert nose	R0.4 mm
Spindle speed	2,200 min ⁻¹
Feed rate	0.1 mm/rev
Depth of cut	0.11 mm
Cut length	60 mm
Roundness	2-5 u
Cylindricity	3-7 u
Roughness	Ra0.3-0.6



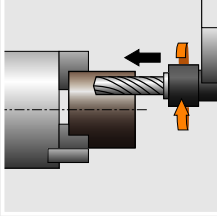
iHT6	
Heavy-duty cutting (OD)	
Material	C45
Cutting speed	130 m/min
Spindle speed	414 min ⁻¹
Feed rate	0.3 mm/rev
Depth of cut	6.0 mm
Cut length	60 mm



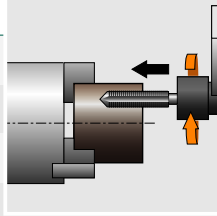
iHT6	
U-Drill	
Material	C45
Tool diameter	Φ55 mm
Cutting speed	180 m/min
Spindle speed	1,042 min ⁻¹
Feed rate	0.1 mm/rev



iHT6	
Drill (Driven tool)	
Material	C45
Tool diameter	Φ16 mm
Rotation speed	1000 min ⁻¹
Feed rate	200 mm/min

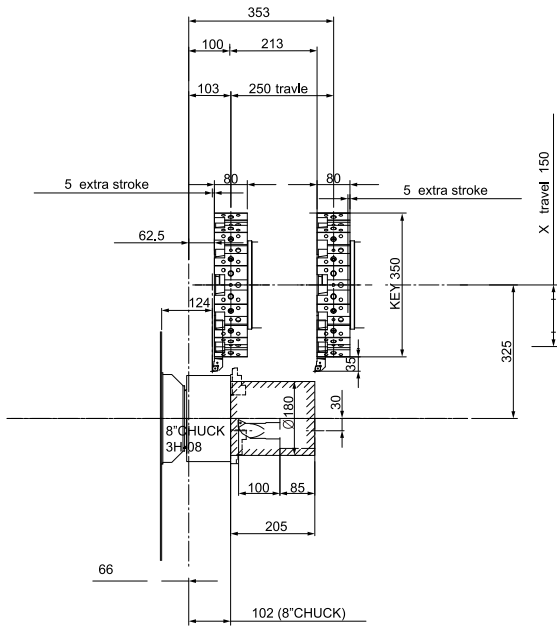


iHT6	
Tap (Driven tool)	
Material	C45
Tool Spec	M12 × P1.5
Rotation speed	300 min ⁻¹
Feed rate	450 mm/min

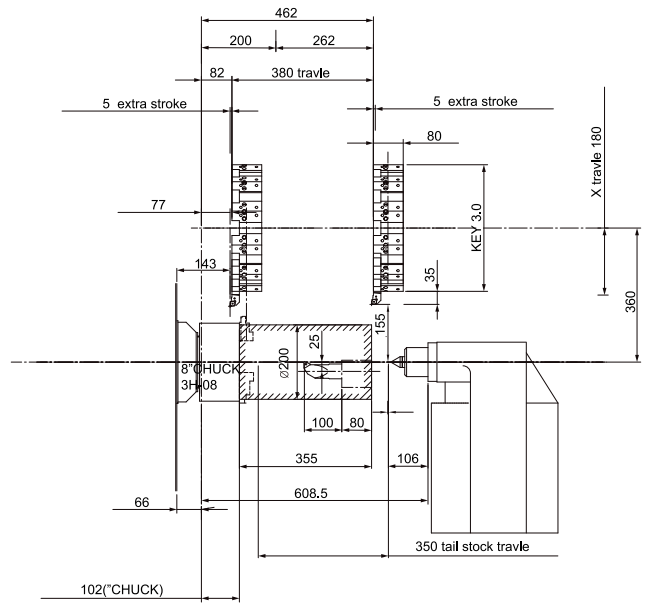


Advantages
 Highlights
 Technologies
 Options
 Automation Solutions
 Environment Friendly
 Processing Capacity
Technical Data

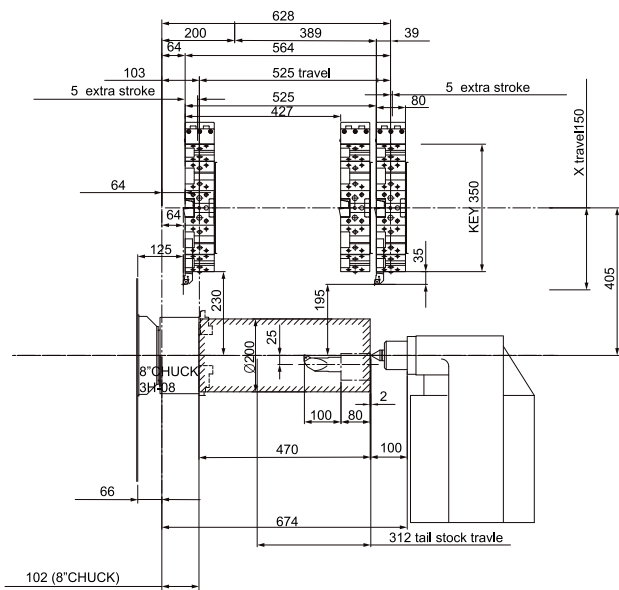
iHT2 Series Working area



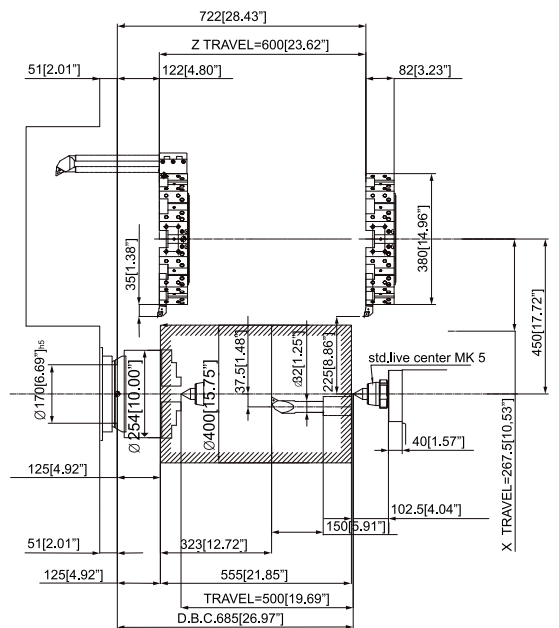
iHT3 Series Working area



iHT5 Series Working area

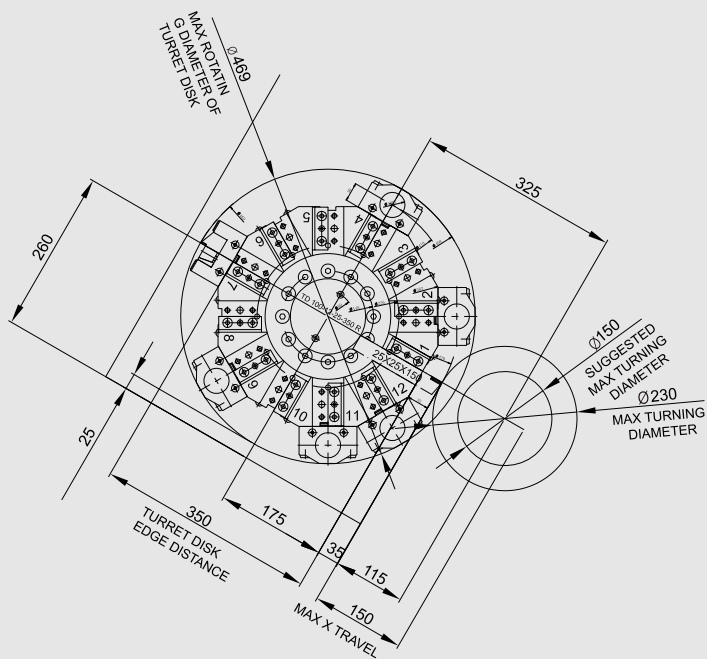


iHT6 Series Working area

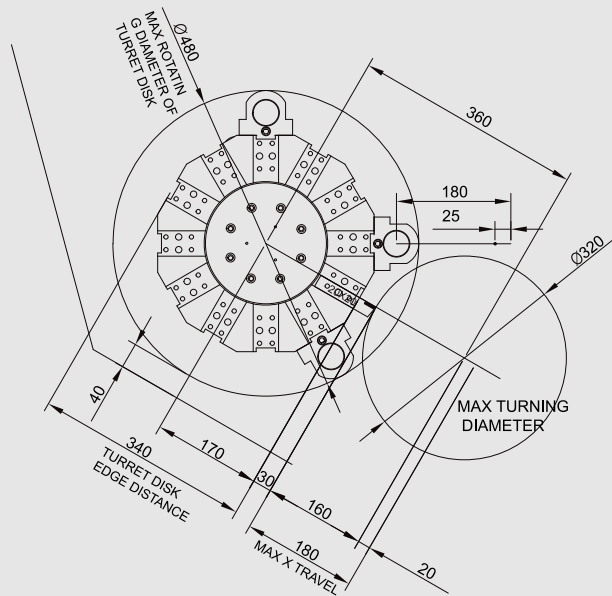


- Advantages
 - Highlights
 - Technologies
 - Options
 - Automation Solutions
 - Environment Friendly
 - Processing Capacity
- ## Technical Data

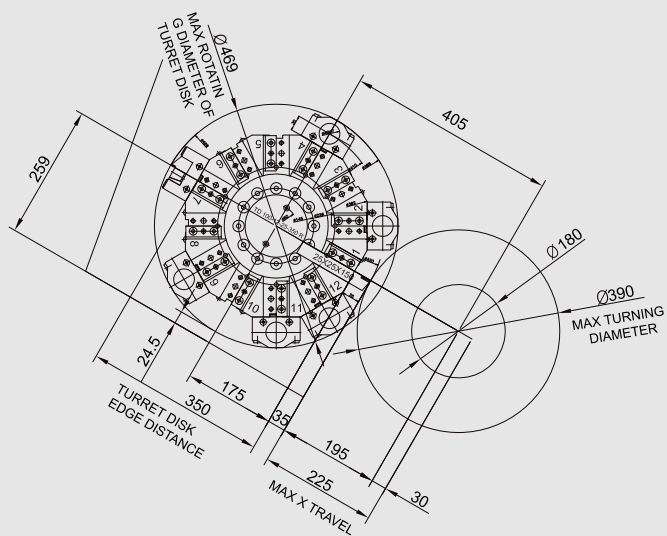
iHT2 Series Tool interference



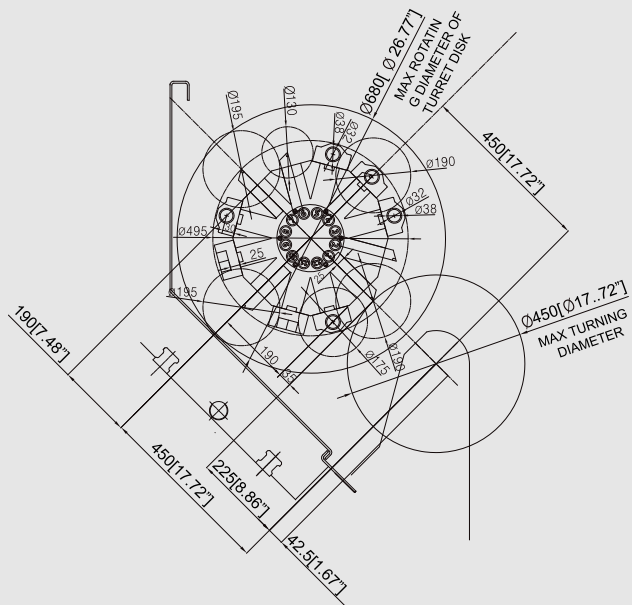
iHT3 Series Tool interference



iHT5 Series Tool interference



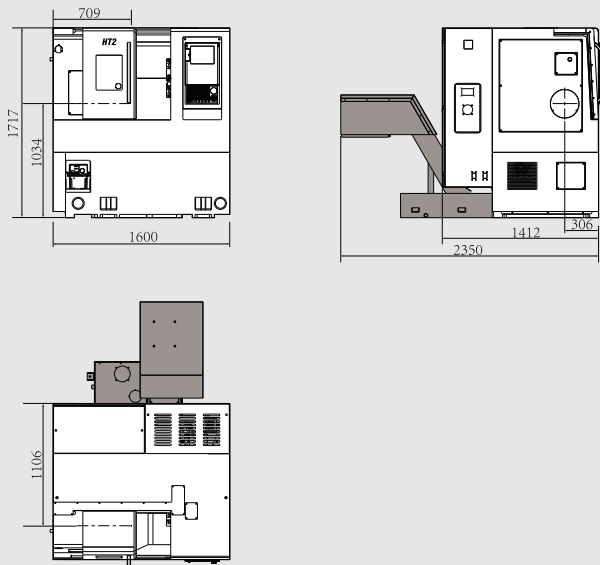
iHT6 Series Tool interference



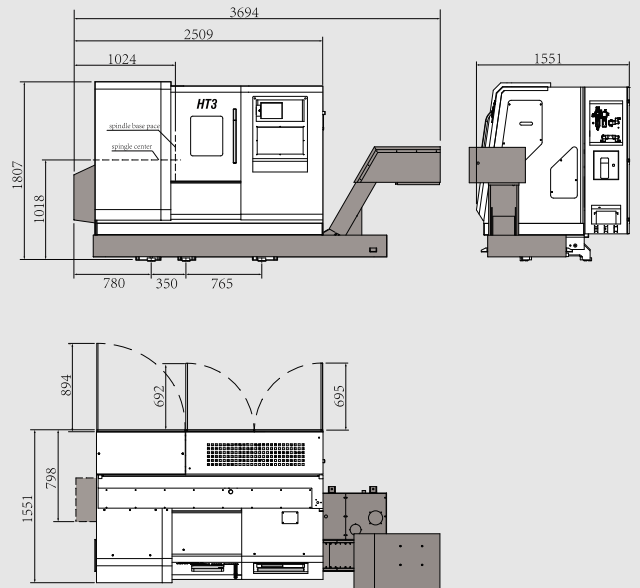
Note: The actual data may have variations due to specific configurations. Please contact Sieglo for the details.

Advantages
 Highlights
 Technologies
 Options
 Automation Solutions
 Environment Friendly
 Processing Capacity
Technical Data

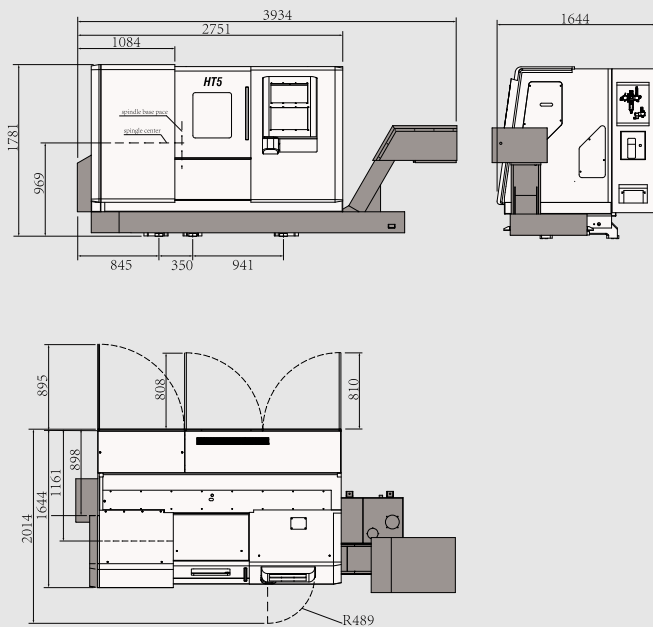
iHT2 Series Floor Plans



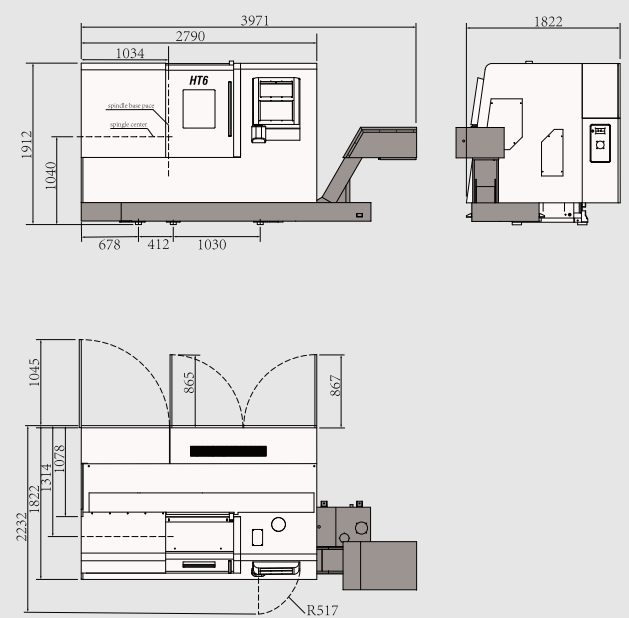
iHT3 Series Floor Plans



iHT5 Series Floor Plans



iHT6 Series Floor Plans



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Advantages
 Highlights
 Technologies
 Options
 Automation Solutions
 Environment Friendly
 Processing Capacity

Technical Data

		iHT2
Technical Parameters		
Spindle head	Type	A2-5
Spindle max speed	rpm	5000
Torque 40% ED	N.m	76
Spindle power	kW	5.5-7.5 / 7.5-11
Chuck diameter	mm	165
Spindle bore	mm	56
Front bearing diameter	mm	80
Spindle bearing lubrication	Type	Grease
Linear motion lubrication	Type	Oil
Speed range	rpm	5-5000
Working area		
Maximum swing over bed	mm	520
Maximum cutting diameter	mm	260
Suggested cutting diameter	mm	150
Maximum machining length	mm	200
Maximum bar capacity	mm	41
Travel Z	mm	250
Travel X	mm	150
Ballscrew		
X / Z axes ballscrew D x P	mm	32 x 10
Feed		
Rapid traverse Z	m/min	30
Rapid traverse X	m/min	30
Measuring system		
X / Z axes measuring system	mm	Absolute rotative
Positioning(X / Z);VDI/DGQ 3441	mm	0.008/0.008
Repeatability(X/ Z);VDI/DGQ 3441		0.004/0.005
Tool attachments		
Servo turret	Type	Pragati/Sauter
No. of tool stations	-	8 / 12
Turret disk type	mm	Slot type
Tool attachment	Type	20 / 25
Driven tools turret	#	SAUTER
No. of tool stations(Driven tools)	-	12
Turret disk type	N	VD130
Maximum clamping force	mm	4000
OD tool size	rpm	20
Maximum speed	kW	3000
Drive power (40 % DC)	Nm	3
Torque (40 % DC)		20
Electrical specifications		
Voltage	V	
Frequency	Hz	380 ±10%
Max. installed power	KVA	50 ± 1%
	mm2	20
Hydraulic unit		
Max. working pressure	bar	45 / 50
Reservoir capacity	l	15
Pump flow	l / min	24
Coolant system		
Capacity with tank	l	100
Pump delivery	l /min	30
Pump pressure	bar	5
Noise level		
Noise control	dB (A)	≤80
Control system		
CNC		FANUC 0iTF+/SIEMENS828D
Weight	kg	About 2800
Slant angle, Material	°	45°, HT300
Size (length × width × height)	mm	1600 x 1500 x 1750

Note: The actual data may have variations due to specific configurations. Please contact Sieglo for the details.

IHT3

Technical Parameters			
Spindle head	Type	FL 140 h5 / A2-6	
Spindle max speed	rpm	4500	
Torque 40% ED	N.m	112	
Spindle power	kW	7.5-11/11-15	
Chuck diameter	mm	165/210	
Spindle bore	mm	74	
Front bearing diameter	mm	100	
Spindle bearing lubrication	Type	Grease	
Linear motion lubrication	Type	Oil	
Speed range	rpm	5-4500	
Working area			
Maximum swing over bed	mm	558	
Maximum cutting diameter	mm	340/328	
Suggested cutting diameter	mm	185	
Maximum machining length	mm	350	
Maximum bar capacity	mm	42/51/65	
Travel Z	mm	380	
Travel X	mm	180	
Ballscrew			
X / Z axes ballscrew	D x P	mm	32 x 10
Feed			
Rapid traverse Z	m/min	30	
Rapid traverse X	m/min	30	
Measuring system			
X / Z axes measuring system		Absolute rotative	
Positioning(X / Z);VDI/DGQ 3441	mm	0.008/0.008	
Repeatability (X / Z);VDI/DGQ 3441	mm	0.004/0.005	
Tailstock (Option)			
Stroke	mm	350	
Tailstock moving	Type	Hydraulic Programed / Servo	
Pressure	N	4000	
Centre location	Type	MT 4	
Tool attachments			
Servo turret	Type	Pragati	
No. of tool stations	-	8/12	
Turret disk type	-	Slot type	
Tool attachment	mm	25	
Driven tools turret	Type	SAUTER	
No. of tool stations(Driven tools)	#	12	
Turret disk type	-	BMT55	
Maximum clamping force	N	4000	
OD tool size	mm	25	
Maximum speed	rpm	3000	
Drive power (40 % DC)	kW	3	
Torque (40 % DC)	Nm	20	
Electrical specifications			
Voltage	V	380 ±10%	
Frequency	Hz	50 ± 1%	
Max. installed power	KVA	20/25	
Hydraulic unit			
Max. working pressure	bar	45/55	
Reservoir capacity	l	35	
Pump flow	l/ min	24	
Coolant system			
Capacity with tank	l	150	
Pump delivery	l /min	30	
Pump pressure	bar	5	
Noise level			
Noise control	dB (A)	≤80	
Control system			
CNC		FANUC0iTF / SIEMENS 828D	
Weight			
	kg	About 3500	
Slant angle, Material			
	°	45°, HT300	
Size (length × width × height)			
	mm	2550 x 1600 x 1850	

Note: The actual data may have variations due to specific configurations. Please contact Sieglo for the details.

Advantages
Highlights
Technologies
Options
Automation Solutions
Environment Friendly
Processing Capacity

Technical Data

		iHT5	iHT5L
Technical Parameters			
Spindle head	Type	FL 140 / A2-6	FL 140 / A2-6
Spindle max speed	rpm	4500	4500
Torque 40% ED	N.m	112	112
Spindle power	kW	11-15	11-15
Chuck diameter	mm	210	210
Spindle bore	mm	74	74
Front bearing diameter	mm	100	100
Spindle bearing lubrication	Type	Grease	Grease
Linear motion lubrication	Type	Oil	Oil
Speed range	rpm	5-4500	5-4500
Working area			
Maximum swing over bed	mm	576	576
Maximum cutting diameter	mm	390 / 348	390 / 348
Suggested cutting diameter	mm	200	200
Maximum machining length	mm	500	800
Maximum bar capacity	mm	51/65	51/65
Travel Z	mm	525	850
Travel X	mm	225	225
Travel Y (Option)	mm	±35	±35
Ballscrew			
X / Z axes ballscrew D x P	mm	32 x 10	32 x 10
Feed			
Rapid traverse Z	m/min	30	30
Rapid traverse X	m/min	30	30
Measuring system			
X / Z axes measuring system		Absolute rotative	Absolute rotative
Positioning(X / Z);VDI/DGQ 3441	mm	0.008/0.008	0.008/0.008
Repeatability (X / Z);VDI/DGQ 3441	mm	0.005/0.005	0.005/0.005
Tailstock			
Stroke	mm	500	800
Tailstock moving	Type	Hydraulic Programed / Servo	Hydraulic Programed / Servo
Pressure	N	4000	4000
Centre location	Type	MT 4	MT 4
Tool attachments			
Servo turret	Type	Pragati	Pragati
No. of tool stations	-	12	12
Turret disk type	-	Slot type	Slot type
Tool attachment	mm	25	25
Driven tools turret	Type	SAUTER	SAUTER
No. of tool stations(Driven tools)	#	12	12
Turret disk type	-	BMT55	BMT55
Maximum clamping force	N	4000	4000
OD tool size	mm	25	25
Maximum speed	rpm	3000	3000
Drive power (40 % DC)	kW	3	3
Torque (40 % DC)	Nm	20	20
Electrical specifications			
Voltage	V	380 ±10%	380 ±10%
Frequency	Hz	50 ± 1%	50 ± 1%
Max. installed power	KVA	25	25
Hydraulic unit			
Max. working pressure	bar	45/50	45/50
Reservoir capacity	l	35	35
Pump delivery	l/ min	24	24
Coolant system			
Capacity with tank	l	180	180
Pump delivery	l /min	30	30
Pump pressure	bar	5	5
Noise level			
Noise control	dB (A)	≤80	≤80
Control system			
CNC		FANUC 0iTF / SIEMENS 828D	FANUC 0iTF / SIEMENS 828D
Weight	kg	About 4000	About 4800
Slant angle, Material	°	45°, HT300	45°, HT300
Size (length × width × height)	mm	2750 x 1700 x 1850	3100 x 1700 x 1850

Note: The actual data may have variations due to specific configurations. Please contact Sieglo for the details.

		iHT6	iHT6L
Technical Parameters			
Spindle head	Type	FL 170 h5	FL 220 h5
Spindle max speed	rpm	4000	3000
Torque 40% ED	N.m	300	420
Spindle power	kW	15-18.5	15-18.5
Chuck diameter	mm	250/310	250/310
Spindle bore	mm	87	102
Front bearing diameter	mm	130	140
Spindle bearing lubrication	Type	Grease	Grease
Linear motion lubrication	Type	Oil	Oil
Speed range	rpm	5-4000	5-3000
Working area			
Maximum swing over bed	mm	670	680
Maximum cutting diameter	mm	450/420	500/450
Suggested cutting diameter	mm	250	300
Maximum machining length	mm	550	1000
Maximum bar capacity	mm	65/75	75/90
Travel Z	mm	600	1050
Travel X	mm	267	300
Travel Y (Option)	mm	±45/±55	±45/±60
Ballscrew			
X / Z axes ballscrew D x P	mm	40 x 10	40 x 10
Feed			
Rapid traverse Z	m/min	30	30
Rapid traverse X	m/min	30	30
Measuring system			
X / Z axes measuring system		Absolute rotative	Absolute rotative
Positioning(X / Z);VDI/DGQ 3441	mm	0.008/0.008	0.008/0.008
Repeatability(X/ Z);VDI/DGQ 3441	mm	0.005/0.005	0.005/0.005
Tailstock			
Stroke	mm	500	850
Tailstock moving		Hydraulic Programed / Servo	Hydraulic Programed / Servo
Pressure	N	8000	8000
Centre location	Type	MT5	MT5
Tool attachments			
Servo turret	Type	Pragati	Pragati
No. of tool stations	-	12	12
Turret disk type	-	Slot type	Slot type
Tool attachment	mm	25	25
Driven tools turret	Type	SAUTER	SAUTER
No. of tool stations(Driven tools)	#	12/16	12/16
Turret disk type	-	BMT55/BMT45/VD140	BMT55/BMT45/VDI40
Maximum clamping force	N	4000	4000
OD tool size	mm	25 x 25	25 x 25
Maximum speed	rpm	3000	3000
Drive power (40 % DC)	kW	3	3
Torque (40 % DC)	Nm	45	45
Electrical specifications			
Voltage	V	380 ±10%	380 ±10%
Frequency	Hz	50 ± 1%	50 ± 1%
Max. installed power	KVA	35	35
Hydraulic unit			
Max. working pressure	bar	45/50	45/50
Reservoir capacity	l	35	35
Pump delivery	l/ min	24	24
Coolant system			
Capacity with tank	l	180	180
Pump delivery	l /min	30	30
Pump pressure	bar	5	5
Noise level			
Noise control	dB (A)	≤80	≤80
Control system			
CNC		FANUC 0iTf0iTf / SIEMENS 828D	FANUC 0iTf0iTf / SIEMENS 828D
Weight	kg	About 5200	About 7500
Slant angle, Materia	°	45°, HT300	45°, HT300
Size (length × width × height)	mm	2800 x 1850 x 1950	3900x 1900 x 2050

Note: The actual data may have variations due to specific configurations. Please contact Sieglo for the details.

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