



YOU JI

Sincerity Responsibility Innovation



VTL Series

You Ji Machine Industrial Company Limited
CNC Vertical Turning Center



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Distributor

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High Precision

Reliability

High Rigidity



▪ **CONCENTRATION**

▪ **QUALITY**

▪ **TRUST**

▶▶ Machine Definition

VTL 1600 ATC+C -I -2R -APC

- APC : Automatic Pallet Changer
- 2R : Double RAM (1600 and upward)
- I : Column height extension
- II : Column height extension
- ATC : Automatic Tool Changer
- ATC+C : Automatic Tool Changer + CF axis Function
- Machine Model (Diameter 1000-4500mm)
- Vertical Turning Lathe
(Symmetric design for column & base)

CNC Vertical Turning Center

1000/1200/1600/2000/2500

3000/3500/4000/4500

CONCENTRATION / QUALITY / TRUST

Quality Management : ISO 9001

Inspection Standard : JIS, VDI/DGQ 3441, ISO-230

ONE Piece Column

▶ VTL1000-2500 series

The high rigidity box type symmetric column structure is fitted to machine base. The heavily walled and multi ribbed design minimizes the thermal distortion, withstanding static and dynamic torsion, ensures a high rigid and stable machine assembly.



Structure

Double Column Structure

▶ VTL3000-4500 series

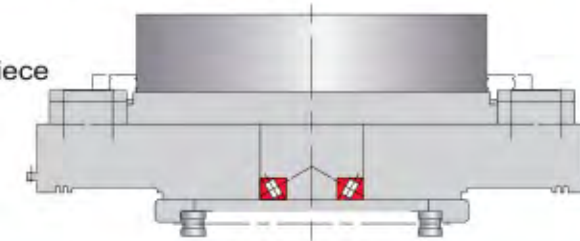
- The machine column and base are manufactured from Meehanite castings, received a full heat treatment and full a stress-relieved process. This design and manufacturing process gives the best rigidity and ensures high machine stability.
- The heavily walled and multi ribbed design minimizes the thermal distortion, withstanding static and dynamic torsion, ensures a high rigid and stable machine assembly.



Radial Single Row Bearing

▶ (Comparison of competitor models)

- Radial running load is weak
- Working point of bearing is far away to work piece
- Heavy duty cutting is not permitted
- High friction and axial thermal displacement
- High wear and short bearing life

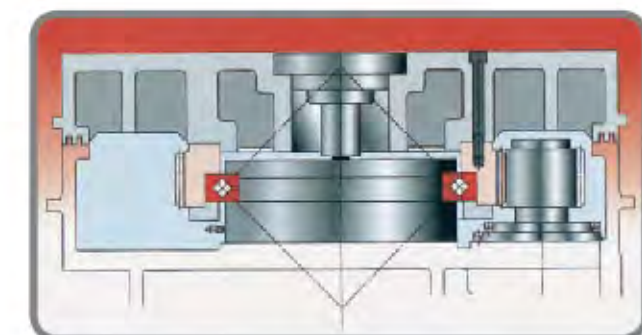


V. S

Precision

▶ Features of Crossed Roller Bearing

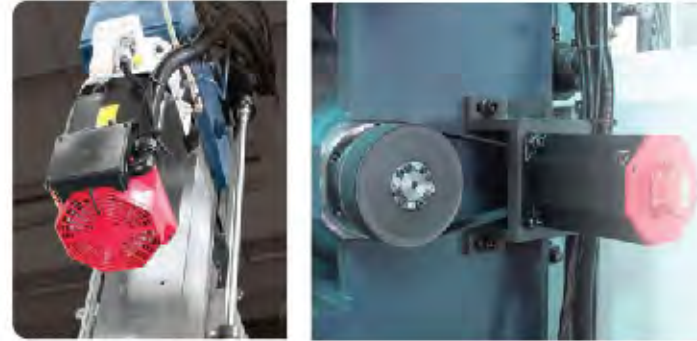
- Low centre of gravity in the machine and low centrifugal forces
- Heat dispersion and wear-resistant for longer bearing life
- Low inertia and operation under low torque running
- Low friction and high accuracy
- Low wear and long life



Transmission

Transmission System

- Z axis uses a high precision ball screw, the Z axis is driven directly by an AC servo motor, the counterbalance cylinder system ensures high accuracy machining demands, the perfectly balanced mass enhances the machine performance.
- X axis is driven by an AC servo motor incorporating speed reducer & encoder to ensure high torque and axial positioning accuracy.(VTL3000 and upward)



High Efficiency Transmission

High grade nickel-chrome alloy steel is used for the driven gear. Correct heat treatment and accurate grinding allows it be classified as first class precision in the Japanese JIS 1 standards.

Box Slideways Structure

- ▶ The castings of X axis box slideway are heat treated and stress relieved, this design gives the best rigidity to ensure heavy duty cutting.
- ▶ The slideway lubrication is controlled by an automatic central lube feeding system. The volume and timing of lubrication is controlled by CNC and enhances the machine accuracy & life.
- ▶ The X and Z axes box guide ways are induction hardened and precision ground, the mating sliding faces are Turcite B coated allowing slide assemblies to move with ease and low friction.

High Rigid Box Guide Way Design

Crossrail

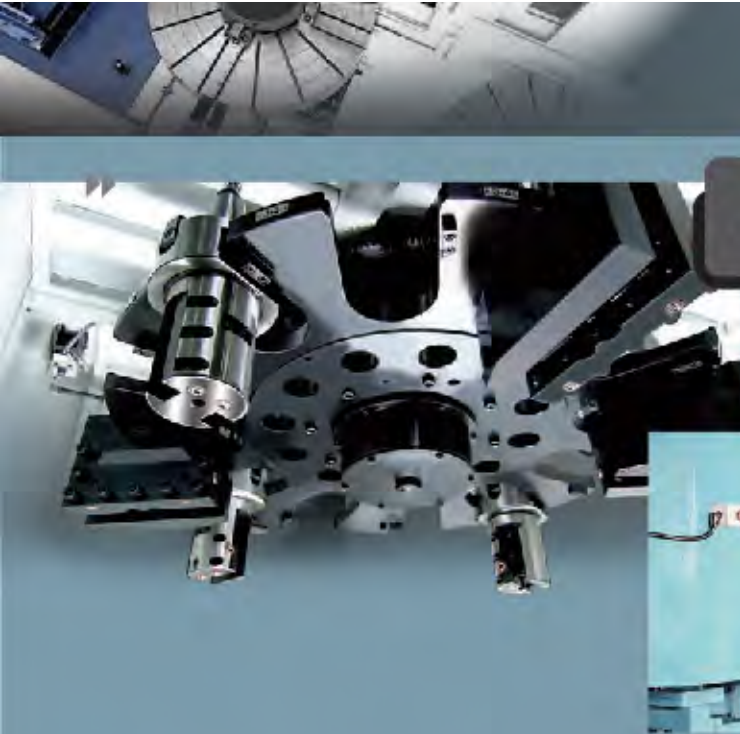
The crossrail is movable in 200 mm increments, the chosen position depends on the height of the work piece. The crossrail positions automatically on precision mechanical steps, the movement of the crossrail is obtained by lead screws via reduced motor, the complete assembly is hydraulically clamped by 4 hydraulic cylinders after its positioning on the mechanical steps.



▶▶ Lubrication filtering unit
▶▶ Pressure sensor



▶▶ Spindle Oil Chiller



ATC Convenient & Easy

▶▶ The design of ATC has shortest route bi-directional tool selection, a safe and ergonomic design feature.



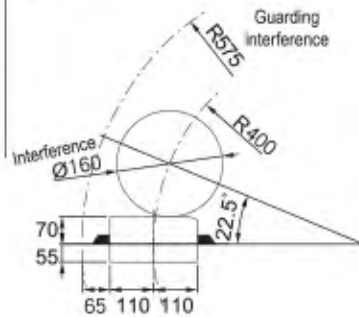
Chain type tool magazines are driven by a servo motor for fast positioning of the ATC, multi choice capacities options are available, such as 32, 48, 60..... tool capacity.

Max. Tool Dimension

▶▶ BT50

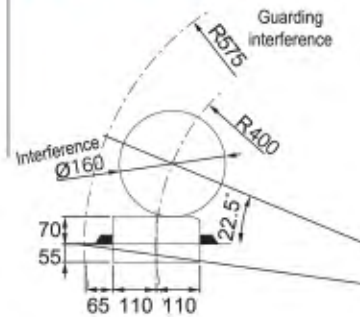
ATC+C series (16 tools)

VTL1000-2500



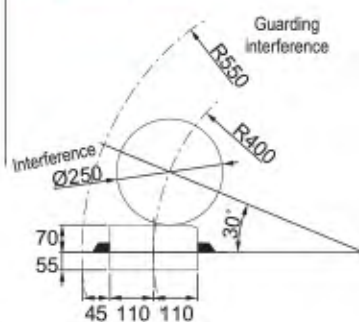
ATC+C series (16 tools)

VTL3000-4500



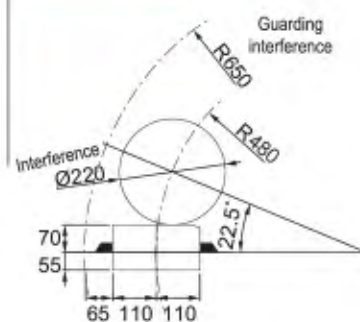
ATC series (12 tools)

VTL1000-2500

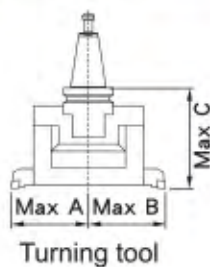


ATC series (16 tools)

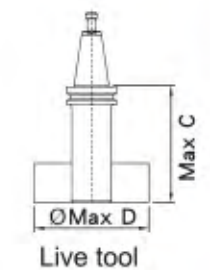
VTL3000-4500



ATC+C series

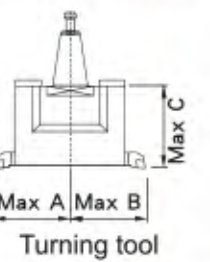


Turning tool



Live tool

ATC series



Turning tool

Optional Accessories

Tool presetter



Tool magazine of electrical grinding spindle



Model	Type	A	B	C	D
VTL1000-2500	ATCseries	175	200	380	—
	ATC+C series	175	200	380	250

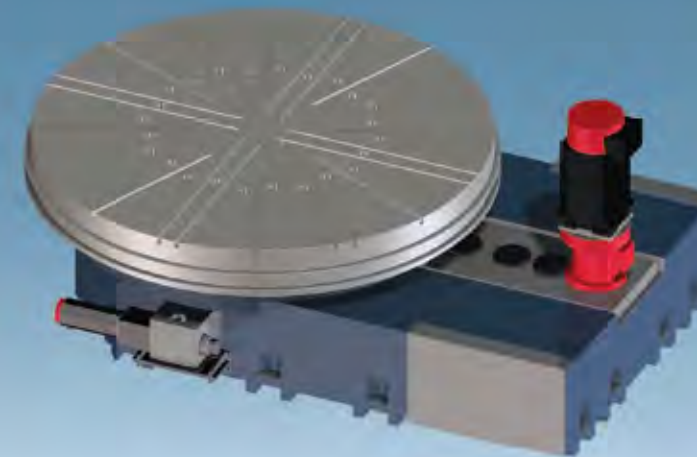
Unit: mm

Model	Type	A	B	C	D
VTL3000-4500	ATCseries	175	200	400	—
	ATC+C series	175	200	400	250

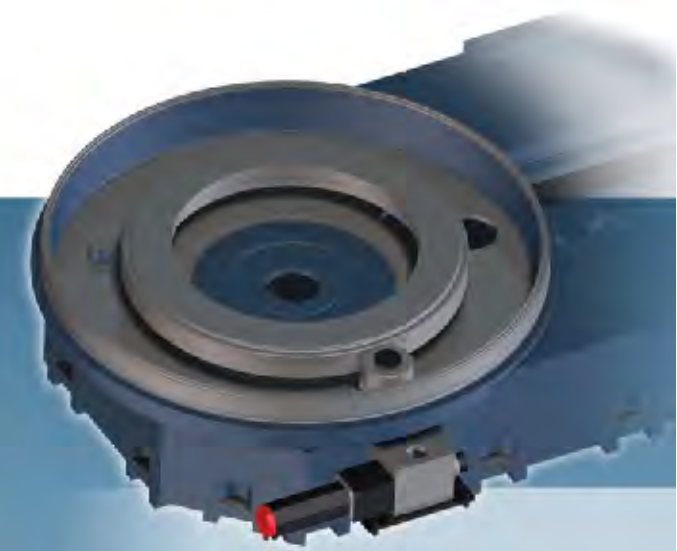
Unit: mm

CF axis

▶▶ VTL 1000/1200/1600/2000/2500

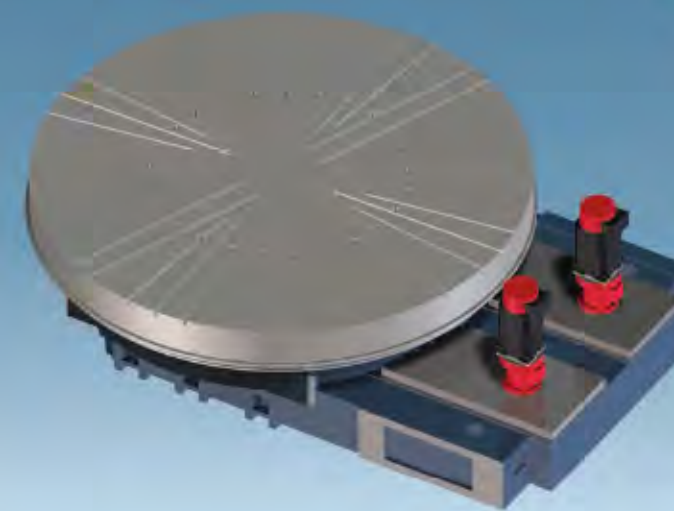


High precision CF axis gearbox delivers precise positioning accuracy, coupled with the functions of a machining center that allows for a wide range of work to be carried out in one set up, so reduces investment costs & machining costs.



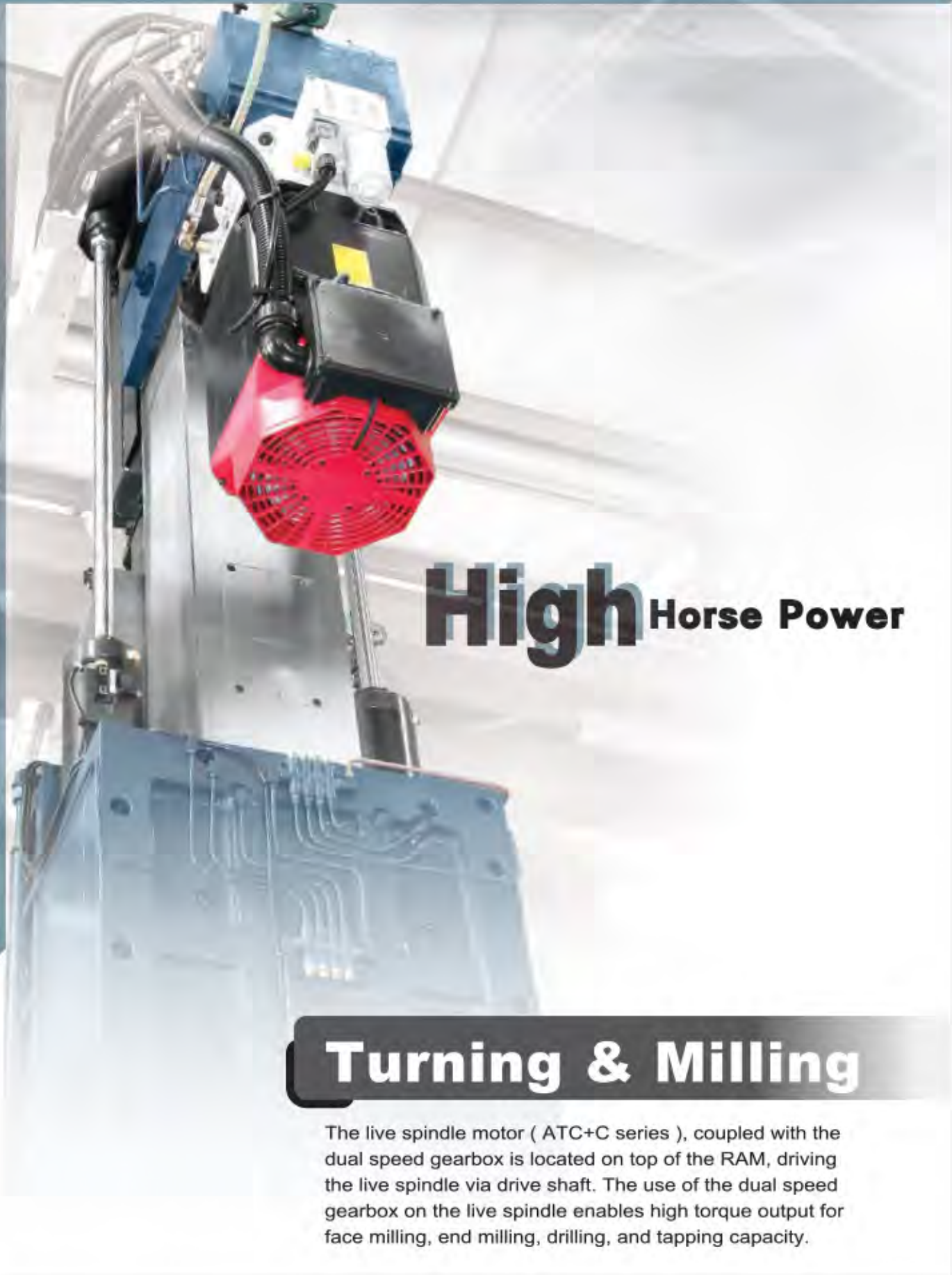
CS axis

▶▶ VTL 3000/3500/4000/4500



Special dual-drive spindle system with CS axis indexing mechanism enhances spindle output torque and eliminates mechanical transmission backlash, the repeatability of indexing accuracy of the CS axis is 5 seconds, positioning accuracy 10 seconds.



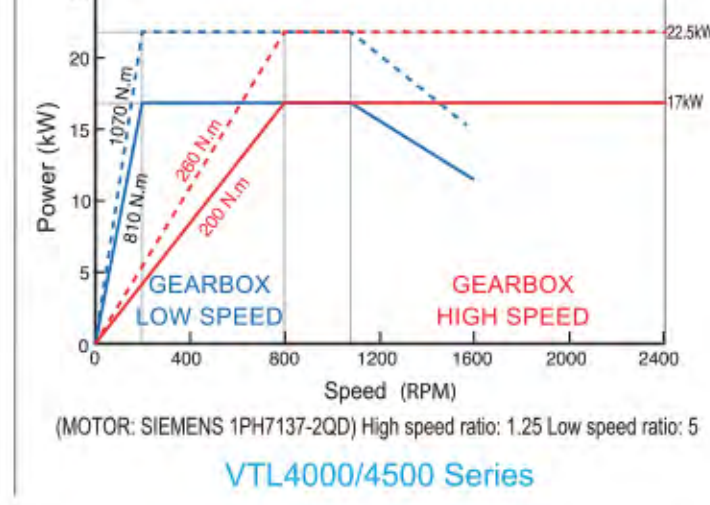
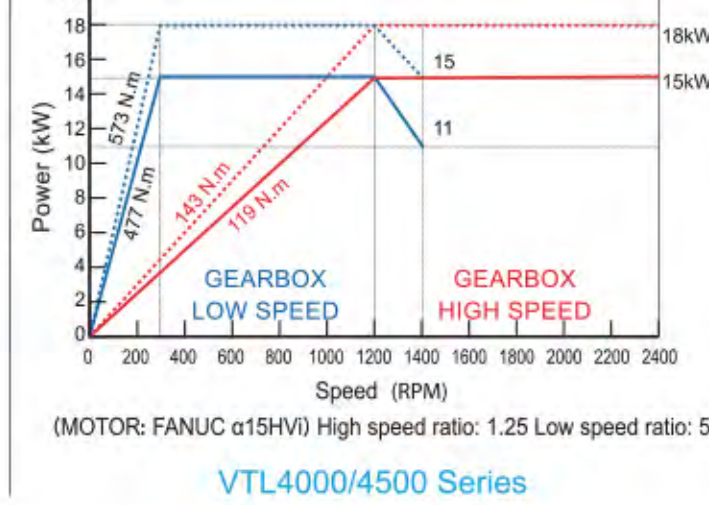
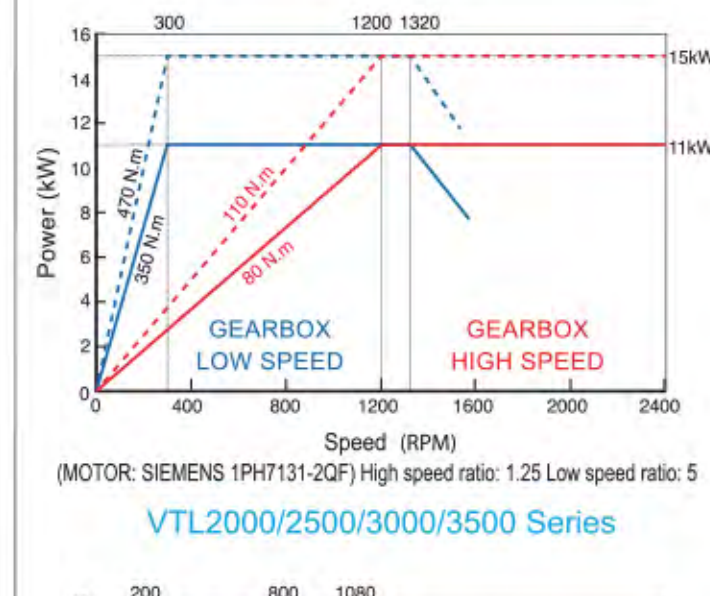
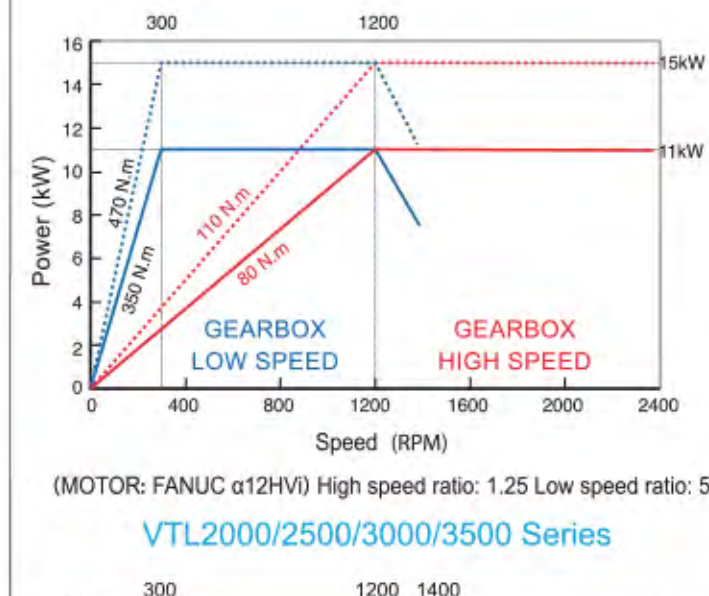
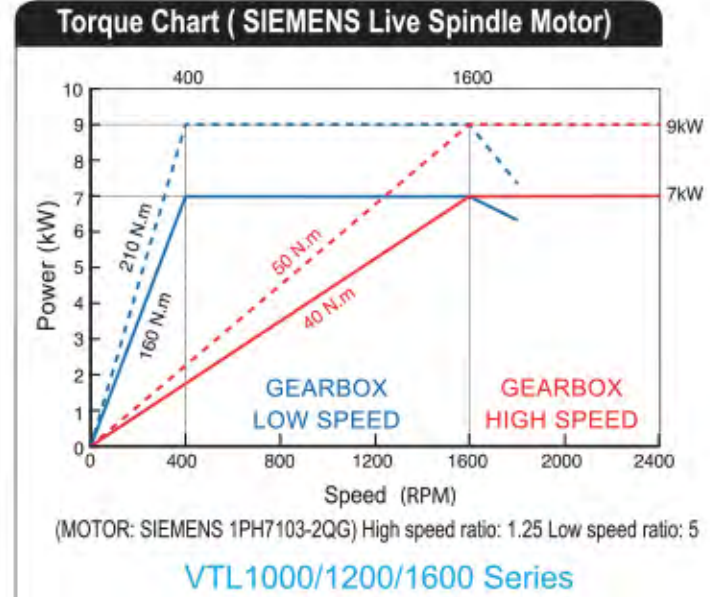
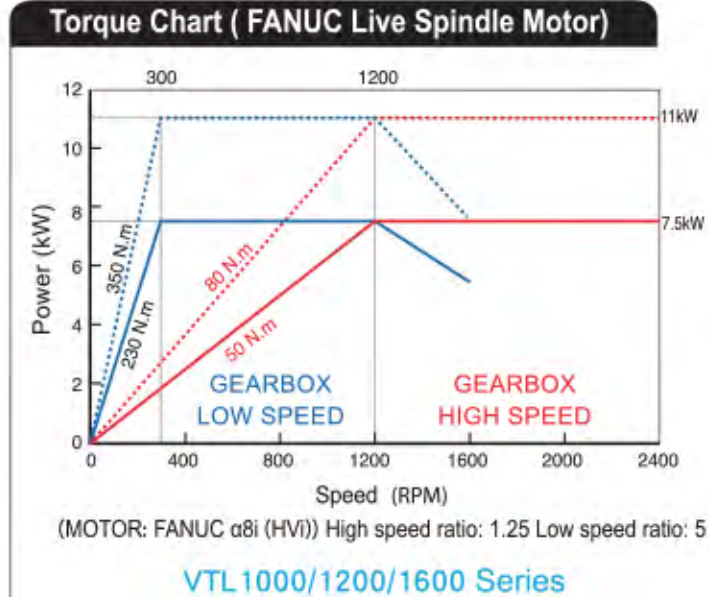


High Horse Power

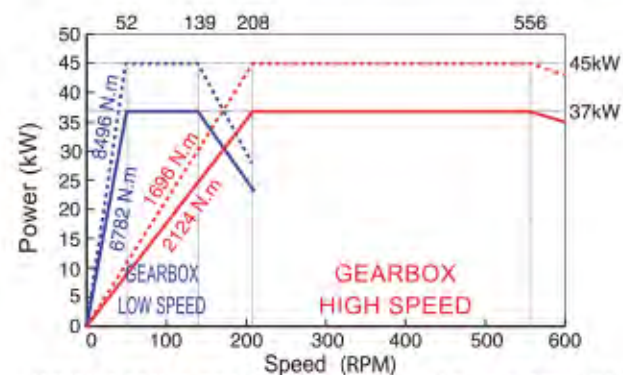
Turning & Milling

The live spindle motor (ATC+C series), coupled with the dual speed gearbox is located on top of the RAM, driving the live spindle via drive shaft. The use of the dual speed gearbox on the live spindle enables high torque output for face milling, end milling, drilling, and tapping capacity.

..... 30 Min operation zone — 1st gear (gearbox in low gear)
 — Continuous operation zone — 2nd gear (gearbox in high gear)

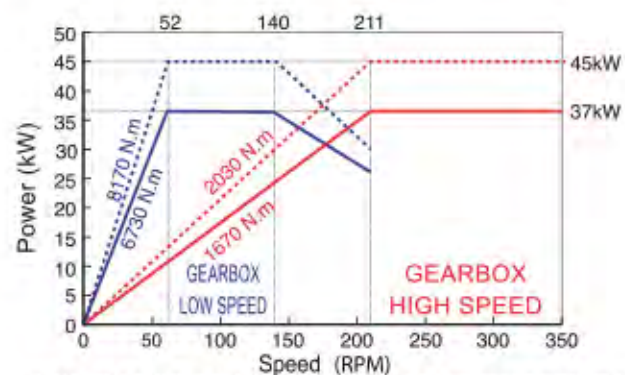


Torque Chart (FANUC Spindle Motor)

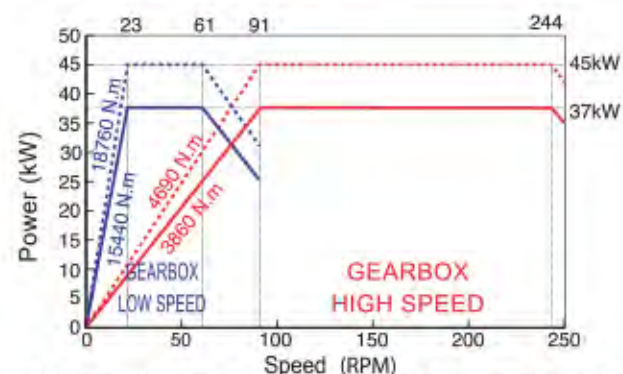


(MOTOR: FANUC alpha40i) High speed ratio: 7.2 Low speed ratio: 28.8
 ● VTL1000ATC / VTL1000ATC+C

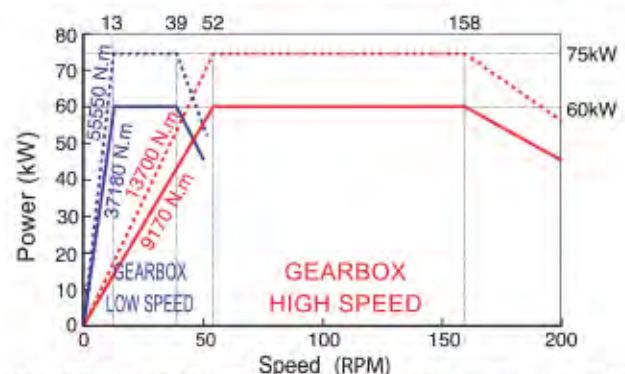
..... 30 Min operation zone
 — Continuous operation zone
 — 1st gear (gearbox in low gear)
 — 2nd gear (gearbox in high gear)



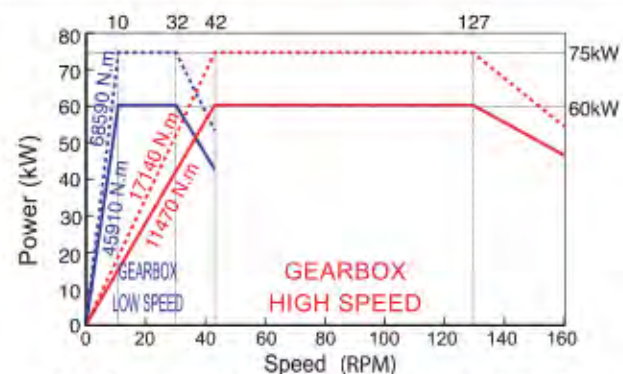
(MOTOR: FANUC alpha40i) High speed ratio: 7.1 Low speed ratio: 28.6
 ● VTL1200ATC / VTL1200ATC+C



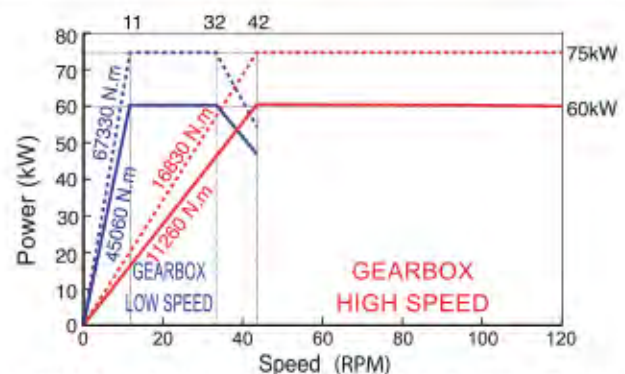
(MOTOR: FANUC alpha40i) High speed ratio: 16.4 Low speed ratio: 65.6
 ● VTL1600ATC / VTL1600ATC+C



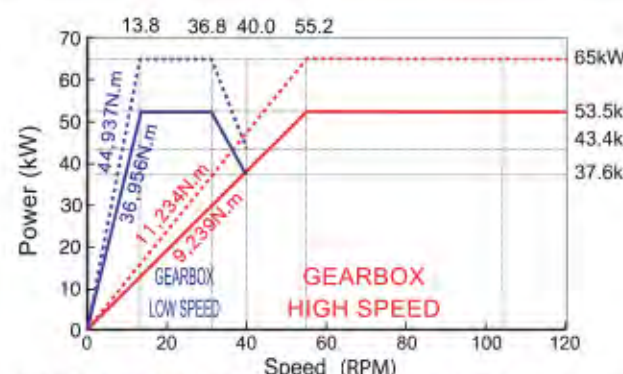
(MOTOR: FANUC alpha60HVi) High speed ratio: 22.1 Low speed ratio: 89.6
 ● VTL2000ATC / VTL2000ATC+C



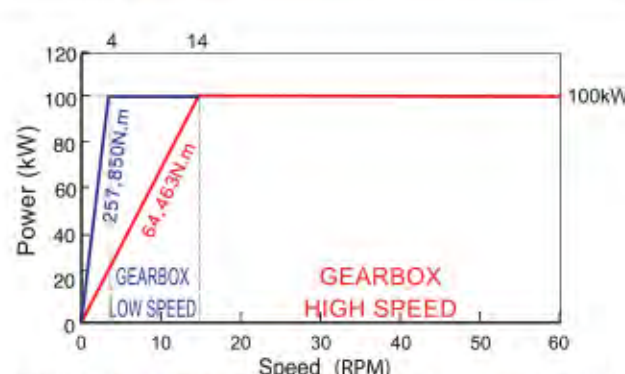
(MOTOR: FANUC alpha60HVi) High speed ratio: 27.65 Low speed ratio: 110.63
 ● VTL2500ATC / VTL2500ATC+C



(MOTOR: FANUC alpha60HVi) High speed ratio: 27.15 Low speed ratio: 108.6
 ● VTL3000ATC / VTL3500ATC

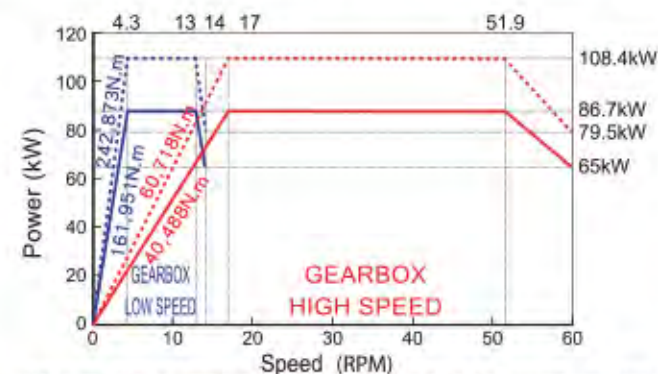


(MOTOR: FANUC alpha40HVi) x2 High speed ratio: 27.15 Low speed ratio: 108.6
 ● VTL3000ATC+C / VTL3500ATC+C



(MOTOR: FANUC alpha100HVi) High speed ratio: 67.5 Low speed ratio: 270
 ● VTL4000ATC / VTL4500ATC

Torque Chart (FANUC Spindle Motor)

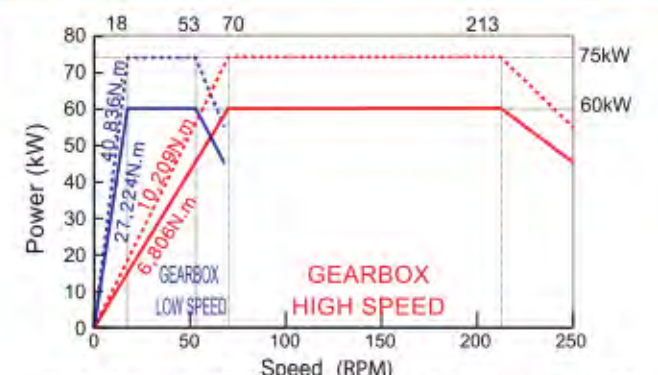


(MOTOR: FANUC alpha60HVi) x2 High speed ratio: 67.5 Low speed ratio: 270
 ● VTL4000ATC+C / 4500ATC+C

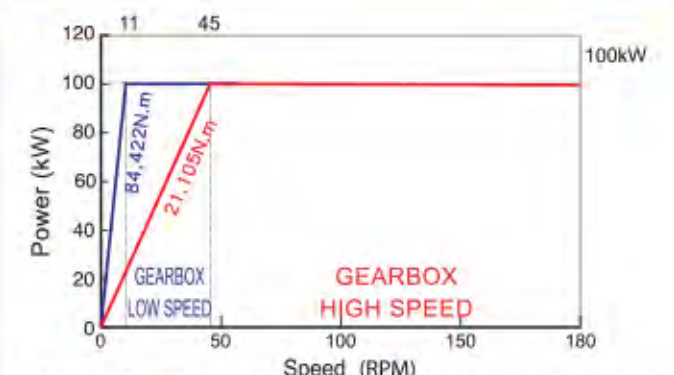
..... 30 Min operation zone
 — Continuous operation zone
 — 1st gear (gearbox in low gear)
 — 2nd gear (gearbox in high gear)



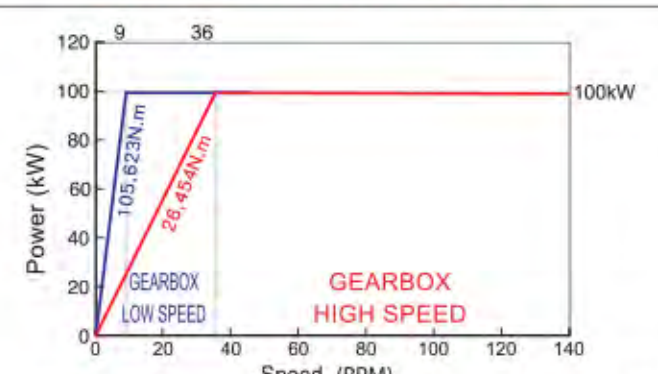
2 R series



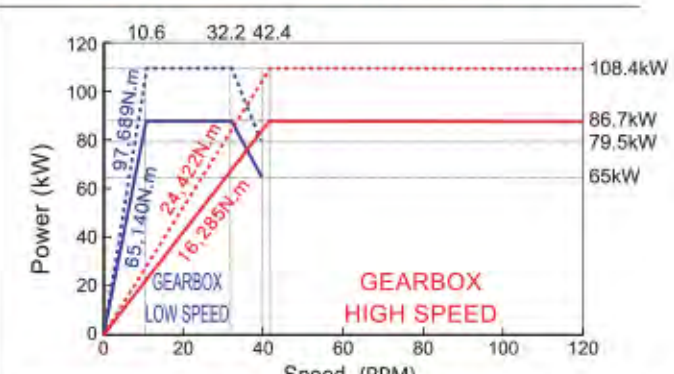
(MOTOR: FANUC alpha60HVi) High speed ratio: 16.4 Low speed ratio: 65.6
 ● VTL1600ATC-2R / VTL1600ATC+C-2R



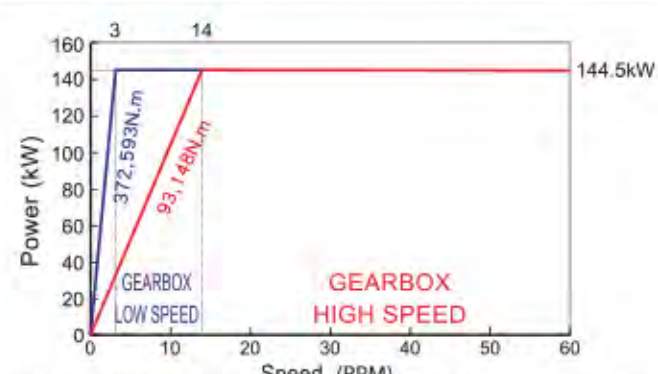
(MOTOR: FANUC alpha100HVi) High speed ratio: 22.1 Low speed ratio: 88.4
 ● VTL2000ATC-2R / VTL2000ATC+C-2R



(MOTOR: FANUC alpha100HVi) High speed ratio: 27.7 Low speed ratio: 110.6
 ● VTL2500ATC-2R / VTL2500ATC+C-2R



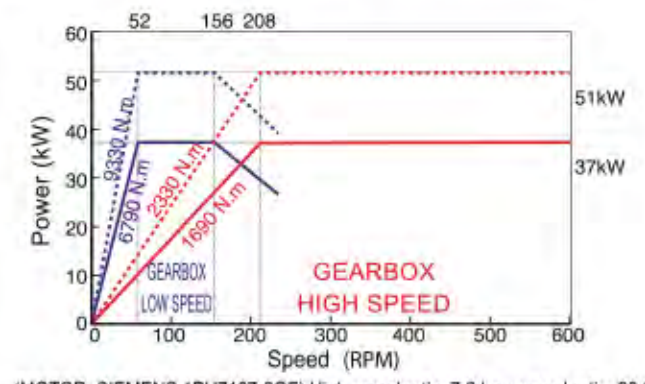
(MOTOR: FANUC alpha60HVi) x2 High speed ratio: 27.2 Low speed ratio: 108.6
 ● VTL3000/3500ATC-2R
 ● VTL3000/3500ATC+C-2R



(MOTOR: FANUC alpha100HVi) x2 High speed ratio: 67.5 Low speed ratio: 270
 ● VTL4000/4500ATC-2R
 ● VTL4000/4500ATC+C-2R

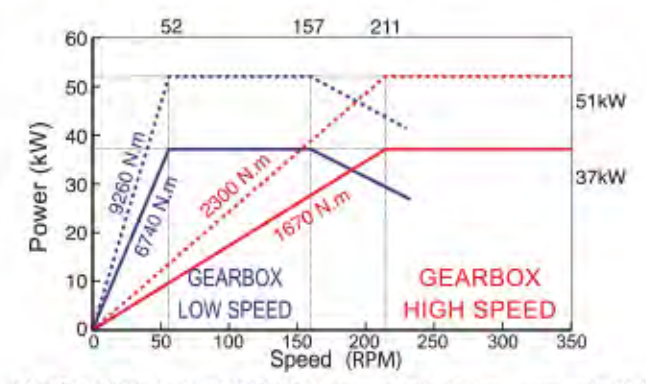


Torque Chart (SIEMENS Spindle Motor)

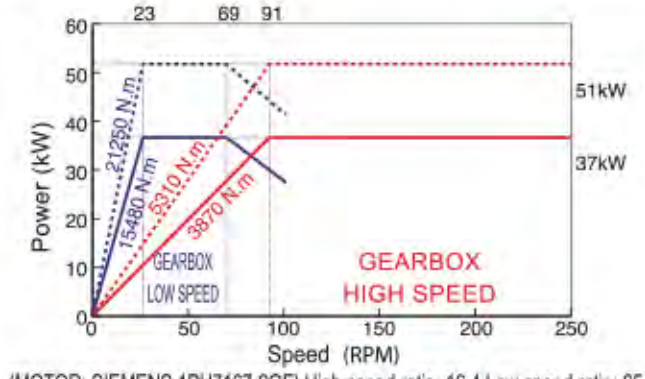


(MOTOR: SIEMENS 1PH7167-2QF) High speed ratio: 7.2 Low speed ratio: 28.8
 ● VTL1000ATC / VTL1000ATC+C

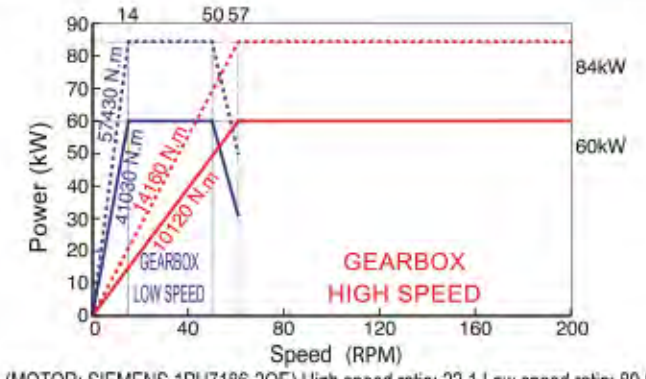
..... 30 Min operation zone
 — Continuous operation zone
 — 1st gear (gearbox in low gear)
 — 2nd gear (gearbox in high gear)



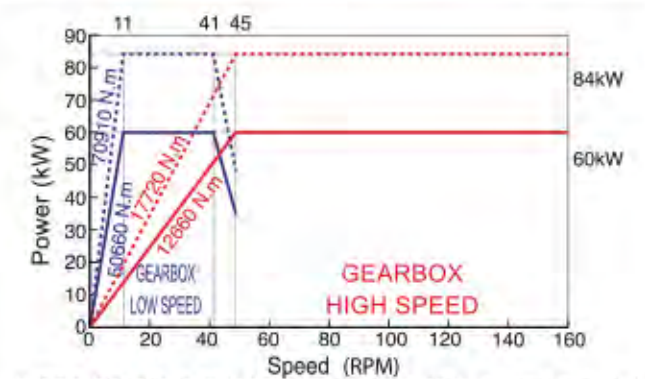
(MOTOR: SIEMENS 1PH7167-2QF) High speed ratio: 7.1 Low speed ratio: 28.6
 ● VTL1200ATC / VTL1200ATC+C



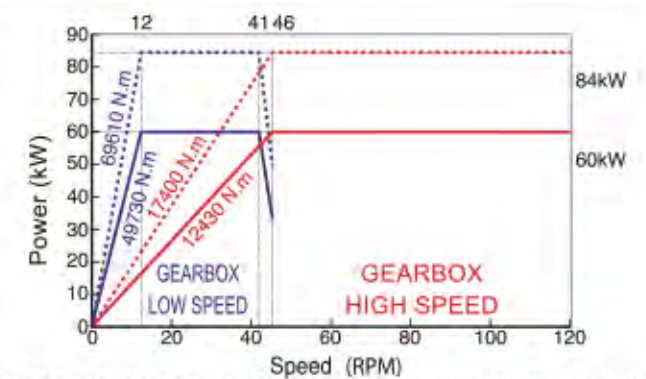
(MOTOR: SIEMENS 1PH7167-2QF) High speed ratio: 16.4 Low speed ratio: 65.6
 ● VTL1600ATC / VTL1600ATC+C



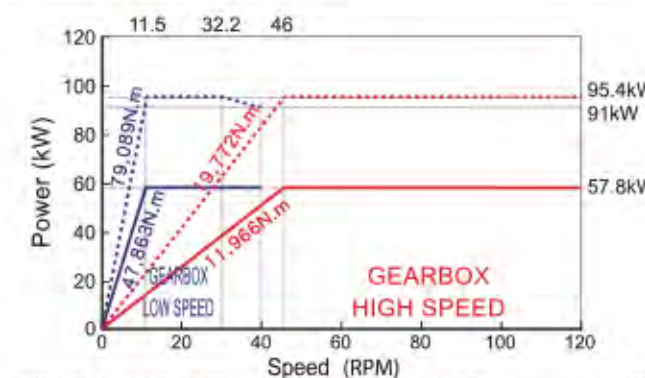
(MOTOR: SIEMENS 1PH7186-2QE) High speed ratio: 22.1 Low speed ratio: 89.6
 ● VTL2000ATC / VTL2000ATC+C



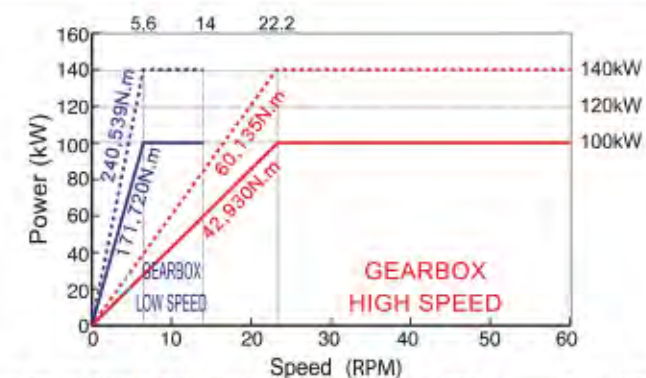
(MOTOR: SIEMENS 1PH7186-2QE) High speed ratio: 27.65 Low speed ratio: 110.63
 ● VTL2500ATC / VTL2500ATC+C



(MOTOR: SIEMENS 1PH7186-2QE) High speed ratio: 27.15 Low speed ratio: 108.6
 ● VTL3000ATC / VTL3500ATC

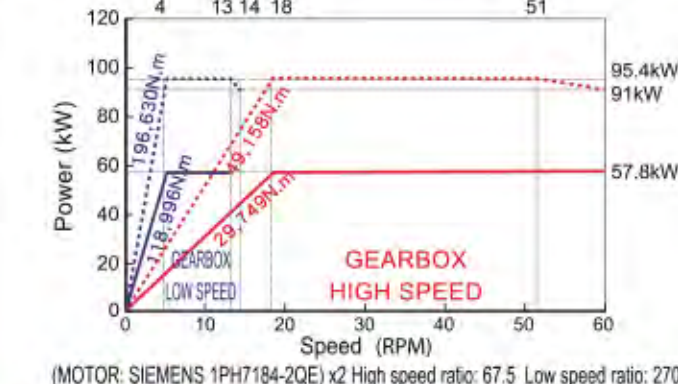


(MOTOR: SIEMENS 1PH7184-2QE) x2 High speed ratio: 27.15 Low speed ratio: 108.6
 ● VTL3000ATC+C / VTL3500ATC+C



(MOTOR: SIEMENS 1PH7224-2QF) High speed ratio: 67.5 Low speed ratio: 270
 ● VTL4000ATC / VTL4500ATC

Torque Chart (SIEMENS Spindle Motor)



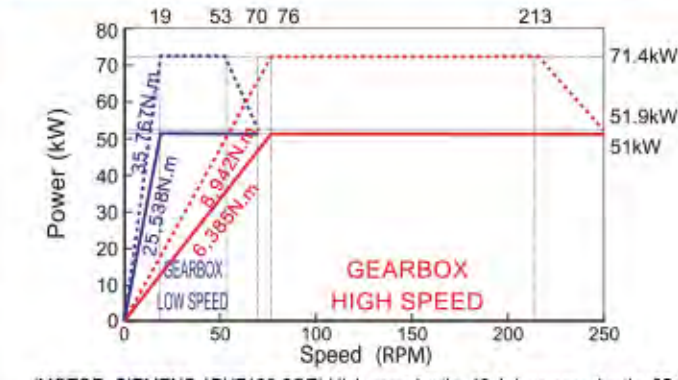
(MOTOR: SIEMENS 1PH7184-2QE) x2 High speed ratio: 67.5 Low speed ratio: 270
 ● VTL4000ATC+C / VTL4500ATC+C

..... 30 Min operation zone
 — Continuous operation zone
 — 1st gear (gearbox in low gear)
 — 2nd gear (gearbox in high gear)

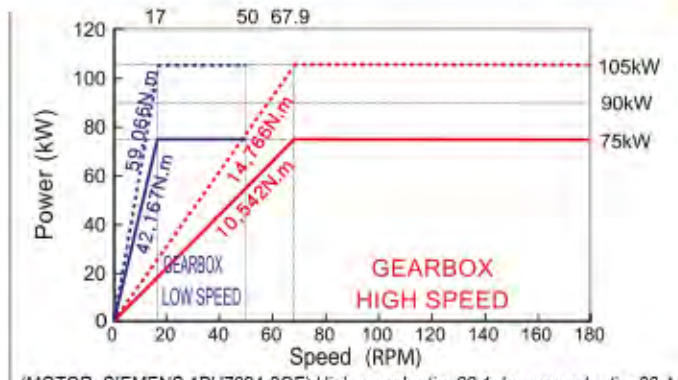


(MOTOR: SIEMENS 1PH7186-2QE) High speed ratio: 16.4 Low speed ratio: 65.5
 ● VTL1600ATC-2R / VTL1600ATC+C-2R

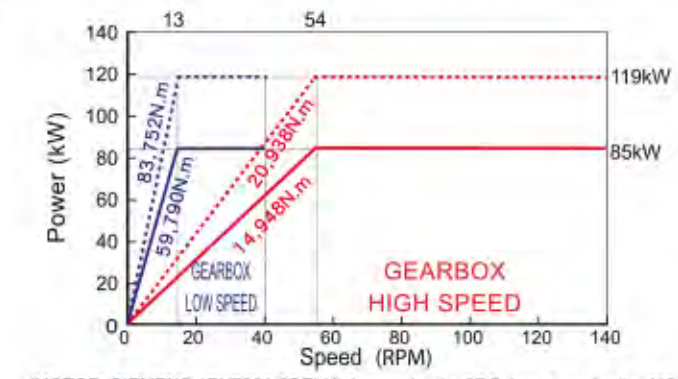
2 R series



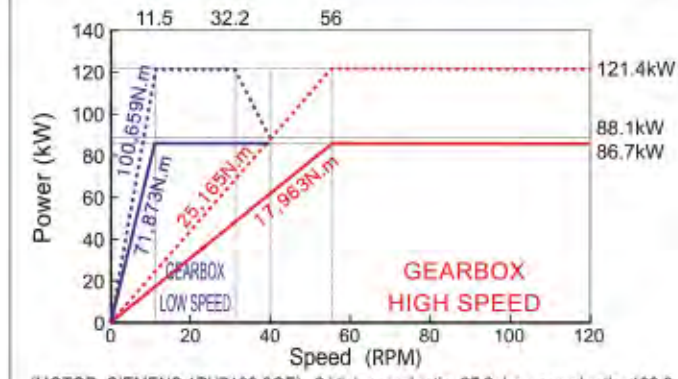
(MOTOR: SIEMENS 1PH7224-2QF) High speed ratio: 22.1 Low speed ratio: 88.4
 ● VTL2000ATC-2R / VTL2000ATC+C-2R



(MOTOR: SIEMENS 1PH7224-2QF) High speed ratio: 27.7 Low speed ratio: 110.6
 ● VTL2500ATC-2R / VTL2500ATC+C-2R



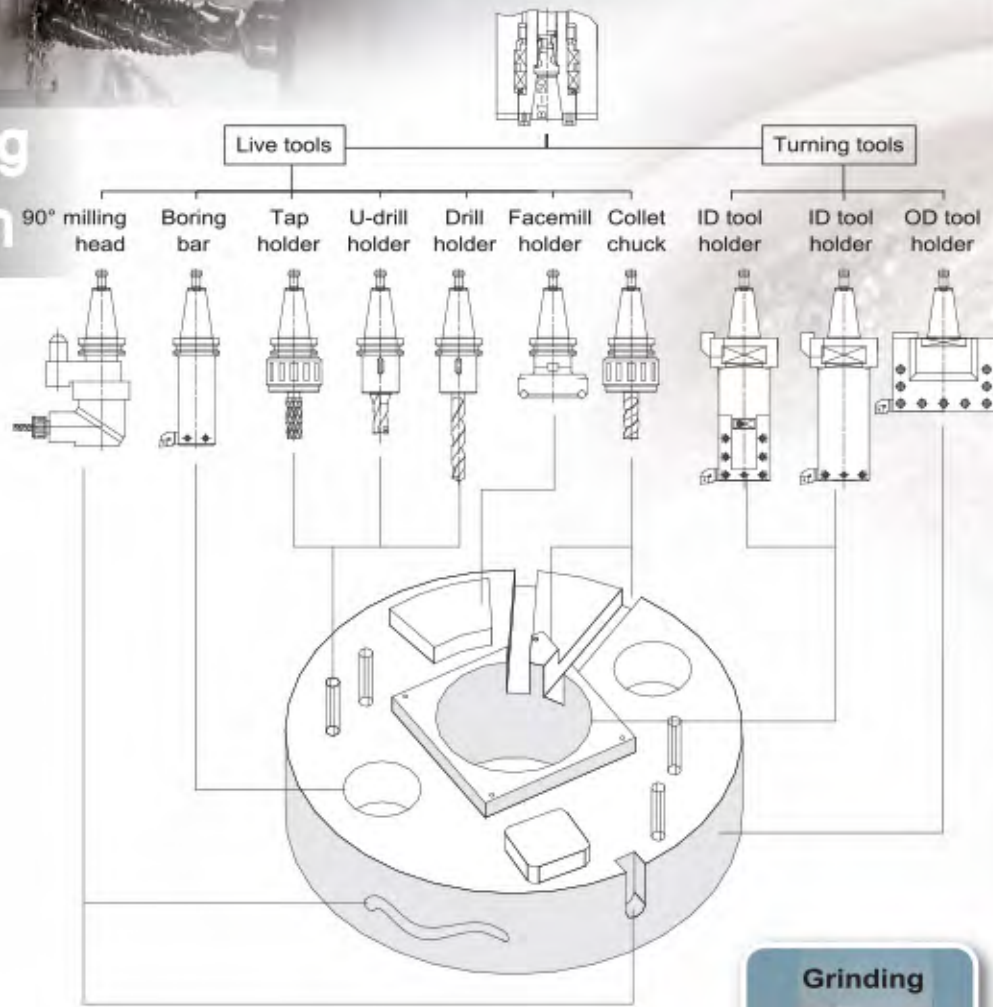
(MOTOR: SIEMENS 1PH7186-2QE) x2 High speed ratio: 27.2 Low speed ratio: 108.6
 ● VTL3000/3500ATC-2R
 ● VTL3000/3500ATC+C-2R



(MOTOR: SIEMENS 1PH7224-2QF) x2 High speed ratio: 67.5 Low speed ratio: 270
 ● VTL4000/4500ATC-2R
 ● VTL4000/4500ATC+C-2R

Complex Machining

Tooling System



Best Complex Function



▶ VTL1200ATC Pump



▶ VTL1600ATC Valve



▶ VTL2000ATC Motor housing



▶ VTL3000ATC+C Stator



▶ VTL1600ATC Rolled wheel



▶ VTL2000ATC Bearing ring



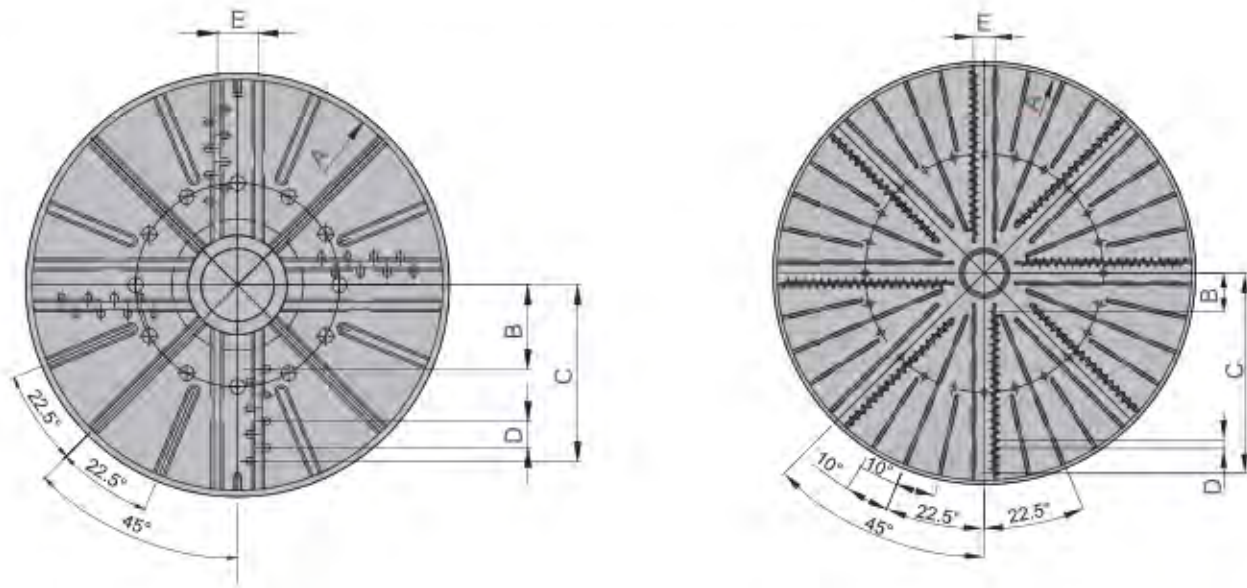
▶ VTL2500ATC+C Graphite



▶ VTL3000ATC+C Rotor



Diagram of Working Table



Model	A	B	C	D	E
VTL1000 Series	∅1000	240	440	80	125
VTL1200 Series	∅1250	255	535	80	125
VTL1600 Series	∅1600	255	775	80	125
VTL2000 Series	∅2000	255	895	80	125

Unit: mm

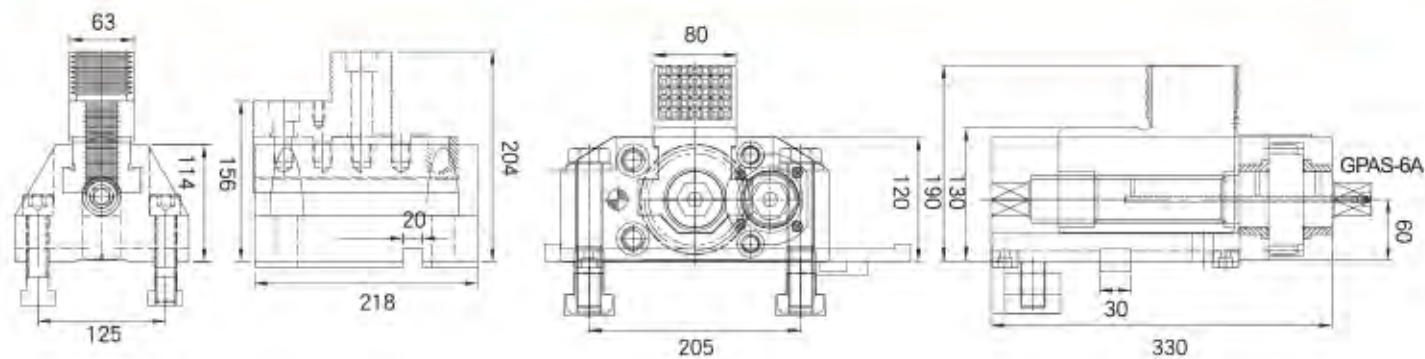
Model	A	B	C	D	E
VTL2500 Series	∅2500	255	1175	80	125
VTL3000 Series	∅3000	375	1463	80	205
VTL3500 Series	∅3500	375	1703	80	205
VTL4000 Series	∅4000	375	1935	80	205
VTL4500 Series	∅4500	375	2175	80	205

Unit: mm

Dimension of Chuck Jaws

4 T

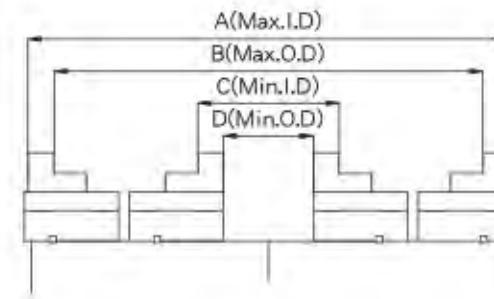
8 T



VTL1000/1200/1600/2000/2500 Series

VTL3000/3500/4000/4500 Series

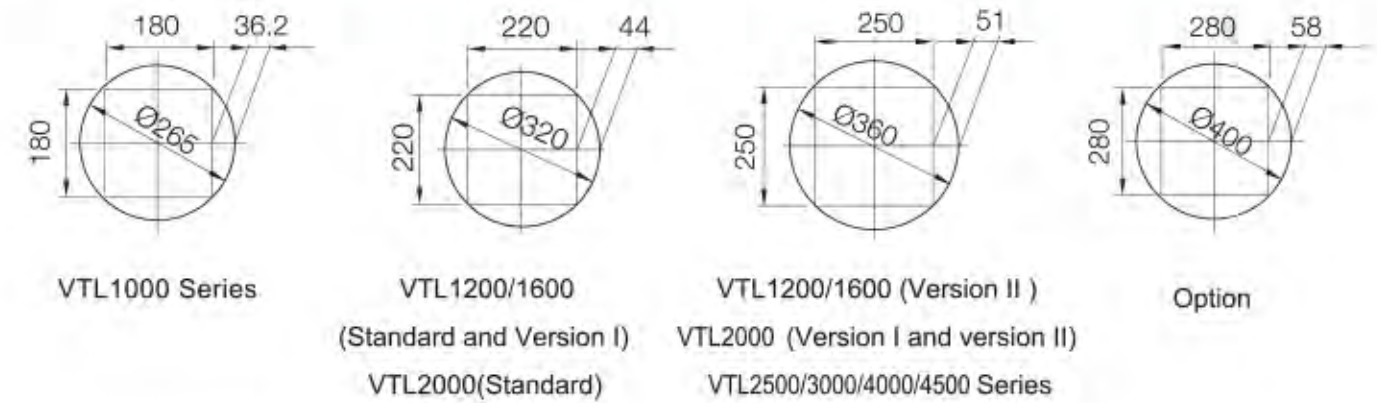
Inside & outside clamping for chuck jaws



Model	A	B	C	D
VTL1000 Series	1000	870	370	250
VTL1200 Series	1180	1060	400	280
VTL1600 Series	1580	1460	400	280
VTL2000 Series	1900	1780	400	280
VTL2500 Series	2460	2340	480	360
VTL3000 Series	2756	2585	1025	845
VTL3500 Series	3425	3065	1025	845
VTL4000 Series	3710	3530	1090	910
VTL4500 Series	4190	4010	1090	910

Unit: mm

RAM Interference



VTL1000 Series

VTL1200/1600

VTL1200/1600 (Version II)

Option

(Standard and Version I)

VTL2000 (Version I and version II)

VTL2000(Standard)

VTL2500/3000/4000/4500 Series

Optional Accessories

▶▶ Magnetic chuck

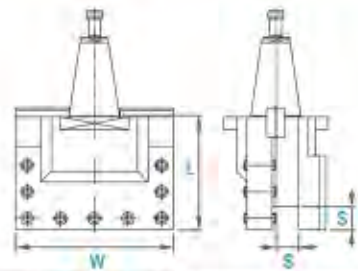


▶▶ Hydraulic chuck



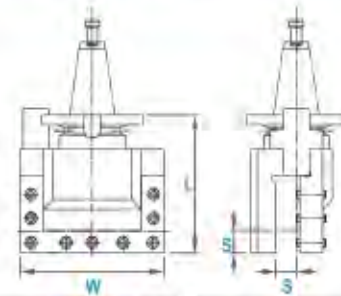
Dimension of Tool Holder

ATC series

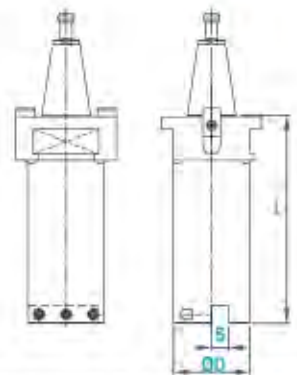


Model	W	L	S	Model	W	L	S
BT50-STST16032	220	160	32	BT50-DTST16032	220	160	32
BT50-STST16040	220	160	40	BT50-DTST16040	220	160	40
BT50-STST16032	250	160	32	BT50-DTST16032	250	160	32
BT50-STST16040	250	160	40	BT50-DTST16040	250	160	40
BT60-STST19032	290	190	32	BT60-DTST19732	290	197	32
BT60-STST19040	290	190	40	BT60-DTST19740	290	197	40

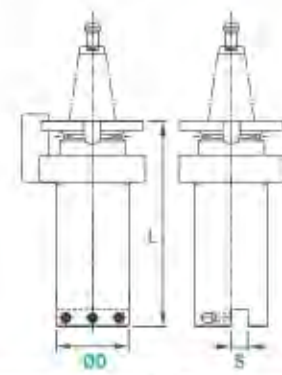
ATC+C series (Turning tool holder)



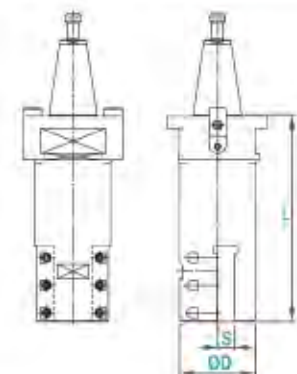
Model	W	L	S	Model	W	L	S
BT50-SMST19732	220	197	32	BT50-DMST21032	220	210	32
BT50-SMST19740	220	197	40	BT50-DMST21040	220	210	40
BT50-SMST19732	250	197	32	BT50-DMST21032	250	210	32
BT50-SMST19740	250	197	40	BT50-DMST21040	250	210	40
BT60-SMST25032	290	250	32	BT60-DMST25032	290	250	32
BT60-SMST25040	290	250	40	BT60-DMST25040	290	250	40



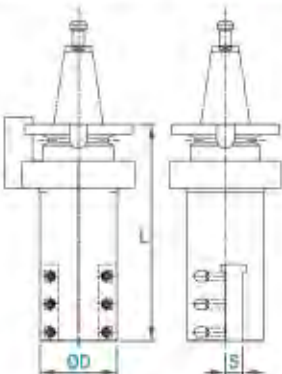
Model	L	S	D	Model	L	S	D
BT50-STBB20025	200	25	100	BT50-DTBB20025	200	25	100
BT50-STBB30025	300	25	110	BT50-DTBB30025	300	25	110
BT60-STBB20025	200	25	140	BT60-DTBB20025	200	25	140
BT60-STBB30025	300	25	140	BT60-DTBB30025	300	25	140



Model	L	S	D	Model	L	S	D
BT50-SMBB20025	200	25	100	BT50-DMBB20025	200	25	100
BT50-SMBB30025	300	25	110	BT50-DMBB30025	300	25	110
BT60-SMBB20025	200	25	140	BT60-DMBB20025	200	25	140
BT60-SMBB30025	300	25	140	BT60-DMBB30025	300	25	140



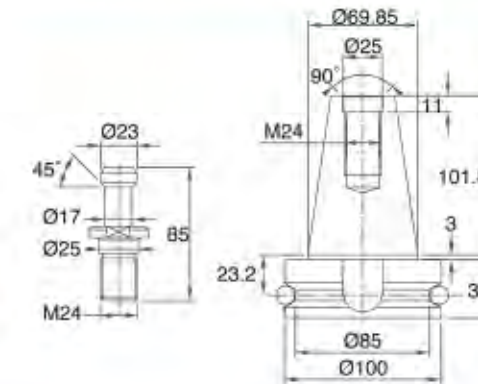
Model	L	S	D	Model	L	S	D
BT50-STBT20025	200	25	100	BT50-DTBT20025	200	25	100
BT50-STBT30025	300	25	110	BT50-DTBT30025	300	25	110
BT60-STBT20025	200	25	140	BT60-DTBT20025	200	25	140
BT60-STBT30025	300	25	140	BT60-DTBT30025	300	25	140



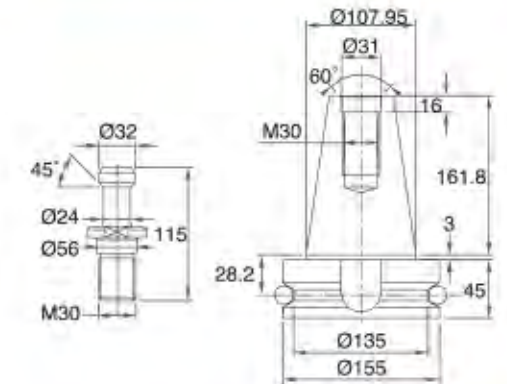
Model	L	S	D	Model	L	S	D
BT50-SMBT20025	200	25	100	BT50-DMBT20025	200	25	100
BT50-SMBT30025	300	25	110	BT50-DMBT30025	300	25	110
BT60-SMBT20025	200	25	140	BT60-DMBT20025	200	25	140
BT60-SMBT30025	300	25	140	BT60-DMBT30025	300	25	140

Dimension of Tool Holder

BT-50

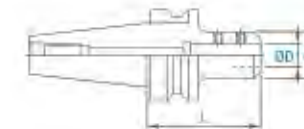


BT-60



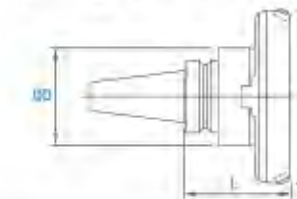
ATC+C series (Live tool holder)

Side lock chuck



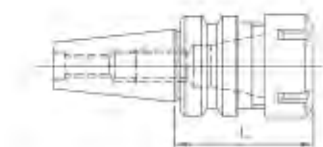
Model	L	C	D
BT50-SLA20-105	105	50	20
BT50-SLA25-105	105	55	25
BT50-SLA32-105	105	60	32
BT50-SLA40-105	105	80	40
BT50-SLA50.8-105	105	95	50.8
BT60-SLA20-105	105	50	20
BT60-SLA25-105	105	55	25
BT60-SLA32-105	105	60	32
BT60-SLA40-105	105	80	40
BT60-SLA50.8-105	105	95	50.8

Facemill holder (Milling cutter excluded)



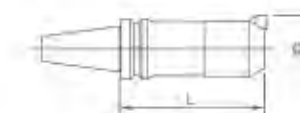
Model	L	C	D
BT50-FMA25.4-105	155	80	60
BT50-FMA31.75-105	160	100	70
BT50-FMA38.1-75	130	125	85
BT50-FMA50.8-75	135	150	95
BT60-FMA25.4-105	155	80	60
BT60-FMA31.75-105	160	100	70
BT60-FMA38.1-75	130	125	85
BT60-FMA50.8-75	135	150	95

Collet chuck



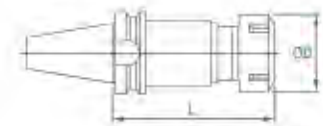
Model	L	Clamping range	Collet type
BT50-ER20-100	100	1-13	ER-20
BT50-ER32-100	100	3-20	ER-32
BT50-ER40-100	100	4-26	ER-40
BT60-ER20-100	100	1-13	ER-20
BT60-ER32-100	100	3-20	ER-32
BT60-ER40-100	100	4-26	ER-40

Boring bar (Rough boring)



Model	L	D
BT50-BSB62-300	300	62-90
BT50-BSB72-285	285	72-110
BT50-BSB105-285	285	105-160
BT60-BSB62-300	300	62-90
BT60-BSB72-285	285	72-100
BT60-BSB105-285	285	105-160

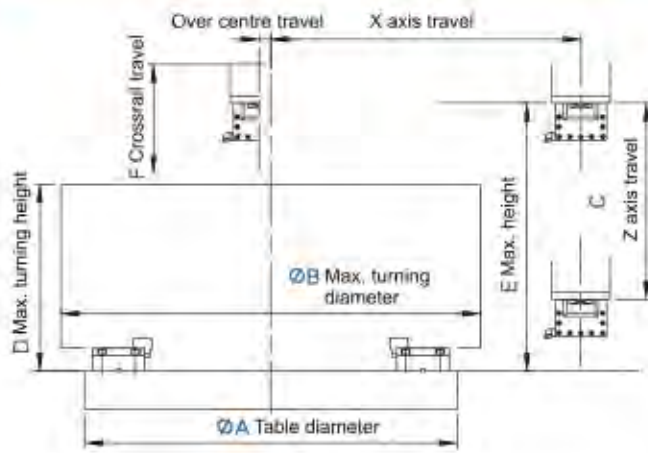
Tap holder



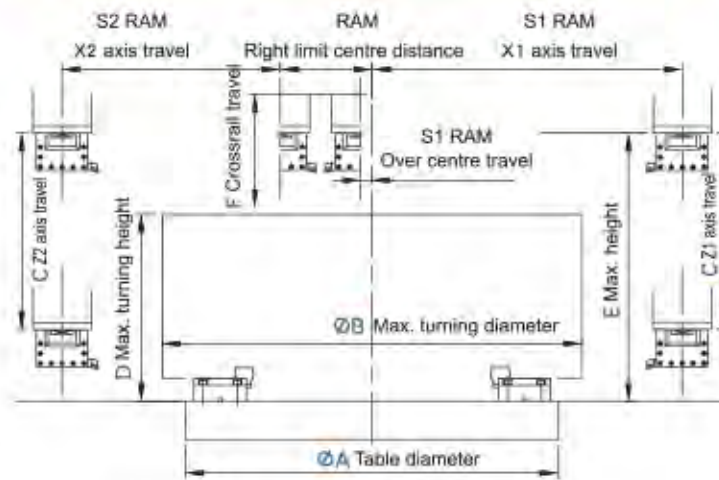
Model	L	D	Tapping range
BT50-TER16	80	28	M4-M10
BT50-TER40	117	63	M6-M27
BT60-TER16	83	28	M4-M10
BT60-TER40	126	63	M6-M27

Machining Range

1 R type



2 R type



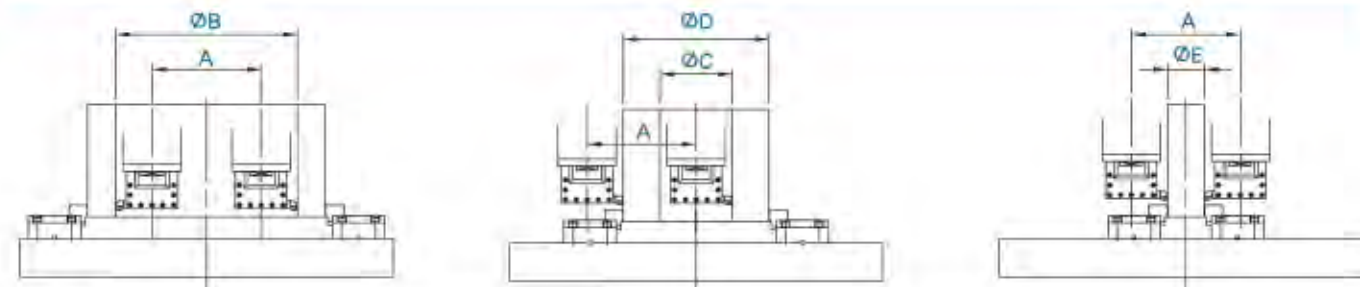
Model	A	B	C	D	E	F	Remark
VTL1000ATC(+C)	1000	1100	800	1000	1215	410	
VTL1200ATC(+C)			900	1200	1510	800	
VTL1200ATC-I	1250	1350	900	1600	1910	1200	
VTL1200ATC-II			1200	1800	2110	1400	
VTL1600ATC(+C)			900	1200	1530	800	(2R)
VTL1600ATC-I	1600	1800	900	1600	1930	1200	(2R)
VTL1600ATC-II			1200	1800	2130	1400	(2R)
VTL2000ATC(+C)			950	1600	2050	1150	(2R)
VTL2000ATC-I	2000	2300	1200	2000	2450	1550	(2R)
VTL2000ATC-II			1400	2000	2450	1550	(2R)
VTL2500ATC(+C)			1200	1600	2050	1150	(2R)
VTL2500ATC-I	2500	2800	1200	2000	2450	1550	(2R)
VTL2500ATC-II			1400	2000	2450	1550	(2R)

Unit: mm

Model	A	B	C	D	E	F	Remark
VTL3000ATC(+C)				1600	1929	1200	(2R)
VTL3000ATC-I	3000	3300	1500	2200	2529	1400	(2R)
VTL3000ATC-II				2800	3144	2000	(2R)
VTL3500ATC(+C)				1600	1929	1200	(2R)
VTL3500ATC-I	3500	3800	1500	2200	2529	1400	(2R)
VTL3500ATC-II				2800	3144	2000	(2R)
VTL4000ATC(+C)				1500	1804	1200	(2R)
VTL4000ATC-I	4000	4300	1500	2100	2404	1400	(2R)
VTL4000ATC-II				2700	3019	2000	(2R)
VTL4500ATC(+C)				1500	1804	1200	(2R)
VTL4500ATC-I	4500	4800	1500	2100	2404	1400	(2R)
VTL4500ATC-II				2700	3019	2000	(2R)

Unit: mm

2 R type

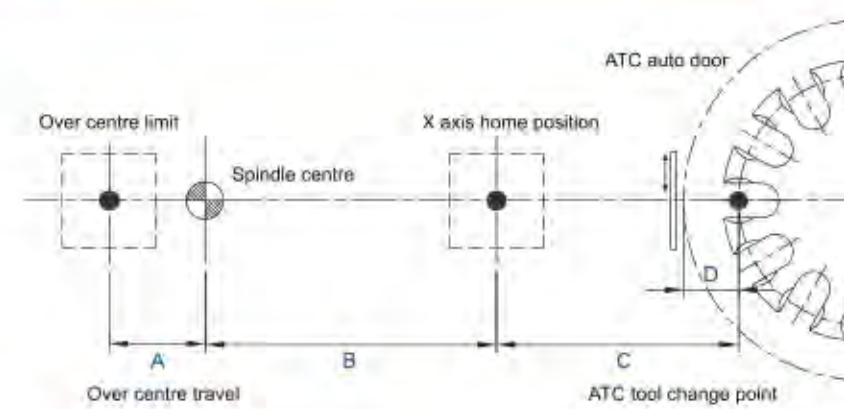


Model	A	B	C	D	E
VTL1600-2R Series	800	1200	340	1400	560
VTL2000-2R Series	920	1240	340	1500	600
VTL2500-2R Series	950	1270	340	1560	630
VTL3000-2R Series	1400	1700	400	2500	1100
VTL3500-2R Series	1400	1700	400	2500	1100
VTL4000-2R Series	1400	1700	400	2500	1100
VTL4500-2R Series	1400	1700	400	2500	1100

Unit: mm

X axis Travel Diagram

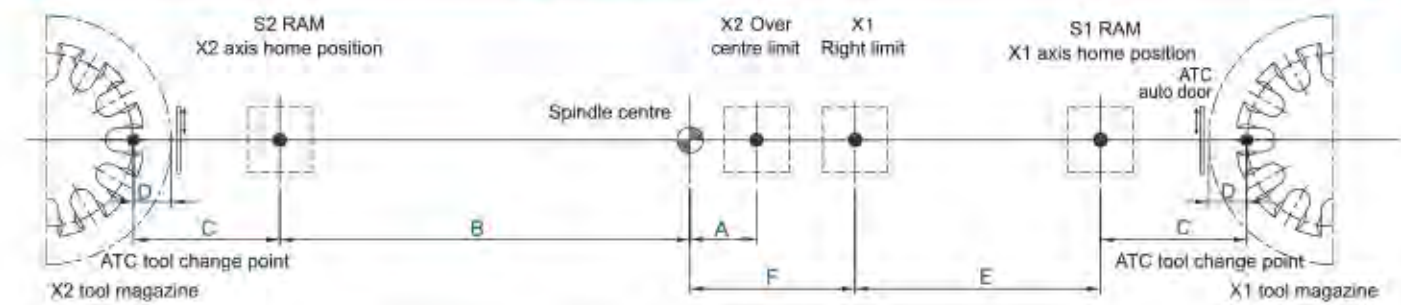
1 R type



Model	A	B	C	D
VTL1000 Series	400	720	400	175
VTL1200 Series	600	875	400	175
VTL1600 Series	800	1015	510	175
VTL2000 Series	1000	1350	400	175
VTL2500 Series	900	1600	400	175
VTL3000 Series	1500	1825	600	175
VTL3500 Series	2000	2350	600	175
VTL4000 Series	2000	2350	600	175
VTL4500 Series	2250	2650	600	175

Unit: mm

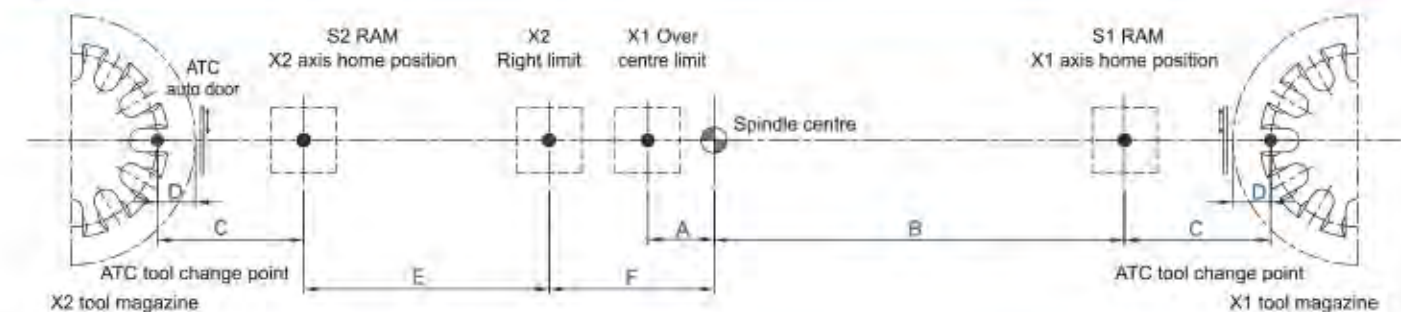
VTL 1600-2R type



Model	A	B	C	D	E	F
VTL1600-2R Series	50	1015	400	175	1225	377

Unit: mm

2 R type

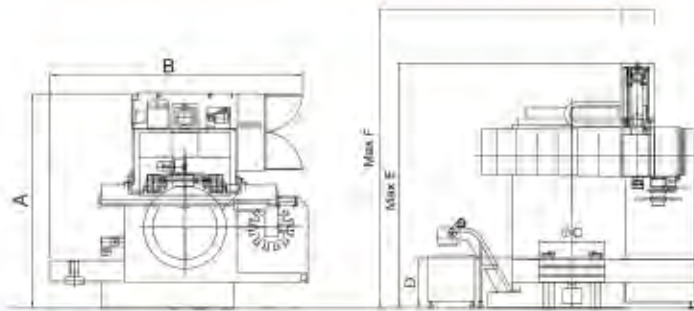


Model	A	B	C	D	E	F
VTL2000-2R Series	50	1350	400	175	887	463
VTL2500-2R Series	50	1600	400	175	1137	463
VTL3000-2R Series	50	1650	600	175	950	700
VTL3500-2R Series	50	2350	600	175	1650	700
VTL4000-2R Series	50	2350	600	175	1650	700
VTL4500-2R Series	50	2650	600	175	1950	700

Unit: mm

Machining Layout Dimension

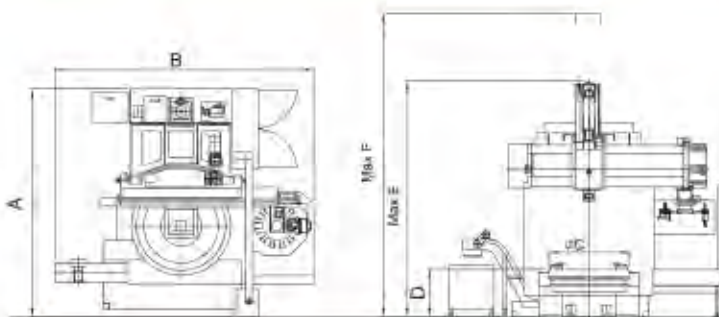
VTL1000 /1200 Series



Model	A	B	C	D	E	F
VTL1000ATC	3850	4620	1000	980	4350	4850
VTL1000ATC+C	3850	4620	1000	980	4450	4950
VTL1200ATC	4260	5580	1250	970	4600	5400
VTL1200ATC+C	4260	5580	1250	970	4600	5400
VTL1200ATC-I	4260	5580	1250	970	4750	5800
VTL1200ATC-II	4260	5580	1250	970	5200	6600

Unit: mm

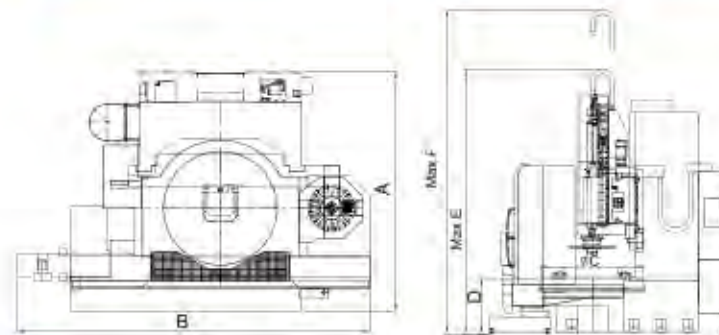
VTL1600 Series



Model	A	B	C	D	E	F
VTL1600ATC	4510	5850	1600	970	4600	5400
VTL1600ATC+C	4510	5850	1600	970	4600	5400
VTL1600ATC-I	4510	5850	1600	970	4750	5800
VTL1600ATC-II	4510	5850	1600	970	5200	6500

Unit: mm

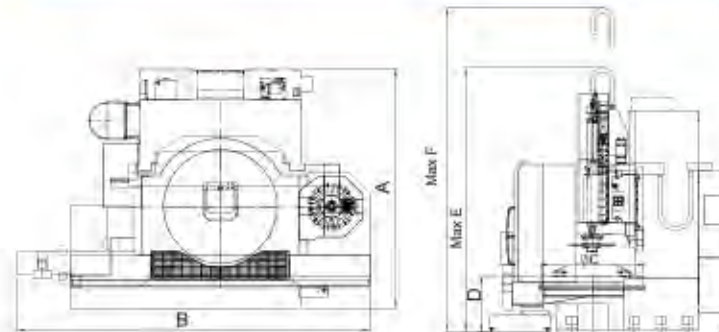
VTL2000 Series



Model	A	B	C	D	E	F
VTL2000ATC	4650	6850	2000	1080	5120	6270
VTL2000ATC+C	4650	6850	2000	1080	5140	6290
VTL2000ATC-I	4650	6850	2000	1080	5520	7070
VTL2000ATC-II	4650	6850	2000	1080	6120	7670

Unit: mm

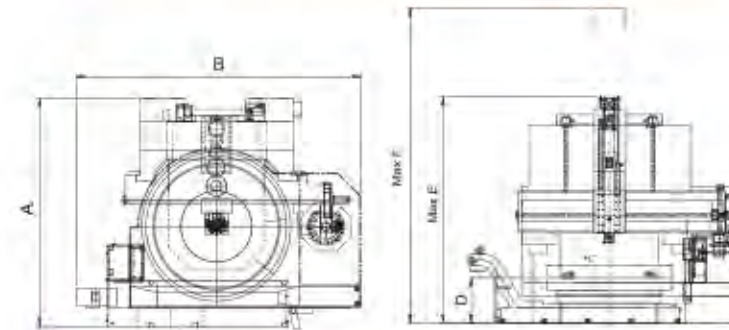
VTL2500 Series



Model	A	B	C	D	E	F
VTL2500ATC	5130	7550	2500	1080	5500	6650
VTL2500ATC+C	5130	7550	2500	1080	5500	6650
VTL2500ATC-I	5130	7550	2500	1080	5500	7050
VTL2500ATC-II	5130	7550	2500	1080	6150	7700

Unit: mm

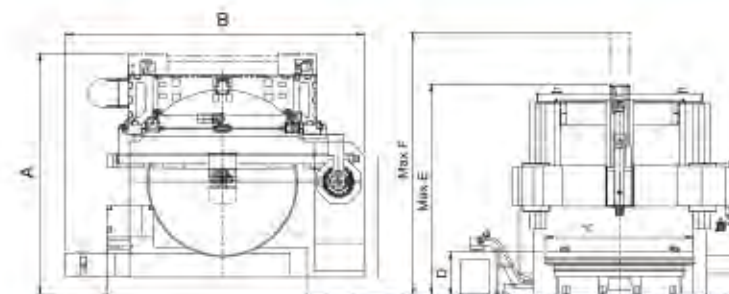
VTL3000 /3500 Series



Model	A	B	C	D	E	F
VTL3000ATC	7000	11000	3000	1210	6200	7400
VTL3000ATC+C	7000	11000	3000	1210	6200	7400
VTL3000ATC-I	7000	11000	3000	1210	6600	8000
VTL3000ATC-II	7000	11000	3000	1210	6600	8600
VTL3500ATC	8500	12500	3500	1210	6200	7400
VTL3500ATC+C	8500	12500	3500	1210	6200	7400
VTL3500ATC-I	8500	12500	3500	1210	6600	8000
VTL3500ATC-II	8500	12500	3500	1210	6600	8600

Unit: mm

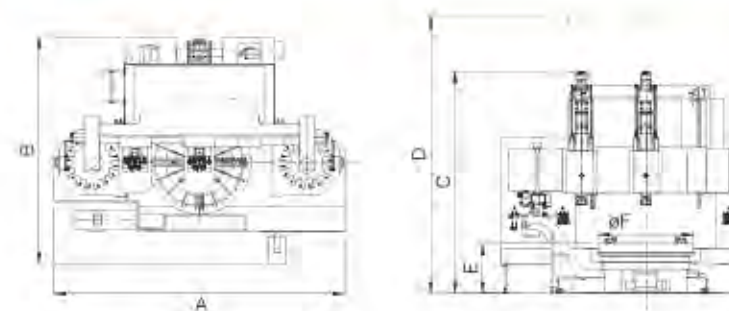
VTL4000 Series



Model	A	B	C	D	E	F
VTL4000ATC	8500	12500	4000	1330	6200	7400
VTL4000ATC+C	8500	12500	4000	1330	6200	7400
VTL4000ATC-I	8500	12500	4000	1330	6600	8000
VTL4000ATC-II	8500	12500	4000	1330	6600	8600
VTL4500ATC	10500	13000	4500	1385	6600	7800
VTL4500ATC+C	10500	13000	4500	1385	6600	7800
VTL4500ATC-I	10500	13000	4500	1385	6800	8200
VTL4500ATC-II	10500	13000	4500	1385	6800	8600

Unit: mm

VTL 2R Series



Model	A	B	C	D	E	F
VTL1600ATC-2R	5850	5000	4600	5400	970	1600
VTL2000ATC-2R	6090	4660	5300	6450	1080	2000
VTL2500ATC-2R	7110	5080	5400	6550	1080	2500
VTL3000ATC-2R	11000	7000	6200	7400	1140	3000
VTL3500ATC-2R	12500	8500	6200	7400	1140	3500
VTL4000ATC-2R	12500	8500	6200	7400	1140	4000
VTL4500ATC-2R	13000	10500	6400	7600	1295	4500

Unit: mm

Standard Accessories

- ▶ FANUC controller
- ▶ 4 jaws manual chuck
—VTL1000/1200/1600/2000 series
- ▶ 8 jaws manual chuck
—VTL2500/3000/3500/4000/4500 series
- ▶ 12 positions tool magazine
—VTL1000-2500ATC series
- ▶ 16 positions tool magazine
—VTL1000-2500ATC+C series
& VTL3000-4500 series
- ▶ Dual speed gearbox
- ▶ Pressure relief automatic lubrication system
- ▶ Chip conveyor and chip bucket
- ▶ Air conditioner for electrical cabinet
- ▶ Coolant unit
- ▶ Signal tower light (3 stage)
- ▶ Hydraulic unit
- ▶ Square guarding
- ▶ Working lamp
- ▶ Tool box with tools

Optional Accessories

- ▶ SIEMENS 840 D controller
- ▶ Tool magazine for 24, 32, 48, 60 tool position
- ▶ Coolant through spindle 12/20/60 bar
- ▶ Pendant/moveable type control
- ▶ 3 jaws/4 jaws/6 jaws hydraulic chuck
- ▶ Tool presetter
- ▶ Work piece probe
- ▶ X/Z axis linear scales
- ▶ Paper filter
- ▶ Oil mist collector
- ▶ Oil skimmer
- ▶ Coolant chiller
- ▶ Machine monitoring system
- ▶ Full enclosure guarding
- ▶ Magnetic chuck
- ▶ Grinding attachment
- ▶ Transformer
- ▶ Automatic pallet changer

Machine Specifications ▶ VTL1000-2500

	VTL1000ATC	VTL1000ATC+C	VTL1200ATC	VTL1200ATC-I	VTL1200ATC-II	VTL1200ATC+C	VTL1600ATC	VTL1600ATC-I	VTL1600ATC-II	VTL1600ATC+C	VTL2000ATC	VTL2000ATC-I	VTL2000ATC-II	VTL2000ATC+C	VTL2500ATC	VTL2500ATC-I	VTL2500ATC-II	VTL2500ATC+C		
Capacity																				
Table diameter	mm	Ø1000	Ø1000	Ø1250	Ø1250	Ø1250	Ø1250	Ø1600	Ø1600	Ø1600	Ø1600	Ø2000	Ø2000	Ø2000	Ø2000	Ø2500	Ø2500	Ø2500	Ø2500	
Max. swing diameter	mm	Ø1350	Ø1350	Ø1600	Ø1600	Ø1600	Ø1600	Ø2000	Ø2000	Ø2000	Ø2000	Ø2500	Ø2500	Ø2500	Ø2500	Ø3000	Ø3000	Ø3000	Ø3000	
Max. turning diameter	mm	Ø1100	Ø1100	Ø1350	Ø1350	Ø1350	Ø1350	Ø1800	Ø1800	Ø1800	Ø1800	Ø2300	Ø2300	Ø2300	Ø2300	Ø2800	Ø2800	Ø2800	Ø2800	
Max. turning height	mm	900	900	1200	1600	1800	1200	1200	1600	1800	1200	1600	2000	2000	1600	1600	2000	2000	1600	
Max. work-piece weight	kg	4000	4000	5000	5000	5000	5000	8000	8000	8000	8000	10000	10000	10000	10000	15000	15000	15000	15000	
Travel																				
X-axis travel	mm	-400,+720		-600,+875				-800,+1015		-800,+1015		-1000,+1350				-900,+1600				
Z-axis travel	mm	800	800	900	900	1200	900	900	900	1200	900	950	1200	1400	950	1200	1200	1400	1200	
Vertical travel of crossrail	mm	500	500	800	1200	1400	800	800	1200	1400	800	1150	1550	1550	1150	1150	1550	1550	1150	
Spindle (FANUC motor)																				
Spindle speed	Low	RPM	1~160		1~150				1~70		1~70		1~50				1~40			
	High	RPM	160~600		150~350				70~250		70~250		50~200				40~160			
Live spindle speed	Low	RPM	1~1200		1~1200				1~1200		1~1200		1~1200				1~1200			
	High	RPM	1200~2400		1200~2400				1200~2400		1200~2400		1200~2400				1200~2400			
Max. table torque	N·m(kgf·m)	8496(866)		8170(830)				18760(1910)		18760(1910)		55550(5660)				68590(6990)				
Spindle (SIEMENS motor)																				
Spindle speed	Low	RPM	1~160		1~150				1~70		1~70		1~50				1~40			
	High	RPM	160~600		150~350				70~250		70~250		50~200				40~160			
Live spindle speed	Low	RPM	1~1200		1~1200				1~1200		1~1200		1~1200				1~1200			
	High	RPM	1200~2400		1200~2400				1200~2400		1200~2400		1200~2400				1200~2400			
Max. table torque	N·m(kgf·m)	9330(950)		9260(940)				21250(2160)		21250(2160)		57430(5860)				70910(7230)				
Feed rate																				
X-axis rapid traverse	m/min	12		12				12		12		10				10				
Z-axis rapid traverse	m/min	10		10				10		10		10				10				
Cutting feed rate	mm/min	1~2000		1~2000				1~2000		1~2000		1~2000				1~2000				
Manual feed rate	m/min	0~6		0~6				0~6		0~6		0~6				0~6				
Automatic Tool Changer																				
Number of tool position		12	16	12				12	16	12				16	12				16	
Type of tool shank		7/24 Taper BT-50		7/24 Taper BT-50				7/24 Taper BT-50		7/24 Taper BT-50		7/24 Taper BT-50				7/24 Taper BT-50				
Max. tool length of ATC	mm	380		380				380		380		380				380				
Max. tool weight	kg	50		50				50		50		50				50				
Max. loading weight of ATC	kg	600	800	600		800		600	800	600		800		600	800	600		800		
Time of tool change (tool to tool)	sec	40		40				40		40		50				50				
Controller (FANUC)																				
FANUC motor																				
Spindle motor	kW	37/45(α40i)		37/45(α40i)				37/45(α40i)		37/45(α40i)		60/75(α60HVi)				60/75(α60HVi)				
Live spindle motor	kW	7.5/11(α8i)		7.5/11(α8i)				7.5/11(α8i)		7.5/11(α8i)		11/15(α12HVi)				11/15(α12HVi)				
X-axis servo motor	kW	7(α30i)		6(α40i)				6(α40i)		6(α40i)		5.5(α40HVis)				5.5(α40HVis)				
Z-axis servo motor	kW	9(α40i + Fan)		9(α40i + Fan)				9(α40i + Fan)		9(α40i + Fan)		5.5(α40HVis)				5.5(α40HVis)				
CF-axis servo motor	kW	7(α30i)		7(α30i)				7(α30i)		7(α30i)		5.5(α40HVis)				5.5(α40HVis)				
Coolant pump	kW	3		3				3		3		3				3				
Power capacity	KVA	85	105	85		105		85	105	85		105		115	130	115		130		
Tank capacity																				
Hydraulic tank	L	60	130	130				130		130		130				130				
Coolant tank	L	750	750	550				550		550		900				1100				
Lubrication tank	L	4.6	4.6	4.6				4.6		4.6		4.6				4.6				
Machine dimension																				
Floor dimension	mm	4620x3850		5580x4260				5850x4510		5850x4510		6840x4650				7550x5130				
Machine height	mm	4850	4950	5400	5800	6600	5400	5400	5800	6500	5400	6270	7070	7670	6290	6650	7050	7700	6650	
Machine weight	kg	21000	22000	33000	34500	36500	33500	37000	38000	39500	37500	49000	49500	50000	49500	55500	60000	60500	57000	

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Optional



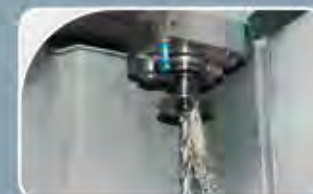
SIEMENS 840 D controller



BT50 tool holder + Capto tool



Tool magazine for 32, 48, 60 tool position



Coolant through spindle 12/20/60 bar



3 jaws/4 jaws/6 jaws hydraulic chuck



Pendant / moveable type control

Machine Specifications ▶ VTL3000-4500

		VTL3000ATC	VTL3000ATC-I	VTL3000ATC-II	VTL3000ATC+C	VTL3500ATC	VTL3500ATC-I	VTL3500ATC-II	VTL3500ATC+C	VTL4000ATC	VTL4000ATC-I	VTL4000ATC-II	VTL4000ATC+C	VTL4500ATC	VTL4500ATC-I	VTL4500ATC-II	VTL4500ATC+C				
Capacity																					
Table diameter	mm	Ø3000	Ø3000	Ø3000	Ø3000	Ø3500	Ø3500	Ø3500	Ø3500	Ø4000	Ø4000	Ø4000	Ø4000	Ø4500	Ø4500	Ø4500	Ø4500				
Max. swing diameter	mm	Ø3400	Ø3400	Ø3400	Ø3400	Ø4100	Ø4100	Ø4100	Ø4100	Ø4600	Ø4600	Ø4600	Ø4600	Ø5100	Ø5100	Ø5100	Ø5100				
Max. turning diameter	mm	Ø3300	Ø3300	Ø3300	Ø3300	Ø3800	Ø3800	Ø3800	Ø3800	Ø4300	Ø4300	Ø4300	Ø4300	Ø4800	Ø4800	Ø4800	Ø4800				
Max. turning height	mm	1700	2300	2900	1700	1700	2300	2900	1700	1600	2100	2700	1600	1600	2100	2700	1600				
Max. work-piece weight	kg	20000	20000	20000	20000	20000	20000	20000	20000	30000	30000	30000	30000	30000	30000	30000	30000				
Travel																					
X-axis travel	mm	-1500,+1825				-1750,+2160				-2000,+2500				-2000,+2500							
Z-axis travel	mm	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500				
Vertical travel of crossrail	mm	1200	1400	2000	1200	1200	1400	2000	1200	1200	1400	2000	1200	1200	1400	2000	1200				
Spindle (FANUC motor)																					
Spindle speed	Low	RPM	1~40				1~40				1~14				1~14						
	High	RPM	40~120				40~120				14~60				14~60						
Live spindle speed	Low	RPM	1~1200				1~1200				1~1200				1~1200						
	High	RPM	1200~2400				1200~2400				1200~2400				1200~2400						
Max. table torque	N·m(kgf·m)	67330(6870)				67330(6870)				44937(4585)				257850(26311)				242873(24782)			
Spindle (SIEMENS motor)																					
Spindle speed	Low	RPM	1~40				1~40				1~14				1~14						
	High	RPM	40~120				40~120				14~60				14~60						
Live spindle speed	Low	RPM	1~1200				1~1200				1~1200				1~1200						
	High	RPM	1200~2400				1200~2400				1200~2400				1200~2400						
Max. table torque	N·m(kgf·m)	69610(7103)				79089(8070)				69610(7103)				79089(8070)				240539(24544)			
Feed rate																					
X-axis rapid traverse	m/min	6				6				6				6							
Z-axis rapid traverse	m/min	10				10				10				10							
Cutting feed rate	mm/min	1~2000				1~2000				1~2000				1~2000							
Manual feed rate	m/min	0~6				0~6				0~6				0~6							
Automatic Tool Changer																					
Number of tool position		16				16				16				16							
Type of tool shank		7/24 Taper BT-50				7/24 Taper BT-50				7/24 Taper BT-50				7/24 Taper BT-50							
Max. tool length of ATC	mm	400				400				400				400							
Max. tool weight	kg	50				50				50				50							
Max. loading weight of ATC	kg	800				800				800				800							
Time of tool change (tool to tool)	sec	60				60				60				60							
Controller (FANUC)																					
		0i-T				3i				0i-T				3i							
FANUC motor																					
Spindle motor	kW	60/75(α 60HVi)				37/45(α40HVi)x2 11/15(α12HVi)				60/75(α 60HVi)				37/45(α40HVi)x2 11/15(α12HVi)				100(α 100HVi)			
Live spindle motor	kW													60/75(α60HVi)x2 15/18(α15HVi)				100(α 100HVi)			
X-axis servo motor	kW	5.5(α40HVis)				5.5(α40HVis)				5.5(α40HVis)				5.5(α40HVis)				5.5(α40HVis)			
Z-axis servo motor	kW	5.5(α40HVis)				5.5(α40HVis)				5.5(α40HVis)				5.5(α40HVis)				5.5(α40HVis)			
Coolant pump	kW	3				3				3				3				3			
Power capacity	KVA	115				185				115				185				130			
Tank capacity																					
Hydraulic tank	L	130				130				130				130				130			
Coolant tank	L	2000				2500				2500				2500				2800			
Lubrication tank	L	4.6+8				4.6+8				4.6+8				4.6+8				4.6+8			
Machine dimension																					
Floor dimension	mm	11000X7000				12500X8500				12500X8500				13000X10500							
Machine height	mm	7400	8000	8600	7400	7400	8000	8600	7400	7400	8000	8600	7400	7800	8200	8600	7600				
Machine weight	kg	70000	80000	90000	75000	90000	100000	110000	90000	100000	110000	120000	105000	125000	135000	145000	130000				

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Optional



Tool presetter



Work piece probe



X/Z axis linear scales



Paper filter



Oil mist collector



Oil skimmer

Machine Specifications #2R Series

		VTL1600ATC-2R	VTL1800ATC+C-2R	VTL2000ATC-2R	VTL2000ATC+C-2R	VTL2500ATC-2R	VTL2500ATC+C-2R	VTL3000ATC-2R	VTL3000ATC+C-2R	VTL3500ATC-2R	VTL3500ATC+C-2R	VTL4000ATC-2R	VTL4000ATC+C-2R	VTL4500ATC-2R	VTL4500ATC+C-2R	
Capacity																
Table diameter	mm	Ø1600	Ø1600	Ø2000	Ø2000	Ø2500	Ø2500	Ø3000	Ø3000	Ø3500	Ø3500	Ø4000	Ø4000	Ø4500	Ø4500	
Max. swing diameter	mm	Ø2000	Ø2000	Ø2500	Ø2500	Ø3000	Ø3000	Ø3500	Ø3500	Ø4100	Ø4100	Ø4600	Ø4600	Ø5100	Ø5100	
Max. turning diameter	mm	Ø1800	Ø1800	Ø2300	Ø2300	Ø2800	Ø2800	Ø3400	Ø3400	Ø3800	Ø3800	Ø4300	Ø4300	Ø4800	Ø4800	
Max. turning height	mm	1200	1200	1600	1600	1600	1600	1700	1700	1700	1700	1600	1600	1600	1600	
Max. work-piece weight	kg	8000	8000	10000	10000	15000	15000	20000	20000	20000	20000	30000	30000	30000	30000	
Travel																
X-axis travel	mm	X2:250,-1015 / X1:377,1225		X2:-463,-887 / X1:-50,1350		X2:-463,-1137 / X1:-50,1600		X2:-700,-950 / X1:-50,1650		X2:-700,-1650 / X1:-50,2350		X2:-700,-1650 / X1:-50,2350		X2:-700,-1950 / X1:-50,2650		
Z-axis travel	mm	900	900	950	950	1200	1200	1500	1500	1500	1500	1500	1500	1500	1500	
Vertical travel of crossrail	mm	800	800	1150	1150	1150	1150	1200	1200	1200	1200	1200	1200	1000	1000	
Spindle (FANUC motor)																
Spindle speed	Low	RPM	1~60		1~45		1~35		1~40		1~40		1~14		1~14	
	High	RPM	60~250		45~180		35~140		40~120		40~120		14~60		14~60	
Live spindle speed	Low	RPM	1~1200		1~1200		1~1200		1~1200		1~1200		1~1200		1~1200	
	High	RPM	1200~2400		1200~2400		1200~2400		1200~2400		1200~2400		1200~2400		1200~2400	
Max. table torque	N·m(kgf·m)	40836(4167)		84422(8614)		105623(10778)		97689(9968)		97689(9968)		372593(38019)		372593(38019)		
Spindle (SIEMENS motor)																
Spindle speed	Low	RPM	1~60		1~45		1~35		1~40		1~40		1~14		1~14	
	High	RPM	60~250		45~180		35~140		40~120		40~120		14~60		14~60	
Live spindle speed	Low	RPM	1~1200		1~1200		1~1200		1~1200		1~1200		1~1200		1~1200	
	High	RPM	1200~2400		1200~2400		1200~2400		1200~2400		1200~2400		1200~2400		1200~2400	
Max. table torque	N·m(kgf·m)	35767(3650)		59066(6027)		83752(8546)		100659(10271)		100659(10271)		347579(35467)		347579(35467)		
Feed rate																
X-axis rapid traverse	m/min	12		10		10		6		6		6		6		
Z-axis rapid traverse	m/min	10		10		10		10		10		10		10		
Cutting feed rate	mm/min	1~2000		1~2000		1~2000		1~2000		1~2000		1~2000		1~2000		
Manual feed rate	m/min	0~6		0~6		0~6		0~6		0~6		0~6		0~6		
Automatic Tool Changer																
Number of tool position		12x2		16+12		12x2		16+12		16x2		16x2		16x2		
Type of tool shank		7/24 Taper BT-50		7/24 Taper BT-50		7/24 Taper BT-50		7/24 Taper BT-50		7/24 Taper BT-50		7/24 Taper BT-50		7/24 Taper BT-50		
Max. tool length of ATC	mm	380		380		380		400		400		400		400		
Max. tool weight	kg	50		50		50		50		50		50		50		
Max. loading weight of ATC	kg	600	800	600	800	600	800	800	800	800	800	800	800	800	800	
Time of tool change (tool to tool)	sec	40		50		50		60		60		60		60		
Controller (FANUC)		0i-T		0i-T		0i-T		31i		31i		31i		31i		
FANUC motor																
Spindle motor	kW	60/75 (α 60HVi)		100 (α 100HVi)		100 (α 100HVi)		60/75 (α 60HVi)x2		60/75 (α 60HVi)x2		100 (α 100HVi)x2		100 (α 100HVi)x2		
Live spindle motor	kW	7.5/11 (α 8HVi)		11/15 (α 12HVi)		11/15 (α 12HVi)		11/15 (α 12HVi)		11/15 (α 12HVi)		15/18 (α 15HVi)		15/18 (α 15HVi)		
X-axis servo motor	kW	5.5 (α 40HVis)x2		5.5 (α 40HVis)x2		5.5 (α 40HVis)x2		5.5 (α 40HVis)x2		5.5 (α 40HVis)x2		5.5 (α 40HVis)x2		5.5 (α 40HVis)x2		
Z-axis servo motor	kW	5.5 (α 40HVis)x2		5.5 (α 40HVis)x2		5.5 (α 40HVis)x2		5.5 (α 40HVis)x2		5.5 (α 40HVis)x2		5.5 (α 40HVis)x2		5.5 (α 40HVis)x2		
CF-axis servo motor	kW	5.5 (α 30HVis)		5.5 (α 40HVis)		5.5 (α 40HVis)		5.5 (α 40HVis)		5.5 (α 40HVis)		5.5 (α 40HVis)		5.5 (α 40HVis)		
Coolant pump	kW	3		3		3		3		3		3		3		
Power capacity	KVA	125	150	125	150	125	150	135	170	150	195	165	215	165	215	
Tank capacity																
Hydraulic tank	L	130+60		130+60		130+60		130+60		130+60		130+60		130+60		
Coolant tank	L	550		900		1100		2000		2500		2500		2800		
Lubrication tank	L	4.6		4.6		4.6		4.6+8		4.6+8		4.6+8		4.6+8		
Machine dimension																
Floor dimension	mm	5850X5000		6090X4660		7110X5080		11000X7000		12500X8500		12500X8500		13000X10500		
Machine height	mm	5300	5300	6450	6450	6550	6550	7400	7400	7400	7400	7400	7400	7800	7800	
Machine weight	kg	42000	42500	54000	55000	60500	61500	77000	82000	97000	102000	107000	112000	132000	137000	

※Specification is subject to change without prior notice

Optional



Coolant chiller



Machine monitoring system



Full enclosure guarding



Magnetic chuck



Grinding attachment



Transformer