

# >>>> Vertical Turning Turret Lathes



Superior Rigidity | Exceptional Precision

Series: 500H | 550H | 700H | 800H | 900 H | 1250H

## High Performance Vertical Turning Centers

Turret Series: 500 H | 550 H | 700 H | 800 H | 900 H | 1250 H

BFW developed State-of-the-art Vertical Turning Centers Platform to meet the requirement of heavy engineering industries i.e Oil & Gas, Earth Moving, Automobile and many other..

It's graded cast iron bed and column assures thermal stability & better accuracies.

Heavy duty spindle, high speed bi-directional hydraulic turret assures vibration free cutting.

Wide access to the chuck zone facilitates ease of loading and unloading of parts. VTL finds its wide application for manufacturing of bigger diameter heavy component like valve body, fly wheels, motor body, Break drum, disc brake etc...

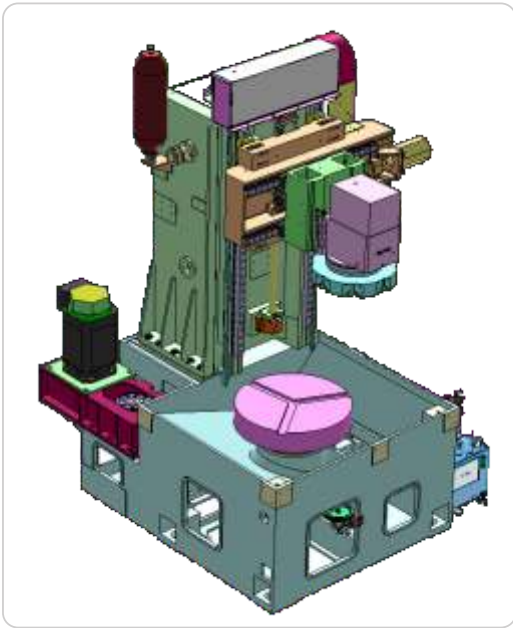
Rapid traverse rates upto 24 m/ min reduce cycle times. Linear motion guide-ways on X & Z axes ensures better positioning and repeatability.

Turret Type Turning Centers, Engineering philosophy is based on three strong pillars.

- ▶ Rigidity
- ▶ Higher Productivity
- ▶ Extensive Series Range

Model	Unit	BVL 500H	BVL 550H	BVL 700H	BVL 800H	BVL 900H	BVL 1250 H
Chuck size	mm	Ø 400	Ø 400	Ø 530	Ø 630	Ø 630	Ø 1250
Maximum turning dia x Height	mm	Ø 500 x 100	Ø 550 x 100	Ø 640 x 100	Ø 820 x 150	Ø 900 x 150	Ø 1250 x 150
Max swing dia	mm	Ø 650	Ø 650	Ø 800	Ø 1100	Ø 1100	Ø 1350
Std turning dia x Height	mm	Ø 400 x 500	Ø 450 x 700	Ø 600 x 700	Ø 600 x 850	Ø 800 x 830	Ø 800 x 835
X stroke	mm	300	320	395	475	505	675
Z stroke	mm	530	725	725	860	850	850
Spindle Nose	Type	A2-8	A2-8	A2-11	A2-11	A2-11	Straight Location Ø 610
Spindle power - Fanuc	kW	15/ 18.5	18.5/ 22	18.5/ 22	18.5/ 22	22/ 30	22/ 30
Spindle power - Siemens	kW	—	28	28	28/ 33.5	28/ 33.5	28/ 33.5
Max Component Size (A - Std turning diameter, B-Max Turning diameter, C- swing diameter, D- Max turning diameter height, E-Std Turning diameter height)	mm						

# Vertical Turning



## ◀ Rigid Machine Bed:

Rigid single piece machine bed made from graded cast iron, specially designed for hard-part turning application and extra ribbed construction allow heavy depth-of-cut with no vibration and increase the rigidity for large size of work piece.

## Rigid Saddle & Column:

Heavily ribbed X-axis moving on cross-saddle Z-axis moving with effective vibration dampening and least thermal distortion increase tool-life also with bigger-diameter components.



## ◀ Easy accessibility of job loading:

Heavy components to be easily loaded/ unloaded from wide-front-door entry as well as from the top of machine with the help of a crane.

## Ergonomic design:

90 deg tilting movement of operator panel helps for operator to view the machining area while operating

Operator platform for easy reach at machining area

Machine tower light for total confirmity.

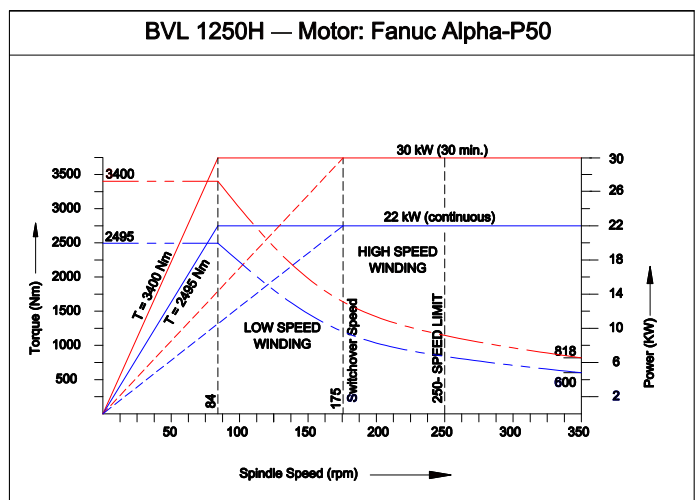
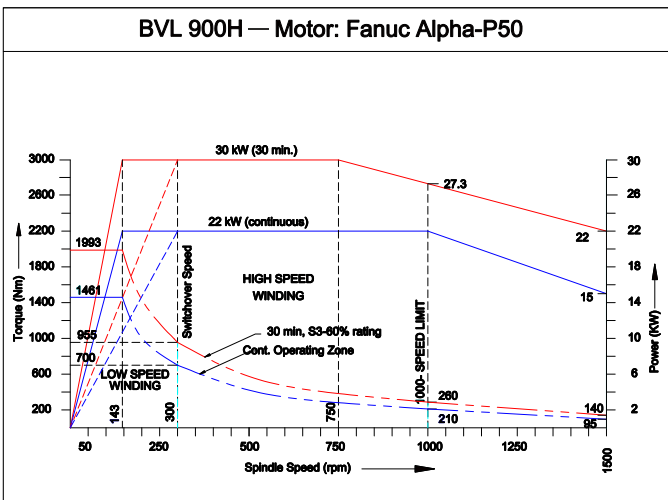
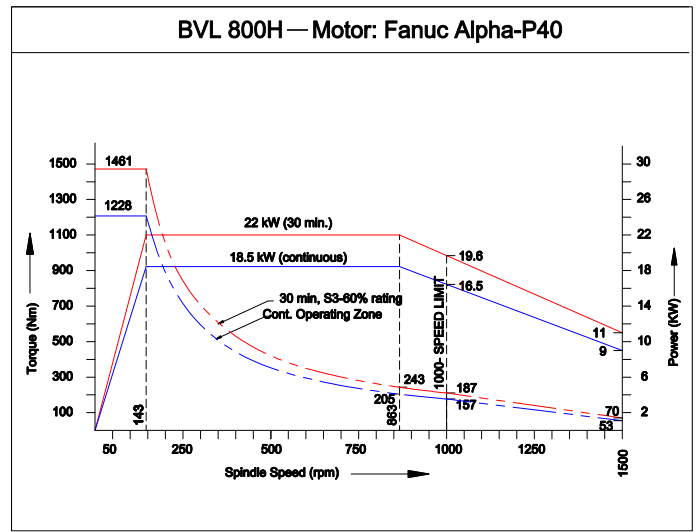
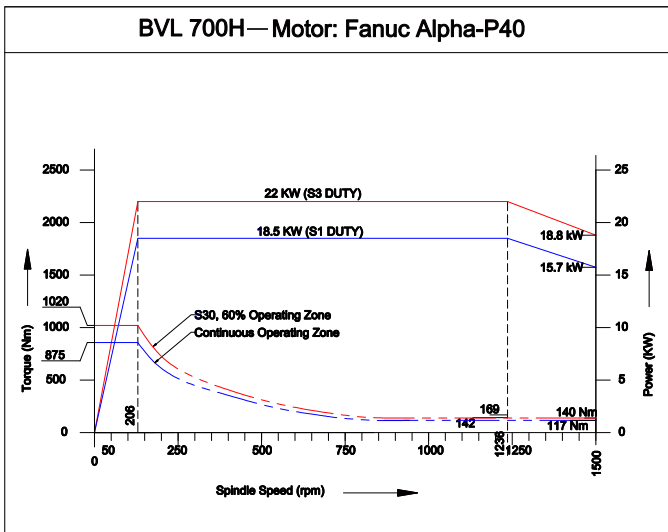
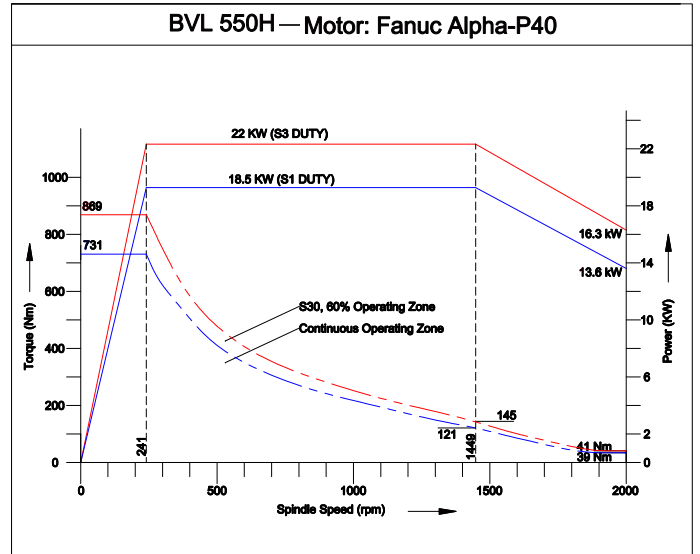
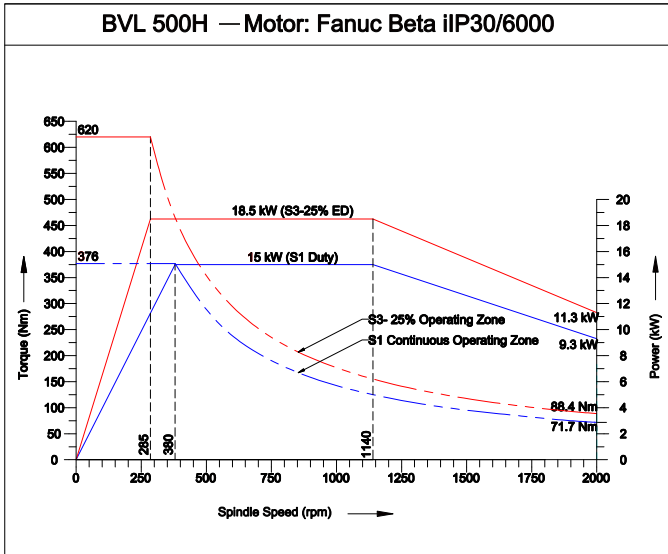


## ◀ Efficient chip disposal:

Gravity fall of chips with well designed bed slope with hollow center for effective chip evacuation

# Vertical Turning

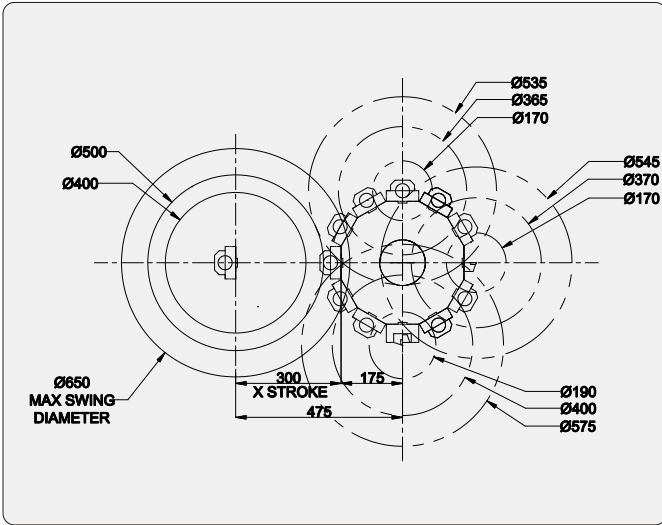
## Spindle Characteristics



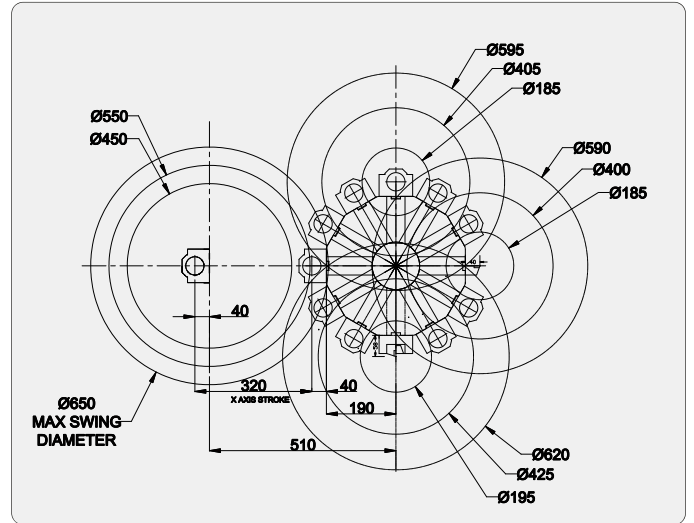
# Vertical Turning

## Interference Diagram

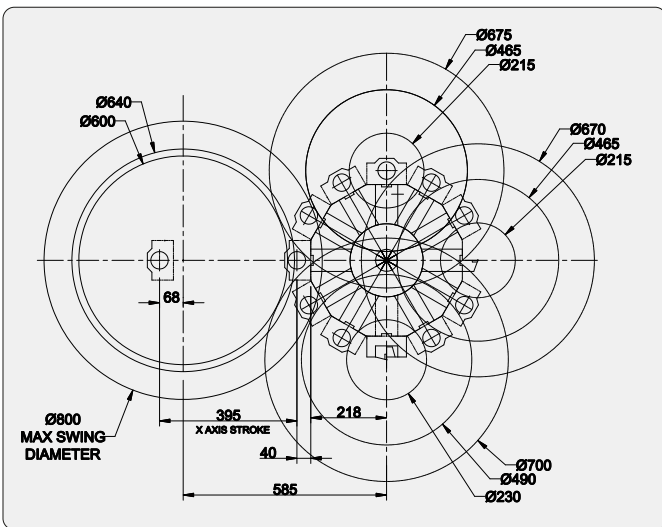
BVL 500H



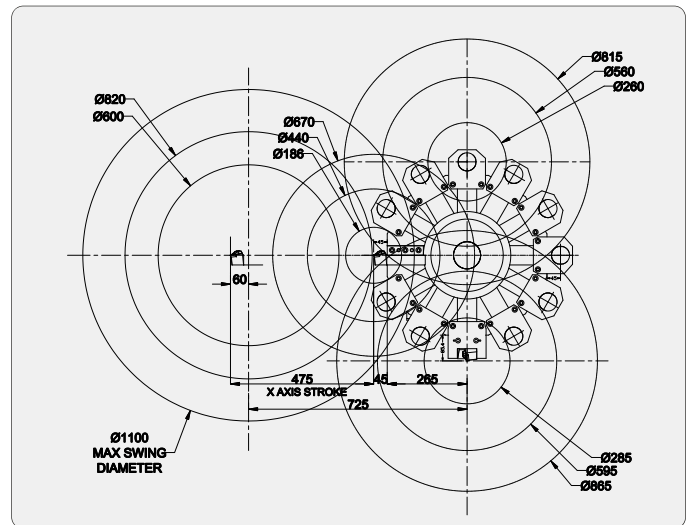
BVL 550H



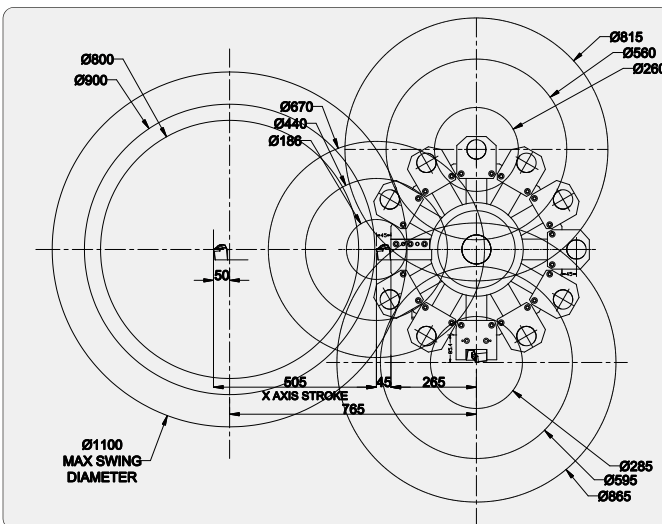
BVL 700H



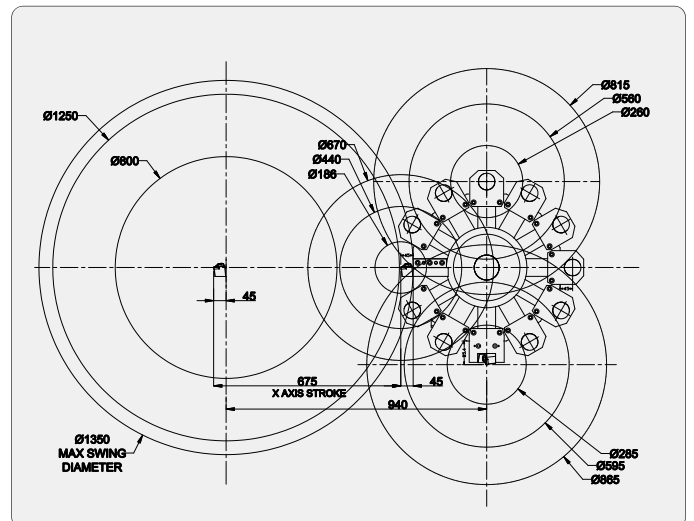
BVL 800H



BVL 900H



BVL 1250H



# Technical Specifications

	Specifications	Unit	BVL 500 H	BVL 550 H	BVL 700 H	BVL 800	BVL 900H	BVL 1250H
<b>Machine Capacity</b>	Max Swing Diameter	mm	650	650	800	1100	1100	1350
	Max Turning Diameter x height	mm	500 x 100	550 x 100	640 x 100	820 x 150	900 x 150	1250 x 150
	Standard Turning Diameter x height	mm	400 x 500	450 x 700	600 x 700	600 x 850	800 x 830	800 x 835
	Maximum Job weight including Fixture/ Chuck	kg	400	500	650	800	1500	2000
<b>Table Spindle</b>	Spindle Taper	type	A2-8	A2-8	A2-11	A2-11	A2-11	Straight locating Ø 610
	Front bearing diameter	mm	Ø 120	Ø 120	Ø 160	Ø 200	Ø 200	Ø 500, Ø300
	Spindle speed range (without chuck)	rpm	50-2000	50-2000	50-1500	50-1000	50-1000	10-250
<b>Table Spindle Drive</b>	Spindle Power, S1/ S3	kW	15/ 18.5	18.5/ 22	18.5/ 22	18.5/ 22	22/ 30	22/ 30
	Spindle Torque S1/ S3	Nm	376/ 620	731/ 869	875/ 1020	1228/ 1461	1461/ 1993	2495/ 3400
	Speed range for Spindle Constant Power	rpm	380-1140	241-1449	206-1236	143-863	143-1000	84-250
<b>Table Spindle Drive with Gear box (Optional)</b>	Spindle Power, S1/ S3	kW	NA	NA	18.5/ 22	18.5/ 22	18.5/ 22	37/ 45
	Spindle Torque S1/ S3	Nm	NA	NA	2181-2593	2181-2593	2181-2593	6741-8209
	Speed range for Spindle Constant Power	rpm	NA	NA	81-1000	81-1000	81-1000	52-200/ 200-250
<b>Axes Drive</b>	Traverse X/ Z	mm	300/ 530	320/ 725	395/ 725	475/ 860	505/ 850	675/ 850
	Rapid Traverse rate	m/ mm	24	24	24	20	20	16
<b>Accuracies As Per ISO 230 -2</b>	Positional Accuracy	mm	0.012	0.012	0.012	0.015	0.015	0.020
	Repeatability	mm	0.008	0.008	0.008	0.010	0.010	0.014
<b>Turret (Hydraulic)</b>	Turret Number of station	No.	12	12	12	12	12	12
	Tool shank	mm	25	25	32	32	32	32
	BTH Diameter	mm	40	50	50	60	60	60
	IFTD with boring bars in adjacent pockets	mm	170	185	215	260	260	260
	IFTD with boring bars at 60 deg pocket No tool in adjacent pockets	mm	365	405	465	560	560	560
<b>Chuck &amp; Cylinder</b>	Chuck size (inch serration)	mm	Ø 400 x 3 jaw	Ø 400 x 3 jaw	Ø 500 x 3 jaw	Ø 630 x 3 jaw	Ø 630 x 3 jaw (800)	Ø 1250 x 4 box jaw
	Cylinder size	mm	160	160	160	200	200	250
<b>Hydraulic Power pack</b>	Operating Pressure range	Bar	40	40	40	40	40	40
	Pump flow	LPM	24	24	24	24	24	24
<b>Coolant System</b>	Tank Capacity	Ltr	300	300	300	300	300	500
<b>Installation Data</b>	Floor space (W x D)	mm	2000 x 3150	2200 x 3150	2200 x 3150	2500 x 3500	2650 x 3600	5100 x 3600
	Machine Height	mm	3000	3150	3150	3500	3600	3600
	Basic Machine Weight	kg	6500	7000	8000	9500	12500	15000
	Total Connected Load	kVA	35	50	50	50	50	50

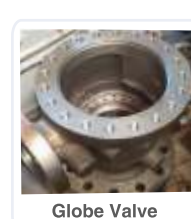
# Vertical Turning

## Features

Features	BVL 500H	BVL 550H	BVL 700H	BVL 800H	BVL 900H	BVL 1250H
CNC System - Fanuc 0i TF with 10.4" Colour Monitor	S	S	S	S	S	S
Heavy Duty Roller LM Guide-ways on X & Z axes	S	S	S	S	S	S
Directly coupled Axes Motors	S	S	S	S	S	S
12 Station Bi-directional Hydraulic Turret	S	S	S	S	S	S
Hydraulic counter balance for carriage slide	S(Electronic)	S	S	S	S	S
Hydraulic Power pack with Float level switch	S	S	S	S	S	S
Automatic Centralized Oil Lubrication System	S	S	S	S	S	S
Std Coolant System for Cutting and Bed Flushing, Oil Skimmer	S	S	S	S	S	S
Totally enclosed machine guard	S	S	S	S	S	S
A. C. Unit for electrical Cabinet: (Panel mounted type)	S	S	S	S	S	S
Foot switch for Chuck Clamp & De-clamp	S	S	S	S	S	S
Machine Lamp & 3-tier Lamp	S	S	S	S	S	S
Safety door interlock (Limit switch type)	S	S	S	S	S	S
Electronic hand wheel (MPG)	S	S	S	S	S	S
<b>Essential Accessories</b>						
Hydraulic Chucks (Inch serration)	O	O	O	O	O	O
Faceplate	NA	NA	NA	O	O	O
Voltage stabilizer	O	O	O	O	O	O
Slat type chip conveyor with Chip Bin	O	O	O	O	O	O
Scraper type Chip Conveyor with Chip Bin	O	O	O	O	O	O
<b>Optional Accessories</b>						
Two speed Gearbox	NA	NA	O	O	O	O
Metric Serration Chuck	O	O	O	O	O	O
High/ low dual clamping circuit for Hydraulic	O	O	O	O	O	O
High pressure through coolant system - 4 Bar at 20 LPM	O	O	O	O	O	O
Additional Boring tool Holder with Through coolant facility	O	O	O	O	O	O
Additional Axial tool holder	O	O	O	O	O	O
Extra set of Boring bar sleeves	O	O	O	O	O	O
Extra set of Taper Shank Sleeves	O	O	O	O	O	O
Extra set of Soft Jaws	O	O	O	O	O	O
Extra set of Hard Jaws	O	O	O	O	O	O
Air Gun	O	O	O	O	O	O
Coolant Gun	O	O	O	O	O	O
Auto Main Door - Pneumatic	O	O	O	O	O	O
Auto Main Door - Servo	O	O	O	O	O	O
CNC System - Siemens 828D with 10.4" Color Monitor	O	O	O	O	O	O
Standard machine packing	O	O	O	O	O	O
PCMCIA card	O	O	O	O	O	O
Industry 4.0 IRIS	O	O	O	O	O	O

S for Standard; O for Optional; NA for Not Applicable.

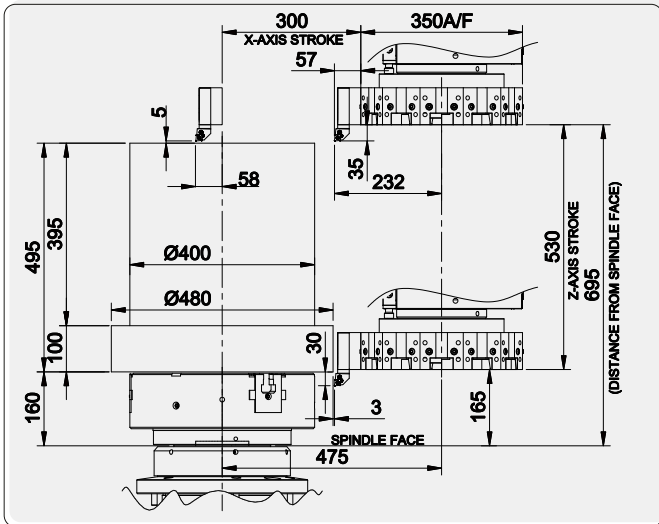
## Applications



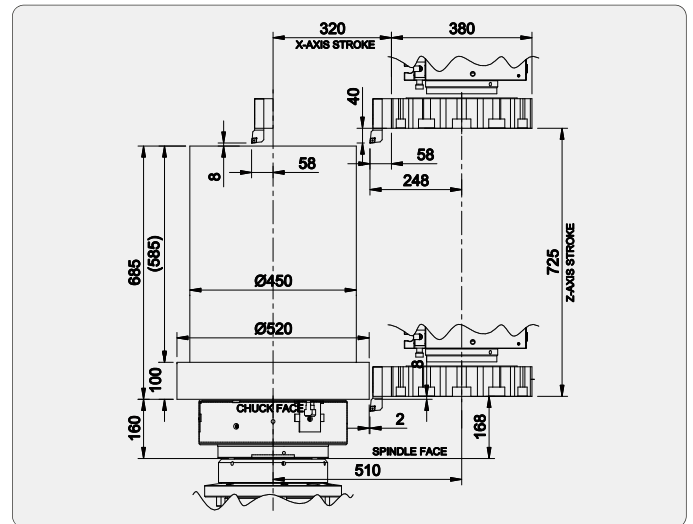
# Vertical Turning

## Moving Range Diagram - Axial Tool Holder

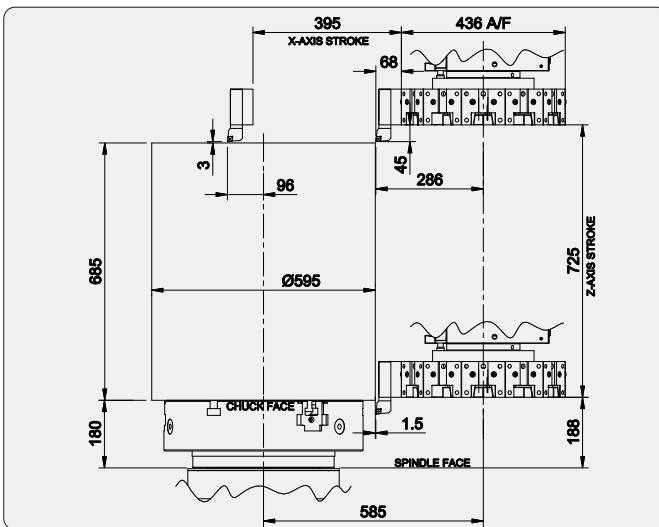
BVL 500H



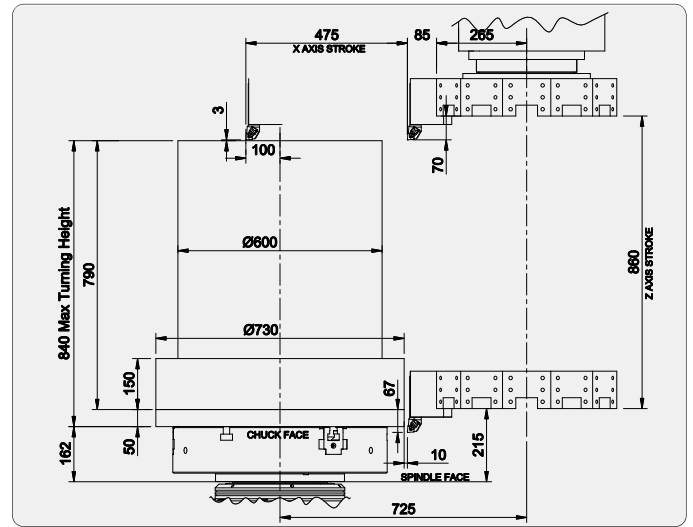
BVL 550H



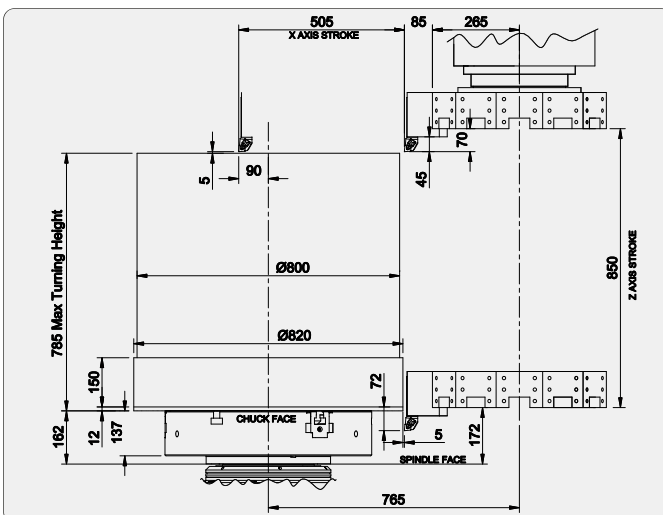
BVL 700H



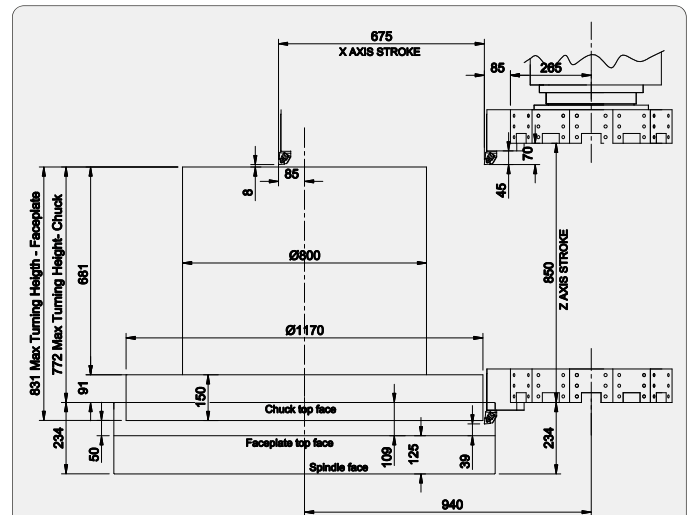
BVL 800H



BVL 900H



BVL 1250H

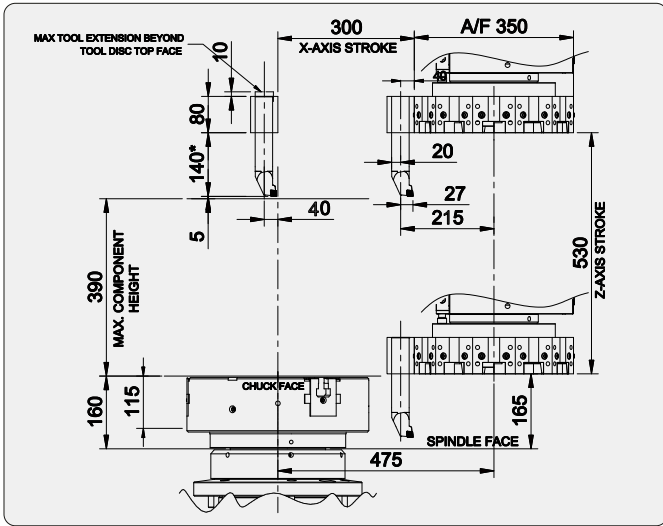




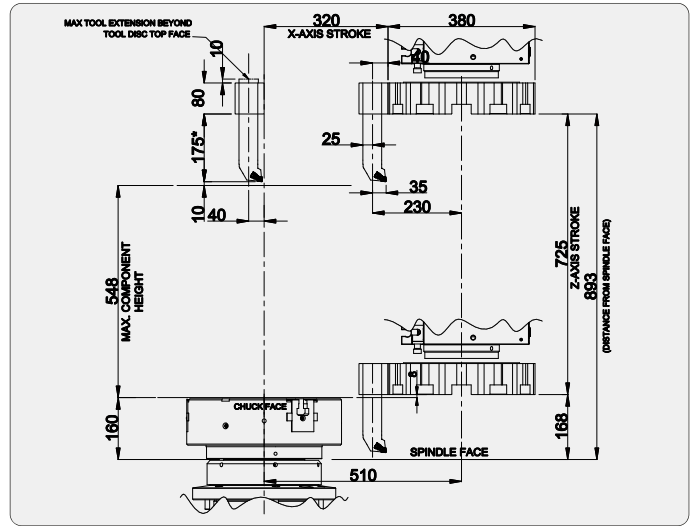
# Vertical Turning

## Moving Range Diagram - Boring Tool Holder

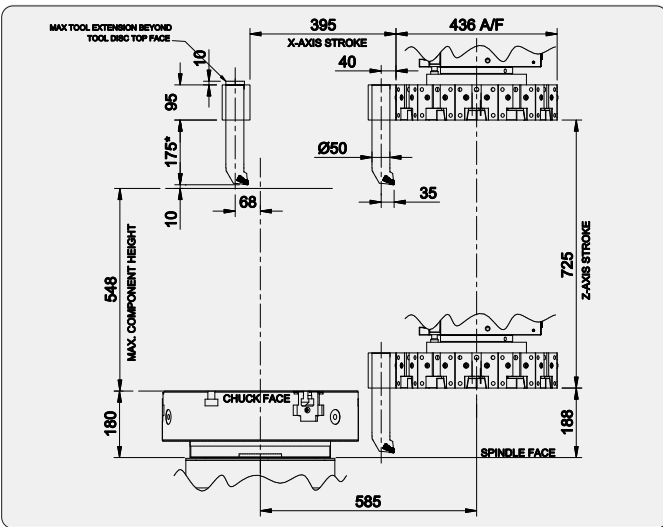
BVL 500H



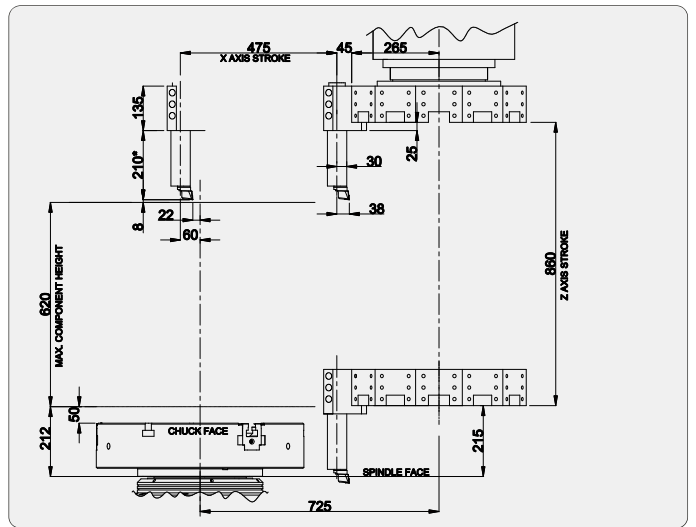
BVL 550H



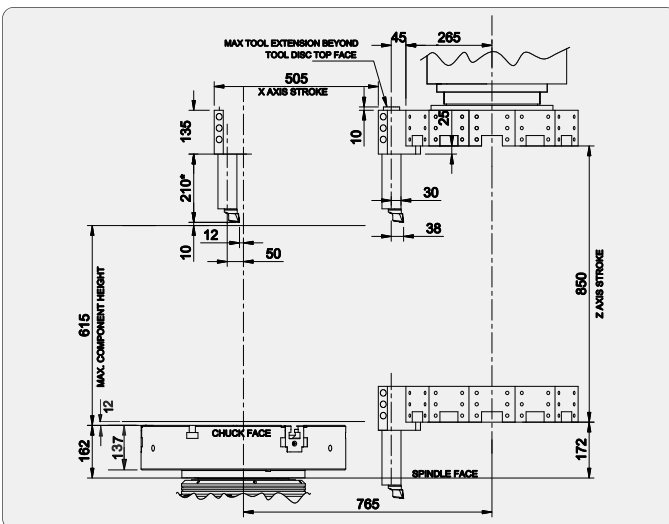
BVL 700H



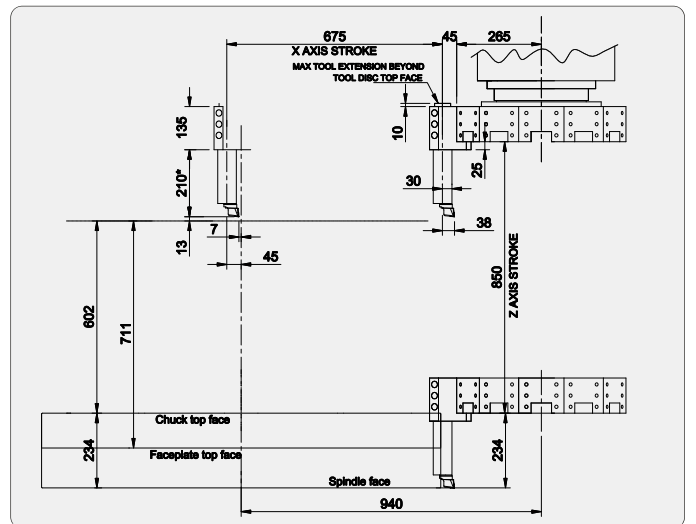
BVL 800H



BVL 900H



BVL 1250H

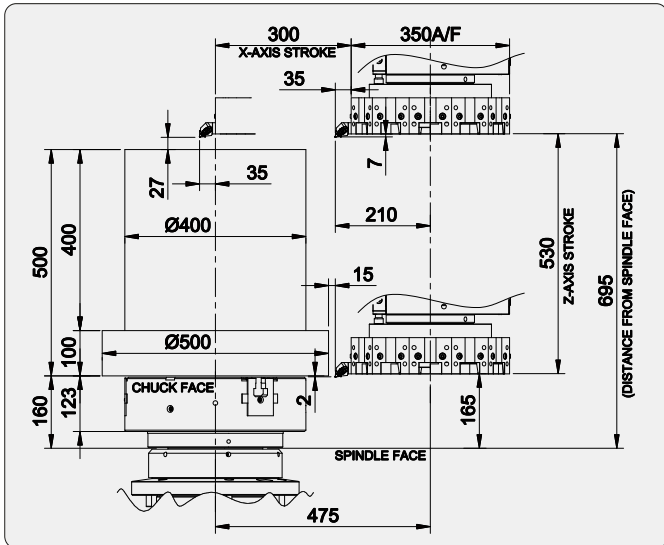


\* Maximum tool overhang

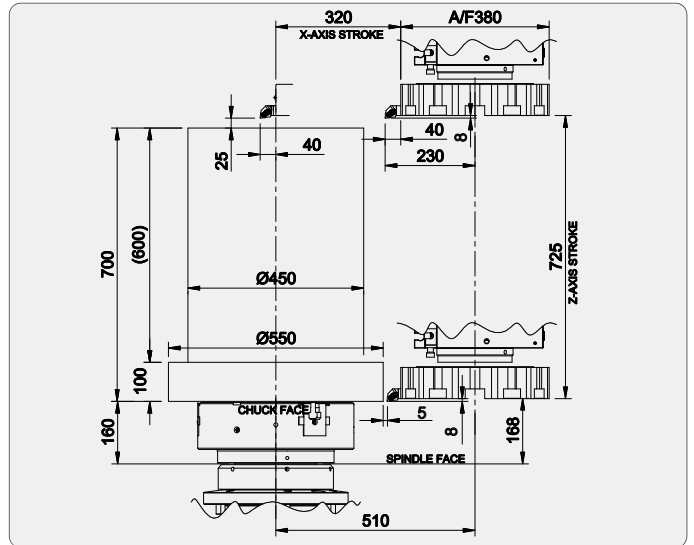
# Vertical Turning

## Moving Range Diagram - Radial Tool

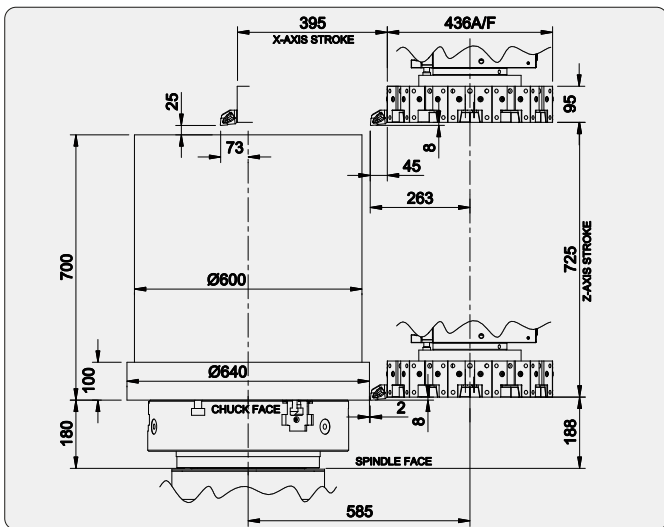
BVL 500H



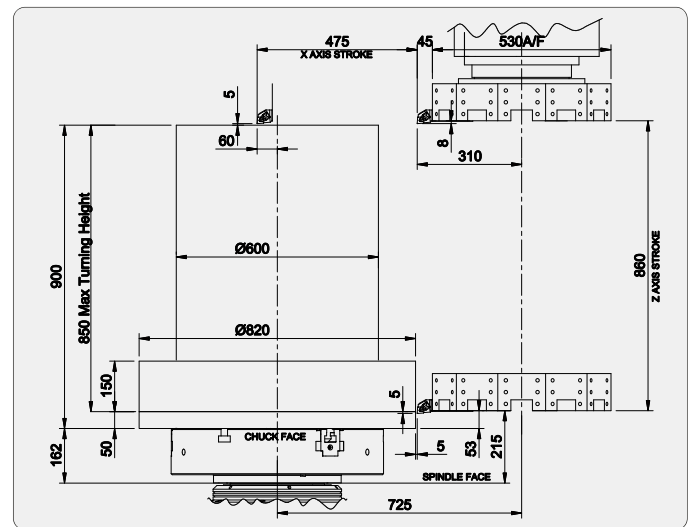
BVL 550H



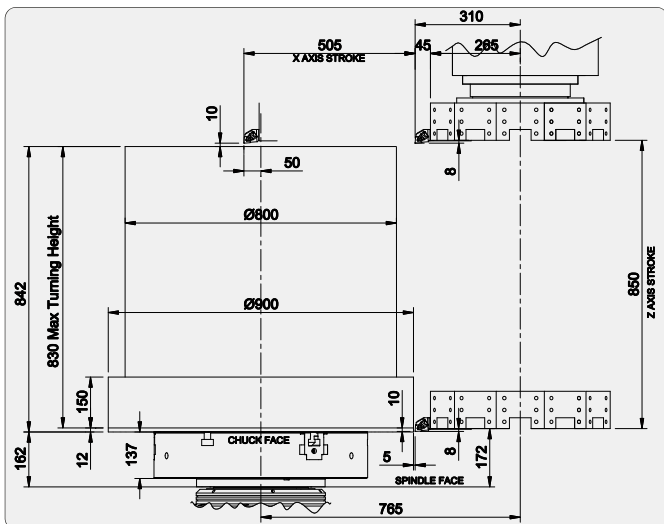
BVL 700H



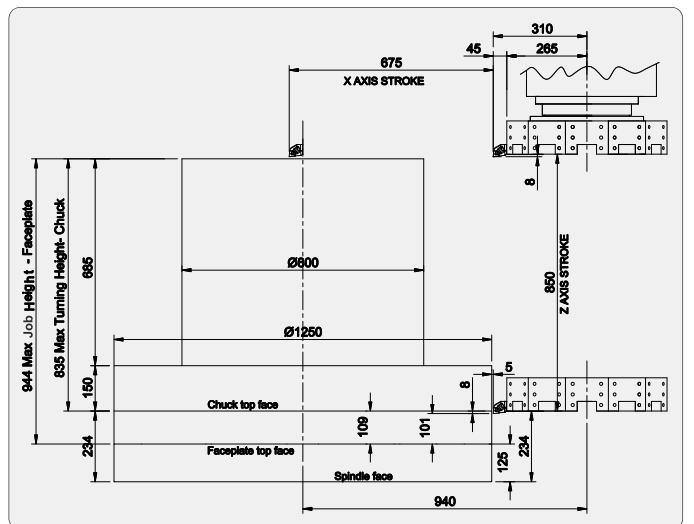
BVL 800H



BVL 900H



BVL 1250H



# Vertical Turning

## CNC Features

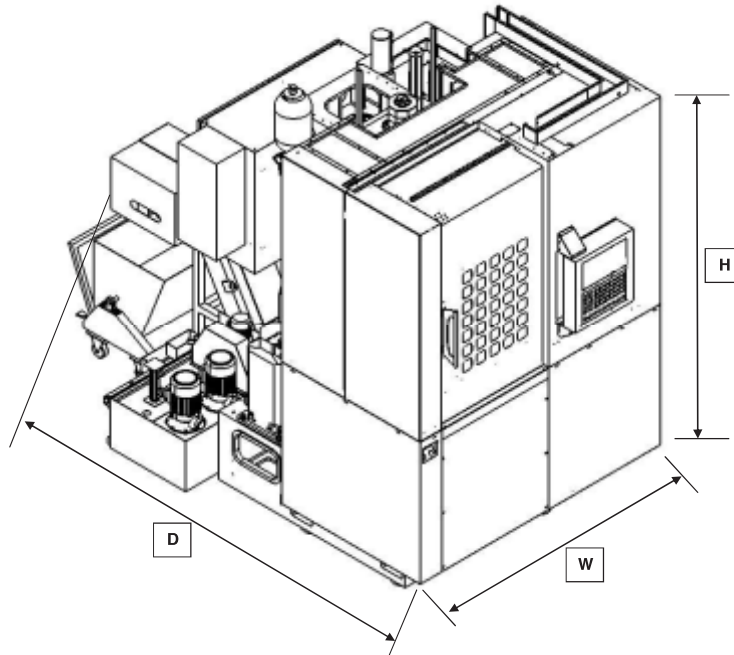
	Fanuc 0i-TF Plus	828D Basic T (Option)	Mitsubishi-M80
Display & Keyboard	10.4" Colour LCD	10.4" Colour TFT with full QWERTY	10.4" colour LCD touch
Max feed axes	3	3	3
Simultaneously controllable axes	3	3	3
Minimum input increment	0.001 mm	0.001mm	0.001mm
Spindle speed function	4-Digit S Code	4-Digit S Code	4-Digit S Code
Spindle speed override	50 % ~ 120% (In steps of 10 %)	50 % ~ 120% (In steps of 10 %)	50 % ~ 120% (In steps of 10 %)
Feed override	0 ~ 120 % (In steps of 10 %)	0 ~ 120 % (In steps of 10 %)	0 ~ 120 % (In steps of 10 %)
Feed rate command	4-Digit F Code	4-Digit F Code	4-Digit F Code
Inch/ mm conversion	Yes	Fes	Yes
Part program storage length	2 MB	3 MB	500 KB
Number of Part Programs	1000	750	1000
Sub Program call	10 Levels	11 Levels	10 Levels
Number of tool offsets	128	250	200
Program number / Sequence number search	Yes	Search with TEXT is STD, with line, block number, Interrupt etc is option	Yes
Single block	Yes	Yes	Yes
Optional stop	Yes	Yes	Yes
Dry run	Yes	Yes	Yes
PCMCIA memory CARD	Option	Option with CF CARD	Yes with SD Card
DNC operations	Yes with PCMCIA Card	Yes with CF Card	Yes with SD Card
Run hour & part count	Yes	Yes	Yes
Online Help function	Yes	Yes	Yes
Graphic display	Yes	Yes	Yes
Embedded Ethernet	Yes	Yes for diagnosis and service (Option for part program execution/ DNC)	Yes
Front USB Interface	Yes	Yes	Yes
Fast Ethernet/ Data Server	Option	Option	Yes
Remote diagnosis	Yes	Yes (Option)	Yes
High speed skip (Probe function)	Option	Option	Yes
Dynamic graphic display	Option	Option	Yes
Animated Cycle support	Option with Manual Guide 0i	Yes with ISO Program guide	Yes with ISO
Manual Guide i	Option	Shopturn is Option	with NAVI LATHE
3D Simulation & Real time simulation	Option (Dynamic Graphics)	Option	Yes
Machine Maintenance planner	Yes (Periodic maintenance)	Yes	Yes (Custom Screen)
2D Simulation	Yes	Yes	Yes
Tool Life Management	Option	Option	NA
Energy Monitoring Function	Yes	Yes - Control Energy	Yes
Operation History function	Yes	Alarm History	Yes
8 level data protection with password	Yes (4 level standard 8 level option)	Yes (Lower 4 level by PLC, Upper 3 by password)	Yes 8 level standard
Min block cycle time	0.9 Milli Seconds	6/ 3 Milli Seconds	0.6 Milli seconds
Max no of tools cutting edges	128	128/ 256	400
Max no of settable zero offsets	5	50	54

## CNC Functions

Linear Interpolation	Yes	Polar co-ordinate	Yes
Circular Interpolation	Yes	Rigid Tapping	Yes
Cylindrical Interpolation	○	Rigid Tapping Retraction	○
Absolute/ Incremental Programing	○	Look ahead Function	○
Canned Cycle	Yes	Program no search	Yes
Work piece co-ordinate system	Yes	Sequence no search	Yes
Background editing	Yes	Program Restart/ Block Search	Yes
Backlash compensation (Uni Directional)	Yes		

# Vertical Turning

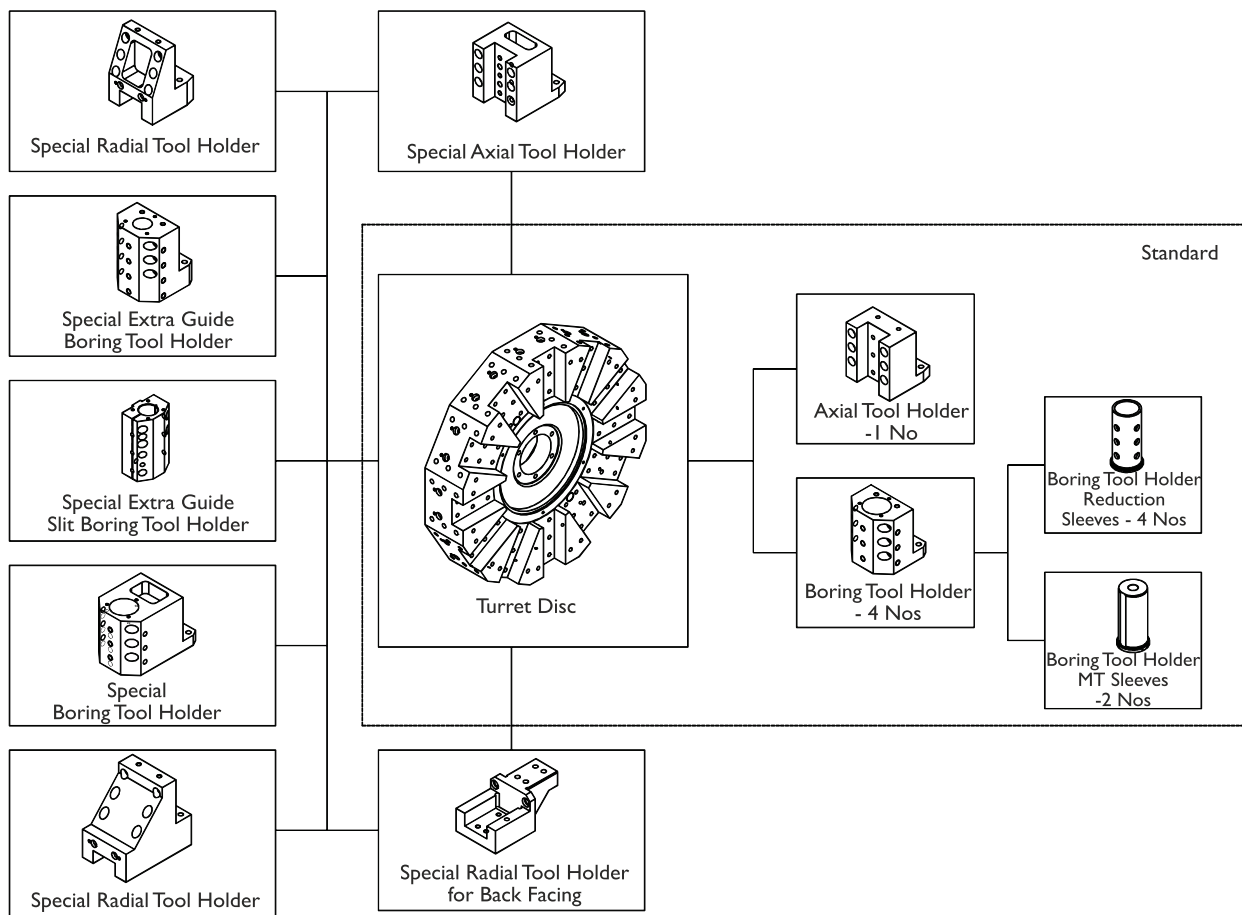
## Machine Dimensions



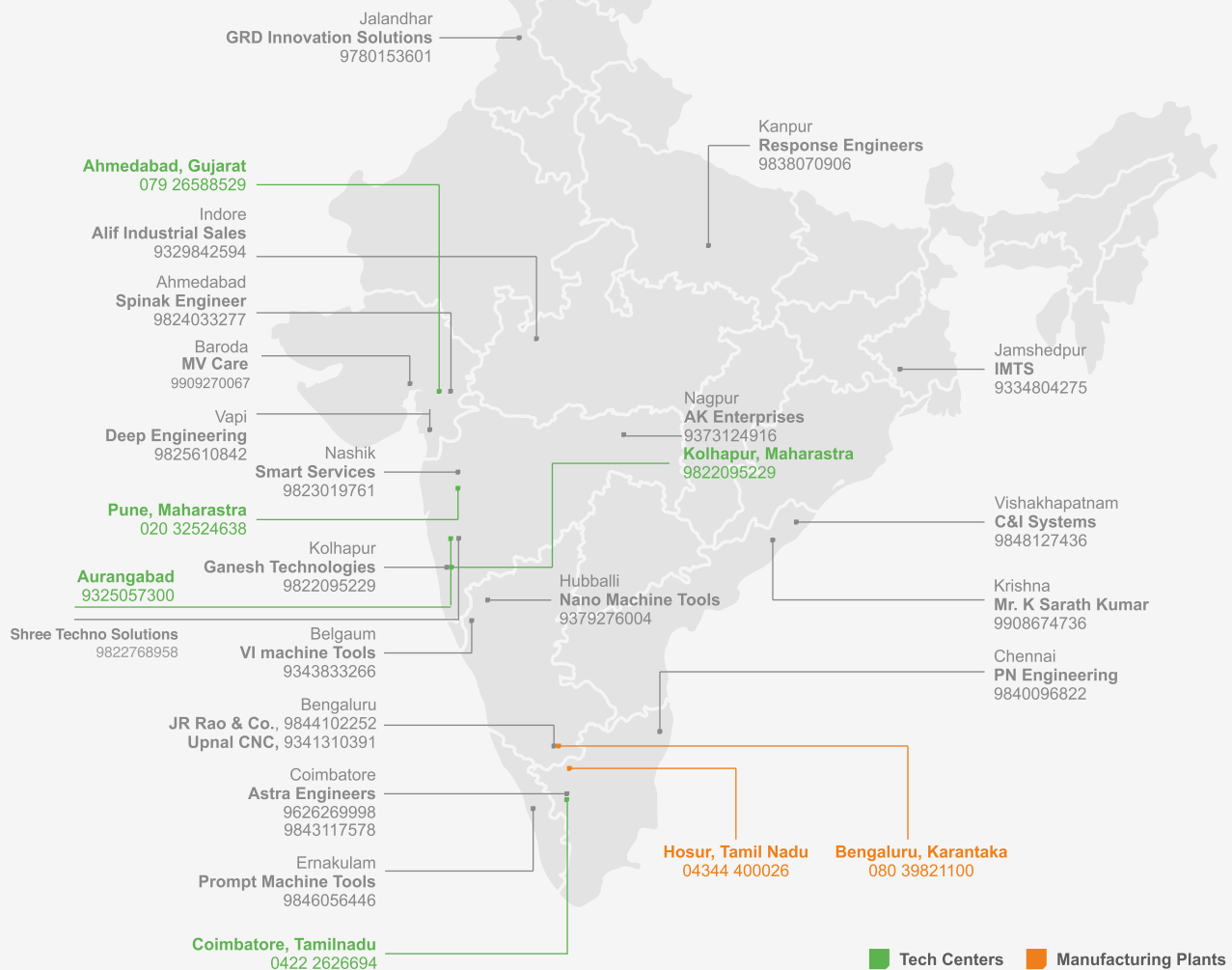
Model	BVL 500H	BVL 550H	BVL 700H	BVL 800H	BVL 900H	BVL 1250 H
Width (W)	2000	2200	2200	2500	2650	5100
Depth(D)	3150#	3150#	3150#	3500#	3600#	3600#
Height (H)	3000	3150	3150	3500	3600	3600

# Dimension is for machine with coolant and chip tray

## Tooling System (Images of 800, 900 & 1250H)



# Network



## International Network

- Bangladesh • Bahrain • China • France • Germany • Iran • Kuwait • Netherlands • Oman • Poland
- Qatar • Russia • Saudi Arabia • Sri Lanka • South Africa • Thailand • Turkey • UAE



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