

Vertical Turning

Vertical Turning Centers

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



End-to-end Range of Vertical Turning Centers - Turret Type

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BFW
Bharat Fritz Werner

Vertical Turning

High Performance Vertical Turning Centers

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

To meet the requirement of heavy engineering industries such as Oil & Gas, Earth Moving, Automobile and Construction etc. BFW has developed state-of-art Vertical Turning center series. 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 machining of bigger diameter heavy component like valve body, fly wheels, motor body, break drum, disc brake etc.

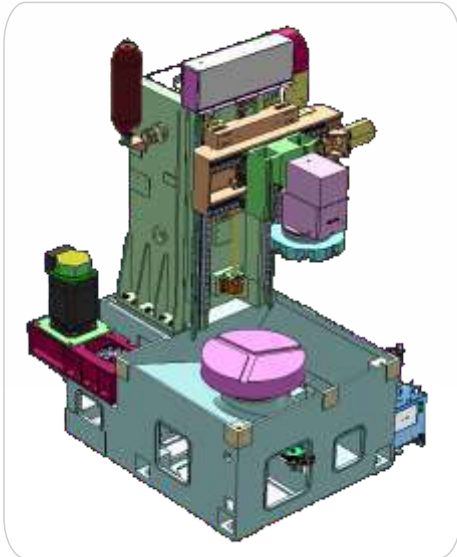
Rapid traverse rates of 20 m/min reduce cycle times. Linear motion guide-ways on X & Z axes ensures better positioning and repeatability.

“Turret Type VTL’s” 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	400	400	530	630	630 (800)	1250
Maximum turning dia (for length)	mm	500 (100)	550 (100)	640 (100)	820 (150)	900 (150)	1250 (150)
Max swing dia	mm	650	650	800	1100	1100	1350
Std turning dia	mm	400	450	600	600	800	800
X stroke	mm	300	320	395	475	505	675
Z stroke	mm	530	530	725	860	850	850
Spindle nose	mm	A2-8	A2-8	A2-11	A2-11	A2-11	Ø 590 H7
Spindle power - Fanuc	mm	15/ 18.5	18.5/ 22	18.5/ 22	18.5/ 22	18.5/ 22	22/ 30
Spindle power - Siemens	kW	-	22/ 264	28/ 33.6	28/ 33.5	28/ 33.5	28/ 33.5
Job swing Dia x Ht.							

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 virtually 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 top of the 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 conformity



◀ Efficient chip disposal:

Gravity fall of chips with well designed bed slope with hollow centre for effective chip evocation



◀ Turn-mill Version: (Optional)

Turn-mill options available with 12 station servo driven live tool turret on VTL to avoid multiple setup and increase the productivity. Each turret movement is controlled by high torque servo motors for various applications like PCD drilling, tapping and OD & ID profiles with radial and axial live tools.

BVL 800 H

Technical Specification



Standard Features / Basic Machine

- ▶ Rigid cast structure for machine base, column & carriage
- ▶ Fanuc Oi-TF CNC system, spindle motor & servo drives
- ▶ A2-11 nose cartridge spindle system with combination of roller bearings and Axial angular contact thrust bearing & Oil lubrication
- ▶ 12 station bi-directional Hydraulic turret
- ▶ Hydraulic counterbalance for carriage/ Z axis
- ▶ High-low/ dual pressure circuit for hydraulic chuck
- ▶ Centralised oil lubrication system for LM guide & ball screws
- ▶ Std coolant system for bed flushing & cutting with tank, chip try & pumps
- ▶ Coolant gun
- ▶ AC unit for Electrical cabinet
- ▶ Oriented spindle stop (M19 command)
- ▶ Mobile manual pulse generator (MPG)
- ▶ 3 tier lamp & machine lamp
- ▶ Totally enclosed machine guards
- ▶ Mounting pads with leveling screws
- ▶ Maintenance tool kit consisting of Allen keys, spanners & screw drivers
- ▶ One set of machine manual

Essential Accessories

- ▶ Ø 700 mm face plate with 4nos. Jaw box assembly (without hydraulic power pack for machine)
- ▶ Ø 530 x 3 jaw, power operated, wedge type, closed center chuck
- ▶ Ø 630 x 3 jaw, power operated, wedge type, closed center chuck
- ▶ Voltage stabilizer - 50 kVA
- ▶ Slat type chip conveyor with bin-in-lieu of std coolant system
- ▶ Scraper conveyor (for cast iron & aluminium chips)
- ▶ Machine packing

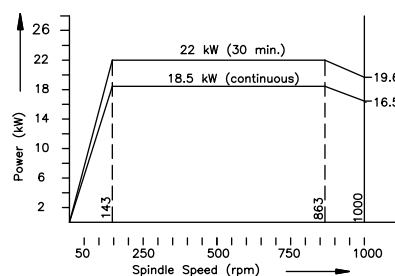
Optional Accessories

- ▶ High speed spindle: 50-1200 rpm. (option for Ø 530 chuck only) in-lieu of std spindle
- ▶ High power spindle 22/ 30 kW (not applicable with two speed gear box)
- ▶ Extra one set of soft jaws (for hydraulic chuck)
- ▶ Extra set of 1 number axial tool holder & 1 number boring tool holder
- ▶ Air gun
- ▶ High column (+220 mm) for higher daylight area in lieu of std column

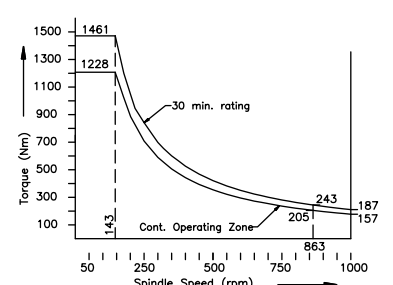
Specifications	Unit	BVL 800 H
Machine capacity		
Max swing diameter	mm	1100
Max turning diameter	mm	820 (for 150 mm long)
Max turning dia over carriage	mm	600 (for 850 mm long)
Max turning length	mm	850
Max boring length	mm	Depends on job height*
Table spindle		
Std chuck size	mm	630
Spindle nose	type	A2-11
Front bearing inner diameter	mm	190 -tapered roller bearing
Spindle motor power	KW	18.5/ 22(22/30)
Max torque on spindle	Nm	1228 / 1461 (1461/1993)
Spindle speed range	rpm	50 - 1000
Constant power range	rpm	143 - 863 (143 - 1000)
Table spindle - with 2 speed gear box (option)		
Max torque on spindle	Nm	2181 / 2593
Constant power range	rpm	81 - 1000
X axis		
Guide-ways	type	LM Guide-ways
Stroke (horizontal travel)	mm	475
Rapid traverse rate (max)	m/ min	20
Z axis		
Guide-ways	type/	LM guide ways
Stroke (Vertical Travel)	mm	860
Rapid traverse rate (Max)	m/min	20
Turret - 12 station Hydraulic		
No of stations	Nos	12
Max boring bar dia.	mm	60
OD turning tool size	mm	32 x 32
Accuracies as per ISO 230 - 2		
Positioning accuracy for X & Z axis	mm	0.012
Repeatability for X & Z axis	mm	0.008
Tank capacity		
Hydraulic tank	L	32
Coolant tank	L	350
Lubrication tank for slides	L	3
Lubrication tank table bearings	L	20
CNC system		Fanuc oi-TF
Miscellaneous		
Machine dimensions (W x D x H)	mm	2500 W x 3950 D x 3605 H
Power requirement	KVA	50
Machine weight (Aprox)	kg	9500

Spindle Characteristics

POWER-SPEED DIAGRAM



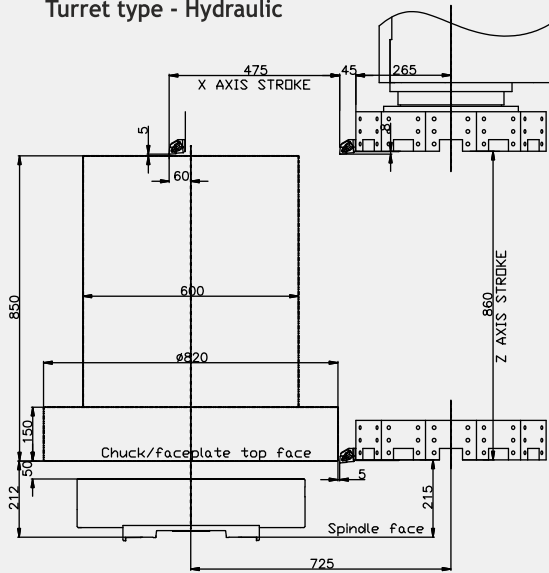
TORQUE-SPEED DIAGRAM



BVL 800 H

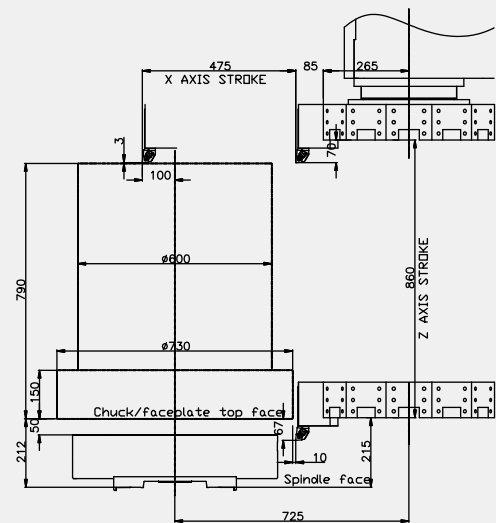
Moving Range Diagram - Tool Type (Radial)

No of stations - 12
Shank size - 32 x 32
Turret type - Hydraulic



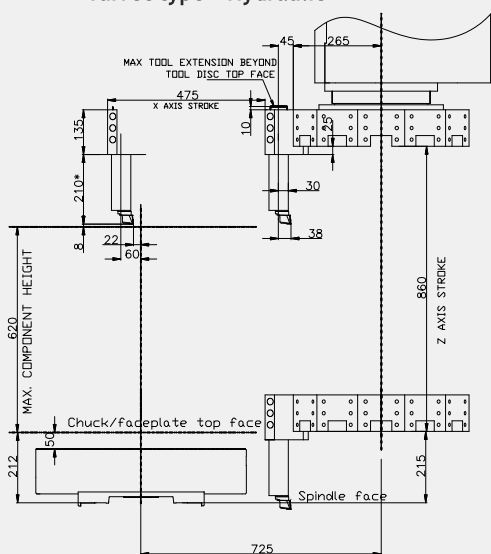
Moving Range Diagram - Tool Type (Axial)

No of stations - 12
Shank size - 32 x 32
Turret type - Hydraulic



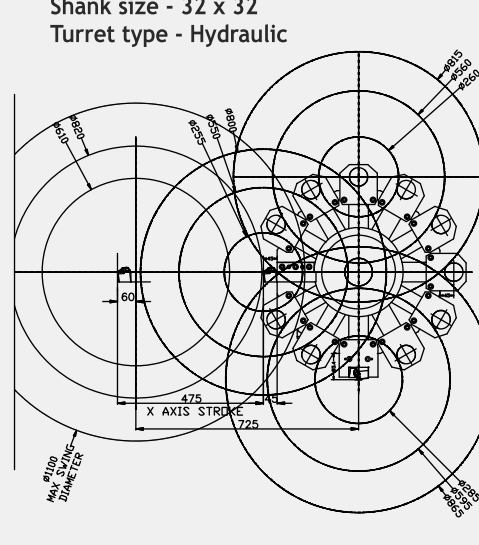
Moving Range Diagram - Tool Type (Boring)

No of stations - 12
Boring bar size - Ø 60
Turret type - Hydraulic



Interference Diagram

No of stations - 12
Boring bar size - Ø 60
Shank size - 32 x 32
Turret type - Hydraulic



Applications

Many more..

Flywheel Housing



Axle Box Housing



Rotary-Valve-body



Associates in India

Ahmedabad : Spinak Engineering , 9824033277
 Bengaluru: JR Rao & Co, 9844102252
 Bengaluru: Upnal CNC, 9341310391
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 Coimbatore: Astra Engineers, 9626269998
 Ernakulam: Prompt Machine Tools, 9846056446
 Hubballi: Nano Machine Tools, 9379276004
 Indore: Alif Industrial Sales, 9329842594
 Jalandhar: GRD Innovation Solutions, 9780153601

Jamshedpur: IMTS, 9334804275
 Kanpur: Response Engineers, 9838070906
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 Krishna: Mr K Sarath Kumar, 9908674736
 Nagpur: AK Enterprises, 9373124916
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 Vishakhapatnam: C& I Systems, 9848127436
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