

VX Series

**High performances
Vertical machining centre**



Powerful, Rapid, Accurate High Performance Vertical Machining Centre

The VX range of vertical machining centres have been specially developed to meet customers requirements in accuracy and reliability. This range offers a high comfort in use and ensure an excellent profitability.

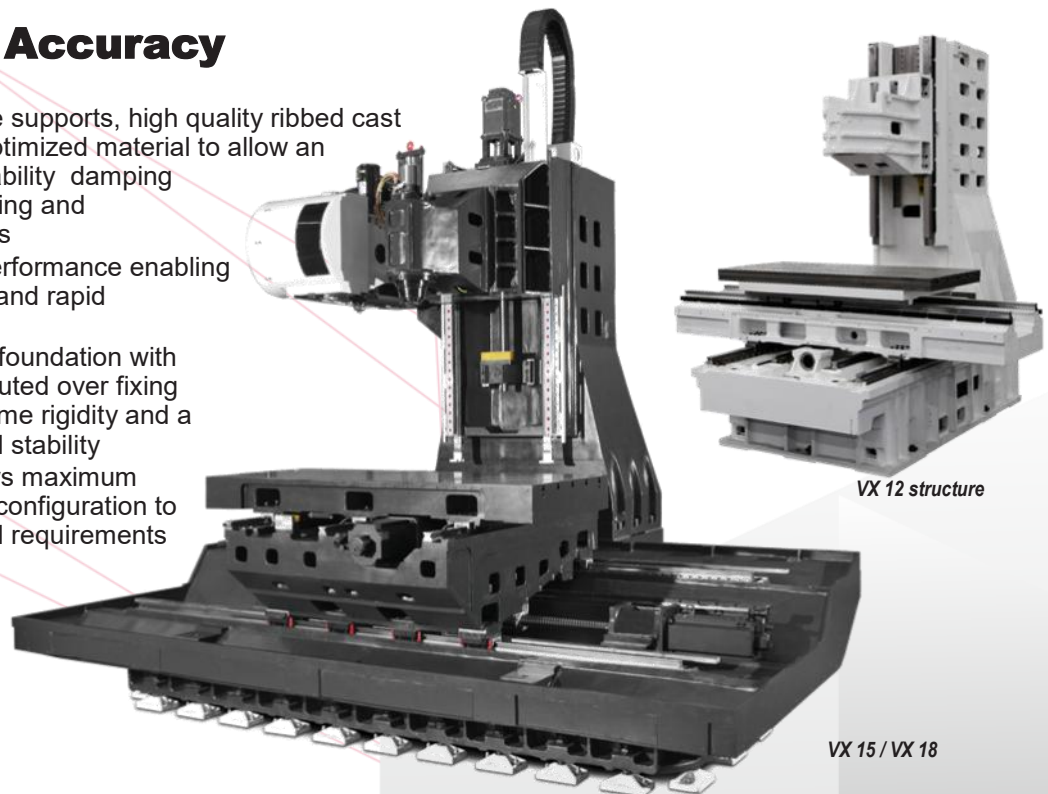
Fast and evidenced return on investment.

Compact, Ergonomic, Powerful and Accurate, the VX is the ideal investment for milling, drilling, boring and tapping in sectors like tooling and production in small and medium series.

- 3 axes machining for workpiece up to 2.500 kg
- Hard material machining in a minimal time
- High chip removal capacity
- Very high accuracy in contouring and profiles

Rigidity and Accuracy

- C frame structure
- Architecture with side supports, high quality ribbed cast-iron structure and optimized material to allow an optimum dynamic stability damping vibration to cater cutting and acceleration demands
- Excellent dynamic performance enabling changes in direction and rapid accelerations
- Machine secured on foundation with weight equally distributed over fixing points enabling extreme rigidity and a very high geometrical stability
- Modular design allows maximum flexibility in machine configuration to adapt to the technical requirements of customer
- Electrical cabinet protected IP54



VX 12 structure

VX 15 / VX 18



Spindle

- Driven by an asynchronous AC spindle motor.
- Equipped with ceramic roller bearings to ensure temperature stability
- The rotary shaft is of large dimensions to absorb cutting stress.
- Versatility and performance of machining operations : milling, boring, threading, tapping
- Allows any roughing operation thanks to the high torque as well as the finishing operations thanks to its rotation speed
- High chip removal capacity thanks to machine rigidity and to a high torque spindle

Numerical Controller

- Up to 5 axes drive
- Ergonomic design, colour screen and full alphanumeric keypad
- Integrated and easy accessible connections and communication interfaces
- Very high capacity of memory and calculation
- Interactive programming
- Graphic simulation before machining for optimal safety

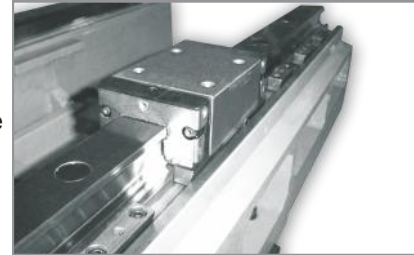
Environment - Ergonomics

- Chip evacuation channel with washing system
- Machine full guarding ensuring safety of the machine, the operator and environment
- Very large accessibility to the table and the work piece
- Tilting operator panel from 0° to 90° for a perfect visibility during machining



Linear Axes

- Moving guide rails
- Direct drive axes
- Linear guide rails with lubricated recirculating roller bearings
- **VX 8** : 2 linear guide rails on Y axis and 2 slides on each guide rail on X axis
- **VX 11 / 12 / VX 13** : 4 linear guide rails on Y axis, and 3 slides on each guide rail on X axis
- **VX 15 - VX 18** : 3 linear guide rails on Y axis, and 4 slides on each guide rail on X axis
- Slide rails and ballscrews are protected by telescopic protectors
- Ballscrews with preloaded bearings to remove inversion backlash and increase axes rigidity.
- Automatic grease lubrication of ballscrews and sliding guides



A standard tool ready to produce

- 10.000 rpm spindle with ceramic roller bearings
- ISO 40 taper and set of pull studs ISO 40 - DIN 69872
- Tool changer 40 housings
- Coolant through nozzles, 2 bar, 40 l/min
- Preparation for coolant through tool centre
- Centralized lubrication of linear axes
- Air blast through nozzles
- Chips conveyor
- Portable handwheel
- Air-conditioned electrical cabinet
- Washing gun
- Trolley tank
- First fill-up oil
- 12 months warranty
- Installation

To increase productivity, additional options are available such as linear scales, 20 bar coolant, part and tool probes...

Standard spindle - 10.000 rpm

Belt driven

Taper ISO 40 (BT 40 as option)

	NC Siemens	NC Heidenhain	NC Fanuc VX 8 / 11 / 12 / 13
	BRO301	BRO311	BRO320
Spindle speed	100 - 10.000 rpm	100 - 10.000 rpm	50 - 10.000 rpm
Power (S6/S1)	14,3 / 11 kW	14 / 10 kW	11 / 7,5 kW
Torque (S6/S1)	68 / 53 Nm	89 / 64 Nm	70 / 36 Nm
Characteristic speed	2.000 rpm	1.500 rpm	1.500 rpm



Alternatives with gear box

The spindle with gear box is belt driven. It is particularly suited for heavy roughing operations thanks to its high torque, and finishing operations thanks to its rotation speed.

8.000 rpm, with gear box / Belt driven - VX 11 / 12 / 13 / 15 / 18

Taper ISO 40	NC Siemens / BRO210		NC Heidenhain / BRO211	
	Speed 1	Speed 2	Speed 1	Speed 2
Spindle speed	100 - 8.000 rpm	100 - 2.000 rpm	100 - 8.000 rpm	100 - 2.000 rpm
Power (S6/S1)	14,3 / 11 kW	14,3 / 11 kW	14 / 10 kW	14 / 10 kW
Torque (S6/S1)	68 / 53 Nm	272 / 212 Nm	89 / 64 Nm	356 Nm / 256 Nm
Characteristic speed	2.000 rpm	500 rpm	1.750 rpm	375 rpm

6.000 rpm, with gear box / Belt driven - VX 15 / 18

Includes 40 pockets tool changer, heavy duty roughing!

Taper ISO 50	NC Siemens / BRO112		NC Heidenhain / BRO114	
	Speed 1	Speed 2	Speed 1	Speed 2
Spindle speed	100 - 6.000 rpm	100 - 2.000 rpm	100 - 6.000 rpm	100 - 1.500 rpm
Power (S6/S1)	18 / 12 kW	18 / 12 kW	25 / 15 kW	25 / 15 kW
Torque (S6/S1)	120 / 85 Nm	680 / 460 Nm	159,2 / 95,5 Nm	636 Nm / 382 Nm
Characteristic speed	1.501 rpm	250 rpm	1.500 rpm	375 rpm

Other alternatives

6.000 rpm / Belt driven - VX 15 / 18

Includes 40 pockets tool changer, heavy duty roughing!

Taper ISO 50	NC Siemens / BRO111	NC Heidenhain / BRO113
Power (S6/S1)	18 / 12 kW	25 / 15 kW
Torque (S6/S1)	170 / 115 Nm	159,2 / 95,5 Nm
Characteristic speed	1.000 rpm	1.500 rpm

12.000 rpm / Electrospindle - VX 8 / 11 / 12 / 13 / 15 / 18

Taper ISO 40	BRO3504
Power (S6/S1)	11,5 / 10,5 kW
Torque (S6/S1)	110 / 100 Nm
Characteristic speed	1.000 rpm

15.000 rpm / Electrospindle

VX 8 / 11 / 12 / 13

VX 15 / 18

Taper ISO/BT 40 - HSK 63A	BRO366/67	BRO380 / 381
Power (S6/S1)	15 / 15 kW	23,6 / 23,6 kW
Torque (S6/S1)	110 / 84 Nm	110 / 84 Nm
Characteristic speed	1.700 rpm	2.680 rpm

18.000 rpm / Electrospindle

VX 8 / 11 / 12 / 13

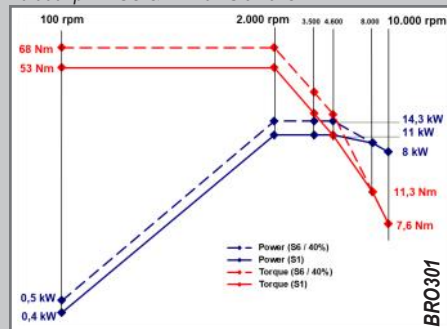
VX 15 / 18

Taper HSK 63A	BRO407	BRO408
Power (S6/S1)	15 / 15 kW	26,7 / 26,7 kW
Torque (S6/S1)	110 / 84 Nm	110 / 84 Nm
Characteristic speed	1.700 rpm	3.040 rpm

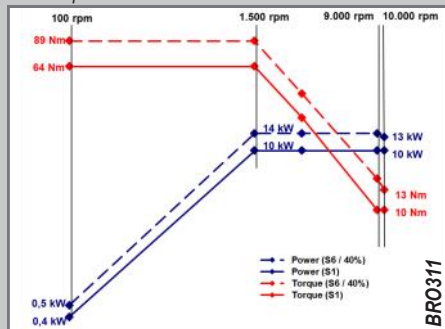


Standard spindle diagrams

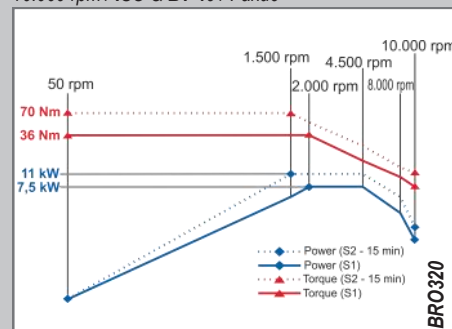
10.000 rpm / ISO & BT 40 / Siemens



10.000 rpm / ISO & BT 40 / Heidenhain

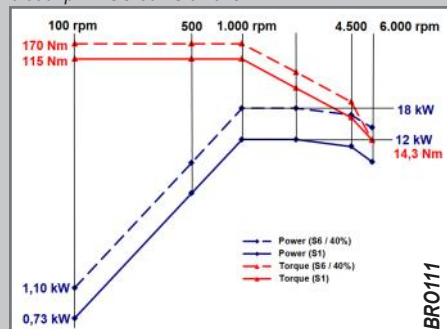


10.000 rpm / ISO & BT 40 / Fanuc

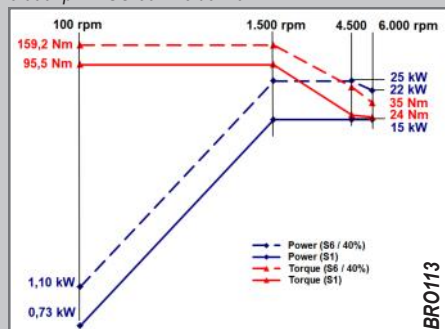


Spindle diagrams, other alternatives

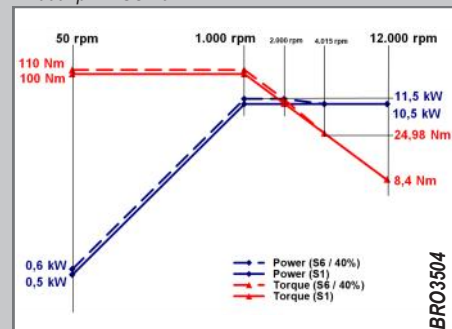
6.000 rpm / ISO 50 / Siemens



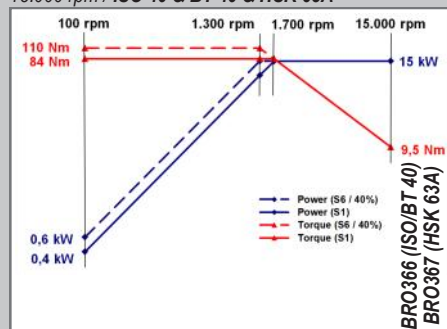
6.000 rpm / ISO 50 / Heidenhain



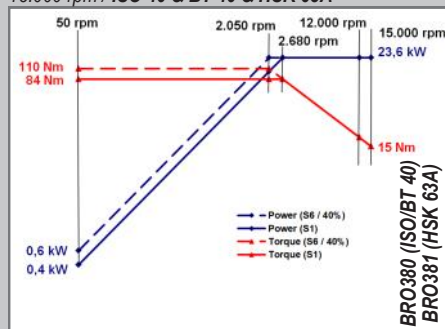
12.000 rpm / ISO 40



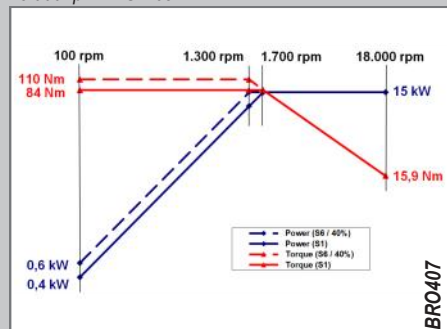
15.000 rpm / ISO 40 & BT 40 & HSK 63A



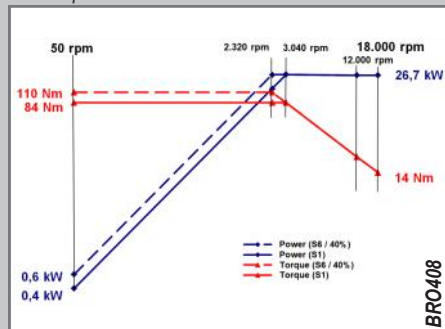
15.000 rpm / ISO 40 & BT 40 & HSK 63A



18.000 rpm / HSK 63A



18.000 rpm / HSK 63A



Standard table

			VX 8	VX 11	VX 12	VX 13	VX 15	VX 18
Travels	X	mm	820	1.020	1.220	1.300	1.510	1.810
	Y	mm	510	600	600	700	810	810
	Z	mm	510	610	610	710	810	810
Table dimensions		mm	1.000 x 530	1.200 x 630	1.400 x 630	1.500 x 700	1.700 x 810	2.000 x 810
Min/max distance Spindle nose / table surface		mm	150 / 660	150 / 760	150 / 760	150 / 850	150 / 960	150 / 960
Admissible load		kg	500	1.200	1.200	1.200	2.000	2.500
Number of T slots			4	5	5	5	5	5
Distance between T slots		mm	100	125	125	125	125	125
Width of slots		mm	18	18	18	18	18	18

Tool changer

The automatic loading/unloading of the tools is made vertically

	VX 8 / VX 11 / VX 12 / VX 13	VX 15 / VX 18
Type	Chain, with twin arm	
Number of pockets	40	
Taper	ISO 40 / BT 40	
Tool dimensions (adjacent / not adjacent)	Ø = 80 / 150 mm	Ø = 76 / 150 mm
	Length = 250 mm	Length = 300 mm
	Weight = 7 kg / Admissible weight in magazine = 160 kg	
Tool changing time : tool/tool - chip/chip	2,4 - 7 sec	

Tool changer alternatives

	VX 8 / 11 / 12 / 13 / 15 / 18
Type	Chain, with twin arm
Number of pockets	40
Taper	HSK 63-A
Tool dimensions (adjacent / not adjacent)	Ø = 76 mm
	Length = VX 8 / 11 / 12 / 13 = 250 mm
	Length = VX 15 / 18 = 300 mm
	Weight = 7 kg
Admissible weight in magazine = 160 kg	
Tool changing time : tool/tool - chip/chip	2,4 - 7 sec

Tool changer, heavy duty roughing

Combined with the **6.000 rpm** spindle (with or without gearbox), and intended for heavy roughing.

	VX 15 / 18
Type	Chain, with twin arm
Number of pockets	40
Taper	ISO 50
Tool dimensions (adjacent / not adjacent)	Ø = 127 / 254 mm
	Length = 350 mm
	Weight = 15 kg
Tool changing time : tool/tool - chip/chip	6 - 15 sec



Technical Features

Linear axes X / Y / Z		VX 8	VX 11	VX 12	VX 13	VX 15	VX 18
X travel	mm	820	1.020	1.220	1.300	1.510	1.810
Y travel	mm	510	600	600	700	810	810
Z travel	mm	510	610	610	700	810	810
Rapid feedrate	m/min	24	24	24	20	20	20
Acceleration per axis	m/s²	2,5	2,5	2,5	2,5	2,5	2,5
Table		VX 8	VX 11	VX 12	VX 13	VX 15	VX 18
Dimension	mm	1.000 x 530	1.200 x 630	1.400 x 630	1.500 x 700	1.700 x 810	2.000 x 810
Admissible load	kg	500	1.200	1.200	1.200	2.000	2.500
Slots		4 - 100 H18	5 - 125 H18	5 - 125 H18	5 - 125 H18	5 - 125 H18	5 - 125 H18
Spindle		NC Siemens		NC Heidenhain		NC Fanuc	
Rotation speed	rpm			10.000			
Taper				ISO 40			
Power - Torque	kW - Nm	14,3 - 68		14 - 89		11 - 70	
Characteristic speed	rpm	2.000		1.500		1.500	
Accuracies (VDI DGQ 3441)		VX 8 / 11 / 12 / 13				VX 15 / 18	
- Uncertainty : P		X - Y - Z = 15 µ				X - Y - Z = 15 µ	
- Repeatability: Ps medium		X - Y - Z = 3 µ				X - Y - Z = 3 µ	
		with linear scales (option)					
- Uncertainty : P		X - Y - Z = 10 µ					
- Repeatability: Ps medium		X - Y - Z = 3 µ					
Tool changer		VX 8 / 11 / 12 / 13				VX 15 / 18	
Number of pockets		40				40	
Taper		ISO 40				ISO 40	
Tool dimensions :							
Length - Ø - Weight	mm - kg	250 - 80 - 7				300 - 76 - 7	
Coolant		VX 8 / 11 / 12 / 13				VX 15 / 18	
Flow - Pressure	l/min - bar	50 - 1,5				50 - 2	
Tank	litres	125				125	
Over-all measurements (Doors opened + conveyor)		VX 8	VX 11	VX 12	VX 13	VX 15	VX 18
Width	mm	4.390	5.070	5.070	5.230	6.467	6.680
Depth	mm	4.300	2.750	3.610	3.168	4.600	4.582
Height	mm	2.900	3.200	3.210	3.470	4.000	4.000
Weight of the machine	kg	6.000	8.300	8.500	9.000	16.000	16.500

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