



TO INTRO VULCAN

Welcome to the Vulcan Range of machine tools from the Engineering Technology Group (ETG).

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ETG always strives to offer innovative turnkey solutions to the manufacturing industry. Through our offering, our clients' needs have always been catered to, but we always strive to offer more. We are proud to introduce you to the Vulcan range of machining centres, offering exceptional quality at an affordable price.



CNC
MILLING

WHY 'VULCAN'?

The name 'Vulcan' has been chosen by ETG for its in-house produced machine tool range due to its regional engineering significance.

To one side of our Wellesbourne HQ is Wellesbourne Airfield, the resting place of the RAF Vulcan Bomber, XM655. To the other is Aston Martin Lagonda, the facility responsible for the production of the Vulcan hypercar, boasting its 7 litre V12, with more than 800 bhp. The Vulcan name represents the driving force we have instilled into our machines.

QUALITY AND RELIABILITY

Courtesy of ETG's Vulcan range, those looking for outstanding quality, reliability, precision and performance at an affordable price are able to select from a range of industry-leading solutions, all delivered by the leading turnkey solutions provider.

PERFORMANCE AND PRECISION

ETG employs a roster of dedicated Vulcan staff, permanently based at the production facility. This allows us to directly impart our industrial knowledge and produce a machine tool range which delivers performance and precision to incredible degrees.



**CNC
DOUBLE COLUMN**



**CNC
TURNING**



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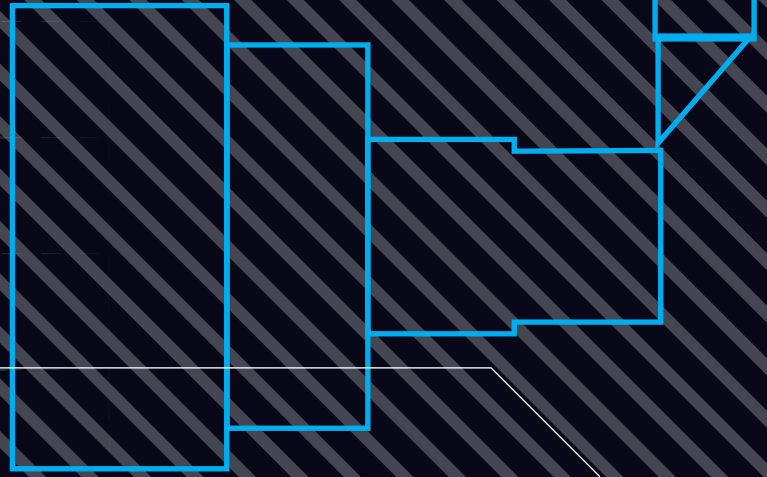
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INTRO TO TURNING MACHINES TC-SERIES

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HIGH PRECISION CNC LATHES

- + The design concept behind the Vulcan TC Series was to create a machine that enhanced both speed and accuracy.
- + Featuring a single spindle and turret, the 45-degree slant bed construction allows for high levels of rigidity and stability. The X and Z axes are mounted with the option of either ball-type linear or boxway guideways.
- + Axis movement is directly driven by a servo motor, which allows for rapid traverse rates on the X and Z axes, reaching 30 m/min.
- + Each machine in the TC Series is equipped with a high-precision, high-speed spindle, enabling for outstanding machining performance.



TC 200 (M) (L)

SWING OVER BED:

Ø460 mm

MAX. TURNING DIAMETER:

Ø280 mm

WORKING LENGTH:

455 / 690 mm (L)



TC 250 (M) (L)

SWING OVER BED:

Ø600 mm

MAX. TURNING DIAMETER:

Ø316 mm

WORKING LENGTH:

435 / 1290 mm (L)



TC 300 (M) (L)

SWING OVER BED:

Ø630 mm

MAX. TURNING DIAMETER:

Ø450 mm

WORKING LENGTH:

700 / 1300 mm (L)



TC 380 (M) (L)

SWING OVER BED:

Ø850 mm

MAX. TURNING DIAMETER:

Ø710 mm

WORKING LENGTH:

760 / 3040 mm (L)



TC 450 (M) (L)

SWING OVER BED:

Ø970 mm

MAX. TURNING DIAMETER:

Ø850 mm

WORKING LENGTH:

1130 / 3090 mm (L)



TC 600 (M) (L)

SWING OVER BED:

Ø1100 mm

MAX. TURNING DIAMETER:

Ø1020 mm

WORKING LENGTH:

2200 mm

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TC 800 (M) (L)

SWING OVER BED:

Ø1100 mm

MAX. TURNING DIAMETER:

Ø1020 mm

WORKING LENGTH:

5110 mm (L)

TC 200 (M) (L) TO TC 300 (M) (L) SPECIFICATIONS

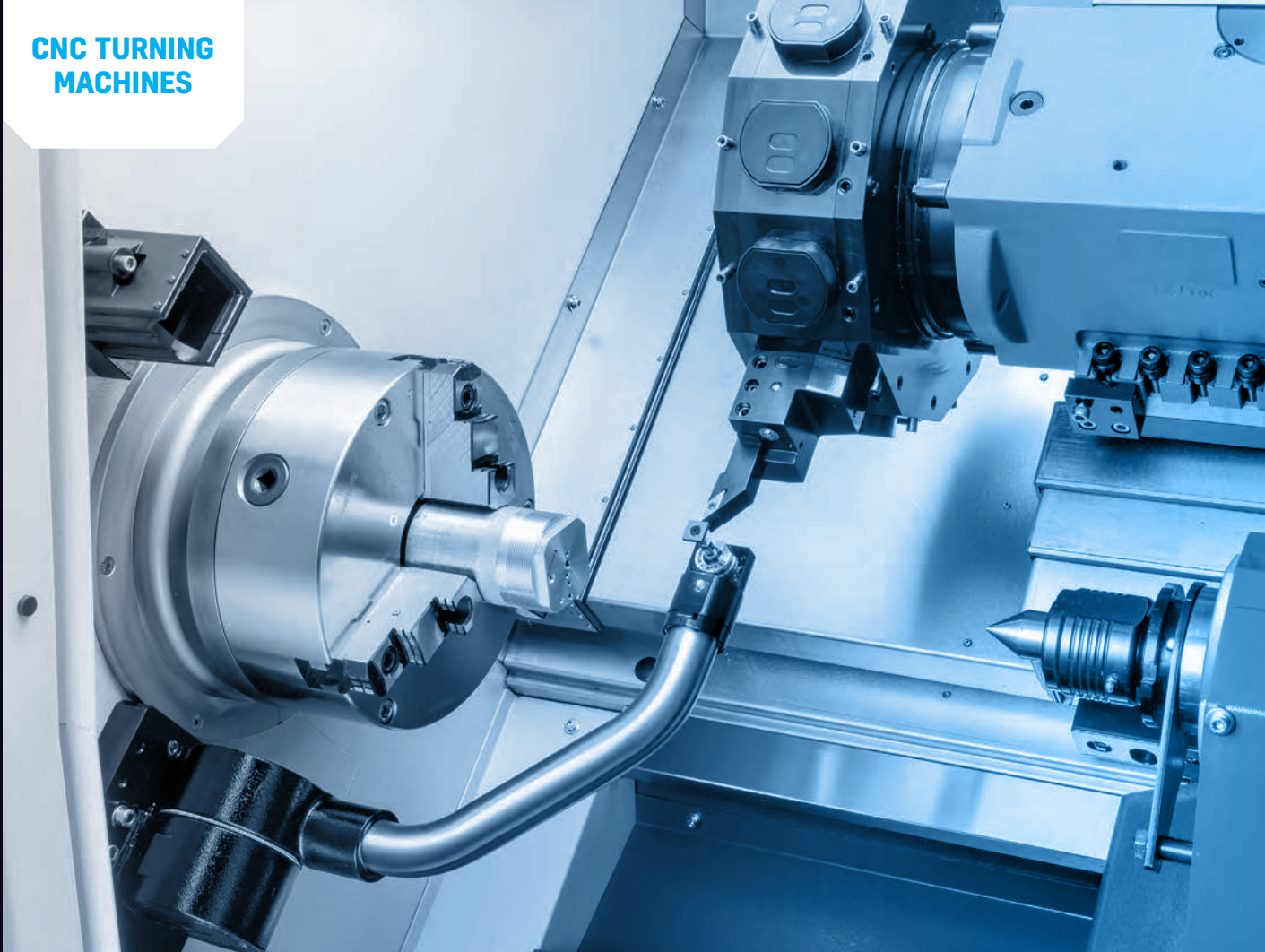
MODEL	UNIT	TC 200 (M) (L)	TC 250 (M) (L)	TC 300 (M) (L)
CAPACITY	No. of axis		2-axis / 3-axis (M)	2-axis / 3-axis (M)
	Swing over bed	mm	Ø460	Ø600
	Max. turning diameter	mm	Ø280	Ø316
	Working length	mm	455 / 690 (L)	435 / 1290 (L)
SPINDLE	Spindle nose	ISO	A2-6	
	Spindle bore	mm	Ø61	Ø77
	Bar capacity	mm	Ø52	Ø65
	Range of spindle speed	rpm	25 – 4200	25 – 3500
	Live tools speed (M)	rpm	25 – 4000 (M)	
CHUCK	Chuck size	mm (in)	Ø200mm (Ø8")	Ø250mm (Ø10")
TURRET	Tool station (random)	Station	2-axis: Hyd LS-160A-8 direct type 3-axis: Servo turret / power turret	2-axis: Hyd LS-240-12 direct type 3-axis: Servo turret / power turret
	O.D. tooling	mm	□25 x 25	
	I.D. tooling	mm	Ø32	Ø40
CROSS SLIDE (X-AXIS) & CARRIAGE (Z-AXIS)	X-axis travel	mm	165 (140+25)	185 (158+27)
	Z-axis travel	mm	490 / 740 (L)	490 / 1340 (L)
	Rapid travel speed (X-axis)	m/min	30	
	Rapid travel speed (Z-axis)	m/min	30	
	Cutting feed rate (Both-axis)	mm/rev.	0.001 – 500	
	Dia. of ball screw (X-axis)	mm	Ø32 P10	
	Dia. of ball screw (Z-axis)	mm	Ø36 P10	Ø36 P10
MOTOR	Spindle	kW	β P18i (9/11)	β P22i (11/15)
	X-axis	kW	β 12Bi (1.8)	
	Z-axis	kW	β 12is (1.8)	β 12is (1.8)
	Hydraulic oil pump	kW (HP)	1.5 (2)	
	Coolant pump	kW (HP)	0.75 (1)	
PROGRAMMABLE TAILSTOCK	Quill dia.	mm	Ø75	Ø90
	Quill stroke	mm	85	100
	Taper of centre	MT	MT 4	MT 5
	Tailstock travel	mm	415 / 660 (L)	380 / 1230 (L)
TANK CAPACITY	Hydraulic tank	Litre	40	60
	Coolant tank	Litre	115	190
MEASUREMENT	Height	mm	1750	2050
	Weight (NW)	kgs	4500 / 5100 (L)	5000 / 6500 (L)
	Floor space (L x W)	mm	2440 x 1600 / 2900 x 1600 (L)	2600 x 1845 / 3800 x 1845 (L)

All specifications are subjected to change without prior notice.

TC 380 (M) (L) TO TC 800 (M) (L) SPECIFICATIONS

MODEL		UNIT	TC 380 (M) (L)	TC 450 (M) (L)	TC 600 (M) (L)	TC 800 (M) (L)		
CAPACITY	No. of axis	mm	2-axis / 3-axis (M)	2-axis / 3-axis (M)	2-axis / 3-axis (M)			
	Swing over bed	mm	Ø850	Ø970	Ø1100			
	Max. turning diameter	mm	Ø710	Ø850	Ø1020			
	Working length	mm	760 / 3040 (L)	1130 / 3090 (L)	2200 / 5110 (L)			
SPINDLE	Spindle nose	ISO	Std: A2-8 Opt: A2-11 / A2-15	Std: A2-11 Opt: A2-15 / A2-20				
	Spindle bore	mm	Std: A2-8 Ø105 Opt: A2-11 Ø131/ Ø165 A2-15 Ø180	Std: A2-11 Ø160 Opt: A2-15 Ø230 A2-20 Ø320 / Ø360				
	Bar capacity	mm	Std: A2-8 Ø89 Opt: A2-11 Ø117, Ø142 / A2-15 Ø166	Std: A2-11 Ø142 Opt: A2-15 Ø200 A2-20 Ø230	Std: A2-11 Ø142 Opt: A2-15 Ø200 A2-20 Ø230			
	Maximum spindle speed	rpm	Std: 2500 Opt: 2000 / 1650 / 1300	Std: 1500 Opt: 700 / 550 / 450				
	Spindle gearbox step		2	3	4			
	Live tools speed (M)	rpm	Opt: 0 – 3000					
CHUCK	Hydraulic chuck size	mm (in)	Std: Ø300 (Ø12") Opt: Ø380 (Ø15") Ø450 (Ø18")	Optional				
TURRET	Tool station (random)	Station	10 / 12	12	12			
	O.D. tooling	mm	32 / 25	□32	□32			
	I.D. tooling	mm	Ø50					
CROSS SLIDE (X-AXIS) & CARRIAGE (Z-AXIS)	X-axis travel	mm	355+25	425+25	510+25			
	Z-axis travel	mm	860 / 3140 (L)	1250 / 3210 (L)	2260 / 5190 (L)			
	Rapid travel speed (X-axis)	m/min	12					
	Rapid travel speed (Z-axis)	m/min	15 / 10		10 / 8			
	Cutting feed rate (Both-axis)	mm/rev.	0.001 – 500					
	MOTOR	Spindle (cont.)	kW (HP)	α22i	22 (29.5)	α30i	30 (40)	α40i
Spindle (30 min.)		kW (HP)	26 (34.9)		37 (49)		45 (60.3)	
X-axis		kW (HP)	α22Bi- 4 (5.4)		α22Bi- 4 (5.4)		α22Bi- 4 (5.4)	
Z-axis		kW (HP)	α22i- 4 (5.4)		α30i- 7 (9.4)		α30i- 7 (9.4)	
Hydraulic oil pump		kW (HP)	2.2 (3)		3.75 (5)			
Coolant pump		kW (HP)	0.75 (1)					
PROGRAMMABLE TAILSTOCK	Quill dia.	mm	Std: Ø110 Opt: Ø160	Ø160	Ø200			
	Quill stroke	mm	100	160	200			
	Taper of centre	MT	MT.5		MT.6			
	Tailstock travel	mm	640 / 2920 (L)	950 / 2910 (L)	1900 / 4900 (L)			
TANK CAPACITY	Hydraulic tank	Litre	80					
	Coolant tank	Litre	480 / 780 (L)	520 / 810 (L)	670 / 1050 (L)			
	Height	mm	2235	2445	3050			
MEASUREMENT	Weight (NW)	kgs	12500 / 17900 (L)	14200 / 18400 (L)	18000 / 32000 (L)			
	Floor space (L x W)	mm	5304 x 2130 / 7584 x 2130 (L)	6160 x 2230 / 8160 x 2230 (L)	8700 x 3158 / 11700 x 3158 (L)			

All specifications are subjected to change without prior notice.



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TC 200 (M) (L)
TO TC 300 (M) (L)
**STANDARD
ACCESSORIES**

- // 3 BAR COOLANT PUMP
- // 130 LITRE CAPACITY COOLANT TANK
- // HYDRAULIC TURRET 8-POSITION (TC200)
- // HYDRAULIC TURRET 12-POSITION (TC 250 / TC 300)
- // AUTOMATIC LUBRICATION SYSTEM
- // TOOL KIT
- // WORK LIGHT
- // 3-COLOUR BEACON LIGHT
- // HEAT EXCHANGER FOR ELECTRIC CABINET
- // CHIP CONVEYOR
- // PROGRAMMABLE TAILSTOCK
- // AUTOMATIC PARTS CATCHER
- // AUTOMATIC TOOL PROBE



TC 380 (M) (L) TO TC 800 (M) (L) STANDARD ACCESSORIES

- // 6 BAR COOLANT PUMP
- // HYDRAULIC TURRET 10-POSITION
- // AUTOMATIC LUBRICATION SYSTEM
- // TOOL KIT
- // WORK LIGHT
- // 3-COLOUR BEACON LIGHT
- // HEAT EXCHANGER FOR ELECTRIC CABINET
- // CHIP CONVEYOR
- // MANUAL TAILSTOCK
- // QUILL AND LIVE CENTRE FOR TAILSTOCK
- // 2-SPEED GEARBOX



OPTIONAL
ACCESSORY



VULCAN BAR FEEDERS

Vulcan Bar Feeders are electro-pneumatic, offering a simple and cost-effective solution to boosting your productivity.

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Vulcan Bar Feeders are manufactured to the highest standard, backed up with technical expertise direct from Hydrafeed.



STANDARD FEATURES

- // BAR CAPACITY 3 – 80 MM DIAMETER
- // RANDOM BAR LENGTHS ACCEPTED
- // REDUCTION LINER SYSTEM
- // SMALL FOOTPRINT
- // QUICK AND EASY SET-UP
- // USER FRIENDLY
- // LOW MAINTENANCE
- // ENVIRONMENTALLY FRIENDLY



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TECHNICAL SPECIFICATIONS

MODEL	UNIT	VULCAN 65	VULCAN 80
BAR DIAMETER	mm	6 – 65	5 – 80
BAR LENGTH	mm	200 – 1650	200 – 1550
MAGAZINE CAPACITY	mm	600	
MAGAZINE		Front or rear	
WEIGHT	kgs	485	550
DRIVE		Electro-pneumatic	Servo motor
VOLTAGE	v/Hz	110/220v, 40-60Hz	230/415v max



INTRO TO BOX WAY VMC'S

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HEAVY CUTTING VERTICAL MACHINING CENTRES

- + The casting assembly of Vulcan machining centres have been designed using a Finite-Element-Analysis process to ensure the machine can handle cutting forces and weight loads associated with the demands of the machine specifications.
- + All axes use box way design, which allows Vulcan VMC's to accommodate extremely heavy loads whilst maintaining smooth motion with increased dampening and cutting force characteristics.
- + The Vulcan base and saddle utilise a wide design to prevent issues with sagging and overhanging when loading heavy components.
- + The Z-axis casting uses a reinforced rib design to achieve structural strength through the entire casting length.
- + Each axis uses a grade C3 precision-ground ball screw and a pre-tensioned design in order to improve Vulcan's performance, with each axis motor directly coupled to the ball screw.



VMC 650B

TRAVEL:
X650 Y500 Z500 mm
TABLE:
L800×W470 mm



VMC 1000B

TRAVEL:
X1000 Y600 Z650 mm
TABLE:
L1100×W500 mm



VMC 1200B

TRAVEL:
X1200 Y700 Z650 mm
TABLE:
L1300×W700 mm



VMC 1500B

TRAVEL:
X1500 Y700 Z650 mm
TABLE:
L1650×W700 mm



VMC 1600B

TRAVEL:
X1600 Y700 Z650 mm
TABLE:
L1750×W700 mm



VMC 1800B

TRAVEL:
X1800 Y900 Z900 mm
TABLE:
L1950×W900 mm

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VMC 2000B

TRAVEL:
X2000 Y900 Z900 mm
TABLE:
L2150×W900 mm



VMC 2200B

TRAVEL:
X2200 Y900 Z900 mm
TABLE:
L2350×W1000 mm



VMC 2500B

TRAVEL:
X2500 Y900 Z900 mm
TABLE:
L2600×W1000 mm

BOX WAY VMC'S SPECIFICATIONS

MODEL	UNIT	VMC 650B	VMC 1000B	VMC 1200B	VMC 1500B	
TRAVEL	X-axis	mm	650	1000	1200	1500
	Y-axis	mm	500	600	700	
	Z-axis	mm	500	650 (BT-50: 630)	650	
	Spindle centre to column	mm	530	598	705	730
	Spindle nose to table surface	mm	125~620	130~690	130~780	150~800
TABLE	Table (L x W)	mm	800 x 470	1100 x 500 (BT-50: 1100 x 600)	1300 x 700	1650 x 700
	T-slot (No. x Width)	mm	5 x 18 x 100			
	Max. table load	kg	500	700	1000	1400
MAX. TRAVERSE SPEED	X / Y / Z-axis	M/min	25 / 25 / 25	25 / 25 / 20	20 / 20 / 15	
ATC	Swing Arm type BT-40	T	24	24 / 30		
	Chain type BT-50 (Opt.)	T	N / A	32 / 40		
	Type-CAT/BT/DIN (Opt. HSK)		40	40 / 50		
SPINDLE	Motor (Other power options)	kW	5.5~7.5 (7.5~11)	7.5~11 (11~15)	11~15 (15~18.5)	
	Direct-drive BT-40	rpm	10000 / 12000 / 15000			
	Belt-drive BT-40 (Opt.)	rpm	8000 / 10000 / 12000			
	Built-in spindle (Opt.)	rpm	20000 / 30000 (BT-40/ HSK-E40/50/63)		20000 (BT-40/ HSK-E63)	
	Belt-drive BT-50 (Opt.)	rpm	N / A	6000 / 8000		
	Direct-drive BT-50 (Opt.)	rpm	N / A	8000 / 10000		
	MISCELLANEOUS	Power consumption	KVA	25	35	45
Pneumatic supply		kg/cm ²	5.5~6.5			
Coolant tank capacity		L	256	367	510	560
Machine weight		kg	4800	6800	7800	11000
Floor space requirement (LxW)		mm	2180 x 2040	2900 x 2090	3600 x 2244	4400 x 2244
Floor space requirement (with conveyor) (LxW)		mm	3280 x 2040	3735 x 2090	4759 x 2244	4560 x 2244

All specifications are subjected to change without prior notice.

STANDARD EQUIPMENT


- // 20 BAR CTS
- // RIGID TAPPING
- // BELT TYPE CHIP CONVEYOR
- // LED WORK LIGHT
- // SAFETY DOOR
- // LEVELLING BLOCKS & BOLTS
- // TOOL KIT
- // SPINDLE BEARING AIR PURGE
- // SPINDLE CHILLER
- // HEAT EXCHANGER FOR ELECTRICAL CABINET
- // MECHANICAL OIL/COOLANT SEPARATOR
- // AUTO INTERRUPT & POWER OFF SYSTEM (M30)
- // 3-COLOUR BEACON LIGHT
- // Z AXIS MOTOR WITH BRAKE SYSTEM

MODEL		UNIT	VMC 1600B	VMC 1800B	VMC 2000B	VMC 2200B	VMC 2500B
TRAVEL	X-axis	mm	1600	1800	2000	2200	2500
	Y-axis	mm	700	900 (1000)			
	Z-axis	mm	650	900 (1000)			
	Spindle centre to column	mm	730	1055			
	Spindle nose to table surface	mm	150~800	250~1150			
TABLE	Table (L x W)	mm	1750 x 700	1950 x 900	2150 x 900	2350 x 1000	2600 x 1000
	T-slot (No. x Width)	mm	5 x 18 x 100	5 x 22 x 160			5 x 22 x 165
	Max. table load	kg	1500	2000			2500
MAX. TRAVERSE SPEED	X / Y / Z-axis	M/min	20 / 20 / 15	15 / 15 / 12			
ATC	Swing Arm type BT-40	T	24 / 30				
	Chain type BT-50 (Opt.)	T	32 / 40		32 / 40 / 48		
SPINDLE	Type-CAT/BT/DIN (Opt. HSK)		40 / 50				
	Motor (Other power options)	kW	11~15 (15~18.5)	15~18.5 (18.5~22)			
	Direct-drive BT-40	rpm	10000 / 12000 / 15000				
	Belt-drive BT-40 (Opt.)	rpm	8000 / 10000 / 12000				
	Built-in spindle (Opt.)	rpm	20000 / 30000 (BT-40/ HSK-E40/50/63)				
	Belt-drive BT-50 (Opt.)	rpm	6000 / 8000				
	Direct-drive BT-50 (Opt.)	rpm	8000 / 10000				
MISCELLANEOUS	Power consumption	KVA	45	55			60
	Pneumatic supply	kg/cm ²	5.5~6.5				
	Coolant tank capacity	L	560	650			
	Machine weight	kg	12000	20000	23000	27000	30000
	Floor space requirement (LxW)	mm	4520 x 2244	4900 x 3312	5420 x 3475	5700 x 3500	6000 x 3700
	Floor space requirement (with conveyor) (LxW)	mm	5680 x 2244	6058 x 3312	6578 x 3475	6900 x 3500	7300 x 3700

All specifications are subjected to change without prior notice.

- // COOLANT PUMP
- // PORTABLE HAND WHEEL
- // GUIDEWAY COVERS (X,Y,Z)
- // SPINDLE COOLANT NOZZLE SYSTEM
- // CENTRAL LUBRICATION SYSTEM
- // AUXILIARY COOLANT GUN
- // INSPECTION REPORT (DIGITAL FORMAT)

- // FULLY ENCLOSED MACHINING AREA
- // CUTTING AIR BLAST
- // WASH DOWN SYSTEM
- // CNC CONTROL MANUALS, OPERATION MANUAL, MAINTENANCE MANUAL

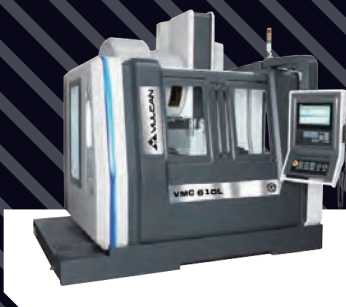


INTRO TO LINEAR GUIDE VMC'S

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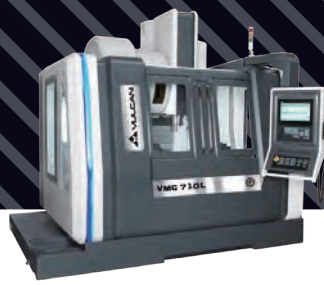
HIGH-SPEED AND PRECISION MACHINING CENTRES

- + The casting assembly of Vulcan machining centres have been designed using a Finite-Element-Analysis process to ensure the machine can handle cutting forces and weight loads associated with the demands of the machine specifications.
- + All axes use an extra-wide 45mm roller type linear guideway to allow Vulcan VMC's to accommodate heavy loads with fast accelerations and low friction whilst maintaining accurate positioning.
- + The Vulcan base and saddle utilise a wide design to prevent issues with sagging and overhanging when loading heavy components.
- + The Z-axis casting uses a reinforced rib design to achieve high structural strength through the entire casting length.
- + Each axis uses a grade C3 precision-ground ball screw and a pre-tensioned design in order to improve Vulcan's performance, with each axis motor directly coupled to the ball screw.



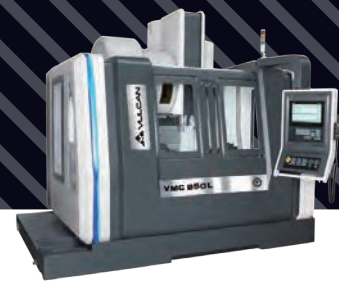
VMC 610L

TRAVEL:
X610 Y400 Z450 mm
TABLE:
L650×W400 mm



VMC 710L

TRAVEL:
X710 Y450 Z460 mm
TABLE:
L760×W420 mm



VMC 850L

TRAVEL:
X850 Y600 Z650 mm
TABLE:
L1000×W500 mm



VMC 1000L

TRAVEL:
X1000 Y600 Z650 mm
TABLE:
L1160×W600 mm



VMC 1200L

TRAVEL:
X1200 Y700 Z700 mm
TABLE:
L1350×W700 mm



VMC 1300L

TRAVEL:
X1300 Y700 Z700 mm
TABLE:
L1450×W700 mm

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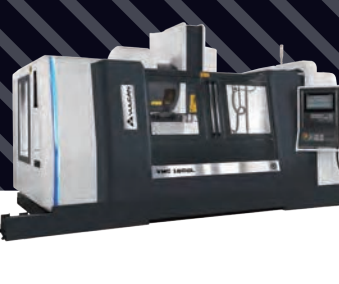
VMC 1400L

TRAVEL:
X1400 Y850 Z850 mm
TABLE:
L1500×W800 mm



VMC 1500L

TRAVEL:
X1500 Y700 Z700 mm
TABLE:
L1650×W700 mm



VMC 1600L

TRAVEL:
X1600 Y850 Z850 mm
TABLE:
L1700×W800 mm

LINEAR GUIDE VMC'S SPECIFICATIONS

MODEL		UNIT	VMC 610L	VMC 710L	VMC 850L	VMC 1000L	
TRAVEL	X-axis	mm	610	710	850	1000	
	Y-axis	mm	400	450	600		
	Z-axis	mm	450	460	650		
	Spindle centre to column	mm	390	514	598		
	Spindle nose to table surface	mm	130~580	130~590	130~780		
TABLE	Table (L x W)	mm	650 x 400	760 x 420	1000 x 500	1160 x 600	
	T-slot (No. x Width)	mm	4 x 18 x 75	3 x 18 x 100	5 x 18 x 100		
	Max. table load	kgs	400	450	700	800	
MAX. TRAVERSE SPEED	X / Y / Z-axis	M/min	36 / 36 / 32				
ATC	Swing Arm type BT-40	T	20 / 24		24 / 30		
	Chain type BT-50 (Opt.)	T	N / A			32 / 40	
SPINDLE	Type-CAT/BT/DIN (Opt. HSK)		40				
	Motor (Other power options)	kW	5.5~7.5	5.5~7.5 (7.5~11)	7.5~11 (11~15)		
	Direct-drive BT-40	rpm	10000 / 12000 / 15000				
	Belt-drive BT-40 (Opt.)	rpm	8000 / 10000 / 12000				
	Built-in spindle (Opt.)	rpm	20000 / 30000 (BT-40/ HSK-E40/50/63)				
	Belt-drive BT-50 (Opt.)	rpm	N / A			6000 / 8000	
	Direct-drive BT-50 (Opt.)	rpm	N / A			8000 / 10000	
MISCELLANEOUS	Power consumption	KVA	30		35		
	Pneumatic supply	kg/cm ²	5.5~6.5				
	Coolant tank capacity	L	256		350	367	
	Machine weight	kg	4500	4800	6500	6800	
	Floor space requirement (LxW)	mm	2180 x 1852	2180 x 2040	2620 x 2090	2900 x 2090	
	Floor space requirement (with conveyor) (LxW)	mm	3283 x 1852	3282 x 2040	3650 x 2090	3735 x 2090	

All specifications are subjected to change without prior notice.

STANDARD EQUIPMENT

- // 20 BAR CTS
- // BELT TYPE CHIP CONVEYOR
- // SAFETY DOOR
- // TOOL KIT
- // SPINDLE CHILLER
- // MECHANICAL OIL/COOLANT SEPARATOR
- // 3-COLOUR BEACON LIGHT
- // RIGID TAPPING
- // LED WORK LIGHT
- // LEVELLING BLOCKS & BOLTS
- // SPINDLE BEARING AIR PURGE
- // HEAT EXCHANGER FOR ELECTRICAL CABINET
- // AUTO INTERRUPT & POWER OFF SYSTEM (M30)
- // Z AXIS MOTOR WITH BRAKE SYSTEM

MODEL		UNIT	VMC 1200L	VMC 1300L	VMC 1400L	VMC 1500L	VMC 1600L
TRAVEL	X-axis	mm	1200	1300	1400	1500	1600
	Y-axis	mm	700		850	700	850
	Z-axis	mm	700		850	700	850
	Spindle centre to column	mm	730		850	730	850
	Spindle nose to table surface	mm	130~830		130~980	130~830	130~980
TABLE	Table (L x W)	mm	1350 x 700	1450 x 700	1500 x 800	1650 x 700	1700 x 800
	T-slot (No. x Width)	mm	5 x 18 x 100	7 x 18 x 100	5 x 18 x 100	5 x 18 x 100	7 x 18 x 100
	Max. table load	kg	1000	1500	1800	1500	1800
MAX. TRAVERSE SPEED	X / Y / Z-axis	M/min	30 / 30 / 24	24 / 24 / 24	25 / 25 / 20	24 / 24 / 24	24 / 24 / 24
ATC	Swing Arm type BT-40	T	24 / 30				
	Chain type BT-50 (Opt.)	T	32 / 40				
	Type-CAT/BT/DIN (Opt. HSK)		40 / 50				
SPINDLE	Motor (Other power options)	kW	7.5~11 (11~15)	11~15 (15~18.5)	15~18.5 (18.5~22)	11~15 (15~18.5)	15~18.5 (18.5~22)
	Direct-drive BT-40	rpm	10000 / 12000 / 15000				
	Belt-drive BT-40 (Opt.)	rpm	8000 / 10000 / 12000				
	Built-in spindle (Opt.)	rpm	20000 / 30000 (BT-40/ HSK-E40/50/63)				
	Belt-drive BT-50 (Opt.)	rpm	6000 / 8000				
	Direct-drive BT-50 (Opt.)	rpm	8000 / 10000				
	MISCELLANEOUS	Power consumption	KVA	35	45	55	45
Pneumatic supply		kg/cm ²	5.5~6.5				
Coolant tank capacity		L	510	560	580		
Machine weight		kg	7800	9000	14000	11000	15000
Floor space requirement (LxW)		mm	3398 x 2221	3650 x 2220	4600 x 3200	4150 x 2221	4480 x 3200
Floor space requirement (with conveyor) (LxW)		mm	4500 x 2221	4620 x 2220	5800 x 3200	5131 x 2221	6000 x 3200

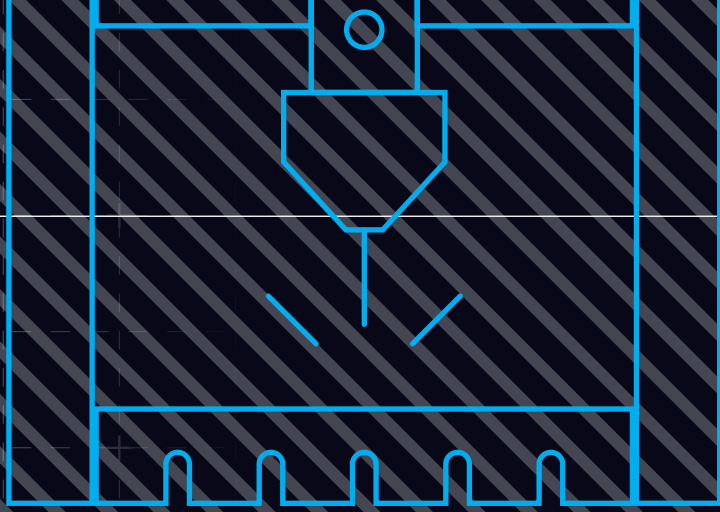
All specifications are subjected to change without prior notice.

- // COOLANT PUMP
- // PORTABLE HAND WHEEL
- // GUIDEWAY COVERS (X,Y,Z)
- // SPINDLE COOLANT NOZZLE SYSTEM
- // CENTRAL LUBRICATION SYSTEM
- // AUXILIARY COOLANT GUN
- // INSPECTION REPORT (DIGITAL FORMAT)

- // FULLY ENCLOSED MACHINING AREA
- // CUTTING AIR BLAST
- // WASH DOWN SYSTEM
- // CNC CONTROL MANUALS, OPERATION MANUAL, MAINTENANCE MANUAL



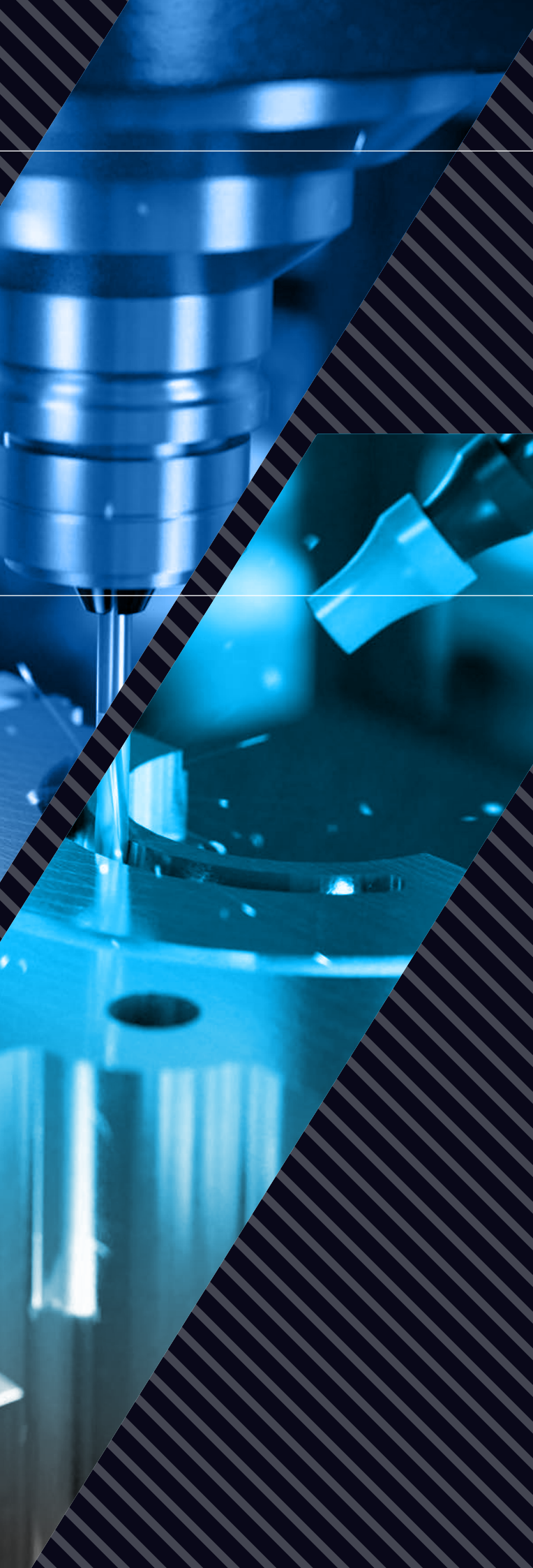
CNC DOUBLE
COLUMN



INTRO TO DOUBLE COLUMN MACHINING CENTRES

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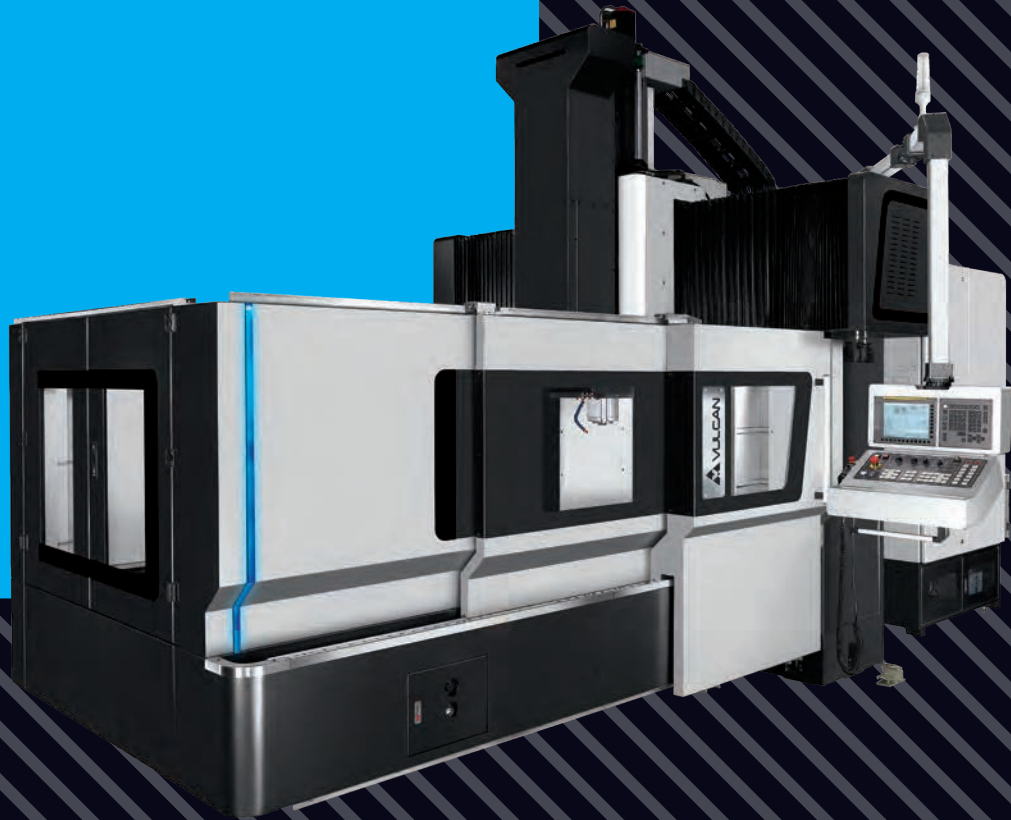


BOXWAY & LINEAR DOUBLE COLUMN MACHINES

- + Vulcan double column machining centres allow for the production of large complex components up to 10 metres in length.
- + The casting assembly (for machines with an X axis stroke of under 6m) are equipped with lubricant recycling to keep the base clean, along with a lubricant and coolant separation system to prolong the service life of the coolant and a complete swarf management system to avoid damage to the guideways.
- + A box in box headstock structure design with square type ribs efficiently reduces the weight of the headstock and also enhances geometric and thermal stability of the machine, giving excellent rigidity.

SPECIFICATIONS

DOUBLE COLUMN BOX WAY SERIES



DC SERIES 16/20B

Z-AXIS:

800 – 1000 mm

Y-AXIS:

1600 – 2000 mm

X-AXIS:

2200 – 4200 mm

MACHINE SPECIFICATIONS

MODEL	UNIT	DC 2216/20B	DC 2716/20B	DC 3216/20B	DC 4216/20B	
TRAVEL	X axis	mm	2200	2700	3200	4200
	Y axis	mm	1600 – 2000			
	Z axis	mm	800 – 1000			
	Spindle nose to table	mm	150 – 1150			
	Distance between columns (max. workpiece width)	mm	1700 (1650) / 2100 (2050)			
TABLE	Table dimensions (L)	mm	2000	2500	3000	4000
	Table dimensions (W)	mm	1400 / 1700			
	T-slot (width x number x pitch)	mm	22 x 7 x 180 / 22 x 9 x 180			
	Max. table load	kg	8000	9000	10000	12000
SPINDLE	Spindle motor (cont./ 30 minute rated)	kW	18.5 / 22 / 26 / 30 / 37			
	Spindle speed	rpm	6000 / 8000 / 10000 / 12000 / 15000 / 18000 / 20000			
	Spindle taper		BT-50 / ISO-50 / CAT-50			
FEED	Rapid feed-rate (X/ Y / Z)	m/min	12 / 12 / 15			10 / 12 / 15
	Cutting feed-rate	mm/ min	7000			
ACCURACY	Positioning accuracy	mm	±0.005 / 300 ; ±0.015 / full travel			
		mm	P0.03		P0.035	
	Repeatability	mm	±0.003			
		mm	Ps0.025		Ps0.028	
ATC	Tool storage capacity	pcs	32T / 24T / 40T / 60T			
	Max. tool length	mm	350			
	Max. tool weight	kg	20			
	Tool size (full tools)	mm	Ø125			
	Max. tool size (next pockets empty)	mm	Ø245			
OTHER	Power consumption	kVA	65			
	Compressed air	kg/cm ²	6.5			
	Machine weight (approx.)	tons	20 / 22	22 / 24	24 / 26	28 / 30
	Machine floor space (L x W x H) (approx.)	m	8.4 x 5.1 (5.5) x 4.7	9.4 x 5.1 (5.5) x 4.7	10.4 x 5.1 (5.5) x 4.7	12.4 x 5.1 (5.5) x 4.7

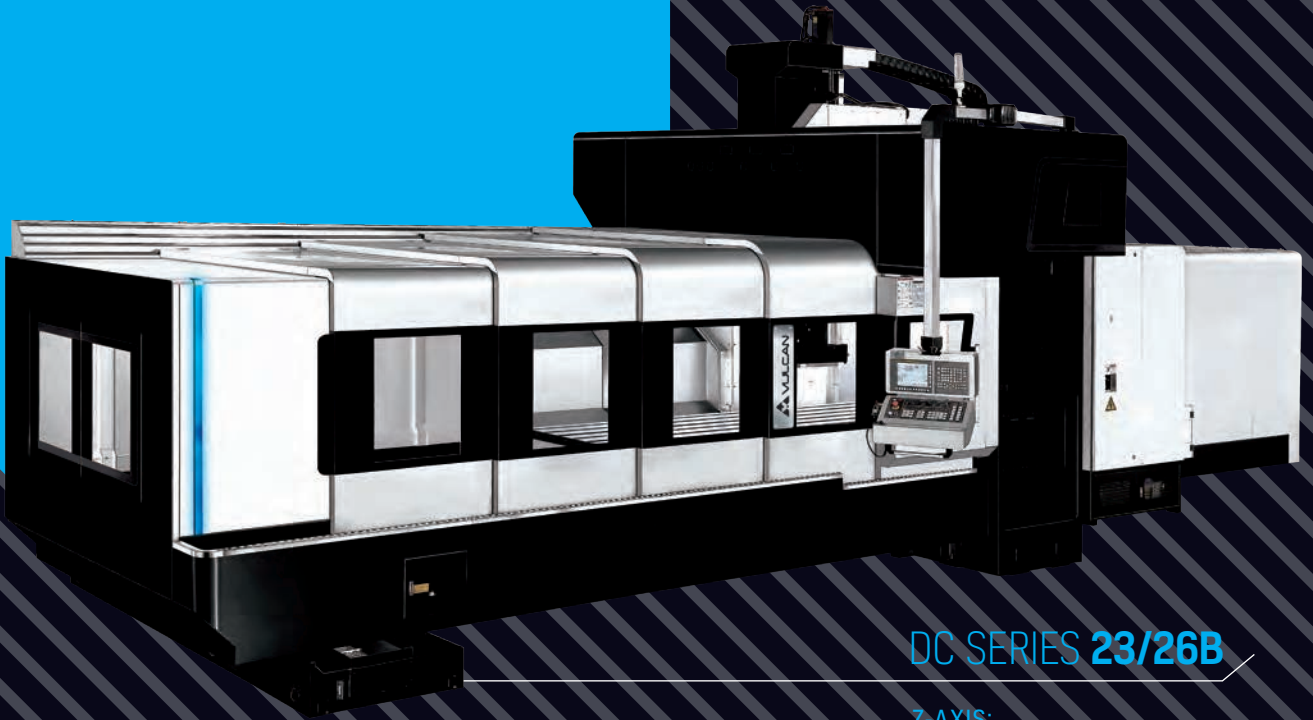
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CNC DOUBLE
COLUMN

SPECIFICATIONS

DOUBLE COLUMN BOX WAY SERIES



DC SERIES **23/26B**

Z-AXIS:
1000 – 1200 mm

Y-AXIS:
2300 – 2600 mm

X-AXIS:
3200 – 6000 mm

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MACHINE SPECIFICATIONS

MODEL		UNIT	DC 3223/26B	DC 4223/26B	DC 5223/26B	DC 6023/26B
TRAVEL	X axis	mm	3200	4200	5200	6000
	Y axis	mm	2300 – 2600			
	Z axis	mm	1000 – 1200			
	Spindle nose to table	mm	150 – 1350			
	Distance between columns (max. workpiece width)	mm	2500 (2450) / 2800 (2750)			
TABLE	Table dimensions (L)	mm	3000	4000	5000	6000
	Table dimensions (W)	mm	2000			
	T-slot (width x number x pitch)	mm	28 x 11 x 180			
	Max. table load	kg	11000	13000	15000	17000
SPINDLE	Spindle motor (cont./ 30 minute rated)	kW	18.5 / 22 / 26 / 30 / 37			
	Spindle speed	rpm	6000 / 8000 / 10000 / 12000 / 15000 / 18000 / 20000			
	Spindle taper		BT-50 / ISO-50 / CAT-50			
FEED	Rapid feed-rate (X/ Y / Z)	m/min	12 / 12 / 12	10 / 12 / 12		8 / 12 / 12
	Cutting feed-rate	mm/ min	7000			
ACCURACY	Positioning accuracy	mm	±0.005 / 300 ; ±0.015 / full travel			
		mm	P0.035		P0.045	
	Repeatability	mm	±0.003			
		mm	Ps0.028		Ps0.03	
ATC	Tool storage capacity	pcs	32T / 40T / 60T			
	Max. tool length	mm	350			
	Max. tool weight	kg	20			
	Tool size (full tools)	mm	Ø125			
	Max. tool size (next pockets empty)	mm	Ø245			
OTHER	Power consumption	kVA	65			
	Compressed air	kg/cm ²	6.5			
	Machine weight (approx.)	tons	35 / 37	39 / 41	45 / 47	50 / 52
	Machine floor space (L x W x H) (approx.)	m	10.4 x 6.5 (6.8) x 5.4	13.0 x 6.5 (6.8) x 5.4	14.8 x 6.5 (6.8) x 5.4	16.7 x 6.5 (6.8) x 5.4

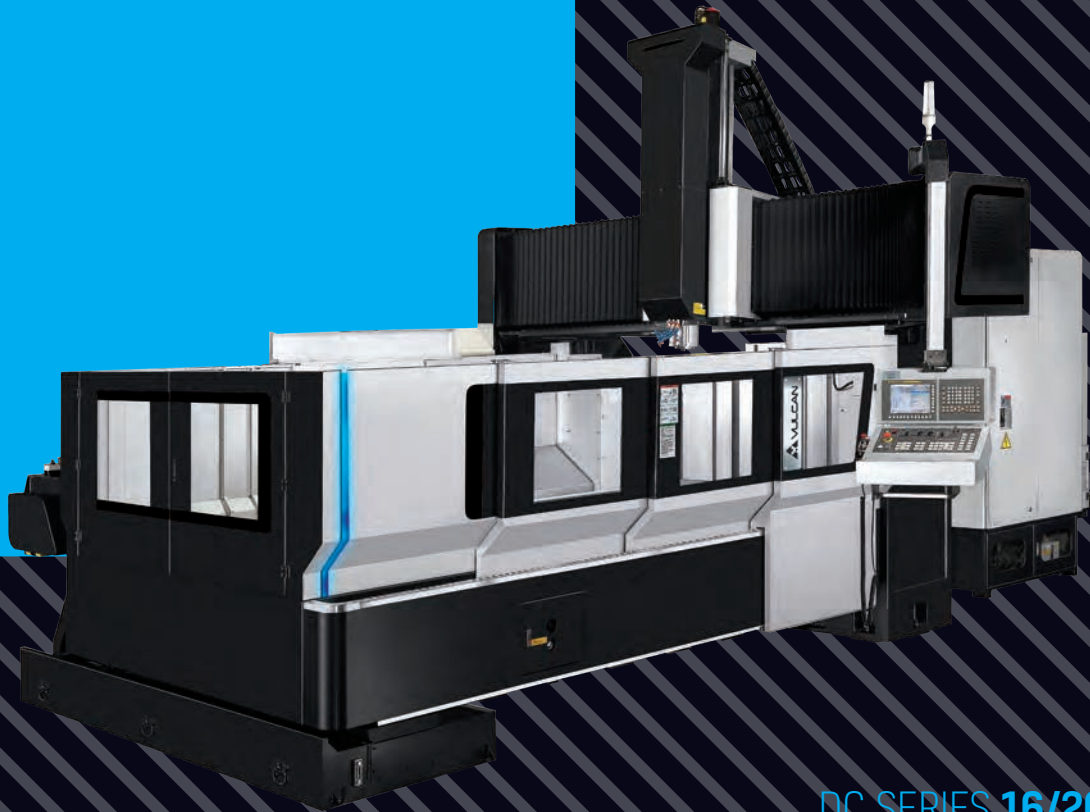
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CNC DOUBLE
COLUMN

SPECIFICATIONS

DOUBLE COLUMN LINEAR SERIES



DC SERIES 16/20L

Z-AXIS:

800 – 1000 mm

Y-AXIS:

1600 – 2000 mm

X-AXIS:

2200 – 4200 mm

MACHINE SPECIFICATIONS

MODEL		UNIT	DC 2216/20L	DC 2716/20L	DC 3216/20L	DC 4216/20L
TRAVEL	X axis	mm	2200	2700	3200	4200
	Y axis	mm	1600 – 2000			
	Z axis	mm	800 – 1000			
	Spindle nose to table	mm	150 – 1150			
	Distance between columns (max. workpiece width)	mm	1700 (1650) – 2100 (2050)			
TABLE	Table dimensions (L)	mm	2200	2500	3000	4000
	Table dimensions (W)	mm	1400 – 1700			
	T-slot (width x number x pitch)	mm	22 x 7 x 180 / 22 x 9 x 180			
	Max. table load	kg	8000	9000	10000	12000
SPINDLE	Spindle motor (cont./ 30 minute rated)	kW	18.5 / 22 / 26 / 30 / 37			
	Spindle speed	rpm	6000 / 8000 / 10000 / 12000 / 15000 / 18000 / 20000			
	Spindle taper		BT-50 / ISO-50 / CAT-50			
FEED	Rapid feed-rate (X/ Y / Z)	m/min	24 / 24 (20) / 15			18 / 24 (20) / 15
	Cutting feed-rate	mm/ min	7000 (10000 opt.)			
ACCURACY	Positioning accuracy	mm	±0.005 / 300- ±0.015 / full travel			
		mm	P0.03		P0.035	
	Repeatability	mm	±0.003			
		mm	Ps0.025		Ps0.025	
ATC	Tool storage capacity	pcs	32T / 24T / 40T / 60T			
	Max. tool length	mm	350			
	Max. tool weight	kg	20			
	Tool size (full tools)	mm	Ø125			
	Max. tool size (next pockets empty)	mm	Ø245			
OTHER	Power consumption	kVA	65			
	Compressed air	kg/cm ²	6.5			
	Machine weight (approx.)	tons	19/21	21/23	23/25	27 / 29
	Machine floor space (L x W x H) (approx.)	m	8.4 x 5.1 / 5.5 x 4.7	9.4 x 5.1 / 5.5 x 4.7	10.4 x 5.1 / 5.5 x 4.7	12.4 x 5.1 / 5.5 x 4.7

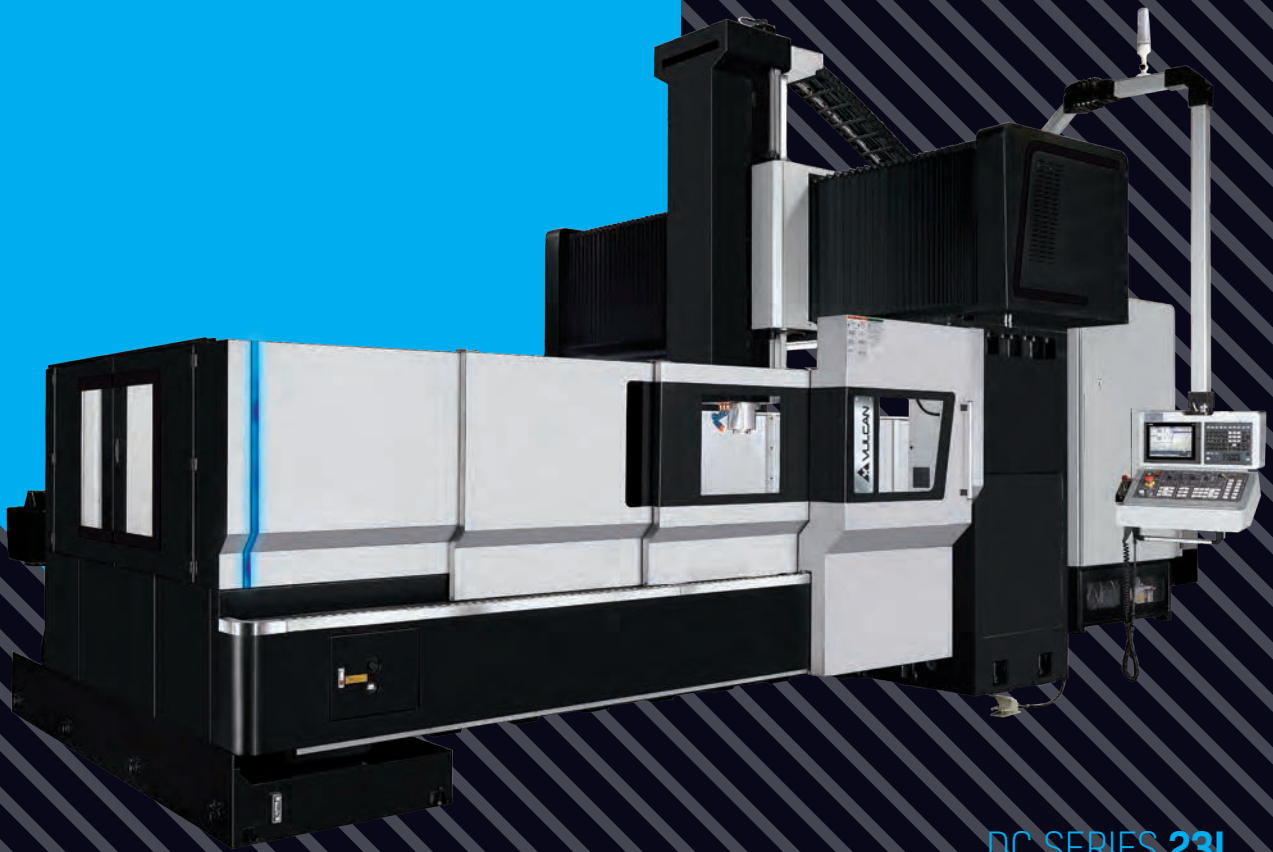
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CNC DOUBLE
COLUMN

SPECIFICATIONS

DOUBLE COLUMN LINEAR SERIES



DC SERIES 23L

Z-AXIS:
1000 – 1200 mm

Y-AXIS:
2300 mm

X-AXIS:
3200 – 6200 mm

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MACHINE SPECIFICATIONS

MODEL	UNIT	DC 3223L	DC 4223L	DC 5223L	DC 6223L	
TRAVEL	X axis	mm	3200	4200	5200	6200
	Y axis	mm	2300			
	Z axis	mm	1000 – 1200			
	Spindle nose to table	mm	150 – 1350			
	Distance between columns (max. workpiece width)	mm	2500 (2450) – 2800 (2750)			
TABLE	Table dimensions (L)	mm	3000	4000	5000	6000
	Table dimensions (W)	mm	2000			
	T-slot (width x number x pitch)	mm	28 x 11 x 180			
	Max. table load	kg	13000	15000	17000	19000
SPINDLE	Spindle motor (cont./ 30 minute rated)	kW	18.5 / 22 / 26 / 30 / 37			
	Spindle speed	rpm	6000 / 8000 / 10000 / 12000 / 15000 / 18000 / 20000			
	Spindle taper		BT-50 / ISO-50 / CAT-50			
FEED	Rapid feed-rate (X/ Y / Z)	m/min	20 / 20 / 15	18 / 20 / 15	12 / 20 / 15	10 / 20 / 15
	Cutting feed-rate	mm/min	7000			
ACCURACY	Positioning accuracy	mm	±0.005 / 300 ; ±0.015 / full travel			
		mm	P0.035		P0.045	
	Repeatability	mm	±0.003			
		mm	Ps0.028		Ps0.03	
ATC	Tool storage capacity	pcs	32T / 40T / 60T / 90T			
	Max. tool length	mm	350			
	Max. tool weight	kg	20			
	Tool size (full tools)	mm	Ø125			
	Max. tool size (next pockets empty)	mm	Ø245			
OTHER	Power consumption	kVA	65			
	Compressed air	kg/cm ²	6.5			
	Machine weight (approx.)	tons	34	38	44	50
	Machine floor space (L x W x H) (approx.)	m	10.4 x 6.5 x 5.4	13.0 x 6.5 x 5.4	14.8 x 6.5 x 5.4	17.3 x 6.5 x 5.4

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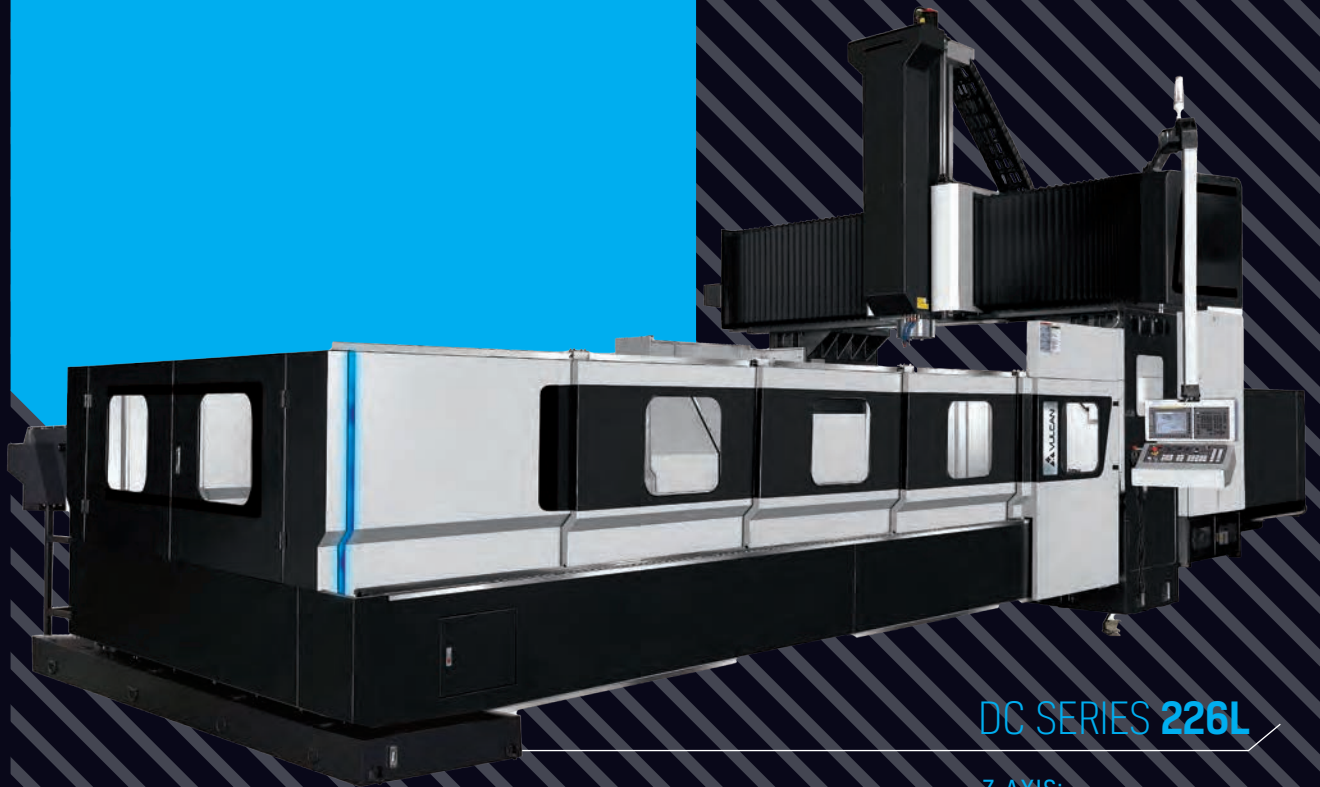


CNC DOUBLE
COLUMN

SPECIFICATIONS

DOUBLE COLUMN LINEAR SERIES

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DC SERIES 226L

Z-AXIS:
1000 – 1200 mm

Y-AXIS:
2600 mm

X-AXIS:
3200 – 10200 mm

MACHINE SPECIFICATIONS

MODEL		UNIT	DC 3226L	DC 4226L	DC 5226L	DC 6226L	DC 8226L	DC 10226L
TRAVEL	X axis	mm	3200	4200	5200	6200	8200	10200
	Y axis	mm	2600					
	Z axis	mm	1000 – 1200					
	Spindle nose to table	mm	150 – 1350					
	Distance between columns (max. workpiece width)	mm	2800 (2750)					
TABLE	Table dimensions (L)	mm	3000	4000	5000	6000	8000	10000
	Table dimensions (W)	mm	2400					
	T-slot (width x number x pitch)	mm	28 x 13 x 180					
	Max. table load	kg	13000	15000	17000	19000	21000	25000
SPINDLE	Spindle motor (cont./ 30 minute rated)	kW	18.5 / 22 / 26 / 30 / 37					
	Spindle speed	rpm	6000 / 8000 / 10000 / 12000 / 15000 / 18000 / 20000					
	Spindle taper		BT-50 / ISO-50 / CAT-50					
FEED	Rapid feed-rate (X/ Y / Z)	m/min	15 / 15 / 12	12 / 15 / 12		8 / 15 / 12		
	Cutting feed-rate	mm/min	7000					
ACCURACY	Positioning accuracy	mm	± 0.005 / 300 ; ± 0.015 / full travel					
		mm	P0.035		P0.045			
	Repeatability	mm	±0.003					
		mm	Ps0.028		Ps0.03			
ATC	Tool storage capacity	pcs	32T / 40T / 60T / 90T					
	Max. tool length	mm	350					
	Max. tool weight	kg	20					
	Tool size (full tools)	mm	Ø125					
	Max. tool size (next pockets empty)	mm	Ø245					
OTHER	Power consumption	kVA	65					
	Compressed air	kg/cm ²	6.5					
	Machine weight (approx.)	tons	38	42	48	53	63	83
	Machine floor space (L x W x H) (approx.)	m	10.4 x 6.8 x 5.4	13.0 x 6.8 x 5.4	14.8 x 6.8 x 5.4	17.3 x 6.8 x 5.4	21.7 x 6.8 x 5.4	26.1 x 6.8 x 5.4

All specifications are subjected to change without prior notice.



CNC DOUBLE
COLUMN

SPECIFICATIONS

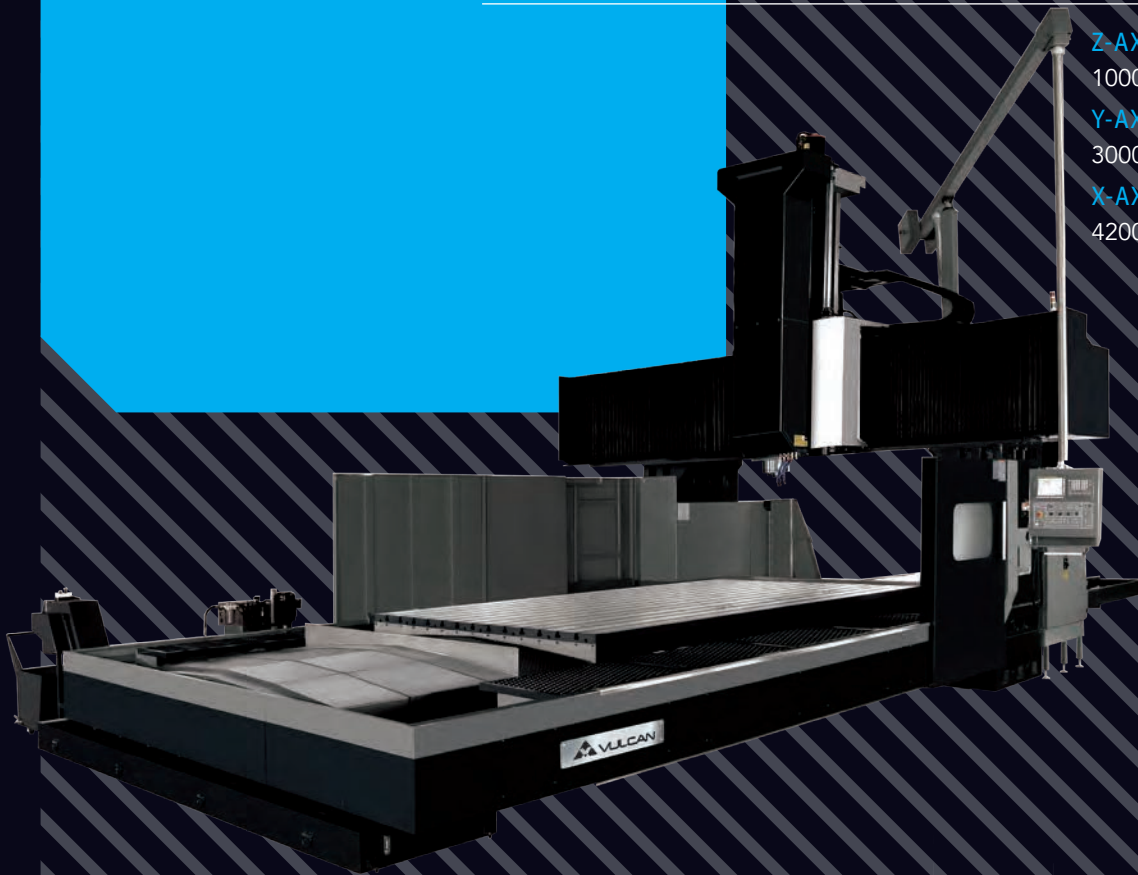
DOUBLE COLUMN LINEAR SERIES

DC SERIES 30/35L

Z-AXIS:
1000 – 1200 mm

Y-AXIS:
3000 – 3500 mm

X-AXIS:
4200 - 10200 mm



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MACHINE SPECIFICATIONS

MODEL	UNIT	DC 4230/35L	DC 5230/35L	DC 6230/35L	DC 8230/35L	DC 10230/35L	
TRAVEL	X axis	mm	4200	5200	6200	8200	10200
	Y axis	mm	3000 – 3500				
	Z axis	mm	1000 – 1200				
	Spindle nose to table	mm	150 – 1350				
	Distance between columns (max. workpiece width)	mm	3200 (3150) – 3700 (3650)				
TABLE	Table dimensions (L)	mm	4000	5000	6000	8000	10000
	Table dimensions (W)	mm	2800 – 3500				
	T-slot (width x number x pitch)	mm	28 x 13 x 200 / 28 x 17 x 200				
	Max. table load	kg	20000	24000	28000	32000	40000
SPINDLE	Spindle motor (cont./ 30 minute rated)	kW	22 / 26 / 30 / 37				
	Spindle speed	rpm	6000 / 8000 / 10000 / 12000 / 15000 / 18000 / 20000				
	Spindle taper		BT-50 / ISO-50 / CAT-50				
FEED	Rapid feed-rate (X/ Y / Z)	m/min	10 / 10 / 12		8 / 10 / 12		
	Cutting feed-rate	mm/min	7000				
ACCURACY	Positioning accuracy	mm	±0.005 / 300 ; ±0.015 / full travel				
		mm	P0.045				
	Repeatability	mm	±0.003				
		mm	Ps0.03				
ATC	Tool storage capacity	pcs	32T / 40T / 60T / 90T				
	Max. tool length	mm	350				
	Max. tool weight	kg	20				
	Tool size (full tools)	mm	Ø125				
	Max. tool size (next pockets empty)	mm	Ø245				
OTHER	Power consumption	kVA	65				
	Compressed air	kg/cm ²	6.5				
	Machine weight (approx.)	tons	55 / 57	63 / 65	71 / 73	87 / 89	101 / 103
	Machine floor space (L x W x H) (approx.)	m	13.8 x 7.3 / (7.8) x 5.4	15.8 x 7.3 / (7.8) x 5.4	17.3 x 7.3 / (7.8) x 5.4	21.7 x 7.3 / (7.8) x 5.4	26.1 x 7.3 / (7.8) x 5.4

All specifications are subjected to change without prior notice.

MACHINE SPECIFICATIONS

MODEL	UNIT	DC 4240/45L	DC 5240/45L	DC 6240/45L	DC 8240/45L	DC 10240/45L	
TRAVEL	X axis	mm	4200	5200	6200	8200	10200
	Y axis	mm	4000 – 4500				
	Z axis	mm	1000 – 1500				
	Spindle nose to table	mm	150 – 1650				
	Distance between columns (max. workpiece width)	mm	4200 (4150) / 4700 (4650)				
TABLE	Table dimensions (L)	mm	4000	5000	6000	8000	10000
	Table dimensions (W)	mm	2800 – 3500				
	T-slot (width x number x pitch)	mm	28 x 13 x 200 / 28 x 17 x 200				
	Max. table load	kg	20000	24000	28000	32000	40000
SPINDLE	Spindle motor (cont./ 30 minute rated)	kW	22 / 26 / 30 / 37				
	Spindle speed	rpm	6000 / 8000 / 10000 / 12000 / 15000 / 18000 / 20000				
	Spindle taper		BT-50 / ISO-50 / CAT-50				
FEED	Rapid feed-rate (X/ Y / Z)	m/min	10 / 10 / 12		8 / 10 / 12		
	Cutting feed-rate	mm/min	7000		6000		
ACCURACY	Positioning accuracy	mm	± 0.005 / 300 ; ± 0.015 / full travel				
		mm	P0.045				
	Repeatability	mm	±0.003				
		mm	Ps0.03				
ATC	Tool storage capacity	pcs	32T / 40T / 60T / 90T				
	Max. tool length	mm	350				
	Max. tool weight	kg	20				
	Tool size (full tools)	mm	Ø125				
	Max. tool size (next pockets empty)	mm	Ø245				
OTHER	Power consumption	kVA	65				
	Compressed air	kg/cm ²	6.5				
	Machine weight (approx.)	tons	66 / 69	74 / 77	82 / 85	98 / 101	112 / 115
	Machine floor space (L x W x H) (approx.)	m	13.8 x 7.3 / 8.8 x 5.4	15.8 x 7.3 / 8.5 x 5.4	17.3 x 7.3 / 8.8 x 5.4	21.7 x 7.3 / 8.8 x 5.4	26.1 x 7.3 / 8.8 x 5.4

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AUTOMATIC INDEXING - AUTOMATIC CLAMPING

VULCAN DOUBLE COLUMN MILLING HEADS

Vulcan double column milling machines are proven to be extremely versatile and have a multitude of milling heads available. The range offers either automatic or manual indexing and manual or automatic clamping depending on the application and budget.



AC5 AUTOMATIC
90° milling head



AC300 AUTOMATIC
extended milling head



AC2 AUTOMATIC
2-axis milling head

AUTOMATIC INDEXING - MANUAL CLAMPING



MC5 SEMI-AUTOMATIC
90° milling head



MC2 SEMI-AUTOMATIC
2-axis milling head

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MANUAL INDEXING - MANUAL CLAMPING



MHK2 MANUAL
2-axis milling head



MH5 MANUAL
90° milling head



MH300 MANUAL
extended milling head



MH500 MANUAL
extended milling head



MHB480 MANUAL
boring &
milling head

CNC CONTROLS

Vulcan machine tools are very adaptable, allowing for several different control options. Having this flexibility can save time and money on having to re-train machine operators if they are already familiar with one of these leading types of control.



THE BEST PARTNER FOR YOUR SUCCESS

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SIEMENS

Ingenuity for life



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HOW MUCH CAN YOU SAVE?

TAKE THE CHALLENGE

How much CO₂ and energy savings can you achieve by fitting an amorphous core transformer to your machine tool?

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As part of ETG's commitment to achieve Net Zero and support our clients to do the same, we would like to introduce Amorphous core transformers in collaboration with Powerstar, that can be fitted to all machine tools (both old and new).

Due to the cost of energy only going in one direction, there are considerable financial savings when fitting an Amorphous core transformer and with the decrease in power usage comes a significant CO₂ reduction, limiting the damage to our environment.

Shown here is an example of cost and tCO₂e (Tons of Carbon Dioxide Equivalent) reductions when a 77 kVA Amorphous core transformer is fitted to a typical machine tool.

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Carbon Reduction

43tCO₂e

Over 10 years*

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