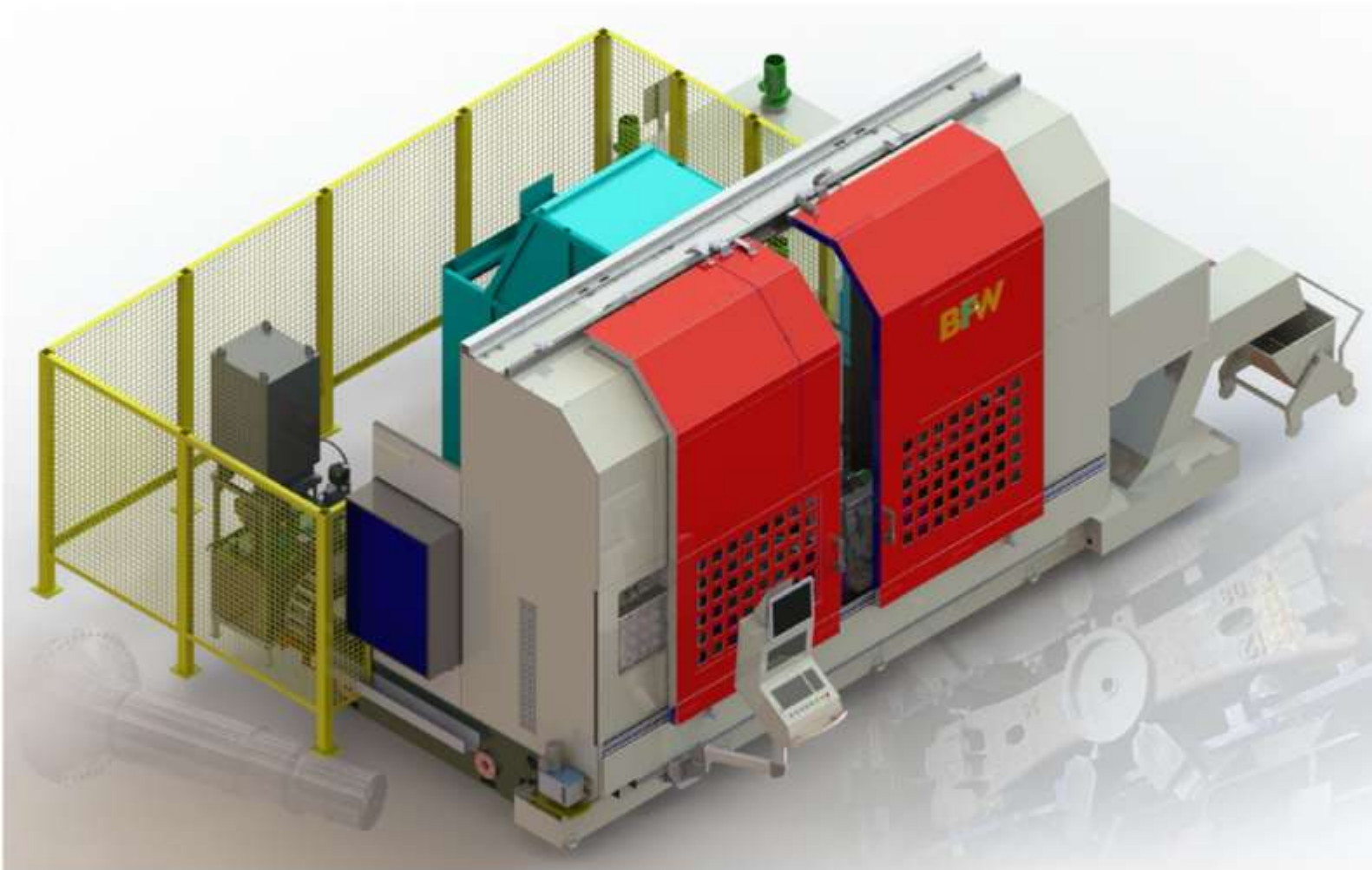


## Traveling Column Machining Center Series Multi-tasking machine



Series 1 : TCM 4100 | TCM 4200 | TCM 4300 | TCM 4400 | TCM 4500

Series 2 : TCM 5100 | TCM 5200 | TCM 5300 | TCM 5400 | TCM 5500

# Travelling Column Machining Centers

Series 1: TCM 4100 | TCM 4200 | TCM 4300 | TCM 4400 | TCM 4500  
 Series 2: TCM 5100 | TCM 5200 | TCM 5300 | TCM 5400 | TCM 5500

## TCM Series Salient Features as

**Multi tasking / Flexible Machine**

**Completely concealed machining zone**

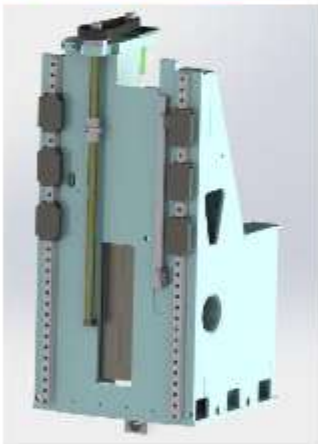
**Ideal for bigger / Complicated components**

**Innovative tool magazine**

**Single lift machine**

**TPM friendly machine**

▼ Heavily Ribbed Column



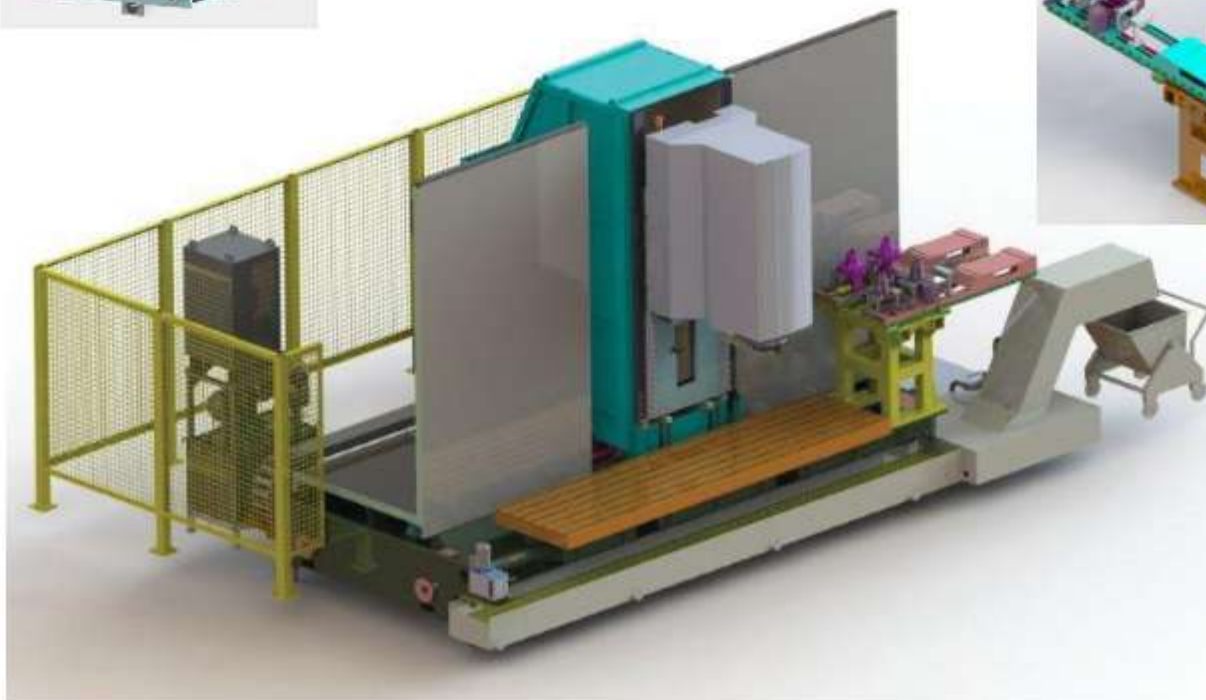
▼ Heavily Ribbed Base



▼ Tool Magazine



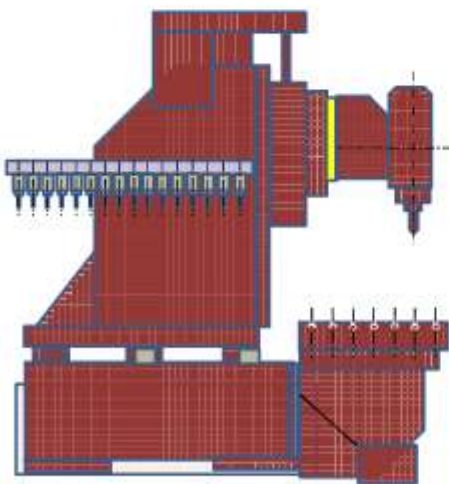
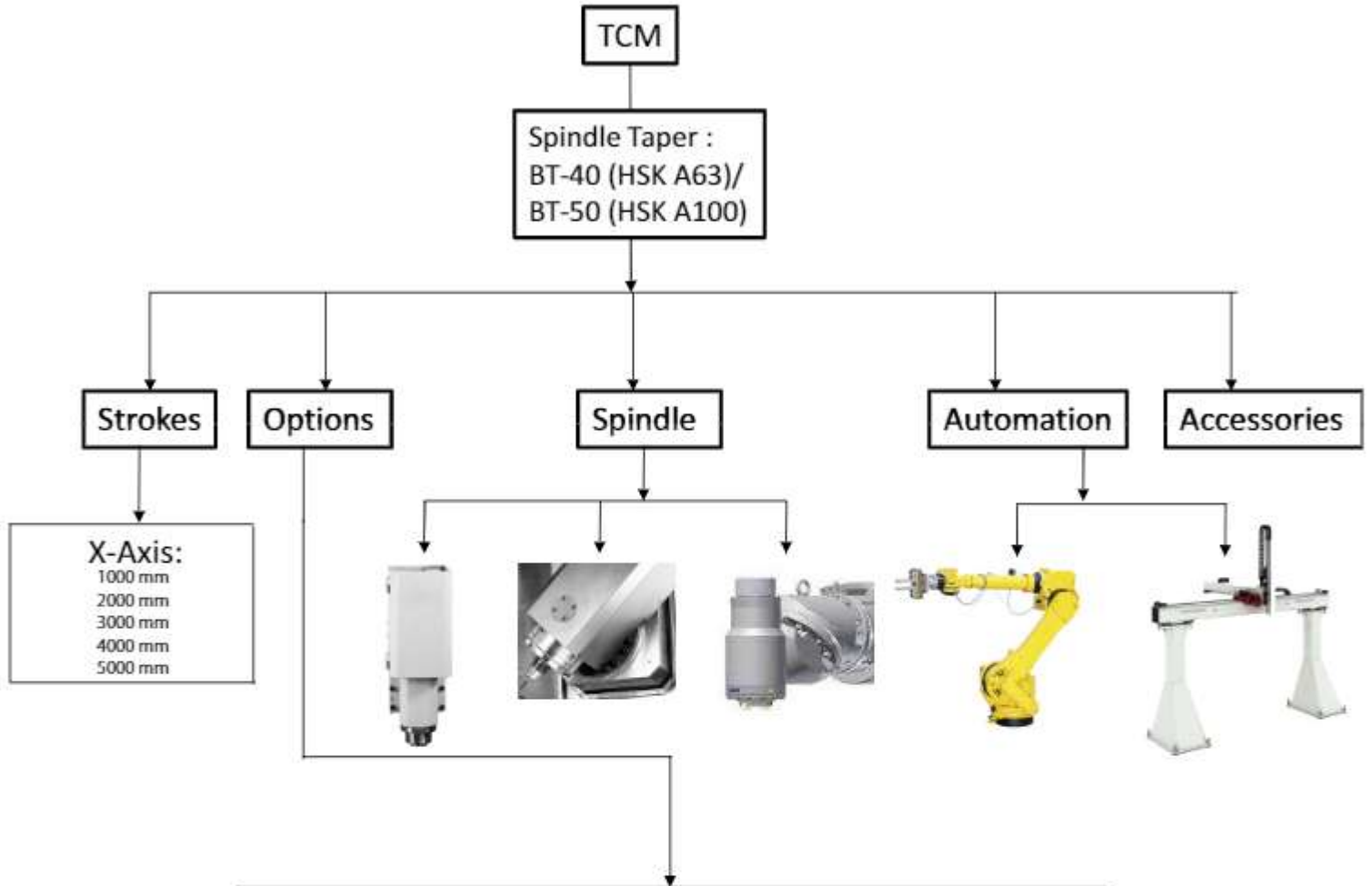
▼ Tool Parking Station



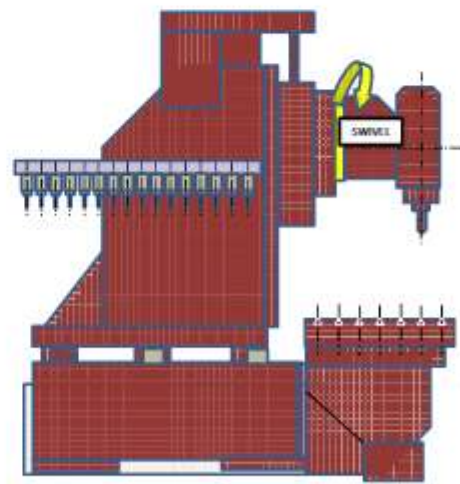
▼ Tool Magazine



## MACHINE CONFIGURATION



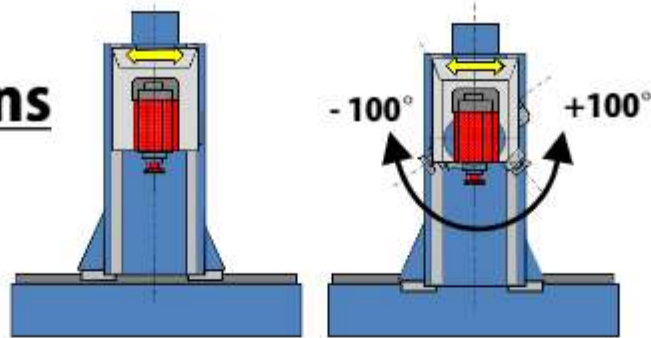
**FIXED SPINDLE**



**SWIVEL SPINDLE**

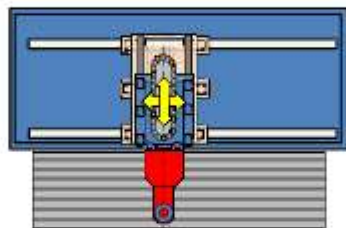


## Machine Options

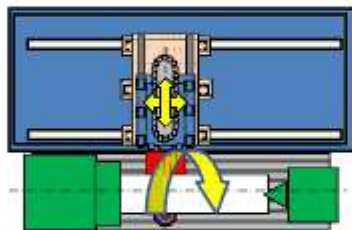


**FIXED SPINDLE**

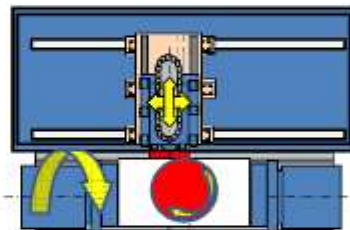
**SWIVEL SPINDLE**



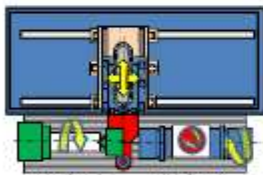
**OPTION - 1 (FLAT BED) STANDARD**



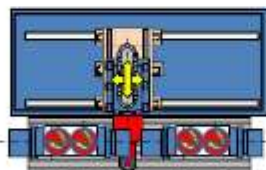
**Option - 2 (Rotary Table + Tail Stock)**



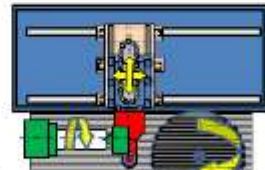
**Option - 3 (Rotary Cum Tilting Table)**



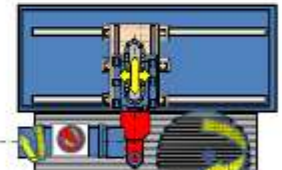
**Option - 4 (Rotary Table, Tailstock + Rotary cum Tilting Table)**



**Option - 5 (Rotary cum Tilting Table)**



**Option - 6 (Rotary Table, Tailstock + Rotary Table)**



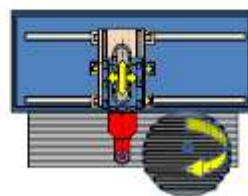
**Option - 7 (Production system + Rotary Table)**



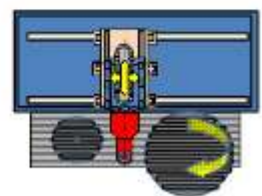
**OPTION - 6 (Rotary Table, Tail Stock + Rotary Table)**



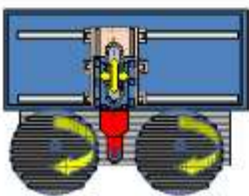
**OPTION - 7 (Production System + Rotary Table)**



**OPTION - 8 (Flat Bed + Rotary Table)**



**OPTION - 9 (Rotary Table (Small) + Rotary Table (Big))**



**OPTION - 10 (Rotary Table + Rotary Table)**

Many More.....

## Sectors



Aerospace



Automobile



Energy



Railway



Defence



Mould making

Many more..

## Applications



Many more..



## TECHNICAL SPECIFICATION

Series: 4100 | 4200 | 4300 | 4400 | 4500

Specifications	Unit	TCM 4100	TCM 4200	TCM 4300	TCM 4400	TCM 4500
<b>Table</b>						
Table size	mm	1500 x 635	2500 x 635	3500 x 635	4500 x 635	5500 x 635
Maximum safe load on table	kg	1000	2000	3000	4000	5000
Distance from table top to spindle face	mm	175-975	175-975	175-975	175-975	175-975
Distance table top to floor	mm	-920	-920	-920	-920	-920
Spindle Counterbalance		Hydraulic	Hydraulic	Hydraulic	Hydraulic	Hydraulic
<b>Traverse</b>						
X axis	mm	1000	2000	3000	4000	5000
Y axis	mm	600	600	600	600	600
Z axis (Option)	mm	700 (1000)	700 (1000)	700 (1000)	700 (1000)	700 (1000)
<b>Axis drive</b>						
Feed rates X/ Y/ Z	m/ min	1-10000	1-10000	1-10000	1-10000	1-10000
Rapid feed rate X/ Y/ Z	m/ min	30/30/30	30/30/30	30/30/30	30/30/30	30/30/30
Rapid feed rate X/ Y/ Z (Option)	rpm	40/40/40	40/40/40	40/40/40	40/40/40	40/40/40
<b>Spindle</b>						
Spindle drive (Option)	type	Belt (Motorised)	Belt (Motorised)	Belt (Motorised)	Belt (Motorised)	Belt (Motorised)
Power continuous / Intermittent (30 min rating)	kW	7.5 / 11	7.5 / 11	7.5 / 11	7.5 / 11	7.5 / 11
Power continuous / Intermittent (30 min rating) (option -1)	NM	11/ 15	11/ 15	11/ 15	11/ 15	11/ 15
Power continuous / Intermittent (30 min rating) (option -2 Motorized) Fanuc/ Siemens	kW	15/ 18.5 / 22, 26.4	15/ 18.5 / 22, 26.4	15/ 18.5 / 22, 26.4	15/ 18.5 / 22, 26.4	15/ 18.5 / 22, 26.4
Tool interface(Option)	type	BT 40 (HSK A 63)	BT 40 (HSK A 63)	BT 40 (HSK A 63)	BT 40 (HSK A 63)	BT 40 (HSK A 63)
Spindle speed	rpm	6000 / 8000	6000 / 8000	6000 / 8000	6000 / 8000	6000 / 8000
Spindle speed Motorised	rpm	15000	15000	15000	15000	15000
Spindle Torque (Option)	Nm	75 (150)	75 (150)	75 (150)	75 (150)	75 (150)
Spindle Torque Motorised Fanuc / Siemens	Nm	90.6/ 98	90.6/ 98	90.6/ 98	90.6/ 98	90.6/ 98
Distance from spindle center to guide-way face	mm	680	680	680	680	680
<b>Swivel head - Option</b>						
Swivelling angle (continuous)	deg	200( +/ -100 °)	200( +/ -100 °)	200( +/ -100 °)	200( +/ -100 °)	200( +/ -100 °)
Swivelling accuracy	arc sec	+/- 3 / 5/ 10	+/- 3 / 5/ 10	+/- 3 / 5/ 10	+/- 3 / 5/ 10	+/- 3 / 5/ 10
<b>Automatic Tool Changer</b>						
No of Tools - Std	No	36	36	36	36	36
Maximum tool dia with all pockets full	No	70	70	70	70	70
Maximum tool dia with adjacent pockets empty	mm	130	130	130	130	130
Maximum tool length	mm	250	250	250	250	250
Tool weight	kg	6	6	6	6	6
Chip to chip time - Vertical /Horizontal	sec	5.5 / 8	5.5 / 8	5.5 / 8	5.5 / 8	5.5 / 8
<b>Accuracy as per ISO 230 - 2</b>						
<b>Linear axes</b>						
Positioning A	mm	0.010	0.010	0.015	0.02	0.02
Repeatability R	mm	0.006	0.006	0.009	0.012	0.012
CNC System		Fanuc Oi MF / Siemens 828 D / Mitsubishi/ Heidenhain				
<b>Installation Data</b>						
Machine Width X Depth	mm	- 3800 x 2625	- 5000 x 2625	- 6200 x 2625	- 7400 x 2625	- 8600 x 2625
Total connected load	kVA	- 30	- 30	- 30	- 30	- 30
Compressed air	bar	6	6	6	6	6
Power supply		415 V ± 10 % AC, 50 ± 2 % Hz, 3 phase				

## TECHNICAL SPECIFICATION

Specifications	Unit	TCM 5100	TCM 5200	TCM 5300	TCM 5400	TCM 5500
<b>Table</b>						
Table size	mm	1500 x 835	2500 x 835	3500 x 835	4500 x 835	5500 x 835
Maximum safe load on table	kg	1500	2500	3500	4500	5500
Distance from table top to spindle face	mm	200-1190	200-1190	200-1190	200-1190	200-1190
Distance table top to floor	mm	-920	-920	-920	-920	-920
Spindle Counterbalance		Hydraulic	Hydraulic	Hydraulic	Hydraulic	Hydraulic
<b>Traverse</b>						
X axis	mm	1000	2000	3000	4000	5000
Y axis	mm	800	800	800	800	800
Z axis (Option)	mm	700 (1000)	700 (1000)	700 (1000)	700 (1000)	700 (1000)
<b>Axis drive</b>						
Feed rates X/ Y/ Z	m/ min	1-10000	1-10000	1-10000	1-10000	1-10000
Rapid feed rate X/ Y/ Z	m/ min	30/30/30	30/30/30	30/30/30	30/30/30	30/30/30
Rapid feed rate X/ Y/ Z (Option)	rpm	40/40/40	40/40/40	40/40/40	40/40/40	40/40/40
<b>Spindle</b>						
Spindle drive (Option)	type	Belt (Motorised)	Belt (Motorised)	Belt (Motorised)	Belt (Motorised)	Belt (Motorised)
Power continuous / Intermittent (30 min rating)	kW	18.5 / 22	18.5 / 22	18.5 / 22	18.5 / 22	18.5 / 22
Power continuous / Intermittent (30 min rating) (option -1)	NM	22/ 26	22/ 26	22/ 26	22/ 26	22/ 26
Power continuous / Intermittent (30 min rating) (option -2 Motorized) Fanuc/ Siemens	kW	30/ 37/ 55, 63	30/ 37/ 55, 63	30/ 37/ 55, 63	30/ 37/ 55, 63	30/ 37/ 55, 63
Tool interface(Option)	type	BT 50 (HSK A100)	BT 50 (HSK A100)	BT 50 (HSK A100)	BT 50 (HSK A100)	BT 50 (HSK A100)
Spindle speed	rpm	4500 / 6000	4500 / 6000	4500 / 6000	4500 / 6000	4500 / 6000
Spindle speed Motorised	rpm	10000	10000	10000	10000	10000
Spindle Torque (Option)	Nm	475 / 550	475 / 550	475 / 550	475 / 550	475 / 550
Spindle Torque Motorised Fanuc / Siemens	Nm	699 / 300	699 / 300	699 / 300	699 / 300	699 / 300
Distance from spindle center to guide-way face	mm	880	880	880	880	880
<b>Swivel head - Option</b>						
Swivelling angle (continuous)	deg	200( +/ -100 °)	200( +/ -100 °)	200( +/ -100 °)	200( +/ -100 °)	200( +/ -100 °)
Swivelling accuracy	arc sec	+/- 3/ 5/ 10	+/- 3/ 5/ 10	+/- 3/ 5/ 10	+/- 3/ 5/ 10	+/- 3/ 5/ 10
<b>Automatic Tool Changer</b>						
No of Tools - Std	No	40	40	40	40	40
Maximum tool dia with all pockets full	No	104	104	104	104	104
Maximum tool dia with adjacent pockets empty	mm	200	200	200	200	200
Maximum tool length	mm	350	350	350	350	350
Tool weight	kg	12	12	12	12	12
Chip to chip time - Vertical /Horizontal	sec	7.5 / 10	7.5 / 10	7.5 / 10	7.5 / 10	7.5 / 10
<b>Accuracy as per ISO 230 - 2</b>						
<b>Linear axes</b>						
Positioning A	mm	0.010	0.010	0.015	0.02	0.02
Repeatability R	mm	0.006	0.006	0.009	0.012	0.012
<b>CNC System</b>						
Fanuc Oi MF / Siemens 828 D / Mitsubishi/ Heidenhain						
<b>Installation Data</b>						
Machine Width X Depth	mm	- 4000 x 6500	- 5500 x 6500	- 7000 x 6500	- 8500 x 6500	- 10000 x 6500
Total connected load	kVA	- 45	- 45	- 45	- 45	- 45
Compressed air	bar	6	6	6	6	6
Power supply		-415 V ± 10 % AC, 50 ± 2 % Hz, 3 phase				





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