



CNC SWISS TURN

# MS20A/32A

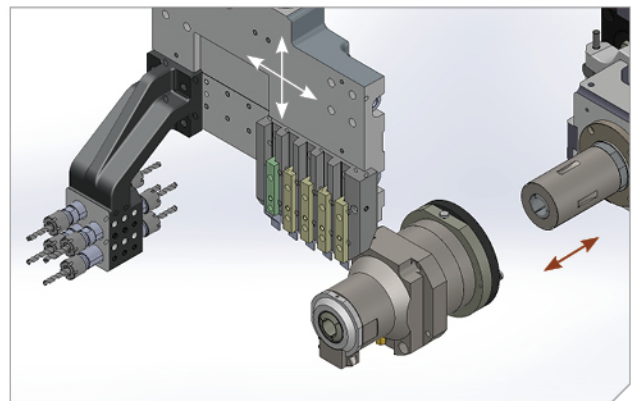
Wide Variation Custom Machine

**MP** MECHANICAL COMPLETE  
Meplete Industry

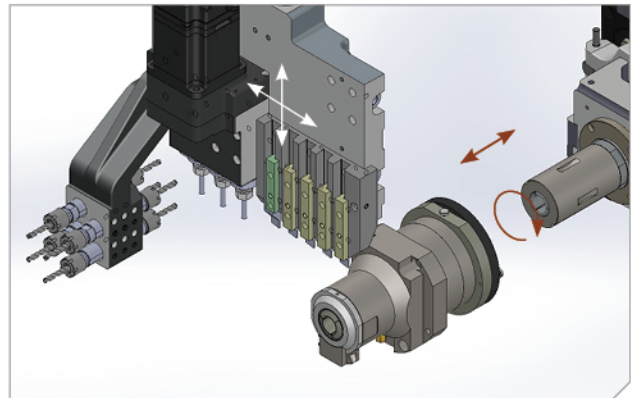
- CUSTOMIZING CNC SWISS TURN
- VERSITILE SYSTEM(CNC 3,4,6,7 axes) :  
UPGRADE after installation
- GUIDE BUSH ↔ NON GUIDE BUSH Conversion
- REMNANT TURNING System
- FORGING & BAR Material Co-Application
- CORRECTION of HEAT DEFORMATION and TRAVEL ERROR

CUSTOMIZED MACHINE

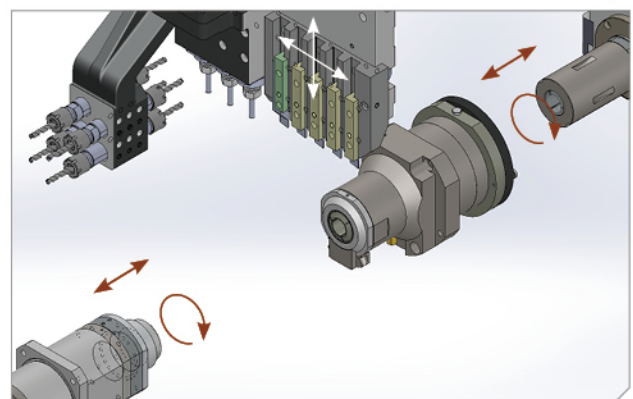
- System I**
- Main Spindle
  - OD Tools 5 ea
  - Front Tools 4 ea



- System II**
- Main Spindle
  - OD Tools 5 ea
  - Front Tools 4 ea
  - Cross Drill 3 ea

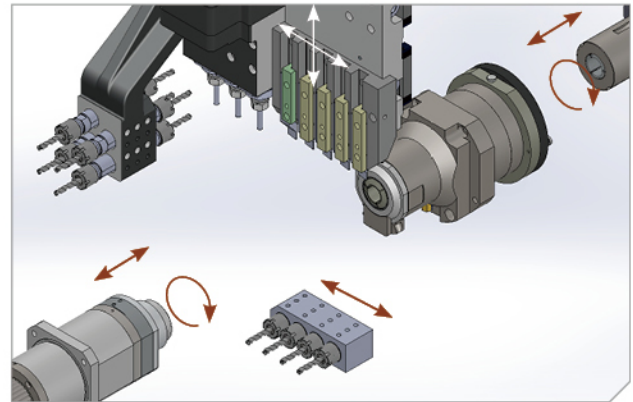


- System III**
- Main Spindle
  - OD Tools 5 ea
  - Front Tools 4 ea
  - Cross Drill 3 ea
  - Sub Spindle



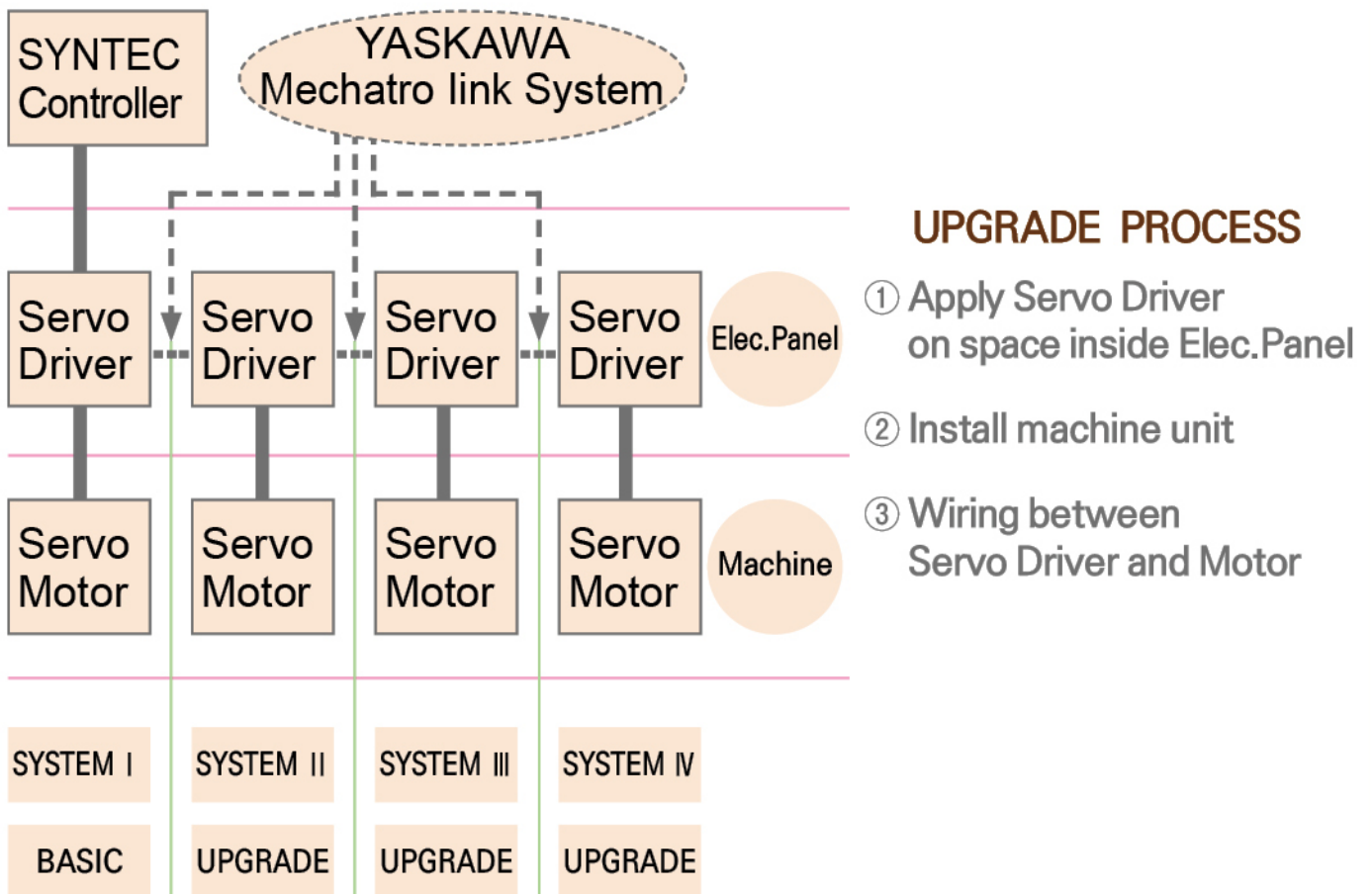
### System IV

- Main Spindle
- OD Tools 5 ea
- Front Tools 4 ea
- Cross Drill 3 ea
- Sub Spindle
- Back Machining Tools 4 ea



## UPGRADE after installation

SYSTEM I → SYSTEM II → SYSTEM III → SYSTEM IV

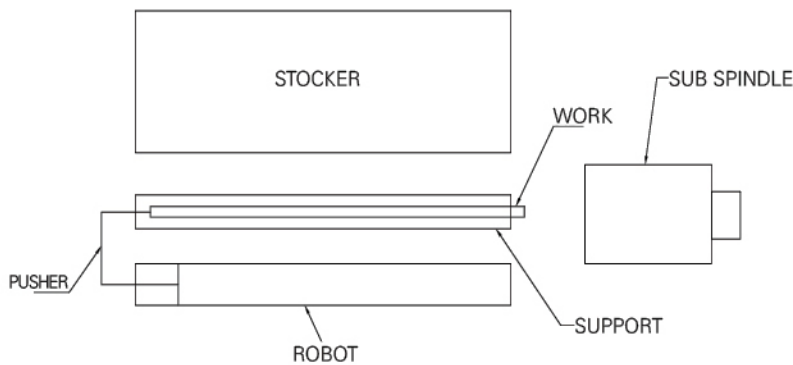


## REMNANT MACHINING SYSTEM(Patent pending)

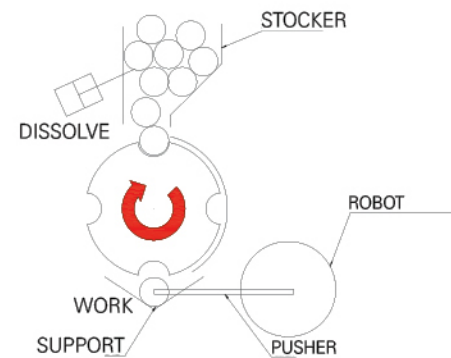
Save Material Cost INCREASE BENEFIT

- Front Machining on Sub Spindle
- Back Machining on Main Spindle
- Remnant Length Upto 250mm
- Capable to machine two parts at a time on Main & Sub

### Construction



### Work Supply

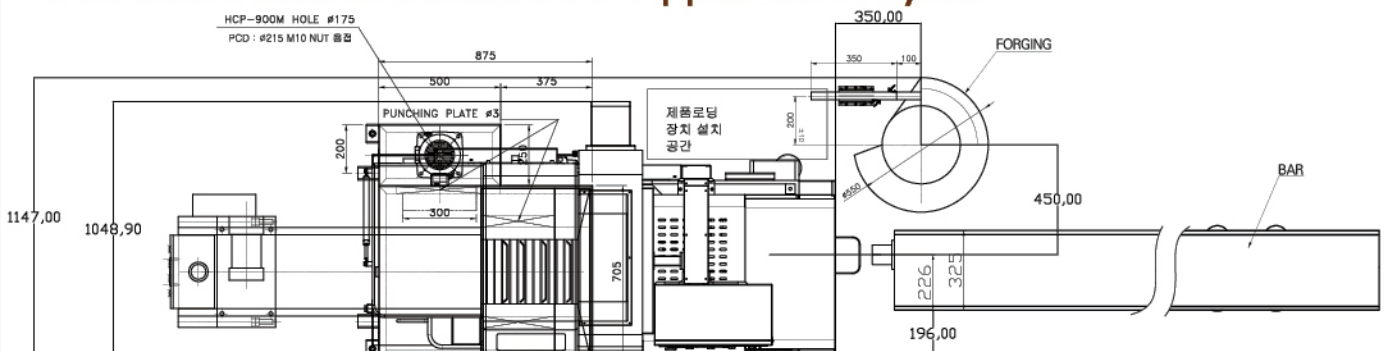


## FORGING MATERIAL APPLICATION

Two kind loading system

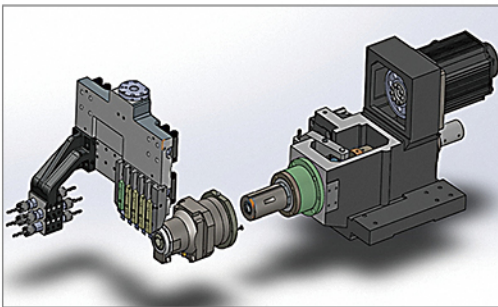
- SWING ARM TYPE LOADER  
(Short Loading Time, Loading Back Side of Tool Post)
- Air Chute Type Loading for small piece  
(High Speed Loading, Loading Front Side of Tool Post)

### FORGING & BAR Material Co-Application Layout

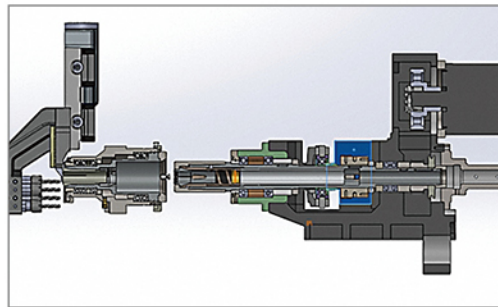


# MACHINE TYPE CONVERSION

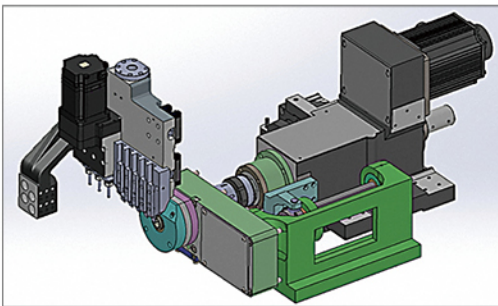
- Conversion between Direct Drive, Spline Drive, and Non Guide on purpose
- Bar & Forging material co-application
- Non Guide Bush for Remnant Machining



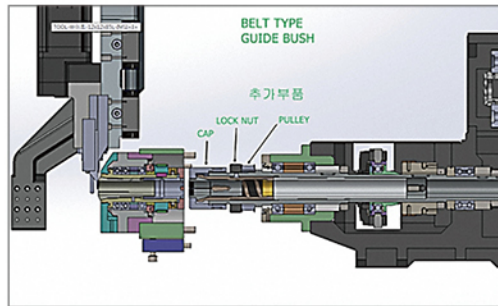
DIRECT DRIVE GUIDE BUSH  
STROKE : 80(MS20A)



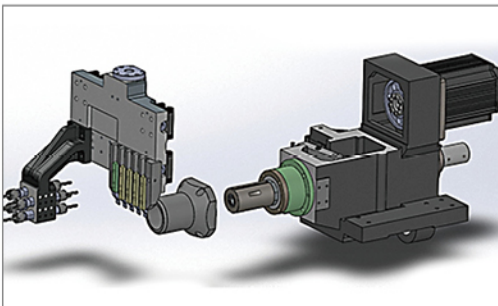
Conversion



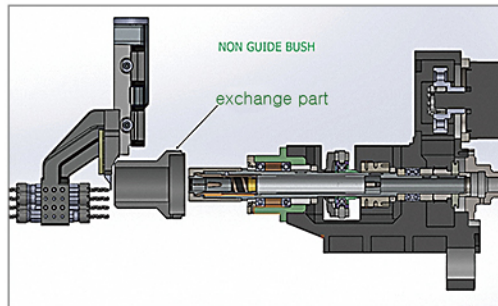
SPLINE DRIVE GUIDE BUSH  
STROKE : 320(MS32A), 200(MS20A)



Conversion



NON GUIDE BUSH

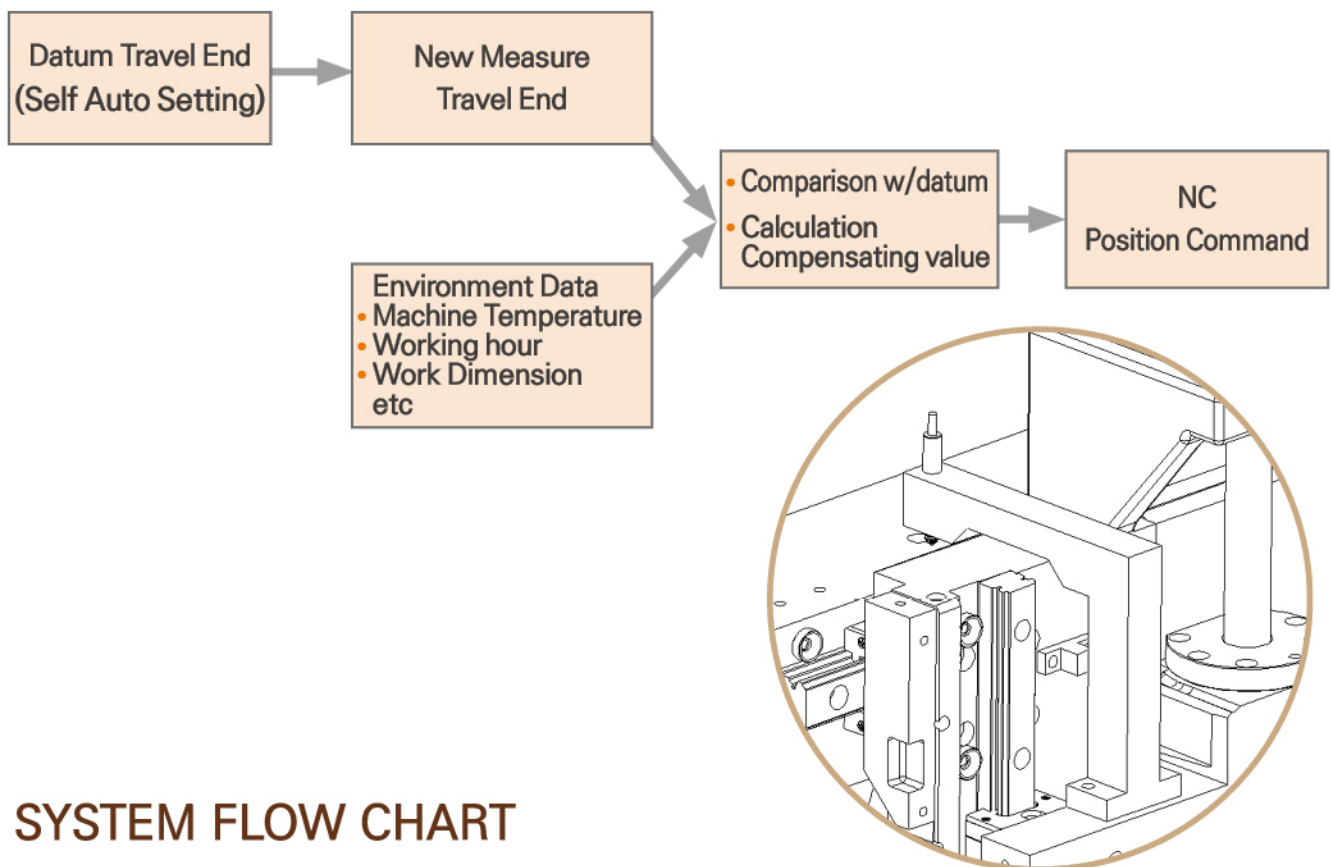


Conversion

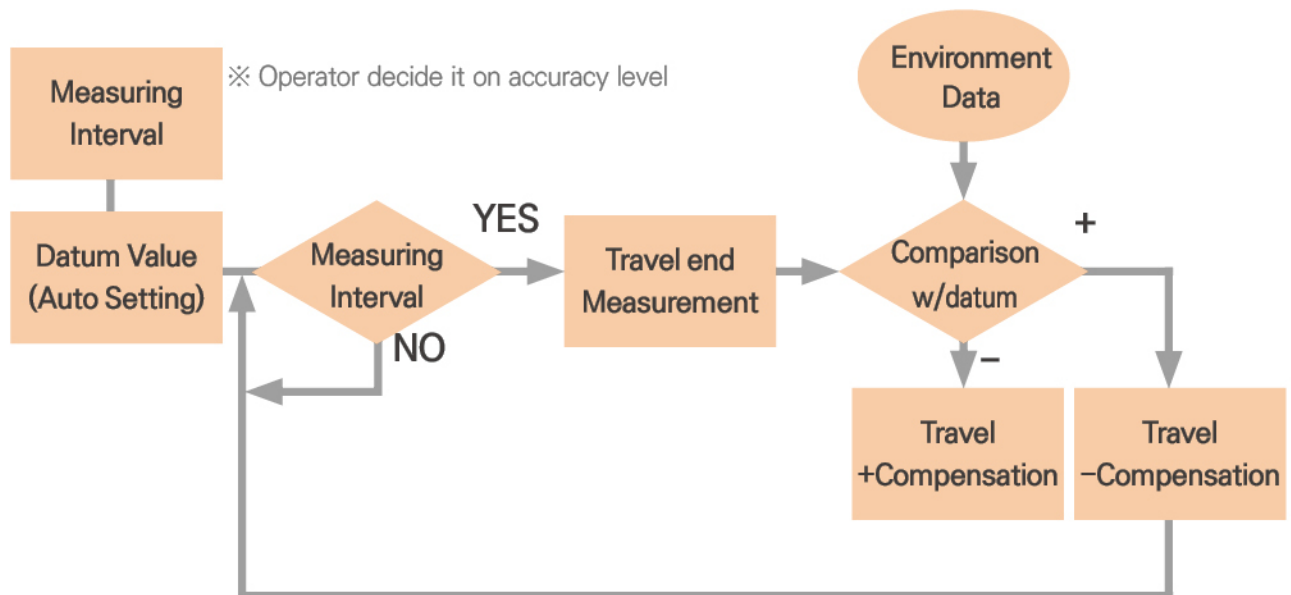
**CORRECTION of HEAT DEFORMATION & TRAVEL ERROR(Patent pending)**

- Work Dimension TOLERANCE 10 MICRON class
- Slide Repeatability  $\pm 0.002$ (24hours)
- Cpk 1.67 GUARANTEE(Datum Tolerance 0.05)
- Travel End Measuring on Machining
- Compensation Heat Deformation & Travel Error

**SYSTEM LOGIC**



**SYSTEM FLOW CHART**

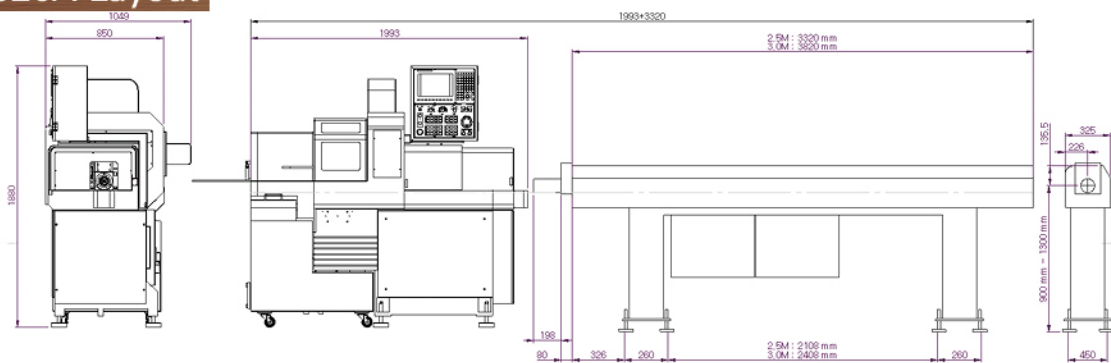


# MS20A Machine Specification

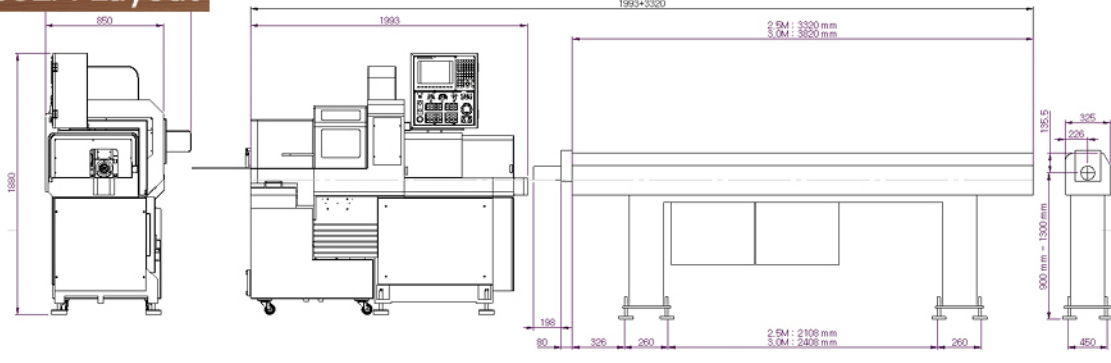
Specification		Unit	Main Model	Subsidiary Model
Description	Detail		MS20A	MS32B
<b>NC</b>	<b>Controller</b>		<b>FANUC Oi-TD, Syntec+Yaskawa</b>	
<b>Capability</b>	Max Bar Diameter	mm	Ø20	Ø32
	Stroke (Direct drive rotary guide)	mm	80	NA
	Stroke (Motorized Guide Bush)	mm	210	210
	Stroke(Spline drive rotary guide)	mm	210	210
<b>OD Tools</b>	Numbers	ea	5(8)	3(5)
	Shank dimension	mm	12X12	16X16
<b>Front Tool Sleeve</b>	Numbers	ea	4	4
	Max Drilling capability	mm	Ø10	Ø13
	Max Tapping capability		M8X1.25	M12X1.75
<b>Power Tool</b>	Numbers	ea	3	2
	Max Drilling capability	mm	Ø6	Ø6
	Max Tapping capability		M5X0.8	M5X0.8
	Motor Power	KW	0.5	0.5
	RPM	RPM	5,000	5,000
<b>Main Spindle</b>	Motor Power	KW	3	5.5
	RPM(Motorized Guide Bush)	RPM	10,000	8,000
	RPM(Spline Connecting Guide)	RPM	8,000	7,000
	RPM(Direct Drive Guide Bush)	RPM	8,000	NA
	RPM(Direct Drive Motor)	RPM	15,000	NA
<b>Sub Spindle</b>	Motor Power	KW	1.5	1.5
	RPM	RPM	8,000	8,000
<b>Back Machining tool</b>	Max Diameter	mm	Ø20	Ø32
	Numbers	ea	4	3
	Max Drilling capability	mm	Ø7	Ø7
	Max Tapping capability		M6X1.0	M6X1.0
<b>Fast Traverse Speed</b>		m/min	32(X1 : 24)	32(X1 : 24)
<b>Power Consumption</b>		KVA	15 kVA	20 KVA
<b>Machine Dimension</b>		mm	870(770)X1550X1600	870(770)X1550X1600
<b>Weight</b>		kg	2,200kg	2,300 Kg

※ Specification can be for performance improvement

## MS20A Layout



## MS32A Layout



# MS32A Machine Specification

Specification		Unit	Main Model	Subsidiary Model	
Description	Detail		MS32A	MS38B	MS26B
NC	Controller		FANUC 0i-TD, Syntec+Yaskawa		
Capability	Max Diameter	mm	∅32	∅38	∅26
	Stroke (Motorized Guide Bush)	mm	320	320	320
	Stroke(Spline drive rotary guide)	mm	320	320	320
OD Tools	Numbers	ea	5(8)	4	6
	Shank dimension	mm	16X16	16X16	12X12
Front Tool Sleeve	Numbers	ea	4	4	4
	Max Drilling capability	mm	∅13	∅13	∅10
	Max Tapping capability		M12X1.75	M12X1.75	M8X1.25
Power Tool	Numbers	ea	3	3	4
	Max Drilling capability	mm	∅10	∅10	∅10
	Max Tapping capability		M8X1.25	M8X1.25	M8X1.25
	Motor Power	KW	1	1	1
	RPM	RPM	5,000	5,000	5,000
Main Spindle	Motor Power	KW	5.5	5.5	3.0
	RPM(Motorized Guide Bush)	RPM	8,000	8,000	10,000
	RPM(Spline connecting Guide Bush)	RPM	7,000	7,000	8,000
Sub Spindle	Motor Power	KW	(2.2)	(2.2)	1.5
	RPM	RPM	8,000	8,000	8,000
Back Machining tool	Max Diameter	mm	∅32	∅38	∅26
	Numbers	ea	4	3	5
	Max Drilling capability	mm	∅7	∅7	∅7
	Max Tapping capability		M6X1.0	M6X1.0	M6X1.0
Fast Traverse Speed		m/min	32 (X1: 24)	32 (X1: 24)	32 (X1: 24)
Power Consumption		KVA	20 kVA	20 kVA	15 kVA
Machine Dimension		mm	970 X 1650 X 1700		
Weight		kg	2,900kg	2,950kg	2,850kg

※ Specification can be for performance improvement

## Standard Accessories

1. Main Spindle Chuck sleeve
2. Sub Spindle Chuck sleeve
3. Spindle clamp unit(Main & Sub)
4. Rotary Guide Bush Unit
5. 5 station OD Bite Holder
6. 4 position ID tool sleeve holder
7. Pneumatic Unit
8. Automatic centralized lubrication unit
9. Work light
10. Main spindle C-axis control
11. 3 Color Patrol Light
12. Power Driven Cross Drill unit
13. Coolant flow detector
14. Bar feeder Interface

## Optional Accessories

1. Parts Conveyor
2. Broken Cut Off Tool Detector(Soft)
3. Bar feeder
4. M-code oil blow
5. Chip conveyor
6. Chip box
7. Stationary Guide Bush
8. Auto fire extinguisher
9. Special tooling
10. SYNTEC + YASKAWA SYSTEM(-OPTION)
11. Motor Drive Guide Bush
12. Spline Drive Guide Bush
13. Back side Power tool(2 ea)

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