

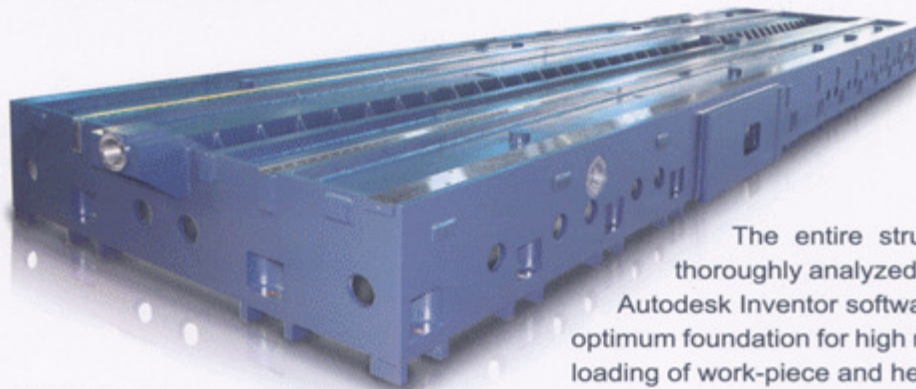


# Double Column 5-Face Machining Center



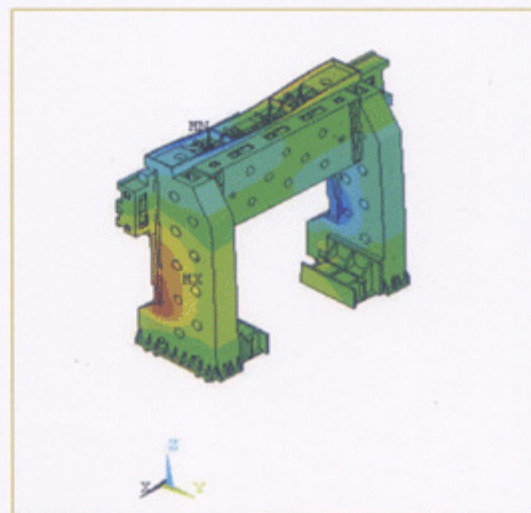
## Machine Features

- Bridge type structure of this machine has high rigidity ensuring the best precision under heavy cutting conditions.
- The castings are made of high grade cast iron and are heat treated and stress relieved. The box type structure design allows high stability under heavy cutting conditions
- The crossrail can be moved up and down independently without any positioning stop, allowing higher work-pieces to ensure the best machining accuracy.
- Powerful hydraulic clamping devices on the both sides of crossrail ensure high accuracy under all kinds of heavy cutting conditions
- X-axis has roller type re-circulating linear guide ways. This design greatly increases speed in rapid traverse and rigidity.
- The spindle is fitted with a 350×350mm square RAM allowing the spindle rigidity to support heavy cutting.
- Vertical and horizontal spindle is designed for Automatic attachment changer ( AAC ) to provide high rigidity and multi-face machining.
- Spindle is designed for thermal stability by utilizing a spindle oil temperature control system.
- Design of 60 tool magazine provides 500mm max. tool length.
- The easy-to-use operation panel swivels 90° for operator convenience and ease of use. The remote manual pulse generator makes it very convenient to set-up the machine and pick up tool and work offsets.

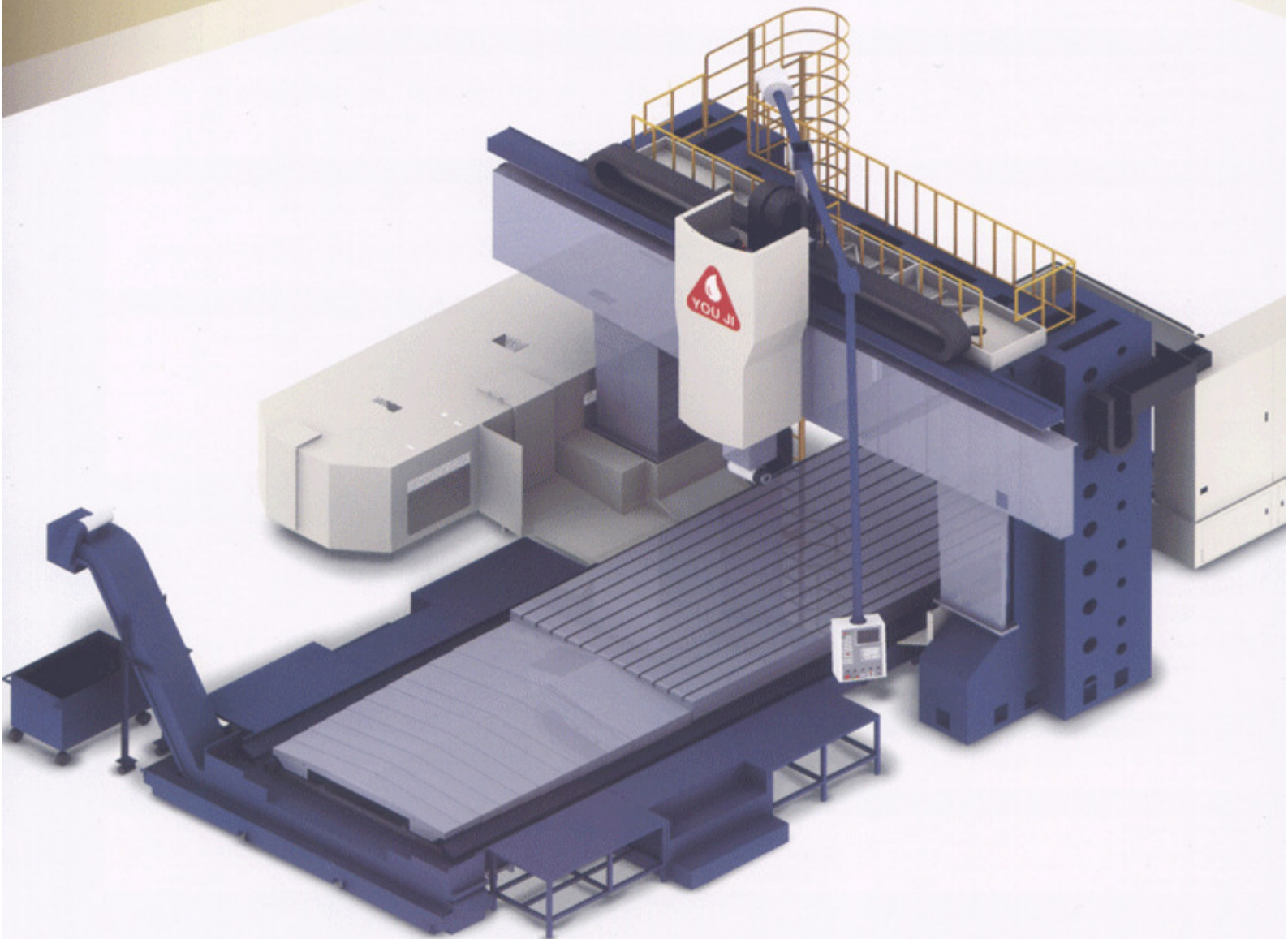


The entire structure has been thoroughly analyzed and designed by Autodesk Inventor software, to provide an optimum foundation for high rigidity, maximum loading of work-piece and heavy-duty cutting.

## Stress Analysis



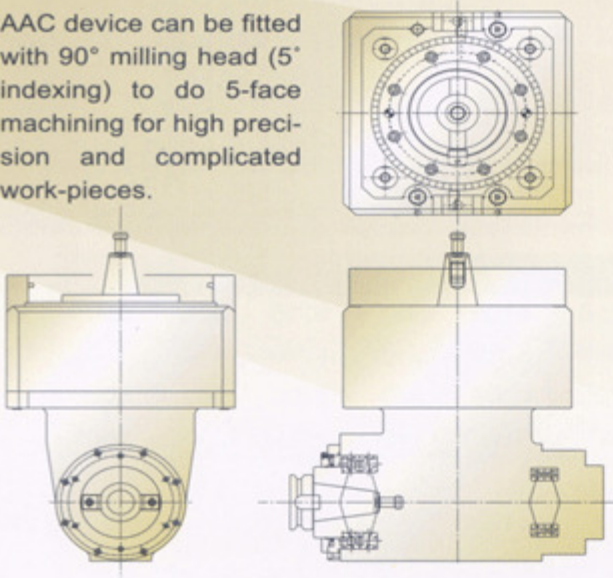
# MCR series



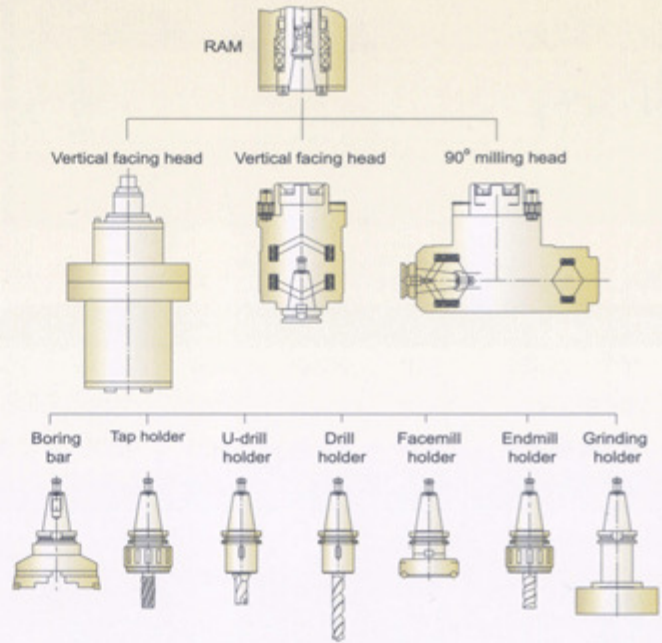
Model	A	B	C	D	E	F
MCR25/40	8000	6800	7600	2000	1100	2500
MCR35/50	9000	6800	7600	2500	1100	3500
MCR42/60	10000	7200	8000	3300	1100	4200
MCR50/80	10800	7200	8000	4100	1100	5000

## Automatic Attachment Changer

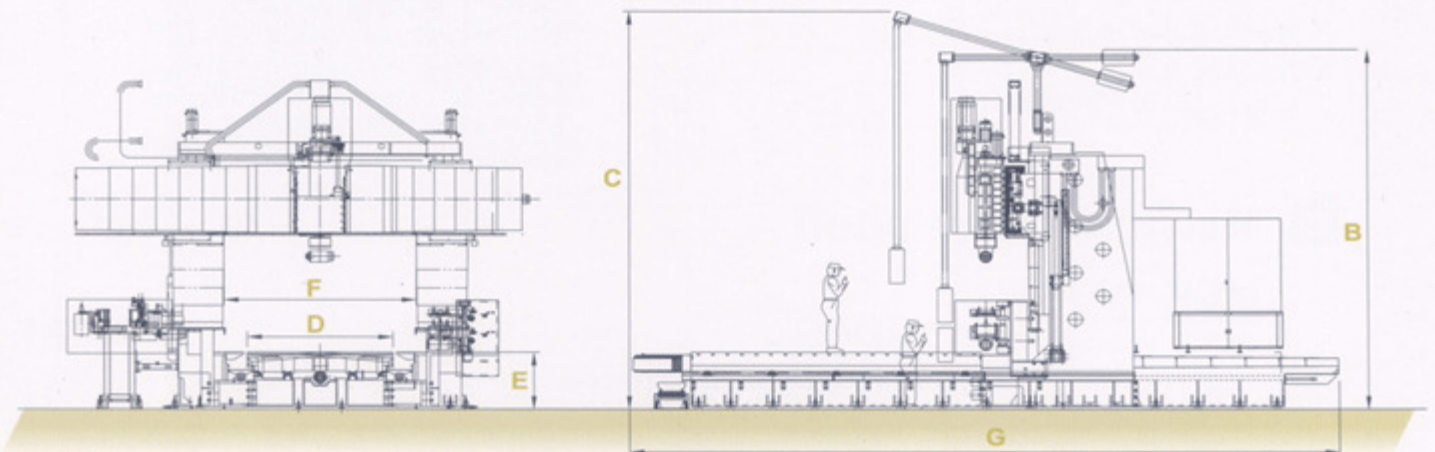
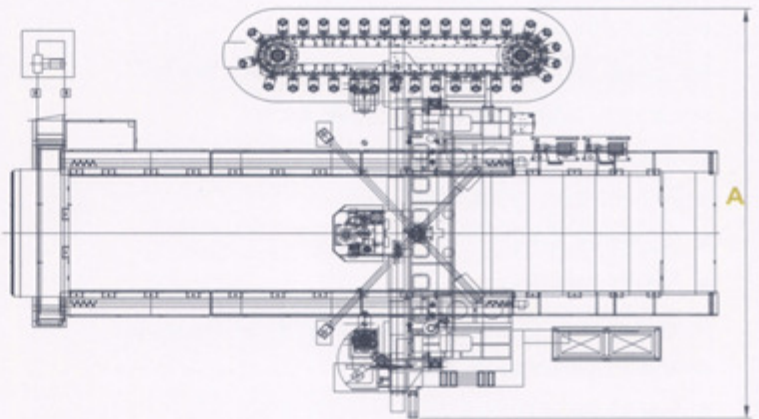
AAC device can be fitted with 90° milling head (5° indexing) to do 5-face machining for high precision and complicated work-pieces.



## Tooling System

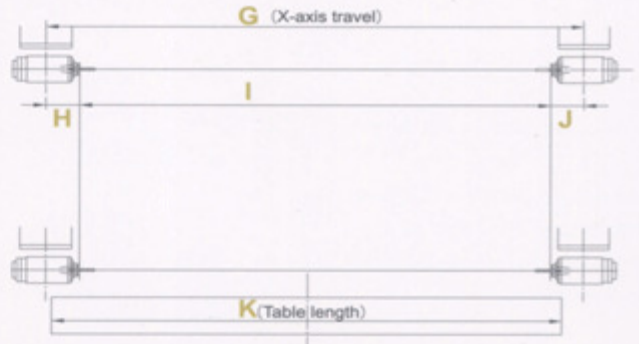
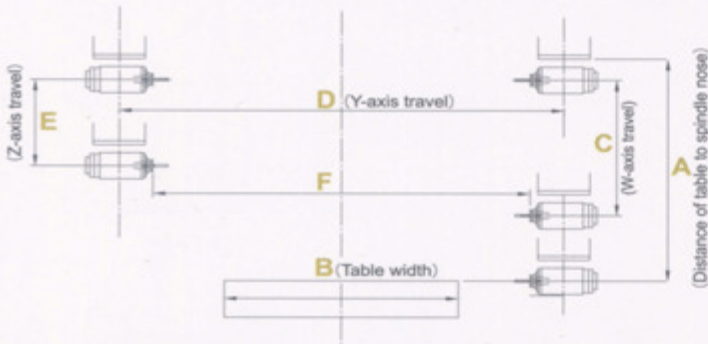


## Machine Layout Dimension



## Y-axis Machining Range

## X-axis Machining Range



Model	A	B	C	D	E	F	G	H	I	J	K
MCR 25/40	1800	2000	1100	2900	700	2420	4200	240	3720	240	4000
MCR 35/50	1800	2500	1100	3900	700	3420	5200	240	4720	240	5000
MCR 42/60	2200	3300	1500	4600	700	4120	6200	240	5720	240	6000
MCR 50/80	2200	4100	1500	5400	700	4920	8200	240	7720	240	8000

Unit:mm

## Standard Accessories

- FANUC 18i-M controller
- Spindle oil cooler
- Spindle air blast system
- Telescopic way covers for X/Y/W axis
- Linear scales for X/Y/Z/W axis
- Automatic attachment changer
- Protection cover for ATC
- 60 tools ATC
- Rigid tapping
- Steel belt type chip conveyor ( and chip bucket )
- Maintenance ladder
- Pendant control
- Oil skimmer
- Signal tower ( 3 stage )
- Working lamp
- Tool box

## Optional Accessories

- SIEMENS 840D controller
- 80, 120 tools ATC
- Tool shank, pull stud
- Scraper type chip conveyor
- Coolant cooler
- Tool presetter
- 90° milling head

## Application

Automobile forming mould

Plastic injection mould

Machinery parts

Aerospace parts

## Machine Description

### MCR 25 / 40

- Table length
- Distance between columns
- Double column 5-face machining center

Specification	Unit	MCR 25/40	MCR 35/50	MCR 42/60	MCR 50/80
<b>Table</b>					
Table dimension (length x width)	mm	4000 x 2000	5000 x 2500	6000 x 3300	8000 x 4100
Dimension of T-slots	mm	28 x 250 x 16	28 x 250 x 20	28 x 250 x 26	28 x 250 x 26
Max. loading weight	kg	20,000	30,000	40,000	50,000
<b>Axis travel</b>					
X-axis travel (Table)	mm	4,200	5,200	6,200	8,200
Y-axis travel (Carriage)	mm	2,900	3,900	4,600	5,400
Z-axis travel (Head stock)	mm	700	700	700	700
W-axis travel (Cross-rail)	mm	1,100	1,100	1,500	1,500
Distance (table to spindle nose)	mm	1,800	1,800	2,200	2,200
Distance between columns	mm	2,500	3,500	4,200	5,000
<b>Spindle</b>					
Max. spindle speed	min <sup>-1</sup>	3,500	3,500	3,500	3,500
Spindle taper		No.50 (BT, SK, CAT)	No.50 (BT, SK, CAT)	No.50 (BT, SK, CAT)	No.50 (BT, SK, CAT)
Spindle bearing diameter	mm	Ø110	Ø110	Ø110	Ø110
RAM dimension	mm	□350	□350	□350	□350
<b>Automatic tool changer</b>					
No. of tools		60	60	60	60
Max. tool weight	kg	20	20	20	20
Max. tool diameter/adjacent	mm	Ø125 (MaxØ250)	Ø125 (MaxØ250)	Ø125 (MaxØ250)	Ø125 (MaxØ250)
Max. tool length	mm	500	500	500	500
<b>Rapid traverse</b>					
X-axis rapid traverse	m/min	10	10	10	10
Y-axis rapid traverse	m/min	10	10	10	10
Z-axis rapid traverse	m/min	10	10	10	10
W-axis rapid traverse	m/min	3	3	3	3
Cutting feed rate	mm/min	1 ~ 10,000	1 ~ 10,000	1 ~ 10,000	1 ~ 10,000
Manual feed rate	mm/min	0 ~ 3,600	0 ~ 3,600	0 ~ 3,600	0 ~ 3,600
<b>CNC controller</b> FANUC 18i-M					
<b>Motor</b>					
Spindle motor	kW	37/45 (α 40i)	37/45 (α 40i)	37/45 (α 40i)	37/45 (α 40i)
X-axis servo motor	kW	6 (α 40i)	6 (α 40i)	6 (α 40i)	6 (α 40i)
Y-axis servo motor	kW	6 (α 40i)	6 (α 40i)	6 (α 40i)	6 (α 40i)
Z-axis servo motor	kW	6 (α 40i)	6 (α 40i)	6 (α 40i)	6 (α 40i)
W-axis servo motor	kW	6 (α 40i) x 2	6 (α 40i) x 2	6 (α 40i) x 2	6 (α 40i) x 2
Coolant pump	kW	1.5	1.5	1.5	1.5
Power capacity	KVA	95	95	95	95
<b>Tank capacity</b>					
Lubrication tank	L	8	8	8	8
Coolant tank	L	800	900	900	900
<b>Machine dimension</b>					
Machine height	mm	7,600	7,600	8,000	8,000
Floor dimension	mm	12,500 x 8,000	14,000 x 9,000	17,000 x 10,000	19,000 x 10,800
Machine weight	kg	50,000	55,000	65,000	78,000

• Specification is subject to change without prior notice



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