



# Mitsui Precision Surface Grinders

## Mitsui Surface Grinders

Mitsui High-tec, Inc.'s machine tools and peripheral press equipment were originally designed and developed for our in-house production, prompted by our need for higher precision and performance than what was available on the marketplace. These machines became the driving force that enabled Mitsui High-tec to become the global leader in manufacturing economical die and stamping parts of the highest precision. Today our surface grinders are renowned by manufacturers all over the world for producing superior products, their ease of operation and durability.

<http://www.mitsui-high-tec.com/> (Headquarters)

<http://www.mitsuihightec.com/> (USA)





## History of Mitsui High-tec, Inc.

Mitsui High-tec, Inc. has been providing super precision die since its foundation. Various types of products such as motor cores, coins, IC Leadframes and plastic molds are manufactured with Mitsui's dies.

## MAC System

The Mitsui Automatic Core Assembly System (MAC) allows punching, measuring, skewing and interlocking in the die, dramatically reducing the number of motor assembly process steps. The MAC system is widely recognized as an epoch making technology in the industry.

## IC Leadframe Die

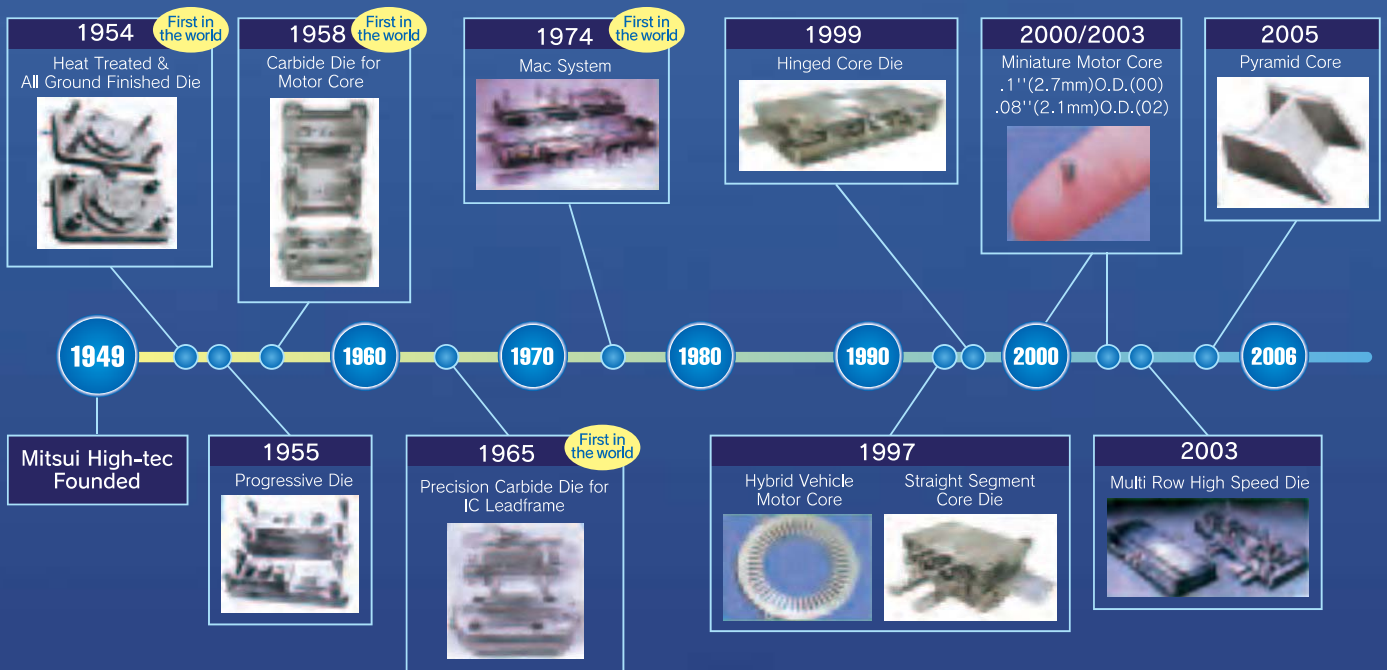
Mitsui developed stamping technology using super precision dies for IC Leadframe. This evolutionary technology led to Mitsui's recognition as a leading company in the precision die industry.

## Hybrid Vehicle Motor Core

Stacking hundred of thin (0.35mm or less) electromagnetic steel sheets is a requirement for efficient Hybrid vehicle motor cores. To implement this technology, a super precision die with only a few microns of clearance is required. Mitsui has constructed a new tooling manufacturing facility where temperature, humidity and cleanliness are strictly controlled to meet this requirement.

Mitsui Surface Grinders (MSG) have always supported our own grinding requirements, enabling Mitsui High-tec's core technology.

## Mitsui Tooling History



## MSG History



# Hand Feed Model



## 200MH/6-12



■ Fine Verticalfeed/  
Crossfeed Attachment (Std)



■ Operation Panel

### ■ Standard Accessories

- Wheel Adapter with Puller
- Jack Bolts & Base Plates
- Automatic Lubrication
- Oil Bath System
- Short Casting Head
- Metric Hand Tool
- Instruction Manual

### ■ Direct Drive Spindle

Removable Cartridge Type Heavy Duty, 2 sets of double row Angular Contact, Super Precision Ball Bearings  
RPM 2900/3460rpm

### ■ Guide Ways

Removable D2 Hardened & Ground Steel Ways on Table, Carriage/Saddle & Column

### ■ Longitudinal Feed

Table moves on Linear Ball Bearings mounted (between) 3 Vee Ways & 1 Flat Way, driven by Cable System

### ■ Cross Feed

Carriage moves on double 90° Vee Ways  
.1" (3mm) hand Wheel Revolution  
.001" (0.02mm) per Hand Wheel Division.

### ■ Optional Accessories for 200,205 & 250 Series

- 2HP (1.5kw) Spindle Motor in place of 1-1/3HP (1.0kw)
- Digital Readout System
- Dust Collector System, Self Contained
- Fine .00005" (0.001mm) Crossfeed Attachment (200, 205)
- Fine .00005" (0.001mm) Crossfeed Attachment (250)
- Fine .00001" (0.001mm) Vertical Feed Attachment
- Magnetic Chucks, Permanent or Electro w/Variable Control Rectifier

### ■ Vertical Feed

Advantage of Anti-Friction hardened & Ground Steel ways and Automatic Lubrication afford ease of Vertical Movement  
.05" (2mm) per Hand Wheel Revolution  
.0001" (0.005mm) per Hand Wheel Division

### ■ Hand Wheel

Zero-setting Slip-Rings on both, with Verniers as Standard

### ■ Feature

Crossfeed Vernier: .0001"

### ■ Lubrication

Automatic Lubrication System allows adequate oil for all screws & bushings and guide ways includes Oil Bath System for Longitudinal Feed

### ■ Power

1-1/3HP(1.0kw) Dynamic Balanced Spindle Motor  
208-220V/3P/60Hz (Other Voltage Available)

- Mitsui Universal Forming Dresser
- Over the Wheel Dresser Assy.
- P.G. Optidress Wheel Forming Dresser
- Power Elevation System
- Wet Grinding System
- Variable Spindle Speed Control
- Work Light, Mounted on Column

# Hand Feed Model



**205MH/6-18**



**250M/8-18**

Shown with Optional Accessories

	Specification	200MH		205MH		250M	
		Metric	Inch	Metric	Inch	Metric	Inch
Capacity	Table Work Surface	160×350mm	6×13-1/2"	160×480mm	6×19"	200×480mm	8×19"
	Table Movement	200×380mm	8×15"	200×500mm	8×20"	250×500mm	10×20"
	Max. Height	450mm	18"	450mm	18"	400mm	16"
Table (L/F)	Movement per Rev. of Hand Wheel	100mm/rev.	4"/rev.	100mm/rev.	4"/rev.	88mm/rev.	3-1/2"/rev.
Table (C/F)	Movement per Rev. of Hand Wheel	3mm	0.1"	3mm	0.1"	6mm	0.1"
	Hand Wheel Graduation of Dial	0.02mm	0.001"	0.02mm	0.001"	0.02mm	0.001"
	Fine Feed Attachment (Option)	0.001mm	0.00005"	0.001mm	0.00005"	0.002mm	0.00005"
Head	Movement per Rev. of Hand Wheel	2mm	0.05"	2mm	0.05"	2mm	0.05"
	Hand Wheel Graduation of Dial	0.005mm	0.0001"	0.005mm	0.0001"	0.005mm	0.0001"
	Fine Feed Attachment (Option)	0.001mm	0.00001"	0.001mm	0.00001"	0.001mm	0.00001"
	Power Elevation Speed (Option)	440mm/min.	17-1/3"/min.	440mm/min.	17-1/3"/min.	440mm/min.	17-1/3"/min.
Wheel	Size	205×20×31.75mm	8"×3/4"×1-1/4"	205×20×31.75mm	8"×3/4"×1-1/4"	205×20×31.75mm	8"×3/4"×1-1/4"
	Spindle Speed (50/60Hz)	2900/3460rpm		2900/3460rpm		2900/3460rpm	
Motor	Spindle	1.0kw 2P V-3(1-1/3HP 2P V-3)					
	Power Elevation (Option)	60W 4P					
Power	Power Supply	3 Phase 200/220V					
	Permitted Fluctuation	± 10%					
	Power Required	1.5KVA					
Floor Space	Width x Length x Height	1480×1180×1800mm	58×46×71"	1800×1180×1800mm	70×46×71"	1850×1310×1800mm	73×51×71"
Gross Weight		900kg	1980lbs	950kg	2090lbs	1100kg	2425lbs

# Semi Automatic Model

- Longitudinal Feed ——— Hydraulic
- Cross & Vertical Feed ——— Manual



**200H1/6-12**



**250H1/8-18**

Shown with Optional Accessories

	Description	200H1		250H1	
		Metric	Inch	Metric	Inch
Capacity	Table Work Surface	160×350mm	6×13-1/2"	200×480mm	8×19"
	Table Movement	200×380mm	8×15"	250×500mm	10×20"
	Max. Height	450mm	18"	400mm	16"
Table (L/F)	Movement per Rev. of Hand Wheel	84mm/rev.	3-1/3"/rev.	90mm/rev.	3-1/2"/rev.
	Table Speed	5-24m/min.	16-79'./min.	5-20m/min.	16-65'./min.
Table (C/F)	Movement per Rev. of Hand Wheel	3mm	0.1"	6mm	0.1"
	Hand Wheel Graduation of Dial	0.02mm	0.001"	0.02mm	0.001"
	Fine Feed Attachment (Option)	0.001mm	0.00005"	0.002mm	0.00005"
Head	Movement per Rev. of Hand Wheel	2mm	0.05"	2mm	0.05"
	Hand Wheel Graduation of Dial	0.005mm	0.0001"	0.005mm	0.0001"
	Fine Feed Attachment (Option)	0.001mm	0.00001"	0.001mm	0.00001"
	Power Elevation Speed (Option)	440mm/min.	17-1/3"/min.	440mm/min.	17-1/3"/min.
Wheel	Size	205×20×31.75mm	8"×3/4"×1-1/4"	205×20×31.75mm	8"×3/4"×1-1/4"
	Spindle Speed (50/60Hz)	2900/3460rpm		2900/3460rpm	
Motor	Spindle	1.0kw 2P V-3(1-1/3HP 2P V-3)			
	Power Elevation (Option)	60W 4P			
Power	Power Supply	3 Phase 200/220V			
	Permitted Fluctuation	± 10%			
	Power Required	2KVA			
Floor Space	Width x Length x Height	1480×1180×1800mm	58×46×71"	1900×1310×1800mm	75×51×71"
Gross Weight		950kg	2090lbs	1140kg	2350lbs

## Standard Accessories

- Automatic Lubrication
- Instruction Manual
- Jack Bolts & Base Plates
- Metric Hand Tool
- Oil Bath System
- Short Casting Head
- Wheel Adapter with Puller
- Work Light, Mounted on Column (\*1)

## Optional Accessories

- 2HP(1.5kw) Spindle Motor in Place of 1-1/3HP(1.0kw)
- Coolant System
- Digital Readout System
- Dust Collector System, Self Contained
- Magnetic Chucks, Permanent or Electro w/Variable Control Rectifier
- Mitsui Universal Forming Dresser
- Over the Wheel Dresser Assy.
- P.G. Optidress wheel Forming Dresser
- Variable Spindle Speed Control

\*1 Optional for U.S.model

# Fully Automatic Model

- Longitudinal Feed — Hydraulic
- Cross Feed — Electro Motor
- Vertical Feed — Pulse Motor(HMD)/Servo Motor(HG)



## 250HMD/8-18

### ■ HMD Standard Features

- Built in Automatic Chuck Control
- Chuck Interlock
- Cylinder Disengage System
- V/F Pulse Generator



■ Mirror Finish Grinding



## 250HG/6-18

### ■ HG Standard Features

- .000001" (0.1μ) Vertical Feed w/Scale Feed Back Closed Loop System
- Servo Motor w/Teaching System for Crossfeed
- Touch Panel
- High Rigid Type Cast Iron

Shown with Optional Accessories

	Descriptions	250HMD		250HG	
		Metric	Inch	Metric	Inch
Cast Iron	High Rigid Cast Iron(Base/Saddle/Head/Column)	Base Only		Standard	
Longitudinal Feed		Hydraulic		Hydraulic	
Vertical Feed		Stepping Motor		Servo Motor	
Cross Feed		Induction Motor		Induction Motor (OP: Servo Motor)	
Capacity	Table Work Surface	200×480mm	8×19"	200×480mm	8×19"
	Table Movement	250×500mm	10×20"	250×500mm	10×20"
	Max. Height	400mm	16"	400mm	16"
Head	Minimum Increment	0.001mm	0.0001"	0.0001mm	0.00001"
	Automatic Down Feed	0.001-0.01mm/10steps	0.0001-0.001"/10steps	0.0001-0.0999mm	0.0001-0.00999"
	Rough / Fine Finish Auto Down Feed	Standard		Standard	
Table (C/F)	Movement Per Hand Wheel Rev.	3mm	0.1"	3mm	0.1"
	Movement Per Division	0.02mm	0.001"	0.02mm	0.001"
	Cross Feed Stroke Teaching	N/A		Standard	
Table Speed		5-20m/min.	16-65'/min.	5-20m/min.	16-65'/min.
	w/ Servo Valve (Optional)	N/A		200spm(20mm Stroke)	200spm(3/4"Stroke)
Wheel	Size	205×20×31.75mm	8×3/4×1-1/4"	205×20×31.75mm	8×3/4×1-1/4"
	Spindle Speed (50/60Hz)	2900/3460rpm		2900/3460rpm	
	w/Variable Speed Control (Optional)	500-4000rpm		500-4000rpm	
Motor	Spindle	1.0kw 2P V-3(1-1/3HP 2P V-3)		1.5kw 2P V-3(2HP 2P V-3)	
	Hydraulic Pump	0.75kw 4P(1HP 4P)		0.75kw 4P(1HP 4P)	
Night Operation		Optional		Standard	
Table Interlock		Optional		Standard	
Power	Power Supply	3 Phase 200/220V			
	Permitted Fluctuation	± 10%			
	Power Required	7KVA		10KVA	
Floor Space	Width×Length×Height	2390×1530×1800mm	94×60×71"	2500×1550×1800mm	98×61×71"
Gross Weight		1250kg	2750lbs	1340kg	2948lbs

### ■ Standard Accessories

- Wheel Adapter with Puller
- Jack Bolts & Base Plates
- Automatic Lubrication
- Oil Bath System
- Short Casting Head
- Metric Hand Tool
- Instruction Manual

### ■ Optional Accessories

- Work Light, Mounted on Column
- Over the Wheel Dresser Assy.
- Dust Collector System, Self Contained
- Wet Grinding System
- Magnetic Chucks (Permanent or Electro)
- 2HP(1.5kw) Spindle Motor in Place of 1-1/3HP(1.0kw)
- P.G. Optidress wheel Forming Dresser
- Mitsui Universal Forming Dresser
- Variable Spindle Speed Control

# Fully Automatic Model (Mid Size)

- Longitudinal Feed — Hydraulic
- Cross Feed — Electro Motor
- Vertical Feed — Pulse Motor



## 300HMD/12-24



## 400HMD/16-32

### HMD Standard Features

- Oil Bath System
- Built in Automatic Chuck Control
- Chuck Interlock
- Rough/Finish Auto Down Feed
- V/F Pulse Generator

Shown with Optional Accessories

	Descriptions	300HMD		400HMD	
		Metric	Inch	Metric	Inch
Capacity	Table Work Surface	305×610mm	12×24"	405×810mm	16×32"
	Table Movement	350×740mm	13-3/4×29"	440×900mm	17-1/4×35-1/2"
	Max. Height	620mm	24-1/2"	590mm	23-1/4"
Table	Table Speed	10-22m/min.	33-72'./min.	5-22m/min.	16-72'./min.
	C/F Speed (Continuous)	0.1-2.4m/min.	5-95"/min.	0.2-3.0m/min.	8-118"/min.
Head	V/F Min. Increment	0.001mm	0.0001"	0.001mm	0.0001"
	Automatic Down Feed	0.001mm-0.01/10steps(0.0001-0.001"/10steps)			
	V/F Rapid Feed	240mm/min.	9-1/2"/min.	180mm/min.	7"/min.
Wheel	Size	305×32×76.2mm	12×1-1/4×3"	355×32×127mm	14×1-1/4×5"
	Size (U.S.model)	355×32×127mm	14×1-1/4×5"	355×32×127mm	14×1-1/4×5"
	Spindle Speed (50/60Hz)	1430/1730rpm		1430/1730rpm	
	w/Variable Speed Control	500-2000rpm		500-2000rpm	
Motor	Spindle	3.7kw 4P V-3(5HP 4P V-3)		3.7kw 4P V-3(5HP 4P V-3)	
	Cross Feed	0.2kw 4P(1/4HP 4P)		0.4kw 4P(1/2HP 4P)	
	Hydraulic Pump	0.75kw 4P(1HP 4P)		2.2kw 4P(3HP 4P)	
	Vertical Feed	5 Phase Step Motor			
Guide&Drive	Longitudinal Feed	Linear Ball Bearings / Hardened Steel ways			
	Cross Feed	LM Guide & Ball Screw			
	Vertical Feed	Hardend Steel Ways & Standard Screw			
Power	Power Supply	3 Phase 200/220V 50/60Hz			
	Permitted Fluctuation	± 10%			
	Power Required	10KVA		10KVA	
Floor Space	Width×Length×Height	2750×1930×2000mm	108"×76"×79"	3600×2300×2100mm	142"×90"×83"
Gross Weight		2040kg	4500lbs	3800kg	8380lbs

### Standard Accessories

- Wheel Adapter with Puller
- Jack Bolts & Base Plates
- Automatic Lubrication
- Metric Hand Tool
- Instruction Manual
- Work Light, Mounted on Column (\*1)

### Optional Accessories

- Over the Wheel Dresser Assy. (Manual, Auto)
- Dust Collector System, Self Contained
- Magnetic Chucks, Permanent or Electro
- Coolant System
- Variable Spindle Speed Control
- Digital Readout System

\*1 Optional for U.S.model

# PC Controlled CNC Model



**MSG-618PC-NC**  
(Longitudinal Feed Belt Drive)

**MSG-618PC-NCL**  
(Longitudinal Feed Linear Motor Drive)

## Standard Canned Cycles

- Surface Grinding
- Slot Grinding
  - Equal Pitch
  - Unequal Pitch
- Step Grinding
- Shift Plunge Grinding
- Creep Feed Grinding
- G Code Grinding
- Manual Grinding
- Flat Dress
  - 3 Point Dress
  - In R Dress
  - Out R Dress
  - Taper Dress
  - Form Dress

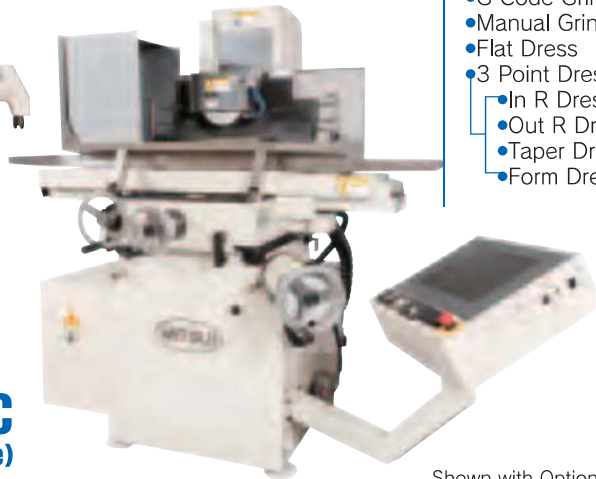
Shown with Optional Accessories

	Description	618PC-NC, 618PC-NCL	
		Metric	Inch
Capacity	Table Work Surface	150×480mm	6×19"
	Table Movement	180×500mm	7-1/2×20"
	Max. Height	400mm	16"
Table	Table Speed	0-15m/min	0-50ft/min
	Table Speed (PCNCL)	0-25m/min	0-80ft/min
	One Devision of Dial	0.01mm	0.001"
	Continuous Feed	0-3000mm/min	0-10ft/min
Crossfeed	One Revolution of Dial	0.01/0.1/1mm	0.001/0.01/0.1"
	One Devision of Dial	0.0001mm	0.00001"
	Continuous Feed	0-330mm/nib	0-13"/min
	Min.Increment	0.0001mm	0.00001"
	Increment Feed	0.0001mm	0.00001"
Head	One Revolution of Dial	0.01/0.1/1mm	0.001/0.01/0.1"
	One Devision of Dial	0.0001mm	0.00001"
	Continuous Feed	0-300mm/min	0-13"/min
	Min.Increment	0.0001mm	0.00001"
	Increment Feed	0.0001mm	0.00001"
Wheel	Wheel size	205×20×31.75mm	8×3/4×1-1/4"
	Spindle Speed	500-4000rpm	
Motor	Spindle	1.5kw 2P V-3	
	Crossfeed	0.45kw	
	Verticalfeed	0.45kw	
	Longitudinal Feed	0.85kw	
	Longitudinal Feed (PCNCL)	Coreless Linear Motor 3kw	
Guide&Drive	Crossfeed	Linear Guide&Ball Screw	
	Verticalfeed	Linear Guide&Ball Screw	
	Longitudinal Feed	Linear Ball Bearings/Hardened Steel Ways	
	Longitudinal Feed (PCNCL)	Linear Guide&LinearMotor	
CNC	NC System	PC+Motion Control	
	Control Axis	3 Axis	
	Simultaneous Axis	2 Axis	
Power	Power Supply	3 Phase 200-220V 50/60Hz	
	Power Required	11kVA	
Floor Space	Width x Length x Height	2550×1600×1800mm	100"×63"×71"
Gross Weight		1100kg	2,425lbs





**MSG-818PC-NCL**  
(Longitudinal Feed Linear Motor Drive)



**MSG-818PC-NC**  
(Longitudinal Feed Belt Drive)

**Standard Canned Cycles**

- Surface Grinding
- Slot Grinding
  - Equal Pitch
  - Unequal Pitch
- Step Grinding
- Shift Plunge Grinding
- Creep Feed Grinding
- G Code Grinding
- Manual Grinding
- Flat Dress
  - 3 Point Dress
  - In R Dress
  - Out R Dress
  - Taper Dress
  - Form Dress

Shown with Optional Accessories

	Description	818PC-NC, 818PC-NCL	
		Metric	Inch
Capacity	Table Work Surface	200×480mm	8×19"
	Table Movement	230×500mm	9×20"
	Max. Height	400mm	16"
Table	Table Speed	0-15m/min	0-50ft/min
	Table Speed (PCNCL)	0-25m/min	0-80ft/min
	One Devision of Dial	0.01mm	0.001"
	Continuous Feed	0-3000mm/min	0-10ft/min
Crossfeed	One Revolution of Dial	0.01/0.1/1mm	0.001/0.01/0.1"
	One Devision of Dial	0.0001mm	0.00001"
	Continuous Feed	0-330mm/nib	0-13"/min
	Min.Increment	0.0001mm	0.00001"
Head	Increment Feed	0.0001mm	0.00001"
	One Revolution of Dial	0.01/0.1/1mm	0.001/0.01/0.1"
	One Devision of Dial	0.0001mm	0.00001"
	Continuous Feed	0-300mm/min	0-13"/min
Wheel	Min.Increment	0.0001mm	0.00001"
	Increment Feed	0.0001mm	0.00001"
	Wheel size	205×20×31,75mm	8×3/4×1-1/4"
	Spindle Speed	500-4000rpm	
Motor	Spindle	1,5kw 2P V-3	
	Crossfeed	0,45kw	
	Verticalfeed	0,45kw	
	Longitudinal Feed	0,85kw	
	Longitudinal Feed (PCNCL)	Coreless Linear Motor 3kw	
Guide&Drive	Crossfeed	Linear Guide&Ball Screw	
	Verticalfeed	Linear Guide&Ball Screw	
	Longitudinal Feed	Linear Ball Bearings/Hardened Steel Ways	
	Longitudinal Feed (PCNCL)	Linear Guide&LinearMotor	
CNC	NC System	PC+Motion Control	
	Control Axis	3 Axis	
	Simultaneous Axis	2 Axis	
Power	Power Supply	3 Phase 200-220V 50/60Hz	
	Power Required	11kVA	
Floor Space	Width x Length x Height	2550×1600×1800mm	100"×63"×71"
Gross Weight		1100kg	2,425lbs

# PC Controlled CNC Model



**MSG-525PC-NC**  
(Longitudinal Feed Belt Drive)



**MSG-525PC-NCL**  
(Longitudinal Feed Linear Motor Drive)

Shown with Optional Accessories

	Description	525PC-NCL	
		Metric	Inch
Capacity	Table Work Surface	250×550mm	10×21-1/2"
	Table Movement	280×600mm	11×23-1/2"
	Max. Height	500mm	20"
Table	Table Speed (PC-NC)	15m/min	50ft/min
	Table Speed (PC-NCL)	25m/min	83ft/min
	One Revolution of Dial	0.1/1/10mm	0.0001/0.001/0.1"
	One Devision of Dial	0.001/0.01/0.1	0.0001"
	Continuous Feed	0-3000mm/min	0-10ft/min
	Crossfeed	One Revolution of Dial	0.01/0.1/1mm
One Devision of Dial		0.0001mm	0.00001"
Continuous Feed		0-330mm/nib	0-13"/min
Min.Increment		0.0001mm	0.00001"
Increment Feed		0.0001mm	0.00001"
Head	One Revolution of Dial	0.01/0.1/1mm	0.001/0.01/0.1"
	One Devision of Dial	0.0001mm	0.00001"
	Continuous Feed	0-330mm/min	0-13"/min
	Min.Increment	0.0001mm	0.00001"
	Increment Feed	0.0001mm	0.00001"
Wheel	Wheel size	205×19×50.8mm	8×3/4×2"
	Spindle Speed	500-4000rpm	
Motor	Spindle	2.2kw/2p	
	Crossfeed	0.8kw	
	Verticalfeed	0.8kw	
	Longitudinal Feed	Coreless linear motor 3kw	
	Guide&Drive	Crossfeed	Linear Guide&Ball Screw
Verticalfeed		Linear Guide&Ball Screw	
Longitudinal Feed		Linear Guide&LinearMotor	
CNC	NC System	PC+Motion Control	
	Control Axis	3 Axis	
	Simultaneous Axis	2 Axis	
Power	Power Supply	3 Phase 200-220V 50/60Hz	
	Power Required	15kVA	
Floor Space	Width x Length x Height	3000×2500×2200mm	118"×98-1/2"×86-1/2"
Gross Weight		2300kg	5080lbs



■ On Machine Rotaly Dresser



■ CCD Camera Measurement System

## MSG-300PC-NC (Longitudinal Feed Linear Motor Drive)

- Longitudinal Feed Linear Motor Drive + LM Guide are Standard Accessories

Shown with Optional Accessories

	Description	Metric	Inch
Capacity	Table Work Surface	300×610mm	12×24"
	Table Movement	350×740mm	13-3/4×29"
	Max. Height	620mm	24"
Table	Table Speed	25m/min	83ft/min
	One Revolution of Dial	0.1/1/10mm	0.0001/0.001/0.1"
	One Devision of Dial	0.001mm	0.0001"
	Continuous Feed	0-3000mm/min	0-10ft/min
Crossfeed	One Revolution of Dial	0.01/0.1/1mm	0.001/0.01/0.1"
	One Devision of Dial	0.0001mm	0.00001"
	Continuous Feed	0-500mm/nib	0-20"/min
	Min.Increment	0.0001mm	0.00001"
Head	Increment Feed	0.0001mm	0.00001"
	One Revolution of Dial	0.01/0.1/1mm	0.001/0.01/0.1"
	One Devision of Dial	0.0001mm	0.00001"
	Continuous Feed	0-500mm/min	0-20"/min
Wheel	Min.Increment	0.0001mm	0.00001"
	Increment Feed	0.0001mm	0.00001"
	Wheel size	205×13×31.75mm	8×1/2×1-1/4"
	Spindle Speed	500-4000rpm	
Motor	Spindle	5.5kw/4p	
	Crossfeed	0.8kw	
	Verticalfeed	0.8kw	
	Longitudinal Feed	Coreless Linear Motor 3kw	
Guide&Drive	Crossfeed	Linear Guide&Ball Screw	
	Verticalfeed	Linear Guide&Ball Screw	
	Longitudinal Feed	Linear Guide&LinearMotor	
CNC	NC System	PC+Motion Control	
	Control Axis	3 Axis	
	Simultaneous Axis	2 Axis	
Power	Power Supply	3 Phase 200-220V 50/60Hz	
	Power Required	18kVA	
Air Consumption	Linear Motor , Spindle	200L/min	
Floor Space	Width x Length x Height	3210×2740×2210mm	127"×108"×87"
Gross Weight		4400kg	9720lbs

# CNC Punch Grinder



■ IC Leadframe Punch

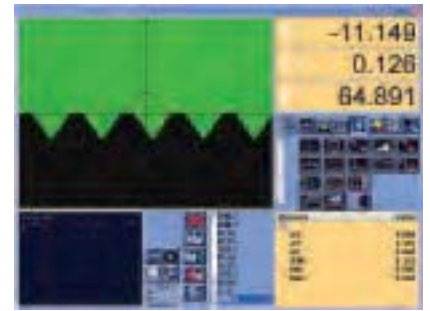
## MSG-46CNC-B

- High Speed Table Movement
- Max. 200spm/20mm(3/4") Stroke
- Accurate Table Positioning for Climb Cut
- .00001"/0.0001mm Control
- Air Bearing Spindle (Optional)
- V Shaped Wheel Dresser (Optional)
- Mitsui Auto CAM System (MACS-2D:Optional)

Shown with Optional Accessories

	Description	Metric	Inch
Capacity	Table Work Surface	100×190mm	4×7-1/2"
	Table Movement	120×196mm	4-3/4×7-3/4"
	Max. Height	230mm	9"
Table	Table Speed	0-15m/min.	0-49"/min.
		200spm/20mm Stroke	200spm/3/4" stroke
Crossfeed	One Rev.of Dial	0.01/0.1/1.0mm	.001/.01/.1"
	One Div.of Dial	0.0001/0.001/0.1mm	.00001/.0001/.001"
	Continuous Feed	0-500mm/min.	0-20"/min.
	Min.Increment	0.0001mm	.00001"
Head	Increment Feed	0.0001-1.3mm	.00001-.005"
	One Rev.of Dial	0.01/0.1/1.0mm	.001"/.01/.1"
	One Div.of Dial	0.0001/0.001/0.01mm	.00001/.0001/.001"
	Continuous Feed	0-500mm/min.	0-20"/min.
	Min.Increment	0.0001mm	.00001"
	Increment Feed	0.0001-1.3mm	.00001-.005"
Wheel	Wheel Size	180×20×31.75mm	7×3/4×1-1/4"
	Spindle Speed		0-4000rpm
Motor	(w/Air Bearing Spindle)		0-8000rpm(1.1kw,2P)
	Spindle		1.5kw 2P
	Longitudinal Feed		Linear Motor
	Crossfeed		Fanuc a'1/5000i AC 0.5kw
CNC	Vertical Feed		Fanuc a'1/5000i AC 0.5kw
	NC System		Fanuc 18i-MB
	Controlled Axis		3 Axis
	Simultaneous Control Axis		2 Axis
Power	Power Supply		3 Phase 200-220V 50/60Hz
	Power Required		10kVA
Floor Space	Width×Length×Height	1000×1055×1650mm	39"×42"×65"
Gross Weight		2250kg	4,960lbs

# CNC Model (Super Precision CNC Surface/Profile Grinder)



## Optical Groove Grinding

### Standard Features

- Air Bearing Spindle (1.1kw/2P)
- 240L Temp Control Type Coolant Tank (w/Paper Filter)

## MSG-618CNC-HS(1 Axis Hydrostatic)

Shown with Optional Accessories

	Description	Metric	Inch
Capacity	Table Work Surface	150×350mm	6×13-3/4"
	Table Movement	165×480mm	6-1/2×18-3/4"
	Max. Height	320mm	12-1/2"
Table	Table Speed	1-20m/min. 200spm/20mm Stroke	3'-66'./min. 200spm/3/4"
	One Revolution of Dial	0.1/1/10mm	.001/.01/.1"
	One Division of Dial	0.001/0.01/0.1mm	.0001/.001/.01"
	Continuous Feed(5-150%)	50-1000mm/min.	2-40"/min.
	One Revolution of Dial	0.01/0.1/1.0mm	.001/.01/.1"
Crossfeed	One Division of Dial	0.0001/0.001/0.01mm	.00001/.0001/.001"
	Continuous Feed	0-1000mm/min.	0-20"/min.
	Min.Increment	0.0001mm	.00001"
	Increment Feed	0.0001-5mm	.00001-.005"
Head	One Revolution of Dial	0.01/0.1/1.0mm	.001/.01/.1"
	One Division of Dial	0.0001/0.001/0.01mm	.00001/.0001/.001"
	Continuous Feed	0-1000mm/min.	0-20"/min.
	Min.Increment	0.0001mm	.00001"
Wheel	Increment Feed	0.0001-1.3mm	.00001-.005"
	Wheel Size	180×20×31.75mm	8×3/4×1-1/4"
Motor	Spindle Speed(Air Bearing Spindle)	0-8000rpm	
	Spindle(Air Bearing Spindle)	1.1kw 2P	
	Longitudinal Feed	Linear Motor	
	Crossfeed	Fanuc a'4/4000i AC 1.4kw	
	Vertical Feed	Fanuc a'4/4000i AC 1.4kw	
CNC	NC System	Fanuc 16i-MB	
	Controlled Axis	2 Axis	
	Simultaneous Axis	2 Axis	
Power	Power Supply	3 Phase 200-220V 50/60Hz	
	Power Required	15kVA	
Floor Space	Width×Length×Height	2300×2060×1900mm	91"×81"×75"
Gross Weight		2500Kg	5510lbs

# Optional Accessories

OPTION 1



## 3point Dress System

Installed on the Table and provide ease of forming dress

- Inner R Dress
- Outer R Dress
- Angle Dress



Pitch Slot Grinding with 3point Dreser

OPTION 2

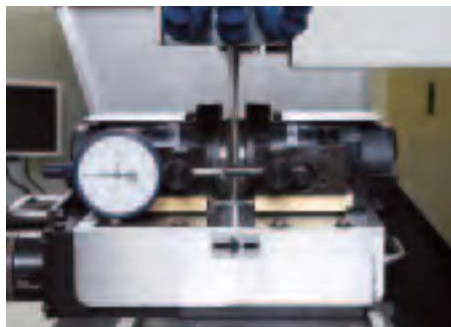


## V-R Dresser

Dress worn radius at edge of V-shaped wheel. Programmed by MACS-2D



OPTION 3



## Universal Twin Rotaly Dresser

Mitsui original adjustable angle twin head rotaly dresser for thinner wheel



Tiber Cut Punch

OPTION 4



## CNC Indexing Unit

Install on the Magnetic Chuck then Round Punch and Ellipse Punch can be grinded



Ellipse Punch

OPTION 5



## Cylindrical Grinding Attachment

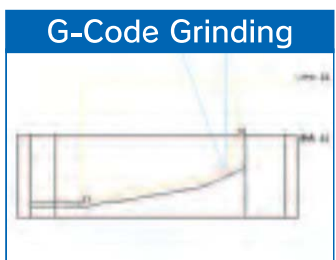
Install on the Table and O.D. Grinding is available



Small Pin

OPTION 6

**MACS-2D**



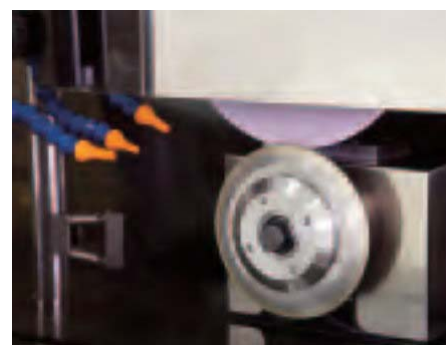
CNC Convert



**MACS-3D**



OPTION 7



**Rotary Dresser(Install on the Table)**

It is possible to dress intervention of the processing cycle. (Productivity can increase)



Dressing Unit & Controller

OPTION 8



**Auto Balancing Device**

Can be taken a Wheel Balance on the machine. Surface Finish will be improved.



Balancing Type Flange (For Auto Balancer)

OPTION 9



**Rotally Table attachment**

Install on the Table. Can be grinded round punch

OPTION 10



**CCD Camera Measurement System**

Can be measured on the machine the accuracy within 1micron.



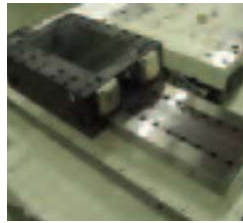
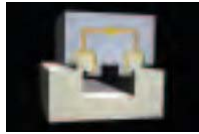
# Recommended Specification for CNC Grinders For Higher Accuracy and Productivity

## Longitudinal Hydrostatic Guide w/Linear Motor Drive

Hydrostatic Guide allows better finish, dimension & long life by no metal contact.

For

- MSG-618CNC-HS
- MSG-46CNC-HS
- MSG-48CNC-HS



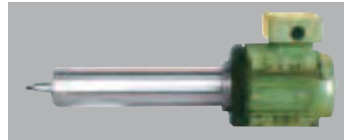
Hydrostatic Table Unit



Pump & Temperature Control Unit

## Air Bearing Spindle

Less Run Out, High Speed allows excellent grinding conditions. Small wheel available.



## Customer Service

### Mitsui Tool & Die School

In response to the demand of the customer who had a purchased our surface grinder. We have been teaching basic grinding technology by Mitsui own curriculum.



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<http://www.mitsuihightec.com/> (USA)

Specifications subject to change without prior notice.

Mitsui High-tec Inc.  
has the ISO 14001: 2004 Certificate on Environmental Management System.  
for headquarters and plants in Japan.