

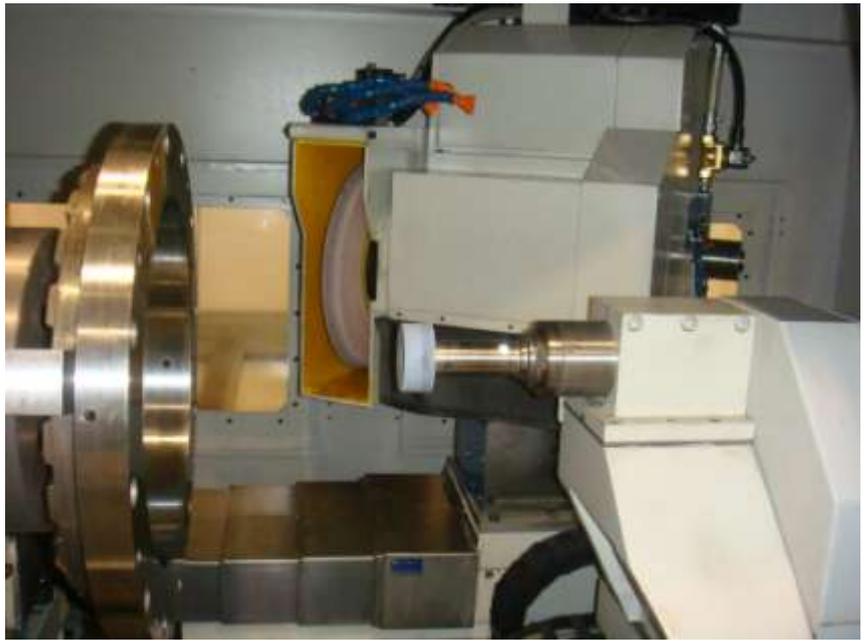
FEATURES of GRINDMASTER 45/80 CNC



GRINDMASTER SERIES are 3-Axes Complex CNC Internal Grinders. **GRINDMASTER SERIES (I/I and I/O Models)** uses a CNC controller to control the work head (X axis), ID or OD wheel head (Y axis) and ID wheel head (Z axis). **GRINDMASTER SERIES (I/I/O Models)** use a CNC Controller to control the work head (X-axis), ID and OD wheel head (Y-axis), swivel axis (A-axis) and ID wheel head (Z-axis).

The **GRINDMASTER SERIES** can perform complex and precision grinding operations in a single chucking operation which allows for substantial time savings in set-up and grind times. Samples of the machines operations include but are not limited to: internal diameter, outside diameter, shoulder grinding, taper grinding and end-surface grinding. **GRINDMASTER** is the perfect solution for grinding complex workpieces in small and large batch productions as well as individual parts. High-precision concentricity, roughness and roundness accuracies can be achieved easily with the **GRINDMASTER SERIES**.

The **GRINDMASTER SERIES** is especially suited for the automotive, medical, machine tool, aerospace, hydraulic, pneumatic and electric motor industries. The X,Y and Z axes utilize highgrade roller type linear guideways. This design ensures the positioning accuracy of all 3 axes. The ID/OD wheel head (Y-axis) has an automatic swivel function (A-axis) driven by a Fanuc β 4 servo motor.

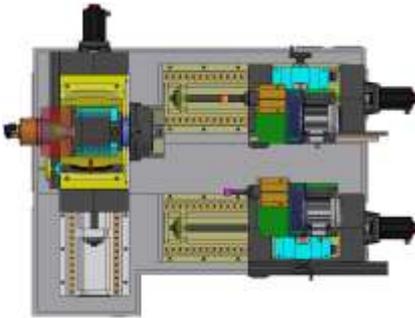


The reinforced ribbed box-type base is made of Meehanite cast-iron that is annealed and stress relieved to ensure the high rigidity and stability of the machine. A full enclosure (CE certified) with its large sliding door provides ample space for calibration, part setup, and grinding operations. The modularized design of the **GRINDMASTER SERIES** ensures the high accuracy performance of the machine while the closed loop system, a 0.000004" linear scale feedback, on the X-axis ensures the high precision required for grinding operations. Auto sizing and other gaugs can be installed to reinforce the accuracy performance of the **Grindmaster Series**. The flexible design capability of the Y-axis auto-swiveling function helps the **GRINDMASTER SERIES (I/I/O models)** meet the diverse requirements of small-batch or job shot manufacturing, ensuring the ongoing competitiveness of your company.

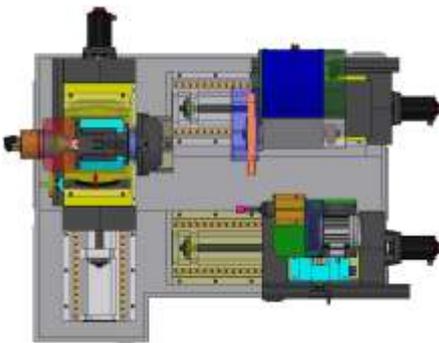


ADVANTAGES

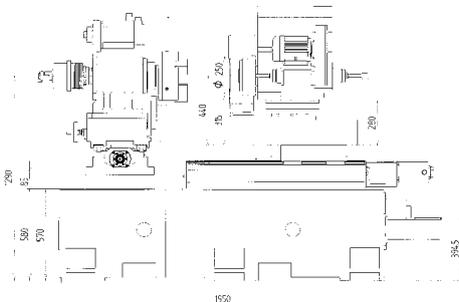
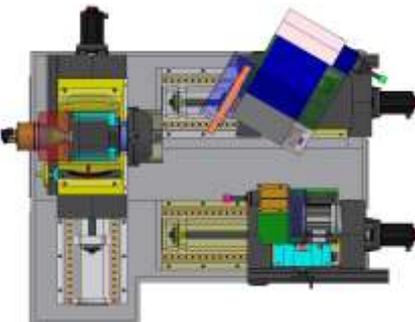
I/I-Type:



I/O-Type:

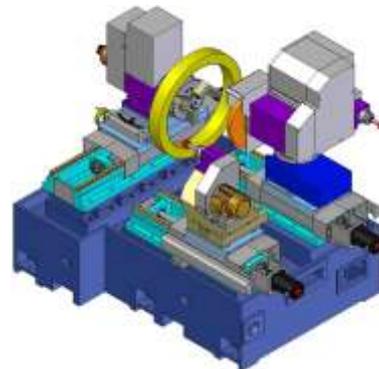


I/I/O-Type:



Y/Z-axis Dual Independent Wheel Head Design

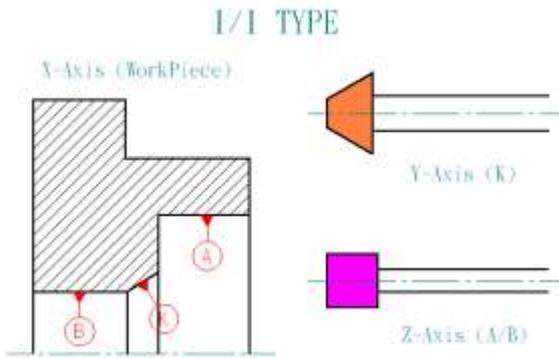
- ✧ **I/I-type:** Z -axis equipped ID wheel head;
Y-axis equipped ID wheel head
- ✧ **I/O-type:** Z-axis equipped ID wheel head;
Y-axis equipped OD wheel head
- ✧ **I/I/O-type:** Z-axis equipped ID wheel head;
Y-axis equipped ID/OD wheel head
 - A-axis automatic swivel by servo motor
 - The Turret wheelhead can be swiveled automatically to the 0° & 180° stops.
 - A-axis servo motor output 0.75 kw
 - OD spindle motor output 3.7 kw
- ✧ ID Spindle Motor Output 2.2 kw (2P)
- ✧ Grinding wheel (ID) Ø38x38x Ø8.2 mm
- ✧ OD Spindle Motor Output 3.7 kw (4P)
- ✧ Grinding wheel (OD) Ø405x50x Ø127 mm
- ✧ Y/Z-axis Fanuc Servo Motor Output 1.8 kw



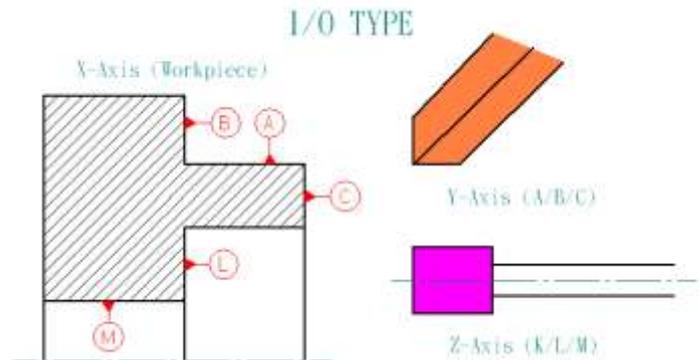
X-axis Work Head

- ✧ Standard 10" Hydraulic Power Chuck
- ✧ Manual Swivel
- ✧ Swing Over Diameter:
 - Grindmaster 45: Ø450 mm
 - Grindmaster 80: Ø800 mm
- ✧ Spindle Motor Output 1.5 kw (4P)
- ✧ X-axis Fanuc Servo Motor Output 1.2 kw

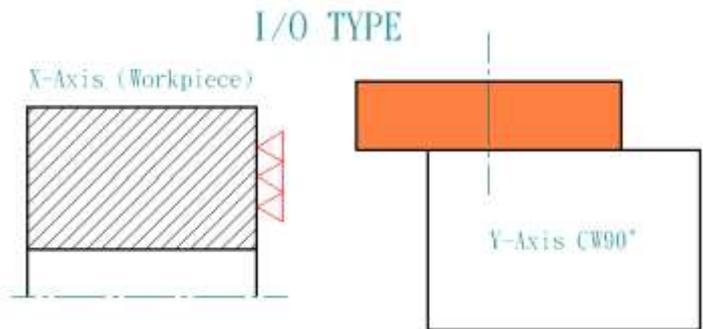
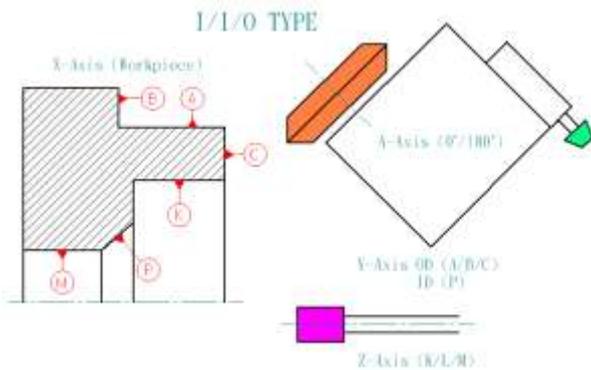
Grinding Applications (I/I Type)



Grinding Applications (I/O Type)



Grinding Applications (I/I/O Type)



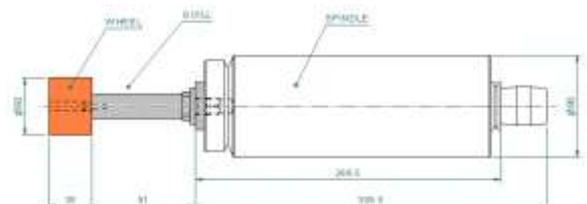
Standard Accessories

- ✧ FANUC CNC Touch Probe (I/O and I/I/O)
- ✧ Gap Control Device
- ✧ Full Enclosure
- ✧ Coolant System With Magnetic Separator & Paper Filter
- ✧ 10" Hydraulic Power Chuck
- ✧ X-axis Digital Read-Out (Closed-Loop)



Optional Accessories

- ✧ In-process Gauging Device
- ✧ Oil and Mist Separator
- ✧ Wheel Auto-Balancing Device (OD)
- ✧ Y/Z-axis Digital Read-Out
- ✧ Internal Grinding Spindles: 10500 rpm / 16500 rpm / 29000 rpm



MACHINE SPECIFICATIONS :

UNIT:mm(inch)

SPECIFICATIONS		GM-45CNC	GM-80CNC
General Capacities	ID Grinding Range	Ø2~Ø400 (Φ1"~Φ15.7")	Ø2~Ø800 (Ø1"~Ø31.5")
	Max. Grinding OD Diameter	Ø450 (17.7")	Ø800 (31.5")
	Swing Over Work Head	Ø500 (19.7")	Ø820 (32.3")
	Max. Weight of Workpiece	50 kg	150 kg
	Type of Wheel Head	Dual Independent Wheel Head	
Work Head Closed-Loop System (X axis)	Type of Chuck	10" Hydraulic Power Chuck	10" Hydraulic Power Chuck
	Travel	500	600
	Rapid Feedrate	10 m/min	10 m/min
	Min. Infeed Increment	0.001	0.001
	X-axis Servo Motor	1.2 kw(FANUC)	1.8 kw(FANUC)
	Spindle Motor	1.5 kw(4P)	1.5 kw(4P)
	Spindle Speed(variable)	0~1000 rpm	0~1000 rpm
ID / OD Wheel Head (Y-axis)	ID Wheel Size	Ø38x38xØ8.2 (Ø1.5"x1.5"xØ0.3")	Ø38x38xØ8.2 (Ø1.5"x1.5"xØ0.3")
	ID Spindle Motor	2.2 kw(2P)	2.2 kw(2P)
	ID Spindle Speed	20000 rpm	8000 rpm
	OD Wheel Size	Opt. Ø405x50xØ127 (Ø16"x2"xØ5")	Ø405x50xØ127 (Ø16"x2"xØ5")
	OD Spindle Motor	Opt. 3.7 kw(4P)	3.7 kw(4P)
	Swiveling Mechanism (I/I/O)	Automatic Swivel	Automatic Swivel
	A-axis Swiveling Servo Motor	0.75 kw(FANUC β4)	0.75 kw(FANUC β4)
	Swiveling Angle	0°/180°	0°/180°
	Travel	500 (20")	500 (20")
	Y-axis Servo Motor	1.2 kw(FANUC)	1.8 kw(FANUC)
	Rapid Feedrate	10 m/min	10 m/min
	Min. Infeed Increment	0.001	0.001
ID Wheel Head (Z-axis)	ID Wheel Size	Ø38x38xØ8.2 (Ø1.5"x1.5"xØ0.3")	Ø38x38xØ8.2 (Ø1.5"x1.5"xØ0.3")
	ID Spindle Motor	2.2 kw(2P)	2.2 kw(2P)
	ID Spindle Speed	20000 rpm	20000/35000 rpm
	Travel	500 (20")	500 (20")
	Z-axis Servo Motor	1.2 kw(FANUC)	1.8 kw(FANUC)
	Rapid feedrate	10 m/min	10 m/min
	Min. infeed increment	0.001	0.001
Coolant / Lubrication / Hydraulic	Coolant	Volume	120 L
		Processing	40 L/min
		Motor	0.18 kw(4P)
	Lubrication	Volume	20 L

		Motor	0.18 kw(4P)	0.18 kw(4P)
	Hydraulic	Volume	60L	60L
		Motor	2 HP(4P)	2 HP(4P)
Machine Appearance / Dimension / Weight	Machine Cover		Fully Enclosure w/h Manual Door	Fully Enclosure w/h Manual Door
	Net Weight		7500 kg	7500 kg
	Gross Weight		8000 kg	8000 kg
	Packing Dimension (LxWxH)		3350x2300x1950	3400x2300x2000

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