

## OTHER PRODUCTS



KGP-2042  
Double Column  
Surface Grinder



KGS-63WM1  
Wizard Master  
Surface grinder



KMV-32P  
CNC Double Column  
Vertical Machining Center



KMV-13YL  
CNC Vertical  
Machining Center



Head office (Taiwan)  
Area : 1,700m<sup>2</sup>



Dou Liu Factory (Taiwan)  
Area : 16,700m<sup>2</sup>



Zhejiang Radiance  
Machinery Co., Ltd.  
Area : 33,000m<sup>2</sup>

## **KENT** KENT INDUSTRIAL CO., LTD

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### DOU LIU FACTORY

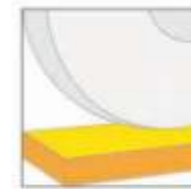
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### KENT INTERNATIONAL USA, INC.

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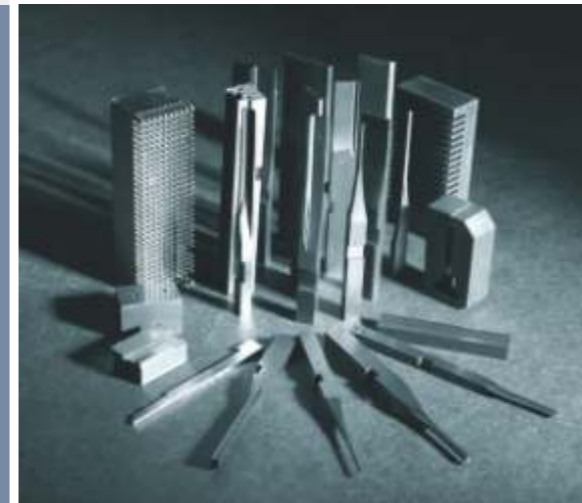


**KENT INDUSTRIAL CO., LTD.**



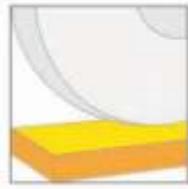
## Precision Surface Grinder

### CNC Series



2017.04.1000





## CNC2 Series

ITEM	SPECIFICATION	Unit	KGS-42CNC2	KGS-408CNC2	KGS-510CNC2	KGS-612CNC2	KGS-715CNC2	KGS-820CNC2	
Capacity	Overall table working area	mm	400x200	800x400	1000x500	1200x600	1500x700	2000x800	
	Longitudinal table travel	mm	550	1200	1400	1600	1900	2400	
	Cross feed table travel	mm	230	440	540	640	740	840	
	Distance spindle center to table	mm	450	600	600	600	600	850	
	Table load including magnetic chuck	kg	250	800	1000	1200	1400	2300	
Table & Cross feed	T slot	mmxN	14x1	16x3	16x3	16x3	16x3	18x3	
	Longitudinal table speed	m/min	2~25	2~25	2~25	2~25	2~25	2~25	
	Cross feed on MPGx1x10	l gra.	mm	0.001/0.01	0.001/0.01	0.001/0.01	0.001/0.01	0.001/0.01	0.001/0.01
		l rev.	mm	0.1/1	0.1/1	0.1/1	0.1/1	0.1/1	0.1/1
	Auto Cross feed per stroke	l gra.	mm	0.001~25	0.001~25	0.001~25	0.001~25	0.001~25	0.001~25
	Rapid travel	mm/min	1500	1500	1500	1500	1500	1500	
Grinding Wheel	Wheel dimensions (ODxTxID)	mm	250x25x50.8	406x50x127	406x50x127	406x50x127	406x50x127	508x80x203.2	
Vertical movement	Spindle speed	RPM	1000~4800	500~2700	500~2700	500~2700	500~2700	500~1800	
	Vertical on MPGx1x10	l gra.	mm	0.001/0.01	0.001/0.01	0.001/0.01	0.001/0.01	0.001/0.01	
		l rev.	mm	0.1/1	0.1/1	0.1/1	0.1/1	0.1/1	
	Auto down feed increment		0.001~0.099	0.001~0.099	0.001~0.099	0.001~0.099	0.001~0.099	0.001~0.099	
Rapid elevation	mm/min	750	1500	1500	1500	1500	1000		
Motor	Spindle motor	kW*P	3.75 * 2	7.5 * 4	11.25 * 4	11.25 * 4	11.25 * 4	22.5 * 6	
	Elevating motor		β8 (Fanuc 0i)	β8 (Fanuc 0i)	β8 (Fanuc 0i)	β8 (Fanuc 0i)	β8 (Fanuc 0i)	β12 (Fanuc 0i)	
	Longitudinal motor	kW	1.5	2.25	3.75	5.5	5.5	7.5	
	Cross feed motor	kW	β8 (Fanuc 0i)	β8 (Fanuc 0i)	β8 (Fanuc 0i)	β8 (Fanuc 0i)	β8 (Fanuc 0i)	β12 (Fanuc 0i)	
Dimension and Weight	Machine height	mm	2100	2650	2700	2700	2700	2900	
	Floor space	mm	2200x1250	3800x3000	4320x2350	4720x2680	5320x2850	7000x3385	
	Net weight/Gross weight	kg	2000/2200	4500/5500	5500/6000	6750/7750	9700/10700	13000/14000	

■ Specifications subject to change without prior notice.

## CNC3 Series

ITEM	SPECIFICATION	Unit	KGS-42CNC3	KGS-408CNC3	KGS-510CNC3	KGS-612CNC3	KGS-715CNC3	KGS-820CNC3	
Capacity	Overall table working area	mm	400x200	800x400	1000x500	1200x600	1500x700	2000x800	
	Longitudinal table travel	mm	550	1200	1400	1600	1900	2400	
	Cross feed table travel	mm	230	440	540	640	740	840	
	Distance spindle center to table	mm	450	600	600	600	600	850	
	Table load including magnetic chuck	kg	250	800	1000	1200	1400	2300	
Table & Cross feed	T slot	mmxN	14x1	16x3	16x3	16x3	16x3	18x3	
	Longitudinal table speed	m/min	1~24	1~24	1~24	1~24	1~24	1~20	
	Longitudinal feed on MPGx1x10	l gra.	mm	0.001/0.01	0.001/0.01	0.001/0.01	0.001/0.01	0.001/0.01	0.001/0.01
		l rev.	mm	0.1/1	0.1/1	0.1/1	0.1/1	0.1/1	0.1/1
	Auto Cross feed per stroke	l gra.	mm	0.001~25	0.001~25	0.001~25	0.001~25	0.001~25	0.001~25
	Rapid travel	mm/min	1500	1500	1500	1500	1500	1500	
	Cross feed on MPGx1x10	l gra.	mm	0.001/0.01	0.001/0.01	0.001/0.01	0.001/0.01	0.001/0.01	0.001/0.01
l rev.		mm	0.1/1	0.1/1	0.1/1	0.1/1	0.1/1	0.1/1	
Grinding Wheel	Wheel dimensions (ODxTxID)	mm	250x25x50.8	406x50x127	406x50x127	406x50x127	406x50x127	508x80x203.2	
Vertical movement	Spindle speed	RPM	1000~4800	500~2700	500~2700	500~2700	500~2700	500~1800	
	Vertical on MPGx1x10	l gra.	mm	0.001/0.01	0.001/0.01	0.001/0.01	0.001/0.01	0.001/0.01	
		l rev.	mm	0.1/1	0.1/1	0.1/1	0.1/1	0.1/1	
	Auto down feed increment		0.001~0.099	0.001~0.099	0.001~0.099	0.001~0.099	0.001~0.099	0.001~0.099	
	Rapid elevation	mm/min	750	1500	1500	1500	1500	1000	
Motor	Spindle motor	kW*P	3.75 * 2	7.5 * 4	11.25 * 4	11.25 * 4	11.25 * 4	22.5 * 6	
	Elevating motor		α8 (Fanuc 0i)	α8 (Fanuc 0i)	α8 (Fanuc 0i)	α8 (Fanuc 0i)	α8 (Fanuc 0i)	α12 (Fanuc 0i)	
	Longitudinal motor		α8 (Fanuc 0i)	α12 (Fanuc 0i)	α12 (Fanuc 0i)	α12 (Fanuc 0i)	α12 (Fanuc 0i)	α22 (Fanuc 0i)	
	Cross feed motor		α8 (Fanuc 0i)	α8 (Fanuc 0i)	α8 (Fanuc 0i)	α8 (Fanuc 0i)	α8 (Fanuc 0i)	α12 (Fanuc 0i)	
Dimension and Weight	Machine height	mm	2100	2650	2700	2700	2700	2900	
	Floor space	mm	2200x1250	3800x3000	4320x2350	4720x2680	5320x2850	7000x3385	
	Net weight/Gross weight	kg	2000/2200	4500/5500	5500/6000	6750/7750	9700/10700	13000/14000	

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## STRUCTURE AND FEATURES

### Structure

The column carries out only cross feed movements. This guarantees uniform contact between the column slide and machine bed in any column position. The column slide is guided by linear guide ways, with high precision ballscrew and driven by servomotor to ensure smooth motion, accurate positioning, and minimum feed in both directions.



### Y & Z axis mechanism

Down feed mechanism is driven by an AC servomotor with high grade precision ball-screw, with minimum 0.001 mm increment capacity.

Cross feed mechanism is driven by an AC servomotor with high grade precision ball-screw, with minimum 0.001 mm increment capacity.



### X axis mechanism

(CNC3) X axis with high grade heavy preloaded precision linear guides and ballscrew, driven by FANUC servo motor ensure accurate and smooth feed.



(CNC2) X axis with Double V guide ways laminated with Turcite-B hand scraped to obtain stick slip free movement, driven by proportional valve hydraulic system to guarantee smooth movement.



The spindle housing carries out only vertical movements. This provides a constant distance between the vertical slide ways and the grinding wheel, creating a perfectly perpendicular movement of the spindle in relation to the working table. The housing construction is also designed for better rigidity.

### Spindle

The flanged cartridge type spindle is supported by super precision angular contact ball bearings, preloaded and select-fitted into spindle cartridge. This will guarantee a maximum run out of 0.001 mm for stable and accurate grinding.



All the spindles are assembled at Kent by experienced and skilled technicians in temperature-controlled clean room. The result is a spindle that will provide years of trouble-free service with minimum temperature changes, noise or vibration.



### (Optional) Full enclosed guarding

The full enclosed guarding provides perfect shield to avoid grinding dust and coolant liquid splash, the sliding door with a safety lock prevent operator from any dangers.

### Electrical system

An independent control box with an ergonomically designed panel offers a comfortable and convenient operation environment.

The electric components and functional modules are well arranged and organized in a separate electric cabinet for easy maintenance.



### Wheel dresser



The dresser is mounted on right side of table and a controlled swivel dresser can be used. Auto surface grinding cycles and dressing cycles with compensation are standard.



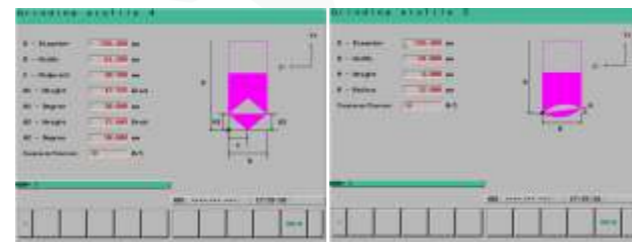
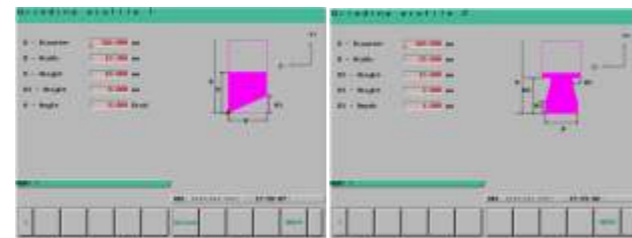
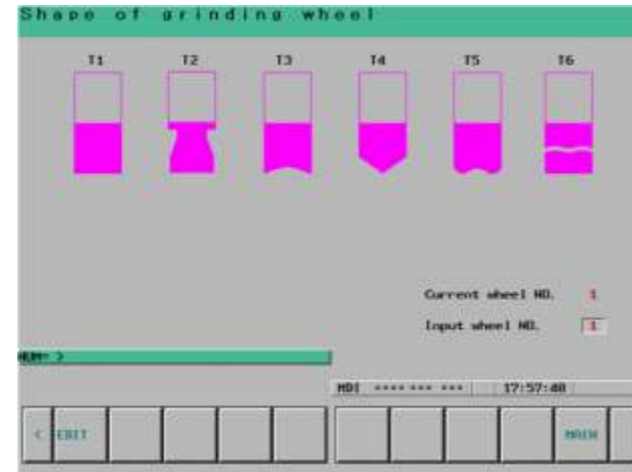
## CONTROL

- Fanuc control, with self-designed conversational pages for general grinding applications, is easy to learn and easy to use.
- Fanuc control system provides years of reliable and trouble-free operation. Service centers are located all over the world offering prompt after-sales service.
- (CNC2) Y, Z axis are servo controlled, and with 2 axis simultaneous motion. X axis table driven by hydraulic system.
- (CNC3) X, Y, Z axis are servo controlled, and with 3 axis simultaneous motion.
- Easy-access mode of automatic grinding cycle and dressing compensation for Plane, Flank and Gully grinding.
- Built-in program for easy setup of profile dressing, various types of wheel shapes are provided in auto dressing mode. Customize profile wheels are also available on demand.

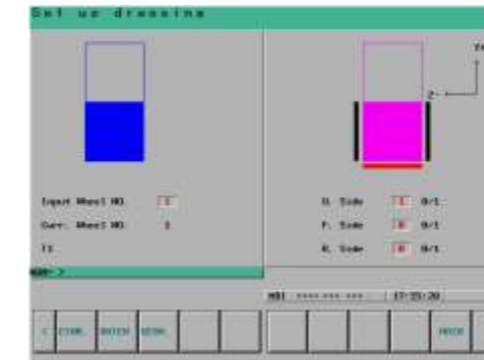
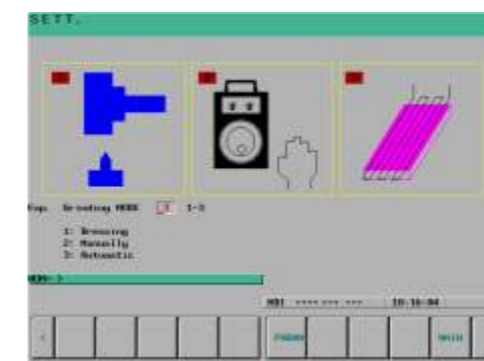
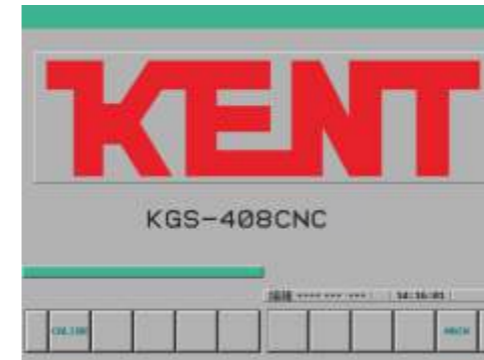


FANUC 0i CONTROL

## GRINDING WHEEL PROFILES



## GRINDING MODE



## Overall operation flow chart of automatic grinding

