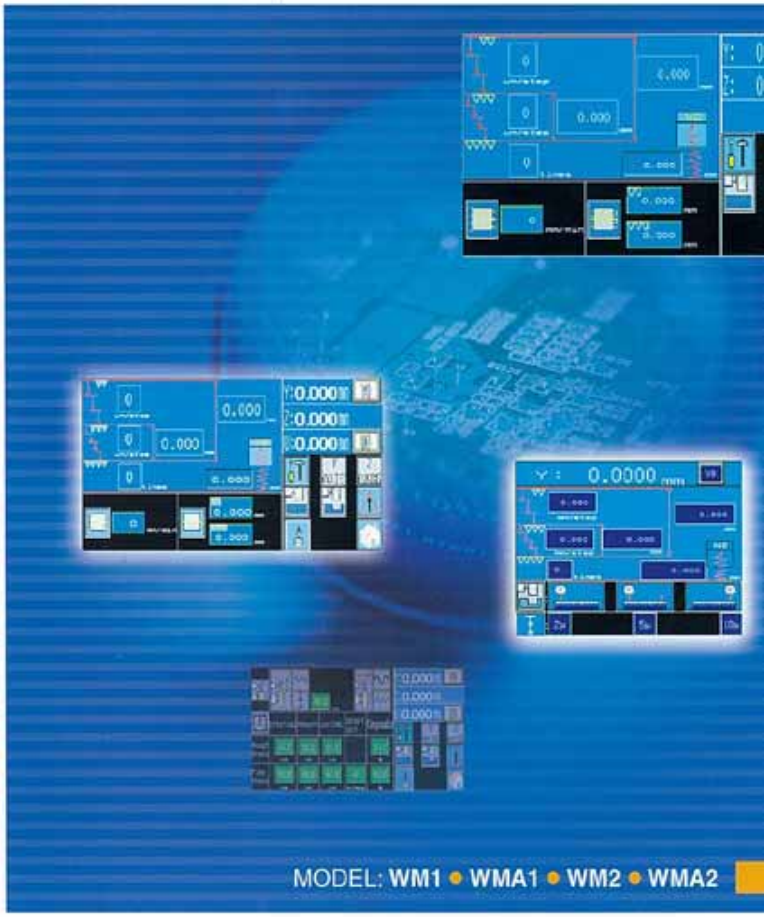
3-AXES HIGH PRECISION SURFACE GRINDER

Wizard Series



WM1 Programmable Downfeed Surface Grinder

Structure:

- Castings are made of high quality ribbed cast iron, which have been tempered to achieve extreme rigidity.
- X&Z slide ways are laminated with Turcite-B. This is done to guarantee smooth movement regardless of the load on the working table.
- The elevation guide ways (Y axis) are hardened and ground, then firmly secured to the column structure. The result is a smooth highly precise, operation of the wheel head.
- The spindle is supported by P4 preloaded super precision angular contact ball bearings, This will guarantee a maximum run-out of 0.0005mm for heavy duty, stable and accurate grinding.
- Hydraulic system with a specially designed valve enables smooth table reversing with a 28m/min table speed. Separate hydraulic unit and cooling device, prevent temperature rise of hydraulic oil and permits easy maintenance.
- Standard hydraulic over-head wheel dresser
- Automatic lubricating system to ensures smooth and long lasting operation in all 3-axes.

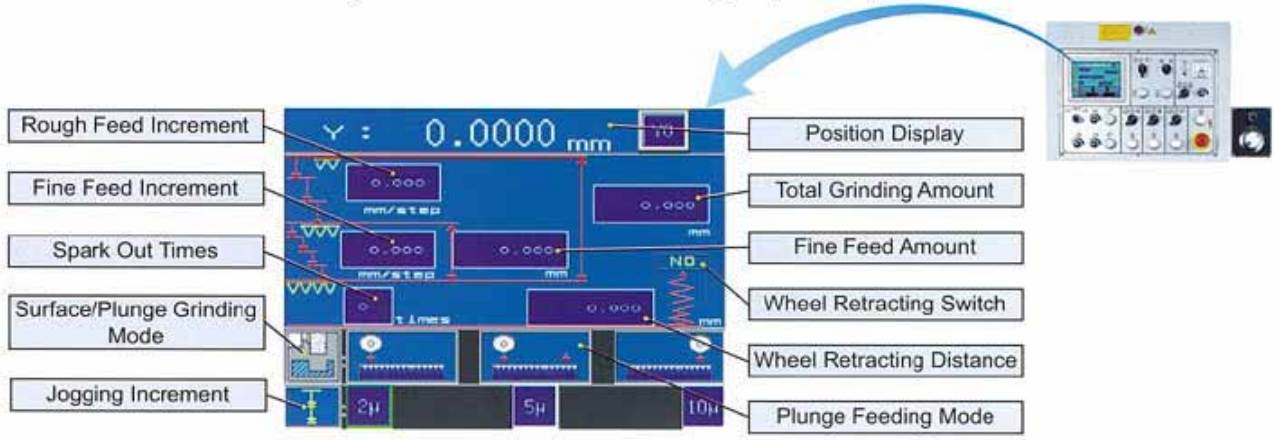
● KGS-84WM1

Control:

- Separate Ergonomically designed electrical control box offer a comfortable and convenient operation environment.
- At the heart of the control system is a Mitsubishi PLC, which will provide years of reliable and trouble-free operation. Service centers are strategically located all over the world offering prompt after-sale service.
- LCD touch screen panel, simply touch the screen to set the grinding variables. Even a beginner can become an expert without complicated training. Easy to learn, easy to use!
- Down feed mechanism is driven by an AC servomotor with grade C5 precision ball-screw, with minimum 0.001mm increment capacity.
- Manual Pulse Generator (MPG) is also provided for user's convenience.
- The crossfeed travel is set by the push-button on the console; different crossfeed increments can be set for both rough and finish grinding.
- The control system will store the last grinding cycle in memory. Simply press the cycle start button to repeat the previous operation. Production efficiency is dramatically improved.

Operation

Simply key-in the total grinding amount, rough grinding increment, fine grinding amount and increment, spark-out passes, wheel spindle retracting distance. After cycle is complete, table parks, spindle and coolant either remains running or shuts off this can be set according to operator's preference.



WMA1 Programmable Downfeed Surface Grinder with Automatic Compensate Over-head Dresser

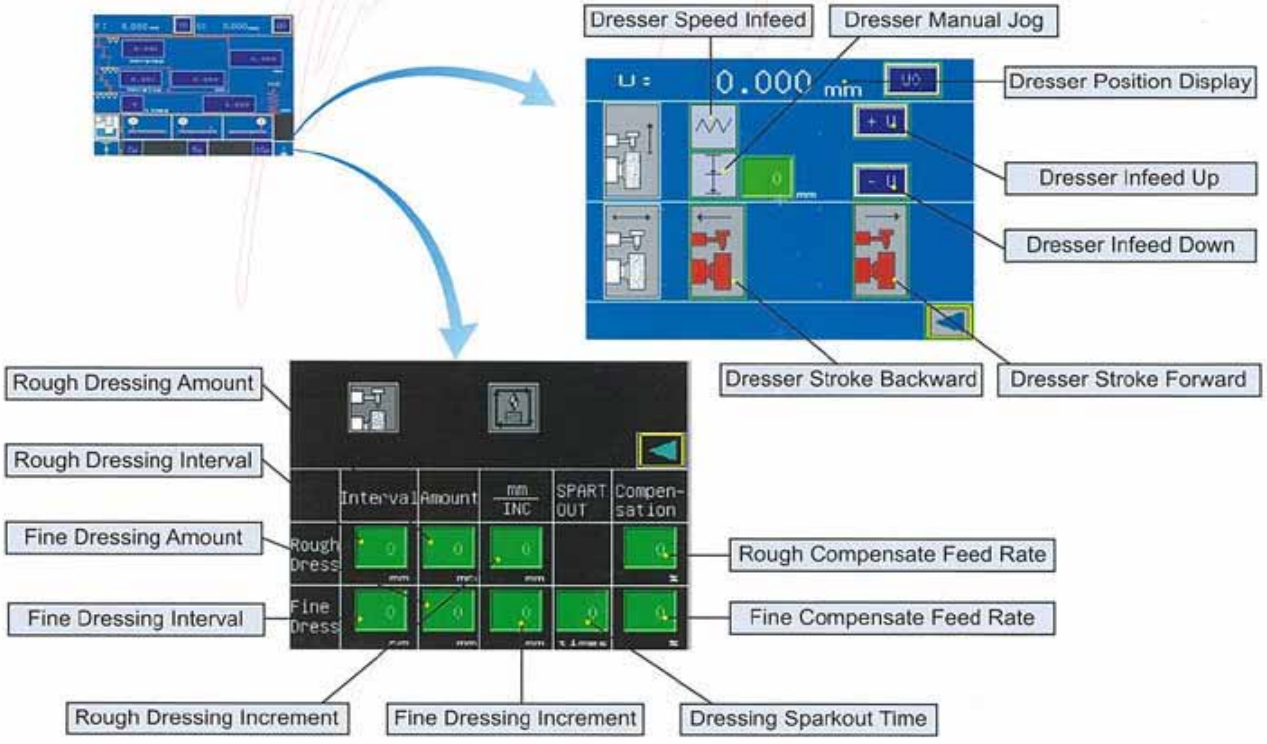
Control:

- With all the features and functions of WM1 plus Programmable Automatic Wheel Dressing and Compensation cycle.
- Integrated in automatic grinding cycle, dressing diamond feeding is driven by AC servomotor with ball-screw while dressing stroke is driven by hydraulic with adjustable passing speed.
- The dressing parameters such as: Interval, dressing amount, dressing increment and wheel head compensation feed rate can all be keyed in with minimum increment 0.001mm.
- Dressing parameters can be set in different setting for both rough and fine grinding process.
- The control system will hold the last setting in memory. Simply press the cycle start button to execute the previous grinding procedure. Production efficiency is dramatically improved.

● KGS-510WMA1

Operation

Simply key-in the total grinding amount, rough grinding increment, fine grinding amount and increment, spark-out passes, wheel spindle retracting distance. Automatic dressing process can be set with dressing amount, dressing stroke and passing speed. After cycle done, table parking, spindle running, coolant can be set according to operator's preference.



WM2 Programmable Downfeed and Crossfeed Surface Grinder

Structure:

- Castings are made of high quality ribbed cast iron, which have been tempered to achieve extreme rigidity.
- X&Z slide ways are laminated with Turcite-B. This is done to guarantee smooth movement regardless of the load on the working table.
- The elevation guide ways (Y axis) are hardened and ground, then firmly secured to the column structure. The result is a smooth highly precise, operation of the wheel head.
- The spindle is supported by P4 preloaded super precision angular contact ball bearings, This will guarantee a maximum run-out of 0.0005mm for heavy duty, stable and accurate grinding.
- Hydraulic system with a specially designed valve enables smooth table reversing with a 28m/min table speed. Separate hydraulic unit and standard oil cooling unit, prevent temperature rise of hydraulic oil and permits easy maintenance.
- Standard hydraulic over-head wheel dresser
- Automatic lubricating system to ensures smooth and long lasting operation in all 3-axes.

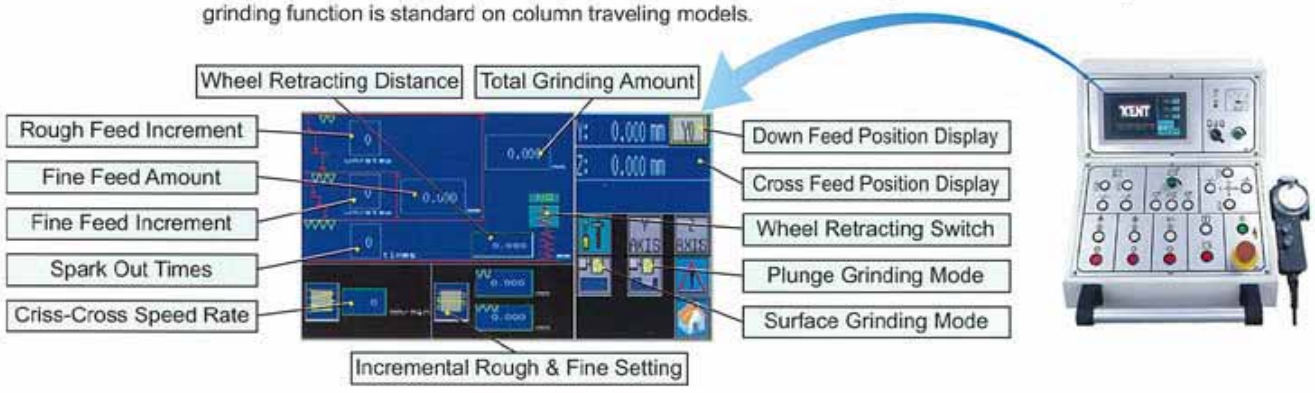
●KGS-63WM2

Control:

- Separate Ergonomically designed electrical control box offer a comfortable and convenient operation environment.
- At the heart of the control system is a Mitsubishi PLC, which will provide years of reliable and trouble-free operation. Service centers are strategically located all over the world offering prompt after-sale service.
- LCD touch screen panel, simply touch the screen to set the grinding variables. Even a beginner can become an expert without complicated training. Easy to learn, easy to use!
- Down feed mechanism is driven by an AC servomotor with grade C5 precision ball-screw, with minimum 0.001mm increment capacity.
- Cross feed mechanism is driven by an AC servomotor with grade C5 precision ball-screw, with minimum 0.01mm increment capacity.
- Manual Pulse Generator (MPG) is also provided for user's convenience for both down feed and cross feed.
- The crossfeed travel is set by the push-button on the console; different crossfeed increments can be set for both rough and finish grinding. With servo controlled crossfeed movement, the surface grinding mode can be selected to grind a slot bottom. This provides the operator with the ability to grind a slot wider than the grinding wheel width.
- The control system will store the last grinding cycle in memory. Simply press the cycle start button to repeat the previous operation. Production efficiency is dramatically improved.

Operation

Simply key-in the total grinding amount, rough grinding increment, fine grinding amount and increment, spark-out passes, wheel spindle retracting distance. After cycle is complete, table parks, spindle and coolant either remains running or shuts off this can be set according to operator's preference. With all the functions of WM1 model, Z-axis length of travel, starting point and rough feeding increment & fine feeding increment can all be keyed in. Criss-cross grinding function is standard on column traveling models.



WMA2 Programmable Downfeed and Crossfeed Surface Grinder, with Automatic Compensate Over-head Dresser

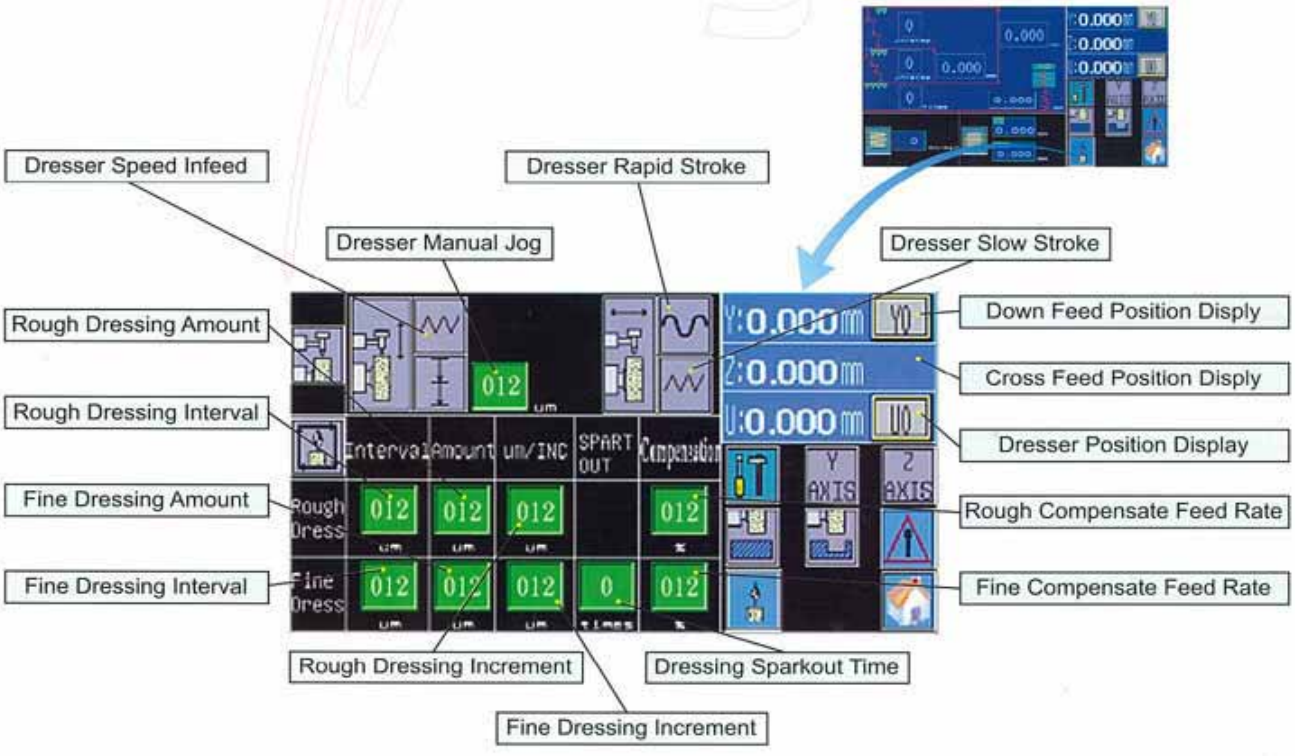
Control:

- With all the features and functions of WM2 plus Programmable Automatic Wheel Dressing and Compensation cycle.
- Integrated in automatic grinding cycle, dressing diamond feeding is driven by AC servomotor with ball-screw while dressing stroke is driven by hydraulic with adjustable passing speed.
- The dressing parameters such as: Interval, dressing amount, dressing increment and wheel head compensation feed rate can all be keyed in with minimum increment 0.001mm.
- Dressing parameters can be set in different setting for both rough and fine grinding process.
- The control system will hold the last setting in memory. Simply press the cycle start button to execute the previous grinding procedure. Production efficiency is dramatically improved.

● KGS-510WMA2

Operation

Simply key-in the total grinding amount, rough grinding increment, fine grinding amount and increment, spark-out passes, wheel spindle retracting distance. Automatic dressing process can be set with dressing amount, dressing stroke and passing speed. After cycle done, table parking, spindle running, coolant can be set according to operator's preference.



Specifications

	Specification		Unit	KGS-250	KGS-1020	KGS-63	KGS-84	KGS-510	KGS-515	KGS-615
Capacity	Overall working area		mm	460 x 200	500 x 250	600 x 300	800 x 400	1000 x 500	1500 x 500	1500 x 600
	Longitudinal and cross travel		mm	540 x 260	590 x 275	710 x 340	920 x 450	1140 x 540	1600 x 570	1600 x 660
	Distance spindle center to table		mm	475	490	600	600	550	600	600
	Table load including magnetic chuck		kgs	100	250	420	700	1000	1200	1300
Table & cross feed	Longitudinal table speed	WM1	m/min	0.1 ~ 28	0.1 ~ 28	0.1 ~ 28	0.1 ~ 28	7 ~ 28	7 ~ 28	7 ~ 28
		WM2	m/min	1 ~ 28	1 ~ 28	1 ~ 28	1 ~ 28	1 ~ 28	1 ~ 28	1 ~ 28
	Crossfeed on Handwheel (WM1)	1 gra	mm	0.02	0.02	0.02	0.02	0.02	0.02	0.02
		1 rev	mm	4	4	4	5	5	5	5
	Crossfeed on MPG (WM2)	1 gra	mm	0.001	0.001	0.001	0.001	0.001	0.001	0.001
		1 rev	mm	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	Auto cross feed per stroke	WM1	mm	0.1 ~ 12	0.1 ~ 12	0.1 ~ 12	0.1 ~ 12	0.5 ~ 12	0.5 ~ 12	0.5 ~ 12
		WM2	mm	0 ~ 30	0 ~ 30	0 ~ 30	0 ~ 30	0 ~ 30	0 ~ 30	0 ~ 30
	Rapid cross feed	WM1(50/60Hz)	mm/min	820/980	820/980	1000/1200	1000/1200	1250/1500	1250/1500	1250/1500
		WM2	mm/min	1500	1500	1500	1500	1500	1500	1500
Grinding wheel	Wheel dimension (OD x T x ID)		mm	180 x 13 x 31.75	180 x 25 x 31.75	355 x 38 x 127	355 x 38 x 127	355 x 38 x 127	355 x 50 x 127	355 x 50 x 127
	Spindle speed (50/60Hz)		r.p.m.	2850/3480	2850/3480	1450/1740	1450/1740	1450/1740	1450/1740	1450/1740
Vertical movement	Vertical on hand wheel	1 gra	mm	0.001	0.001	0.001	0.001	0.001	0.001	0.001
		1 rev	mm	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	Auto down feed increment		mm	0.001 ~ 0.099	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 elevating		mm/min	300	300	300	300	300	300	300
Motor	Spindle motor		KW x P	1.5 x 2	2.2 x 2	3.7 x 4	3.7 x 4	5.6 x 4	7.5 x 4	7.5 x 4
	Elevation motor (AC Servo)		KW	0.4	0.4	0.4	0.4	0.75	0.75	0.75
	Cross feed motor	WM1	W x P	40 x 6	40 x 6	40 x 6	80 x 6	190 x 6	190 x 6	190 x 6
		WM2	KW	0.400	0.400	0.400	0.400	1.000	1.000	1.000
Dimension & weight	Machine height		mm	1775	1775	1830	1875	2400	2445	2445
	Floor space		mm	1800 x 1400	2100 x 1800	2600 x 2500	3600 x 2600	4445 x 2100	5810 x 2445	5810 x 2445
	Net weight		kgs	1300	1430	1750	2800	5000	6000	6000

	Specification		Unit	KGS-620	KGS-715	KGS-820/825/830			KGS-920/925/930		
Capacity	Overall working area		mm	2000 x 600	1500 x 700	2000 x 800	2500 x 800	3000 x 800	2000 x 900	2500 x 900	3000 x 900
	Longitudinal and cross travel		mm	2230 x 660	1600 x 760	2250 x 885	2750 x 885	3250 x 885	2250 x 960	2750 x 960	3250 x 960
	Distance spindle center to table		mm	600	600	880			880		
	Table load including magnetic chuck		kgs	1500	1400	2300	2800	3000	2300	2800	3000
Table & cross feed	Longitudinal table speed	WM1	m/min	7 ~ 28	7 ~ 28	7 ~ 28			7 ~ 28		
		WM2	m/min	1 ~ 28	1 ~ 28	1 ~ 28			1 ~ 28		
	Crossfeed on Handwheel (WM1)	1 gra	mm	0.02	0.02	0.01			0.01		
		1 rev	mm	5	5	2			2		
	Crossfeed on MPG (WM2)	1 gra	mm	0.001	0.001	0.001			0.001		
		1 rev	mm	0.1	0.1	0.1			0.1		
	Auto cross feed per stroke	WM1	mm	0.5 ~ 12	0.5 ~ 12	2 ~ 30			2 ~ 30		
		WM2	mm	0 ~ 30	0 ~ 30	0 ~ 30			0 ~ 30		
	Rapid cross feed	WM1(50/60Hz)	mm/min	1250/1500	1250/1500	1500			1500		
		WM2	mm/min	1500	1500	1500			1500		
Grinding wheel	Wheel dimension (OD x T x ID)		mm	355 x 50 x 127	355 x 50 x 127	508 x 50 x 127			508 x 50 x 127		
	Spindle speed (50/60Hz)		r.p.m.	1450/1740	1450/1740	950/1150			950/1150		
Vertical movement	Vertical on hand wheel	1 gra	mm	0.001	0.001	0.001			0.001		
		1 rev	mm	0.1	0.1	0.1			0.1		
	Auto down feed increment		mm	0.001 ~ 0.099	0.001 ~ 0.099	0.001 ~ 0.099			0.001 ~ 0.099		
	Rapid elevating		mm/min	300	300	300			300		
Motor	Spindle motor		KW x P	7.5 x 4	7.5 x 4	11.2 x 6			11.2 x 6		
	Elevation motor (AC Servo)		KW	0.75	0.75	1.0			1.0		
	Cross feed motor	WM1	W x P	190 x 6	190 x 6	Hydraulic			Hydraulic		
		WM2	KW	1.000	1.000	1.000			1.000		
Dimension & weight	Machine height		mm	2470	2470	2850			2850		
	Floor space		mm	6200 x 2700	5810 x 2800	6000 x 3360	7500 x 3360	8700 x 3360	6000 x 3700	7500 x 3700	8700 x 3700
	Net weight		kgs	8500	7000	12000	14000	14500	12000	14000	17800

■ Specifications subject to change without prior notice.

KENT INDUSTRIAL CO., LTD.

HEAD OFFICE

PIN CHEN FACTORY

DOU LIU FACTORY

CHINA FACTORY.

KENT INTERNATIONAL USA, INC.

KENT INDUSTRIAL (JAPAN) INC.