

## Optional Accessories



### STANDARD EQUIPMENT

1. Grinding Wheel	1Pc
2. Grinding Wheel Flange and Puller	1Set
3. Wheel Balancing Test Arbor	1Pcs
4. Diamond Dresser with Diamond	1Set
5. Machine Lamp	1Set
6. Levelling Screws Set	4Set
7. Shackle	4Pcs
8. Necessary Tools with a Tool Box	1Set
9. Lubrication Oil	1Set
10. Operator's Manual	1Copy
11. Test Report	1Copy

### OPTIONAL EQUIPMENT

1. Permanent Magnetic Chuck and Electro Magnetic Chuck	(J101)
2. Inclined Permanent Magnetic Chuck	(J102)
3. Paralleled Dressing Attachment	(J103)
4. Angle Dressing Device	(J104)
5. Radius Dressing Device	(J105)
6. Demagnetizer	(J106)
7. Flood Coolant System W/ Splash Guard	(J107)
8. Combination Coolant and Dust Exhaust Unit and Splash Guard	(J108)
9. Dust Suction System	(J109)
10. Wheel Balancing Stand	(J110)
11. Grinding Wheel Flange	(J111)
12. Vertical Micrometric Feed	(J112)
13. Cross Micrometric Feed	(J113)
14. Punch Former	(J114)
15. Precision Vice	(J115)
16. Halogen Work Lamp	(J116)
17. Electromagnetic Separator Filter	(J117)
18. Paper Filter	(J118)
19. Coolant System with Auto Paper Filter and Magnetic Separator	(J119)
20. Rectifier	(J120)
21. Digital Scale	(J121)
22. Sine Bar	(J122)



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# Precision Surface Grinding Machine

We Work Hard Today to Increase Your Profits Tomorrow



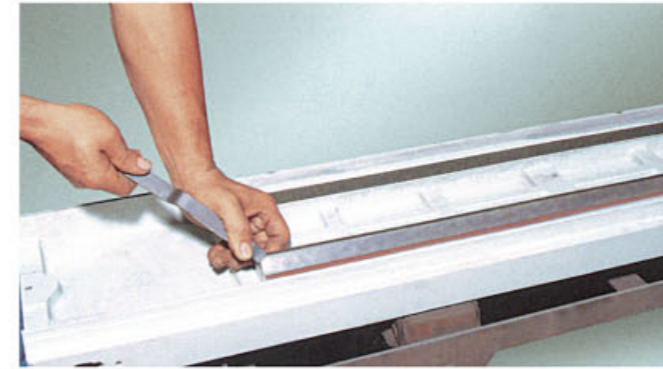


# High Precision Surface Grinder

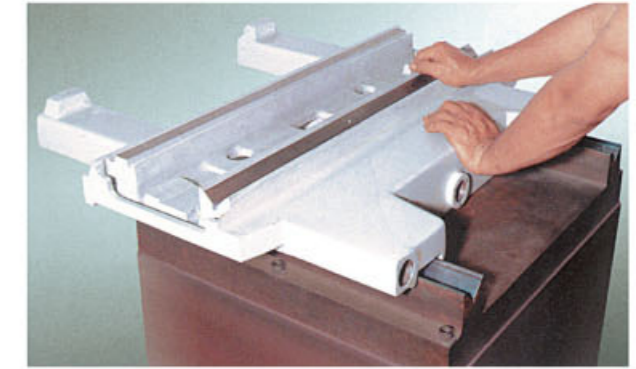
Jone Lih Hi-Precision Surface Grinders are engineered and manufactured to the highest industry standards starting from the raw castings right up through quality geometry testing.

All Joen Lih Surface Grinders start from the finest processed fine grain grey iron castings selected for their outstanding strength and inherent vibration dampening characteristics. Heavy and solid with extensive ribbing throughout, they minimize any possible to the workpiece.

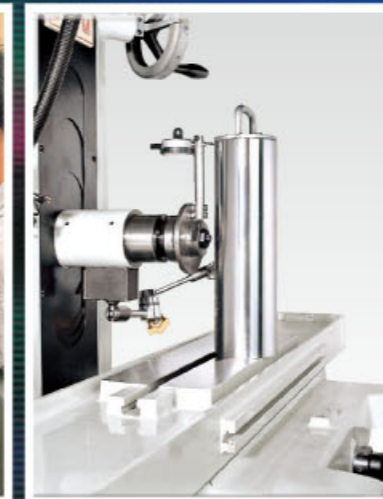
The large all cast iron base provides a 'rock-solid' wide stance footprint to support the entire saddle, table and column assembly. Cast bases are a must as a foundation for strength and integrity in surface grinding operations.



This insures extraordinary performance in surface grinding accuracies and finish where exceptional value for the investment is the goal. Test reports accompanying each grinder certify the built-in accuracies for these performance machine tools and attest to the meticulous hours of hand labor used in crafting to exacting specifications.



There is only one way to build a precision surface grinder. Hand scraping, then fitting, then hand scraping again and again until critical alignment parts fit exactly as designed without compromise.



## RIGOROUS ACCURACY INSPECTION

Each machine is subject to rigorous accuracy inspection to ensure an accurate machining result.

## PARALLELISM AND SQUARENESS OF WHEEL SPINDLE CENTERLINE TO TABLE SURFACE

Place a precision ground cylinder gauge on the table, swing the test indicator which is fixed on the wheel table is at its right, middle and left positions. Both parallelism and squareness are 0.00016"/12" (0.004/300mm) or less.



## HIGH RIGID CASTING CONSTRUCTION

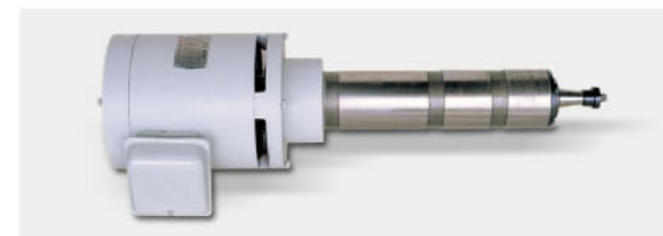
Heavily ribbed all Meehanite processed fine grey cast iron, base, table saddle and column all ensure maximum rigidity and vibration dampening for outstanding performance over the lifetime of the grinder.

X and Y slide ways are coated with Turcite-B and precisely hand scraped, allowing for smooth movement and offering high accuracy.



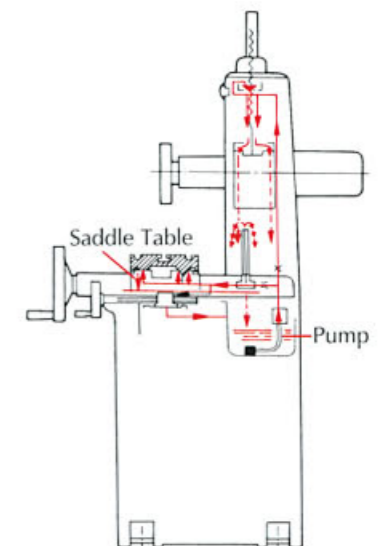
## PRECISION LEADSCREWS

Leadscrews are hardened by "Electroless - Nicklide" process yielding a controlled uniform 50Rc surface hardness. Precision grinding of the vertical and cross feed screws built-in tight. The fluid motion control over the slides maximizes surface grinding positioning and accuracy.



## PRECISION GRINDING SPINDLE

Direct spindle drive from high precision "V-3" motor. Its better tolerance and lubrication result in longer service life. It features quiet and vibration-free operation. Run out of taper nose better than 0.0025mm(0.0001")T.I.R.



## AUTOMATIC LUBRICATION

All Joen Lih Hi-Precision Surface Grinders provide 'as standard equipment' an electrically driven Automatic Lubrication System that delivers pressurized lubricating oil to all table, saddle and spindle slideways, as well as, leadscrews and leadscrew nuts and bearings to maintain the precise accuracy of these performance grinders.



# High Performance and Economical Manual Model

## High Precision Manual Surface Grinder

**JL-614 / JL-614M / JL-618 / JL-618M / JL-818 / JL-618SB**

➤ Heavy duty construction, together with lifetime accuracy, is what makes the Joeh Lih manual Series Precision Surface Grinder such a great value. The economically priced surface grinder offers outstanding grinding accuracy - as you've come to expect. The structural parts are manufactured from high quality Meehanite cast iron, rib reinforced for maximum rigidity and vibration dampening. X-, Y-axis slideways are coated with Turcite-B and precision scraped for smooth movement and high accuracy.



## Precision Surface Grinder with Micrometric Feed

**JL-614 M / JL-618M / JL-818M**

➤ The micrometric feed provides higher accuracy of feed adjustment and is ideal for extra fine surface grinding. It is available to equip on vertical down feed and cross feed. The micrometric feed permits 0.001 mm graduation on the grinding head down feed, and 0.002mm graduation on the table cross feed.



Vertical Micrometric Feed

Cross Micrometric Feed



## 618 Roller Guide Manual Precision Surface Grinder

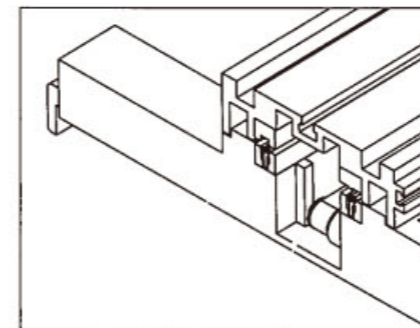
**JL-618SB**

➤ Designed to enjoy the reduced friction provided by Ball Roller Guides for table left/right movement with only a small decrease in overall machine accuracy from Way Surface Type machines, this model can be an advantage in intermittent small production applications.

Ball Type Roller Guides mounted in tracks under the table reduce the stick/slip coefficient of friction giving a smooth effortless gliding feel to the table left/right motion. Operator fatigue is reduced on short production runs. The saddle 'in/out' motion is still on hand scraped Turcite-B or Furon R-142 high performance coated ways.



JL-618  
Roller Guide Manual  
Precision Surface Grinder





# SA Series

## Semi-auto Precision Surface Grinder

### JL-618SA / JL-818SA-JL-2A618 / JL-2A818

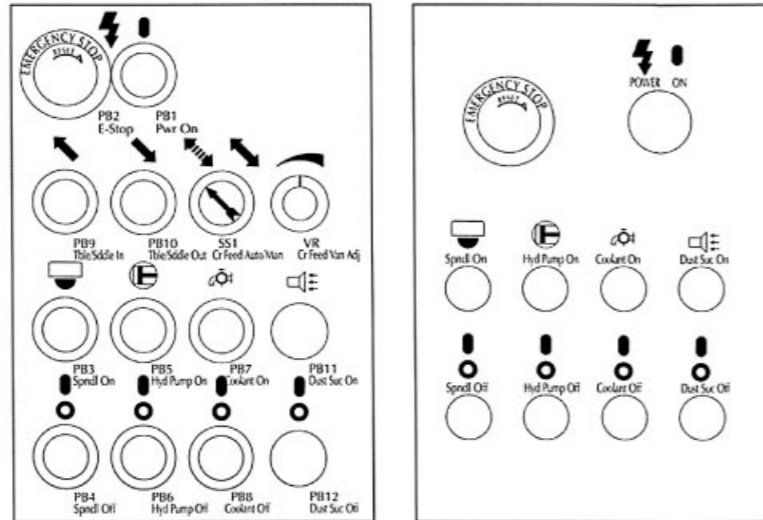
When your operations require a grinder that offers maximum stability, combined with precision accuracy - all on a production basis, the SA Series precision surface grinder from Joen Lih is an excellent choice. It is quality constructed to meet your rigorous requirements.

The table longitudinal travel is driven by hydraulic power, featuring extremely stable motion. The table cross travel and the grinding head down feed are operated manually. A micrometric down feed is available as optional equipment.

**SA: Hydraulic Table**

**2A: Hydraulic Table  
Motorized crossfeed**

**3A: Hydraulic Table  
Motorized crossfeed  
Powered rapid vertical feed**

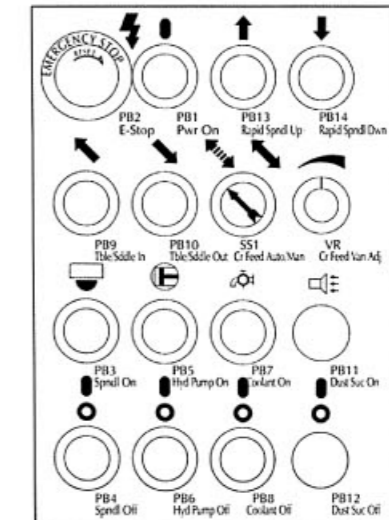


# 3A Series

## Automatic Precision Surface Grinder

### JL-3A618 / JL-3A818

The Joen Lih 3A Series Automatic Surface Grinder is designed for boosting your grinding efficiency. With the 3A Series, you get reduced cycle times and production costs. The table longitudinal travel is driven by a hydraulic system, providing variable feed speed from 3 to 25 mm/min. The table cross travel is driven by motor and available with micrometric feed. The grinding head down feed is driven by a motor. Upon request, micrometric down feed is available.



Operator's command panel for 818 auto model





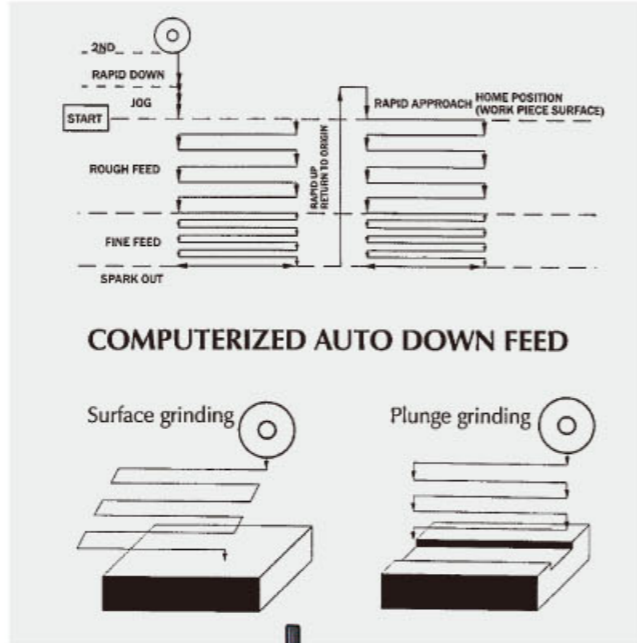
# The Series of Automated Models Save Your Costs and Labor

## Fully Automatic Surface Grinder

### JL-618ATD / JL-818ATD / JL-3060ATD

Joeh Lih combines the latest Mitsubishi PLC Control to provide you with enormous gains in productivity.

The specially designed PLC is applied on the Joeh Lih ATD series fully automatic surface grinders. It enhances user-friendly operations and optimizes the grinder's performance. This results in an extra-competitive edge for your production. The PLC features easy setting of parameters, three working sections, self-diagnosis and alarm system. With the advanced micro-computer control, you get full capabilities to achieve superior finish part accuracy and increased efficiency.



ATD Full Auto. Type Series  
High Precision  
High Efficiency  
Easy Operation Full Auto

### ATD PLC-Controller Type Series

1. The newest Mitsubishi PLC controller and integrated types of varied grinding functions.
2. The motor control of the vertical shaft of elevating movements.
3. The speed adjustable system of vertical shaft.
4. The preset parameters of the lifting and space setting of varied grinding wheel.
5. The preset parameters of single in-put of varied feeding amount.
6. Automatic grinding system divides into three working sections of initial step of grinding, precision grinding and zero step of grinding. (spark out)
7. Automatic stop positioning selection function of the work head.
8. The hold-off grinding function for deep groove cutting.
9. The complete feeding amount of automatic feeding: 450mm/600mm.
10. Self-detecting and alarm system.
11. Automatic stop function.
12. The detecting function of magnetic force. (selected item)
13. Vertical function and cross feed speed control are concentrated on the operation panel for easy operation.
14. Minimum increment 0.001mm (0.0001").



## ATD Series





## Specifications:

MODEL / DESCRIPTION	JL-614 JL-614M	JL-618 JL-618M	JL-618SA JL-2A618 JL-3A618 JL-618ATD	JL-818 JL-818M	JL-818SA JL-2A818 JL-3A818 JL-818ATD	JL-3060AH JL-3060ATD	
<b>General Capacity</b>							
Table Working Surface	mm(inch)	150x365(6"x14")	150x465(6"x18")	150x465(6"x18")	200x465(8"x18")	200x465(8"x18")	300x648(12"x25.5")
Max. Table Travel	mm(inch)	175x382(7"x15.2")	175x472(7"x18.8")	175x472(7"x18.8")	205x472(8"x18.8")	205x472(8"x18.8")	380x680(15"x27")
Max. Surface Ground	mm(inch)	150x350(6"x14")	150x450(6"x18")	150x450(6"x18")	200x450(8"x18")	200x450(8"x18")	300x600(12"x24")
Max. Distance Center of Spindle to Table		400mm(16")		450mm(18")		600mm(24")	
<b>Longitudinal Movement</b>							
Table Speed (infinite Variable)		-	-	3~25m/min (120"~1000"/min)		5~23m/min (197"~906"/min)	
Table Guideway		V & FLAT way		V & FLAT way	-	V & FLAT way	
<b>Cross Movement</b>							
Auto. Cross feed Increment approx.		-	-	0.1mm~5mm(2A) (0.004"~0.8")	-	0.1mm~5.5mm (0.004"~0.22")	
Rapid Power Crossfeed approx. (mm/min)		-	-	1300(52")mm/min 60Hz 1100(44")mm/min 50Hz	-	1400(56")mm/min 60Hz 1200(48")mm/min 50Hz	
Cross on Hand Wheel	1 rev 1 gra	5mm(0.1") 0.02mm(0.0005")		5mm(0.1") 0.02mm(0.0005")		5mm(0.1") 0.02mm(0.0005")	
Cross Micrometric Feed (optional)	1 rev 1 gra	0.1mm(0.002") 0.001mm(0.00005") (option)		0.1mm(0.002") 0.001mm(0.00005") (option)		0.1mm(0.002") 0.002mm(0.00005") (option)	
<b>Vertical Movement</b>							
Rapid Power Head	60Hz	-	-	180(7.2")mm/min(3A)60Hz	-	180(7.2")mm/min(3A)60Hz	
Elevation approx.	50Hz	-	-	150(6")mm/min 50Hz	-	150(6")mm/min 50Hz	
Vertical Feed on Hand Wheel	1 rev 1 gra	1mm(0.04") 0.005mm(0.0002")		1mm(0.05") 0.005mm(0.0002")		1mm(0.04") 0.005mm(0.0002")	
Vertical Micrometric Feed (optional)	1 rev 1 gra	0.02mm(0.002") 0.0005mm(0.00002")		0.02mm(0.001") 0.0005mm(0.00002") (option)		0.02mm(0.002") 0.01mm(0.0004")	
Auto. Down Feed		-	-	0.001mm/P.P.S(ATD)	-	0.001mm/P.P.S(ATD)	
<b>Grinding Wheel</b>							
Wheel Speed	60Hz/50Hz	3500 R.P.M / 2900 R.P.M		3500 R.P.M / 2900 R.P.M		1750 R.P.M / 1450 R.P.M	
Wheel Dimensions	(mm)	180x13x31.75(7.2"x0.5"x1.25")		180x13x31.75(7.2"x0.5"x1.25")		355x37.5x127(14"x1.5"x5")	
<b>Motors</b>							
Spindle Motor		1.5HP x 2P	1.5HP x 2P	1.5HP x 2P	2HP x 2P	2HP x 2P	5HPx4P
Hydraulic Pump Motor		-	-	1HP x 6P	-	1HP x 6P	2HP x 6P
Auto Crossfeed Motor		-	-	5RK-40A-S(2A,3A)(ATD:DC10SP)	-	5RK-40A-S(2A,3A)(ATD:DC10SP)	1/5HPx6P
Rapid Head Elevation Motor (Vertical)		-	-	5RK-40A-S(2A,3A)(ATD:DC10SP)	-	5RK-40A-S(2A,3A)(ATD:DC10SP)	5RK-90A-S(AH),PK299-01A(ATD)
Coolant Pump		1/8HP		1/8HP		1/8HP	
<b>Sound Pressure Level</b>							
Sound Pressure Level		Below 78db (A)		Below 78db (A)		Below 78db (A)	
<b>Weight</b>							
Machine Net Weight	kgs(lbs)	570(1254 Lbs)	690(1520 Lbs)	750(1653 Lbs)	850(1870 Lbs)	1280(2816 Lbs)	2000(4400 Lbs)
Packing Gross Weight	kgs(lbs)	670(1474 Lbs)	790(1741 Lbs)	900(1983 Lbs)	1000(2204 Lbs)	1380(3036 Lbs)	2300(5060 Lbs)
<b>Size</b>							
Machine Floor Space	(mm)	1500x1500	1800x1100	1950x1200	1950x1200	2300x1800	2600x2050
	(inch)	(60"x52")	(71"x43")	(78"x48")	(78"x48")	(92"x72")	(104"x82")
Packing Demensions (LxWxH)	(cm)	134x104x210	140x104x210	224x133x210	170x117x210	224x136x210	224x196x210
	(inch)	(54"x42"x84")	(56"x42"x84")	(88"x52"x83")	(68"x47"x84")	(90"x55"x84")	(90"x78"x84")

**M:** Micrometric Feed

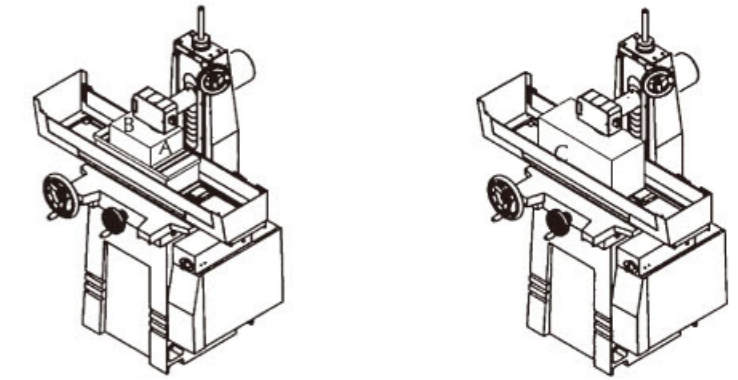
**SA:SA** series are longitudinal by hydraulic and cross feed, and vertical axes are manual.

**2A:2A** series are auto crossfeed and hydraulic longitudinal, and vertical axis is manual.

**3A/AH:3A/AH** series are auto crossfeed and hydraulic longitudinal, and powered rapid vertical feed.

**ATD: ATD** series are auto crossfeed and hydraulic longitudinal and computerized auto downfeed.

**NOTE:** The contents of this brochure are reference only and the manufacturer reserves the right to modify the design specification without notice.



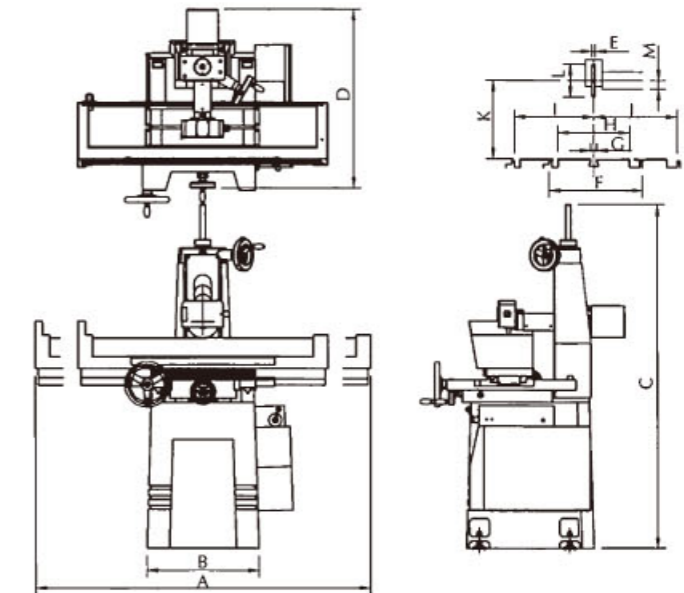
### Table Load Capacities

A=Workpiece

B=Permanent Magnetic Chuck

C=A+B

Model	lbs(kg)	lbs(kg)	lbs(kg)
618	396(180)	474(215)	474(215)
818	66(30)	77(35)	187(85)
3060	462(210)	551(250)	661(300)



### Dimensional Drawings

Model	618M	818SA / 3A 818	3060
A	71"(1775mm)	74.6"(1865mm)	(2600mm)
B	26.4"(660mm)	25"(625mm)	(820mm)
C	82"(2050mm)	84"(2100mm)	(1950mm)
D	41.5"(1038mm)	43.9"(1097mm)	(2050mm)
E		0.5"(13mm)	(38mm)
F	8.8"(220mm)	10.4"(260mm)	(390mm)
G		0.68"(17mm)	(14mm)
H	6"(150mm)	8"(200mm)	(300mm)
I	6.8"(170mm)	8.8"(220mm)	(220mm)
J	6.8"(170mm)	8.8"(220mm)	(220mm)
K		16"(400mm)	(600mm)
L		7.2"(180mm)	(355mm)
M		1.9"(47.5mm)	(65mm)