

SEEDTEC®

The Leading Name in
Surface Grinders



NC / CNC Precision Surface Grinder



OVER 30 YEARS EXPERIENCE

CE

ISO 9001:2008

Experience Technology Reliability

SEEDTEC® The Leading Name In Surface Grinders

SEEDTEC® Surface Grinder Provides

- Precision
- Fine Finish
- Reliability
- Productivity



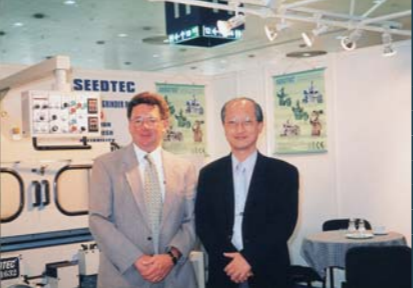
SEEDTEC® machinery Co.,Ltd. has more than 20 years of experience in design and manufacturing precision surface grinders. Since the company established, **SEEDTEC®** has been dedicated to providing customers with the very best machinery available for achieving the highest levels of accuracy, durability, and reliability.

Experience, technology, innovation and reliability are the fundamental principles our company is built on. During the years we continuously improve our company management and constantly look for better ways to improve machine performance. **SEEDTEC®** is the first company certified by CE among the surface grinder manufacturers in Taiwan.

In addition, **SEEDTEC®** is also certified by ISO 9001:2008 currently **SEEDTEC®** precision surface grinders have been sold to many countries around the world.

Based on our strong technical background in the field of surface grinder, **SEEDTEC®** also looks into the future with confidence, and will enter into the new century helping customers to create more profits.

SEEDTEC®



SEEDTEC® APS-S SERIES

The Answer to Perfect Grinding

APS-S SERIES 3 Axes Servo Drive

APS-618S APS-818S APS-1224S APS-1228S
APS-1632S APS-1636S APS-1640S

The APS-S series 3 axes servo surface grinder from SEEDTEC® lets you perform high precision grinding more efficiently by optimizing the capacity of your surface grinder.

It will give you competitive edge for precision parts machining year after year.

- 3 axes servo motor with precision ball screws drive to maximize efficiency and positioning accuracy.
- Outstanding longitudinal feed rate design allows for heavy grinding at low speed feed for grinding hard and brittle materials such as glass, quartz and ceramic, etc.
- High precision reversing motion for longitudinal movement makes the machine excellent for grinding spline parts, injection pins and punches etc.
- Simple, easy-to-use CNC control enhances overall efficiency.
- Variable longitudinal travel speed is easily and simply controlled by using knob.
- Super precision vertical linear guide ways combined with extra large slide blocks for greatly increasing rigidity of spindle.
- Vertical servo motor with precision ball screw permits feed unit setting to 0.001mm.
- With the use of application programs (optional) combined with graphical and conversational parameters input, the machine can perform plunge grinding, (Including multi-slots grinding) and flat surface grinding (or stepped surface grinding)
- Over wheel parallel manual dresser with auto dressing amount compensated to vertical axis is available for optional.
- Available to increase spindle motor horsepower up to 5 HP (for APS-618/818 series) (OPT.)
Available to increase spindle motor horsepower up to 20 HP (for APS-1224/1228 series) (OPT.)
Available to increase spindle motor horsepower up to 30 HP (for APS-1632/1636/1640 series) (OPT.)
- Patented control panel greatly upgrades operational convenience (Patented No. 219605)
- Rational design of panel provides convenient operation. All keys and buttons are designed as easily identified figures.
- Total thermal stability assures lifetime accuracy.
- Unique safety features incorporated in the control. Motion controls are effected only when buttons are pressed with two fingers for safety protection.



Picture shown with optional coolant system c/w paper filter

CE

SEEDTEC® APS-P SERIES

The Modern Way to Productivity and Profit.

APS-P SERIES X-Axis Hydraulic Y, Z-Axis Servo Drive.

APS-618P APS-818P APS-1224P APS-1228P
APS-1632P APS-1636P APS-1640P

When your parts need more efficiency grinding yet without sacrificing surface accuracy and finish, you want the quality proven grinder that will help you to get it.

SEEDTEC® APS-P Series Surface Grinder is the right choice. With hydraulic drive on x-axis and servo drive on y, z-axis, the APS-P series is designed and manufactured with profitable machining in mind.

- Cross and vertical feed are driven by servo motors combined with precision ball screws transmission for greatly upgrading efficiency and positioning accuracy.
- Longitudinal movement is driven by high performance hydraulic system. (feed rate range 0.1~25m/min.)
- High positioning accuracy (0.005mm) for longitudinal movement permits the dresser device to perform accurate wheel dressing.
- Available to equip with table-mounted diamond roll dresser or pop dresser with one or three diamond tools for profiling.(OPT.)
Dressing amount is automatically compensated to vertical axis, making it ideal for mass production requirement.
- Super precision vertical linear guide ways combined with extra large slide blocks for greatly increasing rigidity of spindle.
- Vertical servo motor with precision ball screw permits feed unit setting to 0.001mm.
- With the use of application programs (optional) combined with graphical and conversational parameters input, the machine can perform plunge grinding, (Including multi-slots grinding) and flat surface grinding (or stepped surface grinding)
- Over wheel parallel manual dresser with auto dressing amount compensated to vertical axis is available for optional.
- Available to increase spindle motor horsepower up to 5 HP (for APS-618/818 series) (OPT.)
Available to increase spindle motor horsepower up to 20 HP (for APS-1224/1228 series) (OPT.)
Available to increase spindle motor horsepower up to 30 HP (for APS-1632/1636/1640 series) (OPT.)
- Patented control panel greatly upgrades operational convenience (Patented No. 219605)
- Rational design of panel provides convenient operation. All keys and buttons are designed as easily identified figures.
- Total thermal stability assures lifetime accuracy.
- Unique safety features incorporated in the control. Motion controls are effected only when buttons are pressed with two fingers for safety protection.
- Especially ideal for multi-slotting, such as Connector / IC package mould components and automatic grinding-off.

Picture shown with optional overwheel parallel manual dresser with auto dressing amount compensated to vertical axis



CE

Heavy Duty Meehanite Castings

To ensure lifetime accuracy and maximum stability under heavy duty grinding, the structural parts on *SEEDTEC*® grinder are manufactured from Meehanite cast iron, scientifically rib reinforced to resist flexing and provide better dampening capacity.

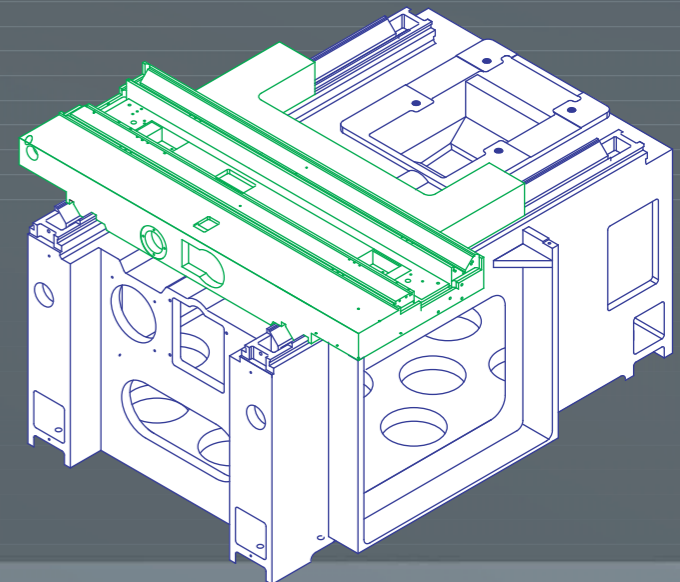
- ▶ All major castings are tempered and stress relieved for deformation-free on the structure.
- ▶ Widely spaced base slideways eliminate the suspension problem for table longitudinal travel.
- ▶ Heavy duty column structure provides extra rigid support for the grinding head.



Finite Element Analysis

The major casting parts on the *SEEDTEC*® machines are analyzed by the most advanced "Finite Element Analysis" to achieve optimum structure design.

Through computer analysis, we can fully understand structure deformation in heavy loading condition. *SEEDTEC*® machines feature unmatched rigidity and stability comparing to conventional models.

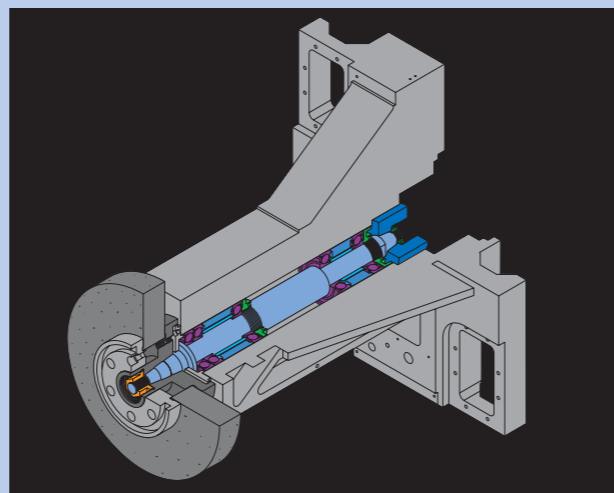


Precision Spindle Assures High Quality Grinding

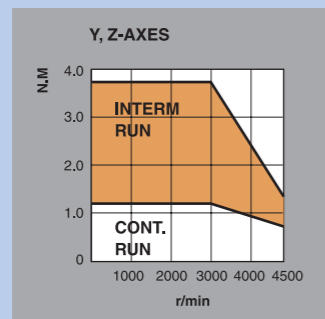
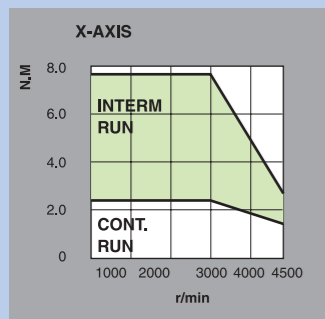
SEEDTEC® precision spindle is manufactured from high quality alloy steel, precision ground and dynamically balanced for high speed smooth running.

The precision spindle is supported by a combination of class P4 double super precision angular contact ball bearings for maximum rigidity, chatter-free operation and assure high quality grinding year after year.

Completely sealed spindle avoid contamination of coolant and abrasive dust getting in.



SPEED/TORQUE DIAGRAM



Pop Dresser with one or Three Diamond Tools

The Pop Dresser is mounted at the side of electro-magnetic chuck. When perform wheel dressing, the dresser pop over the electro-magnetic chuck to facilitate dressing motions.

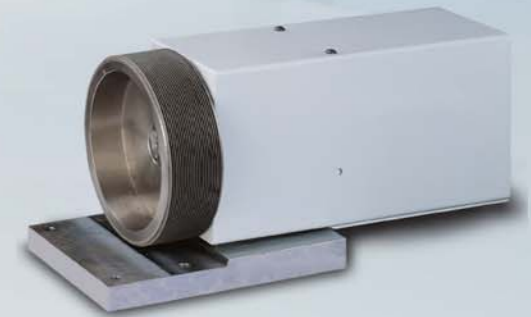
Available to use single diamond tool for straight dressing, or use three diamond tools for bevel surface or arc dressing. Dressing amount is compensated to vertical axis.



Diamond Roll Dresser

The Roll dresser is mounted at the side of electro-magnetic chuck. Designed for dressing forming wheel on mass production. Wheel dressing is performed according the shape of roll.

Once the grinding wheel is worn out, it is convenient to dress by using the roll dresser. Dressing amount is compensated to vertical axis.



Hydraulic Power Unit for APS-P Series Only

The longitudinal movement on APS-P series is driven by high performance hydraulic system. It employs world famous Vickers hydraulic parts, assuring extra smooth motion for continuous long time operation, minimum trouble and long service life.

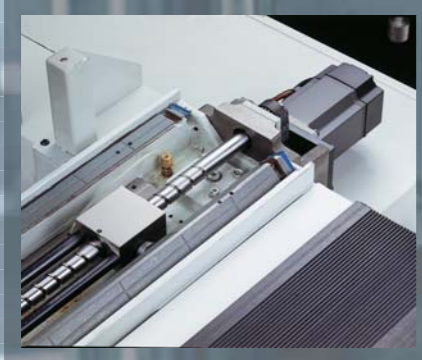


Hydraulic Oil Temperature Controller (Optional)

The hydraulic power unit is available to equip with an oil temperature controller for maintaining oil temperature at the room temperature with tolerance $\pm 1.2^{\circ}\text{C}$. It effectively eliminates thermal displacement of the machine while assuring outstanding grinding accuracy.



Operator-friendly Controller



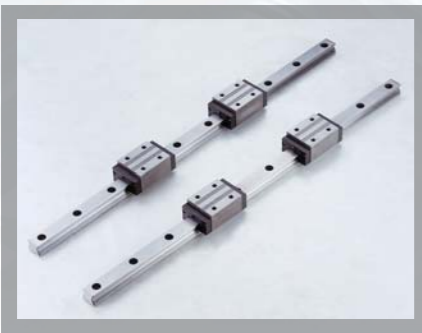
Precision Ball Screws and servo Motor on 3 Axes APS-S Series

High precision ball screws are used on the x, y, z axes. Ball screws are pretensioned to minimize thermal strain, backlash and pitch error. 3 axes ball screws are driven by servo motors with power transmitted by timing belt for positive transmission.



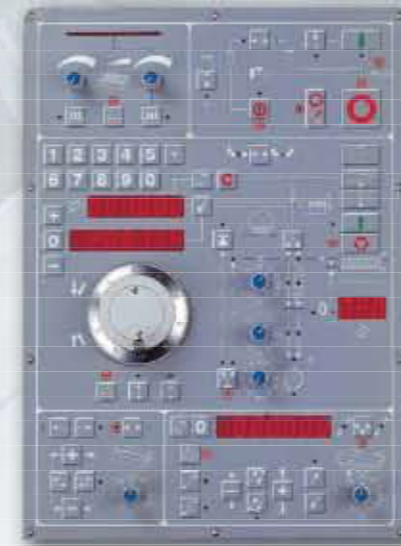
Vibration-Free Wheel Head APS-618 and 818 Series

The spindle head assembly is indirectly driven by a servo motor through timing belt transmission. This fully eliminates the possibility of vibration to the spindle assembly, resulting in high accuracy grinding.



Linear Motion Guides

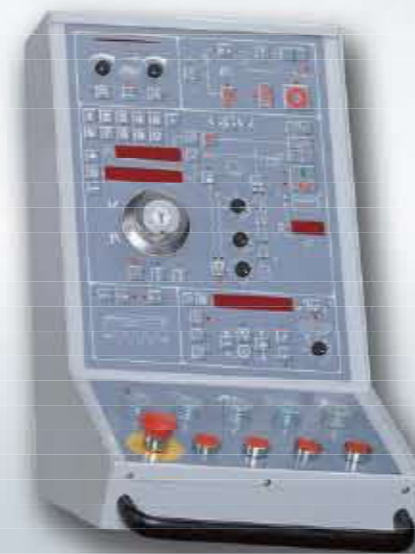
The Y axis employ high rigidity linear guideways that ensures high positioning and repeatability accuracy, lower friction, and smooth traverse.



The controller equipped on **SEEDTEC**® surface grinder is designed specifically for automatic grinding control, which utilizes the advanced control technology. The simple, easy-to-use control features reduced programming time, improved surface quality and consistent production quality.

The Advanced Control Makes Your Grinding Operations More Efficient By:

- UTC400P is a general-purposed controller built with the most advanced 32-bit digital signal processor and programmable gate array.
- It supports linear interpolation, circular interpolation and screwed intrpolation; up to 4 axes could be in one coordinate.
- With its excellent computational ability, UTC400P can perform complex arithmetic and logic computation that makes program design easy.



Advanced Control Exclusive Control Panel Design Patented No. 219605

- The control buttons and machining parameters input fully meet grinding sequences and are easy to operate.
- All key functions are indicated by graphical symbols for easy identification.
- Coarse and fine grinding feed are set by variable regulation knob, providing fast responding to feed adjustment without setting any parameter for increasing efficiency.
- LEDS' lights clearly indicate machining conditions.
- Specially designed remote hand wheel provides user-friendly operation.

CNC Control (Optional)



FANUC:
Oi Series



MITSUBISHI:
M70V Series



PC Touch-sensing Screen:

It allows the operator to edit programs as desired with conversational input.

Applicable machining programs include:

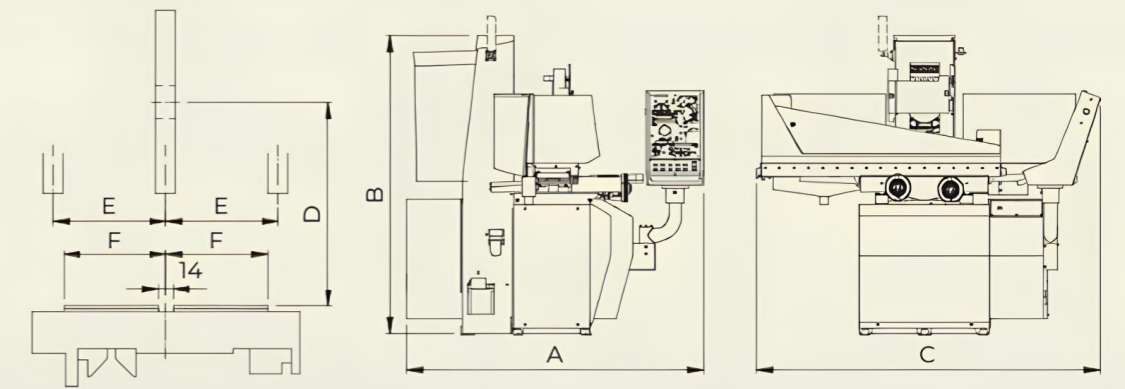
1. Multi-Plunge grinding / step surface grinding.
2. Contour grinding.

SPECIFICATION

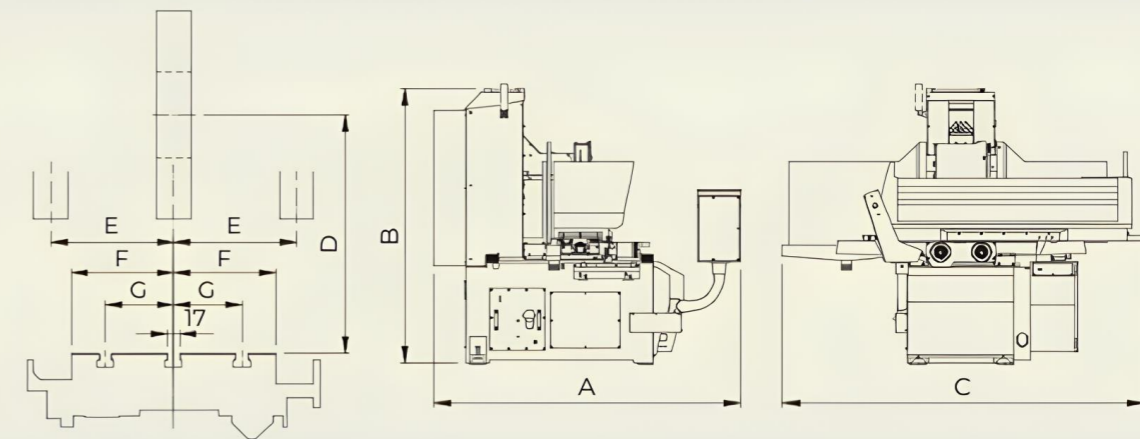
Dimensional Drawings

(unit: mm)

SPECIFICATION		MODEL		APS-618P	APS-618S	APS-818P	APS-818S	APS-1224P	APS-1224S	APS-1228P	APS-1228S	APS-1632P	APS-1632S	APS-1636P	APS-1636S	APS-1640P	APS-1640S
CAPACITY	Distance from table top to spindle center			490mm		490mm		690mm		690mm		690mm		690mm		690mm	
	Table surface (L x W)			460x150mm		460x200mm		600x300mm		700x300mm		800x400mm		900x400mm		1000x400mm	
	Maximun longitudinal travel			480mm		480mm		620mm		720mm		820mm		920mm		1020mm	
	Maximun cross travel			170mm		220mm		360mm		360mm		460mm		460mm		460mm	
	T-slot(NO.x width)			1x14mm		1x14mm		3x17mm		3x17mm		3x17mm		3x17mm		3x17mm	
	Maximun load weight of the table (chuck included)			85kg		115kg		320kg		375kg		570kg		640kg		715kg	
Longitudinal movement of table																	
Hydraulic feed		S-25m/min		-	S-25m/min	-	S-25m/min	-	S-25m/min	-	S-25m/min	-	S-25m/min	-	S-25m/min	-	
Continuous traverse feed		-		25m/min	-	25m/min	-	25m/min	-	25m/min	-	25m/min	-	25m/min	-	25m/min	
Hand feed per revolution		63mm			63mm		63mm		63mm		63mm		63mm		63mm		
Cross movement of saddle																	
Intermittent feed		1/3 grinding wheel thickness			1/3 grinding wheel thickness		1/3 grinding wheel thickness		1/3 grinding wheel thickness		1/3 grinding wheel thickness		1/3 grinding wheel thickness		1/3 grinding wheel thickness		
Continuous transverse feed		1200mm/min			1200mm/min		1800mm/min		1800mm/min		1800mm/min		1800mm/min		1800mm/min		
Hand feed per revolution		0.1, 5mm			0.1, 5mm		0.1, 5mm		0.1, 5mm		0.1, 5mm		0.1, 5mm		0.1, 5mm		
Graduation of handwheel		0.001, 0.05mm			0.001, 0.05mm		0.001, 0.05mm		0.001, 0.05mm		0.001, 0.05mm		0.001, 0.05mm		0.001, 0.05mm		
Vertical movement of wheel head																	
Hand feed per revolution		0.1, 5mm			0.1, 5mm		0.1, 5mm		0.1, 5mm		0.1, 5mm		0.1, 5mm		0.1, 5mm		
Graduation of handwheel		0.001, 0.05mm			0.001, 0.05mm		0.001, 0.05mm		0.001, 0.05mm		0.001, 0.05mm		0.001, 0.05mm		0.001, 0.05mm		
Rapid feed		800mm/min			800mm/min		900mm/min		900mm/min		900mm/min		900mm/min		900mm/min		
Automatic down feed																	
Feed per time		0.001-999.999mm			0.001-999.999mm		0.001-999.999mm		0.001-999.999mm		0.001-999.999mm		0.001-999.999mm		0.001-999.999mm		
Fine feed per time		0.001-0.999mm			0.001-0.999mm		0.001-0.999mm		0.001-0.999mm		0.001-0.999mm		0.001-0.999mm		0.001-0.999mm		
Rough grinding feed		0.001-0.025mm			0.001-0.025mm		0.001-0.025mm		0.001-0.025mm		0.001-0.025mm		0.001-0.025mm		0.001-0.025mm		
Fine grinding feed		0.001-0.013mm			0.001-0.013mm		0.001-0.013mm		0.001-0.013mm		0.001-0.013mm		0.001-0.013mm		0.001-0.013mm		
Spark out		9			9		9		9		9		9		9		
1800rpm Spindle																	
Spindle Motor		-			-		5.5HP(OPT.7.5HP)		5.5HP(OPT.7.5HP)		7.5HP(OPT.10HP)		7.5HP(OPT.10HP)		7.5HP(OPT.10HP)		
Spindle speed	50Hz	-			-		1460rpm		1460rpm		1470rpm		1470rpm		1470rpm		
	60Hz	-			-		1760rpm		1760rpm		1775rpm		1775rpm		1775rpm		
Grinding wheel	50Hz	-			-		Ø355x50xØ127mm		Ø355x50xØ127mm		Ø355x50xØ127mm		Ø355x50xØ127mm		Ø355x50xØ127mm		
	60Hz	-			-		Ø305x50xØ127mm		Ø305x50xØ127mm		Ø305x50xØ127mm		Ø305x50xØ127mm		Ø305x50xØ127mm		
3600rpm Spindle																	
Spindle Motor		3HP			3HP		5.5HP		5.5HP		-		-		-		
Spindle speed	50Hz	2920rpm			2920rpm		2950rpm		2950rpm		-		-		-		
	60Hz	3515rpm			3515rpm		3555rpm		3555rpm		-		-		-		
Grinding wheel	50Hz	Ø205x13xØ31.75mm			Ø205x19xØ31.75mm		Ø205x13xØ31.75mm		Ø205x13xØ31.75mm		-		-		-		
	60Hz	Ø180x13xØ31.75mm			Ø180x19xØ31.75mm		Ø180x13xØ31.75mm		Ø180x13xØ31.75mm		-		-		-		
MOTOR																	
Hydraulic		3HP/6P			3HP/6P		2HP/6P		2HP/6P		3HP/6P		3HP/6P		3HP/6P		
Cross feed(AC servo)		400W			400W		400W		400W		750W		750W		750W		
Vertical feed(Ac servo)		400W			400W		400W		400W		400W		400W		400W		
Longitudinal feed(AC servo)		-		750W		750W		-	1.5KW		1.5KW		1.5KW		1.5KW		
Floor space(LxWxH)		2510x2500x1880mm			2510x2500x1880mm		3560x3100x2275mm		3560x3100x2275mm		3990x3100x2275mm		3990x3100x2275mm		4850x3100x2275mm		
Packing dimensions (LxWxH)		2400x1900x2140mm			2680x1800x2140mm		2760x2220x2460mm		2760x2220x2460mm		3400x2300x2460mm		3400x2300x2460mm		3400x2300x2460mm		
Machine weight (approx.)		1600kg			1650kg		3200kg		3200kg		4000kg		4000kg		4200kg		



MODEL	APS-618P/S	APS-818P/S
A	1800	1800
B	1760	1760
C	2100	2100
D	490	490
E	85	110
F	75	100



MODEL	APS-1224P/S	APS-1228P/S	APS-1632P/S	APS-1636P/S	APS-1640P/S
A	2600	2600	2800	2800	2800
B	2165	2165	2165	2165	2165
C	3000	3000	3600	3600	3900
D	690	690	690	690	690
E	180	180	230	230	230
F	150	150	200	200	200
G	100	100	100	100	100



APS-618.818 Series Standard Accessories:

ITEM	DESCRIPTION	QTY
1.	Grinding wheel (Dia. x Thickness x Bore) ø205 x 13 x 31.75m/m(APS-618) or ø205 x 19 x ø31.75m/m(APS-818)	1
2.	Grinding wheel adaptor & puller	1
3.	Arbor for wheel balancing	1
4.	Diamond tool (1/4 carat) with a base	1 EACH
5.	Dust sweeping plate	1
6.	Working lamp	1
7.	Leveling plates	6
8.	Leveling bolts with nut	6
9.	Eyebolt	2
10.	T-nut (#14) & Screws (M10 x 40)	2
11.	Necessary tools with a tool box	1
	A. Wrench (36m/m)	1
	B. Hexagon-headed spanner (2.5,3,4,5,6,8m/m)	1 EACH
	C. Adjustable wrench (200m/m)	1
	D. Cross screw driver (#4)	1
	E. Pouched ratchet box wrenches	1
12.	Lubrication oil (4 liters, Mobil #1405)	1
13.	Operation manual and inspection certificate	1 EACH
14.	Spare paint	1

APS-1224.1228.1632.1636.1640 Series Standard Accessories:

ITEM	DESCRIPTION	QTY
1.	Grinding wheel (Dia. x Thickness x Bore) ø305 x 50 x ø127m/m(60Hz) or ø355 x 50 x ø127m/m(50Hz)	1
2.	Grinding wheel adaptor & puller	1
3.	Arbor & nut for wheel balancing	1 EACH
4.	Diamond tool (1/4 carat) with a base	1 EACH
5.	Dust sweeping plate	1
6.	Working lamp	1
7.	Leveling plates	4
8.	Leveling bolts with nut	4
9.	Eyebolt	1
10.	T-nut (#16) & Screws (M10 x 50)	2
11.	Necessary tools with a tool box	1
	A. Wrench (36m/m)	1
	B. Hexagon-headed spanner (2.5,3,4,5,6,8m/m)	1 EACH
	C. Adjustable wrench (375mm)	1
	D. Cross screw driver (#4)	1
12.	Lubrication oil (16 liters, Mobil #1405)	1
13.	Operation manual and inspection certificate	1 EACH
14.	Spare paint	1

Optional Accessories:

- (1001) Permanent magnetic chuck (Standard type/inclining type)
- (1002) Grinding wheel balancing apparatus
- (1003) Spare grinding wheel adaptor
- (1004) Dust suction System
- (1005) Coolant System
- (1006) Coolant & dust suction System (For APS-618/818 series)
- (1007) Inverter
- (1008) Digital read out for cross/vertical movement
- (1012) Radius dressing device
- (1013) Angle dressing device
- (1014) Punch former(For APS-618/818 series)
- (1015) Sine vise
- (1016) Tool maker vise
- (1017) Sine plate with permanent magnetic chuck
- (1019) Demagnetizer(AC110V/220V)
(For permanent magnetic chuck)
- (1020) Automatic demagnetizing controller
(For electro-magnetic chuck)

- (1021) Electro-magnetic chuck (Standard type/inclining type)
- (1022) Consistent temperature control for hydraulic system
(For APS-P model)
- (1023) Optical-dresser with microscope (x10)
- (1024) Coolant system C/W a magnetic dust separator
- (1025) Coolant system with paper filter
- (1027) Coolant system with paper filter C/W a magnetic dust separator
- (1030) Overwheel parallel manual dresser with auto dressing
amount compensated to vertical axis
- (1031) Optical radius angle dresser
- (1032) Dynamic balancer for grinding wheel
- (1033) Powered conditioning tools for diamond & CBN wheel
- (1034) Table-mounted diamond roll dresser
- (1035) Diamond roll dresser mounted on wheel head
- (1036) Table-mounted pop dresser with one or three diamond
tools for profiling
- (1037) CNC controller (FANUC or MITSUBISHI or)

SEEDTEC®

SEEDTEC MACHINERY CO., LTD.

No. 135 Renmei Rd., Dali Dist. Taichung, 41282 TAIWAN.

TEL: 886-4-2492 1628

FAX: 886-4-2492 1680

http://www.seedtec.com.tw

E-mail: seedtec@ms26.hinet.net