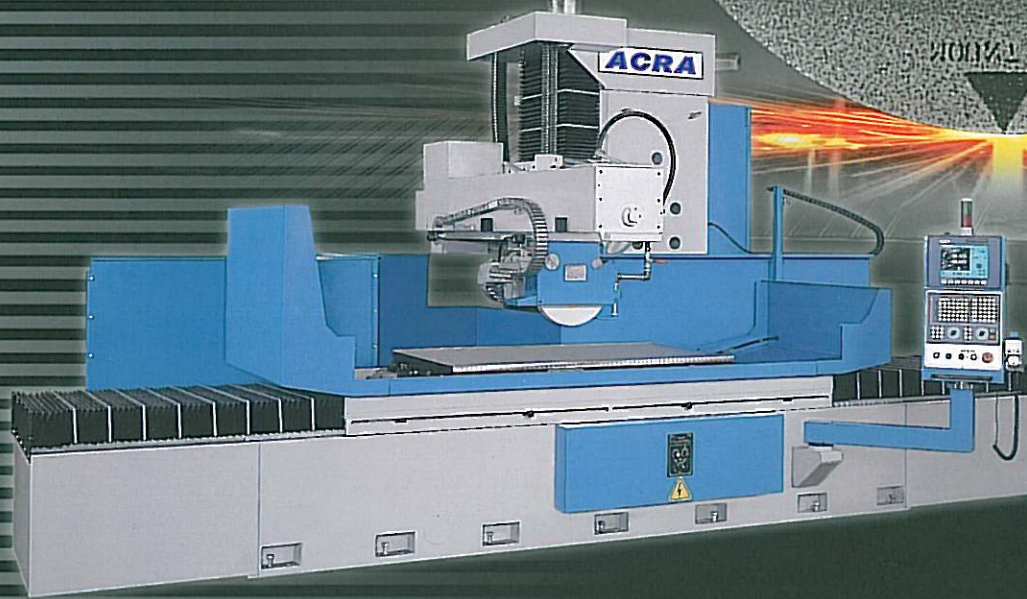


# ACRA®

## HIGH PRECISION SURFACE GRINDERS



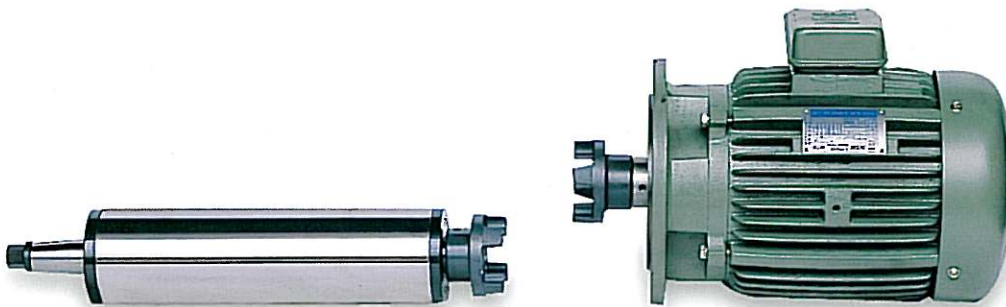


### **R**eliability And Versatility With Comprehensive Specification.

#### ■ OUTSTANDING FEATURES AND CONSTRUCTION

##### ● HIGH PRECISION CARTRIDGE-TYPE SPINDLE:

Spindle is supported by 4 pieces preloaded super precision angular contact ball bearing to assure excellent accuracy, and this outstanding designed spindle suitable for heavy duty grinding jobs.



- To ensure the round out within 0.002 mm

##### ● DOUBLE WALL AND STRESS RELIEVED MAIN CASTINGS-

The main machine parts - base and column are made of high quality "double wall" cast iron with annealing treatment to eliminate the internal stress and also with ribs to give high stiffness and stability for all kind of grinding jobs.

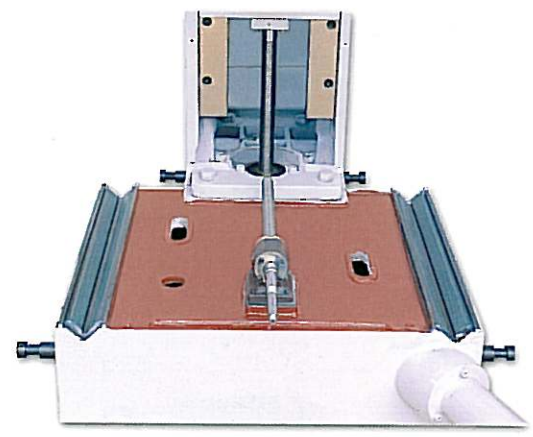
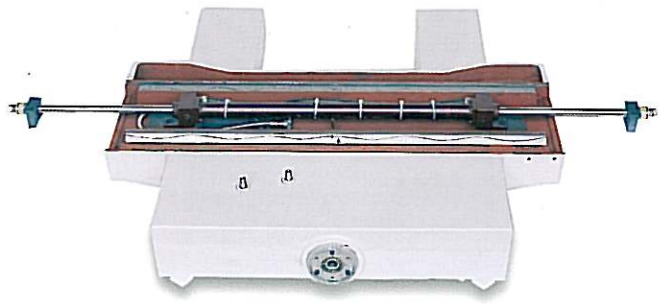




● **LOW-FRICTION TURCITE-B COATED SURFACE:**

The slideways consist of one piece cast iron, surface contact with "TURCITE-B" surface of longitudinal table ways are precision hand scraped, and guarantee the contact points over 60-70 percent, ensure very high accuracy and high resistance.

Automatic-saddle intermittent feed is driven by electric and feed motor can be pre-setting from 0.006" (0.15 mm) to 1" (25 mm). With variable and smooth movement of saddle, the machine is suitable for rough and fine grinding.



● **MICRO-PROCESSOR BASED CONTROL:**  
Micro-processor based control provides powerful function, trouble free operation and easy maintenance.

Crossfeed microfeed veaical micro-feed rev./gra  
0.0001"/0.00005

● **AUTO-DOWN FEED-3 AXIS AUTOMATIC TYPE:**

Vertical driven by "STEPPING MOTOR", easily setting for rough grinding, fine grinding and sparkout grinding feeds. And intermitted setting tarrytime for rough grinding, fine grinding and sparkout grinding.



• micro feed



### High Precision Saddle Type Surface Grinder



● ASG-2440HSR



● ASG-1224HS  
WITH AUTO DOWN FEED



● ASG-1632HS  
WITH POWER RAPID



### High Precision Saddle Type

DESCRIPTION	UNIT	ASG-1020 HS	ASG-1224 HS	ASG-1632 HS
Working Surface Of Table	inch	10 x 20	12 x 24	16 x 32
	(mm)	(250 x 510)	(300 x 610)	(400 x 810)
Max. Table Travel	inch	11.5 x 24	14.5 x 27.5	18 x 35
	(mm)	(290 x 610)	(368 x 700)	(457 x 900)
Max. Surface Ground	inch	10 x 20	12 x 24	16 x 32
	(mm)	(250 x 510)	(300 x 610)	(400 x 810)
Max. Distance Center Of Spindle To Table	inch (mm)	25 (650)	25 (650)	25 (650)
Table Speed / Per Min. (Approx)	-	16' ~ 82' (5 ~ 25 m)	16' ~ 82' (5 ~ 25m)	16' ~ 82' (5 ~ 25m)
Table Guideway	-	F-V	F-V	F-V
Auto. Cross Feed Increment	inch	0.004 ~ 0.8	0.004 ~ 0.8	0.004 ~ 0.8
	(mm)	(0.1 ~ 20)	(0.1 ~ 20)	(0.1 ~ 20)
Cross Feed On Hand Wheel Rev./Gra.	inch	0.2/0.001	0.2/0.001	0.2/0.001
	(mm)	(5/0.02)	(5/0.02)	(5/0.02)
Micro Feed On Crossfeed Rev./Gra.	-	Optional 0.004" / 0.00005" (0.1 / 0.001 mm)		
Micro Feed On Vertical Rev./Gra.	-	Optional 0.004" / 0.00005" (0.04 / 0.001 mm)		
Rapid Power Head Elevation	-	Optional		
Auto. Down Feed (Optional)	-	Step Motor 0.0001"~0.0099"/time (0.001~0.099 mm/time)		
Vertical Feed On Hand Wheel Rev./Gra.	inch	0.05/0.0002	0.05/0.0002	0.05/0.0002
	(mm)	(2/0.01)	(2/0.01)	(2/0.01)
Grinding Wheel Speed (Approx)	PRM	3500	1750	1750
Grinding Wheel Dimension	inch	8 x 1/2 x 1-1/4	14 x 1 1/2 x 5	16 x 2 x 5
	inch	Optional (14 x 14 x 5)	Optional (8 x 1/2 x 1 1/4)	(-)
	(mm)	(200 x 12 x 31.75)	(350 x 40 x 127)	(400 x 50 x 127)
Spindle Motor	-	1.5kw-2P or 2.25kw-4P	3.75kw-4P or 1.5kw-2P	3.75kw-4P or 5.63kw-4P
	-	(2HP-2P or 3HP-4P)	(5HP-4P or 2HP-2P)	(5HP-4P or 7 1/2HP-4P)
Hydraulic Pump Motor	-	1HP . 6P	1HP . 6P	2HP . 6P
Auto. Cross Feed Motor	-	1/5HP . 6P	1/5HP . 6P	1/5HP . 6P
Rapid Head Elevation Motor (Optional)	-	1/5HP	1/5HP	1/5HP
Table Load	LBS (kgs)	550 (250)	660 (300)	880 (400)
Machine Net Weight	LBS (kgs)	3200 (1450)	4290 (1950)	7150 (3250)
Packing Dimension (L x W x H)	inch	84 x 59 x 85	90 x 71 x 88	109 x 90 x 88
	(mm)	(2120 x 1500 x 2159)	(2286 x 1790 x 2235)	(2770 x 2286 x 2235)

• The manufacturer reserves right to modify the design specifications mechanisms etc., without notice.

H series are longitudinal by Hydraulic, and Cross feed & vertical axes are manual.

HS series are Auto. cross feed & Hydraulic longitudinal, and vertical axis is manual.

HSR series are Auto. cross feed & Hydraulic longitudinal, and vertical axis is rapid feed AC Motor.

Auto down feed, including rapid feed (fast, slow, stop, jog), and on graduation dial 0.05" (2mm)/rev.0.002"(0.005mm)/gra.



### High Precision Column Type Surface Grinders

● ASG-2440HSR

WITH NC AUTO DRESSING & COMPENSATION



● ASG-2460AHR

ASG-2060AHR + AD5 AUTO DOWN





# High Precision Surface Grinders

## Column Type

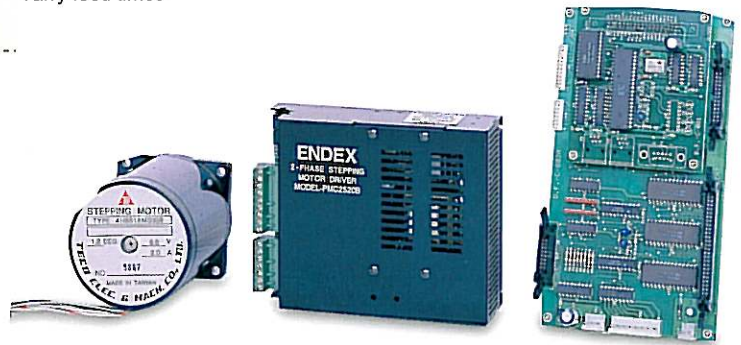
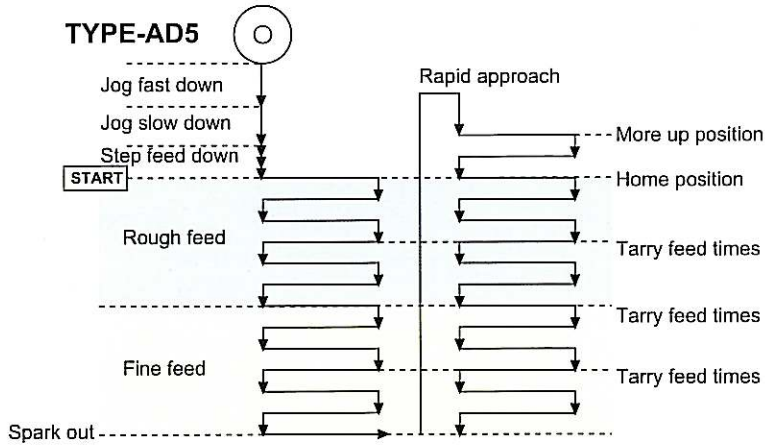
SPECIFICATIONS		UNIT	2040 ASG-2440 HSR 2840	2060 ASG-2460 HSR 2860	2080 ASG-2480 HSR 2880
Gronding Suface Of Table		inch (mm)	20 x 40 (500 x 1020)	20 x 60 (500 x 1520)	20 x 80 (500 x 2020)
		inch (mm)	24 x 40 (600 x 1020)	24 x 60 (600 x 1520)	24 x 80 (600 x 2020)
		inch (mm)	28 x 40 (700x1020)	28 x 60 (700 x 1520)	28 x 80 (700 x 2020)
Max. Table Travel		inch (mm)	22 x 45 (560 x 1150)	22 x 65 (560 x 1650)	22 x 85 (560 x 2150)
		inch (mm)	26 x 45 (660 x 1150)	26 x 65 (660 x 1650)	26 x 85 (660 x 2150)
		inch (mm)	30 x 45 (760 x 1150)	30 x 65 (760 x 1650)	30 x 85 (760 x 2150)
Max. Distance Center Of Spindle Table		inch (mm)	* 24 (600) [Option — 31 (800) & 40 (1000)]		
Table Speed Approx.		M/min	5 ~ 25		
Power Cross Feed	60Hz	—	44"/min (1100 mm/min)		
	50Hz	—	36"/min (900 mm/min)		
Cross Feed On Hand Wheel	1 rev	inch (mm)	0.2 (5)		
	1 gra	inch (mm)	0.001 (0.02)		
Auto. Cross Feed Increment Approx.		inch (mm)	0.004 ~ 0.8 (0.1 ~ 20)		
Vertical Feed by M.P.G.	1 rev	—	(x1) 0.01" (0.1 mm), (x5) 0.05" (0.5 mm), (x10) 0.1" (1 mm)		
	1 gra	—	(x1) 0.0001" (0.001 mm), (x5) 0.0005" (0.005 mm), (x10) 0.001" (0.01mm)		
Rapid Power Hand Elevation		—	31"/min (800 mm/min)		
Wheel Speed	60Hz	R.P.M	1750		
	50Hz	R.P.M	1450		
Wheel Dimension		inch (mm)	16 x 2 x 5 (406 x 50 x 127)		
Spindle Motor		—	10 HP / [Option 15 HP]		
Hydraulic Pump Motor		HP	3	5	
Machine Net Weight		LBS (kgs)	13200 (6000)	15840 (7200)	18480 (8400)
		LBS (kgs)	13860 (6300)	16500 (7500)	19140 (8700)
		LBS (kgs)	14520 (6600)	17160 (7800)	19800 (9000)
Packing Gross Weight		LBS (kgs)	15000 (6800)	17820 (8100)	20680 (9400)
		LBS (kgs)	15620 (7100)	18480 (8400)	21340 (9700)
		LBS (kgs)	16280 (7400)	19140 (8700)	22000 (10000)
Packing Dimension (L x W x H)		inch	148 x 90 x 90	154 x 90 x 90	188 x 90 x 90
		(cm)	(376 x 228 x 228)	(391 x 228 x 228)	(477 x 228 x 228)

• The manufacturer reserves right to modify the design, specifications machanisms etc, without notice.  
 Longitudinal by Hydraulic, Cross feed by Solid State Relay, Vertical by AC Servo Motor.  
 (Cross: Double Vee-Ways, Longitudinal: Vee-Flat Ways)  
 • 600 mm—Standard Container  
 • 800 mm / 1000 mm—HQ Container

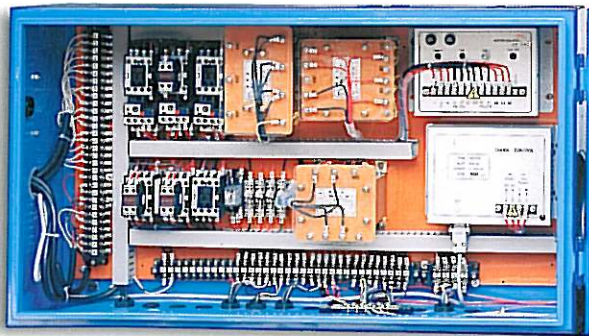


### Computerized Auto. Down-feed (Option)

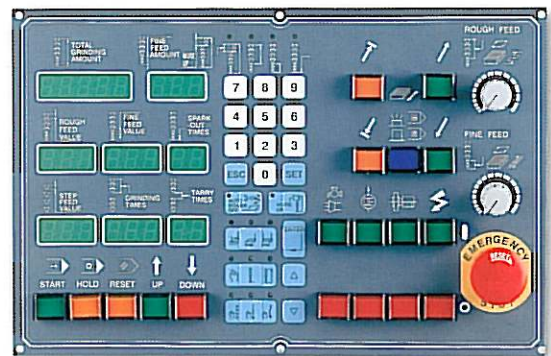
- FOR ASG SERIES SURFACE GRINDERS
- SURFACE GRINDING PLUNGE GRINDING**



- ELECTRIC CABINET
- FOR ASG-1020~ASG-1632**



- FOR ASG-1020~ASG-1632

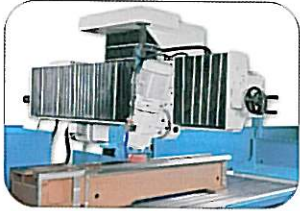


- Type AD5 Auto. Down Feed Control Panel.



### Cantilever Type Surface Grinders

● ASG-40120HSR with auto down feed

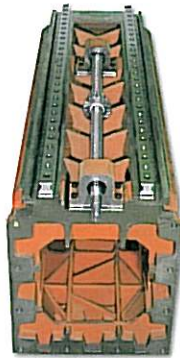


• Vertical spindle system-as optional attachment.



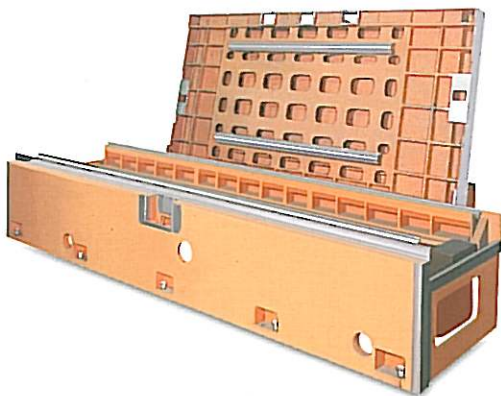
#### FEATURES

- The column of machine uses ribs to reinforce its structure rigidity.
- The cross-radial arm design uses the box structures. This cross-type rib reinforcement increases the rigidity, at the same time it also reduces the vibration and deformation.
- The high-precision heavy pre-load linear guider and accurate ball-screw transmission system are used in the vertical feeding.
- As the result, a powerful and precise grinding force is formed.
- The traditional hand wheel-feeding system with the combination of AC servomotor is replaced by a manual pulse generator (M.P.G). As a



result, the operation can be easily made and the accuracy increases.

- The 6-step variable hydraulic system is used in the working table. However, the working table can be adjusted to each desired level.
- The lubrication of the whole machine is done by a forced circulation oil system.
- These action helps to maintain the accuracy also extend the lifetime of glided surface and transmission system.
- Two sets of vertical spindle system are assembled to grind various type of grinding guide of table and grooves. This is the one-step finished work.



• Base & Table



• Column



• Control Panel



• Table Speed 6 Steps



• Lubrication for Table



• M.P.G for vertical feed



### Cantilever Type

SPECIFICATIONS		UNIT	ASG-3240 4040 HSR	ASG-3260 4060 HSR	ASG-3280 4080 HSR	ASG-32120 40120 HSR	
Grinding Surface Of Table		inch(mm)	32x40 (800x1000)	32x60 (800x1500)	32x80 (800x2000)	32x120 (800x3000)	
		inch(mm)	40x40 (1000x1000)	40x60 (1000x1500)	40x80 (1000x2000)	40x120 (1000x3000)	
Max. Table Travel		inch(mm)	34x44 (850x1100)	34x64 (850x1600)	34x84 (850x2100)	34x124 (850x3100)	
		inch(mm)	42x44 (1050x1100)	42x64 (1050x1600)	42x84 (1050x2100)	42x124 (1050x3100)	
Max. Distance Center Of Spindle To Table		-	32" (800mm) [Option — 40"1000mm]				
Table Speed Approx		-	120" ~ 1000"/min (3 ~ 25 M/min)				
Power Cross Feed	60 Hz	-	42"/min (1050 mm/min)				
	50 Hz	-	36"/min (900 mm/min)				
Cross Feed On Hand Wheel	1 rev	inch(mm)	0.2 (5)				
	1 gra	inch(mm)	0.001 (0.02)				
Vertical Down Feed With M.P.G.	1 rev	-	(x1) 0.01" (0.1mm), (x5) 0.05" (0.5mm), (x10) 0.1" (1mm)				
	1 gra	-	(x1) 0.0001" (0.001mm), (x5) 0.0005" (0.005mm), (x10) 0.001" (0.01mm)				
Rapid Power Hand Elevation		-	15"/min (400mm/min)				
Wheel Speed	60 Hz	RPM	1750				
	50 Hz	RPM	1450				
Wheel Dimension		inch(mm)	16x2x5 (406x50x127)		Max. 16x3x5 (406x75x127)		
Spindle Motor		-	10HP (7.5kw) / [Optional-15HP (11.25kw)]				
Hydraulic Pump Motor		HP(kw)	7.5 (5.6)		10 (7.5)		
Machine Net Weight		LBS(kgs)	24800 (11300)	28160 (12800)	31460 (14300)	38060 (17300)	
		LBS(kgs)	27060 (12300)	30360 (13800)	33660 (15300)	40260 (18800)	
Packing Gross Weight		LBS(kgs)	27060 (12300)	30360 (13800)	34100 (15500)	41360 (17800)	
		LBS(kgs)	29260 (13300)	32560 (14800)	36300 (16500)	43560 (19800)	
Packing Dimension (L x W x H)	C/NO.1	inch	232x92x114	168x92x114	260x92x114	295x92x114	
		(cm)	(580x230x290)	(427x230x290)	(650x230x290)	(750x230x290)	
	C/NO.1	inch	232x106x114	216x106x114	260x106x114	295x106x114	
		(cm)	(580x265x290)	(550x265x290)	(650x265x290)	(750x265x290)	
	C/NO.2	inch(cm)	-	65x63x75 (165x160x191)			

- The manufacturer reserves right to modify the design, specifications mechanisms etc, without notice.  
 Longitudinal by Hydraulic, Cross feed by Solid State Relay, Vertical by AC Servo Motor.  
 (Cross / Longitudinal: Double Vee-Ways)







## High Precision Surface Grinders

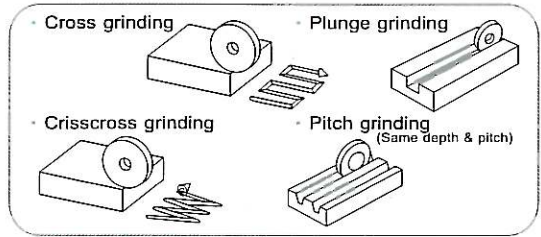
### CNC Cantiever Type Surface Grinden Speeder

SPECIFICATIONS	UNIT	ASG-3240 4040 CNC	ASG-3260 4060 CNC	ASG-3280 4080 CNC	ASG-32120 40120 CNC	
Grinding Surface Of Table	inch(mm)	32x40 (800x1000)	32x60 (800x1500)	32x80 (800x2000)	32x120 (800x3000)	
	inch(mm)	40x40 (1000x1000)	40x60 (1000x1500)	40x80 (1000x2000)	40x120 (1000x3000)	
Max Table Travel	mm(inch)	34x44 (850x1100)	34x64 (850x1600)	34x84 (850x2100)	34x124 (850x3100)	
	inch(mm)	42x44(1050x1100)	42x64 (1050x1600)	42x84 (1050x2100)	42x124 (1050x3100)	
Max. Distnce Center Of Spindle To Table	inch(mm)	30 (800) 40 (1000) [option]				
Tablespeed Approx	-	120~1000"/min (3~25 M/min)				
Power Cross Feed	60Hz	118"/min (3000 mm/min)				
	50Hz	98"/min (2500 mm/min)				
Cross Travel	-	0 ~ 1500 mm/min				
Rapid Power Hand Elevation	-	15"/min (400 mm/min)				
Vertical Down Feed With M. P. G	1 rev	(x1) 0.01" (0.1mm), (x5) 0.05" (0.5mm), (x10) 0.1" (1mm)				
	1 gra	(x1) 0.0001" (0.001mm), (x5) 0.0005" (0.005mm), (x10) 0.001" (0.01mm)				
Wheel Speed	60Hz	RPM 1750				
	50Hz	RPM 1450				
Wheel Dimension	inch(mm)	16 x 2 x 5 (460 x 50 x 127)				
Spindle Motor	HP	10				
Machine Net Weight	LBS(kgs)	24800 (11300)	28160 (12800)	31460 (14300)	38060 (17300)	
	LBS(kgs)	27060 (12300)	30360 (13800)	33660 (15300)	40260 (18800)	
Packing Gross Weight	LBS(kgs)	27060 (12300)	30360 (13800)	34100 (15500)	41360 (17800)	
	LBS(kgs)	29260 (13300)	32560 (14800)	36300 (16500)	43560 (19800)	
Packing Dimension (L x W x H)	C/NO.1	inch	232x92x114	168x92x114	260x92x114	295x92x114
		(cm)	(580x230x290)	(427x230x290)	(650x230x290)	(750x230x290)
	C/NO.1	inch	232x106x114	216x106x114	260x106x114	295x106x114
		(cm)	(580x265x290)	(550x265x290)	(650x265x290)	(750x265x290)
	C/NO.2	inch	-	65x63x75		
		(cm)	-	(165x160x191)		

### CNC Controller

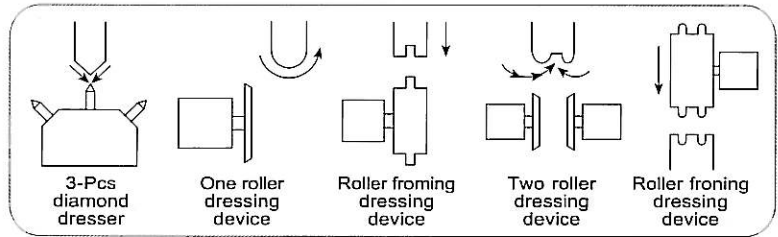
**OPTION** · Cross grinding, Crisscross grinding, plunge grinding, pitch grinding (same depth & pitch) modes, and single diamond dressing device are standard. The rest is optional which can be programmed by your side or requesting us to cooperate with you to adapt.

#### STANDARD MODE



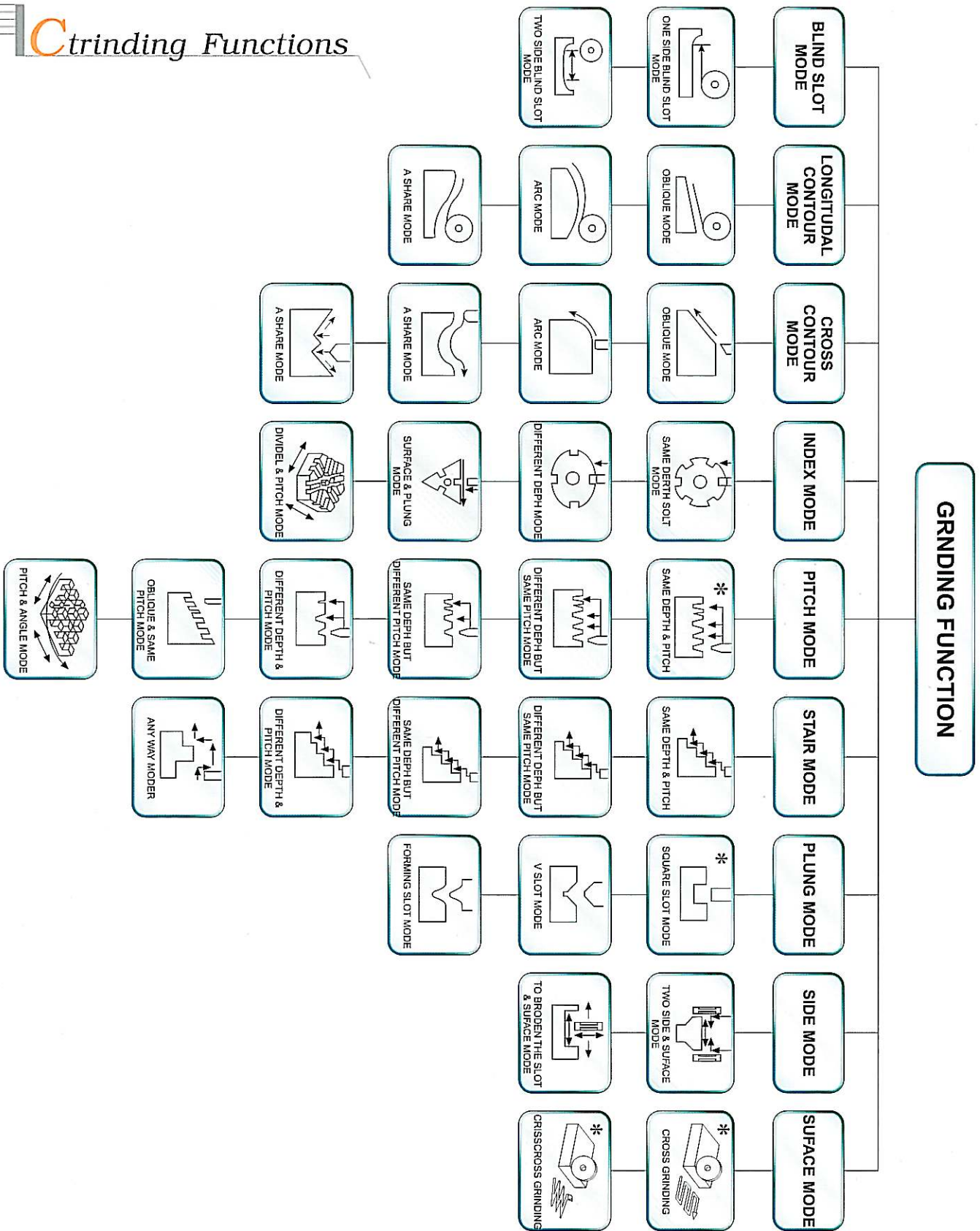
· Above 4 grinding examples standard

#### DRESSING DEVICE





### Grinding Functions





### Surface Grinder Accuracy List

UNIT: inch (mm)

SPECIFICATIONS									
I. S. O		D. I. N		J. I. S		G. N. S		ACRA	
<b>Straightness Of Table</b>									
<b>Longitudinal</b>									
0.0008 (40)	0.02 (1000)	0.0008 (40)	0.02 (1000)	0.0008 (40)	0.02 (1000)	0.0008 (40)	0.02 (1000)	0.0008 (40)	0.02 (1000)
<b>Crosswise</b>									
0.0008 (40)	0.02 (1000)	0.0008 (40)	0.02 (1000)	0.0008 (40)	0.02 (1000)	0.0008 (40)	0.02 (1000)	0.0008 (40)	0.02 (1000)
<b>Squarpeness Of Table Movement</b>									
<b>Long. (In Square)</b>									
0.0008 (40)	0.02 (1000)	0.0008 (40)	0.02 (1000)	0.0008 (40)	0.02 (1000)	0.0008 (40)	0.02 (1000)	0.0008 (40)	0.02 (1000)
<b>Cross. (In Square)</b>									
0.0008 (40)	0.02 (1000)	0.0008 (40)	0.02 (1000)	0.0008 (40)	0.02 (1000)	0.0008 (40)	0.02 (1000)	0.0008 (40)	0.02 (1000)
<b>Parallelism Of Longitudinal Movement</b>									
0.0006 (18)	0.015 (450)	0.0004 (18)	0.01 (450)	0.0004 (18)	0.01 (450)	0.0004 (18)	0.01 (450)	0.0001 (18)	0.004 (450)
<b>Parallelism Of Cross Movement</b>									
0.0004 (6)	0.01(150)	0.0004 (6)	0.01(150)	0.0004 (6)	0.01(150)	0.0004 (6)	0.01(150)	0.00012 (6)	0.003(150)
<b>Squareness Of Longitudinal Movement To Cross Movement</b>									
0.0012 (12)	0.03 (300)	0.0004 (4)	0.01 (100)	0.0008 (12)	0.02 (300)	0.0008 (12)	0.02 (300)	0.0004 (6)	0.01 (300)
<b>Run-out Of Spindle Nose</b>									
0.0004 (0.01)		0.0002 (0.005)		0.0004 (0.01)		0.0004 (0.01)		0.00008 (0.002)	
<b>Axial Slip Of Spindle</b>									
0.0004 (0.01)		0.0002 (0.005)		0.0004 (0.005)		0.0004 (0.005)		0.00008 (0.002)	
<b>Parallelism Between Spindle Centerline To Table Surface</b>									
0.001 (12)	0.025 (300)	0.0004 (4)	0.01 (100)	0.0008 (12)	0.02 (300)	0.0008 (12)	0.02 (300)	0.0004 (12)	0.01 (300)
<b>Squareness Between Spindle Centerline To Table Movement</b>									
0.0006 (12)	0.015 (300)	0.0002 (4)	0.005 (100)	0.0008 (12)	0.02 (300)	0.0008 (12)	0.02 (300)	0.0004 (12)	0.015 (300)
<b>Squareness Between Vertical Movement &amp; Cross Movement &amp; Lingitudinal Movement</b>									
0.0016 (12)	0.04 (1000)	0.0004 (4)	0.01 (1000)	0.0004 (4)	0.01 (1000)	0.0004 (4)	0.01 (1000)	0.0002 (4)	0.015 (1000)

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