



HIGH PRECISION SURFACE GRINDERS



ACRA

High Precision Surface Grinders

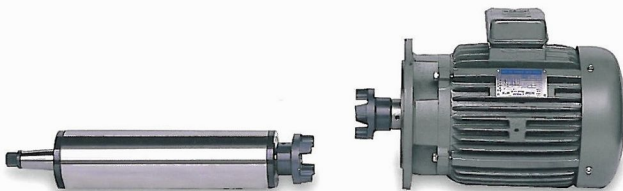


Reliability And Versatility With
Comprehensive Specification.

■ 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.





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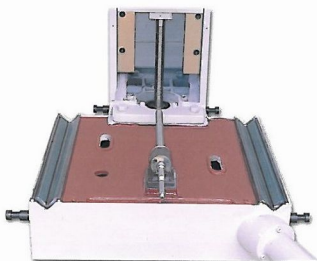
High Precision Surface Grinders

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 0.004" (0.1 mm) to 0.8" (20 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 veical micro-feed 0.00005"/gra.

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-1020HS
WITH CROSSFEED & VERTICAL MICRO FEED



● ASG-1224HS
WITH AUTO DOWN FEED



● ASG-1632HS



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 500) | (300 x 600) | (400 x 800) |
| Max. Table Travel | inch | 11 x 22 | 13 x 26 | 18 x 22 |
| | (mm) | (270 x 550) | (340 x 650) | (450 x 860) |
| Max. Surface Ground | inch | 10 x 20 | 12 x 24 | 16 x 32 |
| | (mm) | (250 x 500) | (300 x 600) | (400 x 800) |
| Max. Distance Center Of Spindle To Table | inch (mm) | 24 (600) | 24 (600) | 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 0.001" / 0.00005" (0.04 / 0.001 mm) | | |
| Rapid Power Head Elevation | - | Optional | | |
| Auto. Down Feed (Optional) | - | Step Motor 0.0001"~0.0999" / time (0.001~0.999 mm/time) | | |
| Vertical Feed On Hand Wheel Rev./Gra. | inch | 0.05 / 0.002 | 0.05 / 0.002 | 0.05 / 0.002 |
| | (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-2P | 3.75kw-4P or 1.5kw-2P | 3.75kw-4P or 5.63kw-4P |
| | - | (2HP-2P or 3HP-2P) | (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) | 3300 (1500) | 4290 (1950) | 7300 (3320) |
| 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 0.001" (0.005mm)/gra.



High Precision Column Type Surface Grinders

● ASG-2440HSR

WITH NC AUTO DRESSING & COMPENSATION



● ASG-2460HSR

ASG-2460HSR + AD5 AUTO DOWN





Column Type

| SPECIFICATIONS | | UNIT | 2040 ASG- 2440 HSR 2840 | 2060 ASG- 2460 HSR 2860 | 2080 ASG- 2480 HSR 2880 |
|---------------------------------------|-------|-----------|---|-------------------------------|-------------------------------|
| Gronding Surface 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 Head Elevation | | – | 12"/min (300 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 mechanisms 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)

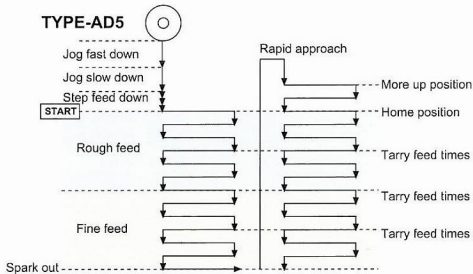
* 600 mm – Standard Container

* 800 mm – HQ Container

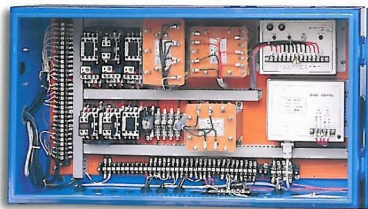
* 1000 mm – Flat Racl Special Container

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-rapid variable machine 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

ACRA® High Precision Surface Grinders

Cantilever Type

| SPECIFICATIONS | | UNIT | ASG-3260 4060 HSR | ASG-3280 4080 HSR | ASG-32120 40120 HSR |
|--|--------|----------|--|----------------------------------|------------------------|
| Grinding Surface Of Table | | inch(mm) | 32 x 60 (800 x 1500) | 32 x 80 (800 x 2000) | 32 x 120 (800 x 3000) |
| | | inch(mm) | 40 x 60 (1000 x 1500) | 40 x 80 (1000 x 2000) | 40 x 120 (1000 x 3000) |
| Max. Table Travel | | inch(mm) | 34 x 64 (850 x 1600) | 34 x 84 (850 x 2100) | 34 x 124 (850 x 3100) |
| | | inch(mm) | 42 x 64 (1050 x 1600) | 42 x 84 (1050 x 2100) | 42 x 124 (1050 x 3100) |
| Max. Distance Center Of Spindle To Table | | — | 32" (800 mm) [Option — 40" (1000 mm)] | | |
| 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" (0.1 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" (0.01 mm) | | |
| Rapid Power Hand Elevation | | — | 8"/min (240 mm/min) | | |
| Wheel Speed | 60 Hz | RPM | 1750 | | |
| | 50 Hz | RPM | 1450 | | |
| Wheel Dimension | | inch(mm) | 16 x 2 x 5 (406 x 50 x 127) | Max. 16 x 3 x 5 (406 x 75 x 127) | |
| Spindle Motor | | — | 10 HP (7.5 kw) / [Optional—15 HP (11.25 kw)] | | |
| Hydraulic Pump Motor | | HP(kw) | 7.5 (5.6) | 10 (7.5) | |
| Machine Net Weight | | LBS(kgs) | 28160 (12800) | 31460 (14300) | 38060 (17300) |
| | | LBS(kgs) | 30360 (13800) | 33660 (15300) | 40260 (18300) |
| Packing Gross Weight | | LBS(kgs) | 30360 (13800) | 34100 (15500) | 41360 (18800) |
| | | LBS(kgs) | 32560 (14800) | 36300 (16500) | 43560 (19800) |
| Packing Dimension (L x W x H) | C/NO.1 | inch | 218 x 103 x 117 | 260 x 103 x 117 | 295 x 103 x 117 |
| | | (cm) | (546 x 258 x 297) | (650 x 258 x 297) | (750 x 258 x 297) |
| | C/NO.1 | inch | 218 x 110 x 117 | 260 x 110 x 117 | 295 x 110 x 117 |
| | | (cm) | (546 x 276 x 297) | (650 x 276 x 297) | (750 x 276 x 297) |
| | C/NO.2 | inch(cm) | 65 x 65 x 82 (165 x 165 x 206) | | |

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 Longitudinal by Hydraulic, Cross feed by Solid State Relay, Vertical by AC Servo Motor.
 (Cross / Longitudinal: Double Vee-Ways)

Standard Accessories (All ASG Series)



- Grinding wheel with flange
- Flange extractor
- Balancing arbor & stand
- Tool box with adjusting tools
- Levelling screws with blocks
- Operation manual with parts list
- Wheel dresser with diamond
- Working lamp (for 1020 ~ 1632)

Select Accessories At Extra Costs



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High Precision Surface Grinders

ASG-3260CNC (800 x 1500 mm)(32" x 60")



FEATURES:

- Ball Screw & Servo Motor Used For Y, Z Axes and X Axis By Hydraulic System.
- Using 5 Super Precision Angular Contact Bearing For Spindle.
- Continuous compulsory lubrication system, and the auto. Lubrication system with pressure switch to lube pressure. Machine operation will be inhibited when below pressure.
- Optional over head dresser compensation system.
- Four standard grinding cycles: Surface, Criss-cross, Plunge, Pitch.
- Wheel head auto. retrace to start point & preset grinding cycle: Rough-fine-sparkout.
- ASG-4080CNC Longitudinal movement of table by hydraulic cylinder. (Suitable to pitch grinding & surface grinding).
- ASG-4080CNC Longitudinal movement of table driven by ball screw & AC servo motor. (Suitable to pitch or plunge grinding only.)



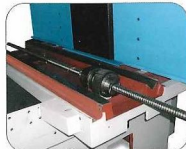
Controller and motor.



Longitudinal continue lubricate.



Vertical ballscrew and servo motor.



Precision ball screw for longitudinal.



Spindle and motor



No dresser



ACRA High Precision Surface Grinders

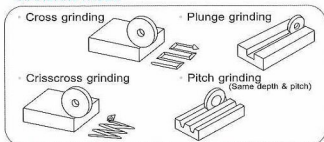
CNC Cantilever Type Surface Grinder Series

| SPECIFICATIONS | | UNIT | ASG-3260 4060 CNC | ASG-3280 4080 CNC | ASG-32120 40120 CNC |
|---|--------|----------|---|-----------------------|------------------------|
| Grinding Surface Of Table | | inch(mm) | 32 x 60 (800 x 1500) | 32 x 80 (800 x 2000) | 32 x 120 (800 x 3000) |
| | | inch(mm) | 40 x 60 (1000 x 1500) | 40 x 80 (1000 x 2000) | 40 x 120 (1000 x 3000) |
| Max Table Travel | | mm(inch) | 34 x 64 (850 x 1600) | 34 x 84 (850 x 2100) | 34 x 124 (850 x 3100) |
| | | inch(mm) | 42 x 64 (1050 x 1600) | 42 x 84 (1050 x 2100) | 42 x 124 (1050 x 3100) |
| 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 | | - | 8*/min (240 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 (406 x 50 x 127) | | |
| Spindle Motor | | HP | 10 | | |
| Machine Net Weight | | LBS(kgs) | 28160 (12800) | 31460 (14300) | 38060 (17300) |
| | | LBS(kgs) | 30360 (13800) | 33660 (15300) | 40260 (18300) |
| Packing Gross Weight | | LBS(kgs) | 30360 (13800) | 34100 (15500) | 41360 (18800) |
| | | LBS(kgs) | 32560 (14800) | 36300 (16500) | 43560 (19800) |
| Packing Dimension (L x W x H) | C/NO.1 | inch | 218 x 103 x 117 | 260 x 103 x 117 | 295 x 103 x 117 |
| | | (cm) | (546 x 258 x 297) | (650 x 258 x 297) | (750 x 258 x 297) |
| | C/NO.1 | inch | 218 x 110 x 117 | 260 x 110 x 117 | 295 x 110 x 117 |
| | | (cm) | (546 x 276 x 297) | (650 x 276 x 297) | (750 x 276 x 297) |
| | C/NO.2 | inch | 65 x 65 x 82 | | |
| | | (cm) | (165 x 165 x 206) | | |

CNC Controller

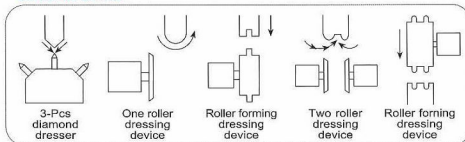
OPTION - Cross grinding, Crisscross grinding, plunge grinding, pitch grinding (same depth & pitch) modes, and single diamond dressing device are standard. The rest is optional which can be programmed by your side or requesting us to cooperate with you to adapt.

STANDARD MODE



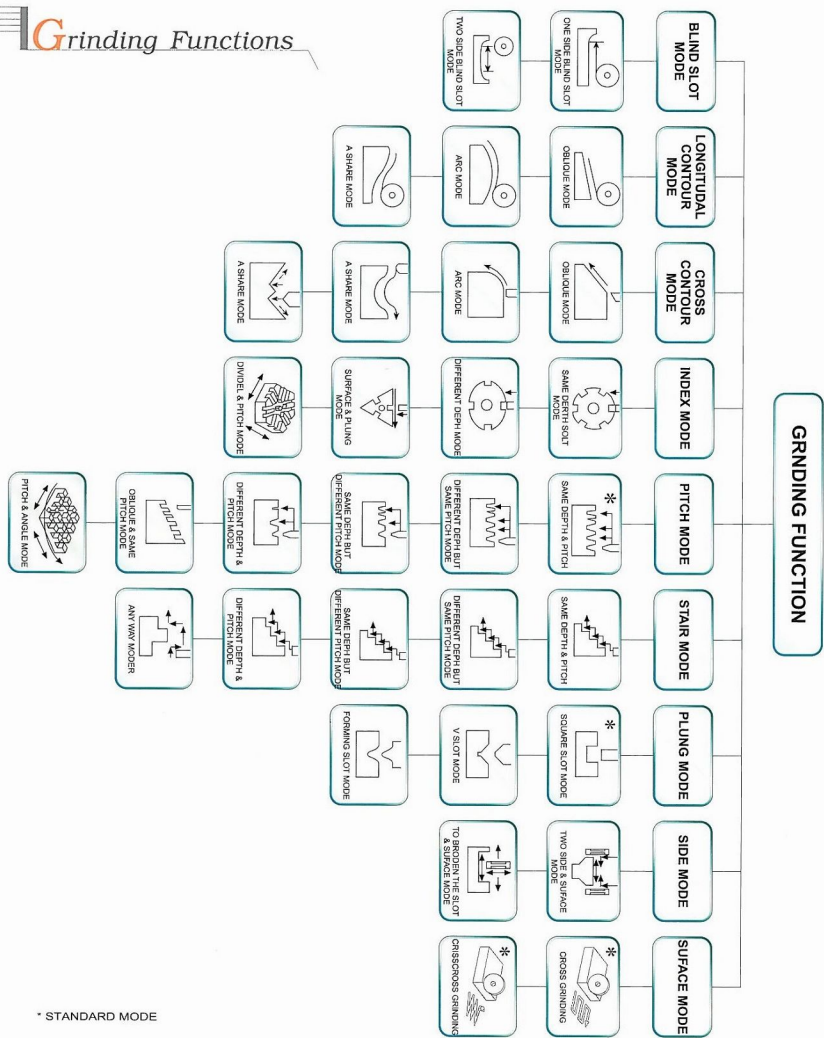
* Above 4 grinding examples standard

DRESSING DEVICE



ACRA High Precision Surface Grinders

Grinding Functions





High Precision Surface Grinders

Surface Grinder Accuracy List

UNIT: inch (mm)

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

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HIGH PRECISION SURFACE GRINDERS

 **FREJOTH** INTERNATIONAL LTD.

8F #501, SEC.2, WU CHUAN W. RD., TAICHUNG 408, TAIWAN, R.O.C.

TEL:886-4-23816977

FAX:886-4-23813584.23813769

E-mail: mail@frejoth.com.tw

web-site <http://www.frejoth.com.tw>

www.acra.com.tw