

# Drill Bit Grinder



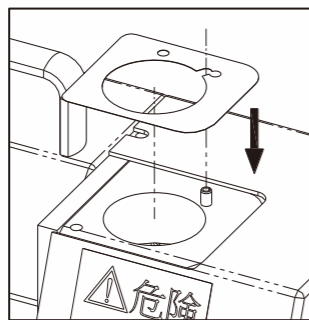
Model	GS-35
Drill Diameter	Φ2 - 34mm
Point Angle	90° ~ 140°
Power Supply	AC110V 50/60Hz / AC220V 50Hz Single-Phase(Opt.)
R.P.M. of Motor	4600 R.P.M.
Grinding Wheel	CBN #200 (For HSS Drill Bits) x 2pcs
Weight of Machine	N.W. 21.5Kg / G.W. 23.7Kg
Weight of Tool Box	N.W. 13.67Kg / G.W. 14.93Kg
Machine Size	L:430mm, W:235mm, H:220mm
Tool Box Size	L:430mm, W:205mm, H: 172mm
Machine Packing Size	L: 510mm, W: 310mm, H: 310mm
Tool Box Packing Size	L: 480mm, W: 260mm, H: 260mm
Type of Thinning	X Thinning
Standard Accessories	ER20: Collet x 11 pcs (2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12mm) ER32: Collets x 14 pcs (13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 25.4mm) ER50: Collets x 5 pcs (26, 28, 30, 32, 34 mm)
Standard Accessories	ER20 Chuck Set x 1 sets (2pcs)
	ER32 Chuck Set x 1 sets (2pcs)
	ER50 Chuck Set x 1 sets (2pcs)
	Metal Shim 3pcs (0.1mm x 2, 0.3mm x 1) for 12.1 ~ 34mm
	Metal Shim 3pcs (0.1mm x 2, 0.3mm x 1) for 2 ~ 12mm
Optional Accessories	Hexagon Wrench 3mm x 1.4mm x 1.5mm x 1 SD #200 Grinding Wheel for Carbide Drills



## The Use of Metal Shims

There are 3 Metal Shims as standard accessories in the machine. 2 pcs of 0.1mm and 1pcs of 0.3mm.

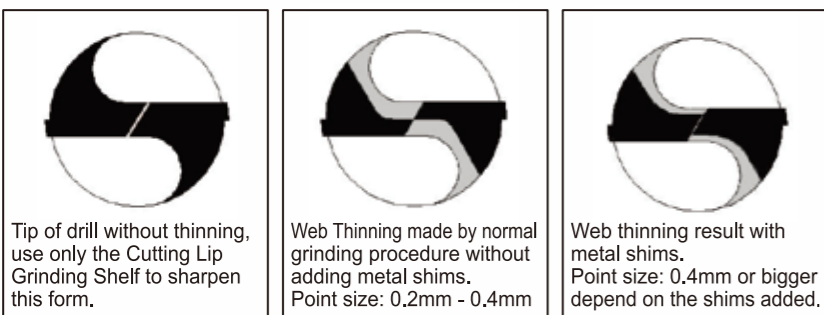
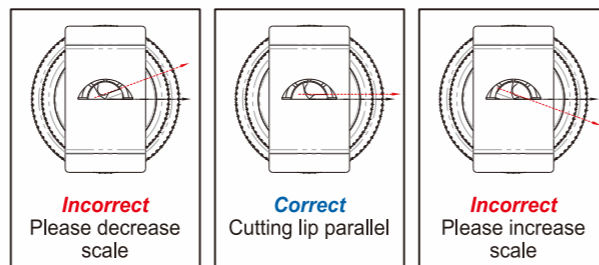
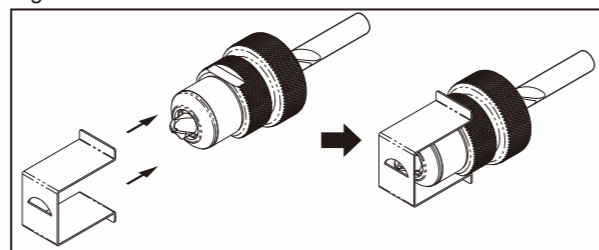
Adding one shim of 0.1mm will expand 0.2mm of the point size, adding 0.3mm shim will expand 0.6mm of the point size and so on.



## The Use of the Parallel Alignment Device

Align the Parallel Device with the two slots of on the Clamping Nut, then connect them as shown in the left picture.

Verify the Parallelism of the Drill's Cutting Lip with the flat figure of the hole on the Parallel Device.



## OPERATION

- I. Choose the proper grinding wheel according to the material of the drill.
  - HSS material drill use CBN grinding wheel (Standard).
  - Carbide / Tungsten material drill use SD grinding wheel (Optional).
- II. Preset the scale of the positioning shelf. (Fig. 1) Turn it by clockwise to the end, then counterclockwise to "0".
- III. Choose the proper chuck set according to the drill diameter.
  - 2.0 - 12.0 mm drills use ER20 chuck set.
  - 12.1 - 25.4 mm drills use ER32 chuck set.
  - 25.5 - 34.0 mm drills use ER50 chuck set.
- IV. Chuck set assembly:
  1. Choose the proper collet according to the drill diameter.
  2. Put the collet into collet holder by 45° angle. (Fig. 2)
  3. Screw in a little bit by clamping nut (Fig. 3 step ①), then insert the drill through the chuck set (Fig. 3 step ②) and push in until the drill is out of the clamping nut about 15 mm.
    - \* Do not fully tighten the chuck set, keep the drill is still able to be adjusted.
- V. Drill positioning:
  - Left side positioning shelf: Φ2.0 - Φ12.0 mm. (Fig. 4L)
  - Right side positioning shelf: Φ12.1 - Φ34.0 mm. (Fig. 4R)
  - 1. Adjust the scale of the positioning shelf according to the drill diameter.
  - 2. Insert the chuck set into the positioning shelf and fit them with no gaps, then turn the chuck set clockwise until it stops by the pin.
  - 3. Push the drill to the end and turn it clockwise to the end.
  - 4. Turn the collet holder clockwise to secure the drill.
  - 5. Gently turn the chuck set counterclockwise and take it out.
    - \* Make sure the drill's cutting edge is parallel to the slot of clamping nut before starting the grinding procedure.
    - \* If it is not parallel, adjust the scale and reposition the drill.
      - The cutting edge is angled away from the slot, must increase the scale.
      - The cutting edge is angled towards the slot, must decrease the scale.
    - \* If the length of a drill is shorter than original length after re-sharpening many times, the scale should be increased until the cutting edge is parallel to the slot of clamping nut.
    - \* For grinding high spiral drill bit, increase the scale more than its diameter.
    - \* For grinding deep hole drills, the scale is adjusted to 2 times of the drill diameter.
- VI. Drill Grinding:
  - Left side grinding shelf: Φ2.0 - Φ12.0 mm.
  - Right side grinding shelf: Φ12.1 - Φ34.0 mm.
  - \* Do not hold the drill shank while grinding, it may affect the grinding accuracy.
  - 1. Verify the drill's point angle and adjust the angle of the cutting lip grinding shelf to the same before grinding procedure. (Angle adjustment available is 90° - 140°)
  - 2. Turn the power switch on and wait about 10 seconds until the motor rotation is stable.
  - 3. Cutting Lip Grinding (Fig. 5L)(Fig. 5R)
    - Insert the chuck set into the cutting lip grinding shelf, align the slot of clamping nut to the two pins on the grinding shelf, push the chuck set gently and turn it clockwise and counterclockwise until the grinding noise stops. Turn the chuck set to the other side and grind the drill in the same way.
  - 4. Web Thinning (Fig. 6L)(Fig. 6R)
    - \* When inserting or taking out the chuck set, the center part of the clamping nut slot should align to the pin on the grinding shelf.
    - Insert the chuck set into the web thinning grinding shelf, push the chuck set gently and turn it clockwise and counterclockwise until the grinding noise stops. Turn the chuck set to the other side and grind the drill in the same way.
  - 5. Heel Grinding (Fig. 7)
    - Insert the chuck set into the heel grinding shelf, align the slot of clamping nut to the two pins on the grinding shelf, push the chuck set gently until the grinding noise stops. Turn the chuck set to the other side and grind the drill in the same way.
- VII. Please clean the ash on each grinding shelf after finishing the grinding job.

