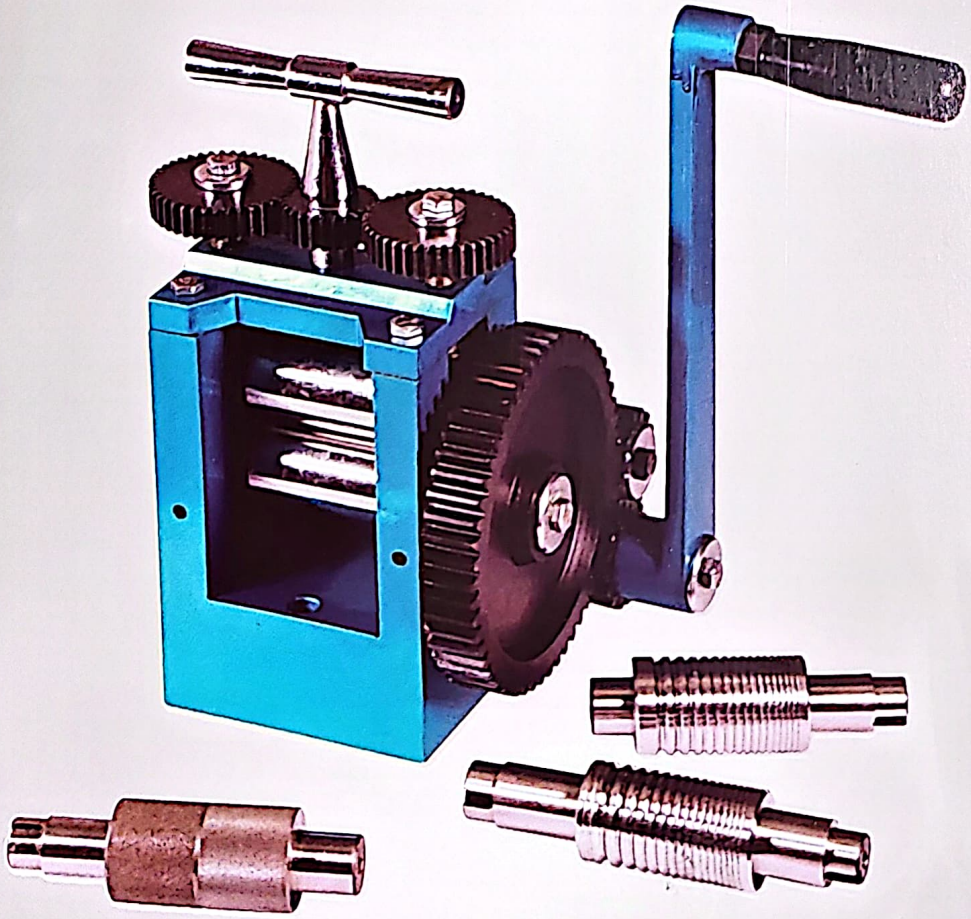
ROLLING MILL SAFETY CARE & TIPS



Thank you for choosing your Rolling Mill Which will give you many years of trouble free and high performance use. Please ensure that you read the instructions below "Rolling Mill Safety, Care and Tips" Before unpacking and using your new mill.

ROLLING MILL SAFETY CARE & TIPS

ROLLING MILL CARE

1. ALWAYS bolt down your rolling mill to a heavy bench or table top for stability.
2. When the rolling mill is not in use, it is a good idea to apply a thin coating of oil to the rollers.
3. Keep from touching the rollers. Oils and acids from your body can damage the rollers leaving behind tiny pits.
4. DO NOT over exert pressure on the rollers.
5. Try to use the center of the rollers. This will ensure even pressure on the rollers giving them a longer life.
6. DO NOT roll ferrous metals such as iron or steel through the mill.
7. ALWAYS release pressure on rollers after you have completed your job.

PROCEDURE FOR ROLLING

- Anneal the piece of sheet or ingot, pickle it, and rinse it with clean water.
- Feed the metal into the mill, applying snug (but not overpowering) pressure on rollers.
- After rolling the metal through the mill, flip the piece end to end before you roll it through again. You will get a more even roll.
- Before passing the metal through the rollers, lower the rollers until you have a snug fit (as in step 2).
- If the metal becomes too hard to roll, it must be annealed again. Then roll the piece through the rollers, repeating as necessary until the desired thickness is achieved.
- When rolling silver sheet it may be necessary to anneal the sheet after rolling it from 3.0mm to 1.0mm in thickness. For 14kt gold the annealing may be necessary after rolling from 3.0mm to 2.0mm.

TROUBLESHOOTING

✓ **PROBLEM** - It takes all your strength to turn the handle.
CAUSE - The sheet being rolled is too thick.
SOLUTION - You need to start with a thinner sheet. You can over-stress the mill and damage the mechanism.

- **PROBLEM** - The sheet is being pulled to one side.
CAUSE - The rollers are uneven.
SOLUTION - Be sure that even pressure is being applied to both sides of the mill.

✓ **PROBLEM** - The edges of the metal is cracking.
CAUSE - The ingot is not uniform in shape or the metal was rolled too much without annealing.
SOLUTION - Remove the part of the metal with the crack (by sawing), anneal, and then hammer out the metal around the missing section until the edges are even. Anneal again and re-roll.

- **PROBLEM** - The surface of the metal is flaking and/or cracking.
CAUSE - When the metal was poured, the ingot mold was cold -or- there may be too much old metal in the ingot -or- the ingot was annealed to much -or- there may be foreign material in the ingot
SOLUTION - Melt the ingot and reform it in the ingot mold. Roll it out again. If the problem persists, it may be necessary to refine the metal before your use it again.

✓ **PROBLEM** - When wire is rolled out, it is wavy or bent.
CAUSE - There was not enough tension applied to the free end of the wire.
SOLUTION - Hold the free end of the wire tight with one hand.

- **PROBLEM** - When rolling sheet, it comes out distorted, uneven, or wavy
CAUSE - Too much pressure is being exerted by the rollers.
SOLUTION - Remove the sheet, anneal it, plannish the distorted sections, and re-roll. Apply less pressure on the rollers.
- **PROBLEM** - When rolling sheet, it buckles.
CAUSE - Sheet was pushed through rollers after flipping end to end without annealing.
SOLUTION - Remove sheet, anneal and re-roll.

ROLLING MILL SAFETY CARE & TIPS

PATTERN ROLLER REPLACEMENT :

1. Remove the gear from the top roller and the key stock.
2. Loosen the four bolts on the mill head. Lift and remove the mill head. Place on a clean surface.
3. Slowly lift the top roller keeping it level and place it on a clean surface. Be careful not to lose the springs between the rollers.
4. Slide the holders off each end of the roller.
5. Replace the holders on the pattern roller making sure the oil ho les are on the top.
6. Carefully replace the roller into the mill making sure the springs are in place and reassemble the mill.

WIRE ROLLER REPLACEMENT :

1. Remove the gear from the top roller and the key stock.
2. Remove the lower roller gears (big gear and little gear) and key stock.
3. Loosen the four bolts on the mill head. Lift and remove the mill head. Place on a clean surface.
4. Slowly lift the top roller keeping it level and place it on a clean surface. Be careful not to lose the springs between the rollers.
5. Loosen the set screws on the back of the mill frame.
6. Remove the lower roller the same way as the top roller.
7. The wire roilers are different lengths. The longer roller will the the lower roller.
8. Starting with the lower flat r oller that is being replaced, remove the holders from the ends and put on the lower wire roller. Place the roller into the mill frame with the oil holes on top. Tighten the set screws. Be sure the springs are installed. Do the same with the upper roller.
9. Double check to be sure everything is correct and all oil holes are on top then replace the mill head. 10. Lube the mill as needed with oil.

Before use, always clean the rolls to remove all lubricants. After use, re-lubricate the rolls with oil or grease. The rolls will rust if they are left un-lubricated. Check the tightness of all the nuts and bolts before use.

Do's and Don'ts:

- **Don't lift the mill by the center mill T-wheel-It is not attached to the mill.**
- **Don't put ferrous metals through your mill-They will ruin your rolls.**
- **Do oil or grease your rolls after each use.**
- **Do wipe the rolls clean of oil or grease before each use.**
- **Do cover your rolls with a lightly oiled cloth after each use.**
- **Do inspect your rolling mill before and after use for loose nuts.**
- **Do anneal your metal often.**
- **Don't make large reductions in metal thickness with your mill.**
- **Do make many small passes to reduce the thickness of your metal.**
- **Don't let uninformed people use your rolling mill.**
- **Do make sure your rolling mill is well lubricated**

	Mini 75mm
	75mm x 42mm
	3mm
	0.75 - 5mm
	15
	4.1
	-
	-
KG	30Kg.