FAQ for Grindeurs

QUESTION: How do I use the Grindeur?

Answer: Grease the roller stones and roller holder shaft with liberal amounts of softened cocoa butter (if you are using it for grinding cocoa nibs) or nut butter (if using for grinding nuts). Place the roller stone assembly in the stainless steel drum. Lock the roller assembly in place. Add cocoa butter to the grinding vessel (SS drum). Start the grindeur or Grindeur. Once the roller stones start rotating, add the cocoa nibs or nut powder slowly. Make sure that the roller stones are rotating freely without any struggle. If the roller stones are struggling, stop the unit, remove some of the contents from the stainless steel drum and then restart the unit.

1. Do not add whole nuts. Nuts have to powdered or cracked into smaller pieces before adding to grindeur / Grindeur.
2. Add the ingredients after starting the unit.

Question: How much to add initially?

Warm 1-2 cups or 100-200g of cocoa nibs in a microwave or conventional oven. Add the warm cocoa nibs and let it grind until it becomes liquefied. Or add about 2 cups of cocoa nibs and use a heat gun pointed at the moving stone till the cocoa butter melts. Once the initial batch is liquefied, add the rest of the cocoa nibs slowly. It takes about 20 minutes to complete adding the ingredients.

QUESTION: Why should I start the Grindeur and then add the cocoa nibs or nut powder?

Answer: The CocoaT grindeur / Grindeur have roller stones that are lighter weight than the traditional single stone grinders. To compensate the weight, there is tension from the top that presses the roller stones down against the granite base of the stainless steel drum. So if the nibs or nut powders are added first, they will prevent the roller stones from rotating. This in turn will damage the belt, center delrin pin, motor etc. and reduce the life of the grindeur / Grindeur. So please follow the instructions carefully.

QUESTION: Can I pregrind the cocoa nibs in a Champion juicer or similar machine to make a paste before adding to the grindeur?

Answer: We recommend pregriding the cocoa nibs in CocoaT mini Pregrinder or similar equipment that powders the cocoa nibs rather than make it into a paste. Adding the nibs or powdered nibs ensures that the grindeur gives trouble free performance for a long time.

Pregrinding the cocoa nibs in a Champion juicer or similar units makes it into the semisolid cocoa mass especially in colder climates. When adding the semisolid mass, it makes the stones jump too much and it can damage the stones and/or the spring housing. In addition, it is harder to clean the semisolid cocoa mass from the juicer and wastes precious cocoa. Making it into powder makes the cleaning easier and there is minimum wastage.

QUESTION: When do I add the sugar to the cocoa mass in the grindeur?

Answer: For most cocoa beans, adding the sugar after the cocoa nibs is ground to 90 micron size makes good chocolate. If the beans have delicate floral notes like Madagascar beans, add the sugar two hours after adding the beans. Sugar produces heat when grinding and the heat caramelizes sugar and coats the cocoa particles if it is added too early. Once the cocoa particles are encased in caramelized sugar, the following things happen:

1. The whole cocoa mass becomes too thick and one or both roller stones stop spinning
2. It can damage the center pin of the drum which is the weak link to prevent the motor from overheating
3. The sugar coated cocoa particles are harder to grind
4. The volatiles do not escape easily during conching cycle, as the cocoa particles are coated with sugar

If the sugar is added after the nibs are ground to 90 microns, the following things happen:

1. The sugar mixes better with the cocoa particles. As one of our customer puts it "The cocoa liquor is ready to accept the sugar"
2. The heat released from the sugar helps the volatiles to evaporate and produces fine tasting chocolate.
3. The machine lasts longer as the stones rotate freely.

QUESTION: What causes one of the roller stones to stop spinning while grinding?

Answer: This can be caused by few reasons.

1. Solidified chocolate between the roller shaft & roller stones can make the roller stone to freeze and prevent it from rotating normally. This in turn can damage the center pin of the stainless steel vessel.
   After each use, remove the roller stones from the roller shaft (by removing the nut at the end of the roller shaft) and clean inside the hole thoroughly. Clean the stainless steel
2. Leaving the cocoa mass in the grindeur when it is not in use: If you are stopping the grinding and continuing it later, remove the cocoa mass into a different container.
   Before switching on the grindeur to resume grinding, first make sure that the roller stones rotate freely on their axles.
3. Roller holder assembly is stuck to the bottom stone of the stainless steel drum: If the roller holder assembly is stuck due to solidified cocoa mass, melt the contents using a hair dryer and try to slowly release the roller holder from the bottom stone.
4. Dropping the roller stone assembly: This can cause the roller stone shafts to misalign and in turn stop roller stones from rotating freely
5. Starting the unit with the ingredients inside the drum: Adding ingredients to the stainless steel drum first and then starting the unit can prevent the roller stones fromrotating normally. Always start the unit with only cocoa butter or any liquid you are using, and then add the ingredients slowly while the unit is running.
6. If nut pieces or bigger particle sized ingredients are used in the grindeur, the stones can stop rotating. When using grindeur for nut butters from macadamia nuts,
   pistacchios, almonds, cashews, pecans, walnuts or any other tree nuts, always pre- grind them into powder or crack them into smaller pieces before adding them to the Grindeur.
7. Adding thick mass of ingredients: Pregrinding the cocoa nibs in a screw type grinder makes the cocoa mass thick. If you have to pregrind the cocoa nibs into cocoa mass, melt it and then add to the grindeur.
8. If the humidity is high in the air: High humidity can affect the viscosity of the cocoa liquor and it can prevent the roller stones from rotating normally.
9. Adding sugar too early in the grinding process: We recommend grinding the cocoa nibs to about 80- 90 micron size and then adding the powdered sugar.
10. Adding sugar too fast: Add the sugar slowly after the cocoa nibs are ground to about 90 microns.
11. Adding sugar with bigger crystal size or special sugars that change the viscosity of the chocolate liquor: If adding palm sugar, coconut sugar or other sugars with bigger crystal size, always pre-grind them.
12. Using beet sugar or sugar substitutes: These sugars can make the cocoa liquor thicker

and can prevent the roller stones from touching the bottom of the stainless steel drum and in turn they stop spinning.

13. Low temperature: Cocoa butter has a low melting point and for the same reason, can solidify fast when the temperature drops below 90F. If the Grindeur / Grindeur is operated in an area where the room temperature drops below 85F, the cocoa mass can solidify and stall the unit. We recommend operating the unit under supervision at around at least 85F.

QUESTION: What is the minimum quantity one can grind in the ECGC-65E drum?

Answer: 30 lbs / 13.6 kg of nibs

QUESTION: What is the maximum quantity required in the ECGC-65E/ drum?

Answer: 100 lbs / 45 kg of total ingredients

QUESTION: How long can the grindeur be run continuously?

Answer: ECGC-65E can run for 48 hours under supervision. Do not leave the unit unattended when in operation. Once you empty the contents from one batch, you can start the next batch immediately.

- **QUESTION: What causes one of the roller stones to stop spinning while grinding?**

Answer: This can be caused by few reasons.

1. Solidified cocoa liquor or ingredients between the roller shaft and roller stones: Presence of chocolate between the roller shaft & roller stones can make the roller stone to freeze and prevent it from rotating normally. This in turn can damage the center pin of the stainless steel vessel. After each use, remove the roller stones from the roller shaft (by removing the nut at the end of the roller shaft) and clean inside the hole thoroughly. Clean the stainless steel
2. Leaving the cocoa/chocolate liquor in the melanger when it is not in use: If you are stopping the grinding and continuing it later, remove the cocoa/chocolate liquor into a different container. Before switching on the melanger to resume grinding, first make sure that the roller stones rotate freely on their axles.
3. Roller holder assembly is stuck to the bottom stone of the stainless steel drum: If the roller holder assembly is stuck due to solidified cocoa mass, melt the contents using a hair dryer and try to slowly release the roller holder from the bottom stone.
4. Dropping the roller stone assembly: This can cause the roller stone shafts to misalign and in turn stop roller stones from rotating freely
5. Starting the unit with the ingredients inside the drum: Adding ingredients to the stainless steel drum first and then starting the unit can prevent the roller stones from rotating normally. Always start the unit with only cocoa butter or any liquid you are using, and then add the ingredients slowly while the unit is running.
6. Tightening the tension adjustor too much: Some customers think that by tightening the tension to the maximum will result in faster grinding. But too much tension slows down the grinding. In addition, the friction between the roller stones and roller stone shaft increases resulting in abrasion and increased temperature. Increased temperature dries the thin layer of cocoa liquor/ chocolate liquor between the roller stone and the roller stone shaft and results in seizing of the stones. So if the stones stop rotating, release the tension till the stones start rotating again. If the stones have already stopped rotating, stop the unit, remove the roller stones from the shaft and clean the roller stone shaft and inside of the roller stones.

7. If nut pieces or bigger particle sized ingredients are used in the melanger, the stones can stop rotating. When using melanger for nut butters from macadamia nuts, pistacchios, almonds, cashews, pecans, walnuts or any other tree nuts, or peanuts, always pre-grind them into powder or crack them into smaller pieces before adding them to the melanger / Grindeur.
8. Adding thick mass of ingredients: Pregrinding the cocoa nibs in a screw type grinder makes the cocoa mass thick. If you have to pregrind the cocoa nibs into cocoa mass, melt it and then add to the melanger.
9. If the humidity is high in the air: High humidity can affect the viscosity of the cocoa liquor and it can prevent the roller stones from rotating normally.
10. Adding sugar too early in the grinding process: We recommend grinding the cocoa nibs to about 80- 90 micron size and then adding the powdered sugar.
11. Adding sugar too fast: Add the sugar slowly after the cocoa nibs are ground to about 90 microns.
12. Adding sugar with bigger crystal size or special sugars that change the viscosity of the chocolate liquor: If adding palm sugar, coconut sugar or other sugars with bigger crystal size, always pre-grind them.
13. Using beet sugar or sugar substitutes: These sugars can make the cocoa liquor thicker and can prevent the roller stones from touching the bottom of the stainless steel drum and in turn they stop spinning.
14. Low temperature: Cocoa butter has a low melting point and for the same reason, can solidify fast when the temperature drops below 90F. If the Grindeur / Melanger is operated in an area where the room temperature drops below 85F, the cocoa mass can solidify and stall the unit. We recommend operating the unit under supervision at around at least 85F.

QUESTION: What causes black grease like substance in the Grindeur?

Answer: Sometimes, customers notice a black color substance near the wider end of the roller stone or on the side of the drum. This black stuff is caused by the Delrin and stainless steel rubbing against each other or stainless steel rubbing on stainless steel. Here are the reasons why it happens:

1. The wiper is too close to the drum wall
2. Solidified chocolate between the roller stone shaft and roller stones
3. Roller stones are not cleaned in between batches
4. Not enough ingredients in the drum
5. Adding sugar on the roller stones
6. Using sugars with bigger crystals
7. Using alternate sugars that increase the viscosity of the chocolate liquor
8. Using the melanger in a cold room (temperature less than 27C or 80 F)
9. Too much humidity
10. Too much tension on the roller stones
11. Not cleaning the underside of the roller holder assembly

How to avoid:

1. Check and make sure there is a gap between the wiper and the drum wall. A paper folded into two should slide easily between the wiper and the drum
2. The wider end of the wiper should be at the bottom (closer to the bottom stone)
3. Wiper should be perpendicular to the drum
4. Clean the roller stones between the batches
5. Grease the roller stone shaft and inside of the stones with semisolid cocoa butter and then assemble the stones. It lubricates the shaft and prevents the metal or Delrin wear out due to dry run
6. Always grind at least 3 -4 kgs (8-10 lbs) of total ingredients in the regular drum. Use Mini drum and roller stone assembly for test batches of 500 gm – 1KG (1-2 lbs)
7. Add sugar in between the stones. Do not add sugar on the stones or wiper.
8. Pregrind the sugar in CocoaT mini Pregrinder or other pregrinders
9. Check the viscosity of the chocolate liquor. It should flow freely

10. Keep the ambient temperature of the room to at least at 27 C (80 F)
11. If the room where the melanger is used has too much humidity, use a dehumidifier
12. Check the tension on the stones. If you hear the stone dragging sound, release the tension by turning the tension knob anticlockwise
13. If the underside of the roller stone assembly is not cleaned, it can wobble against the center pin on the drum and they can wear out.

QUESTION: What affects the grinding efficiency?

Answer: Smoothness of the stones may affect the grinding efficiency. However, there are other factors that will affect the grinding efficiency more than stone smoothness.

Change in the applied pressure on the stones affects the efficiency the most. Pressure loss is caused by several factors such as

1. normal wear and tear of the granite roller stones,
2. Wear on the bottom granite stone,
3. Wear of the Delrin inserts in the granite roller stones
4. Loss of spring tension due to fatigue.

Other factors affecting the grinding efficiency:

1. Belt Slippage caused by loss of belt tension.
2. Change in the ingredients etc
3. Too much husk with nibs
4. Nor scraping the splashed ingredients on the roller holder, side of the drum, on the wiper etc.
5. Too much gap between the wiper edge and the drum

Regular maintenance will help to maintain the pressure on the stones and grinding efficiency. To restore the grinding efficiency perform the following steps:

1. Change belt for melangers at least once in 3-4 years . For Grindeurs adjust the belt tension as needed or change it to new fiberglass link belts that does not need tension adjustment. Newer ECGC-65E Grindeurs come with these high performance belts.
2. Change the tension spring every 2-3 years.
3. For Grindeurs, install the Tension gauge to measure the pressure exerted on the roller stones. It prevents operator error and makes sure the stones have same tension from batch to batch
4. Compensate the components wear by lifting the drum in the Grindeur using drum height washers
5. Adjust the space between the wiper edge and the drum.
6. Check the Delrin insert in the roller stone – if they have worn out, replace the stones for melangers or Grindeurs. One can also take out old Delrin insert and install the new Delrin inserts. Things needed to replace Delrin inserts:

    i. New Delrin inserts
    ii. Food grade two part epoxy glue
    iii. Lathe to drill the Delrin insert to the true center of the stone (after gluing it to the stone) if needed.

7. Changing the ingredients changes grinding time.

    a. Did any of the ingredients change?
    b. How much husk is there with nibs? – If the beans are not sorted and includes lot of flat beans, there is more chance for the husk to stick to the nibs. Husk takes longer to grind and gives gritty texture to the chocolate liquor
    c. Is it fine granule sugar or big granule sugar? – Bigger granule sugars take longer to grind

d. Is it alternate sugar (other than cane sugar)? – alternate sugars like palm sugar, coconut sugar change the viscosity of the chocolate liquor and increases grinding time

8. Drum speed is too low – the standard drum speed should be about 108 rpm for grinding.

QUESTION: Why is the drum wobbling / off center?

Answer: The drum wobbling / off center is generally because the bolts holding the granite base to the drum flange have become loose over time. On newer units, there is a circle around the drum flange which can be used for easy identification to re-center the drum. If the circle is not present or is not visible, the drum can be centered by following the instructions shown in the video – Centering drum https://www.youtube.com/watch?v=EPmVb67OLMo

QUESTION: How do I change the oil on the ECGC-65A/E Grindeur?

Answer: Changing oil in ECGC-65A/E Grinduer is very easy. We have emailed instructions when you bought the unit. If you are unable to locate it, we can email you again.

QUESTION: The delrin inserts in the roller stones have worn down, how do I replace them?

Answer: Below is a brief overview of replacing the delrin inserts.

1. Remove the old worn-out insert, clean the hole thoroughly to remove any residual glue and Delrin pieces. Use a Dremel tool or sand paper (emery paper) to remove the glue from the roller stones.

2. Measure the diameter of the hole (should be approximately 50 or 30 mm depending on the model you bought -) and machine the supplied replacement roller to match the hole. Supplied replacement part is typically larger than 50 or 30 mm in OD and smaller than 20 mm in ID to accommodate the variation.

3. Prepare the 2-part epoxy glue according to manufacturer's instruction and apply to the granite surface inside the hole and Delrin surface. Insert the Delrin insert into the granite roller. Slightly hammer with a rubber or wooden mallet if needed. Remove the excess glue on both sides of the roller stone.

4. Let the glue cure overnight.

5. Install the granite roller stone onto the lathe and center it. Now enlarge the ID of the Delrin insert to 21 mm hole.

Now the center of the Delrin insert hole should be concentric with the OD of the granite roller.

You can buy the food grade Delrin from local suppliers such as mcmastercarr.com. Item numbers are 66525A22 and 66525A21 depending on the quantity you want to order.

For out of country repair – the food safe epoxy is from Henkel Loctite.

2029966_1962645 - TIGA MD-48 Resin
2029966_1968253 - TIGA MD-48 Hardener