

FLAT DIE PELLET MILL MKL225P, MKL229P, MKL295P INSTRUCTION MANUAL

Model NO.	Power	Output (kg/h)	Packing	NW/GW	Remark
			(cm)	(kg)	
MKL225P (2 rollers, die fixed)	22hp tractor	150-300	77*56*115	165/180	PTO shaft driven
KL229P (3-rollers, die fixed)	55HP tractor	160-400	87*85*116	300/330	PTO shaft driven
MKL295P (3-rollers, die fixed)	55HP tractor	280-800	87*85*116	400/420	PTO shaft driven

1. Knowing your machine



- 1. 3 point hitch hole
- 2. frame
- 3. PTO shaft
- Feed hopper
- 5. Upper case

- 6. Pellet chute
- 7. Gearbox
- 8. Lower case

Functioning

The pellet press is fixed with an engine with a power of RP-driven all kinds of different power. Via a drive shaft and the die roller wheels are caused to rotate. The starting material for the production of pellets, for example, sawdust is pressed by the wheels roller in the matrix. Due to the pressure at 2 in the die, the starting

material is heated to a temperature of 60-80 °C. As a result of pressure and temperature increase, the material connects to compressed pellets and will have a high strength after cooling. Depending on the material to be pressed, additional binder needs to be added. The diameter of the pellets is determined by the hole diameter of the die. Matrices can be ordered with the following hole diameters: 2.5mm, 4mm, 6mm, 8mm, 10mm and 12mm.

Connect with the tractor

1. Check the PTO shaft



2. connect the below parts to the pellet machine



Finished connect as below:



Choose the Spline direction



connect with the tractor



Connect to the tractor hitch

Connect to the tractor down hitch

Finish connect as below



Notes:

Sometimes the PTO shaft too long to assort with the tractor, or the PTO shaft too short to assort with the

tractor. You only need to weld a iron on the frame to fit for the PTO shaft length.

Location

1. Place the machine under a solid, safe and well-dry location.
2. Keep the machine away from unauthorized person.
3. Do not operate the machine under the temperature of 10°C
4. Before use make sure all bolts and nuts are securely tightened.
5. Fill up the feed hopper with raw materials. Then control the volume of the raw materials by feed control tray.

Grinding of the Die

After successful connection of the pellet mill, first test the rotation of the die. The rotation direction of the die must be matching with the direction arrow. Make sure all these setting must be operated by a qualified person.

Before the first pellet production, it is important to loop the die of the machine, which can make the die smooth and cleaning. To do this you need to prepare

50 kg flour

50kg fine sand (e.g. play sand)

5 Liter Vegetable Oil



Mix the materials in a bucket and squeeze the mixture 10-20 times completely through the die.



2. Operation of the Pellet Mill

3.1 WARNING

The following safety rules must be reserved during operation of the pellet mill:

1. Stop the machine when you perform maintenance or transport the machine.
2. Always wear appropriate personal protection equipment. Wear hearing protection, eye protection, non-slip shoes, and tighten clothing. Never operate the machine with long hair.
3. Do not insert long objects into the hopper.
4. Be sure not to get the machine or the connections in contact with water.
5. Be away from open fire during operation.

3.2 SETTING THE MACHINE

1. Turn off the machine by stop the tractor
2. Check whether all bolts and screws are properly secured.
3. Lubricate all bearing before first operation with wheel bearing grease. Perform lubrication at least 10 hours operation.
4. Set the pressure of the roller wheels. To do this, just drag the die and find whether it can rotate under the roller wheels. The distance between roller wheels and die should be controlled within 0.1-0.3mm.



3.3 Production of Pellets

Check whether the raw material is in consistency. Refer to following material for pellets production.

1. To start the tractor. Now the die turns.
2. Place a container (eg bucket) in the pellet chute.
3. Firstly close the feed control tray. Then fill up the feed hopper. Turn the feed control tray gradually.
4. After a short time the pellets will fall into the pellet chute and collect them. The pellet can reach the final hardness only after cooling.
5. Put the remaining material and change the container of the pellets when it is full.
6. Do not stop the machine during pellets pressing operation (except for emergency), otherwise the machine will be clogged for re-starting.
7. Stop the machine by pressing the stop button of tractor
8. Clean the machine with a single run. This step is very important as if the raw material cool completely they will stay inside the roller case and it is difficult to be removed.

Note: In the event that no satisfactory pellets are achieved during the first test run of the machine, the pellets produced should be re-introduced into the feeding tube. More components should be added e.g. sawdust, which can improve the quality of pellet producing

3.4 Malfunctions and Maintenance

Machine does not produce pellets:

- Unsuitable material.
- Material too dry or too damp.
- Suitable binder needs to be admixed.

Machine blocked or clogged:

Stop the machine immediately.

Remove the material from the machine and clean it.

Check whether the material in consistency and the moisture content.

4. Use and Types of Pellets

4.1 Use of Pellets

The pellets can be used in different areas, such as animal feeding, heating of the buildings, and the production of the manure. The major advantage of the pellets compared with other material, it can be easily handled, transported and stored for longer life.

4.2 Fundamental to the starting pellet

Pellets can be produced from various organic materials. Thus, the starting material bonds to be fixed into durable pellets, and the moisture contents need to be controlled within 12% und 15%. If the starting material is too dry, it often occurs as powder or need to be re-emerged from the pellet chute. If the starting material is too damp, the pellets will be of inferior quality. The residual moisture of the starting material can be measured or determined by a commercial moisture meter. The length of raw material should be controlled within 5mm, otherwise the pellet mill machine will be clogged or the performance will be slowing down. **The raw material with longer length (e.g. wood shaving) need to be grinded into small size by a hammer mill.**

4.3 Pellet-Types

Here are the main types of pellets and the composition of starting material which can be used for pellet.

Saw Dust Pellets

Starting material: Saw dust

Use: Pellet Heating Mixture

- a. Pine or spruce percentage at least 50%: It can be directly pressed into pellets.
- b. Portion of pine or spruce less than 50%: For stable pellet it needs to add 0.2-2% corn or potato starch. (Total moisture content 12-15%)

Straw-Pellets, Hay-Pellets, Miscanthus-Pellets

Starting material: Straw, Hay, Miscanthus (chopped)
 Use: Pellet-Heating, Animal Bedding, Feed
 Mixture: directly (Moisture 12-15%)

Feed-Pellets

Starting material: Straw, Hay, other feed (chopping)
 Use: Animal Bedding, Feed
 Mixture: directly (Total Moisture Content 12-15%)

Fertilizer-Pellets

Starting material: Manure, Straw/Hay (chopped)
 Use: Fertilization
 Mixture: approximately equal proportion (Total Moisture Content 12-15%)



SAW DUST



STRAW



HAY



CEREALS



PAPER

5.Maintainance and important information

Carefully and strictly follow the instructions which will make your pellet mill long time service.
Failure to follow the instructions will cause parts defect or serious injury.

ATTENTION!

Be away from moving parts. Failure to do this will result in serious injury. Stop the tractor before maintenance or repair.

Regularly check and re-tighten the screws and nuts due to vibration.

6.Grease

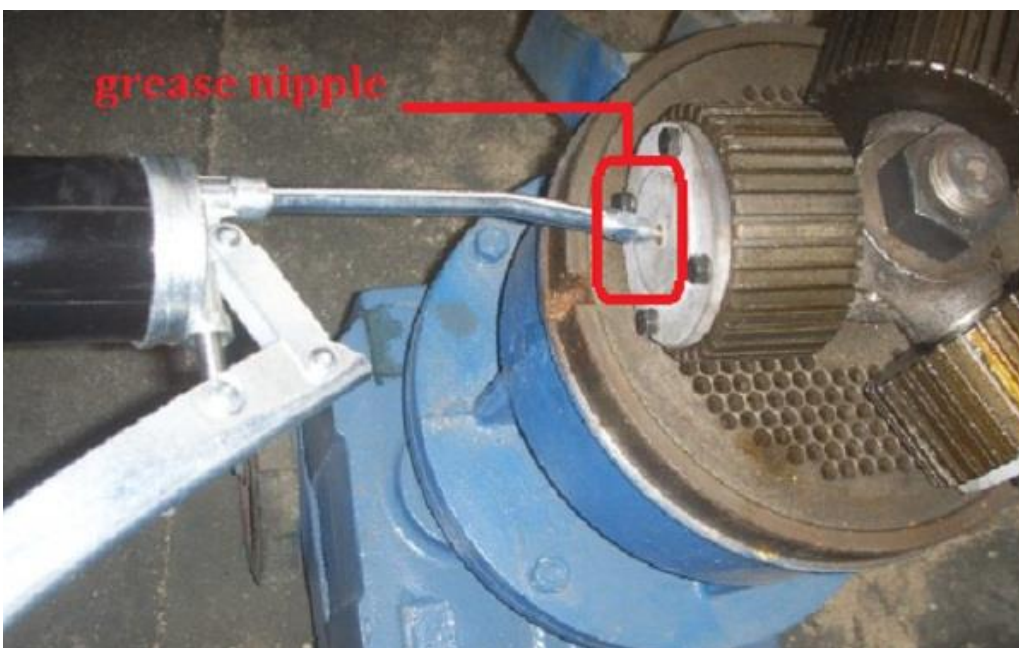
6.1 Grease the bearing on the main shaft via grease nipple.

Be lubricated it weekly.



6.2 Grease the bearings on the roller via grease nipple

You need to take down the upper case, then grease the bearing on the roller by grease nipple after each use or after 8 hours operation.



2. EXCHANGING ROLLER AND DIE

01 – Disconnect the power connector

02 – Remove the feed hopper

03 – Loosen the lock nuts on the upper case. Then take off the upper case.



04 - Take off the upper case.



05 – Loosening the big nut on the center of the roller.



06 – Take off the roller carefully.



07 – To fix the holes on the two sides of the die by nuts, then hold the nuts to take off the die.



08 – Thoroughly clean the die

09 – Set the machine back together in reverse order

WARNING: When you exchange the die and roller, please make sure there is no material in the upper case. Or it will be very hard to loosen the nuts.