

Grain crusher "Universal"

Purpose:

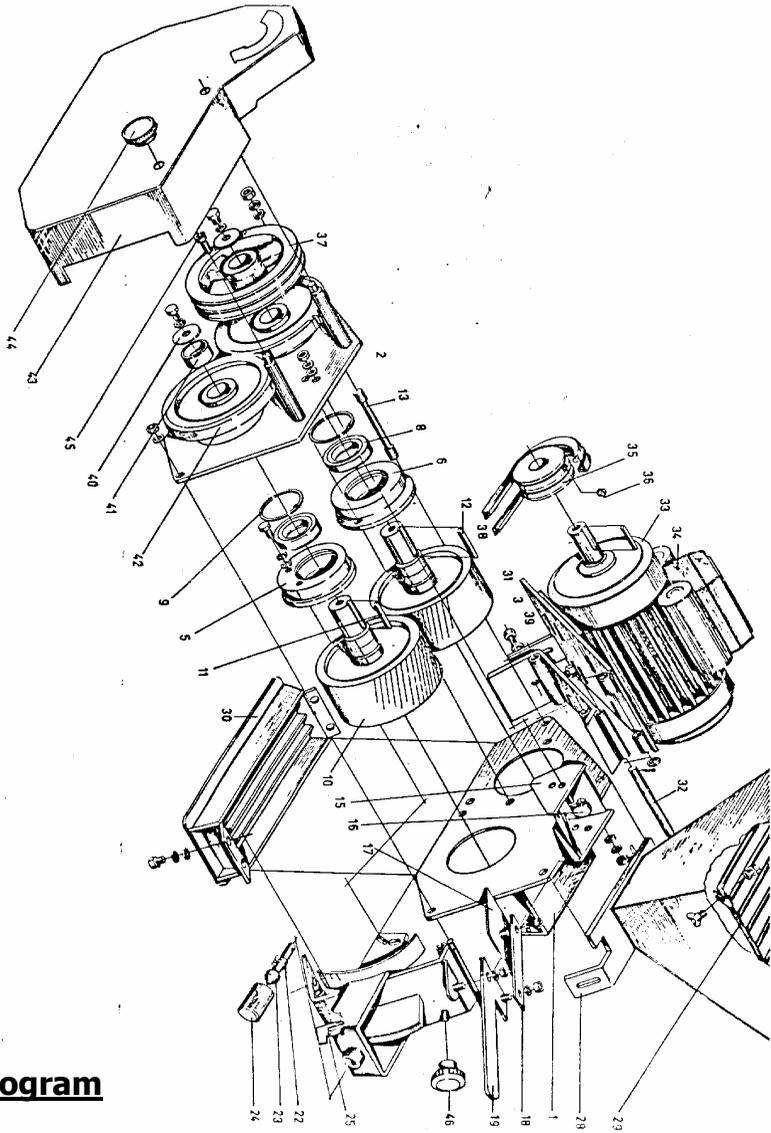
This machine is designed for the crushing of grain in agricultural operation.

Operating instructions and parts catalogue

This grain crusher provides you with a machine that is efficient and easy to operate.

Before assembling and putting this grain crusher into operation, please read this manual and familiarise yourself with the machine.





Pictogram



Hazard: rotating screws – or machine parts!

- 1 Rear panel with hook mounting
- 2 Front panel
- 3 Side frame left
- 4 Side frame right
- 5 Bearing case: eccentric
- 6 Bearing case: centric
- 8 Bearing 6308 2RS P6
- 9 Inner ring for bearing 90x3 DIN 472
- 10 Crushing cylinder
- 11/12 Cotter pin
- 13 Casing bolt 12x30 DIN 7984
- 15 Intake channel
- 16 Pot magnet
- 17 Intake regulator gate
- 19 Intake operation lever
- 21 Eccentric adjustment clamp
- 22 Locking cylinder spring
- 23 Locking cylinder
- 24 Eccentric adjustment nut
- 25 Eccentric arrester
- 27 Cleaning aperture
- 28 Feed hopper
- 29 Safety guard
- 30 Outlet protection guard
- 31 Motor base
- 32 Hinge pin
- 33 Motor
- 34 Switch
- 35/37 V-belt pulley
- 36 Stud screw
- 38 V-belt
- 39 V-belt clamping screw
- 40 Axial locking washer with bolt 10x30 DIN 7991
- 41 Spacer tube
- 42 Twin drive
- 43 Belt guard
- 44 Knurled nut
- 45 Hexagon socket screw 10x30 DIN 7994

1. Safety

The grain crusher must be connected to the power supply by an authorised electrician according to the technical connection stipulations of the responsible electricity supplier.

When doing so pay attention to the correct rotation direction. In the event of incorrect rotation direction there is a danger of injury when reaching inside the outlet. Furthermore the machine will not crush.

The machine must only be switched on and operated when all safety devices (e.g. belt guard, safety guards for intake and outlet, cleaning aperture) are fitted and secured.

The machine must be disconnected from the power supply during power outage and maintenance and cleaning.

This should be heeded especially in the cases of machines that automatically start up via low-level indicator or interval timer.

The crusher must only be used, serviced and maintained by persons familiar with these instructions and who have been advised of the hazards.

During maintenance and cleaning, the stability of the crusher and secure stance of personnel must be ensured. Any activity must be avoided that endangers or impairs the safety of personnel, the crusher or the operational environment.

Unauthorised modifications are not permitted!

In its standard configuration this grain crusher must not be operated in areas where there is a danger of explosion.

Caution: when connecting the feed cable it must be ensured that the built-on or attached switch is set to "0", otherwise the machine will automatically start running!

2. Correct assembly

If the grain crusher is mounted on a base, then it must be fitted into the connection assembly in the base, and then bolted secure. The base itself must be securely anchored to the floor.

If the machine is mounted with a wall bracket, then the wall must meet the corresponding structural requirements.

The wall bracket must be secured with bolts or threaded rods with a continuous diameter of at least 12mm.

Whichever form of mounting is used, the grain container, which may be placed above the grain crusher, must be standalone: i.e. it must not cause additional load upon the machine.

When assembling on an existing fodder container the grain crusher can be placed upon its outlet protection guard but must, however, be secured against slipping and tilting.

3. Residual risk

The grain crusher conforms to prevailing safety regulations. Failure to adhere to these operating instructions could however lead to physical or mortal danger to the operator or to third parties.

4. Operation

**Pay attention to all safety regulations!
Close and secure safety devices and cleaning aperture!**

Proceed as follows when starting the machine:

1. Secure regulating gate in intake.
2. Fill feed hopper with grain.
3. Set desired crushing gap.
4. Start electric motor.
5. Slowly open the intake volume regulator gate until the ampere meter has reached the red marking. The gate position can be secured via the aperture limiter.

In the event that various sorts of grain are to be crushed in succession, then the position must be in accordance with the most flowable grain type (sequence: wheat, barley, oat).

There must not be any grain between the crushing cylinders when starting the machine. Otherwise the eccentric must be opened with closed intake gate and the motor briefly started up.

Caution!

The crushing cylinders must not rub one another during operation. Careful attention must therefore be paid that limiter of the eccentric adjustment is correctly set and remains so.

5. Setting the crushing gap

This grain crusher allows the crushing gap to be adjusted precisely and constantly according to requirements. It does not vary even during high throughput. Furthermore the crushing cylinders may be rapidly separated via the eccentric. The adjustment of the crushing gap must take place when the intake gate is closed and not during the crushing operation.

6. Errors and fault recovery

If the motor protection switch shuts the motor down after a short period of operation, this has occurred due to a too rapid throughput of grain; the intake gate must not be opened so wide.

Close the intake gate, and separate the cylinders by means of the eccentric. (The presence of grain between the cylinders may cause a pressure that requires the eccentric to be knocked upwards with the aid of a rubber hammer, or for it to be pushed upwards between the eccentric clamps and the casing using a piece of wood.) Thereafter the electric motor should be briefly switched on allowing all the grain to fall from between the cylinders. Subsequently replace the eccentric in the desired position and restart the machine.

Should crushed material accumulate in the outlet, it will compress between the safety guard and cylinders and then likewise overload the motor. The compacted material must be removed in order to be able to restart the machine.

7. Service and maintenance

Disconnect grain crusher from power supply!

The bearings are permanently lubricated and therefore maintenance-free. Some grease in the eccentrics eases operation. Check V-belt and tighten as needed.

Occasionally clean the magnet below the regulating gate.

Stones and other non-magnetic materials may become caught between the cylinders. Remove these immediately - they can reduce the operating life of the cylinders.

Caution!

Should individual whole grains be found amongst the crushed material this means that the lateral wear plates are worn out. To repair these, they must be removed below through the outlet by removing the safety guard and removing the 4 hexagon socket screws. The worn out area (gap of around 5x20mm) should be bonded by welding, and the surface lightly smoothed using a sander.

Do not, therefore, adjust the eccentric arrester.

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Declaration of conformity of machines

We hereby declare that the product designated as follows in the form in which it was sold by us conforms to the applicable basic safety requirements governing such machines.

Description of Machine

Grain crusher model **"Universal"**

Regulations to which the machine conforms:

Machine directive 2006/42/EG

EMV - directive 2004/108/EG

Low voltage directive 2006/95/EG

Machine directive EN ISO 12100,

DIN EN 349:2008-09

EN ISO 14121-1, EN ISO 13857, EN 55014

EN 55104, EN 61000-3-2, EN 61000-3-3

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Date

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