Thank you for choosing our Z552 bale wrapping machine designed for efficient operation.

The following instructions will allow you to fully use the advantages of our wrapping machine and to optimise the bale wrapping process.

The manual contains a detailed table of contents followed by descriptions which will allow to easily identify the device and to make the best use of it.

The information regarding safety and comfort of operation, description of coupling with a tractor, technical service activities and storage conditions are listed in the following pages of the manual.

A spare parts catalogue containing the list of the wrapping machine's major components allowing for easy ordering is attached to the manual in digital form on a CD.
The printed version of the catalogue may be purchased at authorised dealerships or directly from the manufacturer.

Both the manual and the spare parts catalogue contain basic information on the product. The elements fitted to the equipment may be slightly different to those presented in the manual. The manufacturer reserves the right to introduce changes without notice.

Symbols

Warning:

This is a warning symbol and it indicates that it is required to pay special attentions to operator's and bystanders' safety requirements or safe operation requirements.

Information:

This symbol indicates additional information which allows to optimise the device operation.

Environmental protection:

This symbol indicates the need to pay special attention to environmental considerations.

Cross-reference:

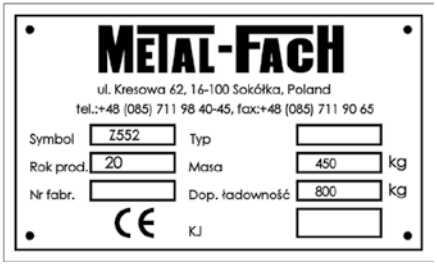
This symbol directs you to a page on which detailed information on a given subject is presented.

Table of contents

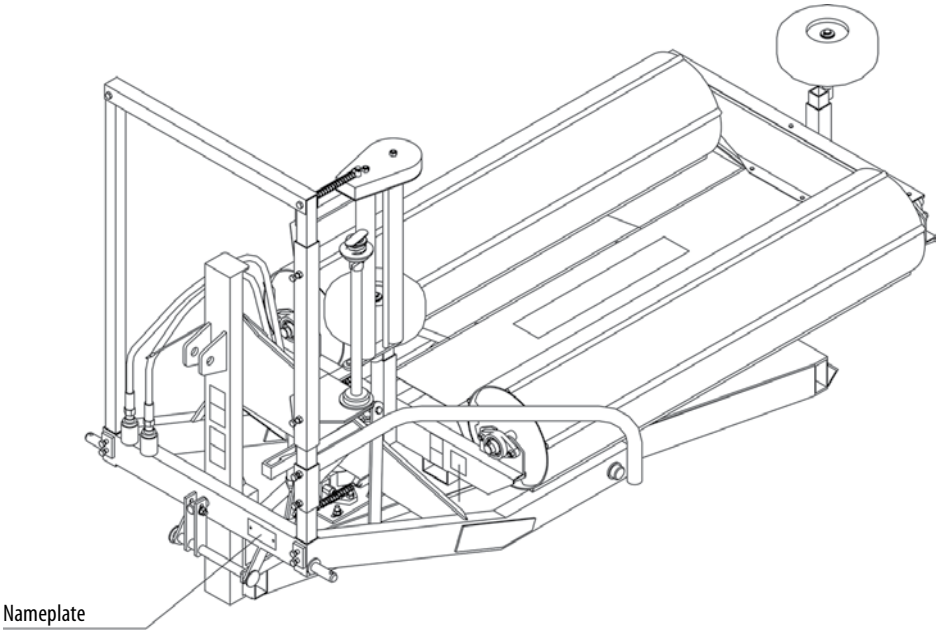
1 Wrapping machine identification, general safety rules
1.1 Wrapping machine identification

The wrapping machine is identified by its nameplate securely fastened to the machine's main frame.

The information presented on the nameplate is shown on the diagram below.



It is forbidden to drive the wrapping machine on public roads without its nameplate or with an illegible data plate.



When purchasing the machine check the serial number indicated in the Operating Instructions and the warranty sheet against the serial number stamped on the nameplate.

The operating manual is a part of the Z552 wrapping machine's capital outfit.

If the machine is sold to another user, it must be supplied with the operating manual. It is advised that the supplier has a confirmation stating that the manual was transferred together with the machine, signed by the buyer and archived.

Familiarise yourself with the operating manual.

If the rules stated in this manual are complied with, it will be possible to prevent hazards and to operate the machine efficiently; it will also allow to retain the warranty throughout the period granted by the manufacturer.

All persons who have not familiarised themselves with the following manual are forbidden to operate the machine.

The wrapping machine shall be operated according to its intended use by coupling it with a tractor with nominal power exceeding 30kW and traction class of at least 0.9. The „SOKÓŁ" bale wrapping machine is designed for wrapping hay and grass bales and other plants with a humidity of approx. 60%[1] rolled into bales using collecting and wrapping presses. The bale wrapping process should be conducted on the field or in the storage yard practically immediately after the bales have been rolled (up to 2 hours[2]). The rolled bales should be stacked in up to two layers on a dry level surface, making sure the wrapping film is not torn.

The fermentation process must continue for two months in positive temperatures. Thus provided silage is fit for use as a wholesome feed for animals.

During operation, the operator is not subject to noise which may cause the loss of hearing, as the noise level of the machine does not exceed 70 dB (A) and the operator works inside the tractor's cabin.

During the operation, the operator is not subject to harmful vibration as the vibration level transferred to the upper limbs does not exceed 2.5 m/s^2, and the vibration level transferred to the body is lower than 0.5 m/s^2 and the operator is positioned in the tractor's cabin.

[1] Grass and other papilionaceous plants prepared for souring and wrapping should be mowed in the early phase of heading (best done in the afternoon). On the next day, after a few hours of drying, the mowed material should be gathered using the wrapping presses. Maximum bale compression must be maintained.

[2] An unwanted decomposition process takes place in bales left unwrapped for a longer time.

Any unauthorised changes to the wrapping machine structure absolve the manufacturer from all responsibility for the threats and damage they may cause.

1.2 Wrapping machine construction

The Z552 wrapping machine consists of the following assemblies:

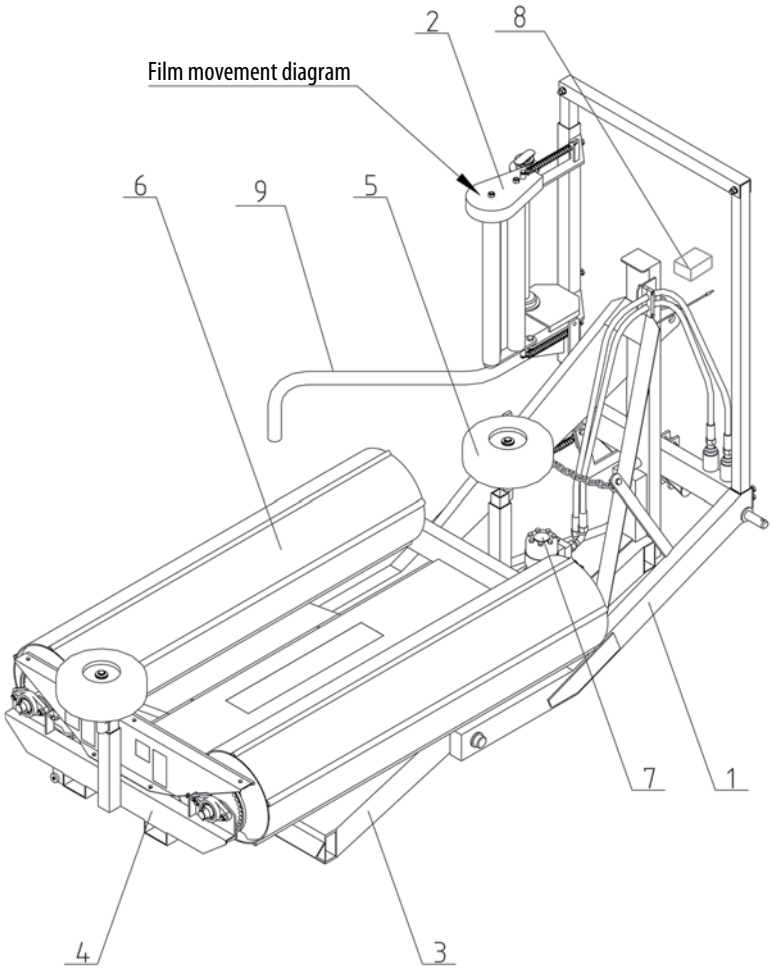
- Main frame item 1
- Wrapping film feeder item 2
- Lower frame item 3
- Rotary frame item 4
- Side wheels item 5
- Rotary drums item 6
- Hydraulic motor item 7
- Wrap counter item 8
- Guard rail tem 9

The main frame (1) has attachment points for the installation of the wrapping machine in the tractor's three point hitch. The lower frame (3) is attached to the main frame (1) (in a rotational manner) while the rotary frame (4) with the rotary drums (6) are attached to the lower frame.

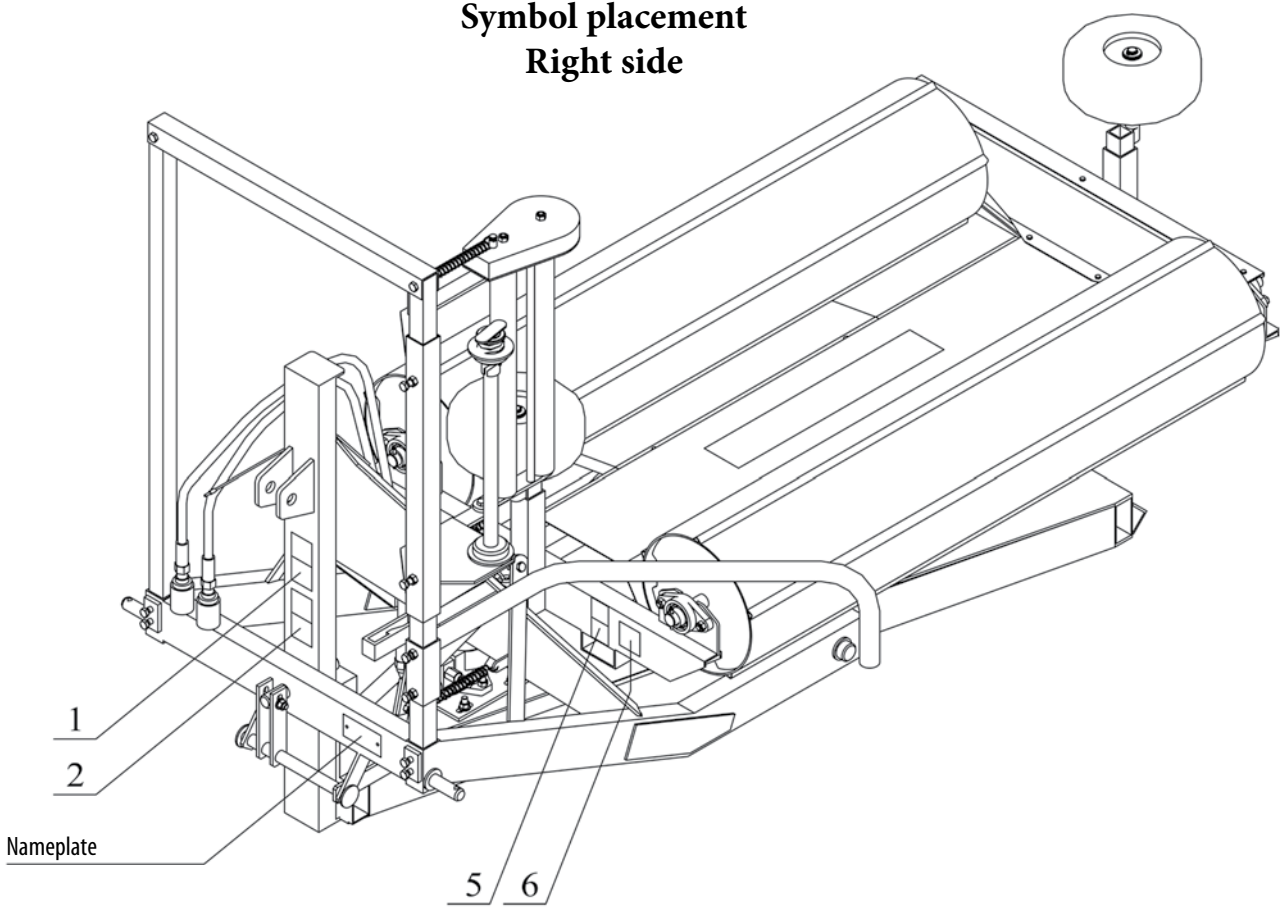
On the left vertical stand the film feeder is installed. A hydraulic motor (7) is used to drive the rotary frame; it is powered from the tractor's hydraulic system through the connection lines and the valve block.

The rotary frame (4) should rotate in the direction indicated in the diagram.

The hydraulic motor drives the rotary drums through a chain transmission, at the same ensuring the rotational movement of the rubber rollers (2). With each revolution of the rotating frame (item 1 on the film movement diagram ⏩ par. 5.1) the bale and film rotate by a certain angle around the horizontal axis, which causes the consecutive layers of film to be wrapped tightly around the bale.

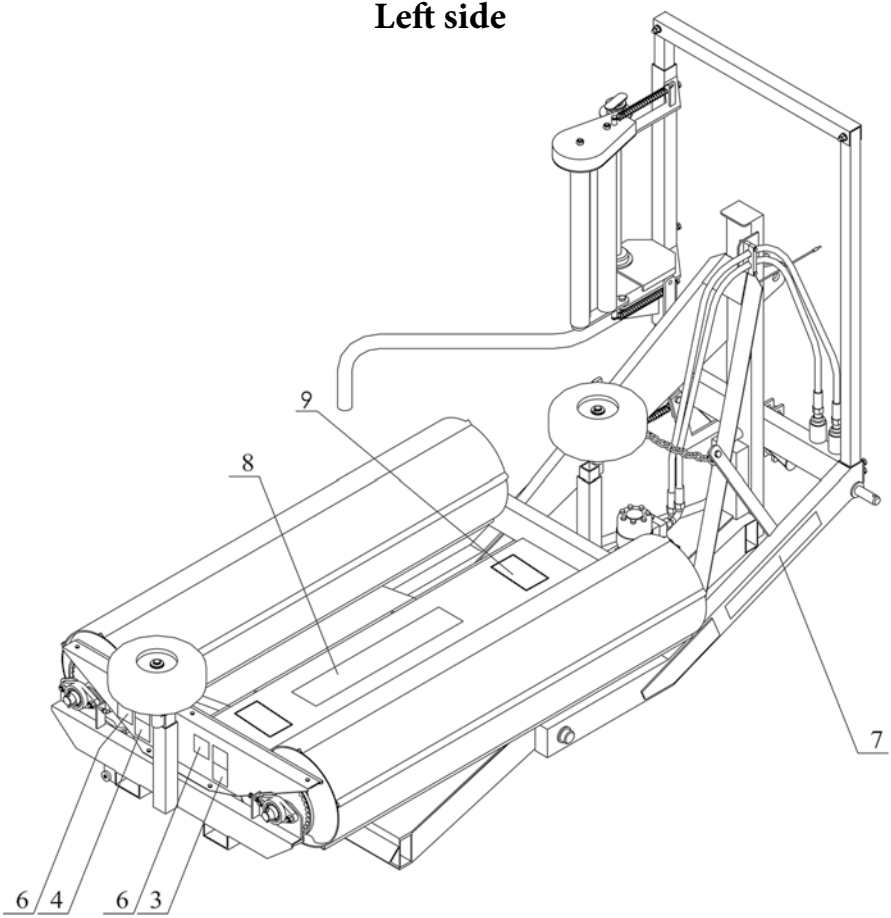


1.3 Symbol placement
Symbol placement
Right side



The meaning of symbols is explained in par. 1.6 of the manual.

Symbol placement
Left side



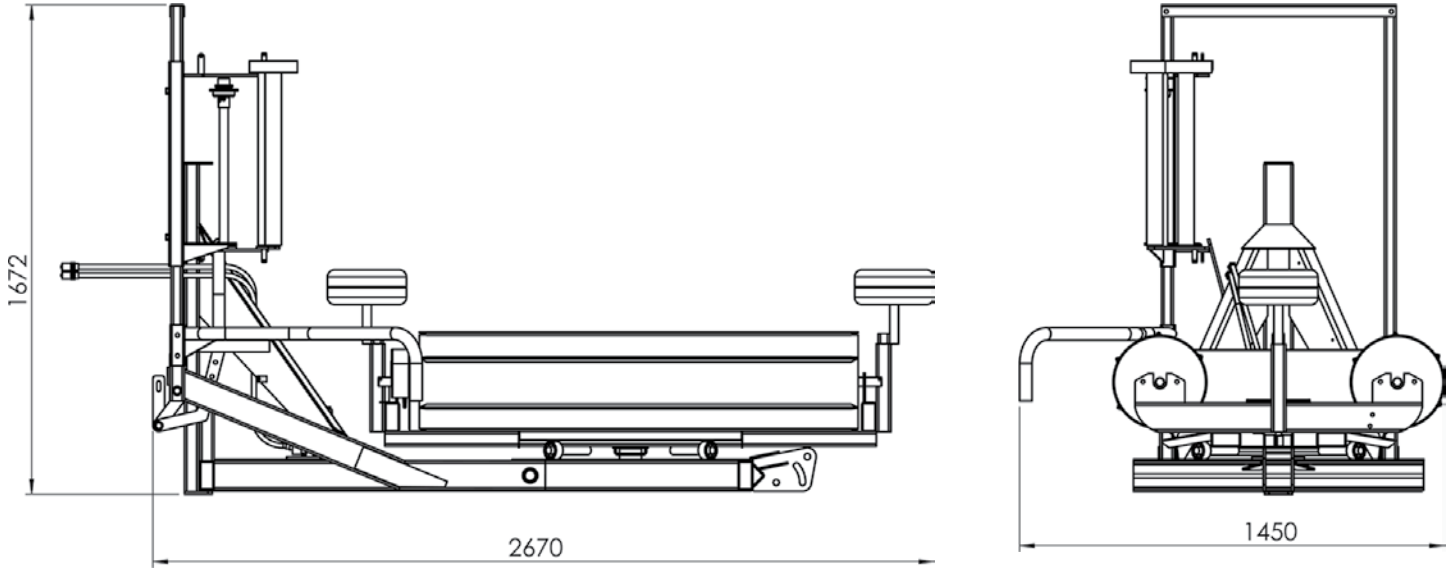
The meaning of symbols is explained in par. 1.6 of the manual.

1.4 Wrapping machine characteristics

No.	Designation	Unit	
1	Type		Z552
2	Coupling with the tractor	-	Suspended
3	Overall dimensions Length/Width/Height	mm	2670/1450/1672
4	Machine weight	kg	450
5	Maximum bale weight	kg	800
6	Wrapped bale dimensions Length Diameter	mm	 1200 1000-1200
7	Maximum transport speed	km/h	20
8	Coupling with tractor through	-	Three point hitch
9	Tractor class	-	0.9
10	Minimum tractor power output	kW	30
11	Required pressure in the tractor power hydraulics system:	MPa	14
12	Recommended tractor pump output	l/min	22
13	Wrapping machine drive	-	Hydraulic, from the tractor's power hydraulics system
14	Rotary frame drive	-	Hydraulic motor
15	Maximum rotation speed of the rotary frame	RPM	35
16	Bale loading method	-	Lift with a lifting capacity of at least 1000 kg
17	Bale unloading method	-	Automatic, with a tilting frame

18	Film width	mm	500
19	Number of rotary frame revolutions using film: 500 mm	revs.	 24
20	Bale wrapping time	min	~2
21	Number of operators	-	1 (tractor driver)
22	Wrap counter	-	Electronic, type L-01
23	Electrical system voltage	V	12
24	Machine lighting - optional	-	Following the requirements of the road code

1.5 Wrapping machine dimensions



The drawing shows the dimensions of the machine

1.6 Warning Symbols

The warning symbols placed on the machine inform the operator about the hazards and danger which may occur during work. Keep the symbols clean and legible.

Replace worn symbols with new ones. New symbols may be purchased from the manufacturer.

Symbol 1
Refer to the operating manual before performing this action.

Symbol 2
Turn off the engine and remove the ignition key before servicing or repairs.

Symbol 3
Do not open or remove the safety covers during machine operation.

Symbol 4
Do not approach the lifting arm's strands during the wrapping machine's operation.

Symbol 5
Keep a safe distance from the working machine.

Symbol 6
Dangerous location.

Symbol 7
NOTE! IT IS FORBIDDEN FOR BYSTANDERS TO REMAIN NEAR THE OPERATING MACHINE.

No bystanders are allowed to approach the machine.

Symbol 8

NOTE! ROTATING ELEMENTS

Warning on the threat caused by rotating elements of the working machine.

Symbol 9

Proper rotation direction of the working elements.

1.7 General safety rules

1.7.1 During operation and repair of the wrapping machine, the farming health and safety regulations contained in the Regulation of the Minister of Agriculture and Food Economy of 12 January 1998 must be complied with.

1.7.2 Only an adult with a valid farming tractor driver's licence and familiarised with the occupational health and safety regulations regarding the farming equipment and the following manual may operate this machine.

1.7.3 The following manual must be read and adhered to, paying special attention to directions regarding the safe operation of the wrapping machine.

1.7.4 The manual indicates the machine parts which pose a potential threat. Hazardous areas are marked with yellow stickers with warning symbols. Pay special attention to the hazardous areas and strictly adhere to the rules.

1.7.5 The operator must familiarise themselves with the meaning of warning symbols.

1.7.6 It is forbidden to operate the wrapping machine without the safety guards installed on moving components.

1.7.7 Every time before the wrapping machine is started, check the condition and completeness of the machine and positioning of its safety guards.

1.7.8 Before starting the wrapping machine and before entering public roads, check the attachment of the machine to the tractor.

1.7.9 All adjustment, repair and maintenance works shall be conducted with the tractor engine turned off and making sure that the machine is secured against accidental activation.

1.7.10 Before commencing loading and during this process, make sure that there are no bystanders, especially children, nearby.

1.7.11 During the operation of the wrapping machine, allow for free space near the rotating elements. During the bale wrapping process, no people or animals are allowed near the rotating elements.

1.7.12 Exercise extreme caution when working on an inclined terrain. Note that the bales may roll down slopes.

1.7.13 It is forbidden to operate the wrapping machine with any of the assemblies lifted.

1.7.14 Do not stand between the wrapping machine and the tractor when the tractor engine is running.

1.7.15 Exercise extreme caution when coupling and uncoupling the wrapping machine with/from the tractor. The machine should be coupled with the tractor equipped with a three point hitch able to withstand the vertical load larger than the weight of the wrapping machine. ▶▶ Chapter 1.4.

1.7.16 During operation, use appropriate protective clothing and shoes with anti-skid soles. Chapter 13 accessories.

1.7.17 While loading the wrapping film, the tractor engine must be turned off and protected against accidental activation (ignition key removed, parking brake on).

1.7.18 It is forbidden to operate damaged hydraulic lines. The damaged lines must be immediately replaced with new ones. During the replacement of hydraulic lines, use impermeable protective clothing.

1.7.19 The machine's hydraulic system shall only be operated from inside the tractor's cabin using the hydraulic control control levers installed in the tractor's cabin.

1.7.20 Follow the traffic code regulations and the manufacturer's recommendations when travelling on public roads. ▶▶ Chapter 8.2.

1.7.21 Before entering public roads, perform a visual inspection of the transported machine.

1.7.22 It is forbidden to remain on the wrapping machine during transport.

1.7.23 While travelling on public roads, it is forbidden to transport wrapped swath or silage on the wrapping machine.

1.7.24 It is forbidden to operate the wrapping machine while under influence of alcohol.

1.7.25 It is forbidden to operate the wrapping machine while under influence of drugs or medicines with similar effects.

1.7.26 It is forbidden to operate the wrapping machine while under influence of medicines which affect the ability to drive vehicles or reduce psychophysical health or cause concentration disorders and increase reaction time.

1.7.27 It is forbidden to drive the wrapping machine near sources of open flame.

1.7.28 It is required to strictly adhere to the fire protection regulations and to immediately extinguish any fire which may occur during the wrapping machine use or at its standstill.

1.7.29 Do not approach the working wrapping machine with open flame and do not smoke near the machine.

1.7.30 Every time before commencing work, check if the tractor is equipped with a dry powder extinguisher. If not, place a dry powder fire extinguisher on the tractor.

2 Drive operation

2.1 Drive coupling

The Z552 bale wrapping machine should be coupled with tractors with rated power not lower than 30kW and traction class 0.9 equipped with a three point hitch.

It is advised to couple the wrapping machine with tractors equipped with a front axle ballast.

Make sure that there are no bystanders, especially children, in the coupling area.

During coupling the equipment to the tractor, place the machine in the tractor's axis on flat, level ground. Engage the tractor's parking brake. Couple the machine with a three point hitch.

Check if the coupling is properly connected and secured against accidental disconnection.

Make sure that thetractor's hydraulic system is sealed.

Connect the electric power source. Check if the electric and signalling systems work properly.

Connect the hydraulic power source. Check if the hydraulic systems work properly, especially the lifting and blocking mechanisms responsible for controlling the working and transport positions.

Load the first bale ⏩ (5.4) and make sure that the vertical load on the tractor's front axle is larger than 20% of the tractor's weight. The tractor should remain fully steerable.

2.2 Disconnecting the drive

Make sure that there are no bystanders, especially children, in the wrapping machine's storage area and its vicinity.

Place the raised wrapping machine over the supports prepared earlier. Using the tractor's three point hitch, gently lower the wrapping machine on the supports. Make sure that the machine will not move accidentally.

Disconnect the electric power supply and the hydraulic system. Disconnect the wrapping machine from the three point hitch.

3 Commissioning

The commissioning of a newly purchased bale wrapping machine should be performed under the supervision of an experienced operator or a dealer's service representative.

Before commissioning, familiarise yourself with the following manual, paying special attention to the fragments regarding the safety of the operator and bystanders.

If there are any doubts regarding safety issues, please contact your sales representative or the manufacturer.

Commissioning of the counter

Install the battery powering the wrap counter (▶▶ chapter 5.3.3).

Connect the counter to the revolution sensor using the attached cables.

Lightly press and hold (for about 4 seconds) the C button.

The button needs only to be pressed with the tip of the finger. The counter button is placed under an elastic membrane.

When turned on, the counter indicates „0".
Lightly press and hold (for no longer than 3 seconds) the ON button. The number 16 will appear, denoting the number of bale wraps. Release the button. The indication stops blinking.

Press the button again (hold for not longer than 3 seconds) to change the number of wraps. Holding the button longer with the set number of wraps until the display shows „0" will result in recording the set number of wraps by the counter.

The counter is ready to work.

Lightly press and hold (for about 4 seconds) the C button. The counter will be turned off.

The counter will automatically turn off after about 6 minutes of inactivity, i.e. when it no longer receives impulses from the sensor and any signals from the C button.

Protect the counter against humidity, excessive vibration and hitting the cabin elements, and especially against falling on a hard surface. The meter can be fixed using its back surface catch.

If the counter is fouled, clean it using a damp cloth with a mild detergent. Do not use organic solvents for cleaning (acetone, gasoline, „nitro" solvent etc.) as the counter's casing may be damaged.

Protect the meter from water, chemical agents, direct atmospheric precipitation, frost, high temperature in excess of 50°C and direct exposure to sunlight.

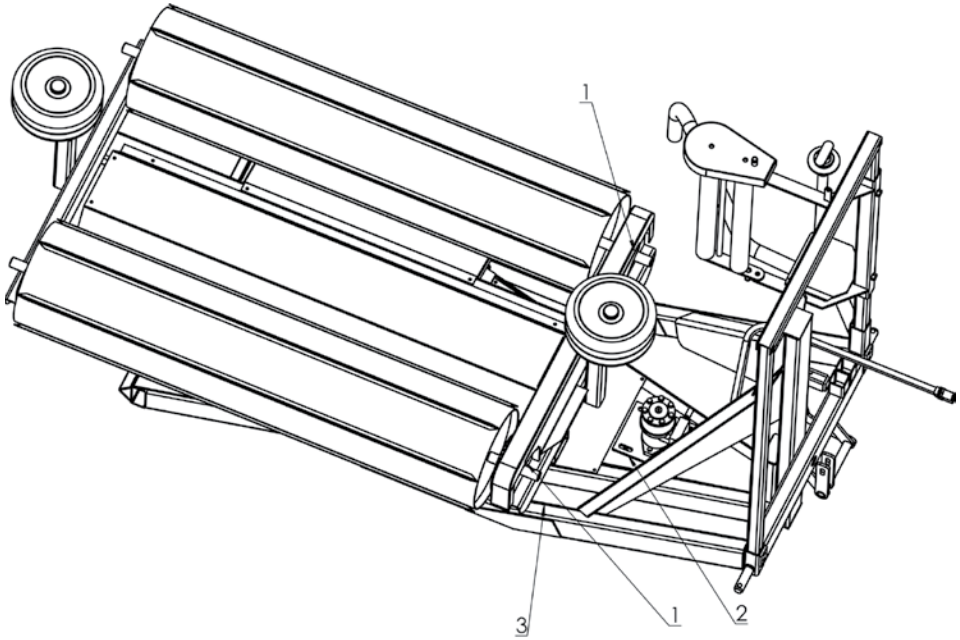
4 Controls and ongoing adjustments

4.1 Location of the controls

The machine should be operated from inside the tractor's cabin using the tractor's hydraulic controls.

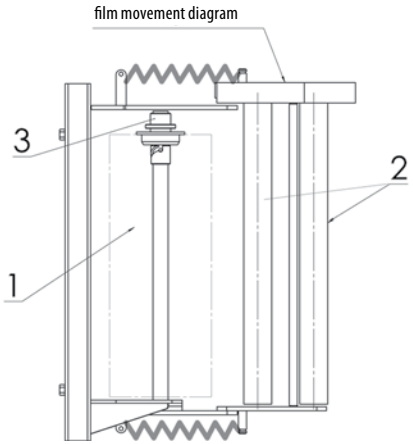
The location of the hydraulic controls is specified in the tractor operating manual.

4.2 Location of ongoing adjustment points

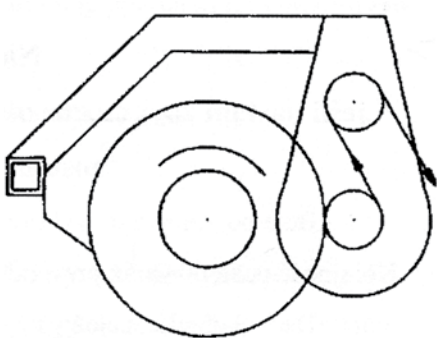


Drum chain tightening	item 1
Drive chain tightening ⏩ 5.6	item 2
Revolutions sensor	item 3

Wrapping film feeder



Film movement diagram



With each revolution of the rotating frame, the bale and film rotate by a certain angle around the horizontal axis, which causes the consecutive layers of film to be wrapped tightly around the bale.

5 Wrapping machine operation

5.1 Installing the film

Place the film roll on the feeder pin in the following order (see diagram):

- Deflect the support with rubber rollers (item 2).
- Remove the handle with the nut (item 3) from the pin.
- Put the film roll from above (item 1).
- Secure the film roll with the handle with the nut (item 3).
- When installing the roll of film, place its internal, sticky side towards the bale axis.
- Release the rubber rollers (item 2) and check the pressure on the film.
- Pull the film through the rubber rollers (item 2) as indicated on the diagram located on the rubber roller gear cover.
- Pull the end of the film so that it may be easily handled in the machine.

If the pressure exerted on film rollers (item 1) by rubber rollers (item 2) is not equal, the rod on which the roller is installed needs to be bent correctly.

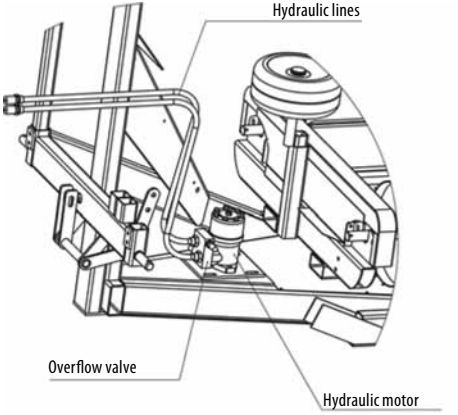
The wrapping machine is pre-set to use 500 mm film.

Note:

Maintaining the rolls in good condition, especially their edges, minimises the risk of the film breaking while wrapping.

5.2 Hydraulic system

The wrapping machine's hydraulic system is powered from the tractor's hydraulic system. To connect the machine to the tractor's hydraulic system, the attachment cables are connected to the machine's hydraulic motor (7). ⏩ Chapter 1.2.



The hydraulic motor powers the drums (4) with the loaded silage bales by means of the chain transmission.

The control over the engine and hydraulic cylinders is performed using the control levers located in the tractor'scabin.

5.3 Wrap counter
5.3.1 Wrap counter system
L-01 wrap counter

The wrap counter is an electronic device used for counting the wraps on a bale and may be used on all types of wrapping machines.

The wrap counter should be installed in the tractor's cabin in a place where it is visible and accessible to the operator.

Protect the counter against humidity, excessive vibration and hitting the cabin elements, and especially against falling on a hard surface. The counter can be fixed using its back surface catch.

Protect the counter from water, chemical agents, direct atmospheric precipitation, frost, high temperature in excess of 50°C and direct exposure to sunlight.

The counter kit comprises of:

- pre-programmed counter in a plastic casing,
- revolution sensor;
- bundle of wires;
- multi-contact connection.

The revolution counter attached to an unmoving part of the wrapping machine operates in conjunction with a magnet attached to the rotary table which passes impulses to the revolution counter. Each rotation of the bale is counted and displayed on the revolution counter display. When the programmed number of revolutions is performed, the counter signals the completion of the wrapping with a blinking light and a sound signal. The counter may be programmed to a required number of revolutions between 16 and 24.

Revolution sensor

Connect the counter to the revolution sensor using the attached bundle of cables.

Placement of the revolution sensor - ⏩ chapter 4.2.

Protect the wires connecting the sensor with the revolution counter against accidental mechanical damage.

Protect the connections of the wires with the revolution counter against accidental uncoupling.

5.3.2 Switching the system on and off

Press and hold (for about 4 seconds) the ON button.

The button needs only to be pressed with the tip of the finger. The counter button is placed under an elastic membrane.

When turned on, the counter indicates "0".
The device is turned off in a similar manner. Lightly press and hold (for about 4 seconds) the OFF button.

The counter will automatically turn off after about 6 minutes of inactivity, i.e. when it no longer receives impulses from the sensor and any signals from the C button.
Turning off the counter will not change the programmed number of wraps.
The programmed number of wraps is remembered by the counter until it is reprogrammed or until the battery is removed form the device.

Der Gebrauch von harten Gegenständen zum Drücken des Einschalt/Ausschaltknopfs droht mit der Beschädigung der elastischen Membrane.

5.3.3 Working with the counter in counting mode

Setting the wrap number

Lightly press and hold the ON button. The display will blink and display the last programmed setting (16 or 24 wraps). Release the button. The indication stops blinking.
Press the button again (hold for not longer than 3 seconds) to change the number of wraps. Holding the button longer with the set number of wraps until the display shows „0" will result in recording of the set number of wraps by the counter.

The counter is ready to work.
The programmed number of wraps is remembered by the counter until it is reprogrammed or until the battery is removed form the device.
Turning off the counter will not change the programmed number of wraps.

Battery replacement

Use a new battery for every field work season. Replace the battery for a new one when the previous one is depleted.

When the battery becomes depleted, the numbers on the counter will fade, the contrast will be low, etc.

Remove the battery box cover to replace the batteries. Remove the battery and disconnect the power supply cable. Connect the new battery, paying attention to the polarity of the power supply (the lock on the battery will only fit in one position), place the battery in the battery box and close the lid. Check the operation of the counter by turning it on. Use a standard 6F22 9V battery or a 6LR61 alkaline battery.

5.4 Wrapping

Warning: Before commencing work, check:

- whether the wrapping machine is properly attached to the tractor's three point hitch;
- whether the wrapping machine is properly lifted by the tractor's three point hitch;
- smoothness and direction of the rotary frame and drums movement - the rotary frame should rotate counterclockwise.

The bales should be wrapped only in positive temperatures.
The bales should be wrapped in their storage area. By avoiding unnecessary transport of bales, the risk of the wrapping film being damaged is minimised. Conduct the service and maintenance following the manufacturer's recommendations. Pay particular attention to the initial tensioning of the film (65-80%)[1]. A worn or unlubricated tensioning mechanism may cause the film to be wrapped too tightly. The film tensioning level must not exceed 70%.

[1] Mark two vertical lines on the film roll in a distance of about 10 cm from each other. The distance between the lines of 17 cm after tensioning represents 70% initial film tension. The width of the film measured at the end of the bale may not be lower than 400 mm when using 500 mm film and not lower than 600 mm when using 750 mm film.

Supplying the bales.

To load the bales, only use lifting devices with lifting capacity appropriate to the weight of the rolled material.

Place the frame with the drums along the tractor - wrapping machine axis placing the white roller on the right[2] side. Load the bale through the white roller. Adjust the bale placement in relation to the side wheels. Place the roller catch so that the centres of the rollers and the bale were at the same height.

Pull the film at the first bale as far as possible from the feeder and attach it using the string binding the bale. Smoothly turn on the hydraulic motor of the wrapping machine. Maintain the engine revolutions at 1500 RPM while wrapping. Wrap at least 4 layers of film so that each of them is overlapped in 50%.

We advice that the user finishes wrapping after 24 revolutions of the rotary frame. Smoothly turn off the hydraulic motor. Secure the end of the film. A properly wrapped bale has four layers of the wrapping film around it.

[2] The sides of the machine, similarly to the sides of the tractor, are established while facing the driving direction.

Note:
Before turning on the rotary frame drive, make sure that there are no bystanders in the working area.

Maintaining the rolls in good condition, especially their edges, minimises the risk of the film breaking while wrapping.

Note:
Before wrapping, check:

- whether the wrapping machine is properly attached to the tractor's three point hitch;
- whether the hydraulic lines are properly connected;
- whether the revolutions counter system is properly connected.

Do not wrap bales during precipitation.

If the bale is wrapped too tightly, halt the wrapping process. Establish the cause of excessive film tension. Set the proper film tension. Resume the wrapping process.
Use the bales within 12 months from their wrapping date.

5.5 Unloading the wrapped bale

Stop the rotary frame placing the drum axes perpendicular to the tractor-machine axis with the white roller in the rear.

By pulling the handle release the locking pin and unlock the lower frame (to unlock the lower frame, the operator must use the pin release handle which is available as a part of the optional equipment - ⏩ chapter 13).

Using the three point hitch, lift the wrapping machine causing the tilting of the lower frame and unload the bale at the same time tightening the film.

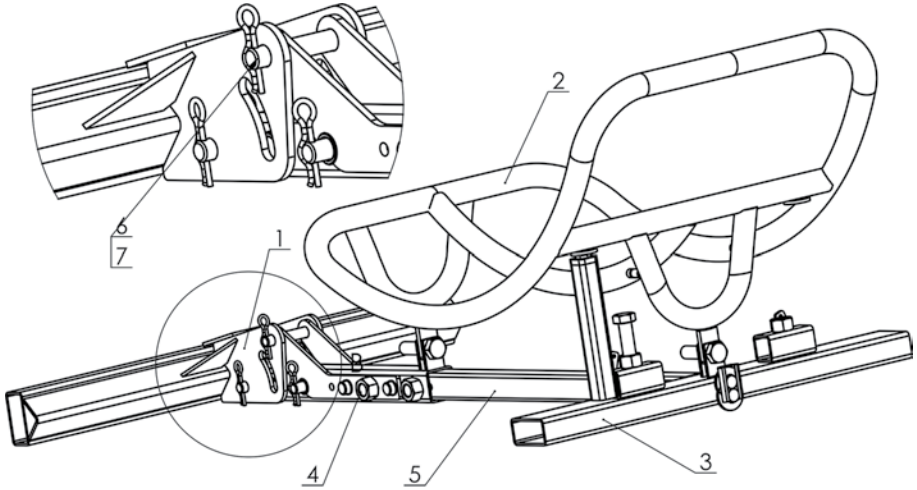
Lower the wrapping machine to its working position and lock the frame.

Rotate the rotary frame with the drums to its initial position, as during the first loading (white roller on the right). Do not cut the film.

Load another bale on the wrapping machine with the film tightened. Start the wrapping process.

Metal-Fach offers a supply of additional equipment

Bale vertical positioning system

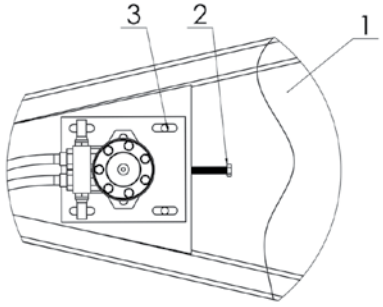


The bale vertical positioning system allows to place the rolled bale vertically during the unloading, minimising the risk of damaging the wrapping film.

The vertical positioning system should be attached to the tilting frame as shown on the diagram above.

5.6 Drive chain adjustment

Two chain transmissions are used in the Z552 bale wrapping machine. After wrapping the first 10 bales, the tensioning of the drive chains needs to be adjusted. Remove the chain cover (item 1). Loosen the 4 M12 nuts (item 2). Turn the M12 screw in the chain tightening mechanism (item 3) so that the chain has a 20 mm slack after tightening. Tighten the 4 M12 screws (item 2). Install the chain cover.



Check the tightening and chain condition periodically after wrapping every 120 bales.

5.7 Finishing work

After the work is complete, disconnect the revolution counter, remove the battery and secure the revolution sensor against humidity.

Before storing the wrapping machine for a longer period, disassemble and place the impulse sensor in a dry storage room.

Secure a space free of bystanders, especially children, in the storage area.

Lower the machine onto supports placed on a hard, flat, level ground. Disconnect the hydraulic power source and the electric power supply. Disconnect the wrapping machine from the tractor's three point hitch.

It is forbidden to disconnect the wrapping machine from the tractor when there is a bale on the rotary table.

Clean the machine and control its condition, paying special attention to the quality of the paint coat. If it is required to make some touch-ups, it is advised to use the paint repair kit supplied by the manufacturer.
Protect the rubber elements, i.e. hydraulic lines, against direct sunlight.

6 Regular inspection

6.1 User inspection

After every use of the wrapping machine, check:

- the condition and legibility of the data plate and symbols;
- condition of connection elements;
- hydraulic system leakproofness;
- drive chain of the rotary frame;
- drive chains of the rotary drums.

The nameplate must only be replaced at an authorised repair shop.

Replace the unintelligible symbols with new ones.

After the working season is over, grease the drive chain of the rotary frame and the drive chains of the rotary drums using the LT-43 grease.

Send the counter to an authorised service if the casing is damaged. Any attempt to repair the damaged counter will result in the warranty becoming null and void.

Replace the hydraulic lines every 5 years. Before every work season check (without a silage bale loaded) the operation of the transmission system by turning on the rotary table, raising and lowering the rotary table and raising and lowering the loading arm.

If the counter is fouled, clean it using a damp cloth with a mild detergent. Do not use organic solvents for cleaning (acetone, gasoline, „nitro" solvent etc.) as the counter's casing may be damaged.

6.2 Service checks

Periodical service checks shall be performed after every two working seasons of machine use.
It is advised to use original replacement parts which will help maintain the wrapping machine in good technical condition for a long time.

Conduct the service and maintenance following the manufacturer's recommendations.

7 Authorised service

7.1 Warranty service

The manufacturer issues a warranty on conditions described in the warranty card. During the period covered by the warranty, repairs shall be made at authorised service stations or at the manufacturer's service station.

7.2 Ongoing maintenance

After the period covered by the warranty it is advised to perform periodical inspections, adjustments and repairs at authorised service stations.

7.3 Ordering replacement parts

Spare parts should be ordered from resellers or directly form the manufacturer stating the name and surname of the user or company name and address, name, symbol, serial number and year of manufacture of the machine, catalogue name of the part, catalogue number, number of drawing or standard, number of ordered items and agreed terms of payment.

8 Transporting the wrapping machine

8.1 Load transporting

The wrapping machine is suitable for road and rail transport using carriers with appropriate load bearing capacity.

For loading on a means of road transport, use lifting devices with lifting capacity appropriate for the machine's weight including a loaded roll of film.

The lifting device should be operated by experienced operators with appropriate qualifications.

It is forbidden to transport the wrapping machine with a bale of silage or swath loaded on it.

It is forbidden to load the wrapping machine with a bale of swath or silage on it.
The transported wrapping machine must be securely fastened to the carrier vehicle.

8.2 Driving on public roads

For transporting the machine on public roads, tractors equipped with a three point hitch with a rated power not lower than 30kW and traction class not lower than 0.9 equipped with a transport hitch may be used.

Before entering a public road:

- Place the rotary frame in its transport position so that the drums are locked parallel to the wrapping machine's axle.
- Disconnect and properly secure the hydraulic cables.
- Place the red and white warning symbols equipped with integrated lights, connect them to the tractor's electric system and check their operation.
- Place the triangle denoting slow-running vehicles in the stand in the rear.

Before starting the wrapping machine and before entering public roads, check the attachment of the machine to the tractor.

It is forbidden to carry bales of silage on the rotary table.

Before entering public roads, check if the tractor is fully steerable. With the wrapping machine raised, the load on the front axle must be at least 20% of the tractor's own weight. If this condition is not met, additional weight is required on the front axle.

While driving on public roads, the speed should be appropriate to the existing conditions and not exceeding 20 kph.

Follow the traffic code regulations and the manufacturers recommendations when transporting the wrapping machine on public roads.

If an emergency requires the driver to stop the tractor with the wrapping machine in tow on a public road, the tractor driver should:

- stop the vehicle without causing any danger to the road users and without blocking traffic;
- stop the vehicle as close to the road edge as possible and parallel to the road axis;
- turn off the engine, remove the ignition key, engage the parking brake and place wedges under the wrapping machine's wheels;
- outside a built-up area, the warning triangle should be placed 30 - 50 meters behind the vehicle and the emergency lights must be activated;
- while driving in a built-up area, turn on the emergency lights and place the warning triangle in the stand on the rear of the machine. Make sure that the triangle is visible to other road users;
- in the event of a breakdown, take the required precautions to ensure safety in the area.

9 Wrapping machine storage

The wrap counter should be stored in a dry place with the electrical connections protected against fouling and humidity. Store the wrapping machine on stands placed on hard, flat, level ground.

It is advised to store the wrapping machine in a dry location, protecting it against UV rays and other harmful agents.

Store the wrapping machine in an atmosphere free of aggressive agents (e.g. ammonia, chemicals).

If the wrapping machine is stored without any canopy roof, protect it with a water-resistant tarpaulin or film.

After the working season is over, clean the wrapping machine and check the condition of the protective paint coating. Touch up the damage to the paint coating at a service workshop.

Check the condition and legibility of the nameplate. If the plate is damaged, notify the service station.

Check the condition and legibility of the symbols. If they are damaged, replace them with new ones.

10 Hazards

10.1 Description of residual risks

Residual risk results from incorrect actions of the wrapping machine's operator. The greatest hazards occur during the following forbidden actions:

- installation of the wrapping machine on tractors which do not meet the required minimum criteria stated in this manual;
- standing below raised lifting components of the machine;
- standing in the machine's working area;
- maintenance or repairs conducted with the tractor engine on;
- use of damaged hydraulic lines;
- machine operation by an operator standing outside the tractor's cabin;
- operating a wrapping machine which is damaged or without protective covers in place;
- operating the wrapping machine on slopes with an inclination exceeding 8°;
- transporting bales of silage on the wrapping machine;
- remaining on (aboard) the machine when it is working or during transport;
- misuse of the wrapping machine;
- leaving the wrapping machine unsecured on inclined terrain;
- standing between the tractor and the machine while the engine is running.

With the aforementioned residual risks, the bale wrapping machine is regarded as a machine which has been designed and built according to the current state of technology.

10.2 Assessment of residual risks

Follow these guidelines:

- Read and understand the operating manual.
- Do not stand below the raised lifting components of the machine.
- Do not stand in the machine's working area.
- The maintenance and repairs of the wrapping machine should performed at authorised service workshops.
- The machine should be used by trained and authorised operators.
- Protect the wrapping machine from access by children and bystanders.

Kann die Restgefahr bei der Anwendung der Wickelmaschine ausgeschlossen werden und als Folge kann die Arbeit mit der Maschine keine Gefahr für Menschen und Umwelt darstellen.

Note:

The residual risks are present when the aforementioned manufacturer's rules and indications are not followed.

11 Wrapping machine disposal

Disassembly and disposal of the wrapping machine should be performed by specialised service stations familiarised with the construction and functioning of the machine. Only specialised service stations have a complete and up-to-date knowledge of the used materials and hazards related to their improper transport and storage. The authorised service stations offer both advice and complete machine disposal services.

Use proper tools and auxiliary equipment for the disassembly (jack, wheel extractor).

The used oil must be stored in sealed containers. Immediately dispose of the oil at fuel stations which collect such materials.

Deliver the dismantled and segregated parts to appropriate collection points.

During the disassembly of the machine use proper protective clothing and shoes.

12 Typical problems and their remedies

No.	Problem	Possible cause	Remedy
1	2	3	4
1	The wrapping machine works too slowly.	Not enough oil in the tractor's hydraulic system	Check the oil level in the tractor. Top up oil.
2	Oil leaks	Worn seal rings	Replace seal rings.
3	The rotary frame does not rotate.	Broken or slack chain	Replace or tighten the chain.
		Hydraulic motor damaged	Check the engine condition. Contact the service agent.
4	The bale does not revolve around its axis.	Broken or slack drum chains	Replace or tighten the drive chain.

13 Accessories

The user may purchase the following optional and additional equipment at an authorised reseller or directly from the manufacturer:

- Spare parts catalogue on a magnetic storage medium.
- Spare parts catalogue - printed version.
- Bale vertical positioning system ⏩ par. 5.5.
- Integrated lights required for travelling on public roads ⏩ par. 8.2.
- Warning triangles for slow-running vehicles ⏩ par. 8.2.
- Locking pin release handle ⏩ par. 5.5.
- Paint touch-up kit ⏩ chapter 5.7.

14 Names and abbreviations

Nameplate - plate with information which unequivocally identifies the product

Symbol - information plate

OH&S - Occupational Health and Safety

Hitch, transport hitch - coupling elements of the tractor ⏩ See the tractor's operation manual.

UV - ultraviolet radiation; invisible electromagnetic radiation which may have a negative influence on human health; UV radiation also has a negative effect on rubber elements.

Traction class - value which characterises the towing power of a given tractor, class 0.9 refers to a towing power of 9kN, Ursus C355 and 4011 are exemplary tractors of this class.

kW - kilowatt, unit of power

V - volt, unit of voltage

bar - unit of pressure

kg - kilogram, unit of mass

m - meter, unit of distance

mm - millimetre, auxiliary unit of distance equal to 0.001 m

min - minute, auxiliary unit of time equal to 60 seconds

rev - revolution, type of movement

RPM - revolutions per minute, unit of rotational speed

kph - kilometres per hour, unit of speed

db(A) - A-scale decibel, unit of acoustic pressure

Bale wrapping machine warranty card

Warranty card
Z552 Bale wrapping machine

Metal-Fach
ul. Kresowa 62
16-100 Sokółka

Bale wrapping machine Z522 **Serial number: ..... Year/date of manufacture.....**

FILLED BY VENDOR

Date of sale .....

The warranty service is provided on behalf of the manufacturer by: .....

Reseller's stamp, legible signature of the dealership representative

Name and surname of the Customer..... Signature .....

City, post code.....

Street, number..... Telephone.....

Warranty conditions

1. The manufacturer provides a bale wrapping machine designed and built in compliance with the currently applicable standards. The manufacturer guarantees that the supplied bale wrapping machine is free of manufacturing defects.

2. Metal-Fach Sp. z o.o. provides warranty service for 12 months starting from the date of first sale, provided the wrapping machine is used for its intended purpose and the recommendations contained in the manual are followed.

3. The warranty card properly filled in at the Dealership is the confirmation of the manufacturer's warranty; the acceptance of the warranty conditions must be confirmed by the customer's signature.

Warranty conditions

4. The quality warranty covers the machine's defects caused by defective manufacturing, material defects and latent defects.

5. The warranty does not cover the assemblies and parts which are subject to normal wear (e.g. tyres, brake pads).

6. The warranty does not cover any mechanical damage or other damage resulting from improper use, improper maintenance or improper adjustment of the wrapping machine.

7. The warranty does not cover any damage resulting from improper storage of the machine.

8. Any unauthorised modifications in the construction of the machine introduced by the user will result in automatic termination of the warranty.

9. The manufacturer shall not be held responsible for any loss, damage or destruction of the product resulting from causes other than defects of the supplied machine.

10. During the warranty period the manufacturer will repair any defects which occurred as a result of the manufacturer's negligence with the exception of defects listed in paragraphs 5 - 8.

11. The warranty repair shall be made within 14 working days of the notification/ supply of the machine to the designated service station or at other time agreed upon by the parties.

12. The warranty is extended by the time required to complete the repair.

13. During the warranty period all repairs which are not covered by the warranty are performed by the authorised service stations at full cost to the user. Before such repairs, the service station will inform the user of the suggested cost, time and scope of the repair.

14. The decision whether to commence a chargeable repair of the wrapping machine with a warranty valid at the time of repair is made by the Customer.