

USER MANUAL

Carefully read these instructions before starting and using your log loader!

- Set-up & installation
- Use
- Maintenance
- Accessories



Holzrückezeange HRZ FIX - EZ



We manufacture
in Germany!



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1. GENERAL INFORMATION

Dear customer, thank you very much for your trust and preference in choosing our equipment and joining the number of our best customers in the world. We are confident that our equipment will be up to all your expectations and assure you a long lasting quality and performance.

1.1 About this manual

Please take time to read this manual and learn to how operate and maintain the equipment safely.

For your easier reading this manual is laid out in several sections. The sections are progressively numbered 1 through 14 and listed on the "content" page.

The information, pictures and technical data in this document reflect current or planned product features, functions, and characteristics as of the publication date. Because of on-going product improvement and feature additions, information in this document is subject to change without notice.

If you are experiencing a problem or functional trouble on your equipment, please read the "trouble-shooting" section to identify possible causes and remedies.

When you have checked all the possible causes listed and you are still experiencing the problem, ask your Authorized Service Centre for help.

When you order parts for maintenance or repair services, your Authorized Service Centre, your dealer or eventually the manufacturer need your machine serial number and engine serial number. These are the numbers that you have recorded on the product identification label of the manufacturer on the machine.

1.2 Delivery and transport claims

Upon delivery of the machine please check for visual machine damages such as broken packing or scratched buckled parts. If so, make a remark on **all** copies of the delivery bill (including the one for your own use) before signing for acceptance.

Should your shipper or the truck driver refuse to accept your claim and countersign the delivery bill, fully reject delivery and make sure to inform us (the manufacturer) immediately. No claims shall be taken into account by the shipper or by the insurance company, if a reservation note is not made on the delivery bill.

All transport damages must be notified within latest 2 days from delivery. Thank you in advance for your help and understanding in this matter. Therefore delivery must be collected and inspected within this term. Later claims shall be disregarded. In case of assumed but not visually clear transport damages make sure to mark the following sentence on the delivery bill: „Reserved delivery due to assumed transportation damages“.

Insurance and shipping companies act with extreme caution in case of transport damages and sometimes refuse to accept responsibility. Please make sure to provide clear and exhaustive evidence (photos) of the claimed damages.

Thank you in advance for your help and understanding in this matter.

2. SAFETY PICTOGRAMS AND WARNING



1. Identification label „Product identification“

This label shows the company details of the manufacturer and the main machine technical data.



2. „BGU-Maschinen“ Manufacturer's Logo



3. Machine safety label

„Read the instructions before start-up“

Read, understand, and follow all instructions in this manual and on the machine before starting!



4. Safety pictogram

„Do not infringe the dangerous zone“

Avoid standing in the dangerous zone between the tractor and the log loader.



5. Safety pictogram

„Danger Pinch Point“

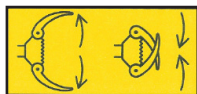
Keep hands away from this danger zone till all moving parts have come to a complete stop.



6. Safety pictogram

„Caution: operating zone“

Stand clear: do not allow bystanders in the dangerous operation area while the machine is at work.



7. Pictogram: „Grapple Release/Grasp“



8. Pictogram „Hydr. Motor“



9. Pictogram „Pivotal Hanger UP/DOWN“



**10. Safety pictogram
„max. operating pressure“**

3. SAFETY



Strictly perform installation, set-up, maintenance, cleaning and transportation with the engine switched off and all moving parts firmly secured against accidental operation. Immediately disconnect power off the machine in case of any eventual fault or trouble.

The user shall strictly comply with these operation, set-up, maintenance, repair and trouble-shooting instructions in order to assure safe operation and no damages to the equipment. Moreover we recommend to let the machine be run and maintained strictly by trained and skilled staff who must be familiar with the applicable occupational safety and health administration rules as well as applicable transportation rules. Incorrect use of the saw can cause serious injury or death.

No person under school leaving age should operate a log loader. Those who have reached school leaving age but are below the age of 18 may operate a log loader if supervised by a competent person of 18 years or over. The machine shall be installed and kept in a suitable location selected by the customer for safest operation.

Make sure that the equipment stands on a safe stable foundation.



Do not allow within the hazardous zone any unauthorized third or persons who are not familiar with the dangers related to use and operation of the machine. Allow no bystanders, especially children and pets in the working area.

- Log loaders are not designed for passengers transportation.
- Strictly control/operate the log grapples from the driver's seat on the tractor.
- Do not allow any thirds in the dangerous zone. The dangerous zone includes the swivel/rotation area as well as the bucket and grapples operation (grasp/release) area. Provide due clearance around the log/timber handling zone.
- Make sure to firmly close the clamp and park it across travel direction when at rest.
- Make sure that the grapple is hanging free so that slewing to both sides is possible during travel on uneven ground/terrain.
- When you pull/hand timber always keep in mind that lurching or other sudden, flicking movements of a suspended/pulled load may occur due to timber flexibility and bounciness. Mind for the safety of your fellow workers and take due measures to keep the work area free from other thirds and obstacles. Maintain safe distances from other ground workers and equipment units.

- Perform logs piling and general rolling operations with extreme care and at very low tractor speed. DANGER: watch for timber/branches that may fall on or enter the operator's compartment.
- Changing the length setting of the extendible arm may be strictly performed with the butt plate lowered on ground, the grapple clamped and the tractor engine switched off. Also make sure to disconnect the hydraulic system and protect it against accidental restart.
- When travelling across a slope or turning around a bend with a suspended load, always maintain a low gear to avoid any danger to the tractor in the event of possible skidding, jamming or canting of a log and consequent dangerous rollover.
- Immediately repair or replace eventual faulty hydraulic components.
- Do not let hydraulic pressure hoses lay unprotected in the driver's cabine after installing and connecting the control valve unit (control slide valve / electric valve).
- Always wear suitable protective gloves when doing works on the hydraulic system. AVOID HAND CONTACT with hydraulic oil.
- BEWARE: a log grapple attached to a U-joint cannot be firmly laid down on ground. To avoid the grapple from rolling over or getting tangled, make sure to secure it before laying down.
- Before replacing or servicing the grapple hanger, secure the clamp against fallover and make sure to strictly grasp the clamp from the sides. DANGER of legs/feet injuries.
- Pinch points will occur any time when converting from fixed to mobile grapple attachment. BEWARE: injured fingers danger.
- If you are using a winch, account for a dangerous area same as at least the length of the rope. Keep this area free from bystanders and unauthorized thirds.
- A rescue/emergency kit for drivers and team safety are mandatory and must be always available in the driver's cabin.

3.1 General safety rules and occupational safety

- Before each new use, check for your tractor operational and road travel safety!
- Mind for all safety pictograms and operation labels on your grapple loader. They are all-important for safe operation and travel!
- **Before** starting with loading operations, familiarize with all safeties and controls on your equipment and with their functions. Do not expect to learn as you practice. Grapple loaders are heavy-duty equipment requiring preliminary training!
- Operators must wear steel toe safety shoes and snug-fitting, tear-resistant work cloths.
- Keep the equipment as free as possible of accumulated limbs and debris, to avoid any fire danger!
- Know where crew members are at all times. Be alert to unexpected workers or operations in the immediate skidding area. Before starting the tractor and beginning to work, make sure that there are no bystanders (especially children) in the surroundings. Be cautious of blind spots around the loader where the operator's visibility is limited!

- Do not allow anybody on the loader during loading or travel operations!
- Connect the equipment in compliance to these instructions and the applicable provisions!
- Work defensively. Think ahead and anticipate hazards. Take special care in connecting/disconnecting eventual attachments to/from the tractor!
- Always have the unit firmly stand on the special outriggers when performing mounting/dismounting works on the machine! (safety and stability)
- Never overload a machine. Carry a load that is safe, within the capacity of the machine, and suitably secured in the special fixation points on the machine!
- Always comply with the admissible axis loads and transport dimensions/clearance!
- Provide and check the functionality of all transport facilities as for instance illumination, warning tools and devices, safeties and protections!
- The disconnectors of the quick-action couplings must hang loose. Avoid self-disconnection in the lower section!
- Never leave the operator's stand during travel!
- Travel, steering and braking performance are affected by the use of hanging ballast on the machine. Always keep at safe distance for steering and braking!
- When taking turns please mind for both the outreach and/or rotating mass of the equipment!
- Make sure that all safeties and protections are duly in place and operating before starting to use your equipment!
- Strictly start log loading operations when all workers are clear of the area!
- Keep the turning/slewing area of the equipment clear from any obstacle!
- Make sure that no persons and no obstacles are within the slew range before operating any of the hydraulic folding frames.
- BEWARE of pinch hands danger on all moving parts (for instance hydraulic attachments)!
- Always keep at safe distance from any manually folding/flapping attachments!
- Before leaving the tractor, make sure to lower the grapple down on ground, switch the engine off and remove the keys from the ignition!
- Make sure that no persons stand in the dangerous zone between the tractor and the trailer unless due measures were taken to prevent the vehicle from rolling away (for example engaging the parking brakes and using additional wheel chocks for increased safe)!
- Folded frames and telescoping hoisting devices must be duly secured in the transport position!

4. OPERATION

4.1 Mandatory application field

Grapple loaders are strictly designed for woodlot owners to pull, handle and manipulate timber logs. They are purposely designed with attachment lugs to allow for very practical pulling operations by means of log-ging chains. The maximum working pressure of the grapple is 180 bar.

This loader is available in the following versions: HRZ FIX - EZ for rear attachment to a 3-point linkage Cat. 2

Suitable for tractor power: 40-90 kW

DO NOT ATTACH THE LOADER to more powerful tractors. DANGERS of even permanent loader damages.

Make sure that a suitable forestry/rescue kit is available in the driver's

cabin at all times and take due measures to ensure safety of the tractor driver during all operations. If you are attaching a winch to your equipment, mind for user instructions of the winch manufacturer too.



Any other application (i.e. handling loads off any higher level than the surface on which the tractor stands whenever the load exceeds the capacity of the tractor inbuilt hydraulics) will be considered as misuse and is therefore strictly prohibited!

Misuse will completely void your warranty.

The manufacturer accepts no liability for personal injuries and damages to other equipment caused by misusing the machine.

4.2 Preliminary controls before use

Attaching to the tractor

- Attach the equipment to the three-point linkage of your tractor using the 25 mm pins and cotters supplied by the manufacturer with the loader.
- Connect the hydraulic hoses of the loader to your tractor hydraulics.
- Provide for best linkage to your tractor making use of the most convenient hitching points out of the ones available on the loader.
- Use your tractor hydraulics to pull and then gradually lift the loader up. When lifting from the front the lift boom will go so far down that the cab might get damaged. Risk of getting jammed! Work with extreme caution.
- Install the extendible arm acting in strict compliance to A (see safety tips)



Sudharzer Maschinenbau GmbH will accept no liability for the state and conditions of your tractor three-point linkage. Make sure to install the loader so that no damage can occur to the driver's cab during off-road travel or with lifted hydraulics.

4.3 Start-up

Operating instructions

- Perform hydraulic operations while seated in the machine: never from the ground.
- Always set the top grapples and the rotator on the float position of the control valve before starting to winch heavy trunks.
- Know where crew members are at all times. Be alert to unexpected workers or operations in the immediate dangerous/loading area.
- Do not use the grapple to handle trunks that are smaller than 8 cm in diameter unless you can bundle and lift them together.
- To assure trouble-free braking and steering of the loader travelling with a suspended load, at least 20% of the vehicle own weight shall still be arranged on the on the front axle. The exact amount of ballast weight that one can use, must be obtained from your tractor supplier.
- Travel performance much depends on the ground/road conditions and the attachments to our equipment. Always drive cautiously and defensively minding for your route at all times.
- When not in operation, always lower the boom and rest the grapple on the ground.
- Check the fixation bolts and the respective cotter pins before start-up.
- Close the grapple and set it across travel direction before operating the unit without a load (unloaded state).



Close the grapple and position it across the travel direction when travelling without a load. DANGER! Travelling with open grapples may induce even permanent damages to your grapples.

Use rigid or movable grapple suspensions depending on the type of timber to be handled.

4.4 Attachments

- Before mounting and dismounting any attachment to/off the three-point hitch, adjust the related operating controls so to avoid any accidental raising/lowering.
- Make sure to attach the loader to a tractor of required power and hitching specifications!
- Typical injuries resulting from getting caught in a three-point-hitch are amputations, lacerations and pinch hands. Account the 3-point hitch a dangerous area and move cautiously around it!
- Never stand between the tractor and the loader when using three-point linkage external operation!!
- While setting the equipment in its transport position always provide for sufficient side detent of the three point hitch!
- While travelling on road with the raised loader, always secure the control levers against accidental shifting down and make sure to disconnect power from the machine!

5. HYDRAULIC SYSTEM

- DANGER: the hydraulic system operates at very high pressure!
- Mind the correct connection of all hydraulic hoses, as you perform branching of the hydraulic cylinders and motors!
- For due connection of the hydraulic hoses to your tractor hydraulics make sure that no pressure is available on both the tractor and the attachment side!
- For connection of hydraulic loader functions to the tractor make sure to mark both the coupling sleeve and the relevant connector so that no accidental faulty controls can occur! Hydraulic misconnections may lead to dangerously inverted functions (i.e. lifting instead of lowering) and consequent risk of very severe accidents!
- Perform regular inspection of all hydraulic lines and immediately replace any defect or old tube/hose! Replacement hydraulic components must comply with the technical specifications of the original parts supplied by the manufacturer!
- Check the state of all hydraulic hoses, fittings and connectors and seal eventual leaks, if required. Do not check for leaks with your hand. Leaks can be located by passing a piece of cardboard or wood around the suspected leak and looking for discoloration.
- High-pressure fluid (oil) escaping from a very small hole can be almost invisible. Escaping fluid under pressure can have sufficient force to penetrate skin, causing serious injury or even death! In this case seek immediate doctor help! (danger of infections)
- Make sure that the machine is fully disconnected and all moving parts are secured before performing any maintenance/repair work on the machine.
- Worn-out and slacked safety chains will hang out! (the cylinder must be filled with oil)

6. REPAIRS AND MAINTENANCE



Make sure that the machine is fully disconnected and all moving parts are secured before performing any maintenance/repair work on the machine. In the event of any malfunctioning, switch the machine off before trouble-shooting.

- Periodically check the tightness of all nuts and screws and retighten them if necessary!
- When you perform maintenance works with the implement lifted up make sure to efficiently secure it against accidental dropping!
- When changing or replacing any part of the machine make sure to use appropriate tools and work gloves!
- Do not spill oil in the environment. Oils, grease and filters must be disposed in accordance with applicable rules and regulations!
- When performing electric weldings on the tractor and/or eventual attachments, make sure to first perform power disconnection from both the generator and the battery!
- Strictly use original spare parts or parts with equivalent specifications as the original manufacturer's ones!



Completely open the grapples tines and lower the grapple on ground. Disconnect the tractor (or other towing vehicle) before starting any repair or maintenance work. Beware: a loader with the grapple pivotally connected to a universal joint (pivot) will stand at tilt-over risk unless it is firmly supported and secured against collapsing.

The following services must be provided at 10 hour operation intervals:

- Lubricating all moving parts by means of the respective nipple head
- Recommended lubricant: universal lub grease
- Lubricating the extendible lifting arm using a grease brush
- Check the conditions of all hydraulic couplings and hoses
- Tightening all screwed/bolted joints, checking and replacing eventual missing hardware.

Monitoring procedures during work:

- Provide immediate replacement of defective hydraulic lines and couplings or other hydraulic components.
- Rust, dirt and crop debris must be cleaned frequently to allow the piston rod of both the grapple cylinder and the slewing cylinder to operate trouble-free.
- Keep the log fork and the grapples tines clean.
- Replace any damaged, unreadable or missing label on the machine.

7. TRANSPORT AND HANDLING

A switched-off loader stands at instability risk as the grapple keeps hanging pivotally on the universal joint. Always secure the loader against tipping over, folding up and/or collapsing.



Make sure to close the grapple and set it across travel direction prior to rolling without a load.
DANGER: failure to comply with this instruction may lead to grapple damages!

8. DISMOUNTING AND DISCARDING AN OBSOLETE MACHINE

When a machine is fully obsolete and cannot be of use any longer, it should be duly dismantled ahead of discarding. Certain components need deactivation and dismantling in order to assure that no further use is made by other parties and that no worn out parts are recycled for other applications.

During dismantle be alert for possible recyclable materials and components that belong to differentiated waste collection procedures applicable in your country.

The manufacturer is not liable and undertakes no responsibility for personal injuries or damages that may result from the recycling of worn out machine parts and eventual reuse in other applications different than originally stated in this manual.

Dismantling procedure:

Take good note please: each and every dismantling task must be performed by authorized service centres or trained skilled staff only!

- Pull the machine down into single components.
- Deliver each single component only to authorized waste management facilities.
- Drain oil and fuel out of respective tanks and lines before disposal of the machine.
- Remove rubber and plastic parts from the machine that must be separately disposed of.

Deactivated, clamped moving/driving parts and components are of no further risk and danger.

9. TECHNICAL SPECIFICATIONS

Technical specifications	Unit of measurement	
HRZ FIX - EZ		
Rear-mounts to any Cat II tractor from 30 - 80 kW		
Tractor power requirements	KW	ab 30 bis 80
Grapple model HG 1700 included		
Max gripping width	mm	90-1680
Clamping force	t	9,5
egrated moving shield (width)	mm	960 (mit 2 Baggerzähnen)
Grapple pivotal hanger		Schwenkbereich 160° Greiferdrehung
Rotator optional	Nm	1400
	t	4,5 bei 195 bar
Weight	kg	25
Weight without optional accessories	kg	ca. 285

10. ACCESSORIES

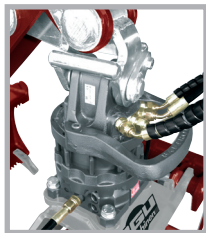


Fig. 1

Rotator

(replacement kit complete with hoses)

1400 Nm, 4.5t for 195 bar, Flange 140x140, 4x M16x50 (Fig. 1)

Code 96255

Rotator

1200 Nm, 4.5 t for 230 bar, Flange 140x140 4x16,

Code 96278



Fig. 2

Hydraulic grapples - Top-slewing arrangement

Code 96260

180° - Slewing range (Fig. 2)

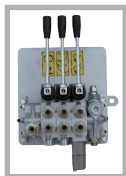


Fig. 3

Hydraulic Control valve

Code 96262 3-sections

Single-lever, sectional construction (Fig. 3)

*Accessories are not available on standard machine versions but can be bought

11. OTHER AREAS OF POSSIBLE HAZARD

11.1 Mechanical dangers

Possible dangers related to machine moving parts are minimized by means of suitable safeties and protections that cannot be removed unless special tools and equipment are used. Do not attempt to remove or by-pass any of the machine inbuilt safeties.

DANGER: removing or by-passing inbuilt machine safeties may result into serious operator's personal injuries.

Make sure to keep bystanders away from the dangerous area and specifically from the grapple during operation.

12. WARRANTY

All our machines are covered with warranty terms in accordance with the law. Customers should promptly notify the manufacturer eventual material or production claims on their detection. While asking for warranty service, customer should show copy of their purchase invoice or receipt. The warranty does not cover for faults due to natural wear, temperature or weather agents as well as misuse, faulty installation or set-up, improper operation and lubrication or acts of vandalism.

No warranty will be given on parts damaged by improper handling, use and application. The manufacturer is further not responsible for warranty service on machines used for other applications than mentioned in this manual, altered or modified by the customer or other thirds, or overloaded. Never attempt to use an incomplete machine or one fitted with unauthorized modifications. Any modifications to your machine can cause personal injuries, and will void your warranty.

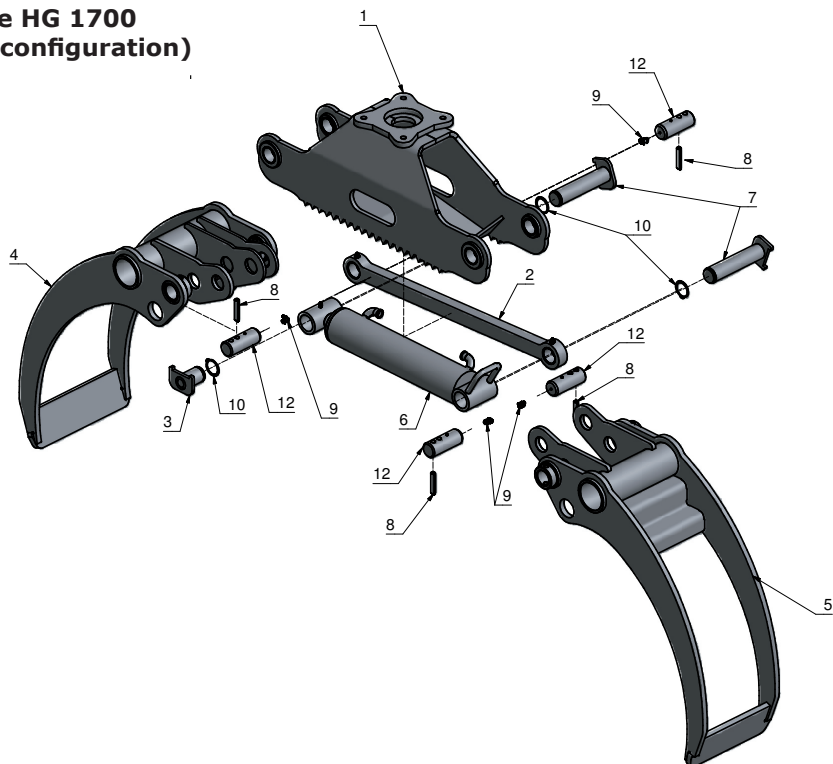
Consumable parts with a prescribed life (i.e. pulleys, tools, blades and various auxiliary materials) are excluded from the warranty as well as adjustment, optimization and fine-setting or retrofitting works.

Basic configuration (without hydraulic)



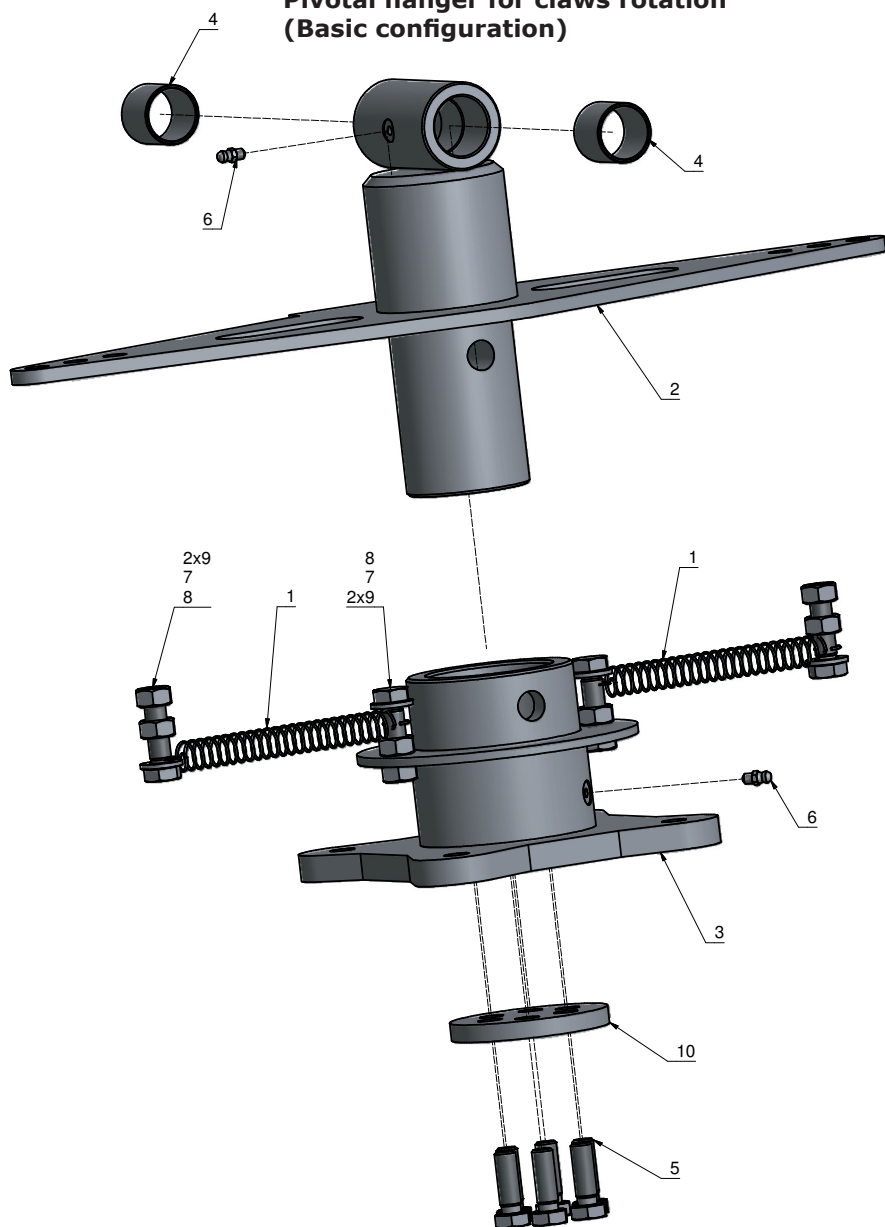
Pos.	Description (HRZ Fix – EZ Basic configuration)	Art.-Nr.	DIN	Dimensions
1	Frame HRZ FIX-EZ, g.	22200		
2	Grapple 1700, kpl.	22349		
3	Joint assembly	22333		
4	Pivotal hanger for claws rotation	22387		
5	Cable guide HRZ Fix -EZ	22820		
6	Top link pin for Cat. 2	55991		40x136
7	Standard bolts 40-120	22835		
8	Top link pin for Cat. 2	55992		25x151
9	Lower link pin Cat. 2	55994		28x151
10	Standard bolts 30-123	22829		
11	Hexagon bolt	55923	DIN 933	M 16x35
12	Hexagon bolt	51480	DIN 933	M 12x40
13	Hexagon nut	51595	DIN 934	M 12
14	Hexagon bolt	51479	DIN 933	M 12x35
15	Hexagon bolt	51477	DIN 933	M 12x25
16	Washer	51652	DIN 125	17
17	Hexagon nut, self-locking	51609	DIN 985	M 12
18	Locking pin	55912		
19	Digger tooth (E 11.1)	55960		
20	Ball lubricator	51163		AM 6x1
21	Ball nipple	53118		
22	Hydraulic HRZ Fix – EZ basic configuration	24359		

Grapple HG 1700 (Basic configuration)



	Description (HRZ Fix – EZ Basic configuration)	Nr.	DIN	Abmasse
1	Grapple housing model HG 1700 (complete assembly)	24033		
2	Parallel guide (complete assembly)	23899		
3	Custom bolts 40-60	22356		
4	Large claw	22353		
5	Small claw	22354		
6	Hydraulic cylinder	55878		
7	Standard bolts 40-178	22355		
8	Dowel pin	55936	DIN 7346	12x60
9	Ball nipple	55937		
10	Ball nipple (on the cylinder)	51676	DIN 471	40
11	Shaft 40-125	51163		AM 6x1

Pivotal hanger for claws rotation (Basic configuration)



Pos.	Description (Pivotal hanger for claws rotation)	Art.-Nr.	DIN	Dimensions
1	Tension spring	55803		
2	Shaft	22379		
3	Grapple link	22383		
4	Bush bearing	55910		
5	Sechskantschraube	51479	DIN 933	M12x35
6	Ball nipple	51163		AM6x1
7	Washer	51650	DIN 125	13
8	Hexagon bolt	51481	DIN 933	M12x45
9	Hexagon nut	51595	DIN 934	M12
10	T-perforated plate	22385		

Pos.	Bezeichnung (Hydraulik HRZ Fix EZ-Serienausstattung)	Art.-Nr.	DIN	Dimensions
1	Hydraulic hose	55940		PHD 208x200
2	Coupling plug	55842		
3	Dust cap	55837		rot
4	Dust cap	55840		blau

14. EC – STATEMENT OF COMPLIANCE

To the EC Machine Directive 42/2006 and EMC directive 2004/108/EC.

We hereby declare that the equipment described in this manual responds in full to the actual version brought on the market. We, the manufacturer further declare that this equipment was duly designed and manufactured in accordance with the actual European Safety and Health Standards settled by the relevant EC directives as well as the latest electromagnetic standards issued by the European Council and later enforced by all member states.

This statement of compliance does not apply to customer modifications of the equipment without manufacturer's consent in which case it will lose its validity.

Machine type: **Grapple Loader**

type: Model: **HRZ FIX - EZ**

Production No.: see model label

Applicable

European Standards: EC Machine Directive 2006/42/EG

Other harmonised Standards
especially:

In order to assure full compliance to these European Standards, the following national codes, standard practices, and Technical Specifications have been implemented: EN 292-1/EN292-2 prEN 1553-1 May 1997 for farming attachments
EN ISO 3767-4 for equipment controlled and operated by a control valve

Person responsible of the technical
documentation:

Jörg Kernstock (Management)

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Date

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Jörg Kernstock (Geschäftsführung)

(Copy for customer's use)



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