



BAUER

FOR A GREEN WORLD

OPERATING INSTRUCTIONS

for

Tractor TURBOMIX
MTXH
Pit and Lagoon



Product details

Type designation: BAUER Tractor Turbomix

Type number:

Serial number¹: Fabrication number of slurry
mixer ²:

Dealer: Name: _____

Address: _____

ph./fax: _____

Date of shipment:

Manufacturer:

Röhren- und Pumpenwerk **BAUER** Ges.m.b.H.
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A - 8570 Voitsberg/Austria
Phone: +43 3142 200 – 0
Fax: +43 3142 200 –320 /-340
e-mail: sales@bauer-at.com
www.bauer-at.com

Owner or operator: Name: _____

Address: _____

ph. / fax: _____

Note: Please make a note of the type and serial number of your mixer and accessories! Be sure to specify these details every time you contact your dealer.

¹In all warranty claims and correspondence relating to this machine it is essential to specify the full serial number group including all letters. This applies to both the machine and the components concerned. We cannot emphasise this point often enough.

² For this number, see the mixer's fabrication plate.

Introduction

Thank you for buying a BAUER Tractor Turbomix!

We are happy to offer you a **BAUER Tractor Turbomix** with latest technology and top quality. Whether you want it for large or small farms, slurry handling cooperatives or private contractors – we offer the right solution for everybody's need.

This manual describes operation and maintenance of the **BAUER Tractor Turbomix**. For reasons of clearness and due to the great variety of models, this Instruction Manual, however, does not contain all details and it cannot describe every case of use and maintenance.

If you need more information or if you are facing problems which are not mentioned in detail in this manual, please contact directly **BAUER** during the usual office hours.

Please note that the content of this manual neither constitutes part of nor alters in any way any previous or existing agreement, promise or legal relationship. **BAUER's** commitment is based solely on the respective purchase contract which also contains the complete and only valid warranty agreement. Said contractual warranty is neither extended nor limited by the content of this manual.

All information contained in the present manual is based on the latest product details available at the time of printing.

BAUER reserves the right to change without notice without assuming any liability!

The **BAUER Tractor Turbomix** is designed for highest performance safety and reliability provided it is operated in accordance with the present operating instructions. Therefore you should study this manual thoroughly before starting your **BAUER Tractor Turbomix**!

Strictly observe all instructions pertaining to system handling, operation and service!

On this condition, the mixer will operate to your satisfaction for many years!

Non-observance of this manual may cause personal injury or damage the equipment!

This manual is to be considered an integral part of the slurry mixer. Suppliers of both new and used systems are advised to put down in writing that they delivered the manual together with the system.

Please make this manual available to your staff. State the type and serial number of your slurry mixer in all inquiries, correspondence, warranty problems, or parts orders. For these numbers, see the fabrication plate of the slurry mixer.

We wish you a lot of success with the BAUER Tractor Turbomix!

General Safety Instructions

Symbols



The CE symbol that has to be affixed on the machine by the manufacturer outwardly demonstrates compliance of the machine with the directives for machines and other relevant EC directives.



WARNING!

This "Warning" symbol refers to important safety instructions in this manual. Whenever you see this symbol be aware of possible injury hazards. Read the note following the symbol very carefully and inform the other operators accordingly.

CAUTION!

Non-observance of this instruction may cause damage to or destroy the machine or individual components.

NOTE

It is very important to observe this note or condition!

Definition of terms

Qualified operators are persons who on account of their training, experience and instruction as well as their knowledge of relevant standards, rules, precautions to be taken for accident prevention, and prevailing operating conditions, have been authorised by the person in charge of plant safety to perform the respective tasks required, and in doing so are able to recognise and avoid potential hazards. Among other things, knowledge of first-aid procedures is also required.

Use comprises set-up, start (preparation for use) and operation (manipulation, switching on and off etc.).

Maintenance comprises check and care (inspection, revision), reconditioning and service (trouble-shooting and repair).

Observing all other instructions not highlighted and relating to transportation, assembly, operation and maintenance as well as all technical data (contained in the operating instructions, in the product documentation and directly on the machine), however, is essential in equal measure to avoid troubles that could cause directly or indirectly serious injuries or material damages.

Product liability

As defined by the product liability law every farmer is also an entrepreneur!

According to §9 PHG (Product Liability Law), liability for damage to corporeal things caused by defective products is expressly excluded. This exclusion of liability also applies to parts not manufactured by **BAUER** itself but purchased from external suppliers.

Duty to furnish information

Even if the customer passes on the machine later-on he is obliged to hand the operating manual on to the new receiver, too. The receiver of the machine must be instructed with reference to the mentioned regulations.

Intended use

- The **BAUER Tractor Turbomix** exclusively serves for mixing of slurry, water or sewage sludge in standard use for agricultural purposes (intended use). – Mixing of other media might damage the mixer.
- Any use beyond this normal use is considered non-conforming. The manufacturer is not liable for damage resulting from such non-conforming use, the sole liability for damage from non-conforming use is with the user.
- Intended use also includes compliance with the manufacturer's operating, maintenance and service instructions.
- The **BAUER Tractor Turbomix** may be used and operated only by persons who are familiar with the device and aware of the hazards involved.
- All rules for accident prevention as well as any other generally valid specifications and regulations relating to safety, work medicine and traffic law must be strictly observed.
- Unauthorised modifications on the machine release the manufacturer from liability for damage resulting there from.
- Solid items such as wrenches, car tyres, bricks, steel mesh but also ropes and belts must not be in the suction range of the mixing blade as they may cause different kinds of damages.

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1 Safety

1.1 General instructions for safety and accident prevention

1.1.1 Check the operational safety of the machine before every start-up.

1. In addition to the instructions contained in this manual, all specifications generally valid for safety and accident prevention must be observed!
2. The warning and instruction signs affixed to the machine give very important instructions for safe operation. Observing them serves your own personal safety!
3. Never put the machine into operation unless all guards and safety devices are completely mounted and in their proper working position!
4. Acquaint yourself with all equipment components and controls as well as their respective functions before starting to work. It is too late when the device is already running!
5. The operator's clothes should fit tightly. Avoid wearing loose clothes!
6. When handling slurry always keep in mind that the gasses produced are highly toxic and extremely explosive in combination with oxygen. Therefore, open fires, light tests, sparking and smoking are strictly forbidden!
7. Utmost care is required with regard to gasses in slurry and dung channels at open valves to the preliminary pit, before the main pit, or at cross channels. The same applies to mixing and withdrawal points when mixers or pumps are running!
8. When handling slurry always ensure sufficient ventilation!
9. Keep the machine clean to avoid fire hazards!

1.1.2 Tractor-driven machines

1. Before starting inspect the area around the machine (children) ! Make sure to have a good view.
2. Riding on the machine during transport is forbidden!
3. Couple the machine according to instructions and attach it only at the specified points!
4. Special care is required when the machine is coupled to or uncoupled from the tractor!
5. Always adjust the supports in the proper position when coupling or uncoupling the machine (stability)!
6. Always mount balancing weights properly on the specified points!
7. Observe the permissible axle load, overall weight, and transport dimensions!
8. Inspect and mount all equipment required for transport such as lighting, warning signals and safety devices!
9. Mounted or trailed machines as well as balancing weights influence road behaviour, steering and braking capacity. Therefore make sure that proper steering and braking are possible!
10. Consider the projection and/or centrifugal mass of the machine when driving in curves!
11. It is forbidden to stay in the working range of the machine while it is operating !
12. Keep off the turning- and swivelling range of the machine!
13. Operate folding hydraulic frames only when nobody is in the swivel range!
14. Externally powered machines (e.g. hydraulic devices) bear a crushing and shearing hazard!
15. Nobody is allowed to stay between the tractor and the implement unless the tractor has been secured by the parking brake and chocks under the wheels!
16. Folding supports must always be folded up and secured before driving on roads!
17. Secure the machine and the tractor against breaking away!

1.1.3 Tractor-mounted machines

1. Before a machine is coupled to or detached from the three-point linkage, the control device must be shifted to a position in which unintentional lifting or lowering is impossible!
2. When using the three-point linkage the linkage parameters of both tractor and attached machine must comply, if not, they have to be modified accordingly!
3. The three-point linkage bears crushing and shearing hazards!
4. When operating the external control of the three-point linkage never step in-between tractor and the machine!
5. When the machine is in transport position make sure that the tractor linkage is always properly locked on the sides.
6. When driving on the road while the machine is in lifted position the control lever must be locked against lowering!



1.1.4 Trailed machines

1. When a machine is coupled to the drawbar make sure that the coupling point provides sufficient flexibility!
Power take-off (applies only to PTO driven machines)
2. It is not allowed to use any other types of PTO driven shafts except the ones prescribed by the manufacturer!
3. The guard tube and cone of the PTO driven shaft as well as the PTO guard – also on the machine side - must be mounted and in good working order!
4. When using a PTO driven shaft always observe the specified overlap in transport and working position!
5. Never connect or disconnect the PTO driven shaft unless the PTO has been stopped, the engine turned off, and the ignition key pulled out!
6. Make sure the PTO driven shaft is always connected and secured properly!
7. Attach the safety chain to keep the PTO driven shaft guard from rotating with the shaft!
8. Before you switch on the PTO make sure that the set speed and the direction of rotation of the PTO correspond with the permissible speed and direction of rotation of the implement!
9. Before starting the PTO make sure nobody is standing within the hazard area of the machine!
10. Never switch on the PTO when the engine is not running!
11. When working with the PTO nobody is allowed near the turning PTO or PTO driven shaft!
12. Warning! The PTO tapers off because of its centrifugal mass when it is switched off! Keep clear of the machine during this time and do not touch the PTO before it stands absolutely still!
13. Before cleaning, greasing, or adjusting the PTO driven implement or the PTO driven shaft, the PTO and the engine must be switched off and the ignition key pulled out!
14. Put or hang the disconnected PTO driven shaft into its holding rack!
15. When drive shaft has been removed put the guard on the PTO shaft!
16. If a defect occurs repair it immediately before starting to work with the machine!

1.1.5 Hydraulic system

1. Hydraulic system is under high pressure!
2. When connecting hydraulic cylinders and motors, make sure the hydraulic hoses are connected as specified!
3. Before coupling the hydraulic hoses with the tractor's hydraulic system make sure that the entire hydraulic system is pressureless both on the tractor and implement side !
4. Inspect the hydraulic lines at regular intervals and replace them immediately in case of defects or ageing. Replaced hoses must comply with the technical specifications of the implement manufacturer!
5. When looking for leaks use only suitable equipment because of the injury hazard involved!
6. Liquids emerging under high pressure (hydraulic oil) may penetrate the skin and cause serious injuries! An injured person must see a doctor immediately! Danger of infection!
7. Before working on the hydraulic system the machine must be lowered, the system depressurised and the engine turned off!

1.1.6 Electric-driven implements

1. All work beyond normal maintenance of the implement should be performed only by a professional!
2. Defective or broken plugs and sockets must be replaced by a professional electrician!
3. Never pull a plug out of the socket at the flexible electric cord!
4. Extension cables for power supply should be used only temporarily! Never use such lines permanently as a substitute for the required fixed installations!
5. Flexible lines laid across traffic areas on the farm must have at least 5 m ground clearance!
6. Always turn off the power supply before you do any work on the machine!
7. Check all electric lines for visible defects before you put the machine into operation! Replace defective cables and do not start the machine before that!
8. Never use electric-driven implements in damp situations or locations exposed to fire hazard unless they are adequately protected against moisture and dust!
9. Covering electric motors may cause heat concentration with high temperatures which could destroy the operating equipment and cause fires!



1.1.7 Hand-operated devices (valves)

1. Because of the slurry gasses produced in the lines, no slurry is allowed to remain in closed pipelines – bursting hazard!
2. Lay the pipelines with sufficient inclination and make sure that the selected closing order of valves allows all lines to be drained completely!
3. Protect the valves against unauthorised handling!
4. If a valve gets jammed do not apply force! Use only the operating levers supplied with the implement!
5. Observe the permissible maximum operating pressure of valves and pipelines when pumps are operated!
6. Service only when the tanks are empty!

1.1.8 Maintenance

1. Never perform any maintenance, service or cleaning work or fault elimination steps unless the drive is turned off and the engine is standing still!
2. Check proper fit of all nuts and bolts regularly and tighten them, if necessary.
3. If maintenance work is required on the lifted machine always secure it by means of appropriate supports!
4. When exchanging tools with cutting edges always use proper tools and wear safe protective gloves.
5. Dispose of oil, grease and filters according to local laws and regulations!
6. Always turn off power before working on the electric system!
7. Before electric welding on the tractor and mounted machines the generator and battery cables must be disconnected!
8. Spare parts must meet manufacturer's minimum technical specifications! This is the case for instance with original spare parts for instance!

1.2 Special safety instructions

Read the Instruction Manual thoroughly and carefully before starting the machine for the first time so that you know how to operate the device duly. Make sure above all that the mixing blade is assembled correctly and check the tightness of all screws of the device before each use. Protective devices must not be removed at all.

2 General Functional Description

High yield and improved quality can only be guaranteed when all crops are supplied with all specific and necessary nutrients.

BAUER machines and devices have been manufactured with care and under permanent control. The slurry mixers meet all requirements demanded by agriculture. They are best appropriate for mixing of both liquid slurry and liquids containing solid matter such as straw, fibres or clots. Short set-up times, easy handling and high reliability are further advantages.

The **BAUER Tractor Turbomix MTXH** consists of the hoisting frame, the mixing rod with mixing blade and of the guard bow or guard ring.

The Turbomix hoisting frame is equipped with two strong hydraulic cylinders which serve to adjust the best position of the mixing rod in the pit and with regard to the articulated shaft. With the setting facilities of the three-point linkage in tractor mode and with the hydraulic upper linkage, any conceivable position of the mixing rod can be achieved easily. The link point of the hydraulic cylinder can be adjusted slightly at the three-point block. This might be necessary in order to vary the swivelling range. Thanks to the ultra-strong hoisting frame, the BAUER Tractor Turbomix is appropriate for use under extreme conditions in the agricultural and communal sectors.

The BAUER mixing rod stands out by its extraordinary load bearing capacity and bears not only the multi-bearing drive shaft but also the sturdy mixing head at its end. This mixing head is designed to withstand high axial and radial forces during operation.

Through a combined mixing and cutting performance, the BAUER mixing blades are best appropriate for use with liquids containing solid matter and/or layers of solid matter. The mixing blades do not only allow an efficient homogenization of the media but they allow also to chop clots in the liquid. Therefore the Turbomix can be operated at up to 1000 rpm in order to achieve a high cutting force if necessary. In this context the guard ring contributes considerably to the cutting force since it forces the liquid current to pass through the mixing blades. In addition the guard bow/guard ring is an important protection against damages which might occur during transport and during operation. It also serves to prevent accidents and it must absolutely not be removed at all.

The additional swivelling device for the mixing rod available as option for the **MTXH**, is of considerable advantage above all for the use in closed and especially in covered pits. By means of a double-acting hydraulic cylinder, the mixing rod can be immersed easily into a narrow pit opening without getting off the tractor and without damaging the concrete cover and/or the mixing rod.

The **BAUER Tractor Turbomix MTXH** in lengths of 4 m, 5 m and 6 m with guard ring is the optimal solution for pits with a volume of up to max. 1700 m³. The best operating speed for liquids with solid matter and solid matter layers is between 600 and 800 rpm. At this speed, the power consumption is between 70 HP (50 kW) and 140 HP (105 kW).

The **BAUER Tractor Turbomix MTXH Lagoon** in lengths of 7 to 10 metres is equipped with a guard bow which reduces the risk of damaging the lagoon foil thanks to its optimised shape. The mixing blade MTXH ECO has been designed in combination with the guard bow in particular for the use in lagoons. In addition to excellent cutting and chopping power it also allows best homogenization at lowest power consumption. Therefore this mixing blade stands out by extremely economical fuel consumption which is a decisive advantage especially for large lagoons. The best operating speed for the MTXH Lagoon is also between 600 and 800 rpm which corresponds to a drive power of 36 kW (50 HP) to 90 kW (120 HP).

3 Putting into Operation of MTXH-L

In accordance with BAUER's ecological and sustainable company policy, the MTXH is supplied disassembled allowing space-saving transportation and reducing thus the environmental impact caused by cargo traffic.

FOR A GREEN WORLD!

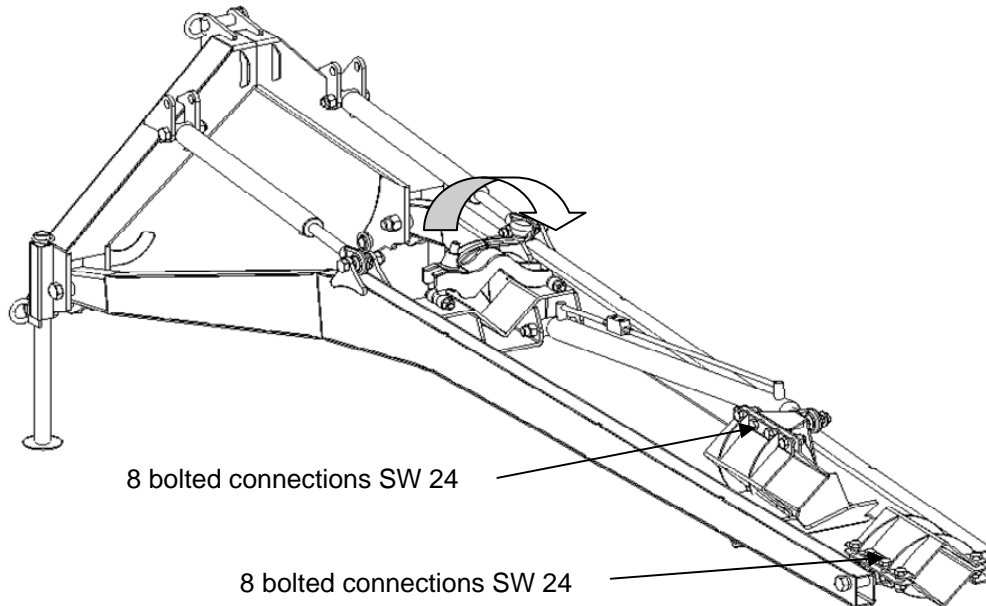
Due to its size, the MTXH Lagoon, however, is not appropriate to be assembled without machinery so that assembly is done for you at our works already.

3.1 One-Time Assembly of MTXH

For easy transportation of the BAUER Turbomix MTXH, the hoisting frame, the mixing rod, the mixing blade and the guard bow and/or guard ring are supplied disassembled and they must be assembled before first putting into operation. For assembly proceed as follows:

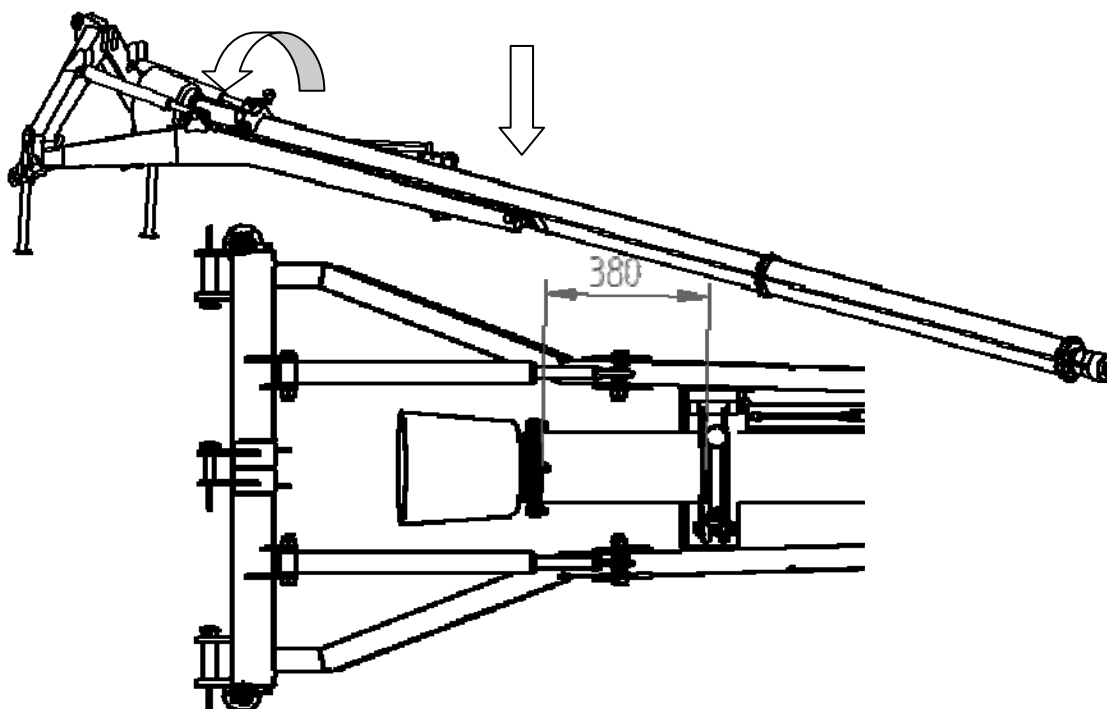
3.1.1 Preparation of Hoisting Frame

All small parts necessary for a proper assembly are pre-mounted on the hoisting frame of the tractor mixer. Before completing assembly, loosen all bolted connections indicated on the below drawing.



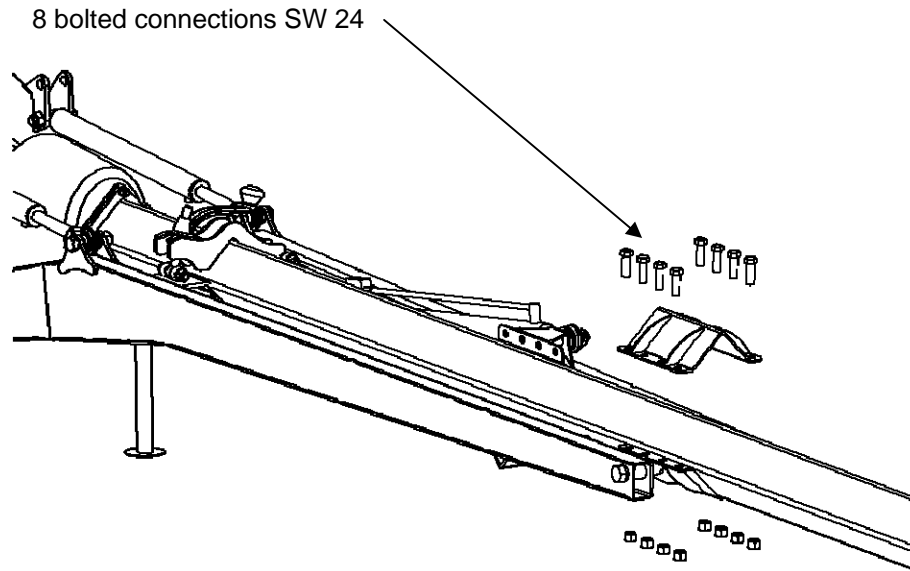
3.1.2 Fixation of Mixing Rod

Insert the mixing rod and lock it in its position with the locking stirrup as shown on the below drawing (distance 380 mm).



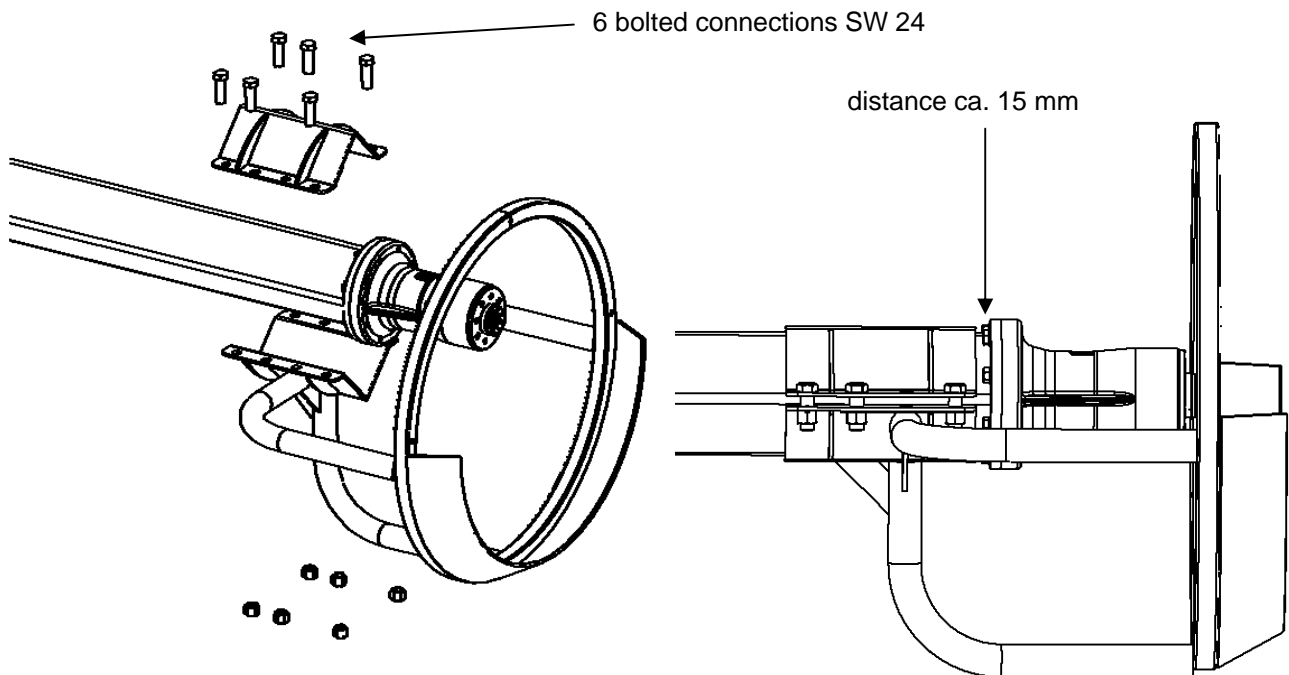
3.1.3 Assembly of Clamps

The right clamp on the drawing below serves to take up the axial shear forces of the mixing rod and it must be assembled with utmost care. The bolted connections must be tightened with a torque of 80 Nm (torque wrench SW24). The left clamp on the drawing below belongs to the additional swivelling device (636 0045) available as option. For assembly of the additional swivelling device see item 3.1.6.



3.1.4 Assembly of Guard Bow or Guard Ring

Assembly is described for the closed guard ring and it is carried out in the same way for the guard bow.



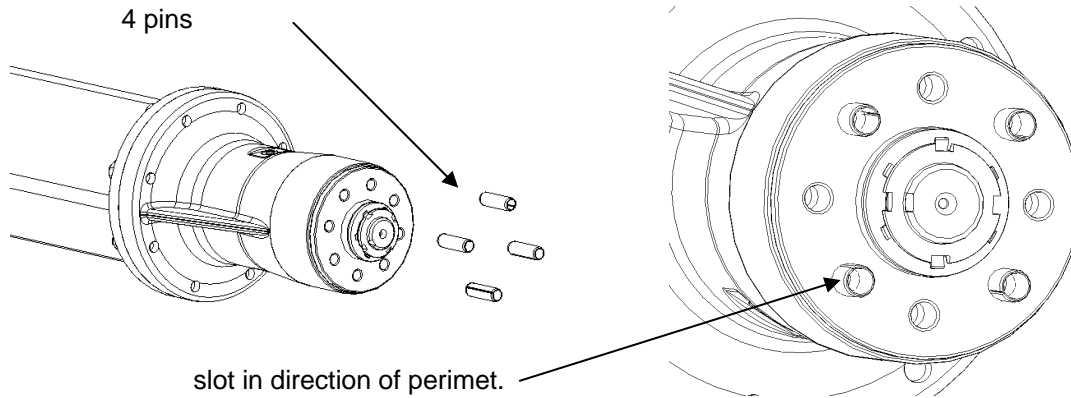
3.1.5 Assembly of Mixing Blade

The mixing blade is mounted with the accessories kit supplied along which contains all accessories for a proper assembly.

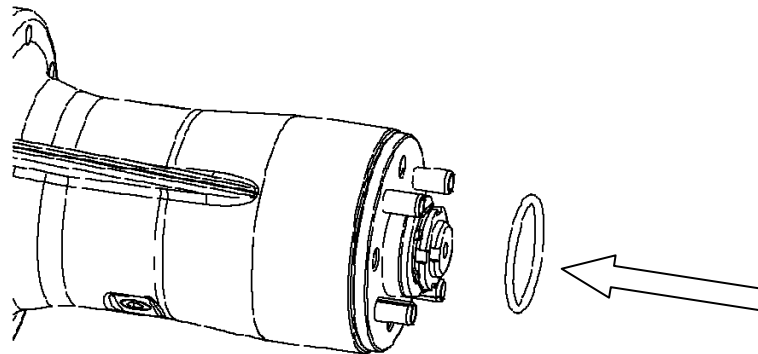
As the blade's edges are sharp, it is necessary to wear adequate protective leather gloves.

Assembly:

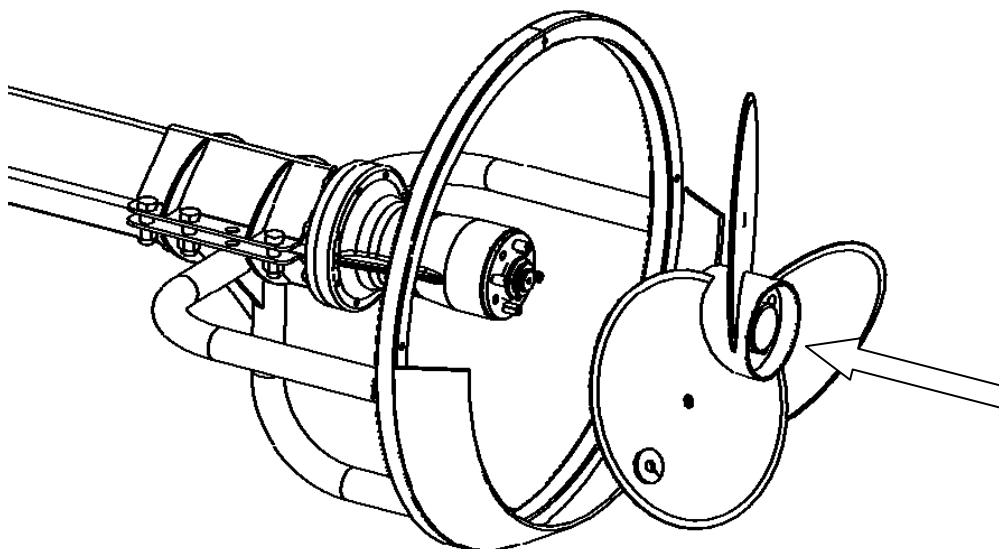
1) The pins are driven into the boreholes until they hit the bottom. (Attention! It is essential that the slots of pins are in direction of perimeter!!!)



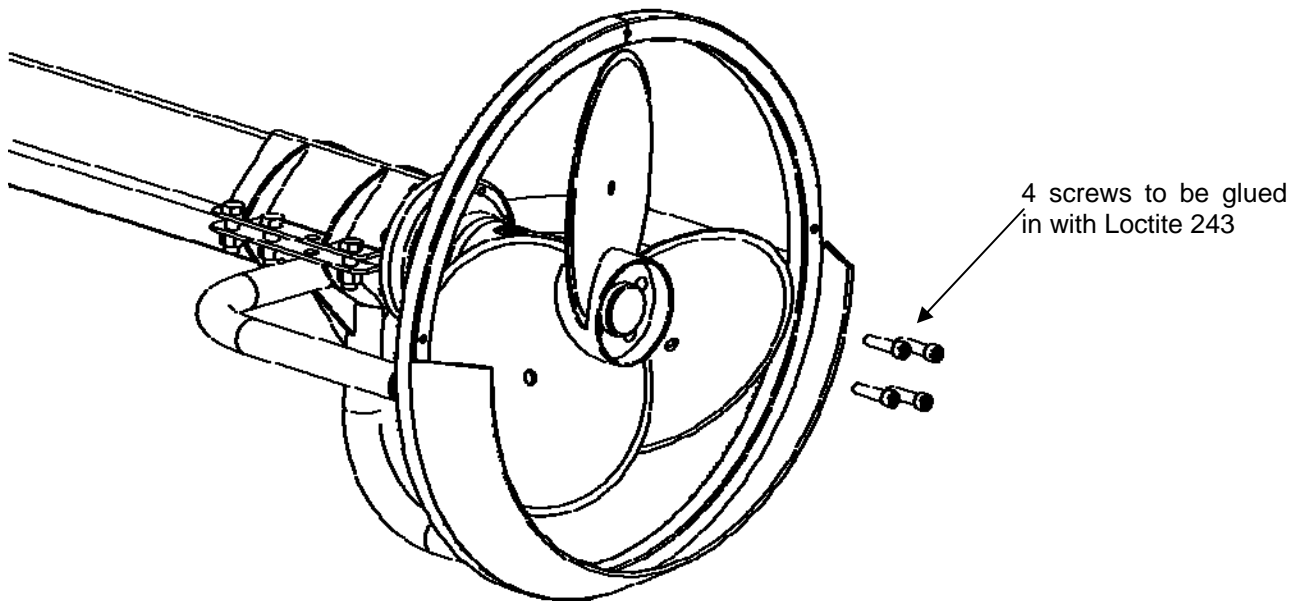
2) The O ring is slid onto the hub if it has not been supplied so.



3) The mixing blade is put onto the hub.



4) The mixing blade is fixed by means of the screws with split lock washer supplied along (glue in with Loctite 243 and tighten with 80 Nm).



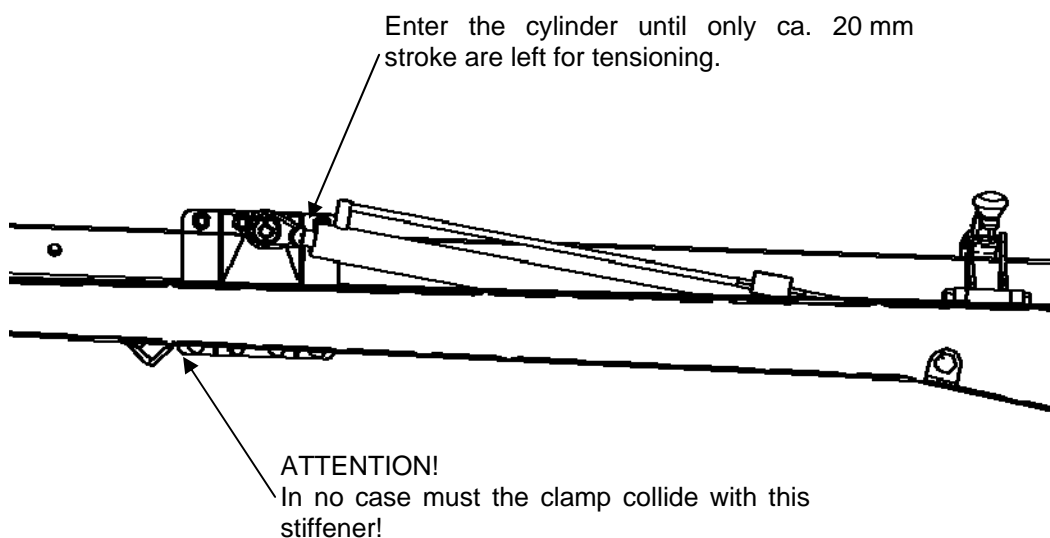
On this occasion, check all screws of the mixer on tightness.

3.1.6 Assembly of Additional Swivelling Device (Option)

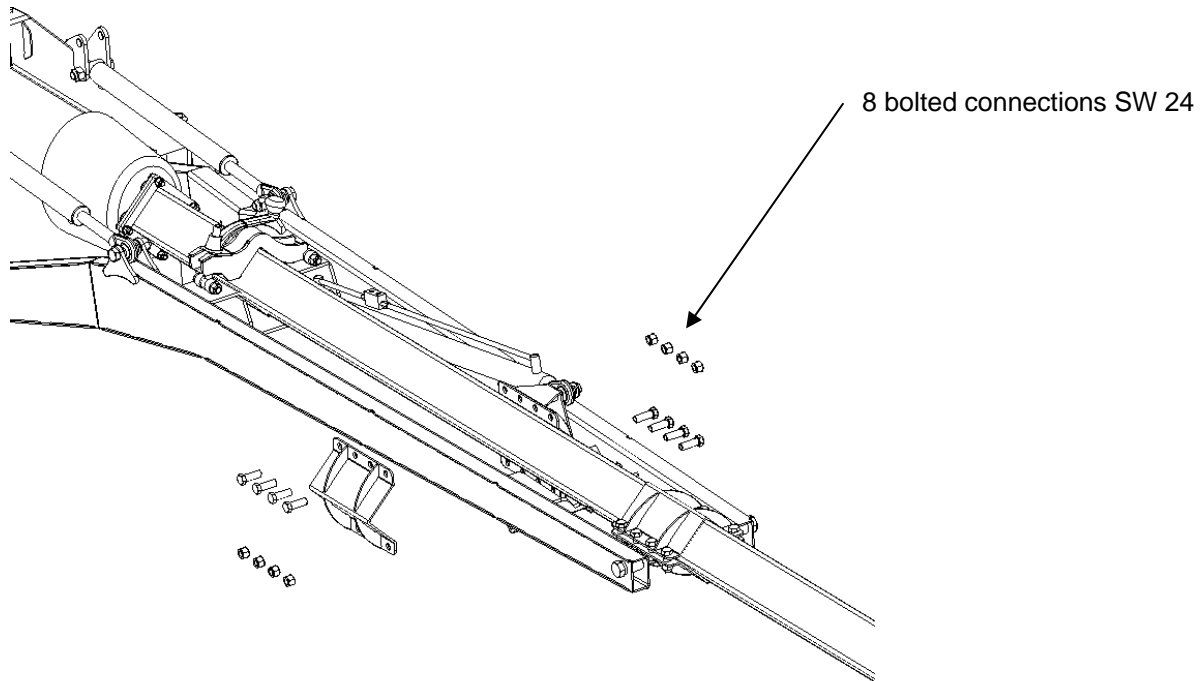
The additional swivelling device is available as option and serves to swing in and out the mixing rod increasing hence the ease of use of the BAUER Turbomix MTXH.

The parts necessary to assemble the additional swivelling cylinder are already mounted on the hoisting frame of the BAUER Turbomix. For assembly, loosen the bolted connections described under 3.1.1. After installing the mixing rod, make sure that the clamp of the additional swivelling device is placed duly and completely onto the mixing rod (see above).

The position of the clamp must be adjusted hydraulically so as to ensure a safe locking of the mixing rod in its fixation.



The clamp is mounted and locked as described above.



3.2 Putting into Operation of MTXH-L



WARNING!

- Do not start the mixer before it has been lowered into the pit.
- Make sure that nobody stays in the hazard area of the machine and at the pit opening during operation (CHILDREN!!!).
- For cut-to-length, profiled tube fitting and maintenance, see separate Operating Instructions.
- Check length of articulated shaft on:
 - Sufficient tube overlap at widest position of articulated shaft.
 - Articulated shaft can yet be telescoped at shortest position of articulated shaft.
 - Eventually length corrections will be necessary (see instructions for articulated shafts).

3.2.1 Mounting the Mixer to a Tractor

The three-point block of the mixer is dimensioned according to ISO 730 and it corresponds to the mounting categories 2 and 3N. It is mounted by means of the upper and lower linkage bolts supplied along. It is not imperative to use a hydraulic upper linkage since sufficient variability is given to position the mixing rod correctly by the lower linkage hydraulics of the tractor and by the mixer hydraulics.

Hydraulic connections: The hydraulics of the hoisting frame of the MTXH and MTXH-L needs a double-acting control unit.
The additional swivelling device needs a double-acting control unit.

For tractors equipped with position hydraulics it is essential to switch over to position control. It is important to prevent the lower linkage hydraulics from lateral swinging in a way that the guard bow can be moved by max. ± 20 cm. This is of great importance for cornering and when the mixer is in operation.

3.2.2 Transportation of the Mixer

Before transportation make sure that the locking device of the mixing rod has been tightened.

!!!No transportation with opened locking device!!!

During transportation with a tractor, it is strictly forbidden to stay near the tractor. In narrow corners, the tractor mixer moves out which may have serious consequences for persons in the hazard area. Transport the mixer a pedestrian speed (5 km/h) only. Pay attention to low power lines of any kind especially when transporting the BAUER Tractor Turbomix Lagoon. By damaging such lines you may endanger yourself and other persons.

Röhren- und Pumpenwerk BAUER GmbH does not assume any responsibility for any damages caused due to transportation of the **BAUER Tractor Turbomix**.

3.2.3 Positioning the Mixer

Position the mixer and the tractor sufficiently close to the pit/lagoon that a non-hazardous and uncomplicated branching of the articulated shaft is possible. Use exclusively articulated shafts with corresponding overload protection! (Do not use breaking pin protection due to excessive unbalance.)

Establish the connection between tractor and mixer:

- For coupling of the articulated shaft, press the push pin and simultaneously slide the articulated shaft on the PTO shaft until the push pin engages.
- Attach the holding chain of the articulated shaft's protection on the tractor and on the mixer side so that the protection cannot turn and that sufficient swivelling range of the articulated shaft is guaranteed.

CAUTION!

- Connect the articulated shaft to the mixer and the tractor in a way that it is bent only slightly. Hence you will achieve smoother running and longer service life of the mixer and of the articulated shaft.
- Check the lubrication of the articulated shaft!
- Check if the coupling pins have fully engaged.
- Check if the protective tube has been fixed with the holding chain.

When using standard articulated shafts, it must principally be made sure that both universal joints are bent equally. This can be achieved by varying the three-point linkage and the mixer hydraulics. If these joints were not bent equally, the rotations will be irregular and at high speeds damage due to material fatigue may occur at the tractor, the articulated shaft and the mixer. Correct bending can be checked after a short running time by touching both universal joints with the hand and by comparing their temperatures. When bent correctly, both joints will have the same temperature. If one joint had a higher temperature, it will be bent excessively. If for special reasons it was not possible to bend the articulated shaft equally, we recommend you to use a wide-angle articulated shaft.

3.2.4 Additional Swivelling Device: Function and Use for MTXH

The additional swivelling device facilitates exact positioning in the pit not needing to get off the tractor. It allows hence more efficient use and enormous time saving.

CAUTION!

Before using the additional swivelling device, observe the following hints:

- 1) Before opening the locking, make sure the articulated shaft has been removed from the device.
- 2) Before opening the locking, pull the mixing rod into the locking by means of the hydraulics so that the locking mechanism is not tensioned.
- 3) Be sure to open the locking before actuating the hydraulic cylinders in order to avoid damages of the device.
- 4) Now the additional swivelling device can be used easily.

3.2.5 Use in Closed Pits, MTXH

The mixer can also be used in pits with an opening of 80 x 80 cm.

1. Open the pit when closed.
2. Lower the mixing blade exactly over the opening until the mixing rod rests on the pit cover.
3. Loosen the locking lever and open the locking.
4. Lift the hoisting frame while reversing simultaneously if the mixer is 6 m long. (tractor's hydraulics and mixer's hydraulics in topmost position)
5. While reversing, lower the mixer's and the tractor's hydraulics until the hoisting frame has disappeared in the pit opening and the mixing rod folds.
6. Close the locking device and fix with the locking lever.
7. Connect the articulated shaft.
8. Change the position if necessary to achieve an optimal mixing position taking into consideration the correct angle of the articulated shaft!
9. Drive forward until the hoisting frame touches the pit opening.

3.2.6 Use in Open Pits, MTXH-L

1. Open the protective fence of the open pit so that the tractor can drive to the edge of pit.
2. Approach the tractor to the edge of pit/lagoon so that the articulated shaft can be coupled freely and safely.
3. Couple the articulated shaft and make sure that the shaft is neither compressed nor stretched when the tractor's hydraulics changes.
4. Approach closer to the edge of pit. (Attention to stability of tractor!)
5. Lower the tractor's hydraulics just above the edge of pit/lagoon.
6. Bring mixing blade to optimal position. Be sure to pay attention to the angle of the articulated shaft.
7. Drive the tractor forward until the hoisting frame lies on the edge of pit. Attention! For foil-lined lagoons, use a wooden board as base if necessary.

4 Operation



WARNING!

Apart from the dangers resulting from moving or pressurized parts, the operation of slurry treating machines may be hazardous because of liquid manure gases. These gases (carbon dioxide CO₂, ammonia gas NH₃, hydrogen sulphide H₂S, methane CH₄) can cause intoxications and explosions. When operating mixers, agitators, intertank transfer systems, agitating lances and slurry aeration systems make sure to exclude the inflow of gases into the stable (provide siphons or gate valves). When handling slurry inside the stable take care of a good forced ventilation.

- When mixing slurry, smoking and open fire in close proximity to the pit or the slurry tank is strictly forbidden!
- The escaping gasses are highly toxic and extremely explosive. For this reason make sure to keep man and beast away from the pit opening.
- During operation, the mixing rod must be clamped in the hoisting frame and the tractor's brake must be engaged (MTXH Lagoon).
- Lift and lower the mixer only when the articulated shaft has been stopped.
- Do not switch on the mixer unless it is in the pit.
- The tractor's PTO speed must not exceed 1000 min-1.
- Make sure nobody is within the machine's and the pit opening's hazard area during operation (CHILDREN!!!).

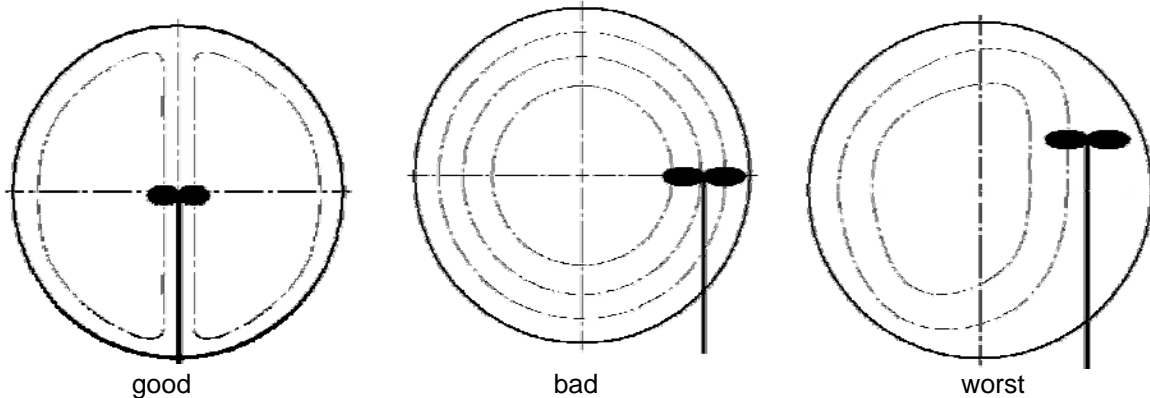
NOTE

- The inclination of the mixing rod depends on the construction of the slurry pit. To achieve an optimal output, the inclination should not exceed 40 degrees.
- To bring the pit contents more quickly into a flowing movement, it is necessary to use the mixing blade close to the wall.
- Neither immerse the mixing blade insufficiently nor too deep into the slurry. Insufficient immersion provokes undesirable foaming. Too deep immersion is disadvantageous for the suction- and mixing effect. Only when the slurry contains a lot of deposit (pig slurry, chicken dung, manure with a high content of sawdust and the like), the mixing rod must be immersed deeply so that the slurry is pressed from bottom against the surface scum breaking and destroying it thus.

4.1 Recommended Use in Pits

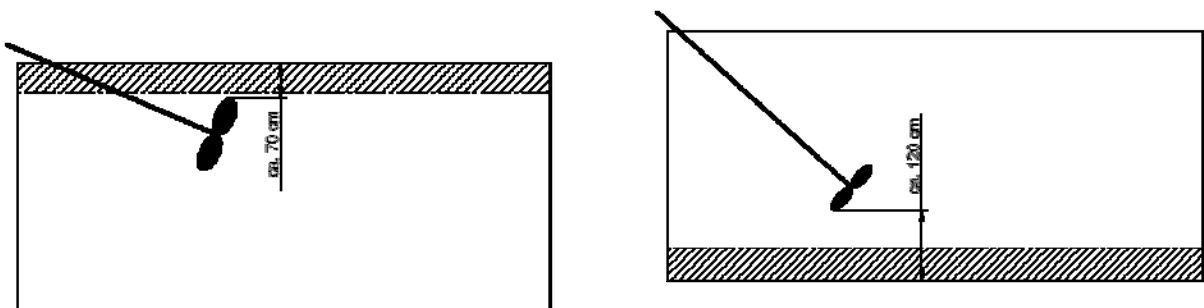
Use the mixer in the pit so that the mixing jet makes the complete pit content rotate. When the mixing jet is directed straight to the wall, the mixing effect will be reduced considerably.

When lowering the mixing rod be sure not to immerse it neither insufficiently nor too deep into the slurry.



In principle the complete pit content must be made streaming in a way that a complete homogenisation is possible. Make sure that the areas of low current are as small as possible. As can be seen above, in round pits the pit centre is a low current area – when using the mixer as shown on the centre sketch above – where thick matter will conglomerate inevitably.

The correct depth of immersion is essential for homogenisation of the surface scum and/or of the deposit. For slurry with a surface scum (cattle slurry), the mixing blade shall be positioned shortly below the scum, generally ca. 70 cm, in order to achieve satisfying results. For slurry with deposit (chicken dung, pig slurry), it is recommended to position the mixing blade deeper, ca. 120 cm above the pit bottom, to mix up sufficiently the heavy matter of slurry.



4.2 Recommended Use in Lagoons

In principle, the same recommendations of use apply to lagoons as to pits. Due to the considerably bigger size of lagoons and to the almost thicker surface scum because of direct solar radiation and atmospheric exposure, however, attention should be paid to a few items at the beginning and in the end of mixing in order to reduce mixing time considerably.

It is very practical to be able to access the lagoon for mixing from all sides. As a rule, mixing should be started where the surface scum is thinnest in order to mix up liquid possibly fast and to charge the mixing rod as little as possible. The mixing blade must hence be positioned sufficiently deep under the surface scum that liquid can be taken in, breaking thus the surface scum. **ATTENTION:** Be sure to immerse the mixing rod straight through the surface scum of the lagoon otherwise the mixing rod risks to be deformed when blocked by the surface scum. There is also a risk of deformation when lifting the mixing rod and when the mixing blade is under the surface scum. This can be avoided by moving the mixing rod forward under the surface scum when lifting it out.

Once there is a hole in the surface scum, the same procedure can be repeated at different positions of the lagoon until the surface scum has been degraded sufficiently to crumble into small pieces. These pieces are floating in big circles on the surface of the slurry lagoon and seldom get close enough to the mixing blade so that they could be sucked and chopped. To obtain that these pieces of the surface scum are caught by the MTXH ECO mixing blade, the mixing rod must be positioned deeper in the lagoon so that a circulation of the slurry from the bottom to the surface is achieved. After a while it can be observed that the separate pieces of the surface scum are getting closer and closer to the mixing rod where they can be sucked and chopped by the mixing blade.

4.3 Practical Use

In practical use it is utmost efficient to change between the kinds of use shown above in order to reach optimally all parts of the pit. For pits of different shape, the use is of course similar.

If the slurry was not flowable, it will not be possible to mix it sufficiently. In this case, dilute the slurry with water in order to make it flowable. The flowability given, homogenisation should commence after 2 - 3 hours at the latest.

When mixing slurry with a surface scum, the mixing blade should immerse into the pit in a way that air is sucked here and there which can be heard by the slurping noise and which improves mixing.

The distance from the pit wall or from other constructions should be at least twice the mixing blade diameter in order to ensure smooth running of the mixer. It is essential to remove obstacles pronging into the surface scum such as slurry inlets or suction pipes, before starting to mix. In square pits, be sure not to direct the mixing jet to one of the corners.


During operation, the position of the mixing rod (lifting and lowering of tractor hydraulics or changing the mixer hydraulics) must not change in any case. When changing the position of a rotating articulated shaft, high forces will act onto the joints, the tractor drive shaft and the mixer drive shaft which may provoke breakage of these components. Therefore it must be made sure that the mixing rod's position cannot change automatically during operation.

For sucking mixer blades, pay attention to secure the tractor sufficiently against rolling away and it must be blocked by means of a chock.

5 Trouble-Shooting

Trouble	Cause	Remedy
Rough running of mixer	Mixing blade unbalanced	Check mixing blade's symmetry and repair if necessary
	Mixing blade too close to pit wall or other constructions	Increase distance
	One or more mixing blades are deformed Excessive wear of cutting edges	Replace mixing blades
Insufficient mixing power	Mixing blade obstructed with foreign objects	Remove binding twine, plastic bags and the like from mixing blade
	PTO speed too low	Increase speed to max. 1000 rpm
Mixing head heating quickly	Heavy oil loss due to defective seals	Replace seals
	Roller bearing defective	Replace bearing
Loud noise in drivetrain	Intermediate bearing defective	Replace intermediate bearing
Mixing rod changes position automatically	Leakage of hydraulic system	Check and, if necessary, replace hydraulic hoses and fittings
	Mixing rod not fixed in anchorage	Tighten screws

6 Maintenance and Service

 WARNING!	<ul style="list-style-type: none"> • Carry out maintenance and repair jobs only at standstill of the slurry mixer, never step on running machine! • Before manipulating the guard ring or the mixing blade, switch off the tractor. • Repair must be carried out by qualified personnel only!
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IMPORTANT!	Check regularly all screws and nuts on tightness and tighten them if necessary!
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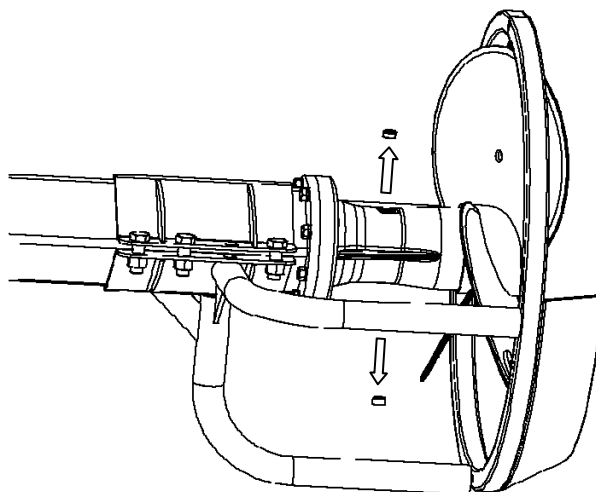
It cannot be pointed out often enough that maintenance and care influence considerably the reliability and service life of a machine. As every machine, the slurry mixer shall be cleaned immediately after using it; the slurry is yet fresh and can be washed off easily.

The mixing blade's cutters shall be checked from time to time and reground equally if necessary to avoid unbalance.

Check the bearing on the mixing blade side at regular intervals on oil loss. In case of leakage, replace the sealing rings. After every dismantling of the drive shaft, replacement of sealing rings or of the roller bearing, the mixing head must be filled with the prescribed quantity of oil after assembly (see "Technical Data").

After a long standstill or a new start, exchange the oil. For that end, open both oil screws on the mixing head, discharge the old oil duly and fill in new oil according to the technical data. If oil was missing, find out the cause of leakage and repair the damage. In such a case check above all the seal on the mixing blade side.

The mixer shall be stored weather-proof under roof if possible.



After every use of the BAUER Tractor Turbomix and/or after 5 - 8 operating hours, all greasing points of the mixer must be lubricated with standard grease by means of a grease press (at least 2 full strokes of the grease press at every greasing point).

According to the length of the tractor mixer, the number of greasing points is as follows:

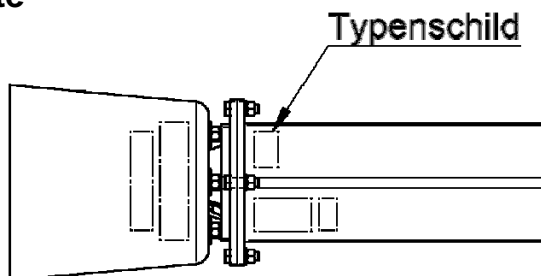
Length of mixing rod	No. of greasing pts.
4m	3
5m	3
6m	4
7m	4
8m	6
9m	6
10m	6

7 Technical Data

Turbomix	MTXH	MTXH-L
Driving power range	48-250 HP	35-250 HP
Lengths of mixing rods	4,5,6 m	7m, 8m, 9m, 10m
Diameter of mixing blade	600 mm	620 mm
For pit/lagoon volume of up to	1000-1700 m ³	1700-6000 m ³
For pit/lagoon depth of up to	4m	6m
For min. pit openings of	80 x80 cm	-
Oil quantity	0,36 l engine oil	0,36 l engine oil

Engine Oil: Viscosity Grade SAE20W20 or SAE20; SAE HD30; Quality Level API CF/S

7.1 Rating Plate



7.2 Information Signs

The information signs on the mixer and rack must not be removed. They serve for safe manipulation of the **BAUER Turbomix**.

If information signs were damaged or removed, they must be ordered. For the corresponding article numbers, see the spare parts list.

8 Declaration of conformity

EC Declaration of Conformity

according to EC Directive 2006/42/EC

The manufacturer

Röhren- und Pumpenwerk BAUER Gesellschaft m.b.H.
 Kowaldstraße 2, 8570 Voitsberg, Austria
 phone +43 3142 200-0; fax: +43 3142 200-320/-340

, herewith declares that the machine mentioned below

Designation of machine	Tractor Turbo-Mixer
Machine type / basic units	MTXH / MTXH-L
Consisting of	Hoisting frame, mixing rod, mixing blade, guard bow
in models	MTXH 4 m; 5 m; 6 m MTXH-L 7 m; 8 m; 9 m; 10 m

corresponds analogously to the requirements of the Machinery Directive 2006/42/EC.

In case of a modification of the machine not accorded with Bauer GmbH, this declaration will cease to be valid.

The following standards as amended have been applied analogously:

DIN EN ISO 12100-1	Safety of machines – Basic concepts, general principles for design, Part 1: Basic terminology, methodology
DIN EN ISO 12100-2	Safety of machines – Basic concepts, general principles for design, Part 2: Technical principles and specifications
DIN EN 60204-1	Safety of machines - Electrical equipment of machines, Part 1: General requirements
EN ISO 14121-1	Safety of machines – Risk assessment

Norms related to products

EN ISO 13857	Safety of machines, safety clearance to secure no touching hazard area with upper extremities
DIN EN 349	Safety of machine, minimum clearance to avoid crushing body parts
DIN EN 809	Pumps and pump units for liquids - Common safety requirements

The documents belonging to the machine according to annex VII, part B have been attached.

Person in charge of documentation: Thomas Theissl, Kowaldstraße 2, 8570 Voitsberg, Austria,



Technical Designer in Charge



Commercial Manager

Voitsberg, 27.10.2014