



FLV Shredder





EC Declaration of conformity for machines

Manufacturer: HMF KG d. Richard Frei & Co.
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Code postal +town: I-39057 Eppan (BZ) Italy

declare that the following machines

HMF FLV types : 125 150 175 200 and 225 nr.....

- meets the requirements of the directive

Directive 98-37-EC

and the national legislation concerning the execution of this directive

- meets the requirements of further EEC directives (only fill in if applicable)

and further declare that ;

the following (parts of) harmonised norms have been applied

- EN 292-1 1994 / EN 292-2 1996
- EN 745 1999

Made in Eppan on :

.....
(signature)

Richard Frei
General Manager.

**USER'S MANUAL AND PARTS LIST
VOTEX FLV SHREDDER**

Applicable to the following types:

FLV 125
FLV 150
FLV 175
FLV 200
FLV 225

delivered after 01 January 2004

HK 002

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1. Introduction

You have acquired a Votex FLV shredder. We wish you much success with this machine and thank you for your confidence in our organization. This manual is intended for end users and service engineers. Work that may only be done by service engineers is indicated as such in this book.

This manual contains complete information about safety, operation and maintenance of the Votex FLV shredders. We urge you to study this manual carefully, and then keep it in a safe place for future reference.

Following the rules and recommendations herein described will ensure a properly operating machine and reduce the risk of accidents!

The Votex FLV shredder is a machine with which plant growth is struck off by heavy hammers fixed to a fast-rotating shaft, then reduced and thrown back to the ground through a hood.

The machine is intended to be used with tractors. It enables you to mow and shred grass, weeds and wood wildshoots having a maximum diameter of 5 cm.

The machines have been designed for mowing:

- grass, and shredding wood wildshoots
- fallow grounds
- landscape maintenance

Important! Any other use is not in accordance with the intended purpose!

The tractor operator must be appropriately qualified and have experience in driving tractors.

The Votex FLV shredder must not be used for mowing operations in the vicinity of areas presenting fire and/or explosion hazards.

The shredder may be used only when the ground roller rests on the ground with its full width.

Votex B.V. is constantly working on improving its products. It therefore reserves the right to make any such changes, modifications and/or improvements as it deems necessary. However, this does not imply any obligation on its part to make such changes, modifications and/or improvements to machines previously supplied.

2. Safety.

2.1. Safety instructions.



This symbol points to acute danger to the life and/or health of human beings and animals!



This symbol is a warning of possible damage to the mower if the user does not follow the instructions.

TIP

This gives the user suggestions/recommendations for performing certain tasks safer and easier.

- Study the user's manual thoroughly so that you will be aware of situations that may cause danger. Make sure you are familiar with the operation of the tractor, and, in particular, how to stop it in an emergency. Pass all safety instructions on to other users!
- Never let the rotor shaft run when the ground roller is not resting on the ground with its full length!
- The exhaust gases of combustion engines contain carbon monoxide, an odourless and lethal poison. So, never let the tractor engine run in a confined space.
- In addition to the specific directions contained in this user's manual, also observe the general regulations in force with regard to safety and the prevention of accidents!
- The pictograms on the machine provide important directions for safe use. Following these directions will serve your own safety. Replace any damaged pictograms!
- Wear ear protectors at noise levels exceeding 85 dB(A)! Never when using public roads, however!
- When using the machine, wear as much as possible close-fitting clothes!
- When using public roads, always observe the road traffic regulations in force!
- Tractors with machines attached to them may be driven only by appropriately qualified persons with sufficient experience!
- Observe the maximum admissible transport dimensions!
- If necessary, fit a lighting beam and/or warning signs!
- For road transport, put the machine into the appropriate position and lock it in accordance with directions (see chapter 4)!
- When driving on the road with the machine raised, make sure the operating lever of the lifting device has been secured against unintentional lowering!

- If necessary, fit front weights. Always do so in accordance with the instructions of the tractor manufacturer. Observe the requirements for the maximum admissible axle load/total weight and the minimum front axle load required (road traffic regulations)!
- Do not take any passengers to ride along with you on any part, irrespective of their age!
- Hoses and cables for cylinders and lighting are to be disposed in such a way that they cannot be damaged under any transport and operating conditions. Be especially mindful of the fact that wrongly placed hoses may activate unintended movements or impede necessary functions!
- When taking bends, always bear in mind the greater width and length of your tractor and the greater mass (inertia) of the tractor and mower!
- Before driving off and putting the shredder into operation, look around the machine and the tractor, making sure there are no persons within the working range. Make sure you have an unobstructed view!
- It is prohibited to come within the shredder's working and danger range.



Keep your distance! Objects (stones and the like) may be hurled away.

- Operate the shredder only when it is complete and all safeguards are intact.
- The speed must be adapted to the terrain and working conditions!
- It is dangerous to work with the tractor on slopes!
Do not mow with the machine on slopes having a gradient of more than 5%!
- Mow only in daylight or good artificial light!



RESIDUAL RISK! The safety guards on the Votex shredders meet the relevant requirements as set by the European Commission!

Nonetheless, there will be some residual risk to be taken into account. Objects in the terrain may be picked up and hurled away by the hammers! This may cause serious injury or damage up to a distance of about 50 metres!

In order to minimize this risk, act in accordance with the following safety recommendations:

1. Always proceed in accordance with the requirements of the road maintenance authority and observe the local ordinances and regulations.
2. If possible, close off roads, cycle paths, footpaths or bridle paths. If this is not feasible, use a mobile road barrier so that road users will stay at a safe distance from the machine.
3. Close off navigable waterways when you have to mow along them. If this is not feasible, put up warning signs!

- After bumping into an obstacle, check the shredder for any damage.
- Immediately repair any damage before resuming working with the machine!

Stay outside the link-motion range of moving parts!

- Make sure to avoid toppling over! Work only on sufficiently solid ground!
- The following measures must be taken when leaving the tractor and/or when work is to be done on the machine or PTO shaft:
 - Switch off the PTO shaft.
 - Put the gear lever of the tractor into neutral.
 - Pull the parking brake of the tractor.
 - Set the machine entirely down.
 - Stop the tractor motor and remove the key from the ignition lock.
 - Always wait for the rotor shaft to stop completely before approaching the machine!



Machine is still coming to a standstill! Stay away from rotating parts until they have stopped completely!

- Make sure the supporting leg is in the lower locked position when coupling or uncoupling the shredder!
- Proceed very carefully when coupling and uncoupling the shredder. Be particularly alert to the danger of getting trapped due to accidental operation of the lifting device. Secure the machine laterally by sufficiently tightening the stabilizers.

PTO shaft:

- Only use the PTO shaft with freewheel specified by the manufacturer.
- Protecting tubes and guards at the PTO shaft and the guards on tractor and machine must be properly fixed and in good condition!
- Ensure the specified overlapping of PTO shaft halves and protecting tubes, both in the transport and operating position (see user's manual of PTO shaft manufacturer).
- The PTO shaft may be coupled and uncoupled only when the tractor engine has stopped, the ignition key has been removed, and the machine rests on the ground.
- Always ensure that the PTO shaft is properly mounted and blocked!
- Secure the guard of the PTO shaft against turning with the shaft by fastening both chains to a fixed point on the tractor and machine sides!

- Before switching on the PTO shaft, make sure that the speed and direction of rotation of the PTO shaft correspond to the machine to be driven! The speed and direction of rotation are indicated on the shredder by a pictogram!
- The rpm indicated must never be exceeded!
- Never switch the PTO shaft on when the engine is not running!
- Stay away from a rotating PTO shaft!
- Always switch the PTO shaft off when the angles of the PTOs threaten to become too great!
- Hang an uncoupled PTO shaft into the bracket provided for this purpose on the three-point linkage!
- Fix the protective bush onto the PTO shaft of the tractor as soon as the PTO shaft has been uncoupled!

Hydraulic system (if provided)

- A hydraulic system operates under high pressure!
If a leak occurs in it, depressurize the system immediately, collect oil leaking away, and replace defective parts!



Never put your finger to a hydraulic leak!
Liquid under high pressure easily penetrates skin and clothes, and causes serious injury. If this should happen, consult a physician immediately! Oil leaking away is quite harmful to the environment!
Take measure to prevent oil leakage!

- Regularly check hydraulic hoses, lines and all connections. Replace them when damaged or aged. New hoses must meet the technical requirements of the manufacturer!
- Shut down the tractor engine, remove the ignition key and depressurize the hydraulic system before coupling or uncoupling the machine or before doing any work on the hydraulic system.
- Immediately fit the dust caps onto disconnected hydraulic hoses.
- Lay hoses in such a way as to exclude any soiling and damage!

Maintenance and inspections:



Maintenance and inspections on the underside of the machine must never be carried out when the machine is held only by the tractor lifting device. Always take special precautions in order to prevent an unexpected lowering of the machine. Use a tackle or horse whose minimum carrying capacity exceeds or is equal to the mass of the machine (See type plate).



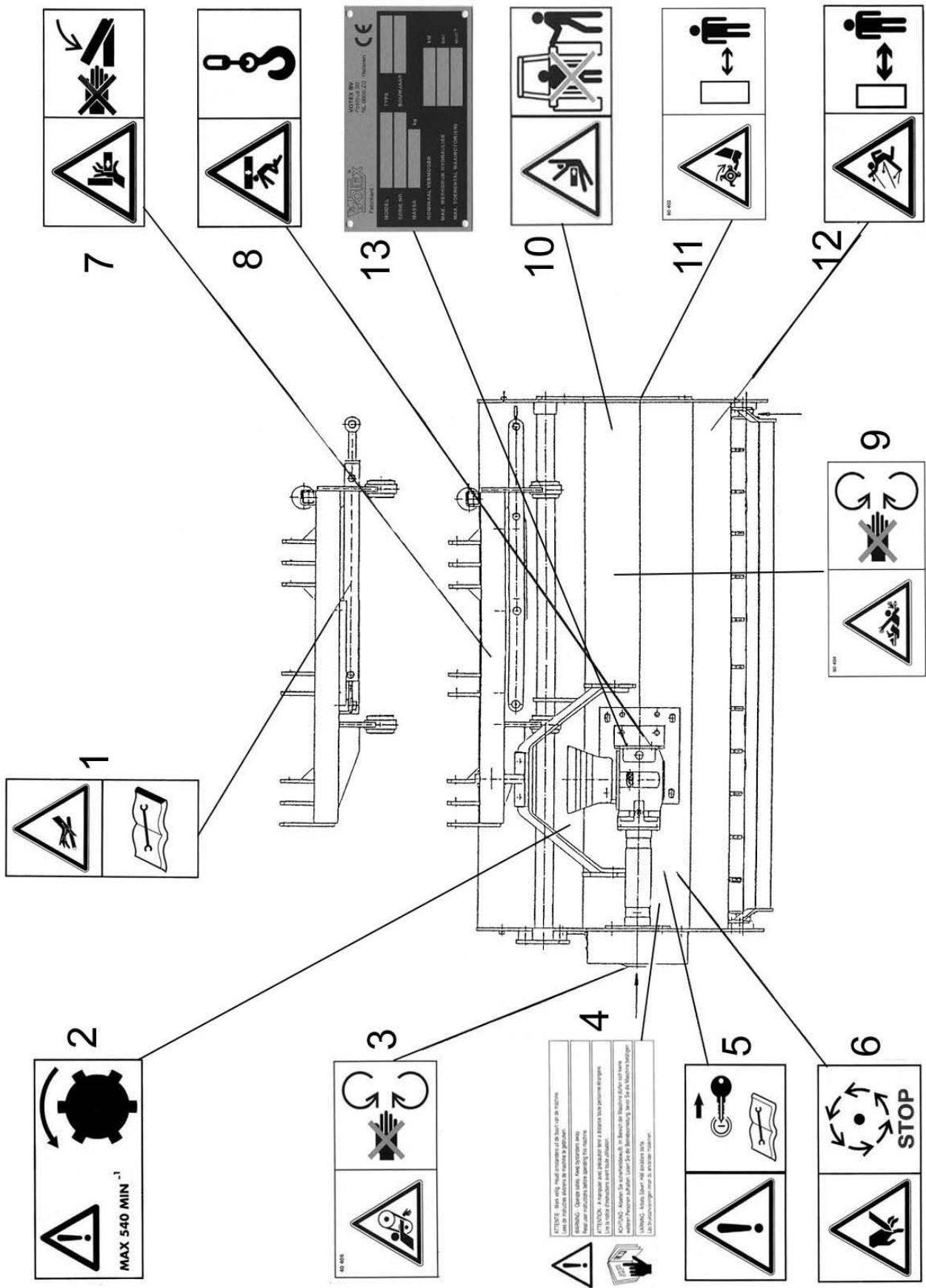
Vibrations in the shredder are usually caused by the rotor shaft being out of balance. These vibrations may cause serious damage to the shredder. When during mowing operations there is a clearly noticeable increase in vibrations or change in sound produced by the shredder, stop operations immediately, locate the cause and eliminate it before continuing the work!

- Regularly check hammers, bolts and hammer mounting plates on the rotor shaft for wear. For minimum dimensions required, see chapter 7.1!
- Make sure the rotor shaft is provided with all hammers equally worn off!
- Damaged or worn hammers and bolts must be replaced immediately!
- Immediately replace rotor shafts that are out of balance or rotor shafts with worn mounting plates!
- Regularly check the metal protecting flaps on the front side of the cutting head. Make sure the flaps can rotate freely at all times. Replace bent or worn flaps immediately. **It is prohibited by law to work with this machine without protecting flaps/guards or if they are worn!!**
- Only such persons are allowed to work with and/or on the shredder as are perfectly familiar with it and well aware of possible dangers!
- Any and all work to be done on the shredder is allowed to be carried out only with solid and proper tools.

2.2. Pictograms (see figure 2.1.):

1. Caution! Hydraulic system under high pressure. Do not attempt to seal a leak by hand. Read the user's manual (Votex no.20.10.618)
2. Direction of rotation and maximum PTO shaft speed 540 rpm (Votex no. 20.10.600)
3. Caution! Danger of getting trapped by V-belt transmission (Votex no. 20.10.621)
4. Before putting the machine into service, read the user's manual and safety instructions and observe them. (Votex no. 20.10.604)
5. Before carrying out any maintenance and repairs, shut down the engine and remove ignition key. (Votex no. 20.10.609)
6. Do not touch any rotating parts before the machine has come to a standstill. (Votex no. 20.10.605)
7. Never come within the link-motion range of moving parts. (Votex no. 20.10.608)
8. Lift the machine only at the lifting lug. (Votex no. 20.10.610)
9. Caution! Rotating shaft! (Votex no. 20.10.620)
10. When operating the lifting device, stay outside the lifting range of the three-point linkage. (Votex no. 20.10.611)
11. Keep your distance! Never put your feet under the cutting cap! (Votex no. 20.10.612)
12. Keep your distance when the rotor shaft is rotating. (Votex no. 20.10.606)
13. Type plate

Figure 2.1 : Pictograms and type plate on the machine

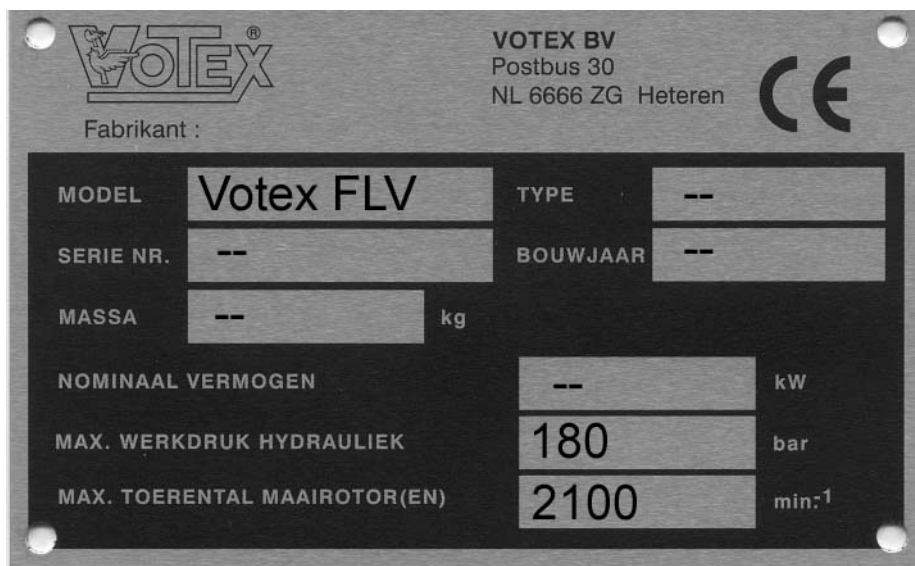


2.3. Type plate.

The type plate is provided on the gearbox support.
The plate contains the following data:

- Brand name : VOTEX
- Name and address of manufacturer :

- CE marking : CE
- Model : FLV
- Type : 125-150-175-200 or 225
- Serial number :
- Year of construction :
- Mass : 470-525-590-665 or 690 kg
- Nominal output :
- Max. hydraulic operating pressure : 180 bars
- Maximum R.P.M. of cutting rotor : 2100 rpm



3. Technical specifications

Votex FLV type	125	150	175	200	225
Cutting width in cm	125	150	175	200	225
Cutting height in cm	2-12	2-12	2-12	2-12	2-12
Mass in kg	470	525	590	665	690
Max. mitre in rel. to tractor centre in cm	105	130	155	180	205
Mounting category	I	I+II	I+II	I+II	I+II
Mounting	Rear	Rear	Rear	Rear	Rear
PTO shaft rpm	540	540	540	540	540

For all types, the sound pressure produced at normal operating speed amounts to 94 dB(A), measured at a height of 1.60 m and at a distance of 1 m from the shredder.

4. Transport and storage of the shredder.

Transport of the shredder is to take place with the rotor shaft standing still and the lateral-movement cylinder (if provided) in the shortest position (mitre position as narrow as possible).

The shredder (when not coupled to a tractor) may be moved only when the following conditions have been met:

- supporting leg in lower position and locked,
- cylinder for swinging the shredder from side to side in the shortest position (shredder as narrow as possible),
- PTO shaft, if mounted, in the bracket provided for this purpose on the three-point linkage.

When not coupled to a tractor, the shredder can only be moved by lifting it at a lifting lug (see pictogram on cutting head). To this end, use a lifting gear having a lifting capacity exceeding or equal to the mass of the shredder. For this, see the type plate on the machine.



Place the shredder on horizontal solid ground with a minimum strength of 400 kPa (approx. 4 kg/cm²).

When the shredder is to be stored, the cylinder must be in its fully slid-in position in view of the risk of damage or corrosion to the chromium-plated piston rod.

For winter storage, we refer to chapter 7.8.

5. Putting the shredder into operation.

Prior to coupling the shredder, check whether the data (see figure 5.1.) on direction and speed of rotation as stated on the machine correspond to the direction and speed of rotation of the tractor PTO shaft.

Figure 5.1
Speed and direction
of rotation of PTO
shaft



5.1. Coupling the shredder to the tractor.

The Votex FLV shredder can be mounted to tractors using a cat. I linkage mechanism (FLV125) or II (other models)

To couple the shredder to the tractor, proceed as follows:

- place the tractor in front of the shredder so that the drawbars can be coupled to the machine,
- pull the parking brake of the tractor and put the gear lever(s) into neutral.



When operating the linkage mechanism, stay outside the lifting range of the three-point linkage.

- fix both drawbars to the shredder using the lifting-arm pins and fit the spring clips,
- turn off the tractor engine and remove the ignition key,
- mount the PTO shaft and both chains of the guard,
- mount the top bar, top-bar pin(s) and secure them,
- adjust the machine horizontally by turning the top bar,
- reduce the lateral play of the shredder in the three-point linkage to a minimum.

5.2. Connecting the tractor hydraulic system. (if provided)

Before connecting the hydraulic hoses, turn off the tractor engine, remove ignition key, and depressurize the tractor hydraulic system!

The hydraulic hoses of the Votex FLV are provided with 1/2" BSP (male) connectors. The female connectors should be on the tractor. A double-acting control valve is required for the lateral movement of the cutting head. Any costs to be incurred for adapting the tractor hydraulic system will be for account of the user.

After disconnecting the hydraulic hoses, the dust caps included in the delivery must be pushed on the quick connectors so as to prevent sand and dirt from getting into the tractor hydraulic system.

Damage to the tractor hydraulic system cannot be charged to the manufacturer.

Normal use of the Votex FLV shredder will not lead to the tractor hydraulic system being loaded heavily.

5.3. Mounting the PTO shaft.

Before mounting the PTO shaft, turn off tractor engine and remove ignition key!

Use the PTO shaft of the Votex FLV shredder in accordance with the manufacturer's instructions.

The PTO shaft is to be mounted to the side of the machine with the ratched freewheel. Make sure that PTO shaft connections are well secured to tractor and shredder. Only use a complete PTO shaft guard provided with securing chains which must be firmly fastened to the tractor and shredder so that it cannot turn with the shaft.

Take into account all angles that the PTO shaft can conceivably form.

In addition, both the tractor and the machine must be provided at the shaft ends with solid guards overlapping the PTO shaft guard by at least 50 mm.



The PTO shaft must not be too long. To determine the proper shaft length, the upward movements and swinging of the machine and the turning inwards and outwards of the top bar must be taken into account. For mounting, shortening and maintenance, see the user's manual of the PTO shaft!

6. Working with the shredder.



After the initial 1-2 running hours, retighten all bolt connections and in particular all hammer mounting bolts.

6.1. PTO shaft speed.



The PTO shaft speed indicated on the machine must never be exceeded!

The PTO shaft speed indicated on the machine corresponds to a rotor shaft speed of approx. 2100 rpm, which ensures the best shredding action.

6.2. Adjusting the cutting height.

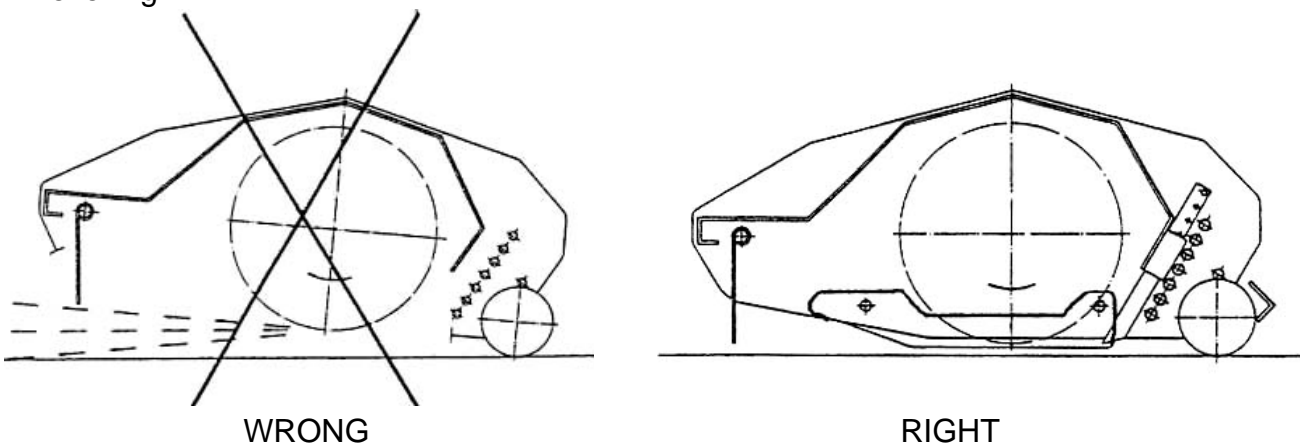
The cutting height of the Votex FLV shredder can be adjusted by shifting the ground-roller supports in relation to the cutting head. (See figure 6.2.1)

Using the top bar, adjust the machine so as to be perfectly horizontal in order to prevent wood or stones being hurled around from getting under the guard! (See figure 6.2.2)

Figure 6.2.1
Cutting-height adjustment



Figure 6.2.2
Levelling



6.3 Adjusting the rake teeth.

The Votex FLV is supplied with the adjustable rake teeth as a standard feature. These teeth ensure a better pickup of prunings, trimmings and wood wildshoots. Since the teeth are inclined forwardly, they bring plant growth up which is then hit by the hammers. (see figure 6.3.1) As a result, the hammers need not be adjusted very low above the ground, thus extending the life of the hammers. In addition, the rake teeth prevent prunings that are too big from being hurled out of the shredder. Adjust the rake teeth so that they almost touch the ground. When mowing grass with the machine, you must put the teeth upwards or remove them entirely. You can adjust the height of the rake teeth by placing the split pin into another hole. (see figure 6.3.1.2)

Figure 6.3.1
Rake-teeth adjustment

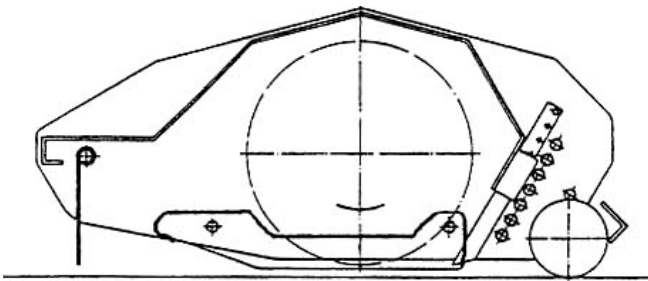
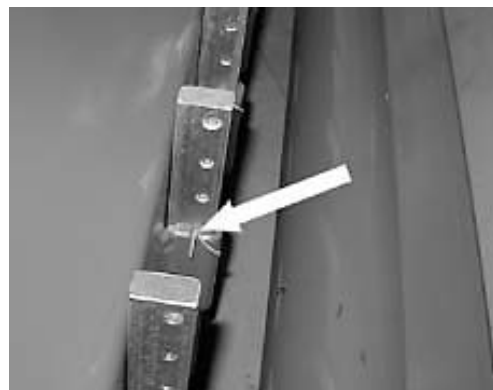


Figure 6.3.1.2



6.4. Vibrations in the machine.

When during operations there is a clearly noticeable increase in vibrations in the shredder or change in sound produced by the shredder, then stop operations immediately, locate the cause and eliminate it (see 7.1.) before continuing the work!

6.5 Uncoupling the shredder.



Place the shredder on horizontal solid ground with a minimum strength of 400 kPa (approx. 4 kg/cm²)



Be alert to residual pressure when uncoupling hydraulic hoses!

- pull the parking brake of the tractor and put the gear lever(s) into neutral,
- place the supporting leg in the lower position and lock it,
- lower the machine to the ground,
- shut down the tractor engine and remove the ignition key,
- then depressurize the hydraulic system of the machine by moving the sliding-cylinder operating levers on the tractor a few times back and forth (if provided),
- disconnect the hydraulic hoses and fit the dust caps,

- remove the PTO shaft on the tractor side and place it into the bracket provided for this purpose,
- remove top-bar and lifting-arm pins,
- remove lighting plug if mounted.

7. Machine maintenance.

Inspection and maintenance may be carried out only when:

- The tractor PTO shaft has been switched off
- The lifting device of the tractor is in its lower position
- The tractor engine has been shut down
- The ignition key has been removed
- The hydraulic system has been depressurized

The safety, reliability and life of your shredder largely depend on the maintenance carried out on the machine.

By following the recommendations below, you are assured of a well functioning and safely operating machine.

Maintenance schedule

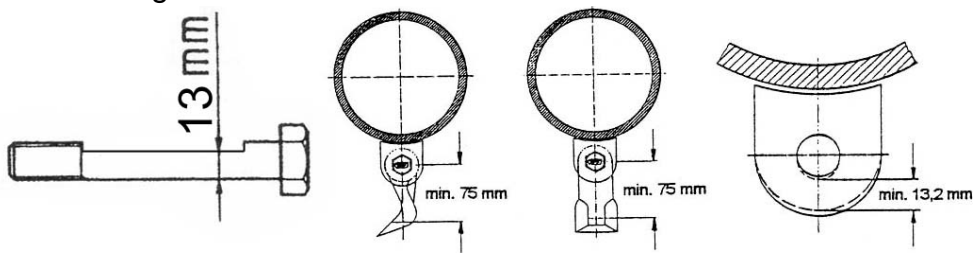
<u>After 1-2 operating hours:</u>	Retension the V-belts (see 7.7) Retighten all bolts and nuts
<u>Every 4 operating hours:</u>	Check the hammers and hammer mounting bolts (see 7.1)
<u>Every 8-10 operating hours:</u>	Lubricate ground roller, any wheels and the PTO shaft.
<u>Every 30-40 operating hours:</u>	Check the V- belt tension (see 7.6) Check oil level in gearbox (see 7.5) Retighten all bolts and nuts. Check the hydraulic hoses and couplings for wear and damage.
<u>After the first 50 operating hours:</u>	Change the oil in the gearbox
<u>Every 500-800 operating hours or once a year:</u>	Change the oil in the gearbox

7.1 Hammers, bolts and mounting plates.



Hammers, bolts and mounting plates on the rotor shaft must be checked regularly for wear. Never work with hammers, bolts and mounting plates that do not meet the minimum-dimension requirements! For this, see figure 7.1.1. Immediately replace any parts that do not meet the minimum dimensions required!

See figure 7.1.1
Minimum dimensions
of hammer mountings



Hammer mounting nut tightening moment: 80Nm

Worn hammers result in poor shredding quality that looks bad. When this happens, replace all hammers and, if necessary, all bolts.

Replacing only the hammers that are most worn would render the rotor shaft out of balance, resulting in vibrations which may cause serious damage to your shredder in a very short time. Vibrations may point to one or more (heavily) damaged hammers and/or hammer brackets. Also, objects wound around the rotor shaft (e.g. barbed wire) may cause vibrations. In the event of vibrations and/or changes in the shredder sound, switch off the PTO shaft immediately, then locate and eliminate the cause!

TIP

Excessive wear of hammers, bolts and mounting plates on the rotor shaft may be caused by too low a rotor shaft speed and/or frequent contact of the hammers with soil or water.

If one or more hammers have been (heavily) damaged, replace them with specimens that are worn to the same degree as the other hammers mounted.

If, after taking the above measures, there are still vibrations in the machine, this may point to a bent rotor shaft. Contact your dealer. Never try to repair a rotor shaft yourself!

7.2. Protection.

Regularly check the condition of the protection. Immediately replace damaged, bent or worn metal protecting flaps on the front side of the cutting head. Make sure the flaps can turn freely at all times. **It is prohibited by law to operate this machine without protecting flaps/guards or if they are worn!!**

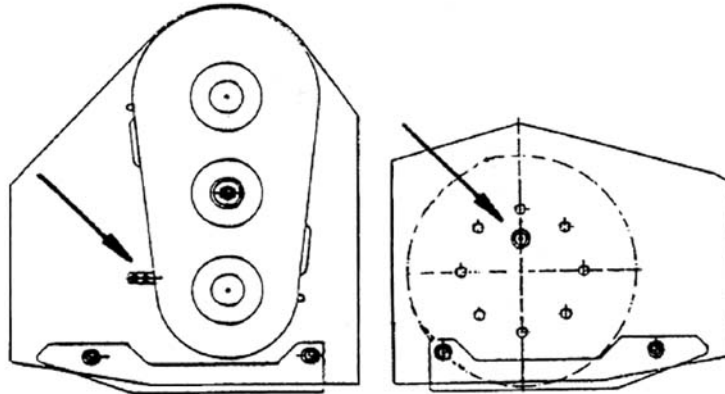
7.3. Greasing points.

The following greasing points are to be lubricated with a multipurpose lithium grease.

Greasing points:

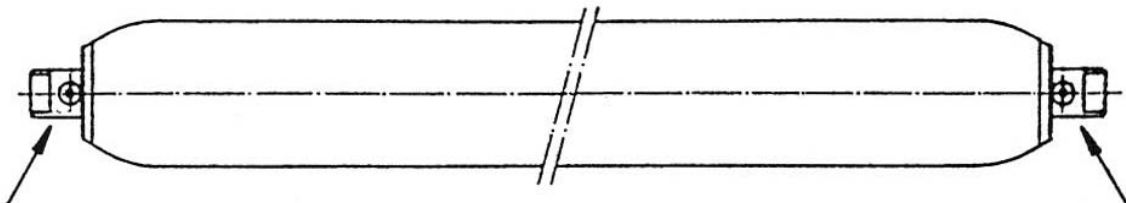
A Rotor shaft bearings (2 nipples)

Every 2 days. Each time not more than 2-3 shots per bearing with the grease gun since they are closed bearings.



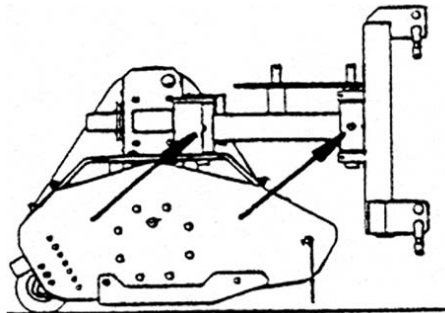
B Ball bearings of ground roller (2 nipples)

Every day, generously introduce grease until it comes out at the ground-roller shaft



C Knuckles of the arms (if provided) between three-point linkage and main frame (4 nipples)

Every 10 operating hours generously introduce grease until it comes out at the shafts



The PTO shaft must be lubricated according to the lubrication schedule of the manufacturer.

7.4. Hydraulic system. (if provided)

The hydraulic oil in hoses and cylinder is replaced automatically when replacing the hydraulic oil of the tractor. It is therefore important to follow the pertinent instructions of the tractor manufacturer.

7.5. Gearbox.

The oil recommended for the gearboxes is: Gear Oil SAE 90 API GL4.

The oil content required for the gearbox is 1.3 l for the 190001 box and 1.6 l for the 200001 box. For gearbox identification, see the parts list. The oil in the gearbox is to be changed for the first time after 50 running hours and subsequently once in a season. In addition, it is necessary to check the gearbox regularly for any leakages.

Changing the oil: (see figure 7.5.1)

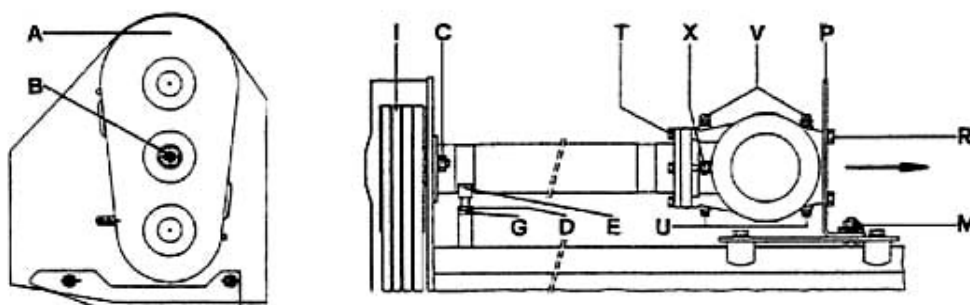
The best way to handle changing the oil in the gearbox is to remove the gearbox. This may seem a rather laborious method, but it is by far the easiest and quickest way.

To remove the gearbox, proceed as follows:

- Remove V-belt guard
- Loosen nuts C and check nut D
- Give nut G a few turns upwards
- Remove nuts M and bolts T
- Pull the gearbox away in the direction of the arrow
- Remove bleed nipple V and drain plug U and let the oil run into a drain pan.
- Place the drain plug back, remove level plug X and fill the gearbox with the specified amount of oil. Then place bleed nipple V and level plug X back.
- Mount the gearbox and all bolts and nuts in reverse order of removal, and make sure the V-belts are tensioned correctly.

Figure 7.5.1

Changing gearbox oil

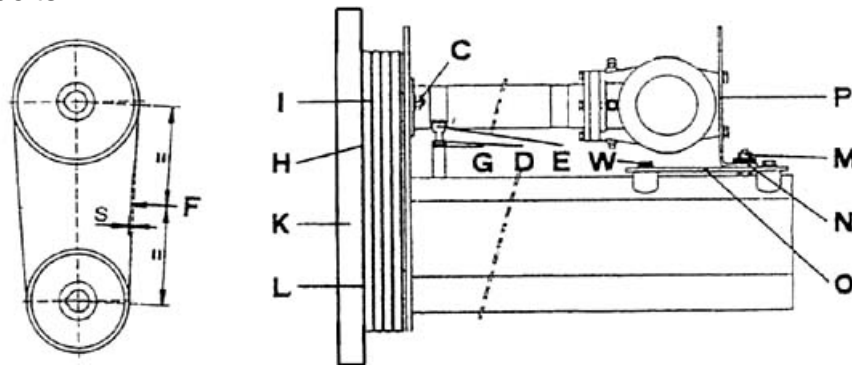


7.6 Removing and mounting the V-belts. (see figure 7.6.1)

- Loosen the fixing bolt of the V-belt guard,
- Remove the V-belt guard,
- Slightly loosen 2 bolts C by which the drive housing is fixed to the side plate,

- Loosen lock nut D of the V-belt tensioning bolt,
- Loosen V-belt tensioning nut G to the extent that you can remove the V-belts,
- Remove the old belts and fit the new belts around the pulleys,
- Turn nut G to tension the V-belts,
- Pull (for instance using a spring balance) at a belt midway between the two pulleys with a force F of 5 daN (5.1 kg).
- The V-belt tension is correct when in doing so the belt is pulled away by not more than 5-6 mm.
- Check with straight edge K whether the pulleys are properly aligned,
- Adjust the alignment, if necessary, by placing one or more rings N between base plate O and gearbox plate P,
- After adjusting the alignment, it is necessary to recheck V-belt tension,
- Retighten all bolts and nuts in reverse order of removal,
- Mount the V-belt guard.

Figure 7.6.1
Mounting and
removing V-belts



7.7 Tensioning the V-belts. (see figure 7.6.1)

- Remove the V-belt guard,
- Loosen nuts C and D,
- Turn nut G until reaching the correct V-belt tension (see above). Do not forget to check pulley alignment,
- Retighten nuts C and D, and amount the V-belt guard.

Note: First-time retensioning must be carried out after about 1-2 operating hours. The tension and condition of the V-belts are subsequently to be checked at regular intervals.

7.8. Winter storage.

In the event the machine is put out of service for an extended period of time, it will be necessary to carry out an extensive cleaning. Thereupon, lubricate all greasing points (see chapter 7.3.) and change the gearbox oil (see chapter 7.5.). After this, have the machine run for a few minutes.

8. Scrapping the machine.

When the machine is to be scrapped, you must take the following measures:

- place a drain pan under the gearbox and drain the oil,
- remove all hydraulic components and collect the oil,
slide the cylinder a few times in and out, and collect the residual oil,
- remove grease from:
 - bearing housings including bearings,
 - ground-roller bearings

Remove all rubber and synthetic parts and dispose of them in accordance with the regulations in force. Dispose of the grease and oil in accordance with the regulations in force. Dispose of the remaining parts as scrap iron.

Appendix.

- A. Ordering parts.
- B. Liability and warranty.
- C. Notes.
- D. Conversion table.
- E. Tightening moments.

A. Ordering parts.

Your order for parts should contain the following details (see type plate):

- Model
- Type
- Serial number
- Part number, part name and quantity

For any part whose number cannot be determined with certainty, you may send the original in order to avoid delivery of a wrong part. The parts of the figures in this manual may show differences with the original because due to design adaptations or improvements a particular part may have been changed prior to the release of a new edition of this book. It is therefore advisable not to rely only on the illustrations. Use original Votex parts only so that you will be assured of excellent quality and a good fit.

B. Liability and warranty.

Votex B.V. guarantees the proper operation of your machine for a period of 12 months after delivery, provided the instructions contained in this manual are followed as described.

- The machine shall be used only by persons who have thoroughly studied this manual beforehand, and are well aware of the dangers that may result from not properly following pertinent instructions. This also applies to the persons responsible for adjusting and servicing the machine.
- The machine shall be used only for the specified purposes.
- Always duly observe the safety instructions.
- **Replacement parts will be compensated within the period of guarantee only if they have been ordered from Votex b.v.**
- Use only original Votex parts/components and the specified lubricants.
- Always duly observe the local safety regulations as in force with regard to the prevention of accidents, transport safety and traffic regulations.
- **Important!**
This manual applies to the original Votex technical design and construction of your machine. Votex B.V. can therefore not be held responsible and disclaims any liability for any damage resulting from any technical alteration or change independently made to the machine and from the use of any parts other than those from Votex. This provision also applies to the use of any other lubricants, improper or insufficient maintenance and any repairs carried out improperly, without prior consultation with Votex B.V.
- **Please note that:**
In case this manual is **not** correctly complied with, Votex B.V. cannot be held liable for any warranty claims within the period of guarantee.

- The terms of delivery and payment used by Votex B.V. are the terms and conditions of the Metaalunie. These have been lodged with the Registry of the Court of Rotterdam. They include the Algemene Handelsvoorwaarden Landbouwwerktuigen en – uitrustingen (AHL) (general terms of business for agricultural machinery and equipment).
- If the guarantee card and user declaration have not been correctly and completely filled in and returned to Votex b.v. within 14 days after delivery, warranty requests, if any, will not be considered.

C. Notes.

All rights reserved.

No part of this book may be reproduced and/or made public by means of reprint, photocopy, microfilm or in any other form whatsoever, without the express prior permission in writing from Votex B.V. This also applies to the accompanying drawings and diagrams.

Votex B.V. reserves the right to adapt parts for improvement at any time, without prior notice to the buyer.

Likewise, the contents of this manual may be changed accordingly without prior notice.

For information about adjustments, maintenance or repairs not covered by this manual, we recommend that you contact the technical department of your supplier.

D. Conversion table.

Length

$$1 \text{ m} = 100 \text{ cm} = 1000 \text{ mm}$$

Volume

$$1 \text{ m}^3 = 1000 \text{ dm}^3 = 1000 \text{ l}$$

Force and weight

$$1 \text{ N} = 0.102 \text{ kg (f)} = 0.102 \text{ kp}$$

Pressure and stress

$$1 \text{ bar} = 0.987 \text{ atm} = 100 \text{ kPa} = 100 \text{ kN/m}^2$$

Tightening moment

$$1 \text{ Nm} = 0.102 \text{ kg (f) m}$$

Power

$$1 \text{ kW} = 1000 \text{ W} = 1.36 \text{ pk} = 1.36 \text{ cv} = 1.34 \text{ hp}$$

Number of revolutions

$$1 \text{ omw./min} = 1 \text{ rpm} = 1 \text{ U/min} = 1 \text{ tr/mn} = 1 \text{ min}^{-1}$$

Speed

$$1 \text{ km/h} = 0.278 \text{ m/s}$$

E. Tightening moments.

All bolt connections must be tightened according to the table below, unless otherwise stated in the manual or parts list.

Thread	Tightening moment (Nm)
M 8	24
M 10	49
M 12	84
M 14	133
M 16	205
M 18	290
M 20	410

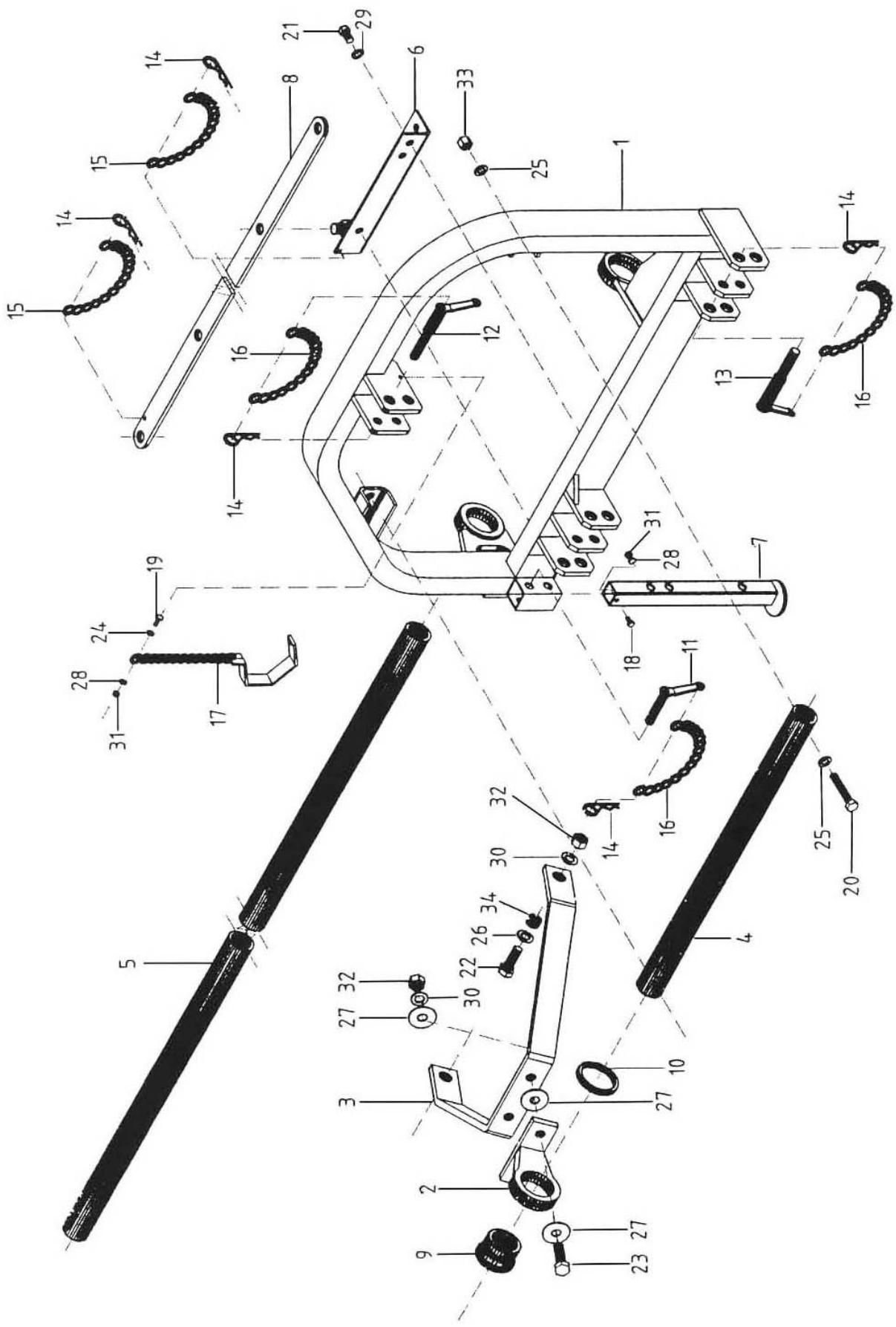
Votex FLV

Dreipuntsframe

Three points linkage

Attelage 3-points

Dreipunktaufhängung



Votex FLY

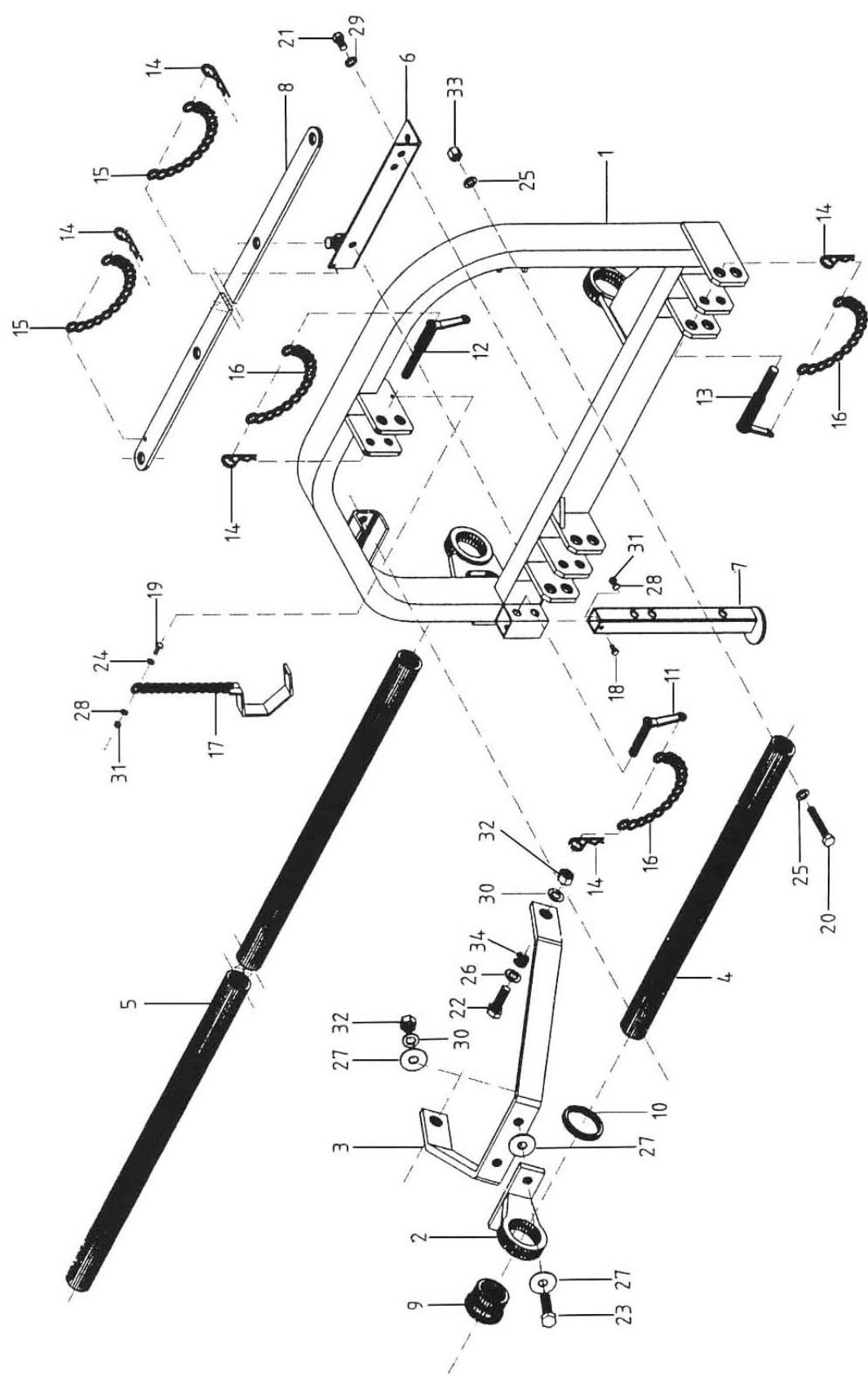
Driepuntsframe

Three points linkage

Dreipunktaufhängung

<u>no.</u>	<u>onderdeel nummer</u>	<u>type</u>	<u>125</u>	<u>150</u>	<u>175</u>	<u>200</u>	<u>225</u>	<u>Omschrijving</u>	<u>Description</u>	<u>Designation</u>	<u>Beschreibung</u>	<u>technische info</u>
1	73.32.710	1						Driepuntsframe	Three points linkage	Attelage trois points	Dreipunkt Aufhängung	FLV 125
	73.32.713	1	1	1	1	1	1	Driepuntsframe	Three points linkage	Attelage trois points	Dreipunkt Aufhängung	FLV 150-225
2	73.32.716	1	1	1	1	1	1	Geleide oog	Guiding eye	Oeil de guidage	Geleite aug	FLV
3	73.32.719	1	1	1	1	1	1	Dreipuntsbeugel	Three points support	Support 3eme points	Dreipunktbügel	FLV
4	73.32.722	1						Geleidebuis	Guiding tube	Tube de guidage	Geleite rohr	FLV boven Kat1
5	73.32.725	1	1	1	1	1	1	Geleidebuis	Guiding tube	Tube de guidage	Geleite rohr	FLV boven Kat1-2
	73.32.728	1						Geleidebuis	Guiding tube	Tube de guidage	Geleite rohr	Onder FLV 125
	73.32.734	1						Geleidebuis	Guiding tube	Tube de guidage	Geleite rohr	Onder FLV 150
	73.32.740	1						Geleidebuis	Guiding tube	Tube de guidage	Geleite rohr	Onder FLV 175
	73.32.743	1					1	Geleidebuis	Guiding tube	Tube de guidage	Geleite rohr	Onder FLV 200
	73.32.747	1					1	Geleidebuis	Guiding tube	Tube de guidage	Geleite rohr	Onder FLV 225
6	73.32.753	1	1	1	1	1	1	Steen	Support	Support	Stütze	FLV
7	73.31.663	1	1	1	1	1	1	Steenpoot	Parking leg	Béquille	Stütze	
8	73.32.756	1						Verstelstrip	Adjustment strip	Plaque de reglage	Einstellstreife	FLV 125
	73.32.762	1						Verstelstrip	Adjustment strip	Plaque de reglage	Einstellstreife	FLV 150
9	73.32.765	1	1	1	1	1	1	Verstelstrip	Adjustment strip	Plaque de reglage	Einstellstreife	FLV 175-225
10	73.32.768	3	3	3	3	3	3	Kunststofbus	Bush plastic	Bague plastique	Büchse kunststof	M80x60
11	73.31.588	3	3	3	3	3	3	Moer	Nut	Écrou	Mutter	M80
12	73.31.669	1	1	1	1	1	1	Topstangpen	Top link pin	Broche troisieme point	Bolzen	Kat 1
	73.31.669	1	1	1	1	1	1	Topstangpen	Top link pin	Broche troisieme point	Bolzen	kat 1-2
	73.31.510	1	1	1	1	1	1	Topstangpen	Top link pin	Broche troisieme point	Bolzen	Kat 1
13	73.31.507	2	2	2	2	2	2	Werktuigpen	Link pin	Broche	Lenker bolzen	kat1-2 oud model
	73.32.876	2	2	2	2	2	2	Werktuigpen	Link pin	Broche	Lenker bolzen	kat 1-2 nieuw model
	73.33.326	2	2	2	2	2	2	Werktuigpen	Link pin	Broche	Lenker bolzen	kat1
14	20.01.029	6	6	6	6	6	6	Borgveer dubbel	Gripclip double	Goupille beta double	Federstecker doppelt	4mm
15	73.31.528	2	2	2	2	2	2	Ketting cpl.	Chain cpl.	Chaîne cpl.	Kette kpl.	2.2x180mm
16	73.31.516	4	4	4	4	4	4	Ketting cpl.	Chain cpl.	Chaîne cpl.	Kette kpl.	2.2x290mm
17	73.31.519	1	1	1	1	1	1	Kruiskoppelingas houder	Drive shaft support	Support de cardan	Gelenkwellehalter	
18	10.02.087	1	1	1	1	1	1	Zeskanttabout	Bolt	Vis	Sechskantschraube	M8x16-8.8
19	10.02.092	1	1	1	1	1	1	Zeskanttabout	Bolt	Vis	Sechskantschraube	M8x30-8.8
20	10.04.215	2	2	2	2	2	2	Zeskantbout	Bolt	Vis	Sechskantschraube	M16x90-8.8
21	10.02.203	2	2	2	2	2	2	Zeskanttabout	Bolt	Vis	Sechskantschraube	M16x25-8.8
22	10.02.261	2	2	2	2	2	2	Zeskanttabout	Bolt	Vis	Sechskantschraube	M20x60-8.8
23	10.04.263	2	2	2	2	2	2	Zeskantbout	Bolt	Vis	Sechskantschraube	M20x70-8.8
24	12.11.008	1	1	1	1	1	1	Sluitring	Washer	Rondelle	Unterlegscheibe	M8
25	12.11.016	4	4	4	4	4	4	Sluitring	Washer	Rondelle	Unterlegscheibe	M16

Votex FLV Driepuntsframe Three points linkage Attelage 3-points Dreipunktaufhängung



Votex FLV

	Driepuntsframe			Three points linkage			Attelage 3-points			Dreipunktaufhängung		
<u>no.</u>	<u>onderdeel nummer</u>	<u>125</u>	<u>type</u>	<u>150</u>	<u>175</u>	<u>200</u>	<u>225</u>	<u>Omschrijving</u>	<u>Description</u>	<u>Designation</u>	<u>Beschreibung</u>	<u>technische info</u>
26	12.11.020	2	2	2	2	2	2	Sluitring	Washer	Rondelle	Unterlegscheibe	M20
27	73.32.786	6	6	6	6	6	6	Sluitring	Washer	Rondelle	Unterlegscheibe	M20x60x4
28	12.01.008	2	2	2	2	2	2	Veerring	Spring washer	Rondelle grower	Federring	M8
29	12.01.016	2	2	2	2	2	2	Veerring	Spring washer	Rondelle grower	Federring	M16
30	12.01.020	4	4	4	4	4	4	Veerring	Spring washer	Rondelle grower	Federring	M20
31	11.02.008	2	2	2	2	2	2	Zeskantmoer	Nut	Écrou	Mutter	M8
32	11.02.020	4	4	4	4	4	4	Zeskantmoer	Nut	Écrou	Mutter	M20
33	11.05.016	2	2	2	2	2	2	Borgmoer	Lock nut	Écrou autofreiné	Sicherungsmutter	M16
34	73.32.789	2	2	2	2	2	2	Afstandsring	Distance ring	Rondelle d'entretoise	Distanzring	

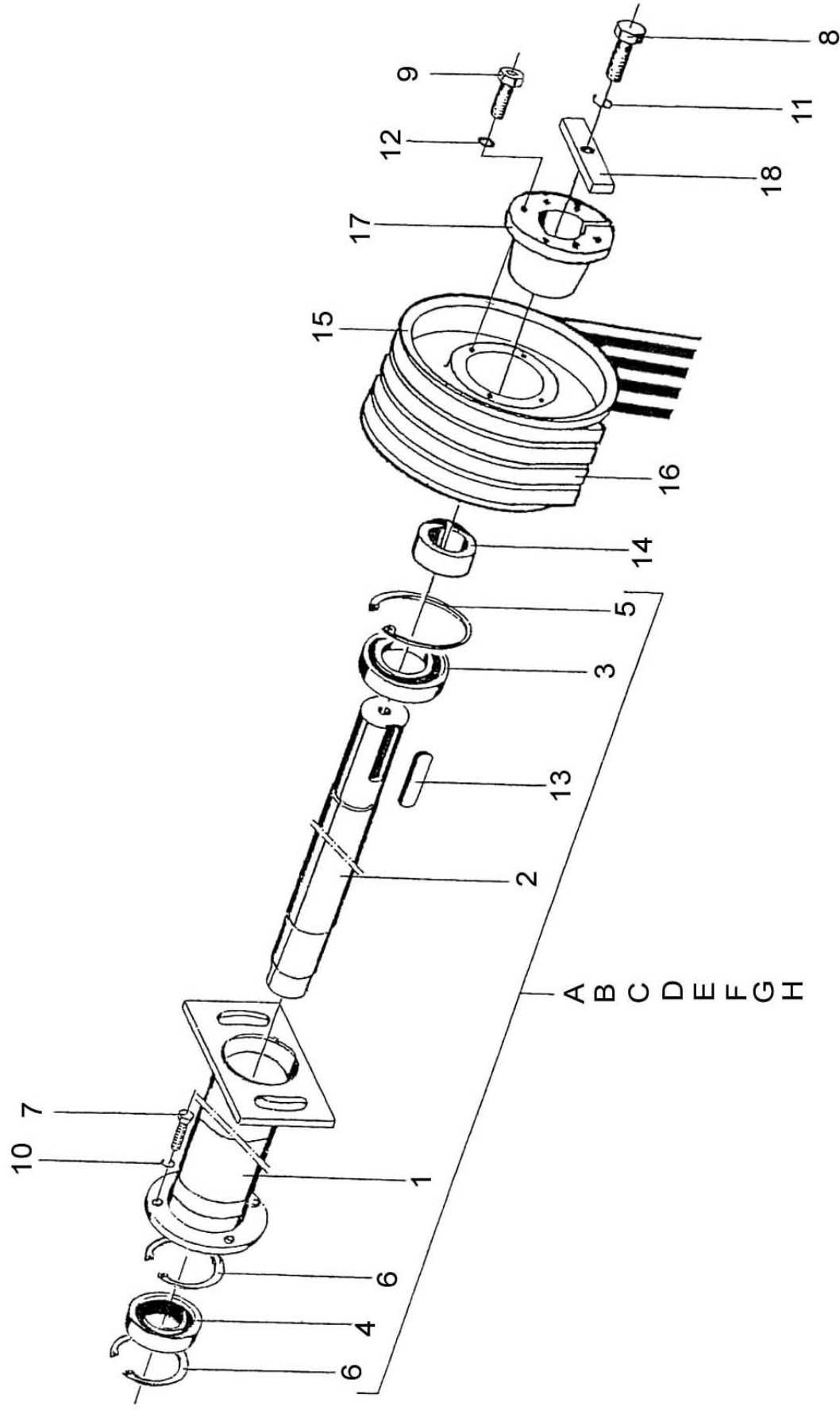
Votex FLV

Aandrijving

Drive

Transmission

Antrieb



Votex FLV

no.	onderdeel nummer	125	type			Aandrijving	Drive	Transmission	Antrieb	technische info
			150	175	200					
					Omschrijving	Description	Designation	Beschreibung		
1	73.31.261	1			Lagerhuis	Bearing house	Cage de roulements	Lagergehause	L=335mm	
	73.31.267		1		Lagerhuis	Bearing house	Cage de roulements	Lagergehause	L=580mm	
	73.31.273		1		Lagerhuis	Bearing house	Cage de roulements	Lagergehause	L=830mm	
	73.31.276			1	Lagerhuis	Bearing house	Cage de roulements	Lagergehause	L=955mm	
2	73.31.279	1		1	Lagerhuis	Bearing house	Cage de roulements	Lagergehause	L=1045mm	
	73.37.871	1			Aandrijfjas	Drive shaft	Arbre d'entraînement	Antriebachse	L=400mm	
	73.37.877	1			Aandrijfjas	Drive shaft	Arbre d'entraînement	Antriebachse	L=645mm	
	73.37.883		1		Aandrijfjas	Drive shaft	Arbre d'entraînement	Antriebachse	L=895mm	
	73.37.886			1	Aandrijfjas	Drive shaft	Arbre d'entraînement	Antriebachse	L=1020mm	
	73.37.889			1	Aandrijfjas	Drive shaft	Arbre d'entraînement	Antriebachse	L=1110mm	
3	18.05.011	1	1	1	Kogellager	Ball bearing	Roulement à billes	Kugellager	6208-2RS1	
4	18.05.008	1	1	1	Kogellager	Ball bearing	Roulement à billes	Kugellager	6009-2RS1	
5	12.31.080	1	1	1	Zekeringsring	Circlip	Circlip	Sicherungsringe	80x2.5	
6	12.31.075	2	2	2	Zekeringsring	Circlip	Circlip	Sicherungsringe	75x2.5	
7	10.02.152	4	4	4	Zeskanttapbout	Bolt	Vis	Sechskantschraube	M12x30-8.8	
8	10.01.153	1	1	1	Zeskanttapbout	Bolt	Vis	Sechskantschraube	M12x35-8.8	
9	10.28.124	4	4	4	Cilinderkopschroef	Cylinderhead screw	Vis à tête cilindrique	Zylinderkopfschraube	M10x45	
10	12.01.012	4	4	4	Veerring	Spring washer	Rondelle grower	Federring	M12	
11	12.01.012	1	1	1	Veerring	Spring washer	Rondelle grower	Federring	M12	
12	12.01.010	4	4	4	Veerring	Spring washer	Rondelle grower	Federring	M10	
13	15.08.060	1	1	1	Inlegsple	Sunk key	Clavette	Paßfeder	12x8x60-	
14	73.32.671	1	1	1	Afstandsbus	Distance bush	Bague d'entretoise	Distanzbüchse	225 B3 Ø 40	
15	73.39.335	1	1	1	V-snaarschijf	V-belt pulley	Poulie à gorges	Keilriemenscheibe	225 B4 Ø 40	
16	73.39.338		3	4	V-snaarschijf	V-belt pulley	Poulie à gorges	Keilriemenscheibe	17x11x1320 B52	
17	19.02.025	3	4	4	V-snaar	V-belt	Courroie	Keilrieme		
18	73.32.629	1	1	1	Conische klembus	Conical Bush	Moyeu conique	Spannbüchse		
	73.32.632	1	1	1	Borgplaat	Lock plate	Plaque de blocage	Sicherungsplatte		

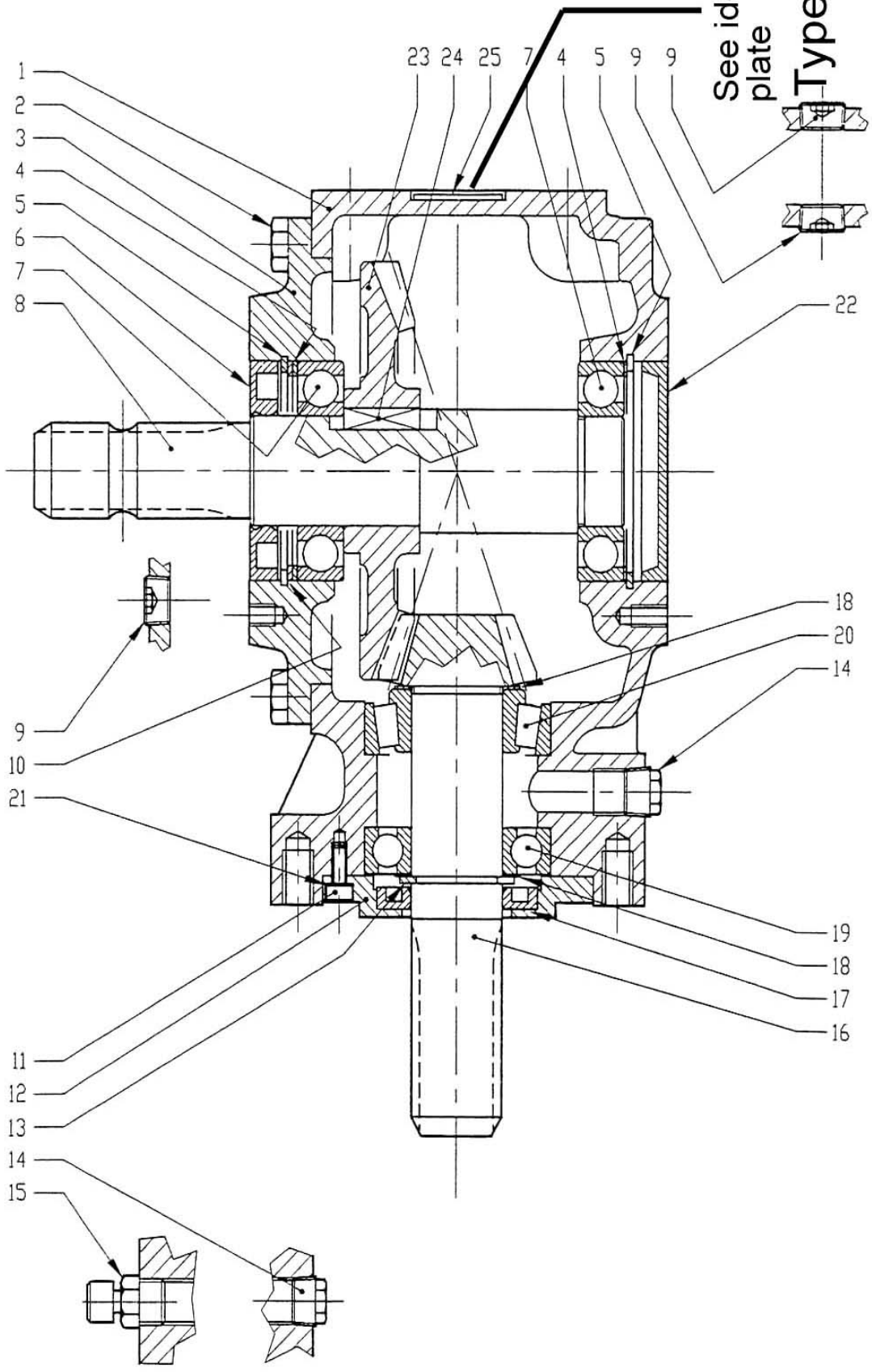
Votex FLV
540rpm 1:3

Tandwielkast

Gearbox

Boitier à renvoie d angle

Getriebe



Votex FLV**type 190001****Tandwielkast****Gearbox****Boitier à renvoie d'angle****Getriebe**

<u>no.</u>	<u>onderdeel</u>	<u>Aantal</u>	<u>Omschrijving</u>	<u>Description</u>	<u>Designation</u>	<u>Beschreibung</u>	<u>technische info</u>
1-25	73.90.001	1	Tandwielkast	Gearbox plate	Boitier à renvoie d'angle	Getriebe	twk 540 rpm 1:3
1	73.31.852	1	Tandwielkasthuis	Gearbox case	Boitier	Getriebegehäuse	
2	10.02.120	8	Zeskantapbout	Bolt	Vis	Sechskantschraube	M10x25-8.8
3	73.31.858	1	Tandwielkastdeksel	Gearbox cover	Couvercle	Getriebedeckel	
4	13.03.032	x	Shim	Shim	Rondelle de réglage	Paßscheibe	70x80x0.3
5	13.03.033	x	Shim	Shim	Rondelle de réglage	Paßscheibe	70x80x0.5
6	12.31.080	2	Zekeringsring	Circlip	Circlip	Sicherungsringe	80x2.5
7	73.31.864	1	Keerring	Seal ring	Joint d'étanchéité	Simmerring	40X80X12 BASL
8	18.01.007	2	Kogellager	Ball bearing	Roulement à billes	Kugellager	6208
9	73.31.870	1	Aandrijfas	Drive shaft	Arbre d'entraînement	Antriebachse	
10	73.31.693	3	Stop	Plug	Bouchon	Stopfen	3/8"
11	28.07.033	2	Shim	Shim	Rondelle de réglage	Paßscheibe	70X80X1.0mm
12	10.28.060	8	Cilinderkopschroef	Cylinderhead screw	Vis à tête cilindrique	Zylinderkopfschraube	M6x12
13	73.31.876	1	Tandwielkastdeksel	Gearbox cover	Couvercle	Getriebedeckel	
14	12.33.035	1	Zekeringsring	Circlip	Circlip	Sicherungsringe	35x2.5
15	11.11.338	2	Kraagplug	Plug	Bouchon fileté	Verslúisschraube	R3/8"
16	26.10.536	1	Ontluchtingsnippel m.klep	Air release nipple w. valve	Reniflard d'air avec valve	Entlúfter m.klappe	R3/8
17	73.31.882	1	Pignonas	Pignon shaft	Axe de pignon	Kegelzahnrad mit welle	35x62x7
18	17.01.031	1	Keerring	Seal ring	Joint d'étanchéité	Simmerring	
19	73.31.696	2	Shim	Shim	Rondelle de réglage	Paßscheibe	6207
20	18.01.006	1	Kogellager	Ball bearing	Roulement à billes	Kugellager	32207-J2/Q
21	18.11.001	1	Kogellager	Tapered rolling bearing	Roulement à rouleau conique	Kegellager	M6
22	12.01.006	8	Veerring	Spring washer	Rondelle grower	Federring	80mm
23	28.08.002	1	Deksel	Cap	Couvercle	Deckel	
24	73.31.897	1	Kogelwiel	Crownwheel	Pignon	Kegelzahnrad	36T twk 190001 / 190005
25	15.08.040	1	Inlegspie	Sunk key	Clavette	Paßfeder	12x8x40-
	73.31.765	1	Typeplaatje	Name plate	Plaque signalétique	Typeplaatje	

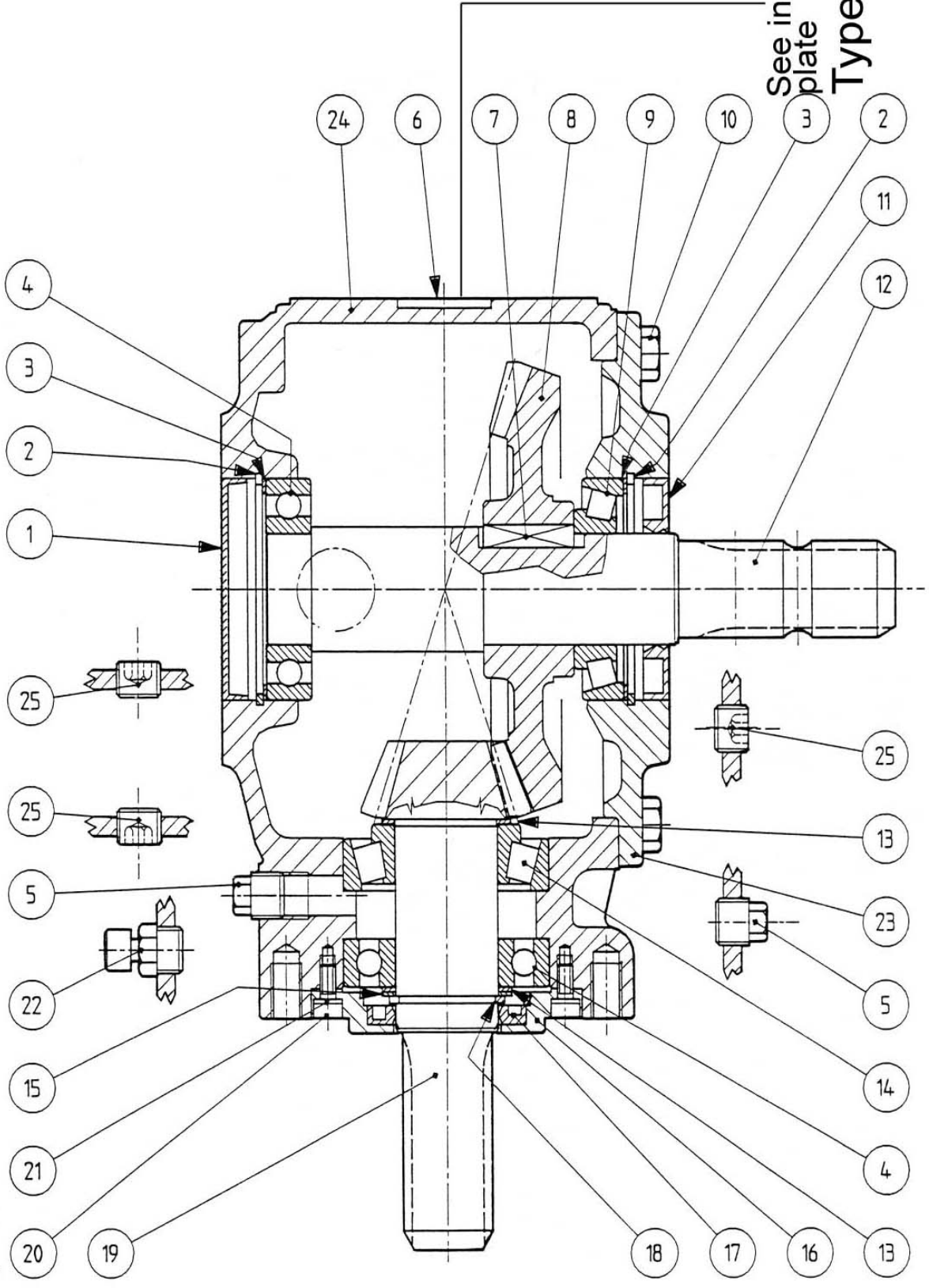
Votex FLV
540 rpm 1:3

Tandwielkast

Gearbox

Boitier à renvoie d angle

Getriebe



Votex FLV

type 200001		Tandwielkast		Gearbox		Boitier à renvoie d'angle		Getriebe	
<u>no.</u>	<u>onderdeel</u>	<u>Aantal</u>	<u>Omschrijving</u>	<u>Description</u>	<u>Designation</u>	<u>Beschreibung</u>	<u>technische info</u>		
1-25	28.01.220	1	Tandwielkast	Gearbox	Boitier à renvoie d'angle	Getriebe	540 rpm 1:3		
1	73.31.894	1	Kap	Cap	Couvercle	Kappe			
2	12.31.080	2	Zekeringsring	Circlip	Circlip	Sicherungsringe	80x2.5		
3	13.03.033	2	Shim	Shim	Rondelle de réglage	Paßscheibe	70x80x0.5		
4	18.01.007	2	Kogellager	Ball bearing	Roulement à billes	Kugellager	6208		
5	11.11.338	2	Kraagplug	Plug	Bouchon fileté	Verslúßschraube	R3/8"		
6	73.31.765	1	Typeplaatje	Name plate	Plaque signalétique	Typenschild			
7	73.31.912	1	Inlegsple	Sunk key	Clavette	Paßfeder	12x8x35		
8	73.31.915	1	Kegelwiel	Crownwheel	Pignon	Kegelzahnrad	twk 200001 200003 200005		
9	18.11.010	1	Kegellager	Tapered rolling bearing	Roulement à rouleau conique	Kegellager	30208-J2		
10	10.02.120	8	Zeskanttapbout	Bolt	Vis	Sechskantschraube	M10x25-8.8		
11	73.31.864	1	Keerring	Seal ring	Joint d'étanchéité	Simmerring	40X80X12 BASL		
12	73.31.921	1	Aandrijfas	Drive shaft	Arbre d'entraînement	Antriebachse			
13	73.31.789	2	Shim	Shim	Rondelle de réglage	Paßscheibe			
14	18.11.011	1	Kegellager	Tapered rolling bearing	Roulement à rouleau conique	Kegellager	32208-J2		
15	73.31.927	1	Shim	Shim	Rondelle de réglage	Paßscheibe	51.5 x 40.3 x 1.0		
16	73.31.876	1	Tandwielkastdeksel	Gearbox cover	Couvercle	Getriebedeckel			
17	17.01.012	1	Keerring	Seal ring	Joint d'étanchéité	Simmerring	40x62x7		
18	12.33.040	1	Zekeringsring	Circlip	Circlip	Sicherungsringe	40x2.5		
19	73.31.936	1	Pignonas	Pignon shaft	Axe de pignon	Ritzel mit welle	12T twk 200001		
20	10.28.061	8	Cilinderkopschroef	Cylinderheadcrew	Vis à tête cilindrique	Zylinderkopfschraube	M6x16		
21	12.01.006	8	Veerring	Spring washer	Rondelle grower	Federring	M6		
22	26.10.536	1	Ontluchtingsnippel m.klep	Air release nipple w.valve	Reniflard d'air avec valve	Entlüfter m.klappe	R3/8		
23	73.31.939	1	Tandwielkastdeksel	Gearbox cover	Couvercle	Getriebedeckel	twk 200001		
24	73.31.942	1	Tandwielkasthuis	Gearbox case	Boitier	Getriebegehäuse	twk 200001		
25	73.31.693	1	Stop	Plug	Bouchon	Stopfen	3/8"		

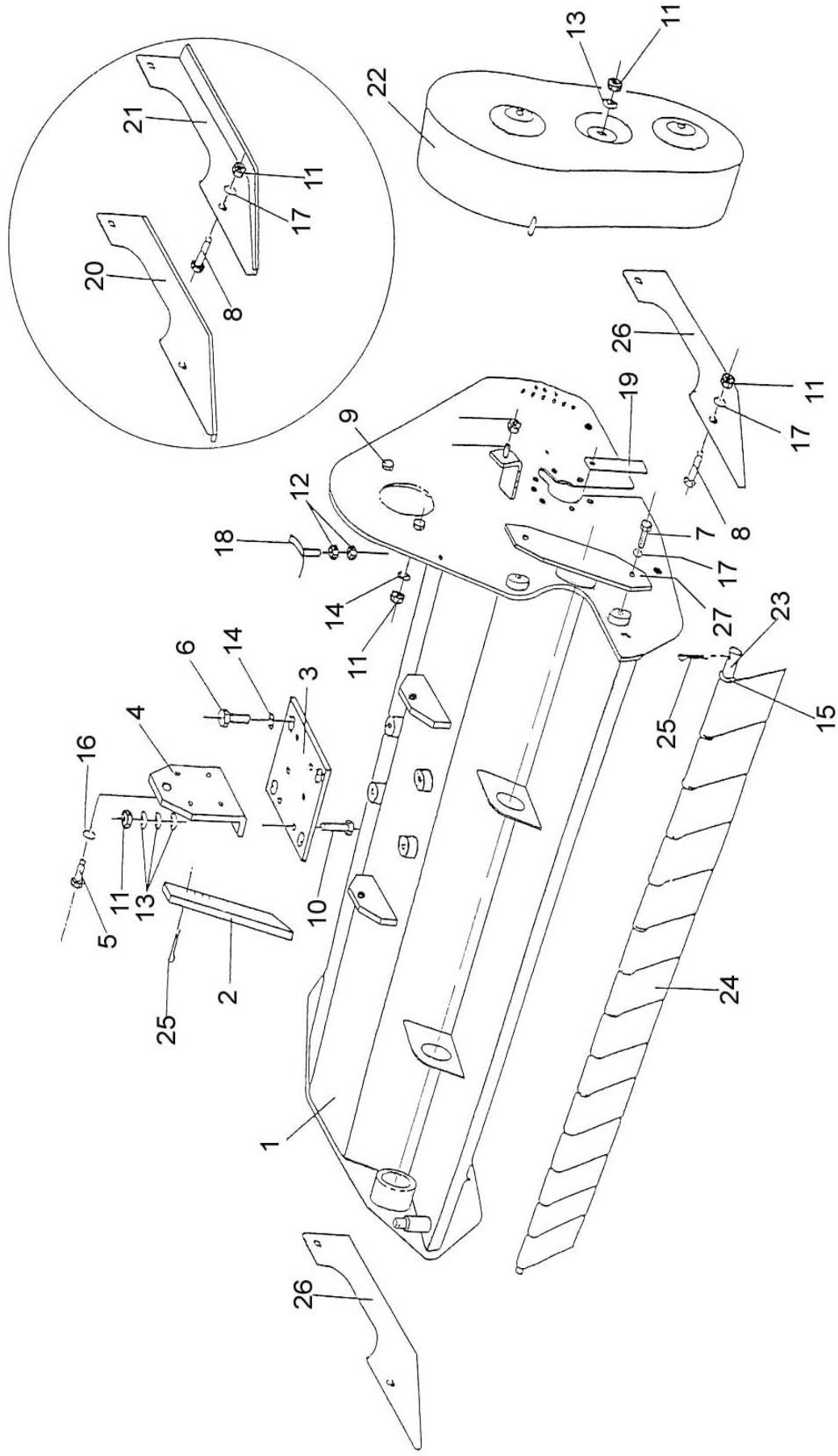
Votex FLV

Maaigedeelte

Cutting house

Carter de broyage

Mähergehäuse



Votex FLV

no.	onderdeelnummer	125	150	175	200	225	<u>Maaigedeelte</u>	<u>Discription</u>	<u>Carter de broyage</u>	<u>Mähergehäuse</u>	<u>technische info</u>
							<u>Omschrijving</u>	<u>Designation</u>	<u>Beschreibung</u>		
1	73.38.591	1					Maaigedeelte	Cutting head	Carter de broyage	Mähergehäuse	FLV 125
	73.38.597		1				Maaigedeelte	Cutting head	Carter de broyage	Mähergehäuse	FLV 150
	73.38.603			1			Maaigedeelte	Cutting head	Carter de broyage	Mähergehäuse	FLV 175
	73.38.606				1		Maaigedeelte	Cutting head	Carter de broyage	Mähergehäuse	FLV 200
	73.38.609					1	Maaigedeelte	Cutting head	Carter de broyage	Mähergehäuse	FLV 225
2	73.31.027	8	10	11	14	16	Harkstand	Rake tooth	Dent	Zahn	
3	73.31.030	1	1	1	1	1	Tandwielkastplaat	Gearbox plate	Plaque de Boitier	Getriebe platte	
4	73.31.033	1	1	1	1	1	Tandwielkastplaat	Gearbox plate	Plaque de Boitier	Getriebe platte	Voor twk 145...
	73.31.036	1	1	1	1	1	Tandwielkastplaat	Gearbox plate	Plaque de Boitier	Getriebe platte	Voor twk 190.....200...
5	10.02.178	4	4	4	4	4	Zeskanttapbout	Bolt	Vis	Sechskantschraube	M14x25-8.8
6	10.02.204	4	4	4	4	4	Zeskanttapbout	Bolt	Vis	Sechskantschraube	M16x30-8.8
7	10.02.205	2	2	2	2	2	Zeskanttapbout	Bolt	Vis	Sechskantschraube	M16x35-8.8
8	10.02.206	4	4	4	4	4	Zeskanttapbout	Bolt	Vis	Sechskantschraube	M16x40-8.8
9	10.02.206	2	2	2	2	2	Zeskanttapbout	Bolt	Vis	Sechskantschraube	M16x40-8.8
10	10.02.207	3	3	3	3	3	Zeskanttapbout	Bolt	Vis	Sechskantschraube	M16x40-8.8
11	11.02.016	10	10	10	10	10	Zeskantmoer	Nut	Écrou	Mutter	M16
12	11.13.016	2	2	2	2	2	Zeskantmoer laag	Nut thin	Écrou	Mutter laag	M16
13	12.15.016	7	7	7	7	7	Carrosseriering	Mudwingwasher	Rondelle de carrosserie	Kotflügelscheibe	M16x50x2.5
14	12.11.016	6	6	6	6	6	Sluitring	Washer	Rondelle	Unterlegscheibe	M16
15	12.11.020	X	X	X	X	X	Sluitring	Washer	Rondelle	Unterlegscheibe	M20
16	12.01.014	4	4	4	4	4	Veerring	Spring washer	Rondelle grower	Federring	M14
17	12.01.016	6	6	6	6	6	Veerring	Spring washer	Rondelle grower	Federring	M16
18	73.31.075	1	1	1	1	1	V-snaarspanbeugel	Tensioner clamp	Dispositive de tension	Spannvorrichtung	
19	73.38.507	1	1	1	1	1	Plaatje	Plate	Plaque	Zunge	
20	73.31.081	1	1	1	1	1	Leidslof	Skid	Patin	Schleifsohle	Re
21	73.31.084	1	1	1	1	1	Leidslof	Skid	Patin	Schleifsohle	Li
22	73.38.564	1	1	1	1	1	V-snaar afschermkap	V-belt guard	Protection de courroie	KeilriemenSchutzblech	FLV
23	73.31.090	1					Scharmieras	Hinge shaft	Axe de charnière	Scharnierachse	125
	73.31.096		1				Scharmieras	Hinge shaft	Axe de charnière	Scharnierachse	150
	73.31.102			1			Scharmieras	Hinge shaft	Axe de charnière	Scharnierachse	175
	73.31.105				1		Scharmieras	Hinge shaft	Axe de charnière	Scharnierachse	200
	73.31.108					1	Scharmieras	Hinge shaft	Axe de charnière	Scharnierachse	225
24	73.31.114	10	12	14	16	18	Pendelklep	Security flap	Volet de sécurité	Pendelklappe	180x4
25	14.27.040	10	12	14	16	18	Splitpen	Split pin	Goupille fendue	Spilnte	4x40-94
26	73.31.120	2	2	2	2	2	Beschermplaat	Protection guard	Protection	Schutzblech	
27	73.32.428	1	1	1	1	1	Steun	Support	Support	Stütze	Glijbuis FLV

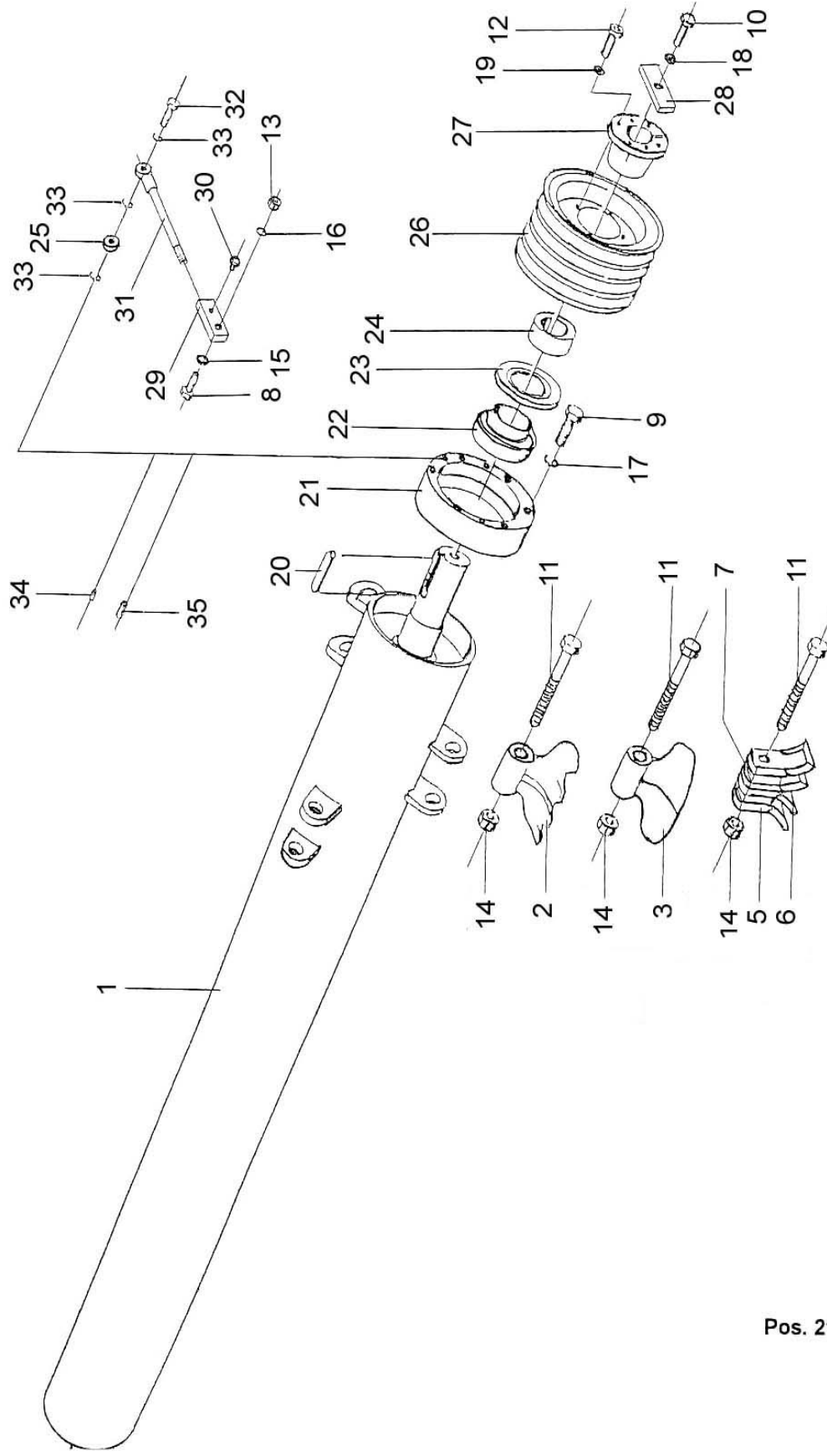
Votex FLV

Rotoras

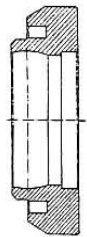
Rotor shaft

Axe du rotor

Messerwelle



Pos. 21



Votex FLV

<u>no.</u>	<u>onderdeelnummer</u>	<u>125</u>	<u>150</u>	<u>175</u>	<u>200</u>	<u>225</u>	<u>Rotoras</u>	<u>Rotorshaft</u>	<u>Axe du rotor</u>	<u>Messerwelle</u>	<u>technische info</u>
			<u>type</u>				<u>Omschrijving</u>	<u>Description</u>	<u>Designation</u>	<u>Beschreibung</u>	
1	73.38.690	1					Rotoras	Rotor shaft	Rotor	Messerwelle	FLV 125
	73.38.696		1				Rotoras	Rotor shaft	Rotor	Messerwelle	FLV 150
	73.38.702			1			Rotoras	Rotor shaft	Rotor	Messerwelle	FLV 175
	73.38.705				1		Rotoras	Rotor shaft	Rotor	Messerwelle	FLV 200
	73.38.708					1	Rotoras	Rotor shaft	Rotor	Messerwelle	FLV 225
2	45.03.182	10	12	14	16	18	Klepel getand	Flail toothed	Fléau denté	Schegelmesser gezahnt	Ongetand NS
3	73.31.150	10	12	14	16	18	Slagklepel	Hammer flail	Marteau	Schlegel	40x10 buiten
5	73.31.153	20	24	28	32	36	Klepel	Flail	Fléau	Schlegel	40x10 binnen
6	73.31.156	20	24	28	32	36	Klepel	Flail	Fléau	Schlegel	
7	73.31.159	20	24	28	32	36	Vulplaat	Disc	Disque	Scheibe	
8	10.04.093	1	1	1	1	1	Zeskantbout	Bolt	Vis	Sechskantschraube	M8x35-8.8
9	10.02.152	16	16	16	16	16	Zeskanttapbout	Bolt	Vis	Sechskantschraube	M12x30-8.8
10	10.02.153	1	1	1	1	1	Zeskanttapbout	Bolt	Vis	Sechskantschraube	M12x35-8.8
11	73.31.162	10	12	14	16	18	Klepelbout	Flail bolt	Vis de fléau	Schlegelschraube	M16x130-25 12.9
12	10.28.124	4	4	4	4	4	Cilinderkopschroef	Cylinderheadscrew	Vis à tête cilindrique	Zylinderkopfschraube	M10x45
13	11.02.008	1	1	1	1	1	Zeskantmoer	Nut	Écrou	Mutter	M8
14	11.05.016	10	12	14	16	18	Borgmoer	Lock nut	Écrou autofreiné	Sicherungsmutter	M16
15	12.15.008	1	1	1	1	1	Carrasseriering	Mudwingwasher	Rondelle de carrosserie	Kotflügelscheibe	M8x30x1.5
16	12.01.008	1	1	1	1	1	Veerring	Spring washer	Rondelle grower	Federring	M8
17	12.01.012	16	16	16	16	16	Veerring	Spring washer	Rondelle grower	Federring	M12
18	12.01.016	1	1	1	1	1	Veerring	Spring washer	Rondelle grower	Federring	M16
19	12.01.010	4	4	4	4	4	Veerring	Spring washer	Rondelle grower	Federring	M10
20	15.08.060	1	1	1	1	1	Inlegsple	Sunk key	Clavette	Paßfeder	12x8x60-50/3
21	73.38.714	2	2	2	2	2	Lagerhuis	Bearing flange	Cage de roulements	Lagerflansch	YAR 210 RS1
22	73.38.717	2	2	2	2	2	Kogellager	Ball bearing	Roulement à billes	Kugellager	
23	74.06.197	1	1	1	1	1	Afdichtingsring	Shaft seal	Joint	Wellendichtring	
24	73.38.720	1	1	1	1	1	Afstandsbus	Distance bush	Bague d'entretoise	Distanzbuchse	
25	73.36.707	1	1	1	1	1	Afstandsring	Distance ring	Rondelle d'entretoise	Distantring	16x10.5x9

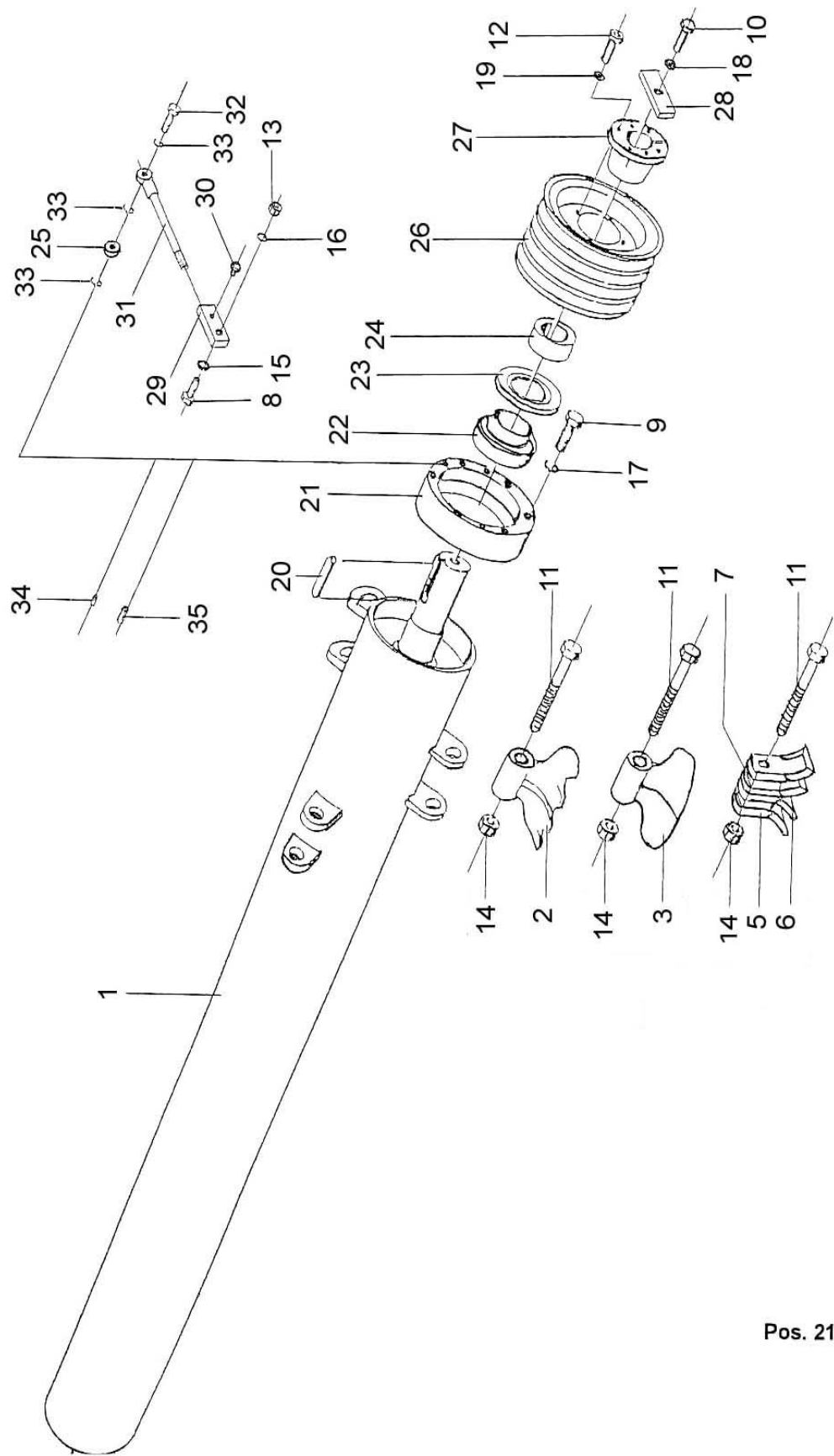
Vortex FLV

Rotoras

Rotor shaft

Axe du rotor

Messerwelle



Pos. 21



Votex FLV

no.	onderdeel nummer	125	150	175	200	225	Rotoras		Rotorshaft		Axe du rotor		Messerwelle	
							Omschrijving	Description	Discription	Designation	Beschreibung	technische info		
26	73.38.723	1	1	1	1	1	V-snaarschijf	V-belt pulley	Poulie à gorges	Keilriemenscheibe	180 B3 Ø40			
	73.38.726						V-snaarschijf	V-belt pulley	Poulie à gorges	Keilriemenscheibe	180 B4 Ø40			
27	73.32.629	1	1	1	1	1	Conische klembus	Conical Bush	Moyeu conique	Spannbüchse				
28	73.32.632	1	1	1	1	1	Borgplaat	Lock plate	Plaque de blocage	Sicherungsplatte				
29	73.32.605	1	1	1	1	1	Smeerplaatje	Lubricate plate	Plaque de lubrification	Schmierplatte				
30	20.03.001	1	1	1	1	1	Smeernippel	Grease nipple	Graisseur	Schmiernippel	M6-SH1			
	20.03.003	1	1	1	1	1	Smeernippel	Grease nipple	Graisseur	Schmiernippel	M8x1.25-180°			
31	73.32.608	1	1	1	1	1	Smeerleiding	Lubricate tube	Conduite de lubrification	Schmierleitung	M10x1 L=33mm			
32	73.36.719	1	1	1	1	1	Holbout	Banjo bolt	Vis creuse	Hohlschraube	10x14x1			
33	13.02.010	3	3	3	3	3	Koperring	Copper washer	Rondelle en cuivre	Kupferring	M6x8 Din 913			
34	73.38.927	1	1	1	1	1	Stelschroef	Adjusting screw	Vis de réglage	Einstellschraube	M10x8 Din913			
35	73.38.930	1	1	1	1	1	Stelschroef	Adjusting screw	Vis de réglage	Einstellschraube				
D	73.31.213	10	12	14	16	18	Klepelset	Flail set	Jeu de fléaux	Schlegelsatz	DZ 40x10 -MN			

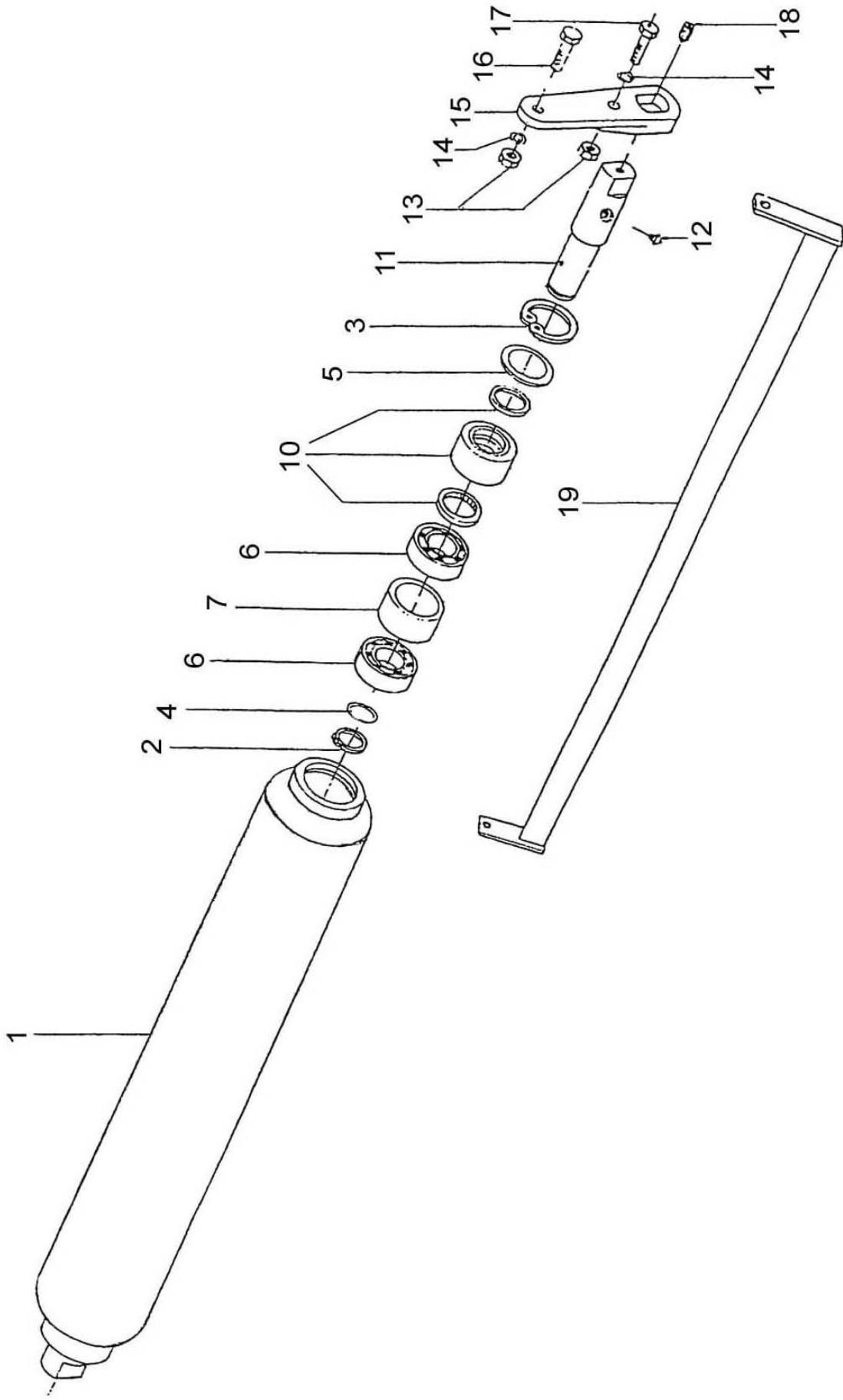
Votex FLV

Looprol

Roller

Rouleau palpeur

Laufrolle



Votex FLV

no.	onderdeel nummer	125	150	175	200	225	Looprol	Roller	Rouleau palpeur	Laufrolle	technische info
				type			Omschrijving	Description	Designation	Beschreibung	
1-19	73.42.629	1					Looprol montageset	Roller set cpl.	Ens. rouleau+fixations	Laufwalze satz kpl.	FLV 125 152 mm
	73.42.635		1				Looprol montageset	Roller set cpl.	Ens. rouleau+fixations	Laufwalze satz kpl.	FLV 150 152 mm
	73.42.641			1			Looprol montageset	Roller set cpl.	Ens. rouleau+fixations	Laufwalze satz kpl.	FLV 175 152 mm
	73.42.644				1		Looprol montageset	Roller set cpl.	Ens. rouleau+fixations	Laufwalze satz kpl.	FLV 200 152 mm
	73.42.647					1	Looprol montageset	Roller set cpl.	Ens. rouleau+fixations	Laufwalze satz kpl.	FLV 225 152 mm
2	12.30.035	2	2	2	2		Zekeringsring	Circlip	Circlip	Sicherungsringe	35x1.5
3	12.31.072	2	2	2	2		Zekeringsring	Circlip	Circlip	Sicherungsringe	72x2.5
4	13.03.014	X	X	X	X		Shim	Shim	Rondelle de réglage	Paßscheibe	35x45x1.0
5	13.03.004	X	X	X	X		Shim	Shim	Rondelle de réglage	Paßscheibe	56x72x1.0
6	18.01.006	4	4	4	4		Kogellager	Ball bearing	Roulement à billes	Kugellager	6207
7	73.42.626	2	2	2	2		Afstandsbus	Distance bush	Bague d'entretoise	Distanzbüchse	
10	73.31.474	2	2	2	2		Looprolas afd.set	Seal set	Jeu de joints p. rouleau	Dichtungssatz	
11	73.39.479	2	2	2	2		Looprolas	Roller shaft	Arbre de rouleau	Laufwalze welle	serie2
12	20.03.001	2	2	2	2		Smeernippel	Grease nipple	Graisser	Schmiernippel	M6-SH1
13	11.02.016	4	4	4	4		Zeskantmoer	Nut	Écrou	Mutter	M16
14	12.01.016	4	4	4	4		Veerring	Spring washer	Rondelle grower	Federring	M16
15	73.31.414	2	2	2	2		Looprolhouder	Roller support	Support de rouleau	Laufwalzestutz	
16	10.04.209	2	2	2	2		Zeskantbout	Bolt	Vis	Sechskantschraube	M16x55-8.8
17	10.02.206	2	2	2	2		Zeskanttapbout	Bolt	Vis	Sechskantschraube	M16x40-8.8
18	73.31.420	2	2	2	2		BZK stelschroef	Screw	Vis	Gewindestift	M12x16
19	73.31.423	1					Schraper	Scraper	Racloire	Schürfleiste	125
	73.31.429		1				Schraper	Scraper	Racloire	Schürfleiste	150
	73.31.435			1			Schraper	Scraper	Racloire	Schürfleiste	175
	73.31.438				1		Schraper	Scraper	Racloire	Schürfleiste	200
	73.31.441					1	Schraper	Scraper	Racloire	Schürfleiste	225

Opties

Options

Options

Options

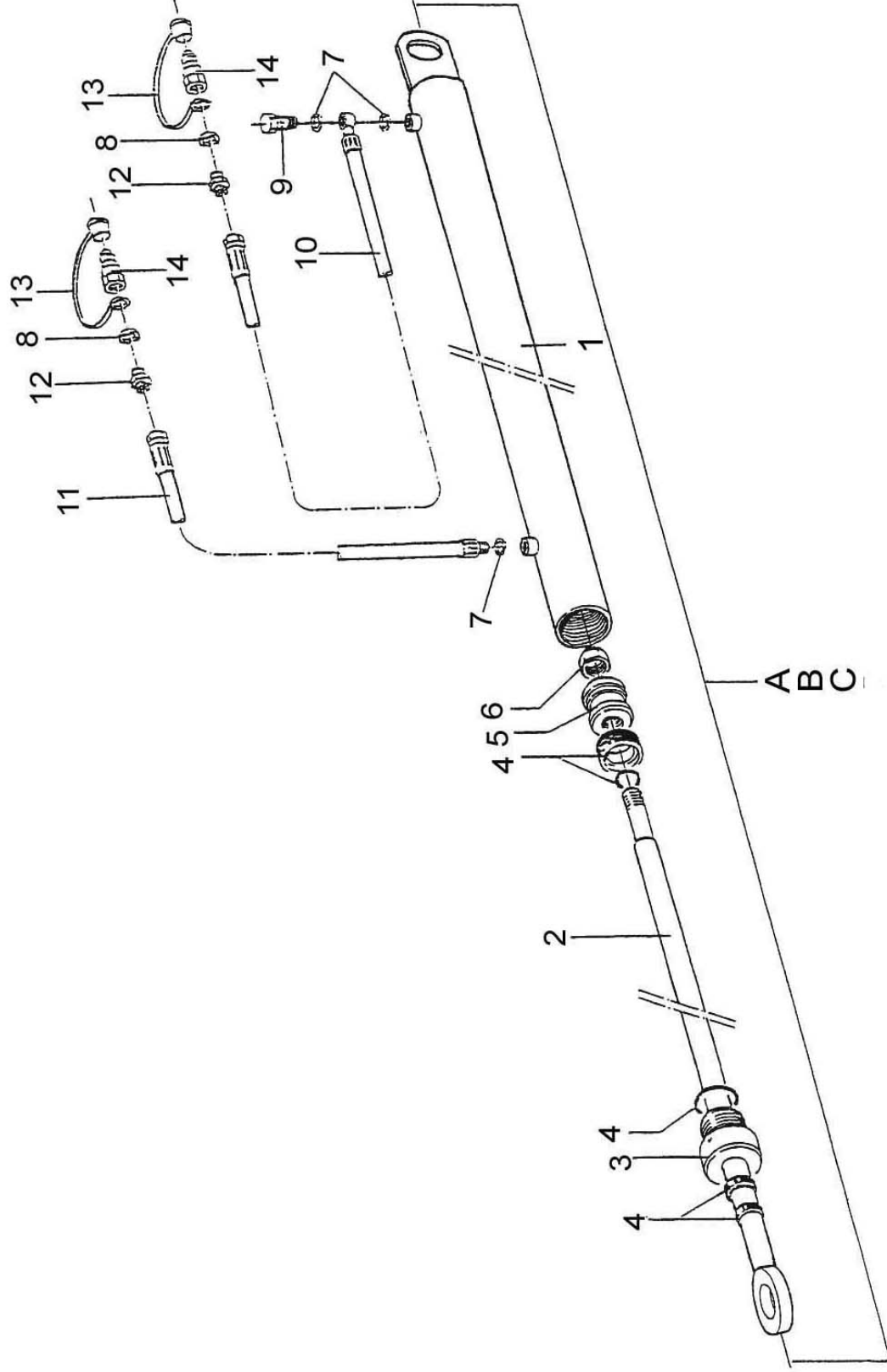
Votex FLV

Hydrauliekcilinder

Hydraulic cilinder

Verin hydraulique

Hydraulikzylinder



Votex FLV

no.	onderdeelnummer	125	150	175	200	225	Hydrauliekcilinder	Hydraulic cilinder	Verin hydraulique	Hydraulikzylinder	technische info
			type				Omschrijving	Description	Designation	Beschreibung	
A	73.32.455	1					Schuifcilinderset	Side shift cilinder set	Verin de deport lateral cpl.	Hydraulikzylinder kpl.	FLV 125
B	73.32.461	1	1				Schuifcilinderset	Side shift cilinder set	Verin de deport lateral cpl.	Hydraulikzylinder kpl.	FLV 150
C	73.32.464	1	1	1	1		Schuifcilinderset	Side shift cilinder set	Verin de deport lateral cpl.	Hydraulikzylinder kpl.	FLV 175-225
1	73.32.431	1					Cilinderbuis	Cilinder tube	Tube de verin	Zylinderrohr	
	73.32.437	1	1				Cilinderbuis	Cilinder tube	Tube de verin	Zylinderrohr	
	73.32.440	1	1	1	1		Cilinderbuis	Cilinder tube	Tube de verin	Zylinderrohr	
2	73.32.443	1					Cilinderstang	Cilinder rod	Tige de verin	Zylinderstange	
	73.32.449	1	1				Cilinderstang	Cilinder rod	Tige de verin	Zylinderstange	
	73.32.452	1	1	1	1		Cilinderstang	Cilinder rod	Tige de verin	Zylinderstange	
3	73.32.194	1					Moer cilinder	Nut cilinder	Ecrou verin	Mutter zylinder	
4	73.32.197	1	1	1	1		Afdichtingsset	Seal set	Jeu de joints	Dichtungssatz	
5	73.32.200	1	1	1	1		Zuiger	Piston	Piston	Kolben	
6	11.06.314	1	1	1	1		Borgmoer	Lock nut	Écrou autofreiné	Sicherungsmutter	M14x1.5
7	73.32.155	3	3	3	3		Koperring	Copper washer	Rondelle en cuivre	Kupferring	1/4 "
8	73.32.158	2	2	2	2		Koperring	Copper washer	Rondelle en cuivre	Kupferring	1/2"
9	73.32.161	1	1	1	1		Holbout	Banjo bolt	Vis creuse	Hohlschraube	1/4"
10	73.32.203	1	1	1	1		Hydrauliekslang	Hydraulic hose	Tuyau hydraulique	Hydrauliekschlauch	
11	73.32.206	1	1	1	1		Hydrauliekslang	Hydraulic hose	Tuyau hydraulique	Hydrauliekschlauch	
12	26.10.002	1	1	1	1		Verloopnippel	Reduction nipple	Racord de réduction	Reduktionsnippel	3/8-1/2"BSP"
13	26.10.244	2	2	2	2		Stofkap	Dust cap	Capuchon de protection	Staubkappe	1/2"rood
14	26.10.010	2	2	2	2		Snelkoppeling	Hydraulic coupling	Raccord rapide hydraulique	Kupplungsstecker	1/2BSP