

REMS Cobra 22 Cobra 32

INSTRUCTION MANUAL
ELECTRIC PIPE & DRAIN CLEANING MACHINES



REMS

ANCRA
INTERNATIONAL
NEW ZEALAND LIMITED

0508 4 ANCRA

www.ancranz.com

COBRA 22 / 32

Fig. 1

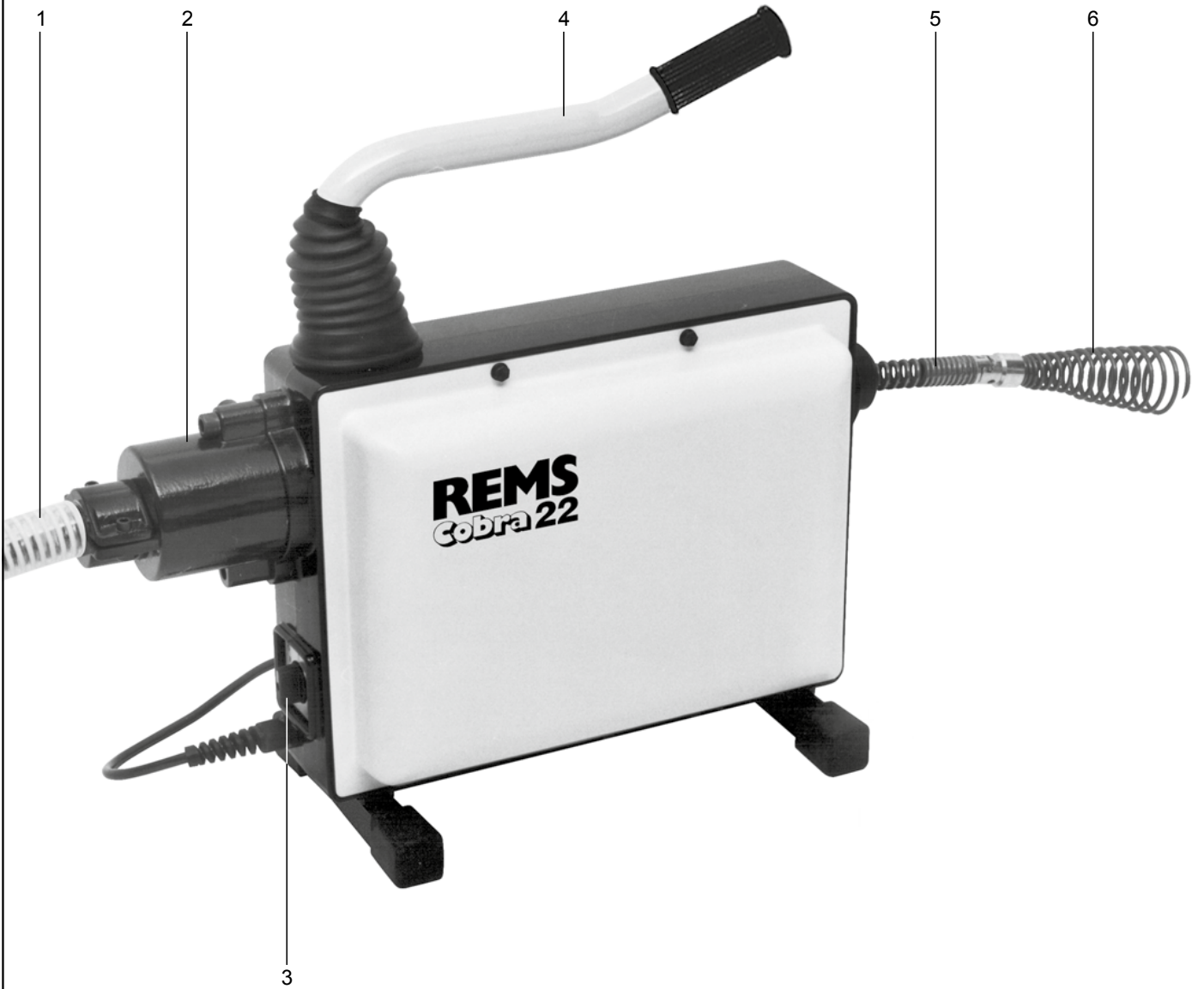


Fig. 2

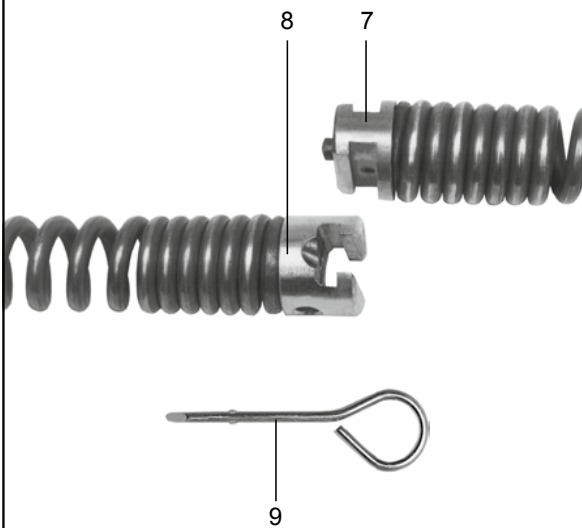


Fig. 3



Translation of the Original Instruction Manual

Fig. 1–3

| | |
|--|-----------------------------|
| 1 Guide hose | 6 Drain cleaning tool |
| 2 Guard | 7 T-bar connector |
| 3 Switch | 8 T-groove connector |
| 4 Carrying and pressure loading handle | 9 Cable joint separator |
| 5 Drain cleaning cable | 10 Adapter drum (accessory) |

General Power Tool Safety Warnings

WARNING

Read all safety warnings and all instructions. Failure to follow the warnings and instructions may result in electric shock, fire and/or serious injury.

Save all warnings and instructions for future reference.

The term "power tool" in the warnings refers to your mains-operated (corded) power tool or battery-operated (cordless) power tool.

1) Work area safety

- Keep work area clean and well lit. Cluttered or dark areas invite accidents.
- Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases or dust. Power tools create sparks which may ignite the dust or fumes.
- Keep children and bystanders away while operating a power tool. Distractions can cause you to lose control.

2) Electrical safety

- Power tool plugs must match the outlet. Never modify the plug in any way. Do not use any adapter plugs with earthed (grounded) power tools. Unmodified plugs and matching outlets will reduce risk of electric shock.
- Avoid body contact with earthed or grounded surfaces, such as pipes, radiators, ranges and refrigerators. There is an increased risk of electric shock if your body is earthed or grounded.
- Do not expose power tools to rain or wet conditions. Water entering a power tool will increase the risk of electric shock.
- Do not abuse the cord. Never use the cord for carrying, pulling or unplugging the power tool. Keep cord away from heat, oil, sharp edges or moving parts. Damaged or entangled cords increase the risk of electric shock.
- When operating a power tool outdoors, use an extension cord suitable for outdoor use. Use of a cord suitable for outdoor use reduces the risk of electric shock.
- If operating a power tool in a damp location is unavoidable, use a residual current device (RCD) protected supply. Use of an RCD reduces the risk of electric shock.

3) Personal safety

- Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use a power tool while you are tired or under the influence of drugs, alcohol or medication. A moment of inattention while operating power tools may result in serious personal injury.
- Use personal protective equipment. Always wear eye protection. Protective equipment such as dust mask, non-skid safety shoes, hard hat, or hearing protection used for appropriate conditions will reduce personal injuries.
- Prevent unintentional starting. Ensure the switch is in the off-position before connecting to power source and/or battery pack, picking up or carrying the tool. Carrying power tools with your finger on the switch or energising power tools that have the switch on invites accidents.
- Remove any adjusting key or wrench before turning the power tool on. A wrench or a key left attached to a rotating part of the power tool may result in personal injury.
- Do not overreach. Keep proper footing and balance at all times. This enables better control of the power tool in unexpected situations.
- Dress properly. Do not wear loose clothing or jewellery. Keep your hair, clothing and gloves away from moving parts. Loose clothes, jewellery or long hair can be caught in moving parts.

4) Power tool use and care

- Do not force the power tool. Use the correct power tool for your application. The correct power tool will do the job better and safer at the rate for which it was designed.
- Do not use the power tool if the switch does not turn it on and off. Any power tool that cannot be controlled with the switch is dangerous and must be repaired.
- Disconnect the plug from the power source and/or the battery pack from the power tool before making any adjustments, changing accessories, or storing power tools. Such preventive safety measures reduce the risk of starting the power tool accidentally.
- Store idle power tools out of the reach of children and do not allow persons unfamiliar with the power tool or these instructions to operate the power tool. Power tools are dangerous in the hands of untrained users.
- Maintain power tools. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the power tool's operation. If damaged, have the power tool repaired before use. Many accidents are caused by poorly maintained power tools.
- Keep cutting tools sharp and clean. Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.
- Use the power tool, accessories and tool bits etc. in accordance with these instructions, taking into account the working conditions and the work to

be performed. Use of the power tool for operations different from those intended could result in a hazardous situation.

5) Service

- Have your power tool serviced by a qualified repair person using only identical replacement parts. This will ensure that the safety of the power tool is maintained.

Safety instructions for electric pipe and drain cleaning machines


WARNING


Read all safety warnings and all instructions. Failure to follow the warnings and instructions may result in electric shock, fire and/or serious injury.


Save all warnings and instructions for future reference.


- Only operate the electric pipe and drain cleaning machine off the mains using a 30 mA fault current protected switch (FI breaker). There is a danger of electric shock.
- Only connect the electric pipe and drain cleaning machine to an outlet with protected earth. There is a danger of electric shock.
- Wear rubber-soled shoes, e.g. Wellington boots, when working with the electric pipe and drain cleaning machine on a wet floor. These shoes have an insulating effect and protect against possible electric shock.
- Keep water away from electrical parts of the electric pipe and drain cleaning machine and from persons in the working area. There is a danger of electric shock.
- You could encounter concealed power cables when cleaning pipes. The pipe and drain cleaning cable may also emerge from damaged pipes and hit concealed or buried power cables. There is a danger of electric shock.
- Only use the riveted guide gloves (Art. No. 172611 and/or 172612) to guide the revolving cable. There is a danger of injury when using unsuitable gloves made of, e.g., rubber, leather or similar material and when using a loose cloth for example.
- Do not operate the electric pipe and drain cleaning machine without the guard (2) and the guide hose fixed to it (1). There is a danger of injury from the end of the pipe and drain cleaning cable (5) protruding from the machine suddenly twisting when the pipe and drain cleaning tool comes up against some form of resistance and seizes.
- Only use approved and appropriate marked extension leads with a sufficient cable cross-section at least with the protection class approved in 1.5. Electrical data. Use extension leads up to a length of 10 m with cable cross-section 1.5 mm², from 10–30 m with cable cross-section 2.5 mm².
- Check the power cable of the electric pipe and drain cleaning machine and extension leads regularly for damage. Have these renewed by qualified experts or an authorised REMS customer service workshop in case of damage.
- Do not use the electric pipe and drain cleaning machine if it is damaged. There is a danger of accident.
- Children and persons who, due to their physical, sensory or mental abilities or lack of experience and knowledge are unable to operate the electric pipe and drain cleaning machine safely may not use this electric pipe and die cleaning machine without supervision or instruction by a responsible person. Otherwise there is a risk of operating errors and injuries.

Explanation of symbols

 **WARNING** Danger with a medium degree of risk which could result in death or severe injury (irreversible) if not heeded.

 **CAUTION** Danger with a low degree of risk which could result in minor injury (reversible) if not heeded.


 **NOTICE** Material damage, no safety note! No danger of injury.

 Read the operating manual before starting

 Use ear protection

 Power tool complies with protection class I

 Environmentally friendly disposal

 CE conformity mark

1. Technical Data

Use for the intended purpose

WARNING

Only use the REMS Cobra 22 and REMS Cobra 32 pipe and drain cleaning machine for the intended purpose of cleaning pipes and drains.

All other uses are not for the intended purpose and are therefore prohibited.

1.1. Scope of Supply

Cobra 22 Set 16:

Electric pipe and drain cleaning machine, guide hose, 5 cable sections 16 x 2.3 m in cable carrier, straight auger 16, bulbous auger 16, serrated blade borer 16/25, cable joint separator 16, 1 pair of guide gloves, steel case for tool set, instruction manual.

Cobra 22 Set 22:

Electric pipe and drain cleaning machine, guide hose, 5 cable sections 22×4.5 m in cable carrier, straight auger 22, retrieving auger 22, funnel auger 22, serrated cross-blade borer 22/35, cable joint separator 22, 1 pair of guide gloves, steel case for tool set, instruction manual.

Cobra 22 Set 16 + 22:

Electric pipe and drain cleaning machine, guide hose, 5 cable sections 16×2.3 m in cable carrier, straight auger 16, bulbous auger 16, serrated blade borer 16/25, cable joint separator 16, 5 cable sections 22×4.5 m in cable carrier, straight auger 22, retrieving auger 22, funnel auger 22, serrated cross-blade borer 22/35, cable joint separator 22, 2 pairs of guide gloves, steel case for each tool set, instruction manual.

Cobra 32 Set 32:

Electric pipe and drain cleaning machine, guide hose, 4 cable sections 32×4.5 m in cable carrier, straight auger 32, retrieving auger 32, funnel auger 32, serrated cross-blade borer 32/45, cable joint separator 22/32, 1 pair of guide gloves, case for tool set, instruction manual.

Cobra 32 Set 22 + 32:

Electric pipe and drain cleaning machine, guide hose, 5 cable sections 22×4.5 m in cable carrier, straight auger 22, retrieving auger 22, funnel auger 22, serrated cross-blade borer 22/35, cable joint separator 22, 4 cable sections 32×4.5 m in cable carrier, straight auger 32, retrieving auger 32, funnel auger 32, serrated cross-blade borer 32/45, cable joint separator 22/32, 2 pairs of guide gloves, steel case/case for each tool set, instruction manual.

Cobra 32 Set 16 + 22:

Electric pipe and drain cleaning machine, guide hose, 5 cable sections 16×2.3 m in cable carrier, straight auger 16, bulbous auger 16, serrated blade borer 16/25, cable joint separator 16, 5 cable sections 22×4.5 m in cable carrier, straight auger 22, retrieving auger 22, funnel auger 22, serrated cross-blade borer 22/35, cable joint separator 22, 2 pairs of guide gloves, steel case for each tool set, instruction manual.

1.2. Article numbers

| | |
|--|--------|
| REMS Cobra 22 drive unit with guide hose | 172000 |
| REMS Cobra 32 drive unit with guide hose | 174000 |
| Adapter drum Cobra 22/8 | 170011 |
| Adapter drum Cobra 32/8 | 170012 |
| Guide gloves, pair | 172610 |
| Riveted guide glove, left | 172611 |
| Riveted guide glove, right | 172612 |
| Guide hose Cobra 22 | 044110 |
| Guide hose Cobra 32 | 044105 |
| Clamping jaw 16 (set) | 174101 |

Drain cleaning cables

| | |
|---|--------|
| Drain cleaning cable 8×7.5 m | 170200 |
| Drain cleaning cable 16×2.3 m | 171200 |
| Drain cleaning cable 22×4.5 m | 172200 |
| Drain cleaning cable 32×4.5 m | 174200 |
| Drain clean. cable 16×2.3 m (5 pcs.) in cable carrier | 171201 |
| Drain clean. cable 22×4.5 m (5 pcs.) in cable carrier | 172201 |
| Drain clean. cable 32×4.5 m (4 pcs.) in cable carrier | 174201 |
| Drain cleaning cable S 16×2 m | 171205 |
| Drain cleaning cable S 22×4 m | 172205 |
| Drain cleaning cable S 32×4 m | 174205 |
| Drain cleaning cable with core 16×2.3 m | 171210 |
| Drain cleaning cable with core 22×4.5 m | 172210 |
| Drain cleaning cable with core 32×4.5 m | 174210 |
| Cable reduction 22/16 | 172154 |
| Cable reduction 32/22 | 174154 |
| Cable carrier 16 (empty) | 171150 |
| Cable carrier 22 (empty) | 172150 |
| Cable carrier 32 (empty) | 174150 |
| Cable joint separator 16 | 171151 |
| Cable joint separator 22/32 | 172151 |

Drain cleaning tools

| | |
|----------------------------------|--------|
| Straight auger 16 | 171250 |
| Straight auger 22 | 172250 |
| Straight auger 32 | 174250 |
| Bulbous auger 16 | 171265 |
| Bulbous auger 22 | 172265 |
| Bulbous auger 32 | 174265 |
| Funnel auger 16 | 171270 |
| Funnel auger 22 | 172270 |
| Funnel auger 32 | 174270 |
| Retrieving auger 16 | 171275 |
| Retrieving auger 22 | 172275 |
| Retrieving auger 32 | 174275 |
| Serrated blade borer 16/25 | 171280 |
| Serrated blade borer 22/35 | 172280 |
| Serrated blade borer 22/45 | 172281 |
| Serrated blade borer 32/55 | 174282 |
| Serrated cross-blade borer 16/25 | 171290 |
| Serrated cross-blade borer 16/35 | 171291 |
| Serrated cross-blade borer 22/35 | 172290 |

| | |
|-----------------------------------|--------|
| Serrated cross-blade borer 22/45 | 172291 |
| Serrated cross-blade borer 22/65 | 172293 |
| Serrated cross-blade borer 32/45 | 174291 |
| Serrated cross-blade borer 32/65 | 174293 |
| Serrated cross-blade borer 32/90 | 174295 |
| Serrated cross-blade borer 32/115 | 174296 |
| Forked cutter 16 | 171305 |
| Cross-forked cutter 16 | 171306 |
| Serrated forked cutter 22/65 | 172305 |
| Serrated forked cutter 32/65 | 174305 |
| Serrated forked cutter 32/90 | 174306 |
| Root cutter 22/65 | 172310 |
| Root cutter 32/65 | 174310 |
| Root cutter 32/90 | 174311 |
| Chain flail 16, smooth rings | 171340 |
| Chain flail 16, spiked links | 171341 |
| Chain flail 22, smooth rings | 172340 |
| Chain flail 22, spiked links | 172341 |
| Chain flail 32, smooth rings | 174340 |
| Chain flail 32, spiked links | 174341 |
| REMS CleanM | 140119 |

1.3. Working range

REMS Cobra 22

| | | |
|--|--------|---------------|
| Cable Ø 8 mm (max. working length 10 m) | Pipe Ø | 10–50 (75) mm |
| Cable Ø 16 mm (max. working length 40 m) | Pipe Ø | 20–100 mm |
| Cable Ø 22 mm (max. working length 70 m) | Pipe Ø | 30–150 mm |

REMS Cobra 32

| | | |
|---|--------|---------------|
| Cable Ø 8 mm (max. working length 10 m) | Pipe Ø | 10–50 (75) mm |
| Cable Ø 16 mm (max. working length 40 m) | Pipe Ø | 20–100 mm |
| Cable Ø 22 mm (max. working length 100 m) | Pipe Ø | 30–150 mm |
| Cable Ø 32 mm (max. working length 70 m) | Pipe Ø | 40–250 mm |

1.4. Working speed

| | | |
|-----------------|-----------------------|-----------------------|
| Working spindle | REMS Cobra 22 | REMS Cobra 22 |
| | 740 min ⁻¹ | 520 min ⁻¹ |

1.5. Electrical data

| | | |
|----------------------|-----------------|-----------------|
| Rated voltage | 230 V~; 50 Hz | 230 V~; 50 Hz |
| Power input | 750 W | 1050 W |
| Rated current | 3.3 A | 5.8 A |
| Intermittent service | S3 40% 4/10 min | S3 40% 4/10 min |
| Protection class | IP 34 F | IP 44 F |

1.6. Dimensions (L × W × H)

| | | |
|------------|--|--|
| Drive unit | 535 × 225 × 535 mm 21" × 8.9" × 21" | 535 × 225 × 595 mm 21" × 8.9" × 23.4" |
|------------|--|--|

1.7. Weights

| | |
|---------------------------------------|-------------------|
| REMS Cobra 22 drive unit | 19.1 kg (42.2 lb) |
| REMS Cobra 32 drive unit | 24.6 kg (54.6 lb) |
| Tool set 16 | 1.8 kg (4.0 lb) |
| Tool set 22 | 2.3 kg (5.1 lb) |
| Tool set 32 | 1.9 kg (4.2 lb) |
| Cable set 5×16×2.3 m in cable carrier | 7.4 kg (16.4 lb) |
| Cable set 5×22×4.5 m in cable carrier | 20.6 kg (45.7 lb) |
| Cable set 4×32×4.5 m in cable carrier | 26.3 kg (58.4 lb) |

1.8. Noise information

| | | |
|-----------------------|---------------|---------------|
| Emission at workplace | REMS Cobra 22 | REMS Cobra 22 |
| | 75 dB (A) | 75 dB (A) |

1.9. Vibrations

| | | |
|--|----------------------|----------------------|
| Weighted effective value of acceleration | 2.5 m/s ² | 2.5 m/s ² |
|--|----------------------|----------------------|

The indicated weighted effective value of acceleration has been measured against standard test procedures and can be used by way of comparison with another device. The indicated weighted effective value of acceleration can also be used as a preliminary evaluation of the exposure.

⚠ CAUTION

The indicated weighted effective value of acceleration can differ during operation from the indicated value, dependent on the manner in which the device is used. Dependent upon the actual conditions of use (periodic duty) it may be necessary to establish safety precautions for the protection of the operator.

2. Start-up

2.1. Electrical connection

⚠ WARNING

Caution: Mains voltage present! Before connecting the electric pipe and drain cleaning machine, check whether the voltage given on the rating plate corresponds to the mains voltage. On building sites, in a wet environment, indoors and outdoors or under similar installation conditions, only operate the electric pipe and drain cleaning machine on the mains with a fault current protected switch (FI breaker) which interrupts the power supply as soon as the leakage current to earth exceeds 30 mA for 30 ms. When using an extension lead, pay attention to the cable cross section necessary for the power of the electric pipe and drain cleaning machine. The extension lead must be approved for the specifications in 1.5. Electrical data.

2.2. Handling and selection of the pipe and drain cleaning cable

The REMS Cobra machines use lengths of cable which can be connected up as necessary. The REMS Cobra 22 machine comes either with the cable and tool set 16 or 22 or both. The REMS Cobra 32 machine comes either with the cable and tool set 22 or 32 or both. The pipe and drain cleaning cables can each be used without modifications to the machine.

For the REMS Cobra 32 machine, the cable and tool set 16 can also be used when using other clamping jaws 16 (accessories). To do this, remove the guard (2). Push in the spring sleeve until it touches using a screwdriver. Push the whole clamping jaw forward and lift out backwards over the parallel pin. Fit clamping jaw 16 (set). To do this, push the clamping jaw 16 into the system bearer, push in the spring sleeve until it touches and push the clamping jaw over the parallel pin.

The pipe and drain cleaning cables are specially hardened and highly flexible. They can be extended or shortened very quickly by T-groove safety connectors. Push the T-bar (7) sideways into the T-groove (8) to do this. The spring-loaded thrust pin on the bar side locks the two halves together. To separate them, push back the spring-loaded thrust pin with the cable joint separator (9) and push the T-bar out of the T-groove. The pipe and drain cleaning cables and pipe and drain cleaning tools will also fit other makes of drain cleaning machines. An adapter drum with a cable \varnothing 8 mm, length 7.5 m is available as an accessory for every REMS Cobra 22 and REMS Cobra 32 (see 3.4.).

NOTICE

Do not use pipe and drain cleaning cables with a damaged spring-loaded thrust pin. The T-bar coupling may not be pushed by hand without cable joint separator (9) out of the T-groove coupling (8) after locking. The joint could otherwise be pulled apart during the cleaning process in the pipe by twisting of the pipe and drain cleaning cable and the pipe and drain cleaning tool. The pipe and drain cleaning cable and/or pipe and drain cleaning tool then stay in the pipe.

The **size of the cable required** depends on the diameter of the pipe to be cleaned. See 1.3 for guidance.

The **type of cable to be selected** depends on the length and position of the pipe to be cleaned as well as on the type of obstruction expected. The standard pipe and drain cleaning cable is used for universal pipe and drain cleaning operations. Being highly flexible, it is particularly suitable for dealing with tight bends or several bends in succession. For obstructions presenting particular problems, e.g. when it is necessary to slice through roots, the pipe and drain cleaning cable S with thicker cable wire (accessory) is to be recommended. A weather and temperature-resistant plastic core is incorporated into the pipe and drain cleaning cable with core (accessory) which prevents dirt from collecting inside the cable or long fibres from lodging in the spirals.

2.3. Selection of suitable pipe and drain cleaning tool

2.3.1. Straight auger

Used as the starting tool to withdraw a sample from which the cause of the obstruction can be determined. Also to clear a solid blockage caused by textiles, paper, kitchen waste etc. to permit the flow of water.

2.3.2. Bulbous auger

Used for minor obstructions caused by textiles or paper, due to its high flexibility. The extended club-head facilitates advancement in tight bends.

2.3.3. Funnel auger

Used for textile and paper obstructions in particular. Is especially useful for larger diameter pipes due to its generous radius of action. Can also be used as a recovery tool for cables left in the pipe.

2.3.4. Retrieving auger

Use for retrieving pipe and drain cleaning cables left in the pipe. With extended, specially angled grappling arm. Not suitable for boring operations.

2.3.5. Serrated blade borer

Used to bore out greasy or heavily silted pipes. The tool is riveted to the connector (not soldered or welded) so as to prevent any deformation of the hardened spring steel blades.

2.3.6. Serrated cross-blade borer

Multi-purpose tool for obstructions of all kinds, including incrustations (e.g. limescale deposits on the inside of the pipe). The tool is riveted to the connector (not soldered or welded) so as to prevent any deformation of the hardened spring steel blades. Recommended for use with pipe and drain cleaning cables S.

2.3.7. Forked cutter

Size 16 with one blade as a **forked cutter**, with two blades as a **cross-forked cutter**, made of hardened spring steel to remove moderate to severe silting or persistent grease contamination. Size 22 and 32 with serrated, replaceable blade as a **serrated forked cutter**, made of hardened spring steel, and with multiple uses, e.g. for clearing silting or to reduce (break down) root infestation.

2.3.8. Root cutter

Tool with hardened, replaceable ring-type saw, cutting to the front and rear. Specially designed for root infested pipes. Recommended for use with pipe and drain cleaning cables S.

2.3.9. Chain flail

The most important tool of all for the removal of greasy deposits and incrustations (e.g. limescale deposits on the inside of the pipe). Chain flails with smooth rings for breakable pipes, e.g. plastic. Chain flails with spiked links for cast iron or concrete pipes.

3. Operation

3.1. Investigation/removal of the obstruction

Position the electric pipe and drain cleaning machine 30–50 cm in front of the opening of the pipe to be cleaned.

Check to ensure that the guard (2) has been installed on the chuck mount together with the guide hose (1) for the cable. Install if necessary!

The guide hose prevents the cable from twisting if the tool becomes blocked, as well as cushioning its vibrations and collecting any dirt it may have picked up.

Feed a length of cable (5) into the electric pipe and drain cleaning machine with the T-groove connector (8) leading until approximately 50 cm of the cable length is protruding from the machine. Never connect more than one length of cable cable at a time. Connect the pipe and drain cleaning tool (6) to the free end of the pipe and drain cleaning cable, i.e. push sideways into the T-groove of the cable until it locks home. Use the straight auger as the first tool. Introduce the tool and cable into the pipe. Switch the electric pipe and drain cleaning machine to rotate clockwise (switch position "1") at the switch (3). Draw the pipe and drain cleaning cable manually out of the electric pipe and drain cleaning machine and push it into the pipe to be cleaned until it develops a bend.

⚠ WARNING

Wear a suitable guide glove!

With the other hand, press down hard on the carrying handle (4) until the pipe and drain cleaning cable (5) rotates. Spring force applied to the cable produces the necessary thrust. When the bend has straightened, pull the carrying handle (4) upwards. The pipe and drain cleaning cable immediately comes to a standstill. Feed in the pipe and drain cleaning cable again manually until a bend develops. Then apply firm pressure to the carrying handle (4) again until the bend straightens. Keep repeating the procedure. Connect up further lengths of cable as necessary until it reaches the obstruction and clears it.

When it reaches the obstruction (resistance), it is important that the pipe and drain cleaning cable (5) is advanced with care (one centimetre at a time). If the pipe and drain cleaning cable seizes, the carrying handle (4) must be pulled up immediately because the cable could otherwise break.

However, if a pipe and drain cleaning tool (6) has become blocked by an obstruction, it should be freed by repeated, brief reversal of the direction of rotation of the electric pipe and drain cleaning machine to anticlockwise (switch position "R") and clockwise (switch position "1"). Use the anticlockwise setting only for this process. All other operations including the recovery of the cable are carried out in clockwise direction.

3.2. Recovering the pipe and drain cleaning cable

Recovery of the pipe and drain cleaning cable (5) also takes place in clockwise direction. Withdraw the rotating pipe and drain cleaning cable from the pipe until it develops a bend. Release the pressure from the carrying handle (4) and push the pipe and drain cleaning cable back into the electric pipe and drain cleaning machine. Press the handle again and draw the pipe and drain cleaning cable out of the pipe until it has developed a bend again. Keep repeating the procedure until a length of cable has been pushed completely into the electric pipe and drain cleaning machine or guide hose and it can be disconnected from the following length of cable. Remove disconnected lengths of cable from the pipe and drain cleaning machine and guide hose. Repeat this process until the entire length of cable has been removed from the pipe.

3.3. Cleaning the pipe

From an examination of the contamination affecting the withdrawn straight auger, it is generally possible to form conclusions as to the cause of the obstruction and therefore to select a suitable tool (see 2.3) with which the entire cross section of the pipe can then be completely cleaned.

3.4. Adapter drum with 8 mm pipe and drain cleaning cable (accessory)

Remove the guard (2) and guide hose (1). Fit the adapter drum (Fig. 3) (10) with the \varnothing 8 mm pipe and drain cleaning cable in their place. The adapter drum contains a clamping jaw set for the \varnothing 8 mm pipe and drain cleaning cable. The operating procedure with this pipe and drain cleaning cable is the same as with the \varnothing 16, 22 and 32 pipe and drain cleaning cables.

4. Maintenance

WARNING

Pull out the mains plug before carrying out maintenance or repair work!

This work may only be performed by qualified personnel.

4.1. Maintenance

REMS Cobra is maintenance-free. The bearings of the drive shaft run in a permanent grease bearing. The machine therefore requires no lubrication. Clean the REMS Cobra, pipe and drain cleaning cables and pipe and drain cleaning tools after every use, especially also the clamping jaws and the area around the clamping jaws. Also clean the T-bar (7) and T-groove (8) connectors of the pipe and drain cleaning cables (5) and pipe and drain cleaning tools (6). Clean the spring-loaded thrust pin of the T-bar (7) connector and check correct function. Clean heavily soiled metal parts with the REMS CleanM (Art. No. 140119) cleaner, for example, and then protect against rust. Clean plastic parts (e.g. housing) only with the REMS CleanM machine cleaner (Art. No. 140119) or a mild soap and a damp cloth. Do not use household cleaners. These often contain chemicals which can damage the plastic parts. Never use petrol, turpentine, thinner or similar products to clean plastic parts. Make sure that liquids never get inside the electric pipe and drain cleaning machine. Never immerse the electric pipe and drain cleaning machine in liquid.

4.2. Inspection / maintenance

This work may only be carried out by qualified personnel and with original spare parts.

5. Faults

5.1. Fault: Electric pipe and drain cleaning machine not working.

Cause:

- Mains lead defective.
- Electric pipe and drain cleaning machine defective.

Remedy:

- Have the mains lead changed by qualified personnel or an authorised REMS customer service workshop.
- Have the pipe cleaning machine inspected/repared by an authorised REMS customer service workshop.

5.2. Fault: Pipe and drain cleaning cable (5) does not rotate despite pressed carrying handle (4).

Cause:

- Tool got stuck at an obstruction.
- Clamping jaws defective.

Remedy:

- Work the pipe and drain cleaning tool free by repeatedly switching the direction of rotation briefly from anticlockwise (switch position "R") to clockwise (switch position "1") at the switch (3).
- Change the clamping jaws (see 2.2) or have them changed by an authorised REMS customer service workshop.

5.3. Fault: Pipe and drain cleaning cable (5) and/or pipe and drain cleaning tool (6) stays in the pipe.

Cause:

- Connector was not closed.
- Spring-loaded thrust pin of the pipe and drain cleaning cable (5) of the T-bar connector (7) defective.
- Bore for locking the spring-loaded thrust pin of the T-groove connector (8) soiled/damaged.
- pipe and drain cleaning cable (5) broken.

Remedy:

- Check that the connector is tight after locking before use. Use a retrieving auger to retrieve pipe and drain cleaning cable(s) (5) and/or pipe and drain cleaning tools (6) left in the pipe.
- Change the pipe and drain cleaning cable.
- Clean bore or change pipe and drain cleaning cable (5) and/or pipe and drain cleaning tool (6).
- Use retrieving auger to retrieve pipe and drain cleaning cable(s) (5) and/or pipe and drain cleaning tools left in the pipe. Do not continue using broken pipe and drain cleaning cables.

6. Disposal

Electric pipe and drain cleaning machine may not be disposed of with the household waste when reaching end of life. They must be disposed of according to the legal regulations.

7. Manufacturer's Warranty

The warranty period shall be 12 months from delivery of the new product to the first user. The date of delivery shall be documented by the submission of the original purchase documents, which must include the date of purchase and the designation of the product. All functional defects occurring within the warranty period, which are clearly the consequence of defects in production or materials, will be remedied free of charge. The remedy of defects shall not extend or renew the warranty period for the product. Damage attributable to natural wear and tear, incorrect treatment or misuse, failure to observe the operational instructions, unsuitable operating materials, excessive demand, use for unauthorized purposes, interventions by the customer or a third party or other reasons, for which REMS is not responsible, shall be excluded from the warranty. Services under the warranty may only be provided by customer service stations authorized for this purpose by REMS. Complaints will only be accepted if the product is returned to a customer service station authorized by REMS without prior interference in an unassembled condition. Replaced products and parts shall become the property of REMS.

The user shall be responsible for the cost of shipping and returning the product.

The legal rights of the user, in particular the right to make claims against the seller under the warranty terms, shall not be affected. This manufacturer's warranty only applies for new products which are purchased in the European Union, in Norway or in Switzerland.

This warranty is subject to German law with the exclusion of the United Nations Convention on Contracts for the International Sales of Goods (CISG).