Instructions DC MAXI FLEX

Read this manual before starting to use the cutter.





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1.0 Manufacturer

Dancutter A/S

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CVR/VAT no.: 26672678

Technical support

If you experience problems with the cutter or if you have any technical questions, please write to **support@dancutter.dk**

Order

If you need spare parts or cutting heads, please write to ${\bf order@dancutter.dk} \\$



2.0 Model Type

Identification:

System Type: Mobile cutter unit

Model: DC MAXI FLEX, 70 metres

3.0 Specifications





AIR MOTOR: 11,000 RPM



AIR PRESSURE: 10 BAR, 145 PSI



WEIGHT: CUTTER: 17,5 KG HOSE REEL: 119 KG



AIR SUPPLY 1100 L/MIN.



POWER SUPPLY: 110/240 VAC - LN





HOSE REEL: L: 1200 MM, W: 750 MM, H: 1220 MM CUTTER: Ø 80 MM, L: 1800 MM



SUPPLY HOSE: 70 M



STAINLESS STEEL ALLOY AND ALUMINIUM

In the event of new product developments, Dancutter reserves the right to change the technical description without advance notice.

4.0 Safety instructions

- NEVER start the cutter until it is inside the pipeline.
- · ALWAYS switch off the cutter for cleaning.
- Disconnect the air supply from the air-processing system before adding washer fluid to a depressurised tank. (7.1.2)
- Visually inspect the cutter. Inspect screws, adapter, cutting tools, etc., on a weekly basis for wear and damage and replace or tighten them if necessary.



5.0 Quickguide

Use an in-/external compressed air after cooler.

Maximum water content per m³ supply air: 20g/m³, (0,7 ounce/35 cfm).

Always ground the Equipment.



Congratulations on your new DC MAXI FLEX

To get the most satisfaction from your cutter, it is important that you spend two minutes learning how to operate and maintain it.

Use an in-/external compressed air after cooler. Maximum water content per m3 supply air: 20g/m³, (0,7 ounce/35 cfm)



AIR REQUIREMENT 1100 L/MIN, (22 CFM)



AIR PRESSURE 10 BAR - 145 PSI



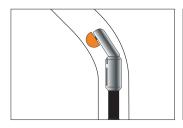
POWER SUPPLY: 110 / 240 VAC - LN 🖶

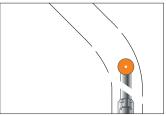


For more information, read the attached user manual

Forcing a 45° bend

- · Turn the cutter in the same direction as the bend.
- Raise the cutter arm.
- Push the cutter through.
- Lower the cutter arm.
- In the case of several bends, make a note and put tape on the hose, so you know which way it shall face.





As needed

- Lubricate the drum shaft with grease in the grease nipple.
- Check the air filter (part number P57106) in the water separator to be kept clean and changed as needed.

Before use

- · Check that there is oil in the lubricating unit.
- · NEVER bend the cutter outside of the pipe.
- The cutter operator is responsible for ensuring that the cutter is handled safely, in and outside the pipe.
- The forward section must ALWAYS be closed together during transport in and outside the pipe.
- Only use PURE AIR WASHER FLUID W/ALCOHOL in the container for camera cleaning.

Check the oil



Completely close the forward/back

TO POPULATE !

After use

- Clean the outside of the cutter with a water hose (not a high-pressure cleaner) or compressed air.
- Clean the forward/back drive with compressed air. Fully extend the unit and clean with paper and cloth.
- · Raise the arm all the way and clean the hollow space behind the tilt unit using compressed air. Next, lubricate the piston with oil and re-lower the arm.
- Unscrew the Unbrako screw in the end of the air motor (GRS), fill the screw hole with blue grease and then re-attach.

The screw hole for grease (GRS)



Lubricate the piston



Grease in the grease nipple



Air filter



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	PIPE DIMENSION	DIA. 100 - 300 MM, 4" - 12"	FOR-/BACKWAI
	SUPPLY HOSE	70 METRES, 230 FT	ROTATION
30100 >	FLEXIBLE	45° DEGREES IN A 150 MM, 6" PIPE	GRINDS, MILLS AND CUTS

FOR-/BACKWARDS	150 MM - 6"
ROTATION	360° CONTINUOUSLY
GRINDS, MILLS AND CUTS	PVC, LINER, CONCRETE, IRON, CAST IRON, STAINLESS STEEL

DC MAXI FLEX

Dancutter's most powerful cutter

DC MAXI FLEX is Dancutter's most powerful cutter. It has an extremely powerful motor which makes the cutter both fast and efficient. The DC MAXI FLEX is flexible and can go through several 45-degree bends in a 150 mm pipe and works effortlessly whether the pipe is straight or has bends.

The DC MAXI FLEX is ideal if you mostly work in larger pipes reopening laterals or removing hard deposits like concrete from pipelines. When you are cutting, milling and grinding in pipes from 100 - 300 mm / 4" - 12" in., DC MAXI FLEX is a powerful solution, no matter if the pipe is made of PVC, concrete, cast iron or steel.



Contact Information

Dancutter A/S Livøvej 1 A

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Technical support

If you experience problems with the cutter or if you have any technical questions, please write to support@dancutter.dk

Order

If you need spare parts or cutting heads, please write to order@dancutter.dk

DC MAXI FLEX

Highlights

- · Extremely powerful engine
- · Quick and efficient
- · Flexible through several 45-degree bends
- · 360°-degree continuous rotation
- · High-quality stainless-steel alloy
- · 12" colour display
- · Cuts, grinds, and mills in all materials
- · User friendly
- · Precise control
- Toolbox, centring tool with brushes and transport box are standard accessories
- · 100% made in Denmark

Technical data

- · Pipe diameter: 100 300 mm / 4" 12" in.
- · DC MAXI FLEX can be operated by just one person.
- · The DC MAXI FLEX comes with a 70-metre hose.
- The control unit features inlet and outlet sockets for connecting a video recorder, computer, external camera, or VR headset (optional accessory).
- · 12" colour display
- Spray nozzle for cleaning the camera
- · Training and Service

Standard and extra accessories for DC MAXI FLEX

We offer a versatile range of accessories and spare parts for your Dancutter solutions.

Get an overview on www.dancutter.com



Specifications

	1100 L/MIN, 39 CFM
AIR MOTOR	11000 RPM
AIR PRESSURE	10 BAR, 145 PSI

POWER SUPPLY	110 / 240 VAC - LN 🖶
CUTTER HOSE REEL	17,5 KG 119 KG
CUTTER STEEL FRAME	Ø80 MM - L: 1800MM L: 1200 MM - W: 750 MM - H: 1220 MM



7.0 User instructions

Place the hose reel where the work is to be done. Connect the accompanying supply cable to 110/230 VAC and to the control unit's outlet. Similarly, connect the orange signal cable on the hose reel to the control unit.



Lay the cutter in continuation of the yellow hose and unscrew the two orange caps. Push the two ends together and screw the coupling on the hose section tightly against the cutter.



Make sure that both tank ball valves are closed.

CLOSED



Now open the ball valves supplying air to the tank.



Now, connect compressed air from the compressor to the hose reel's combination water separator/oil lubrication unit. (7.1.1: "3").



Open the lid of the control unit and loosen the emergency stop button. Turn on the camera light, if necessary.



We advise having a refrigerated dryer mounted on the compressor at all times to minimise moisture content so it never exceeds 20 g/m3.

Feed the plug on the yellow hose through the ring on the hose reel and pull out a short section of hose and lay it on the ground.



Try out the cutter before feeding it into the pipe!

The cutter is now ready to use.

Now feed the cutter into the pipeline where it will work. If the cutter needs to pass through bends to reach the work site, follow the feeding process on the monitor/control unit so it is possible to lift/swivel the cutter arm when it reaches the bend, which eases the lead-in process. Remember to re-lower the cutter arm after it has passed through the bend.

Switch on the cutter on the control unit and let it run for a while before starting the task; slowly lift the Air Motor by pulling the joystick towards you (7.5: "12") so the cutting head hits the work area.

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For branch line openings, it is important to process a wide area around the branch line opening before the cutting head breaks through the lining or pipe, because doing this will minimise the risk of the cutting head getting stuck. This is done by using the cutter's built-in forward/back drive (7.5: "1") and the rotation function. (7.5: "12")

Reduce pressure on the cutter just before the cutting head breaks through the lining or pipe.

The control unit has built-in WiFi for using a VR headset (useful in bright sunshine).

Connect an extension cable (available in lengths of 6 and 15 metres) between the hose reel and control unit .

Make sure the tank is depressurised.



POSITION BALL VALVES AS SHOWN

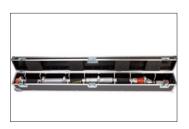
Disconnect the cutter from the yellow supply hose. It is important to reattach the caps for cutter and hose to keep out dirt.



ALWAYS retract the forward/ back drive section before moving from one position to another in a pipeline. (7.5: "1") **RETRACT**



Put the cutter back in the transport box.



! Do not use the forward/back drive section under water.

After completing a task, refer to the service and maintenance

instructions in section 8.0.

Disconnect the two plugs on the back of the control unit and screw on the caps on the cables and control unit.



Disconnect the air supply.



Close the control unit and hang it back on the hose reel.





7.1 Hose reel

- 1. Filling spout for washer fluid
- 2. Camera cleaner tank
- 3. Cover for sluice and slip ring
- 4. Air processing system
- 5. Base plate





7.1.1 Water separator and oil lubricator

Add oil in depressurised condition before using the cutter. Remember to fill with oil when the top of the oil is visible in the glass (8). It is important that the glass never runs out of oil, as this will damage the cutter and substantially reduce its efficiency.

Use pneumatic oil only (item no.: DCHY29307).

Keep the air filter (item no. P57106) in the water separator (4) clean and replace as needed. Air supply problems can be resolved by replacing the air filter. This is done by unscrewing the

black bottle and replacing the filter (depressurise the cutter first).

It must be possible to look in the liquid indicator on the oil lubricator (where the adjusting screw (5) is attached) and see a drop of oil appear every 8–10 seconds after the cutter starts. If this doesn't happen, adjust the top screw.

If the unit has to be laid down during transport, unscrew the oil tank (8) so oil is not admixed in the air processing system, as it can be mixed around in the air outlet (1) for the tank.



- 1. Air outlet for camera cleaner tank
- Automatic water separator with air filter cartridge (item no. P57106)
- 3. Air inlet from compressor
- 4. Automatic water separator

- 5. Adjusting screw for oil lubricator (preset at the factory)
- 6. Air outlet for sluice/cutter
- 7. Automatic oil lubricator
- 8. Oil tank (remember to fill with pneumatic oil, item no. DCHY29307)



7.1.2 Camera cleaner tank

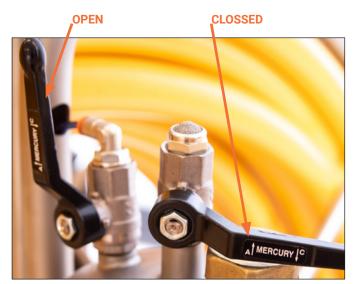
Working in a pipeline can dirty the cutter camera, impairing the quality of the images on the control unit monitor or VR headset and making the work more difficult. The cutter is equipped with a spray nozzle, which makes it easy to clean the camera while working.

REMEMBER to add washer fluid before using the cutter if you want to use fluid to clean the camera. It is also beneficial to just use dry air. "Empty tank for a dry task" – "Wet tank for a wet task".

IMPORTANT! Disconnect the supply air from the air processing system and depressurise the tank before adding washer fluid

This is why it is **IMPORTANT** to correctly position the two ball valves for the camera cleaner tank.

The illustration below shows how the two ball valves must be positioned for operating and for adding washer fluid.



Position for operating the cutter

Before starting to work, set the two ball valves so that the supply of air to the tank is opened and the ventilation is closed.



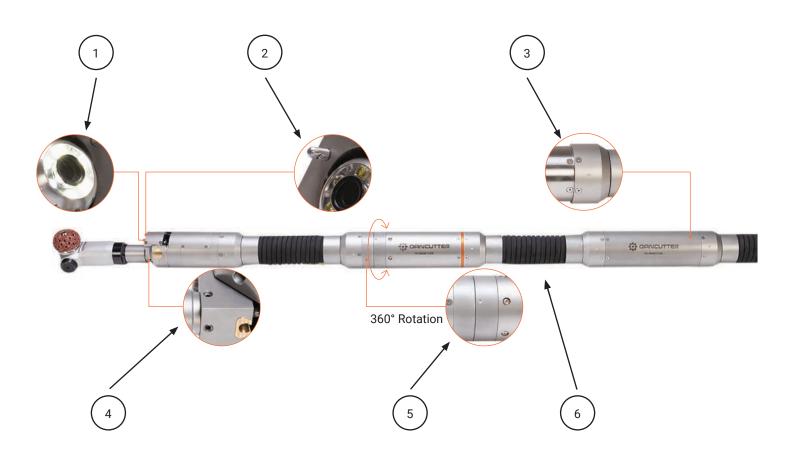
Position for adding washer fluid

Set the ball valves in the opposite positions. Close the valve supplying the tank with compressed air and open the valve for venting the tank. Completely empty the tank of air before dismantling the brass lid (using a suitable tool). Then add washer fluid.

7.2 Cutter

- 1. Camera
- 2. Camera spray nozzle
- 3. Forward/back drive section

- 4. Screws for Air Motor attachment
- 5. Rotation section: 360 degree rotation
- 6. Flex wire



Specifications

PIPE DIMENSIONS	DIA. 100-400 MM, 4-16"
SUPPLY HOSE	70 METRES, 230 FT
FLEXIBLE	45° IN A 150 MM, 6" PIPE

FORWARD/BACK DRIVE	150 MM, 6"
ROTATION	360° CONTINUOUS
GRINDING, MILLING AND CUTTING	PVC, LINER, CONCRETE, IRON, CAST IRON, STAINLESS STEEL



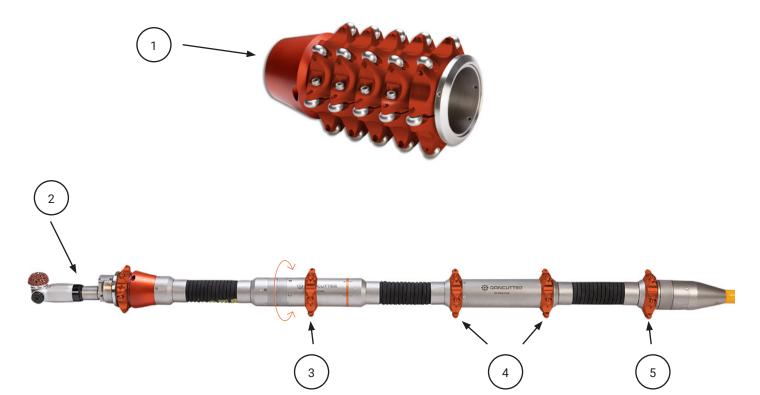
7.2.1 Attaching the centring tool set

Guide the set of centring tools onto the cutter from the back end. Guide the individual rings into their positions and fasten to the various sections.

- 1. Set of centring tools on their holder.
- 2. The cutter with the set of centring tools attached to different sections.

NOTE!

Only one of the five centring rings is equipped with a grease nipple. Attach this to the front of the cutter against the Air Motor, between the accompanying retainer cone and clamp ring.



ATTACHING THE SET OF CENTRING TOOLS

- 3. Attach behind the rotation section and **NOT** on the rotation section.
- 4. Attach CLEAR of the forward/back drive.
- 5. Attach to the last section.



7.3 Air Motor

The cutter comes with a hose reelard UAG 50 Air Motor.

Dancutter provides various other types of Air Motors, however, for different purposes and with different properties. These are illustrated below.



UAG 50: hose reelard, attachedPowerful motor covering most tasks:
Ø150-400 mm pipes



AG 100: optional accessory Ø100-400 mm pipes



UG 65: optional accessory Axial Air Motor, Ø100-400 mm pipes

7.3.1 Replacing a Air Motor



- 1. Loosen the three screws with the hex key.
- 2. The Air Motor can then be pulled out.
- Install a new Air Motor in the reverse order.Moisten the O-ring with oil before pushing in the Air Motor.



If the O-ring is cracked or broken, replace it. Visually inspect it.

4. Add a little pneumatic oil in the detached Air Motor and thoroughly blow it with an air gun to spread the oil inside it before putting the Air Motor back in the toolbox.



7.4 Attaching the cutter to the yellow supply hose



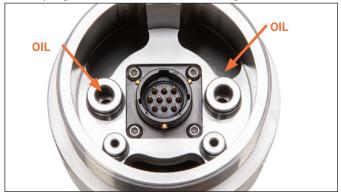
 Dismantle the two protective caps and screw the ends together.



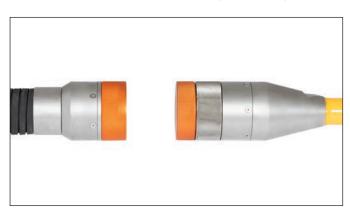
At the end of work, disconnect the yellow supply hose from the cutter and attach the cap to the yellow supply hose.



2. Rotate the cutter to align the key and slot and screw the coupling onto the cutter as far as it will go.



4. Pour a little pneumatic oil into the grinding air inlet and blow with an air gun to remove the oil from the Air Motor.



5. Then attach the protective cover to the cutter.



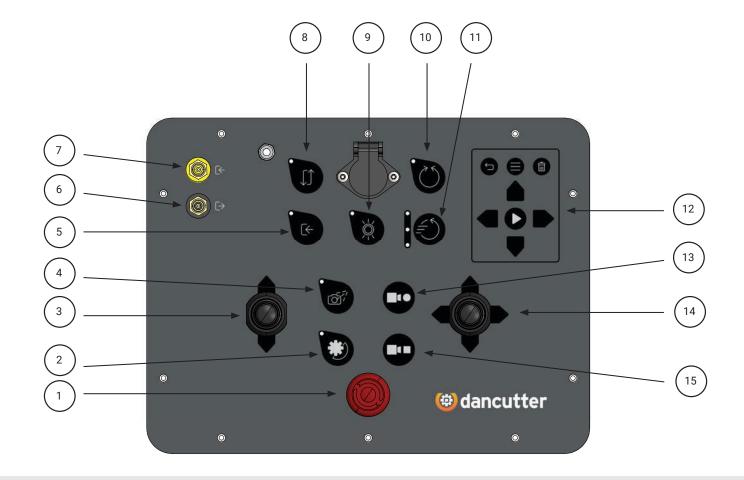
Wind up the yellow supply hose on the hose reel and place the cutter in the transport box.



7.5 DC Control Unit 2.0

With the DC Control Unit 2.0 you can control your DC SUPER FLEX and DC MAXI FLEX. Attach the cable from the coiler and the power cable to the control unit and it will power up. Please protect your control unit from water as it is not waterproof when open. The following will describe the function of each button/joystick on the control unit.

- 1. STOP
- 2. GRINDER
- 3. LEFT JOYSTICK
- 4. CAMERA CLEAN
- 5. EXTERNAL VIDEO SOURCE
- 6. VIDEO IN
- 7. VIDEO OUT
- 8. REVERSE FORWARD/BACKWARD
- 9. LIGHT
- 10. REVERSE ROTATION
- 11. ROTATION SPEED
- 12. PLAYBACK CONTROL PANEL
- 13. START RECORDING
- 14. RIGHT JOYSTICK
- 15. STOP RECORDING





L: 350MM - B: 300 MM -H: 150 MM



WEIGHT: 7 KG, 15.4 LB



DISPLAY: 12.1"



DC Control Unit 2.0



GRINDER: Press to start and stop the grinder. The grinder is on when the green light is on.



STOP: To halt all movement of the cutter, press this button. To return to the normal operating state, rotate the button. It is important to note that even after releasing the stop button, the grinder will remain inactive.



CAMERA CLEAN: To clean the camera lens, press the button briefly to dispense a small amount of sprinkler fluid or air. Alternatively, press and hold the button for 3 seconds to activate the sprinkler, which will remain on until the button is pressed again. You will know the camera cleaning function is active when the green light is on.



LIGHT: Press to turn the camera light on and off. The camera light is on when the green light is on.



LEFT JOYSTICK: Use this to operate the cutters forward/backward movement. How far the forward/backward section is extended is shown on the bar at the bottom of the screen.



RIGHT JOYSTICK: Use the up/down to raise and lower the grinder on the cutter. Use the right/left to rotate the cutter.



ROTATION SPEED: Press this button to adjust the rotation speed of the cutter in three levels. 1 light on: low speed. 2 lights on: medium speed. 3 lights on: high speed.



START RECORDING: Press to begin recording a video. It's important to ensure that a USB stick has been properly inserted into the corresponding USB socket, as the recording will be automatically saved to the stick. You will know that the control unit is recording when the "**REC**" indicator blinks in the lower left corner of the screen



STOP RECORDING: Press to stop the recording.



PLAY: While in normal mode, press the PLAY button to take a snapshot of the screen. The snapshot is saved directly onto the USB stick. When you take a snapshot "**SNAP**" is displayed briefly on the screen.



EXTERNAL VIDEO SOURCE: Press this button to switch between video sources on the screen. When the light is off, the video feed is sourced from the camera built into the cutter. Conversely, when the light is on, the video feed is sourced from an external video source that has been connected to the "video in" socket on the control unit. Note, the settings for "reverse forward/backward" and "reverse rotation" are saved independently for each video source, and will automatically switch back to their saved state when the video source is changed back.







VIDEO IN: Use this if you want to display video from an external source on the control unit's screen.





VIDEO OUT: Use this if you want to display the video from the cutter on another screen.



REVERSE FORWARD/BACKWARD: Press this button to reverse the direction of the cutter's forward/backward movement when using the joystick. This feature is particularly useful when an external camera is being used to view the cutter from a different angle, making it easier and more intuitive to control. Note, the light will be illuminated when the forward/backward movement is reversed, indicating that the feature is currently active.



REVERSE ROTATION: Press this button to reverse the direction of the cutter's rotation when using the joystick. This feature is particularly useful when an external camera is being used to view the cutter from a different angle, as it can make controlling the cutter feel more intuitive and natural. Note, it's worth noting that the light will be illuminated when the rotation direction is reversed, indicating that the feature is currently active.



PLAYBACK CONTROL PANEL: This panel is used to control the playback function. You can playback videos and snapshots recorded with the control unit.



MENU: Press to enter the playback menu.



RETURN: Press to go back or to exit the playback menu.



DELETE: Press to delete video recordings or snapshots.



PLAY: Press to play/pause videos or to enter menus and folders.





ARROWS: Use to navigate through menus, folders and files.



8.0 Service and maintenance

8.1 Air Motor

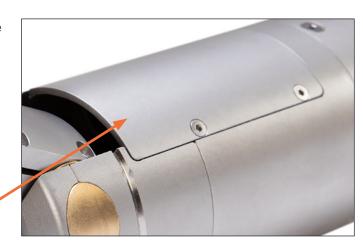
- · Clean the Air Motor with water or compressed air.
- Unscrew the hex screw in the end of the Air Motor (GRS), add a drop of blue grease to the screw hole and re-attach the screw. Once a week or as needed.
- After operating the Air Motor in a very damp environment or if it will be idle for an extended period of time, remove the grinder and drip oil into the coupling nipple and evenly dis tribute the oil in the motor by blowing it with an air gun. This will displace any water/moisture.

BLUE GREASE (F85001)



8.2 Clean underneath cover

- Clean with compressed air underneath the cover next to the camera outlet.
- · Dismantle the cover if necessary.



DISMANTLE THE COVER

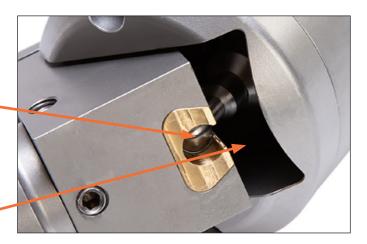


8.3 Clean behind arm/swivel support

 Raise the arm all the way up and clean the space behind the swivel support with compressed air. Next, lubricate the piston and swivel support, insert with oil and re-lower the arm.







8.4 Clean the forward/back drive

After cleaning, do NOT lubricate the forward/back drive unit
with oil or grease, as grime and dirt will stick to it and impede its movement. If the cutter gets scratched and
becomes leaky, water will be able to penetrate the section
from the outside. Therefore, keep this section CLOSED
whenever the cutter is being pushed forward or backwards
in the pipeline.

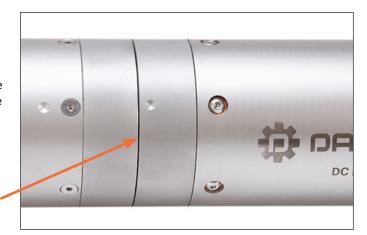






8.5 Clean the rotation function

- Remove sand and dirt by blowing compressed air into the thin groove.
- Continuing to use the rotation function if this groove is dirty will needlessly overload the rotation motor. It can also cause a defect in the rotation motor or damage components in the control unit.



CLEAN THE GROOVE WITH COMPRESSED AIR

8.6 Maintaining the control unit

- Avoid getting water/moisture on the control unit, as it is not watertight. Close it after use and hang it on the hose reel to protect the screen and switches.
- Always replace caps on CABLES AND CONTROL UNIT after use to protect the power outlets.
- · Always hang the control unit in place after use.







8.7 Drum shaft

• Lubricate the drum shaft with grease in the grease nipple. If used daily, do this roughly twice a year.



8.8 Water filter

· Clean the water-filter insert as needed. (F80546)





8.9 Service overview

Service overview			
Part - components - service	Daily	Weekly	Other
Cleaning the cutter.	х		
Check pneumatic oil. See 7.1.1 (5). Add oil as needed. See 7.1.1 (8).	Х		
Clean and lubricate the piston and swivel support unit insert. See 8.3.	Х		
Lubricate the Air Motor. See 8.1.	Х	х	
Visually inspect the cutter. Inspect screws, adapter, cutting tools, etc., for wear and damage and replace or tighten them if necessary.	х		
Lubricate with grease in the grease nipple. See 8.7 (once or twice a year)			As required
Add washer fluid. See 7.1.2			As required
Replace air filter. See 7.1.1 (4)			As required



9.0 Cutting tools

9.1 Tools for cutting PVC and LINER

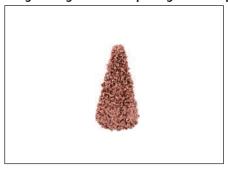
The hose reelard cutter is equipped with a UAG 50 Air Motor which blows air forward to keep dust away from the camera.

The cutting tool is replaced using the hex key supplied. It may be necessary to first clean the bolt in the Air Motor, which secures the cutting head.

Dancutter recommends the use of the following cutting heads for opening a branch pipe in PVC/LINER



DK5025-16 - 50 x 25 mm **PVC/LINER**



DJ2550-14 - 25 x 50 mm **PVC/LINER**



DK4040-14 - Ø 40 mm **PVC/LINER**



DK3045-16 - Ø 32 x 45mm **PVC/LINER**



DB8900 - Ø 70 mm **PVC/LINER**



DKA1021 - Ø 36 x 41 mm **PVC/LINER**



9.2 Tools for cutting CONCRETE

Dancutter recommends using the following diamond heads for concrete.



DD70M8A - Ø 70 mm CONCRETE



DD75M8 - Ø 75 mm **CONCRETE**



DKA1011 - 65 x 30 mm **CONCRETE**



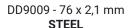
DKA1019 - 46 x 47 mm **CONCRETE**



9.3 Tool for cutting STEEL

Dancutter recommends using the following cutting discs for steel.





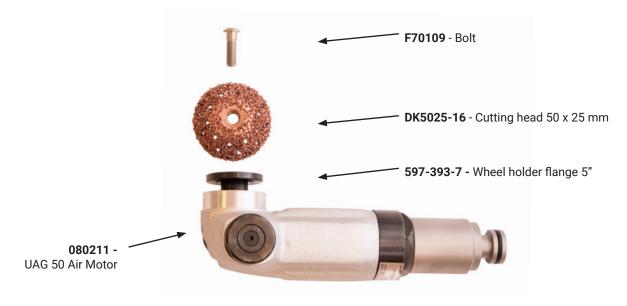


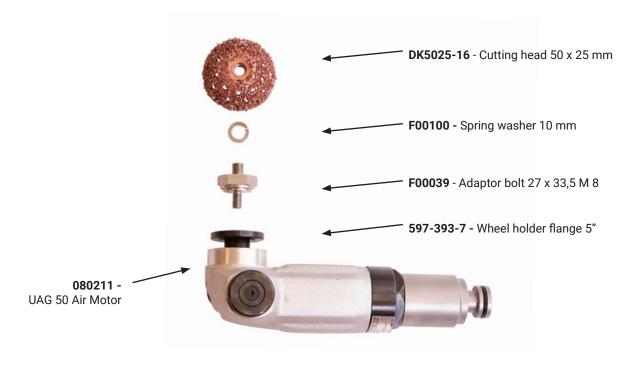
DD9022 - 80 x 27 mm



DD9025 - 70 x 10mm, DD9024 Bolt for cutting disc - **STEEL**





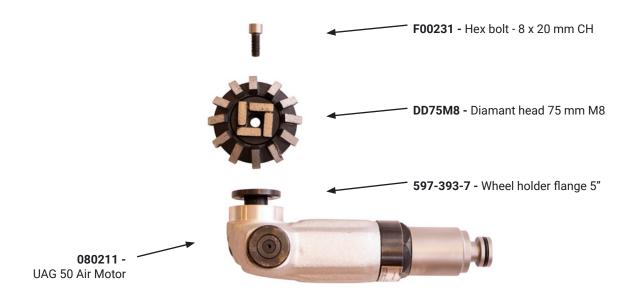


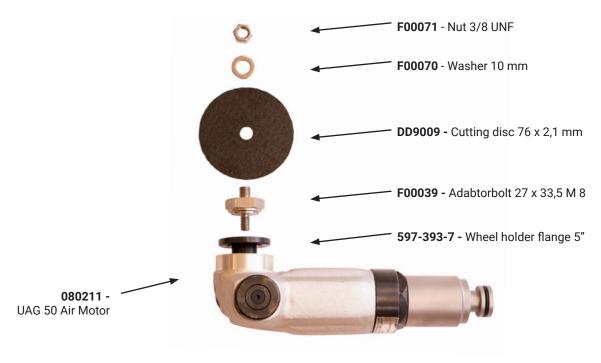




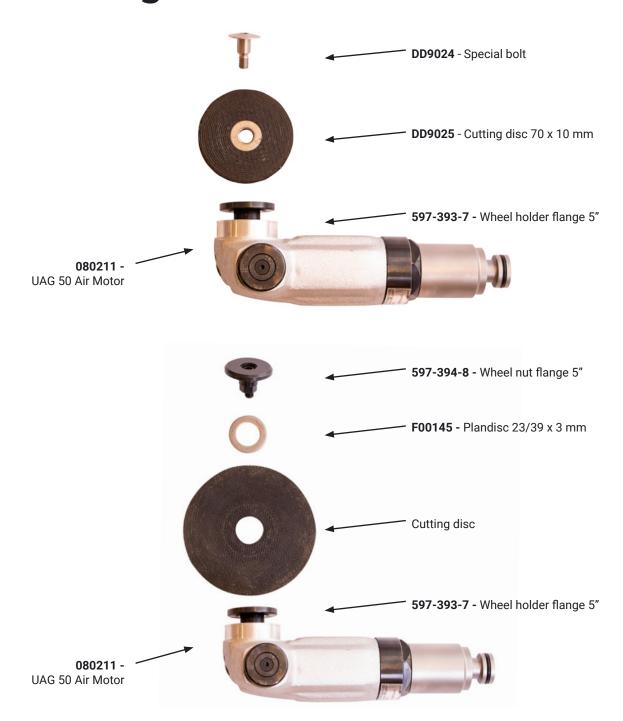






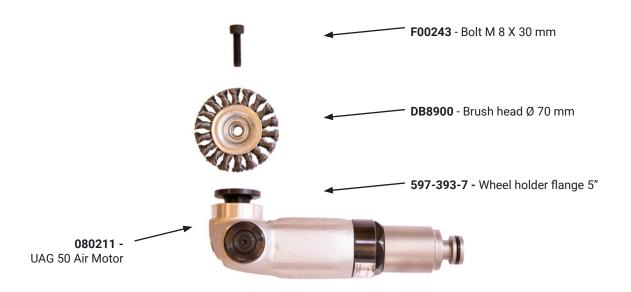




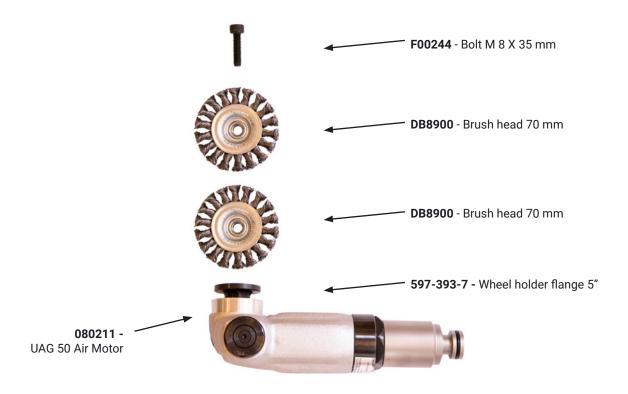




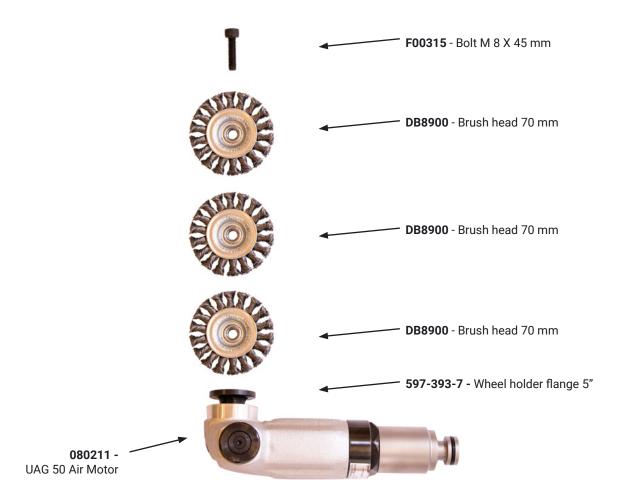














10.0 Quickguide VR-headset

First time setup

- · Turn the headset on with the POWER button.
- · Make sure that the control unit on the cutter is turned on.
- Press and hold the button SCAN for 1-2 seconds while the headset finds the signal from the control unit.
- · The velcro straps on the headset can be adjusted to fit your size.
- · To charge the headset battery use the included micro usb cable.

