

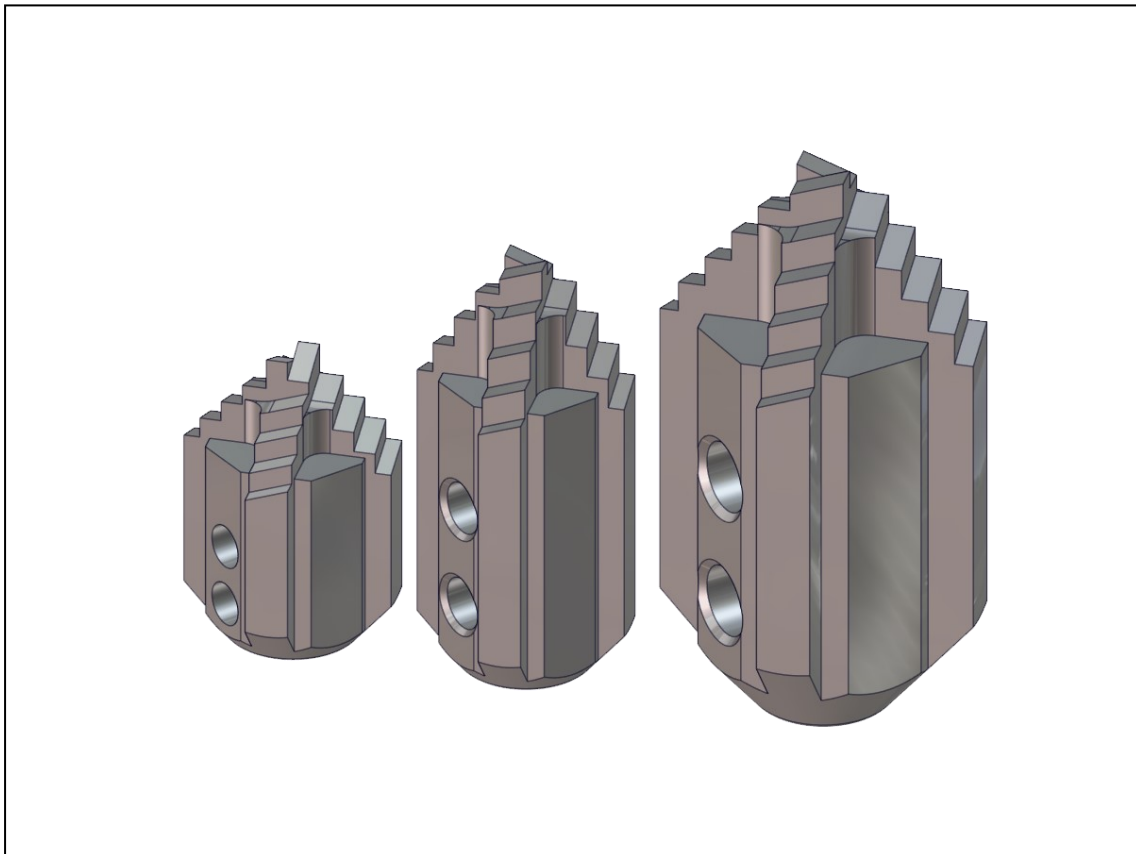


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## Operating & Safety Manual

### Special Drill Heads



### WARNING

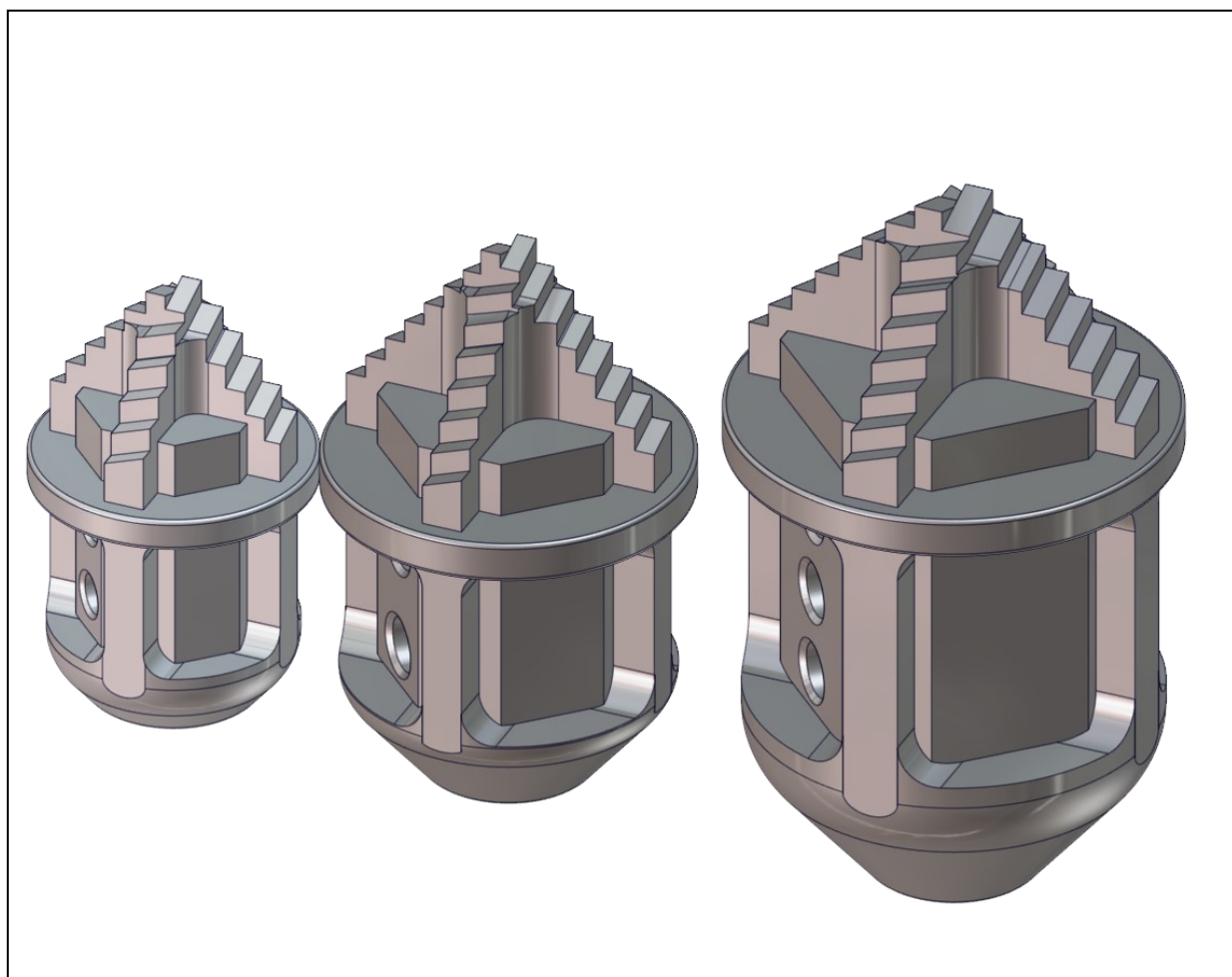
These instructions are for your personal safety. Always ensure that you have read and understood these instructions before using any of the Special Drill Heads range.



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Locate your reseller at [picotesolutions.com](http://picotesolutions.com)

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To watch practical demonstration videos, or to download an electronic copy of these Instructions, please visit [www.picotesolutions.com](http://www.picotesolutions.com). Please note that videos are not intended as a replacement or alternative to this operating and safety manual, but only as an additional learning tool.

# SAFETY INFORMATION



*This section contains important safety information. Failure to comply could result in serious injury or death.*

## Safety Symbols

Safety symbols are used throughout this manual to draw attention to potential hazards.



**Danger** risk of serious injury, follow instructions.



**Danger** risk of serious injury from rotating parts, follow instructions.

## Personal Protective Equipment (PPE)

Always use Personal Protective Equipment when using the Special Drill Heads, including suitable overalls / protective clothing & footwear and the following:



Always wear suitable eye protection when using the Special Drill Heads to prevent sewage, chemicals or dust from irritating your eyes.



Always wear suitable ear protection when using the Special Drill Heads to prevent any hearing loss.



Always wear suitable cut-resistant gloves when using the Special Drill Heads to prevent any hand injuries. Any open injuries or skin irritations should be covered at all times to avoid contact with sewage, chemicals or dust.



Always wear a suitable respirator when using the Special Drill Heads to prevent any resin dust or fumes being inhaled or consumed, which can cause occupational asthma or dermatitis as well as eye irritation.

## Always remember



Dust produced can be dangerous to your health, inflammable or explosive.

Make sure the pipe has been **opened** and **ventilated** to stop any gases forming in the lateral pipe where the work takes place.

Before assembly, use, replacement of parts or maintenance, unplug the Pi-cote milling machine or your hand drill from its power socket.

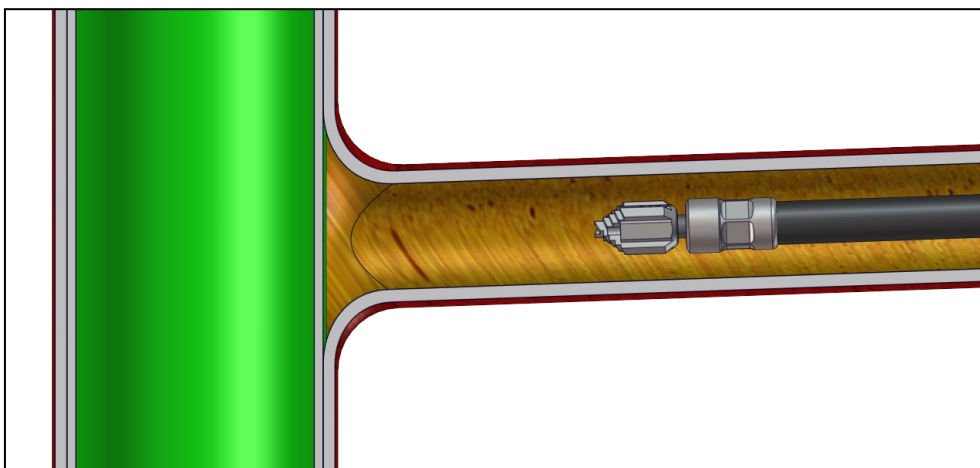
## AVAILABLE SIZES & POWER SOURCES

The Special Drill Heads have a variety of different application purposes. With the correct tool selected it can be used to re-open lined branches or unblocked pipes to make space for larger tools. In heavily scaled pipes it can be used in front of the Original Chains to make pipe cleaning even faster. Special Drill Heads are normally used to re-open connections when larger tools, like Twister, cannot fit through pipe or there are dimensional changes inside the pipe.

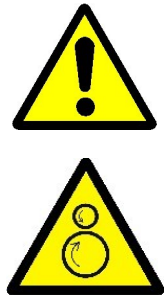
### Choosing the correct Special Drill Head for the job

Select the your Special Drill Head according to the size of the original host pipe.

Place the tool completely inside the pipe before powering up the tool.



**! WARNING**



| Pipe Size    | Shaft size<br>mm/inches | BEND 90° | BEND 45° |
|--------------|-------------------------|----------|----------|
| DN32 (1.1¼") | 8 (1/3")                | YES      | YES      |
| DN50 (2")    | 8 (1/3")                | YES      | YES      |
| DN75 (3")    | 8 (1/3") & 12 (1/2")    | YES      | YES      |
| DN100 (4")   | 12 (1/2")               | YES      | YES      |

### CHOOSING YOUR POWER SOURCE

The Special drill heads has been designed and can be operated with the **Picote Micro & Mini Miller** with 8mm (1/3") shaft or **Midi & Maxi Miller** with 12mm (1/2") shaft.

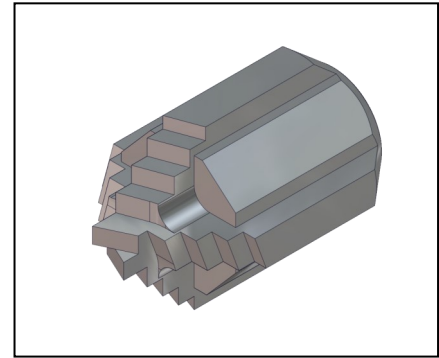
### CHOOSING YOUR DRILL HEAD

Select the largest possible Special drill head for the job. Use Special Drill Head Cutters in cast iron pipes and PVC Cutters in plastic or clay pipes. The 3D-Cutter can be used to create larger openings.

# AVAILABLE MODEL TYPES

## The Cutter Head

Stand alone cutting bit for lateral reinstatements in cast iron pipe. Square body design allows the cutter to tumble around and quickly chip away the lining and re-open the connection enough for the remaining edges to be removed with the Smart Cutter™. Can be used in conjunction with

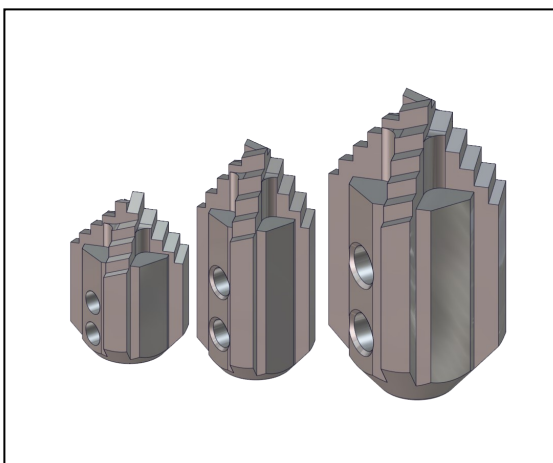


Original grinding chains as a pilot bit to easily cut into tough blockages such as tree roots, grease and tuburculation.

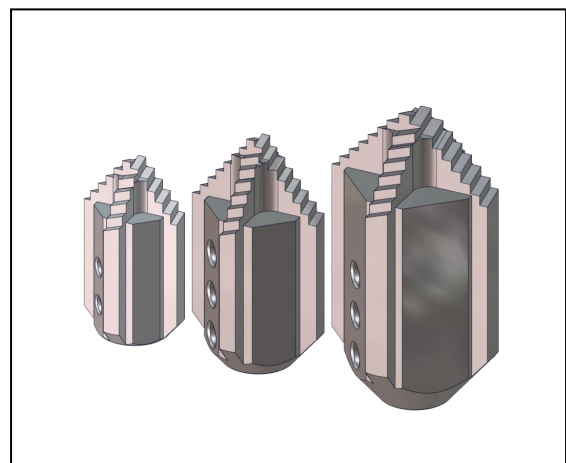
**Benefits:** The improved cutter head design is faster and more effective. The ridged drill head allows for greater navigation through bends and even cast iron P traps.

| Name                               | Shaft size<br>mm/inches | Pipe Size                 |
|------------------------------------|-------------------------|---------------------------|
| Special Drill Head Cutter 8x20x29  | 8 (1/3")                | DN32—DN40 (1.1/4"—1.1/2") |
| Special Drill Head Cutter 8x20x42  | 8 (1/3")                | DN50 (2")                 |
| Special Drill Head Cutter 8x30x55  | 8 (1/3")                | DN50—DN75 (2"—3")         |
| Special Drill Head Cutter 12x30x55 | 12 (1/2")               | DN70—DN75 (2.3/4"—3")     |
| Special Drill Head Cutter 12x40x71 | 12 (1/2")               | DN70—DN75 (2.3/4"—3")     |
| Special Drill Head Cutter 12x50x91 | 12 (1/2")               | DN75—DN100 (3"—4")        |

Cutters for 8mm (1/3") shaft



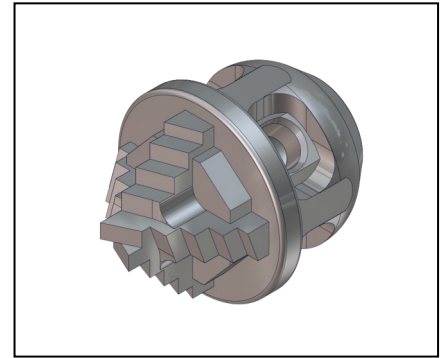
Cutters for 12mm (1/2") shaft



## AVAILABLE MODEL TYPES

### PVC Cutter—The Cutter with “safety” ring

Stand alone cutting bit for lateral reinstatements in cast iron, PVC, clay or lined pipe. New unique safety ring allows for added protection while still utilising the square body design that allows the cutter to tumble around and quickly chip away the lining and open the connection enough for

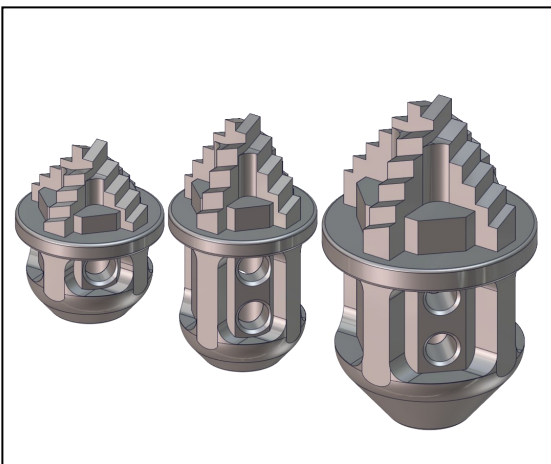


the remaining edges to be removed with the Smart Cutter. Can be used in conjunction with Original PVC grinding chains as a pilot bit to easily cut into tough blockages such as tree roots, grease and tuberculation.

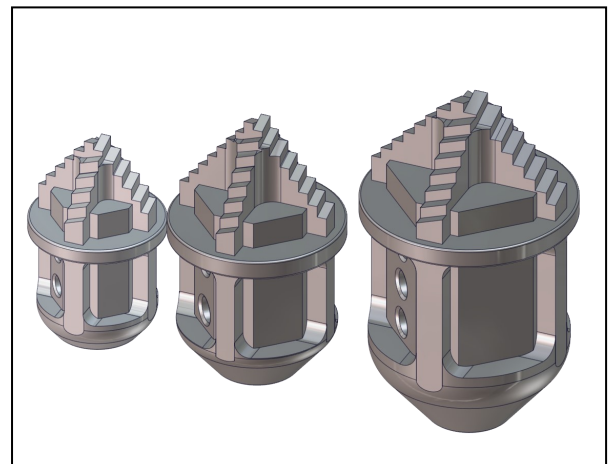
**Benefits:** The safety ring now gives the drill head the ability to be used in PVC, clay and lined pipes. This feature means more reliable with less risk of damage to the host pipe while still maintaining the functionality for the original square drill head.

| Name                            | Shaft size<br>mm/inches | Pipe Size                 |
|---------------------------------|-------------------------|---------------------------|
| Special Drill Head PVC 8x23x29  | 8 (1/3")                | DN32—DN40 (1.1/4"—1.1/2") |
| Special Drill Head PVC 8x23x42  | 8 (1/3")                | DN50 (2")                 |
| Special Drill Head PVC 8x34x55  | 8 (1/3")                | DN50—DN75 (2"—3")         |
| Special Drill Head PVC 12x34x55 | 12 (1/2")               | DN70—DN75 (2.3/4"—3")     |
| Special Drill Head PVC 12x44x71 | 12 (1/2")               | DN70—DN75 (2.3/4"—3")     |
| Special Drill Head PVC 12x54x91 | 12 (1/2")               | DN75—DN100 (3"—4")        |

Cutters for 8mm (1/3") shaft



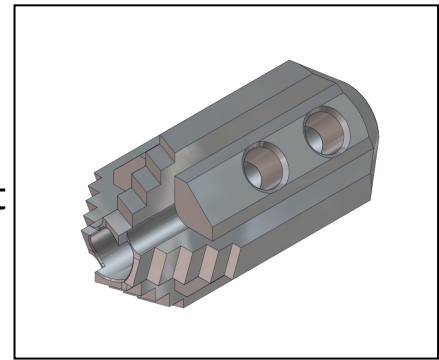
Cutters for 12mm (1/2") shaft



## AVAILABLE MODEL TYPES

### 3D Cutter—The holed Cutter for steering

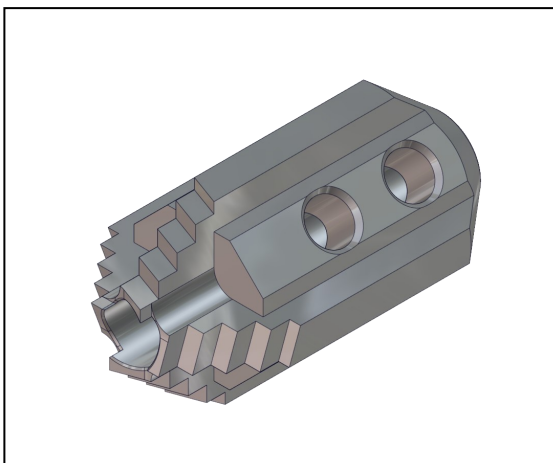
Use when going through a pipe with diameter changes before the lined connection. Make the first cut in the lined connection with the cutter that fits through the smallest diameter section of the pipe.



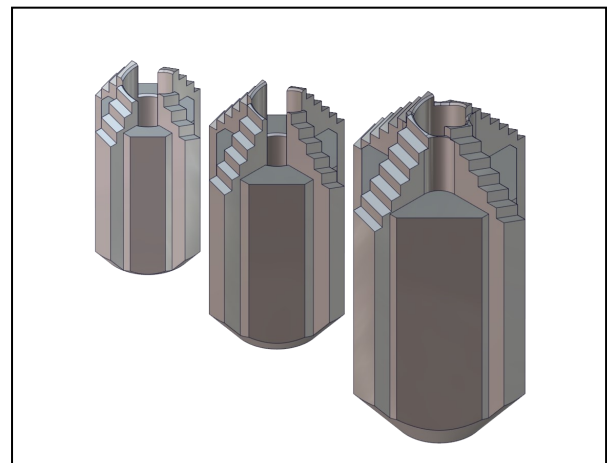
**Benefits:** A versatile cutter that can be turned around and used both forward or backwards. The cutter can be pushed or pulled to the cutting location with the help of a steering wire. This is especially useful with laterals changing diameter, for example 50/70/100, and having two access points such as toilet and kitchen lines.

| Name                           | Shaft size<br>mm/inches | Pipe Size             |
|--------------------------------|-------------------------|-----------------------|
| Special Drill Head 3D 8x30x55  | 8 (1/3")                | DN50—DN75 (2"—3")     |
| Special Drill Head 3D 12x30x55 | 12 (1/2")               | DN70—DN75 (2.3/4"—3") |
| Special Drill Head 3D 12x40x71 | 12 (1/2")               | DN70—DN75 (2.3/4"—3") |
| Special Drill Head 3D 12x50x91 | 12 (1/2")               | DN75—DN100 (3"—4")    |

Cutter for 8mm (1/3") shaft



Cutters for 12mm (1/2") shaft



## SPECIALL DRILL HEAD CUTTER RANGE & USE

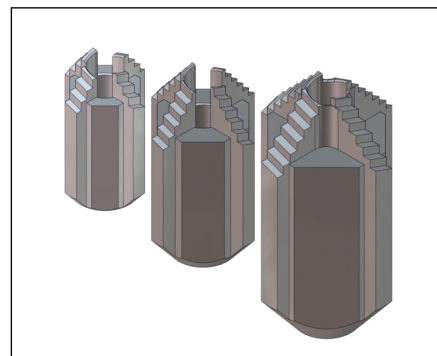
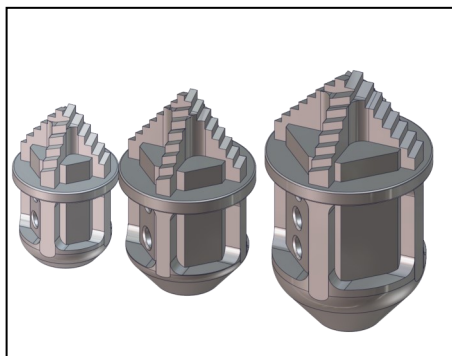
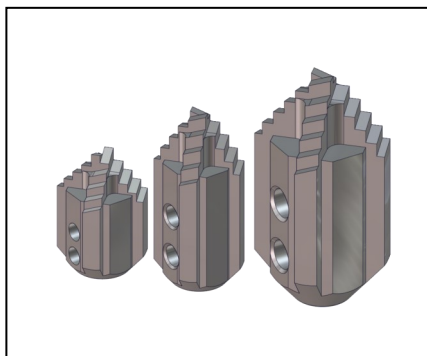


Please read safety information on page 3 before assembly and use.

### Special Drill Head Cutter

### Special Drill Head PVC Cutter

### Special Drill Head 3D Cutter



### Special Drill Heads for 8mm (1/3")

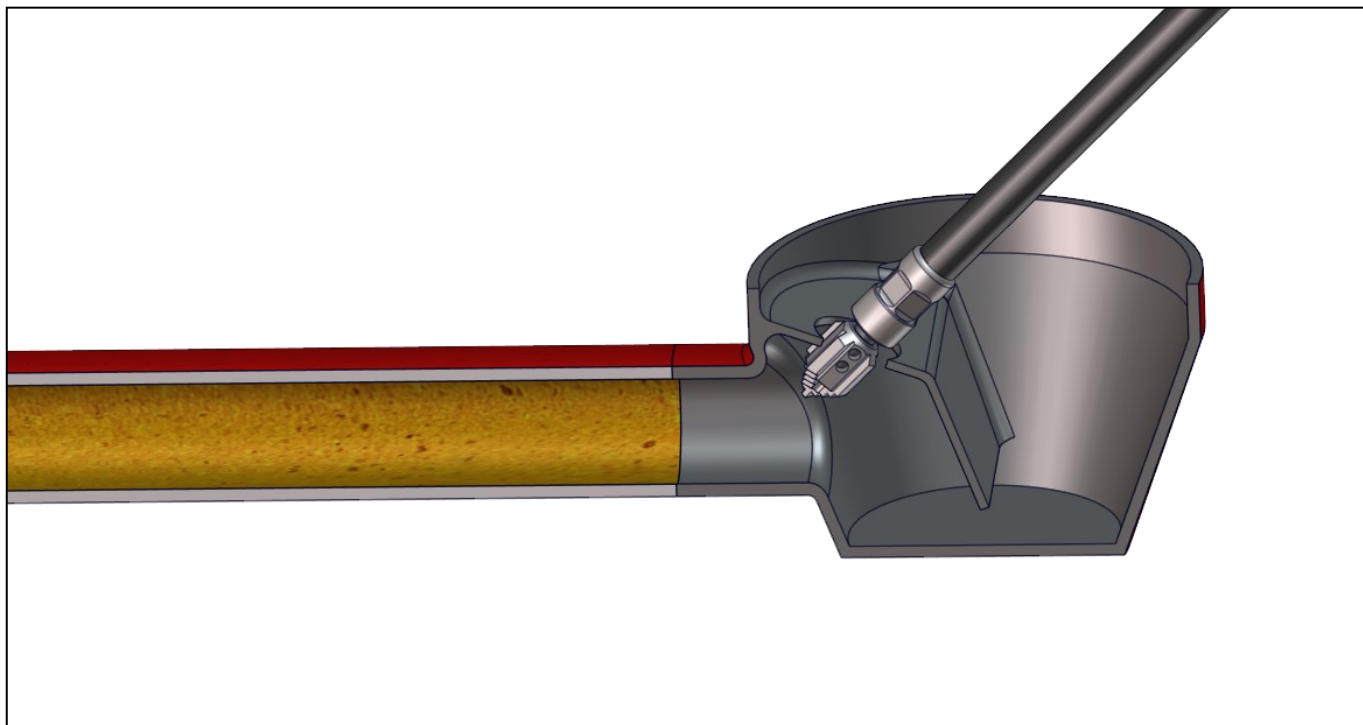
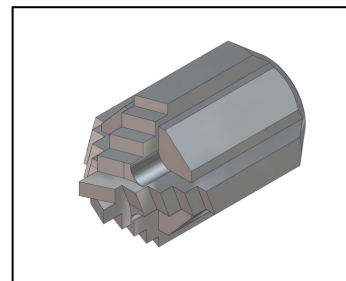
|            |                                       |
|------------|---------------------------------------|
| 1310820029 | Special Drill Head Cutter 8x20x29     |
| 1310820042 | Special Drill Head Cutter 8x20x42     |
| 1310830055 | Special Drill Head Cutter 8x30x55     |
| 1310812029 | Special Drill Head PVC Cutter 8x23x29 |
| 1310812042 | Special Drill Head PVC Cutter 8x23x42 |
| 1310813055 | Special Drill Head PVC Cutter 8x34x55 |
| 1310823055 | Special Drill Head 3D Cutter 8x30x55  |

### Special Drill Heads for 12mm (1/2")

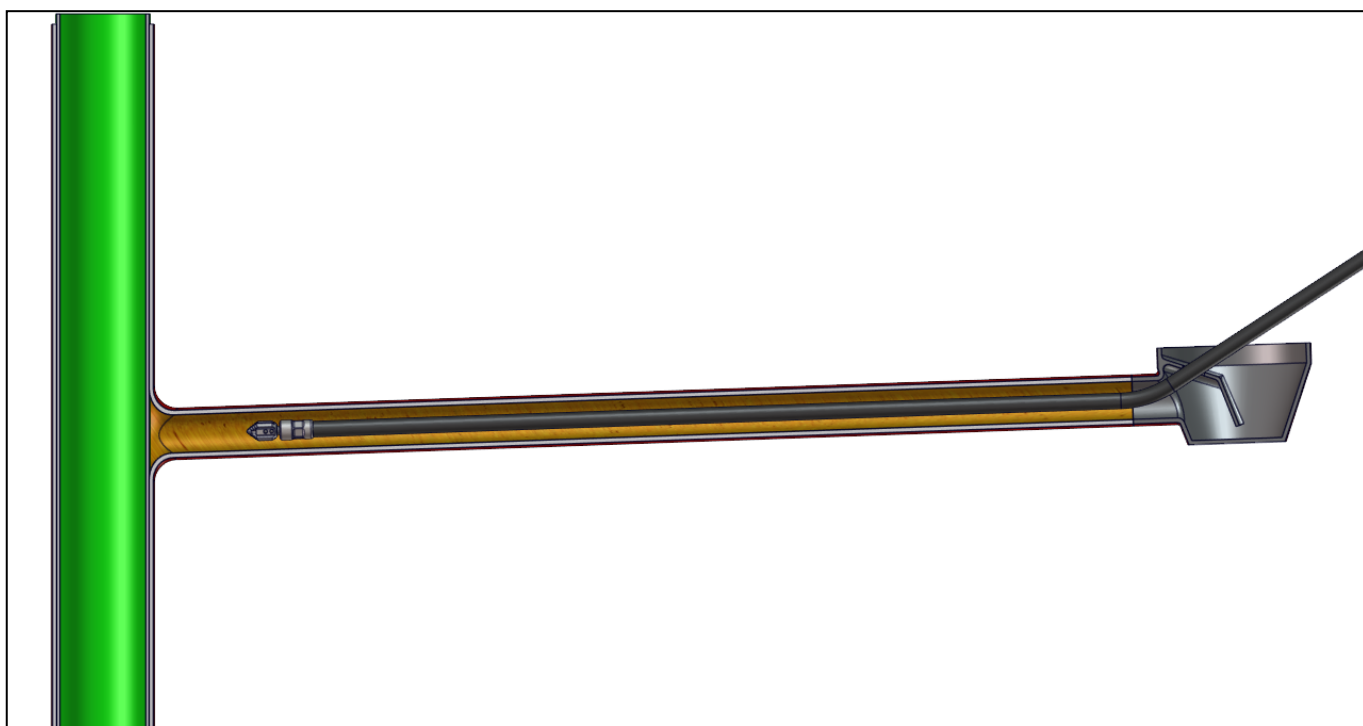
|            |                                        |
|------------|----------------------------------------|
| 1311230055 | Special Drill Head Cutter 12x30x55     |
| 1311240071 | Special Drill Head Cutter 12x40x71     |
| 1311250091 | Special Drill Head Cutter 12x50x91     |
| 1311213055 | Special Drill Head PVC Cutter 12x34x55 |
| 1311214071 | Special Drill Head PVC Cutter 12x44x71 |
| 1311215091 | Special Drill Head PVC Cutter 12x54x91 |
| 1311223055 | Special Drill Head 3D Cutter 12x30x55  |
| 1311224071 | Special Drill Head 3D Cutter 12x40x71  |
| 1311225091 | Special Drill Head 3D Cutter 12x50x91  |

## User Guide—Opening Bathroom Connection

**Step 1.** Choose the largest Special Drill Head Cutter which can be fitted into the floor drain.

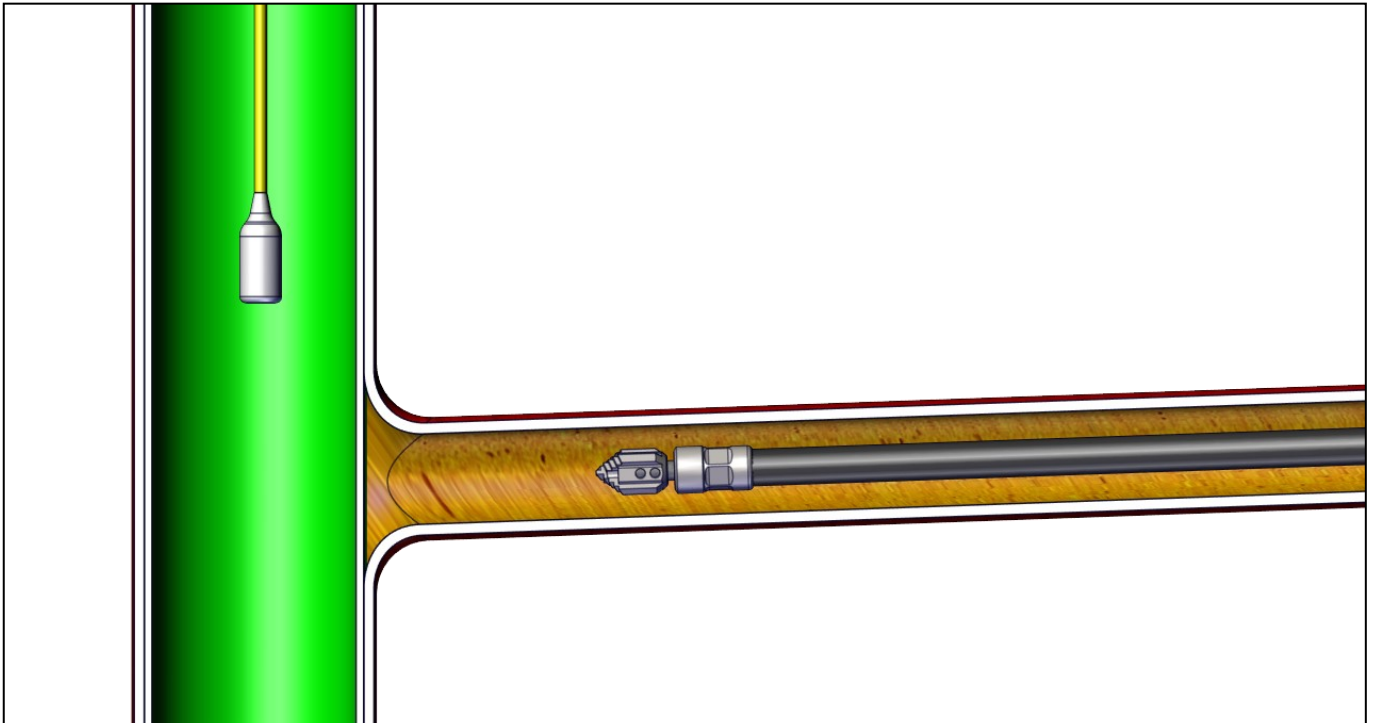
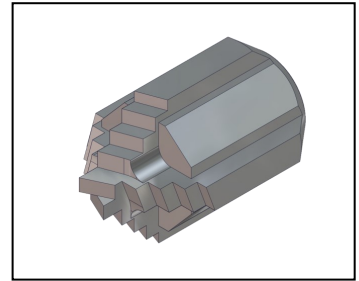


**Step 2.** Push the Special Drill Head close to the connection.

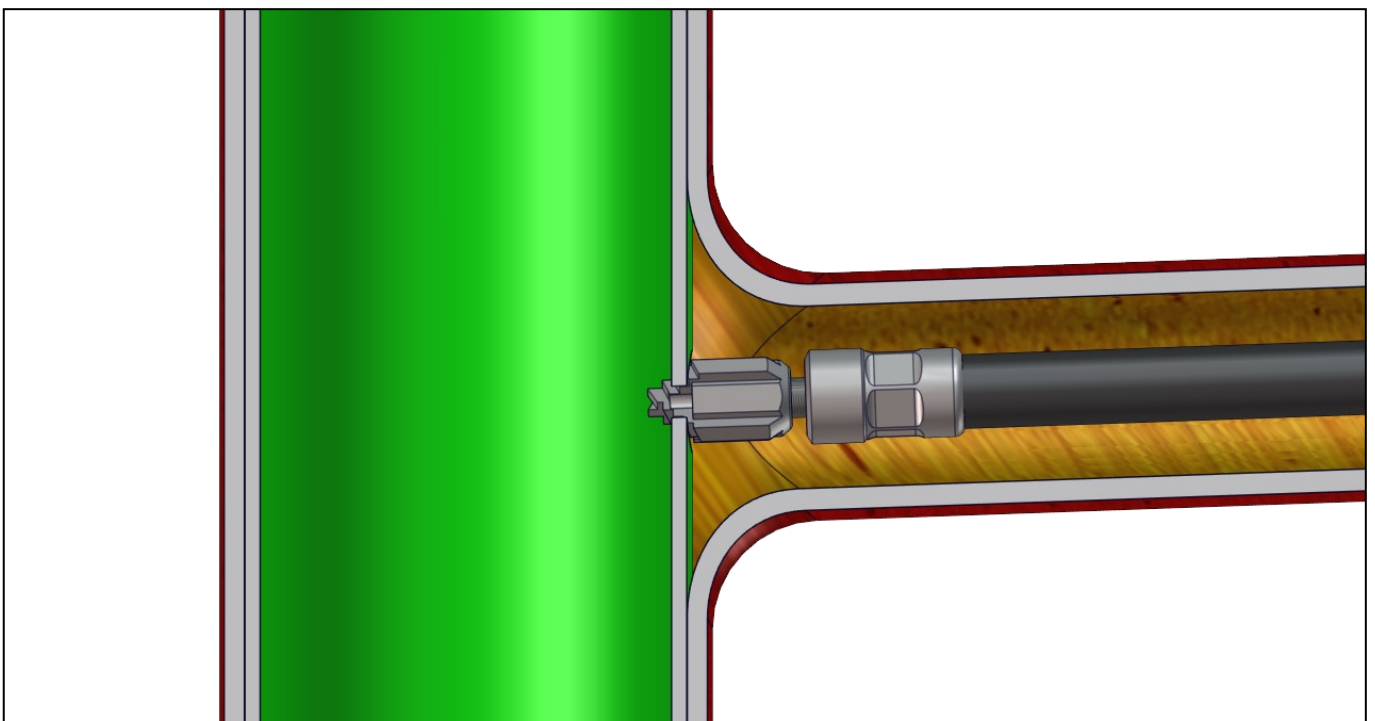


## User Guide—Opening Bathroom Connection

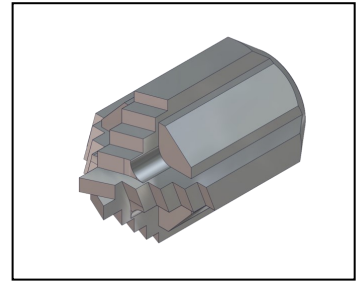
**Step 3.** Place a CCTV camera into lined pipe so that you will see how the work is progressing. **Never work blind!**



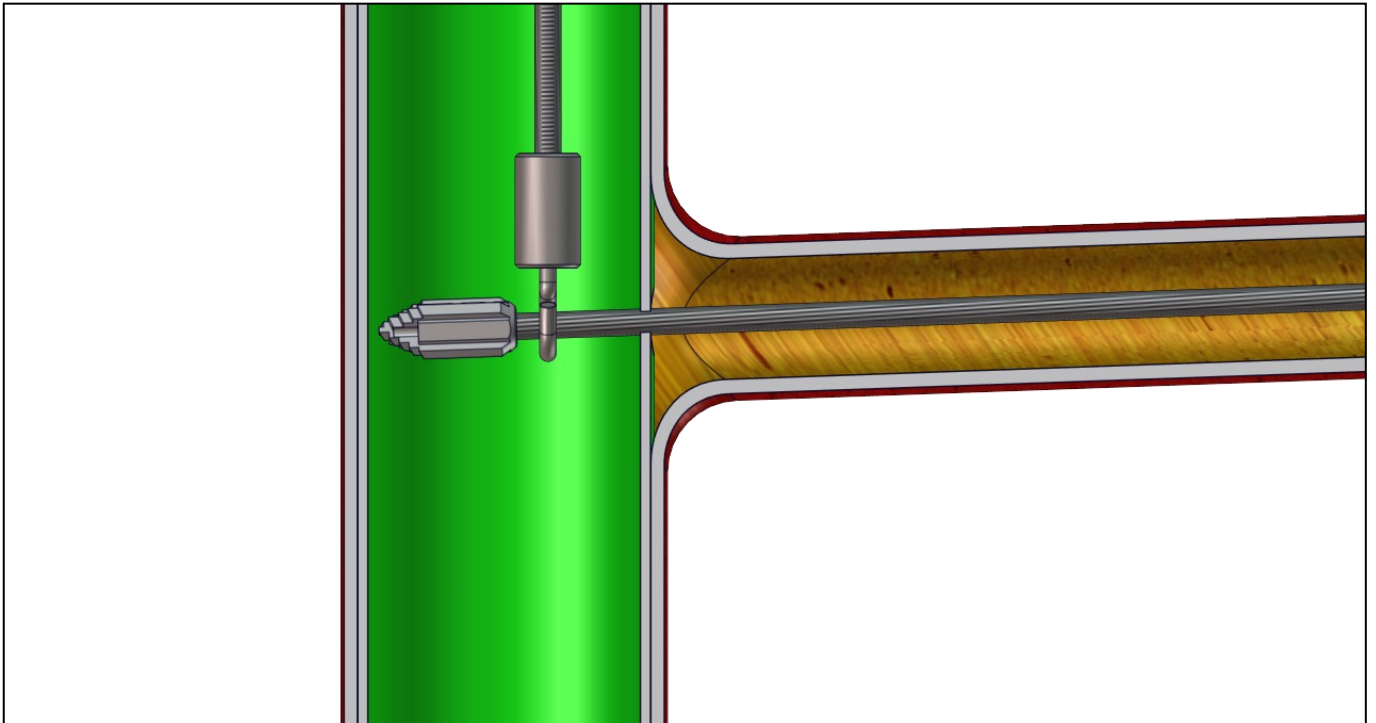
**Step 4.** Carefully drill the hole. Leave the Special Drill Head in the opened connection to make it wider with the side blades.



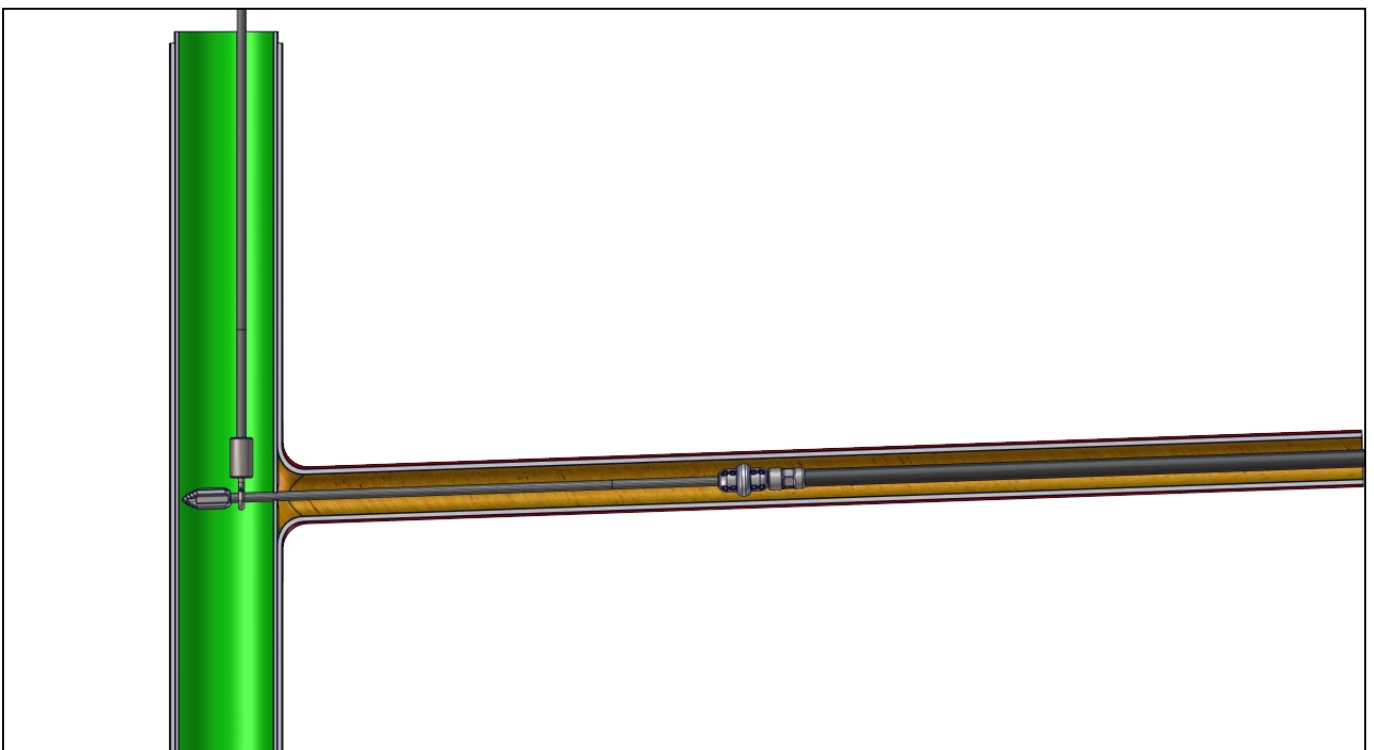
## User Guide—Opening Bathroom Connection



**Step 5.** For tool change you need to navigate on other connection. Use hooks or pulling wires to do so. **Do not rotate the tool in lined pipe** as it damages the already lined pipe.



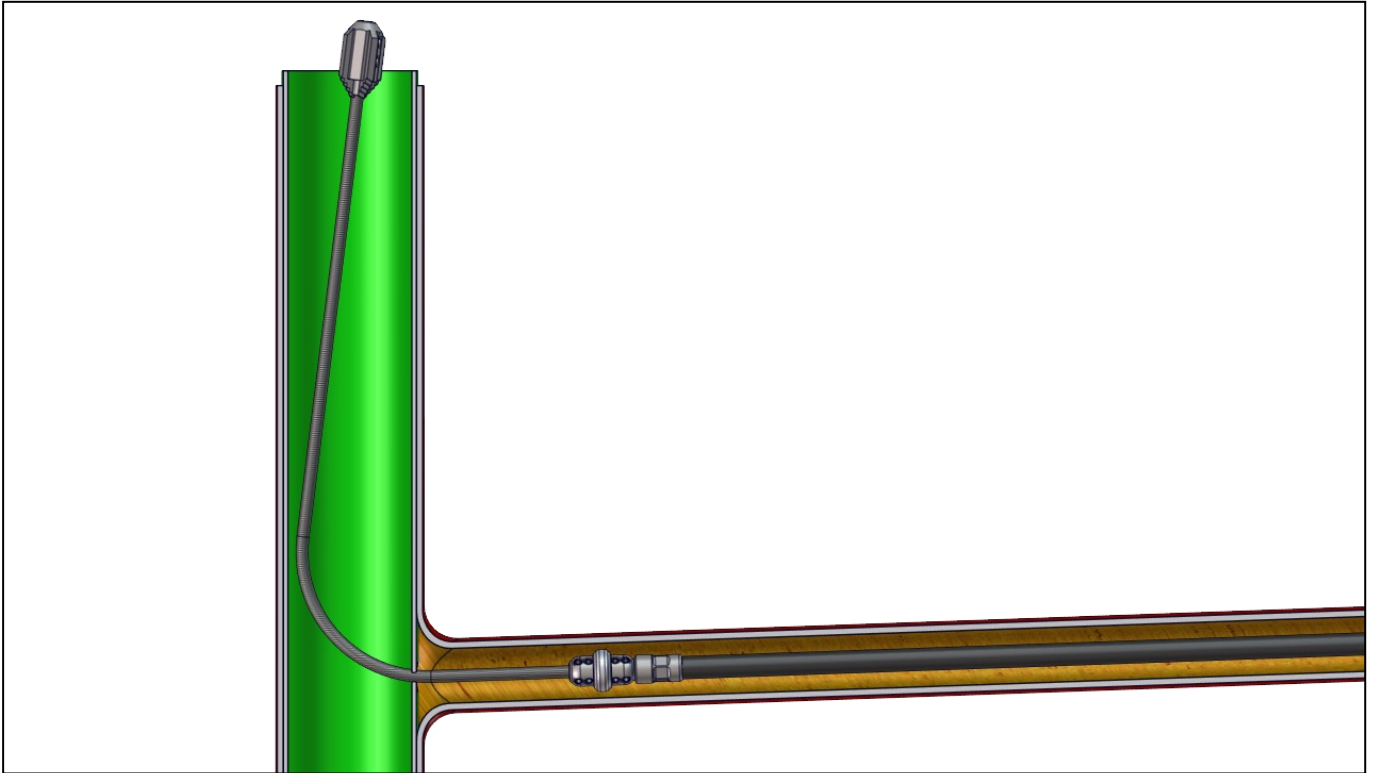
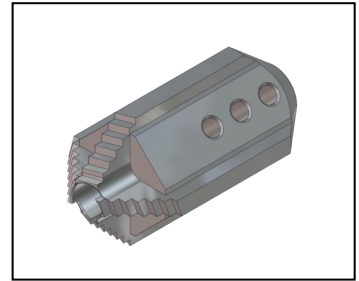
**Step 6.** Pull the Special Drill Head to the closest opening for tool change.



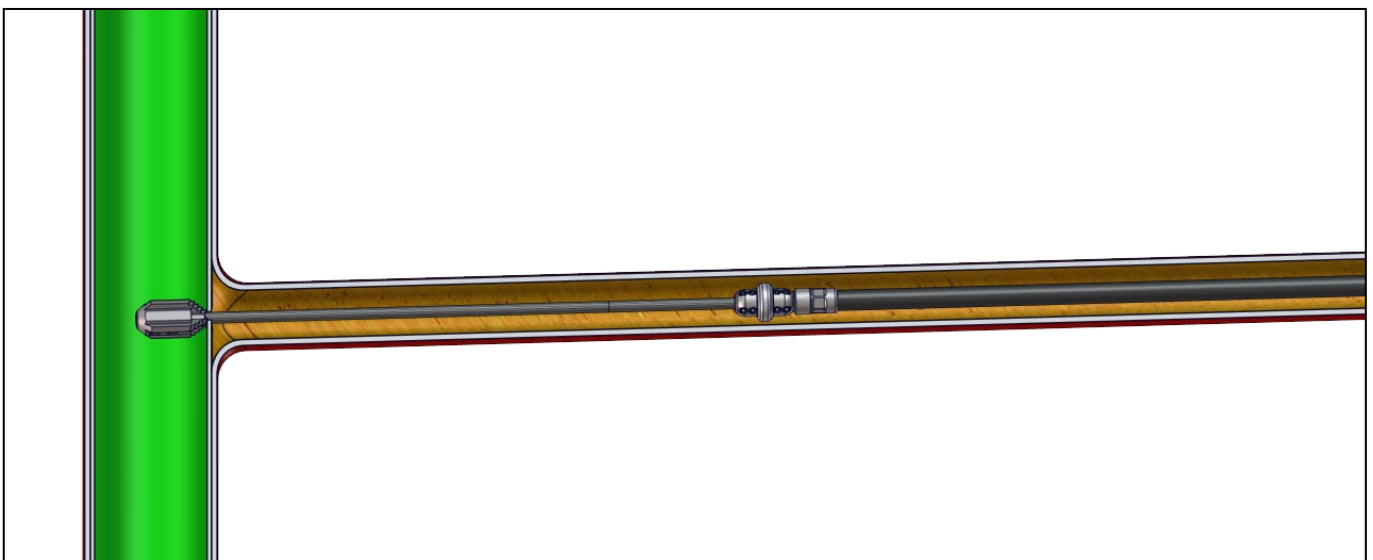
## User Guide—Opening Bathroom Connection



**Step 7.** Attach a larger Special Drill Head 3D Cutter to the shaft.



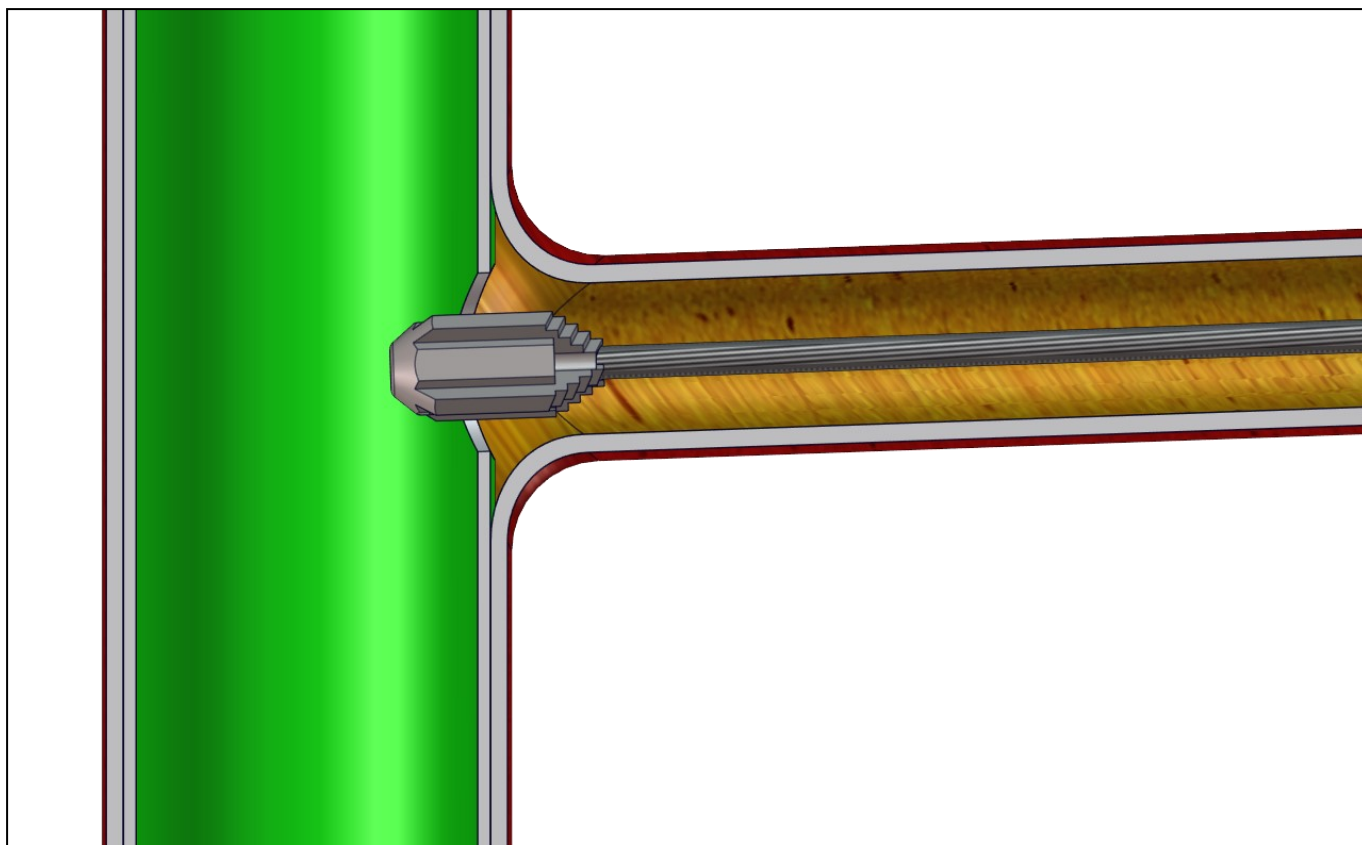
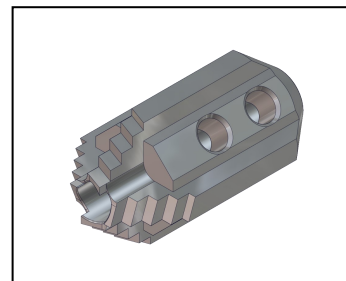
**Step 6.** Push the Special Drill Head 3D Cutter carefully into correct position. **Do not power up the tool** before it is in the connection as you will damage the already lined pipe.



## User Guide—Opening Bathroom Connection

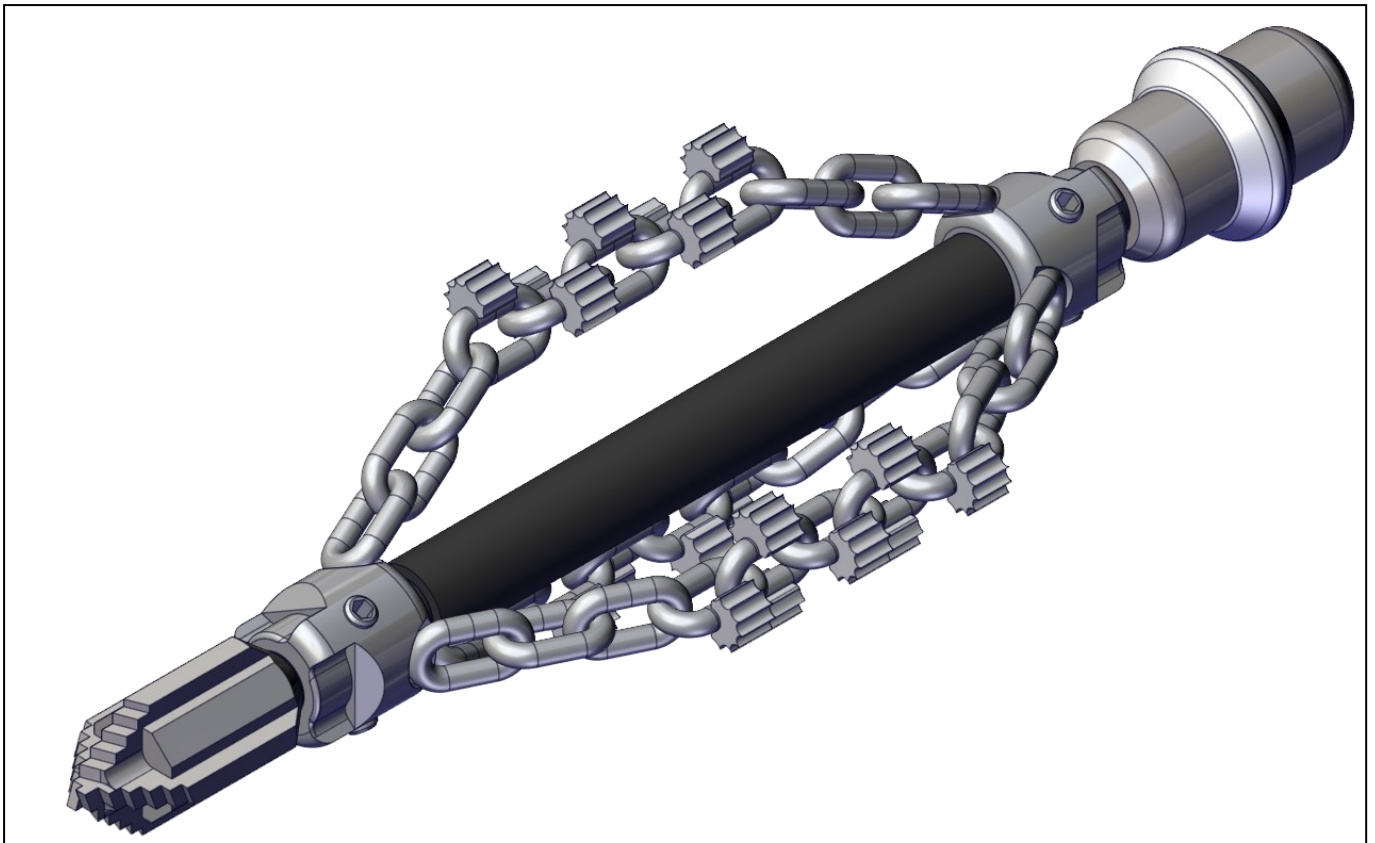
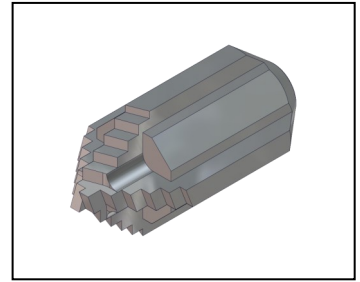


**Step 10.** Widen the connection as required. Finish with Smart Cutter™. **Notice that you need to remove the larger tools before you are able to pull the flexible shaft out from the floor drain!**



## User Guide—Combining Special Drill Head Cutter and Original Chain

The Special Drill Head Cutter can be used in the front of Original chains to create a tool which can progress forward even in badly corroded or heavily scaled pipes. This combination is also very effective in removing roots. **Operate carefully as the combination makes the cleaning work much more demanding to the Millers!**



## Using Special Drill Heads



### Before work

Select the correct size of Special Drill Head for your job. Always select the Special Drill Head PVC Cutters when working inside the plastic pipes. Ventilate the working site properly. Ensure that the pipes are grounded / earthed. Use CCTV camera to locate the Special Drill Head in the right spot. Place the Special Drill Head so that it fits completely inside the pipe. Special Drill Heads can be used to re-open connections or remove heavy scale to make an access for larger tools.

### During use

Turn the power on. You can aid the tool movement inside the unlined pipe by rotating the tool while pushing forward. Use Special Drill Head at a low speed while you are approaching the connection. Make sure that you have your CCTV camera inside the lined pipe. Increase the rotation speed of the tool when beginning to drill the hole. Adjust the speed while working. Hold shaft tightly. Move tool in back and forth movement in the pipe. Be especially careful when opening connections in plastic pipes. The Special Drill Head can quickly generate enough friction heat that the plastic pipe could melt if the tooling is not moved back and forth constantly. Always use a CCTV camera to check how you are progressing. To enlarge the hole in the opened connection, leave the Special Drill Head in the opened connection and the side blades will then open up the hole. If a larger cutting tool is needed you can navigate to other connection, with the help of steering wire or hooks, and then fit the Special Drill Head 3D Cutter and continue working. You can use the Smart Cutter™ to finish off the re-opened connection.



Do not push the tool with high force—let the tool do the work. If excessive force or high speeds are used the tool might get stuck or break the tool, shaft or the pipe. Use either water or vacuum to remove detached dirt.

Please read safety information on  
page 3 before assembly and use.

## Using Special Drill Heads



## After use

Be careful when removing the tool out from the pipe as the tool can be very hot. **Always turn the power off before you remove the tool out from the pipe! There is a risk of serious injury or even death!**

Check out the condition of the tooling and shaft. Replace worn-out parts. If part of the shaft is damaged, it can be removed using a disc cutter and then shorten outer casing accordingly.

The Special Drill Head can be sharpened with rotating tool if needed. Do not remove more material than you must because the hard layer is only 2-3 mm thick.

## RECOMMENDATIONS

**Do not power up the Special Drill Head products outside of the pipe! The tooling needs to fit completely inside the pipe before use.**

**Use the largest Special Drill Head which can be fitted into the pipe.**

**Always use CCTV camera while working.**

**Select rotation speed to the lowest when navigating close to connection. Increase the rotation speed when beginning to drill the opening.**

**Move the tool constantly back and forth while drilling. Be especially careful when working in plastic pipes as the friction heat can quickly melt the pipe .**

**Regularly inspect the condition of the outer casing.**

**Use Special Drill Head 3D Cutter to make connection opening faster.**

**To ensure the perfect finish use the Smart Cutter™ to polish off the opening.**

**Create Leaders for the most used Special Drill Head Cutters to enable quick tool changes and extend the life of the flexible shaft.**

Please read safety information on  
page 3 before assembly and use.

# MAINTENANCE

## CARING FOR THE FLEXIBLE SHAFT

The flexible shaft is pre-treated with **The Picote Flexible Shaft Lubricant (1350000020)** and the casing replaced prior to shipping. Always inspect the condition and apply lubricant between the flexible shaft and its outer casing when required. If necessary remove the shaft from its casing to treat. When the casing has been replaced, rotate manually for even coverage.



## INSPECTION OF THE DRILL HEAD

If the Special Drill Head is worn or are cracked, it should be changed.

## FASTENER SCREWS

If you are unable to tighten the fastener screws properly, due to worn out hex socket heads, replace the fastener screws immediately. Otherwise, a Special Drill Head can fall into the pipe while working.



# TRAINING

For information about product training and support contact Picote Solutions or your authorized Picote reseller.

## PRACTICAL TIPS & SAFETY ADVICE

Here are some useful tips on how to get the most out of your Picote system. Always use the recommended tools for maintenance to avoid personal injury.



### CUTTING THE FLEXIBLE SHAFT



Always inspect the flexible shaft before each use. If there are potential weak points or the shaft is damaged, cut off the damaged length using an angle-grinder. This should be done outside in a clear area as there will be sparks generated by the process.



### SHAFT ROUNDER



The shaft rounder smooths the end of the flexible shaft, preventing the user from being cut by the otherwise sharp metal edge.



### ATTACHING A SHAFT SOCKET



Feed the shaft through the socket to the end and **securely fasten**. The outer casing should reach all the way to the base of the shaft socket to protect the shaft.

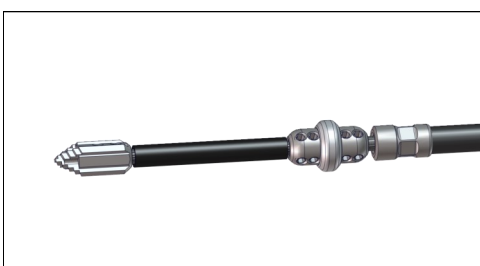
### ADDING A VISUAL MARKER FOR SAFETY



Attach a visual marker (tape) to the outer casing of the flexible shaft. Place it around half a meter from the end point of the shaft. The mark will indicate the chain's location and prevent possible injuries when the Pipe Cutter is removed from the pipe, including injury by rotating parts.



### CREATING LEADERS



You can extend the life of the flexible shaft and increase productivity on site by making individual leaders for the most commonly used tools. This way you easily and quickly switch between tooling.

## WARRANTY POLICY AND PROCEDURE

### Limited Warranty:

Picote warrants to the original End User that the Product purchased by such End User will operate in accordance with and substantially conform to their published specifications when shipped or otherwise delivered to the End User and for a period of one (1) year, except electric motors for which the warranty period shall be six (6) months, provided, however, that Picote does not warrant any claim or damage under this

Warranty if such claim or damage results from:

1. Consumable parts or normal wear and tear resulting from use of the Products,
2. Product overload or overheated motor,
3. Regular periodic maintenance of Products,
4. Misuse, neglect, or improper installation or maintenance of the Products, or use of Products not for their intended purpose,
5. Products that have been altered, modified, repaired, opened or tampered with by anyone other than Picote or an authorized Picote Service Centre, or unsuitable or unauthorized spare parts, accessories or third party products when using the Products or;
6. the use of the Products not in compliance with their respective Documentation, user manuals, safety and maintenance instructions, and any usage restrictions contained therein, or
7. accident, fire, power failure, power surge, or other hazard.

Otherwise, the Products are sold AS IS. End User is responsible for using the Products within their specifications and instructions as contained in the Documentation.

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Author: Mikko Långvik

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