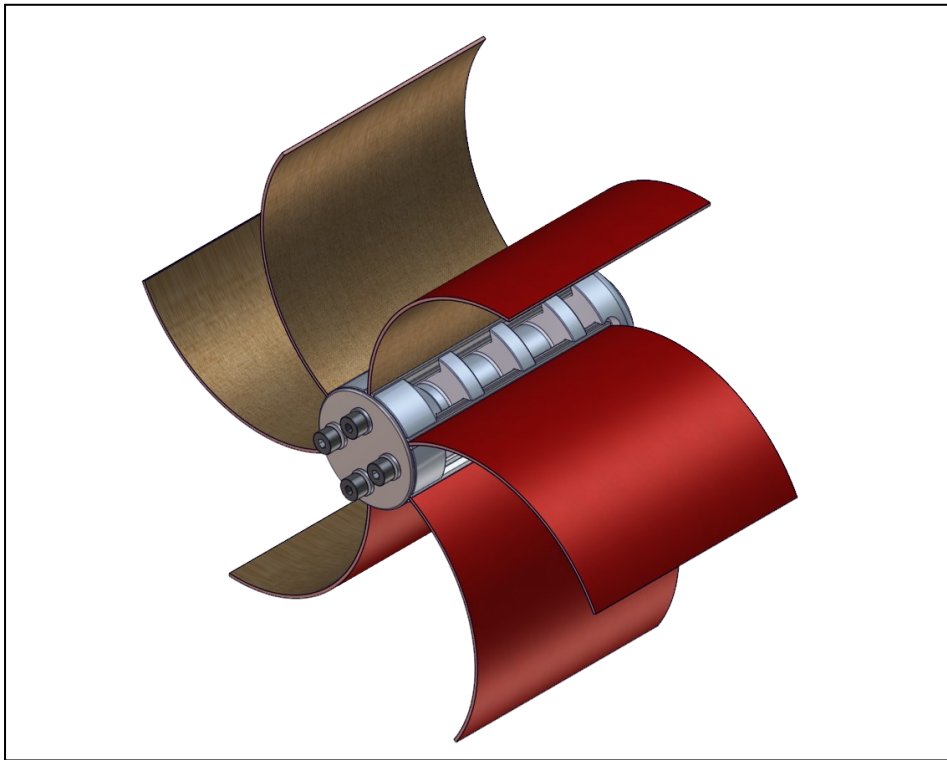




## Operating & Safety Manual

Smart Cutter™ DN150-DN225 / 6"-9" & DN250-DN300/ 10"-12"  
for 18mm/3/4" shaft



### **WARNING**

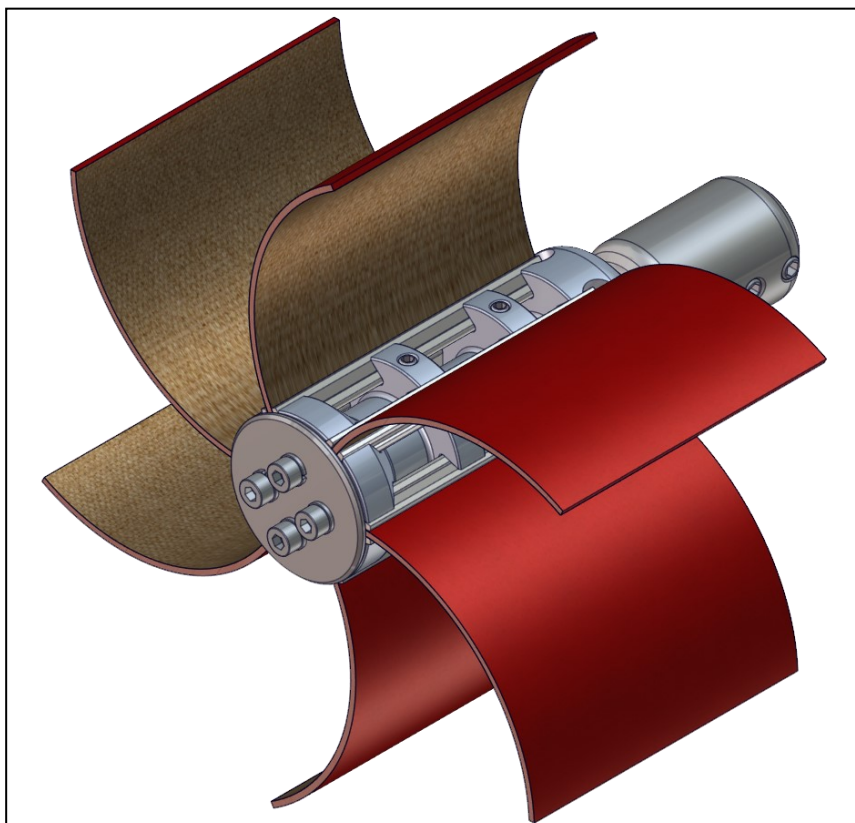
These instructions are for your personal safety. Always ensure that you have read and understood these instructions before using any tools of the Smart Cutter™ range. Please also read and understand the Maxi Miller Power Plus manual before using the Smart Cutter™ Tool.



We now have resellers in the U.S., Europe & Australasia.  
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



**WARNING**

*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**  
400 Volts

**Danger** risk of serious injury or death by electrocution, follow instructions



**Danger**  
Electric shock risk

**Danger** risk of serious injury or death by electrocution, follow instructions



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



**Danger** risk of serious injury from rotating parts



**WARNING**  
Hot surface  
Contact may  
cause burn  
Do not touch

**Danger** risk of serious injury from hot parts



**Danger** do not touch. Risk of injury, follow instructions

### Personal Protective Equipment (PPE)

Always use Personal Protective Equipment when using the Smart Cutter™ and Miller systems, including suitable overalls / protective clothing & footwear and the following:



Always wear suitable eye protection when using the Smart Cutter™ to prevent sewage, chemicals or dust from irritating your eyes.



Always wear suitable ear protection when using the Smart Cutter™ and Miller systems to prevent any hearing loss.



Always wear suitable cut-resistant gloves when using the Smart Cutter™ 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 ventilation mask when using the Smart Cutter™ or Miller systems to prevent any resin dust being inhaled or consumed, which can cause occupational asthma or dermatitis as well as eye irritation.

## Safety Symbols cont.

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

### Always remember



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

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

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



Danger  
400 Volts

**High voltage. Failure to comply may lead to serious injury including electric shock or injury from rotating parts!**

## ELECTRICAL SET UP REQUIREMENTS FOR MAXI MILLER POWER PLUS

### **⚠ WARNING** READ THE MAXI MILLER POWER+ MANUAL BEFORE USE



Danger  
400 Volts

**Electrical shock can cause serious or fatal injury. Only qualified personnel should install, maintain or troubleshoot this equipment.**

**Picote recommends that a properly trained electrician be available to wire a power distribution box to whatever power source is available. In the case where a generator is required, a minimum power requirement of 25,000 KW/KVA 3 Phase 480 volt is necessary.**

**The Power Plus is a dual voltage 3 phase power configuration. It uses a 10 gauge 4 wire cord.**

Be sure the system is properly grounded/earthed before applying power. Do not apply power before you ensure that grounds are connected. Electrical shock can cause serious or fatal injury. Follow the National Electrical Code (NEC) and local codes for the safe installation of the equipment.

Do not operate the Power Plus Miller until you are sure that you are completely familiar with the safe operation of the machine, all accessories and safety equipment. Improper use can lead to severe injury. The user manual defines proper use of this equipment.

**Contact Picote if you do not understand any procedure or operation concerning this equipment or the user manual.**

## SAVE ALL WARNINGS AND INSTRUCTIONS FOR FUTURE REFERENCE

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

### ENVIRONMENTAL

**Operational Ambient Temperature Range:** -10...50 °C (14...122 °F) frost and condensation free

**Storage Ambient Temperature Range:** -20...60 °C (-4...140 °F) frost and condensation free

### TRANSPORT

Picote tools should be transported in car or other vehicle properly secured to prevent any sudden movements caused by hard braking or accident. Using lidded boxes which are fastened and stored on the bottom of a van is recommended.

Never transport machine with tool attached to the shaft.

If using pick-up or trailer to transport Picote machine or tools, cover the products to protect them from raining water and dust.

### STORAGE

It is recommended that tools are stored indoors protected from rain and sunlight and in constant ambient temperature.

If products have been stored for long periods of time (over 2-3 months), it should be checked and tested prior to use in field.

### DISPOSAL

Smart Cutter™ metallic and plastic components can be separated and disposed separately as plastic and metal waste.

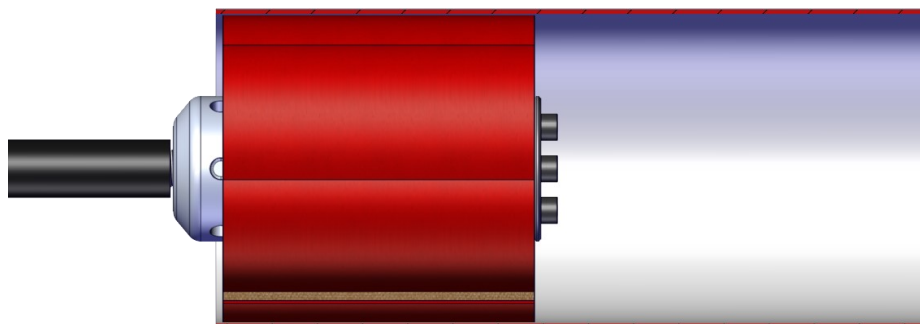
Always follow the local waste handling rules and regulation.

## AVAILABLE SIZES & POWER SOURCES

The Smart Cutter™ is a fine tuning tool. It can be used to fine tune remaining edges after a connection has been reinstated using the Twister tools. The Smart Cutter™ can also be used to remove any remaining lining or inconsistencies, after the collapsed lining has been removed using a Smart Crusher, Sweeper or Grinding Chains. The side grinding panels adapt to the pipe size when the tool rotates.

### Selecting the correct Smart Cutter for the job

Choose your Smart Cutter according to the size of the original host pipe.



**! WARNING**

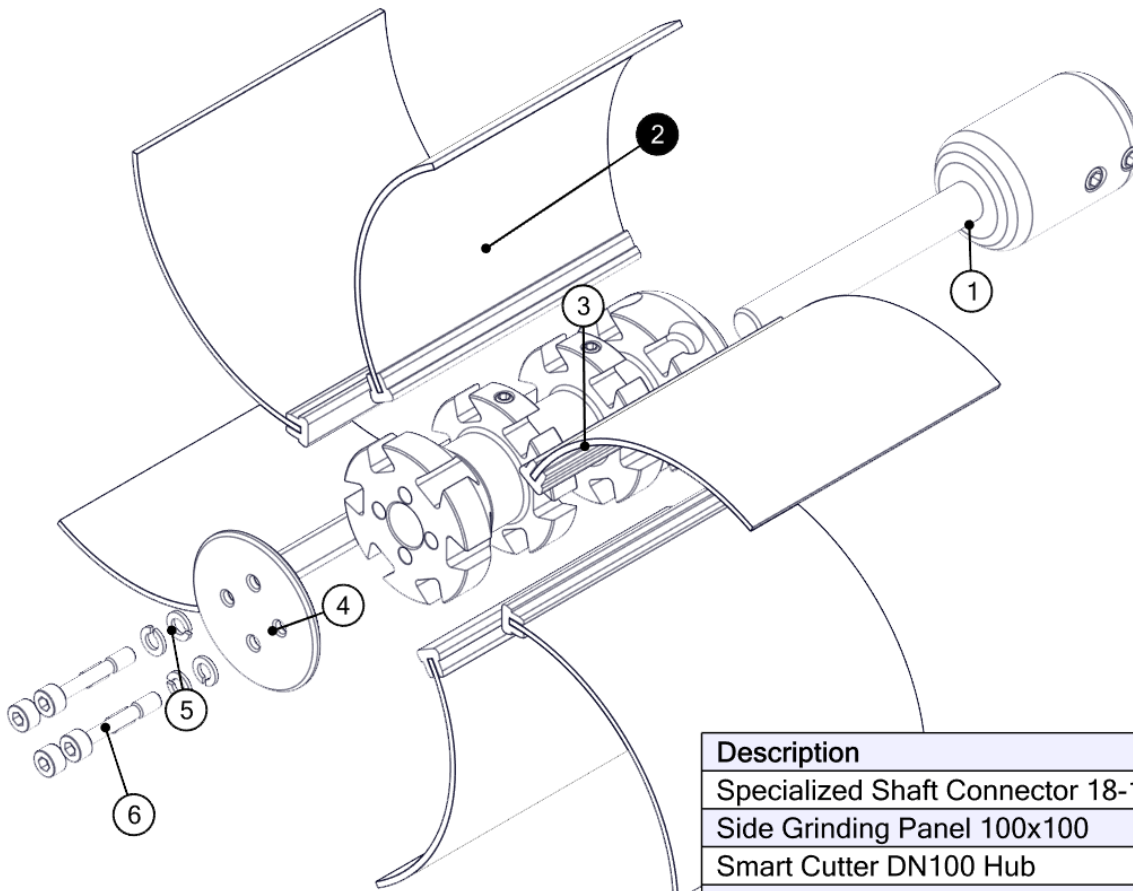
SMART CUTTER™	Shaft size mm/inches	BEND 90°	BEND 45°
Smart Cutter™ DN100 / 4"	18 / ¾"	YES	YES
Smart Cutter™ DN150 / 6"	18 / ¾"	YES	YES
Smart Cutter™ DN200-DN300 / 8"-12"	18 / ¾"	YES	YES

### CHOOSING YOUR POWER SOURCE

The Smart Cutter for the 18mm/¾" diameter shaft has been designed for and can ONLY be operated with the **Picote Maxi Miller Power+** machine.

The machine should only be connected only to a **380-480 Volt (3-phase)** power supply. The power source has to be grounded (earthed).

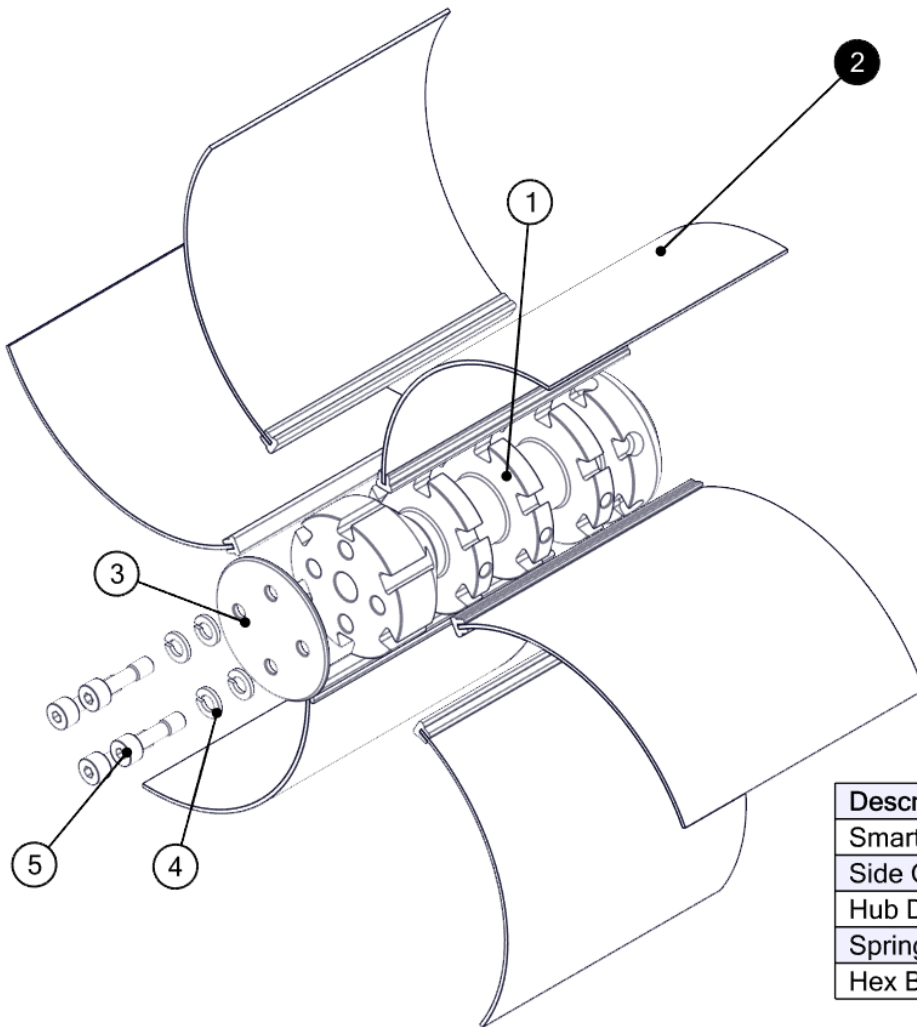
# BILL OF MATERIALS: Smart Cutter™ DN100/4"



Description	BOM ID	Qty
Specialized Shaft Connector 18-12mm	1	1
Side Grinding Panel 100x100	2	6
Smart Cutter DN100 Hub	3	1
Hub Disc 50mm 6-panel	4	1
Spring Washer	5	4
Allen Bolt M5x30 "light"	6	4

The Hub Disc can be changed with the Crusher or Drill Head.

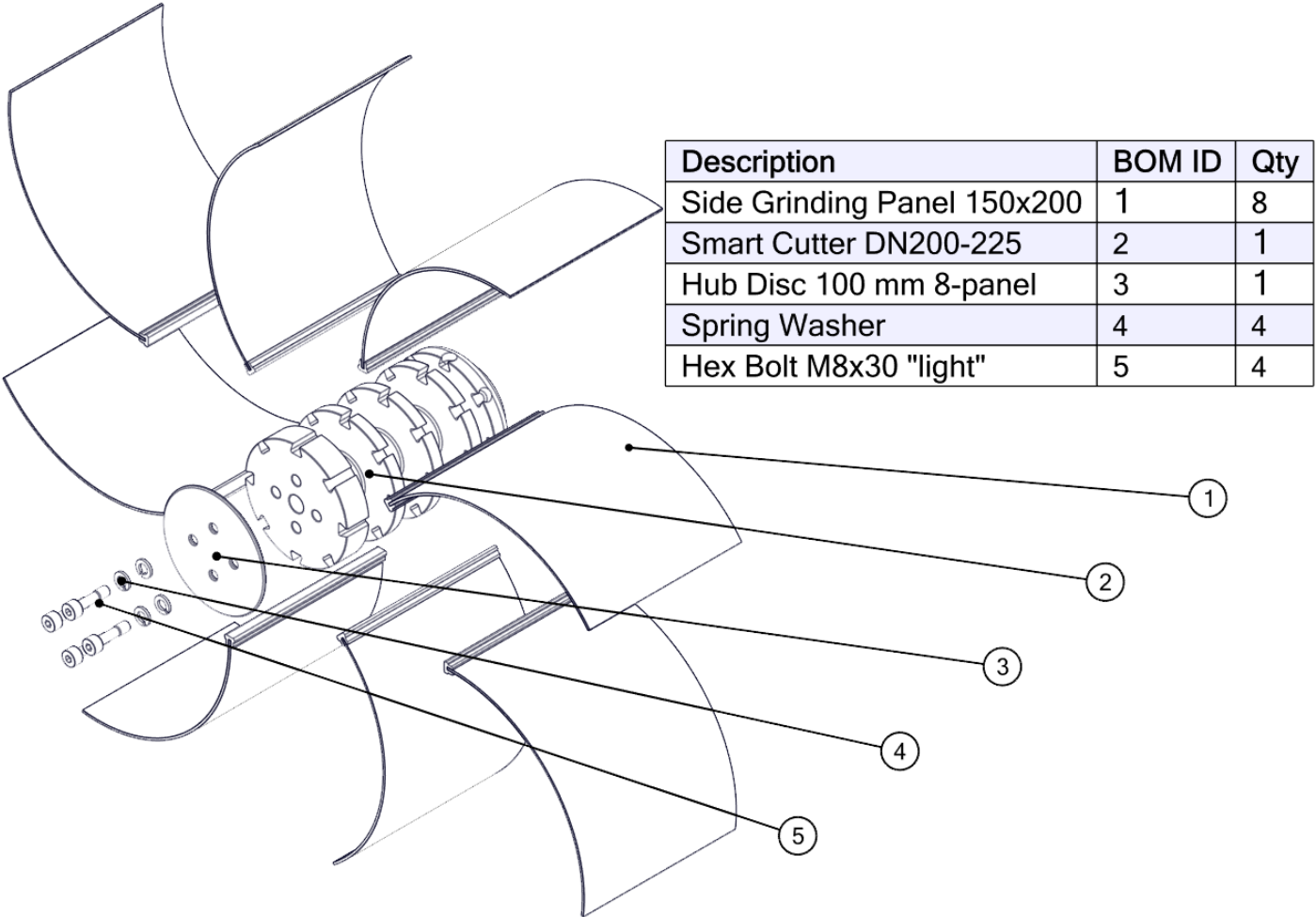
# BILL OF MATERIALS: Smart Cutter™ DN150/6"



Description	BOM ID	Qty
Smart Cutter DN150 Hub	1	1
Side Grinding Panel 150x150	2	6
Hub Disc 70mm 6-panel	3	1
Spring Washer	4	4
Hex Bolt M8x30 "light"	5	4



**BILL OF MATERIALS:**  
**Smart Cutter™ DN200-DN225 / 8"-9"**



Description	BOM ID	Qty
Side Grinding Panel 150x200	1	8
Smart Cutter DN200-225	2	1
Hub Disc 100 mm 8-panel	3	1
Spring Washer	4	4
Hex Bolt M8x30 "light"	5	4

Side grinding panels can be changed to 150x250 for DN250-DN300 pipes.

# DN100, DN150 & DN200-DN300 / 4", 6" & 8"-12" SMART CUTTER™ ASSEMBLY & USE

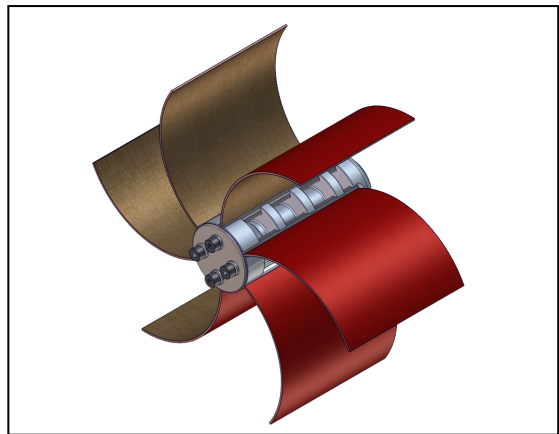
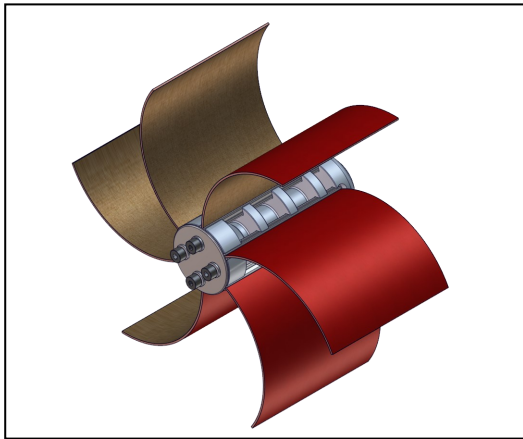
First, make sure you have all the required parts. Please see photo parts' lists on page 5.



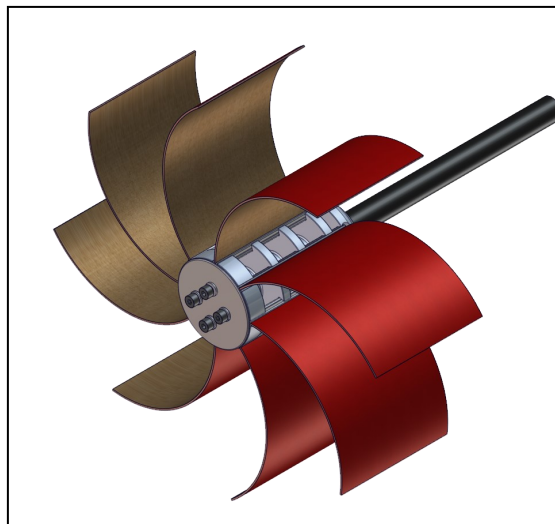
Please read safety information on page 3 before assembly and use.

Smart Cutter™ DN100/4"

Smart Cutter™ DN150/6"



Smart Cutter™ DN200-DN300/8"-12"



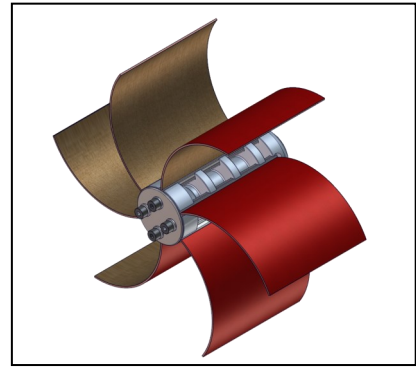
1001250100A	Smart Cutter™ DN100 12mm, 6-panel hub, aluminum
1001870150A	Smart Cutter™ DN150 hub 18mm, 6-panel, aluminum
1021800200	Smart Cutter™ DN200-225 18mm, 8-panel, aluminum

# Smart Cutter™ DN150/6"

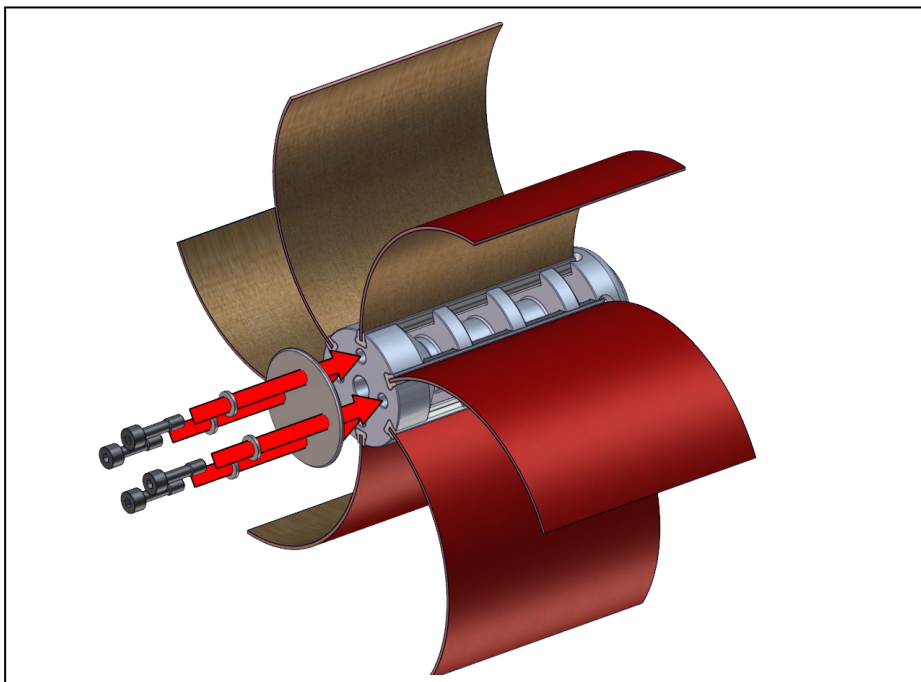
## Assembly Instructions

Recommended: Loctite 542 Thread Sealant

Step 1. Slide the side grinding panels into their slots.



Step 2. Add Hub Disc, Spring Washers and Allen Bolts (M8x30 "light") and tighten the bolts. Use Loctite 542.

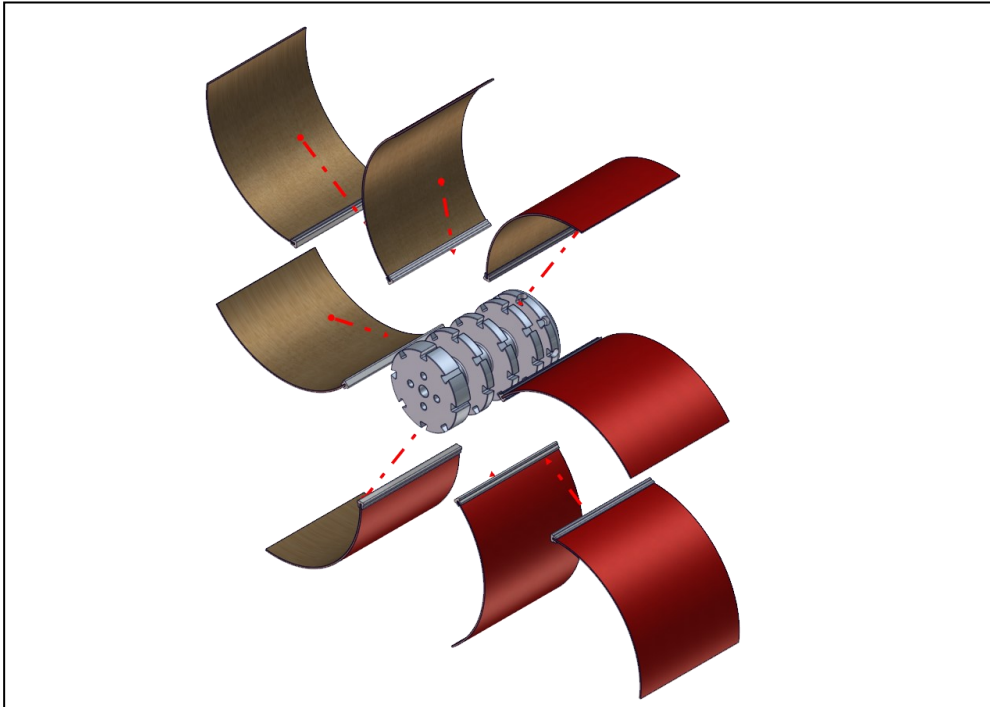
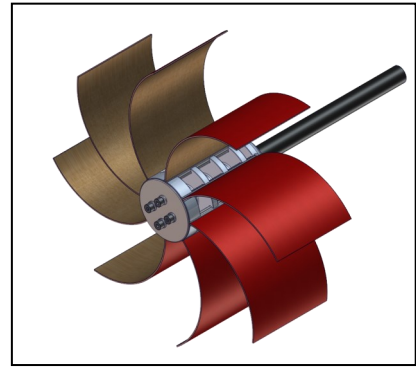


# Smart Cutter™ DN200-DN300/8"-12"

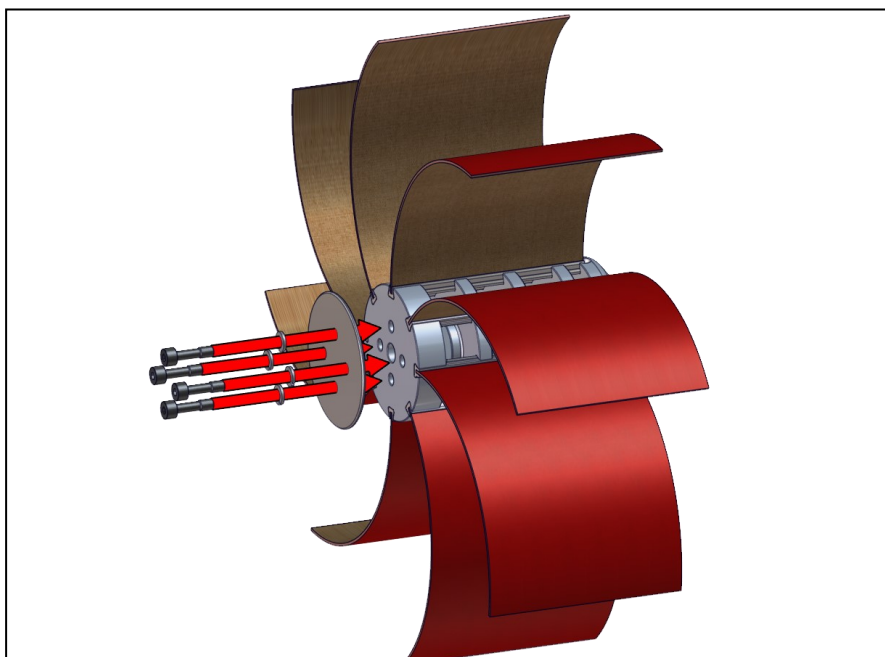
## Assembly Instructions

Recommended: Loctite 542 Thread Sealant

Step 1. Slide the side grinding panels into their slots.



Step 2. Add Hub Disc, Spring Washers and Allen Bolts (M8x30 "light") and tighten the bolts. Use Loctite 542.



## Using the Smart Cutter™



**! WARNING**



**Danger**  
400 Volts

**NEVER SWITCH ON THE SMART CUTTER™ OUTSIDE OF THE PIPE!** The tool needs to fit completely inside the pipe before turning power on and using the tool. Failure to comply could lead to serious injury or death.

### Before Starting Work

Select the correct size tooling and drill head for your job. Ensure water is flowing in the pipe or the vacuum extraction is ready (dry cleaning). Ventilate the working area properly. Ensure that all metallic drain pipes are grounded/earthed. The Smart Cutter causes high friction and there is risk of electric shocks. Verify the location to position the Smart Cutter™ with a CCTV camera. Place the Smart Cutter™ inside the pipe ensuring that side grinding panels fit completely inside the drain before turning the power on.



**Danger**  
Electric shock risk

### During Operation

Switch the power on. Initially start the Smart Cutter™ at a lower speed to remove sharp edges off the surface and then slowly increase the speed. Adjust the speed while working. Hold shaft tightly. Move the tool in back and forth movement in the pipe. Always use the CCTV camera to check how you are progressing.

Do not force the cutter through the pipe—let the tool do the work. If too much force or excessive high speed is used the tool might get stuck resulting in damaging or breaking the tool, shaft or the pipe. **Too high rotational speeds could result in the side grinding panels being damaged on sharp metal edges. Use lower rotational speed to grind possible sharp edges duller.** Use either water or vacuum to remove the debris.



**PLEASE NOTE:** Where water cooling is not being used (air/vacuum situations) beware that the tool might get hot. **Always wear heat resistant gloves after the machine has been switched off and the power supply isolated.** The tools can then be cooled down using water or left to cool in the open air. Always observe the temperature of the outer casing and let the **Maxi Miller Power+** cool down after **every 30 min** periods of constant work.

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

## Using the Smart Cutter™



### After Use

**WARNING:** Turn the power off and isolate the supply before you remove the tool from the pipe. There is a risk of serious injury or death! The tool can be very hot. Carefully take the tool out from the pipe.

Check out the condition of the tooling and shaft. Replace any worn-out parts. If the shaft looks damaged, remove decrepit part with an angle grinder and shorten outer casing accordingly.

### RECOMMENDATIONS

**Do not turn power on when the Smart Cutter™ is outside of the drain! The tooling needs to be installed completely inside the pipe before you turn the power on.**

**To begin select rotational speed between 650—800 rpm. After you have grinded sharp edges the rotational speed can be increased to 1100—1300 rpm.**

**Where ever possible use water as the cooling medium.**

**Always take a break every 30 mins to prevent the outer casing from melting. Regularly inspect the condition of the outer casing.**

**To improve the efficiency and cut down work time you regularly need to change the side grinding panels.**

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

# MAINTENANCE

## CARING FOR THE FLEXIBLE SHAFT

Prior to shipping the flexible shaft is pre-treated with **Picote Felible Shaft Lubricant** and the outer casing replaced. Always inspect the condition and when required apply paraffin oil between the flexible shaft and its outer casing. If necessary remove the shaft from its casing to treat. When the casing has been replaced, manually rotate the shaft for even coverage.



## FASTENER SCREWS

Replace the fastener screws immediately if you are unable to fully tighten them due to worn out hex socket heads. Otherwise, a panel could detach from the hub during the cutting operation and fall into the pipe.

## SPARE PARTS

1313001812	Specialized Shaft Connector 18/12
1200100100	Side Grinding Panel with Wedge 100x100 for 6 panel hub
1000200050	HUB Disc 0x50x3 XL (6-panel)
1200150150	Side Grinding Panel 150x150
1000200070	HUB Disc 0x70x3 XL (6-panel)
1200150200	Side Grinding Panel 150x200
1200150250	Side Grinding Panel 150x250
1000200100	HUB Disk 0x100x3 XL (8-panel)
1300215085	Front Drill Head DN100 85mm
1300215130	Front Drill Head DN150 130mm
1300215175	Front Drill Head DN200 175mm
1300215200	Front Drill Head DN225 200mm
900000694	Front Drill Head Blade DN200 4pcs/package
900000716	Front Drill Head Blade DN225 4pcs/package

## SPARE PARTS — Other

1350000102	Picote Allen Bolt M8x30 "light"
1313002185	Shaft Connector 18 mm
9575034-1	Strain Relief Maxi Power+
1312021180020	Maxi Power+ spare shaft 20.5m
1312021180011	Maxi Power+ extension shaft 11m
93212520180SB	Sleeve for 18mm outer casing

## MILLER

3570032016	MAXI MILLER POWER PLUS 18/18 400V
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In case there is problem that you cannot solve using this manual, please consult your reseller or the Picote Solutions.

## TRAINING

For information about product training and support contact Picote Solutions Oy Ltd 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 a band saw.



### 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.

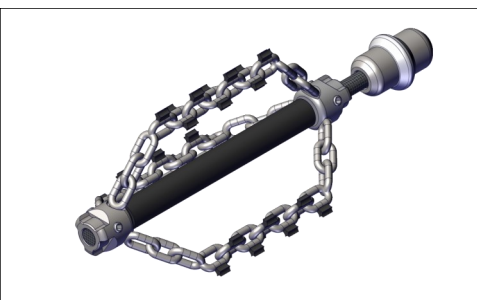
### ADDING A VISUAL MARKER FOR SAFETY



Attach a visual marker (tape) to the outer casing of the flexible shaft. Place it around half a metre 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.

**EXCEPT AS SPECIFIED IN THIS WARRANTY, ALL EXPRESS OR IMPLIED CONDITIONS, REPRESENTATIONS, AND WARRANTIES INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, NONINFRINGEMENT, SATISFACTORY QUALITY OR ARISING FROM A COURSE OF DEALING, LAW, USAGE, OR TRADE PRACTICE, ARE HEREBY EXCLUDED TO THE EXTENT ALLOWED BY APPLICABLE LAW. TO THE EXTENT AN IMPLIED WARRANTY CANNOT BE EXCLUDED, SUCH WARRANTY IS LIMITED IN DURATION TO THE WARRANTY PERIOD. BECAUSE SOME STATES OR JURISDICTIONS DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, THE ABOVE LIMITATION MAY NOT APPLY. This disclaimer and exclusion shall apply even if the express warranty set forth above fails of its essential purpose.**

**Please Contact:**

Your Reseller or Picote

[www.picotegroup.com](http://www.picotegroup.com)



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