PIPE(TUBE) CUTTER Of Best Technology

S-Cutter

Manual

S-CM4-M

S-CM4-OD

Safety Precautions

Thank you for purchasing S-Cutter.
This is the instruction to prevent property damage, ensure the correct use and safety of the user. Please read these instructions carefully before use.

WE BUILD TOMORROW
DCS ENG

CONTENTS

Precautions for the safe use

01 **Keep workshop clean.**
Untidy workshop and work table may cause accidents.

02 **Consider your work environment.**
Do not let it wet.
Do not use in damp or humid place.
Install bright lighting in the work place.
Do not use near flammable liquids or gases.

03 **Protect from electric shock.**
Avoid to touch grounded parts(i. e. Water pipes, heaters, ranges, refrigerators).

04 **Do not let children access.**
Do not let the children in contact with tool or extension cord.
Do not let visitors access to the work area.

05 **Keep the product safe.**
Cut off the power when the tool is not in use, and keep it where it is not accessible to outsiders.

06 **Do not work in an overload condition.**
Within the range of the specified output allows you to work more efficiently and securely.

07 **Always use the proper tools.**
Use the supplied standard accessories.
Do not use tools outside of the scope of work or the intended use of the tool.

08 **Dress properly.**
Do not wear loose clothing or jewelry. You may be hurt by the moving parts of the tool.
It is recommended to wear non-slip footwear for outdoor work.

09 **Be sure to wear safety glasses and protective gloves.**
Scattering tips can cause serious injury to the eyes, or injury, such as burns.

10 **Do not abuse the cord.**
Do not drag the product by grasping the wire.
Do not pull the wire when disconnecting the plug.
Protect wire from heat, oil and sharp edges.

11 **Install the anti-spattering rag of cutting chip.**
Fire might occur if cutting chip touches the inflammable, and burning might occur if it touches the body.
spattering chip during work might cause injury to other workers around the working spot.

12 **Focus on the job.**
Pay attention to the fixation of short cut material.

13 **Manage the product carefully.**
Keep the product clean and efficient for safe operation.
Manage with the proper lubricant, apply a corrosion inhibitor to prevent corrosion when not in use for a long time.
When replacing the management regulations and tools, comply with the instructions.
Check plugs and wires regularly and contact experts to repair the damage.
Check connection cables regularly and replace damaged parts.
Keep the control board dry and avoid getting oil or grease.

14 **Remove power.**
When not in use, checked, or replaced, turn off the switch.

15 **Please check before operation.**
Make sure that the tool(insert tip) has been tightened, blade direction and the direction of rotation.
Check if there is a foreign substance in the rotating part.

16 **Be careful of operating the machine accidently.**
Do not carry when the power is connected.
When turning on, make sure that the operation switch is off.

17 **Connecting wires outdoor**
The wiring is licensed for the purpose of using the corresponding display.

18 **Be cautious all the time.**
Observe work process and process accordingly.
Do not use this product if the concentration is blurred,
Do not operate by force the cutting speed and rotational speed.

19 **Make sure that there is no damage on the product.**
Make sure that safety devices or slightly damaged parts operate perfectly before reuse.
Make sure that the product is not stuck or damaged.
The perfect operation is guaranteed only if all the parts are perfectly assembled and adjusted.
Damaged safety devices or parts must be replaced or repaired in customer service center unless it was mentioned differently.

20 **Caution!**
For your safety, use the parts and tools indicated on the manual or recommended by the manufacturer.
Use of other parts or additional tools that are not recommended on the manual and catalog may occur accidents.

21 **Repair request to the experts**
The product supplied is matched to the corresponding safety regulations.
The repairs should be referred to a qualified technician and if not, there is a risk of accidents.

Please keep the following precautions.

- He instructions in this owner's manual contains information that is important to the safe use of this product.
  Not following these instructions can cause death, serious injury, and massive property damage.

- Warning'and'Caution'are indicated and the meanings are as below.

Sign		Description
	Warning	∴ If violated, serious injury or death may occur.
	Caution	∴ If violated, serious injury or death may occur. ∴ If violated, failure or performance degradation may occur.

- In order to prevent accidents that may occur when handling or using this product, precautions are recorded. As these warnings and cautions do not indicate all the cases that may occur, please pay attention when working or storing. Read carefully to avoid accidents.

- Special safety precautions
  'warning' or 'caution' are a caution: Injury or danger may occur under certain conditions.

Warning

- **Be sure to install the earth leakage breaker to the power supply system.**
- **Do not pour water or cutting fluid.**
  Due to water or other liquids on the electric motor, electric shock, or death may occur. Use cutting fluid until tools are slightly wet.
- **Do not use tools in wet conditions or rain.**
  Serious injury or death may occur by electric shock.
- **Avoid fingers, hands or clothes to touch the blade while operating.**
  When fingers, hands, or other body parts stuck in the machine, it may occur serious injury.
- **Avoid fingers, hands or other body parts to touch where pipe and roller meet while operating.**
  When fingers, hands, or other body parts stuck in the machine, it may occur serious injury.
- **Before supplying power to the product, be sure to turn off the operation switch.**
  Plugging in with the switch on may cause sudden rotation and occur serious injury.
- **Do not let any part of body to touch the compression device of product.**
  Serious injury may result.
- **Make sure to wear safety equipment.**
  Chips generated during the operation may scatter and cause serious eye injury.

Caution

- **Use certified tips (Over national certification) for indicated methods.**
  If violated, performance degradation and serious injury may occur.
- **Do not leave the product rotated.**
  workers may result in bodily injury.
- **Install the anti-spattering rag of cutting chip.**
  When cutting chips meet flammable substances, it may cause fire and burns.
  Spattering chip during work might cause injury to other workers around the working spot.
- **Wear gloves and long-sleeved clothes to wear.**
  Scattering chips can cause burns.
- **Use Extension cord as short as possible.**
  If too long or too thin, it may cause overload.
- **Operation before commissioning.**
  Check the machine before use for safety.
- **Pay attention to the fixation of structure.**
  Short cut material during work might spatter and cause serious injuries.

Checked before use

1. Check the circuit braker

Make sure the system is powered on the circuit braker is installed.
Check that earth leakage brakers are installed in every power system.
Make sure that the ground wire is connected to the powered system.

2. Extension cord

When far away from the location of the power use an extension cord. Use the connecting cord appropriate length and thickness of the flow of current, in order not to interfere. if too long or too thin, it may cause overload and lower the power of the motor. Use it as shot as possible.

If the cord is damaged it must be replaced or repaired immediately

3. Check the power

Be sure to use the power listed on the nameplate.

4. Check the switch is off

Connect the power after checking that the switch is turned off.

Unaware that the switch is turned on, the number of accidents due to a sudden rotation of the plug is inserted in the power being.

S-CM4-M

Bevel capacity : 0~90°, 0~14C

Pipe/Board : Flat processing (removal of outside diameter film) and bevel processing

How to use product

How to use S-CM4-M

Before use

Please read about how to use manual provided by the headquarter or suppliers.
Users must be educated before use.
Make sure to remove the power exchanges when cutting tip.
Make sure to connect the grounding, and confirm the voltage.
Make sure to wear protective equipment such as protective glasses before work.
Beware of burns when using cutting tip which is extremely hot after operation.
Beware of burns by gearbox in case of prolonged use.

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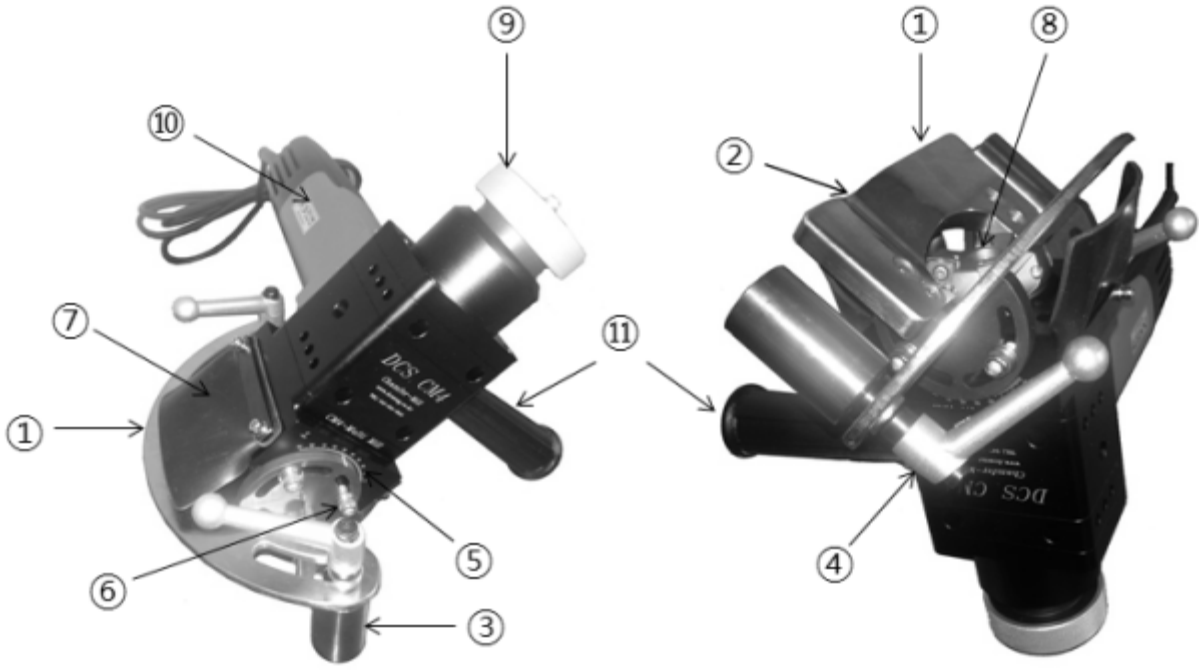
1. Name and function of each part



NO	Name	Function
1	Guide	Processing guide
2	Guide groove	Selecting the optimal area when cutting
3	Guide roll	Providing the convenience of work
4	Roll fixing lever	Fixating the guide roll
5	Goniometer	Bevel angle adjustment marking
6	Angle adjusting bolt	Guide board fixing bolt
7	Rubber board	Prevention of flame and chip spattering
8	Cutting tip	Cutting tip (4EA)
9	Adjusting wheel	Cutting depth adjustment
10	Operating motor (handle)	Operating motor
11	Auxiliary handle	Handle

2. Standard parts

※ Cutting tip: Order selection (including tip box), 10ea/Box

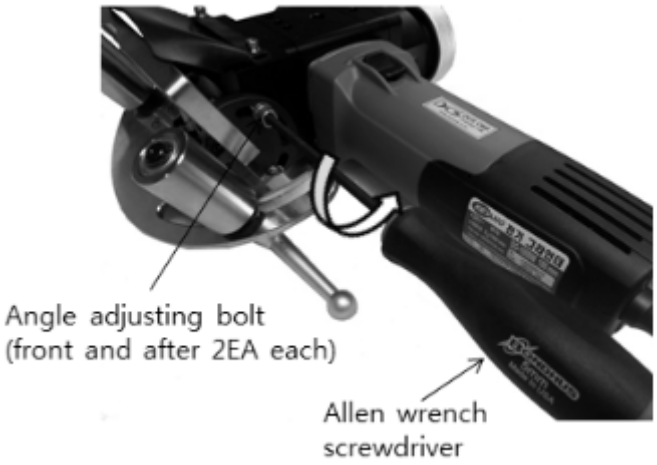
Star wrench screwdriver : For cutting tip changing (T15)

Allen wrench screwdriver : For angle adjusting bolt tightening (5mm)

Auxiliary handle : Installed to the side of equipment when using with both hands

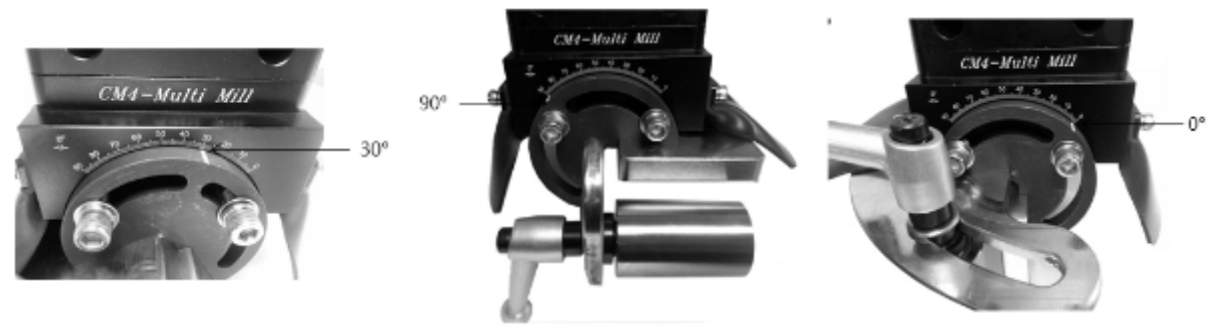
3. Bevel angle adjusting method

3-1. Loosen all 4 angle adjusting bolts by using allen wrench screwdriver.



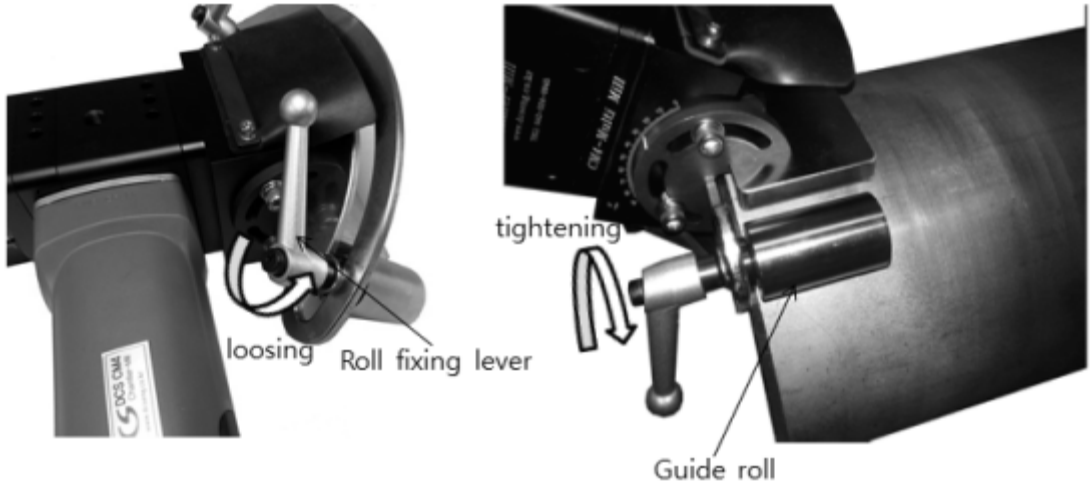
3-2. After loosening angle adjusting bolts (4EA), set the guide into the desired angle by looking at the goniometer, and then tighten the angle adjusting bolts (4EA).

예시) [30° bevel processing] [Flat (surface) processing] [Cross section processing]



4. Guide roll adjusting method

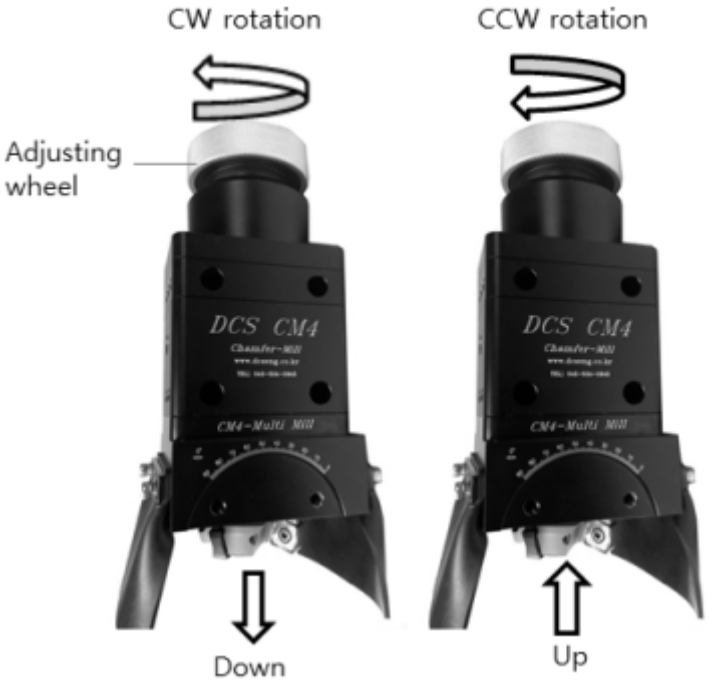
4-1. Stick the guide groove to the top of pipe, place on the external surface of pipe by loosening the roll fixing lever as shown in the picture, and tighten the roll fixing lever firmly. (Refer to 7-3 for detailed processing method.)



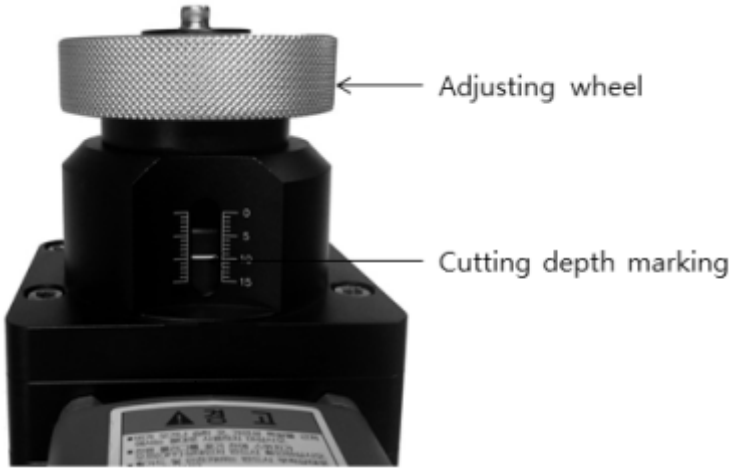
4-2. Roll fixing lever rotates freely when lifted into the axial direction as shown in the picture below, and location of lever can be adjusted comfortably.

5. Cutting depth adjusting method

Cutting tip is ascended or descended by rotating the adjusting wheel as shown in the picture.(Refer to 7-4 for detailed processing method.)



Ref.1) In case of cutting depth by adjusting wheel, accurate depth value of entry can be obtained through cutting depth marking on the back of equipment as shown in the picture below. (1mm = 1 marking)



※ **Use it for the reference since the actual processing depth is relative in accordance with the size of pipe (gauge).**

Ref.2) Adjusting wheel is a ball plunger type and detailed adjustment of cutting depth is available due to the 0.05mm pitch design per each marking.

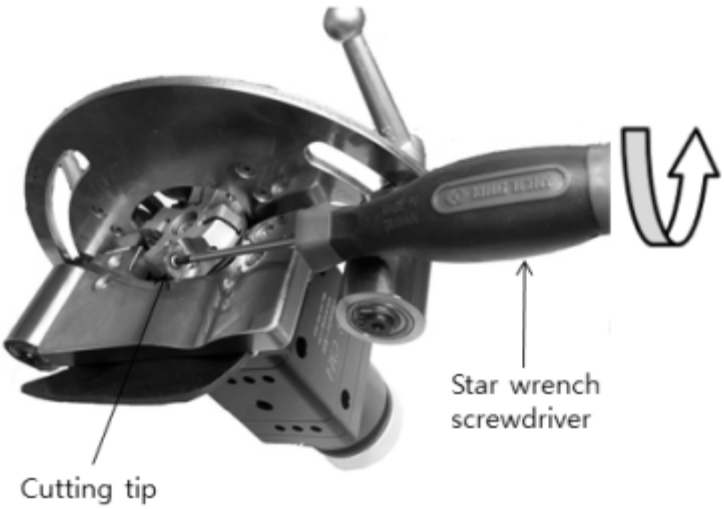
Ref.3) Cutting depth of S-CM4 can be adjusted arbitrarily even during the operation.

Ref.4) S-CM4 has up to 15mm of cutting depth, but increasing the thickness by 5mm will increase the life of cutting tip, decrease the breakdown incidence rate and use the product safely, rather than processing deeply from the beginning.

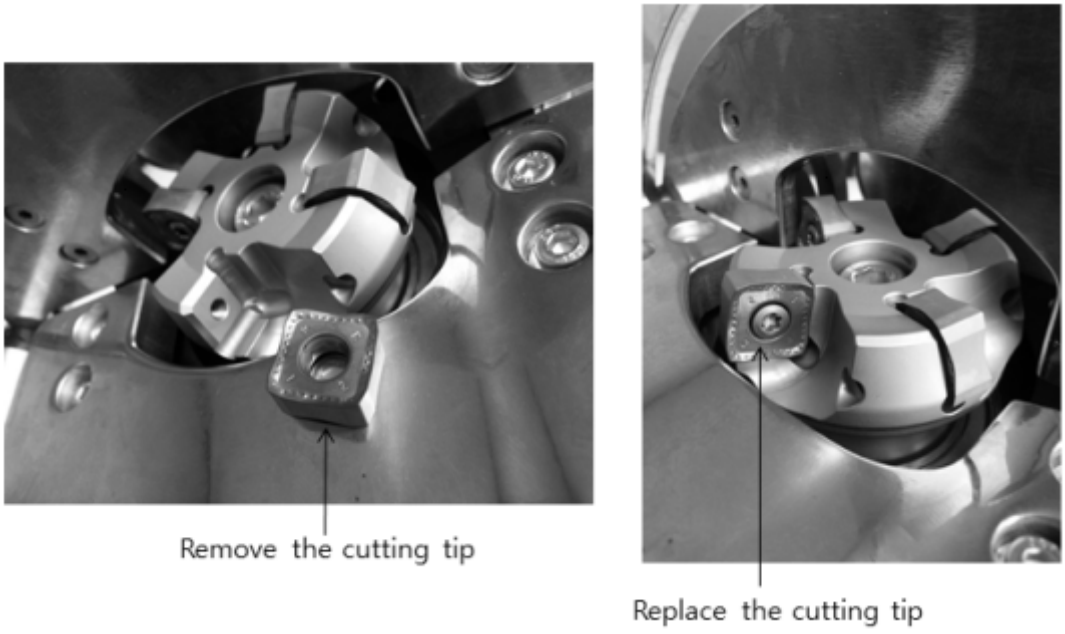
6. Cutting tip changing method

6-1. As shown in the picture, cutting tip can be changed by loosening the bolt of cutting tip with star wrench screwdriver provided as a standard component.

※ **Reference. It is easier to work after descending the equipment by rotating the adjusting wheel clockwise on full lock.**

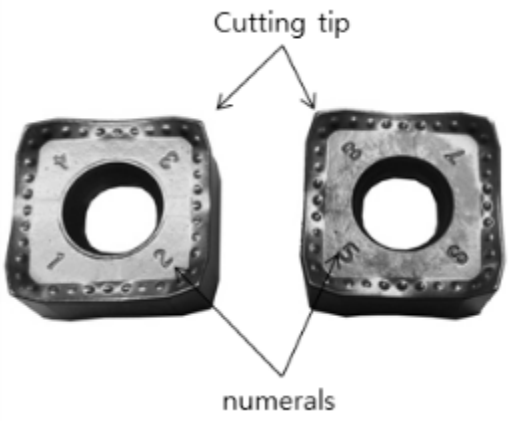


6-2. When the star-shaped bolt is loosened, remove the cutting tip from its location as shown in the picture, and replace it with a new cutting tip of change the direction of the current cutting tip.



※ **Caution. Since a loosened star-shaped bolt might cause the unstable cutting force as well as the risk of accident, it should be tightened firmly.**

6-3. All 8 tips of cutting tip on Surface 1 and Surface 2 can be used as shown in the picture, and one cutting tip can be changed 8 times by rotating in order.



7. Correct way to use S-CM4-M

7-1. Work order

Checking the tip ➜ checking the angle (width) ➜ returning to tool ➜ adjusting the guide ➜ adjusting (touching) the tool by operating the equipment while it is on the pipe ➜ working after checking the final cutting value ➜ continuing (repeating) the work

1) Checking the tip

Check whether all 4 cutting tips are installed well.

2) Checking the angle (width)

Check the marking of angle or width in accordance with the work condition.

3) Returning to tool

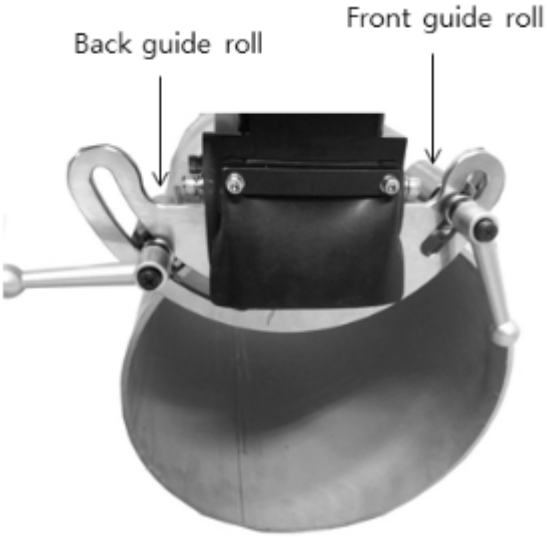
Return the cutting tip to the very end.

4) Adjusting the guide roll

- Adjust the guide groove to the outside diameter surface of pipe as shown in the picture below.
- Even thick processing is available if the top outside diameter surface of pipe is placed on the guide groove when the equipment is introduced to the pipe. (This is the important part to suggest the optimal processing position during cutting process of pipe.)

5) Adjusting the tool by operating the equipment while it is on the pipe
   - Switch for the operation of equipment should not be adjusted while touching the pipe, but adjust the switch while holding it in hand.
   - After the placement of equipment on pipe, check whether cutting tip is touching the surface of pipe by rotating the adjusting wheel gradually. It becomes a standard to obtain the accurate cutting depth since the depth value of cutting tip touching the gauge of pipe initially is relative.
   - Rotate the adjusting wheel and descend the cutting tip to the desired depth based on the moment that the cutting tip and pipe are touching (refer to explanation of Number 5 for the adjusting method.).

6) Working after checking the final cutting value
   [Bevel processing]
   - When beveling the pipe, stick the guide rolls at the back and in front to the surface of pipe and process the cutting through the introduction of guide roll as shown in the picture below.



- In case of bevel processing, force into the vertical angle direction (diagonal direction of pipe) for the process when forcing on the equipment while following the introduction of guide rolls at the back and in front.

[Surface processing]

- In case of surface processing, stick the guide groove to the pipe, and maintain the horizontality by sticking the front guide roll or back guide roll to the pipe in accordance with the direction of force. (Equal work is available when guide groove is sticking to the top of pipe.)

7-2. Continuing (repeating) the work

- Work can be repeated without setting up again if the process is same.

※ However, introduction to the pipe (basic material) slowly after operating the equipment. Rapid introduction might cause break of cutting tip and equipment breakdown since cutting tip is more projected than the guide.

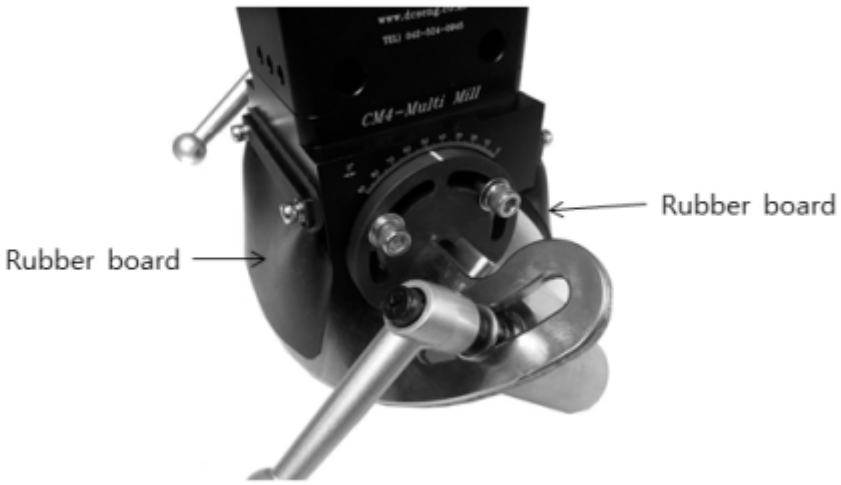
7-3. Using auxiliary handle

- Auxiliary handle is used for the safe and accurate work by holding or pressing the equipment not to shake, and working with both hands by installing the auxiliary handle is recommended, only except in a special situation.
- Auxiliary handle has female screw for the tightening in the center of each side of equipment, and the user can select the side for installation.

7-4. Checking the adherence of rubber board

- Rubber board adheres on the side of equipment as shown in the picture below, and it blocks the chip or flame spattering while using the equipment.

- Please check whether the rubber board is installed before starting the work, and purchase the rubber board again by calling the head office or local branch if it is damaged.



8. S-CM4-M product specification

● S-CM4-M cannot adjust the width during surface (flat) processing of pipe/board, and 26mm of width is fixed as shown in the machine specification processing capacity below {90°(surface)}. Please use S-CM4-OD if width adjustment is needed.

● Please refer to the machine specification table or contact the head office for the details about the processing capacity.

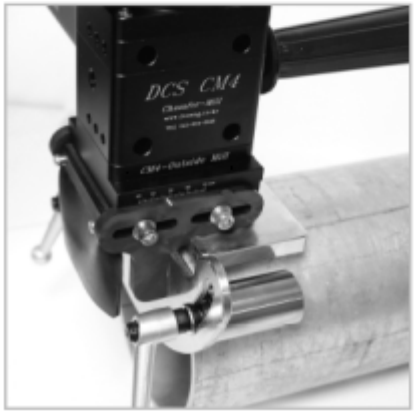
● Machine Specification

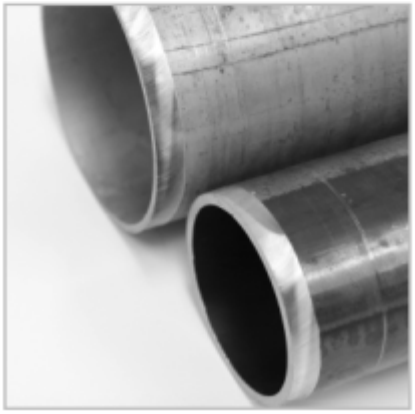
Work capacity	**Processing type**	Pipe	Minimum gauge	1 inch(25A)
			Maximum gauge	No limit
		Board	No limit	
	Processing material	General steel, stainless, plastic, etc.		
	Processing amount adjustment	One-touch method (looseningpreventionballplungermethod)		
	Processing depth	0.05mm as a minimum unit		
Machine capacity	**Processing angle**	0–90°		
	Penetrating angle	75°		
	Processing depth	Minimum of 0.05mm, maximum of 15mm		
	Processing capacity	Bevel angle	Thickness	Width (mm)
		0° (cross section)	15	15
		15°	16	17
		30°	19	22
		45°	14	20
		60°	10	22
		75°	8	31
		90° (surface)	5	26
Machine specification	**Total weight**	6.0Kg		
	Output	220V/60Hz/1050W		
	Size	85×85×185H		
	Effectiveness factor	4EA(DCS501306-CM4-780) - uses 8 surfaces		

· Designe and specification of this product are the version as of August 2014.
· The data may be subject to change for product improvement without a prior notice.
· Be sure to read through safety precautions described in the user manual and the equipment before using our products.

S-CM4-OD

Processing capacity : 48mm of maximum width,
15mm of maximum depth
Pipe/board : Film removal(outside diameter) and flat processing





How to use the product

How to use S-CM4-OD

Before use

Please read about how to use manual provided by the headquarter or suppliers.
Users must be educated before use.
Make sure to remove the power exchanges when cutting tip.
Make sure to connect the grounding, and confirm the voltage.
Make sure to wear protective equipment such as protective glasses before work.
Beware of burns when using cutting tip which is extremely hot after operation.
Beware of burns by gearbox in case of prolonged use.

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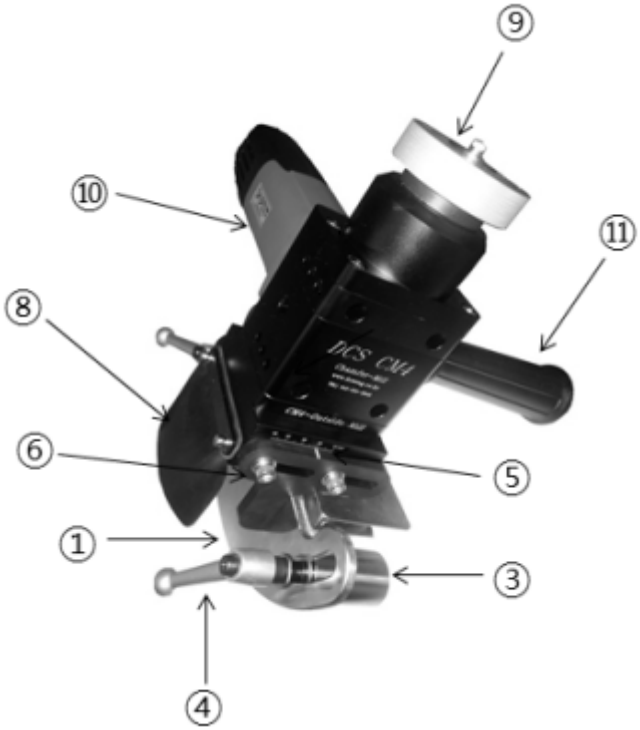
1. Name and function of each part



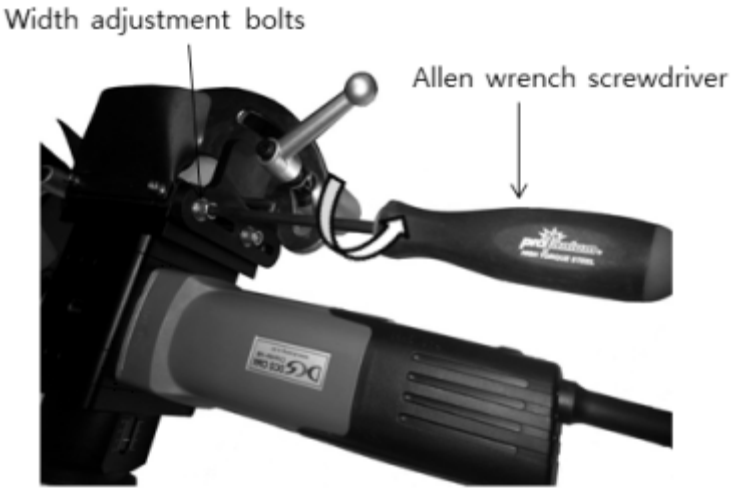
NO	Name	Function
1	Guide	Processing guide
2	Guide roll	Selecting the optimal area when cutting
3	Roll fixing lever	Fixating the guide roll
4	Processing width adjustment marking	Flat processing reference marking
5	Processing width adjustment bolt	Guide board fixing bolt
6	Rubber board	Prevention of flame and chip sppatering
7	Adjusting wheel	Cutting depth adjustment
8	Operating motor(handle)	Operating motor
9	Auxiliary	Handle

2. Standard parts

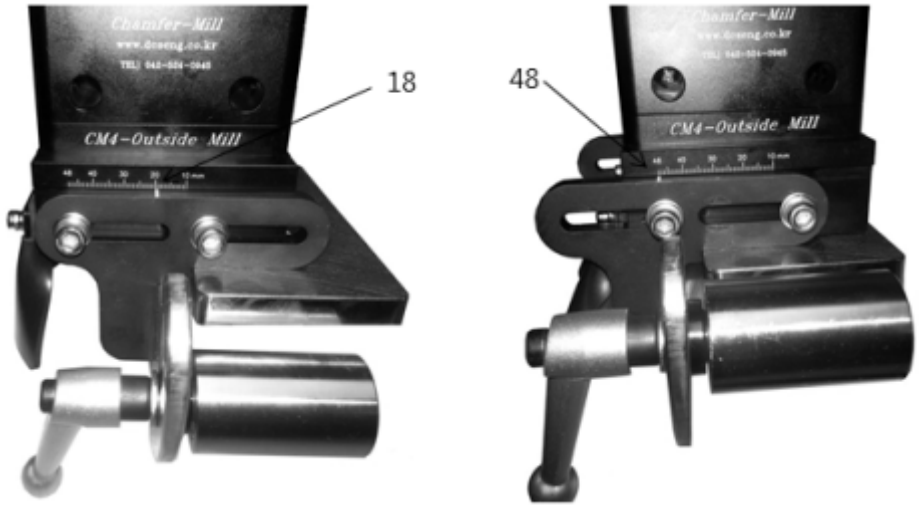
Same as S-CM4-M (refer to explanation of Number 2)

3. Width adjusting method

3-1. Loosen all 4 processing width adjustment bolts by using allen wrench screwdriver.



3-2. Move the guide into the desired width by looking at the processing width adjustment marking, and tighten the width adjustment bolts (4EA) firmly. Distance that a guide of S-CM4-OD can be moved for the width adjustment is from 18mm as a minimum to 48mm as a maximum.



4. Guide roll adjusting method

Same as S-CM4-M (refer to explanation of Number 4)

5. Cutting depth adjusting method

Same as S-CM4-M (refer to explanation of Number 5)

6. Cutting tip changing method

Same as S-CM4-M (refer to explanation of Number 6)

7. Correct way to use S-CM4-OD

Same as S-CM4-M (refer to explanation of Number 7)

8. S-CM4-OD Product specification

● During the flat processing of board and pipe with S-CM4-OD, it does not match with processing width marking certainly. In other words, maximum cutting width is smaller for the pipes with smaller gauge compared to the pipes with larger gauge even after the processing with the same cutting depth since the contacting section of cutting tip is different in accordance with the gauge of pipe. Values of maximum processing width per gauge of pipes are entered into the data for the machine specification processing capacity (pipe), and you can use it as a processing reference value.

● Please refer to the machine specification table or contact the head office for the details about the processing capacity.

● Machine Specification

<table>
<tr><td rowspan="6">Work capacity</td><td rowspan="3">Processing type</td><td rowspan="2">Pipe</td><td>Minimum gauge</td><td>1 inch(25A)</td></tr>
<tr><td>Maximum gauge</td><td>No limit</td></tr>
<tr><td>Board</td><td colspan="2">No limit</td></tr>
<tr><td>Processing material</td><td colspan="3">General steel, stainless, plastic, etc.</td></tr>
<tr><td>Processing amount adjustment</td><td colspan="3">One-touch method
(loosening prevention, ball plunger method)</td></tr>
<tr><td>Processing depth</td><td colspan="3">0.05mm as a minimum unit</td></tr>
<tr><td rowspan="12">Machine capacity</td><td>Processing angle</td><td colspan="3">90°</td></tr>
<tr><td>Penetrating angle</td><td colspan="3">75°</td></tr>
<tr><td>Processing depth</td><td colspan="3">Minimum of 0.05mm, maximum of 15mm</td></tr>
<tr><td rowspan="7">Processing capacity</td><td colspan="2">Using material</td><td>Width (mm)</td></tr>
<tr><td rowspan="2">Board</td><td>Minimum</td><td>18</td></tr>
<tr><td>Maximum</td><td>48</td></tr>
<tr><td rowspan="5">Pipe
(When processing 0.3mm)</td><td>50A</td><td>27</td></tr>
<tr><td>100A</td><td>29</td></tr>
<tr><td>200A</td><td>31</td></tr>
<tr><td>300A</td><td>33</td></tr>
<tr><td>500A</td><td>43</td></tr>
<tr><td rowspan="4">Machine specification</td><td>Total weight</td><td colspan="3">6.0Kg</td></tr>
<tr><td>Output</td><td colspan="3">220~230V/50~60Hz/1050W</td></tr>
<tr><td>Size</td><td colspan="3">85×85×185H</td></tr>
<tr><td>Effectiveness factor</td><td colspan="3">4EA(DCS501306-CM4-780) - uses 8 surfaces</td></tr>
</table>

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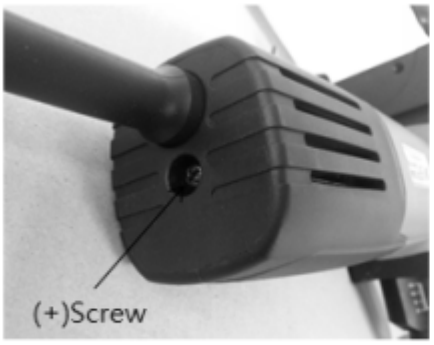
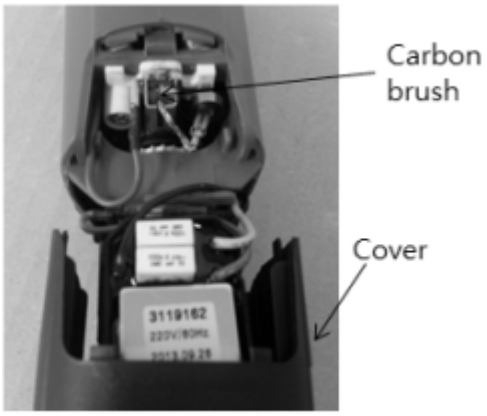
· The data may be subject to change for product improvement without a prior notice.
· Be sure to read through safety precautions described in the user manual and the equipment before using our products.

Maintenance and Inspection

1. **Be fully aware of the cautions for the safe usage.**
2. **When maintaining or inspecting, please remove the power plug**
3. **Inspection of the screw device for each part. Regularly check that the device on each part where the screw is loosened. If screws are loose, tighten firmly. It is very dangerous to leave them loose.**
4. **S-CM4 requires the periodic inspection and change since it is a brush motor method.**
5. **Do not keep the equipment in a moist area (risk of electrical short).**
6. **Be cautious with handling since drop or impact is the cause of equipment breakdown.**
7. **Disconnect the power during the equipment inspection or while the equipment is not being used.**
8. **Carbon brush inspection and changing method**

8-1. As shown in the picture, loosen the (+) type screw tightened to the bottom of motor, and open the motor by pulling the cover of motor toward the bottom.



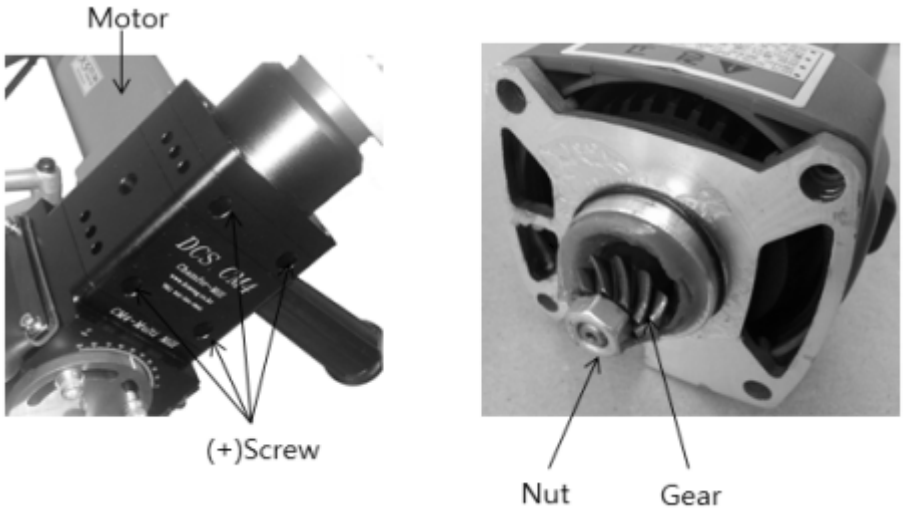


8-2. Change the carbon brush if it is worn out after the inspection, and make sure the cover is reinstalled before using. ※ **Carbon brush model name: DG-100BM(6.5×8×12)**

9. Motor changing method

Please ask for the after service to our company if a problem on the motor occurs, and please refrain the self-changing since it can be the cause of imputation for equipment breakdown and warranty. However, technical information on the motor changing is explained simply for the convenience of some customers.

9-1. As shown in the picture, separate the motor by loosening all 4 (+) type screws tightened with the motor on the top of equipment. Since gear from our company is installed to the rotation axis of separated motor, keep it safely after loosening it.



9-2. After separating the gear installed to the rotation axis of the new motor, install the gear from our company kept separately and install it to the equipment in the reverse order of motor separation.

※ The gear from the new motor should never be used

10. Action to take when tip bolt is damaged

10-1. If the tip bolt is damaged due to the carelessness, overload, accumulation of fatigue, etc. as shown in the picture below, it is easily removed through the counterclockwise rotation toward the edge of damaged tip bolt by using a sharp material, such as a gimlet, knife, etc., instead of hitting with a hammer or welding.

10-2. Or, the damaged tip bolt might be removed by tightening the same bolt (M4-20mm and above) at the back of the damaged tip bolt (same hole).

10-3. If the tip bolt is not removed with the methods above, please apply for the after service, and we will send the tip bolt quickly if you contact us when you don't have a tip bolt.

Quality Warranty

It guarantees as below.

1. This product have passed the thorough quality inspection of DCSENG CO., LTD.
2. When the product is damaged in a normal operation, the product will be repaired free of charge for one year in the purchasing place or service center in accordance with the contents of this certificate.
3. But. the erturn delivery fee will be charged. Malfunction of the product after the warranty period completed or occurred by customer's carelessness, can be repaired or replaced at a minimum cost.
4. However, malfunction due to change of use, abnormal wear, using patrs from other companies, or repair in other A/S center may not be covered by the warranty certificate.
5. Repair cost will be charged in these cases;
   - · Damage caused by the negligence of the user
   - · Failure caused by not following precautions outlined in this product
   - · Failure due to unreasonable repair and renovation.
   - · Breakdown of electric motor

   ※ Since the warranty of electric motor is provided by the manufacturing company of installed product, it is not included in the quality assurance of our company.
6. The warranty certificate must be accompanies when repairing.
7. This certificate is not reissued.

Product Name		Warranty Period	One year from purchase date
Model No.		Purchase Date	20 / / /
Serial Number		Date of Manufacture	20 / / /
Customer Address		Name	
		Phone Number	
Dealer Address (Shop Name)		Name	

※ Blanks should be filled by seller or customer when the product is being sold.

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