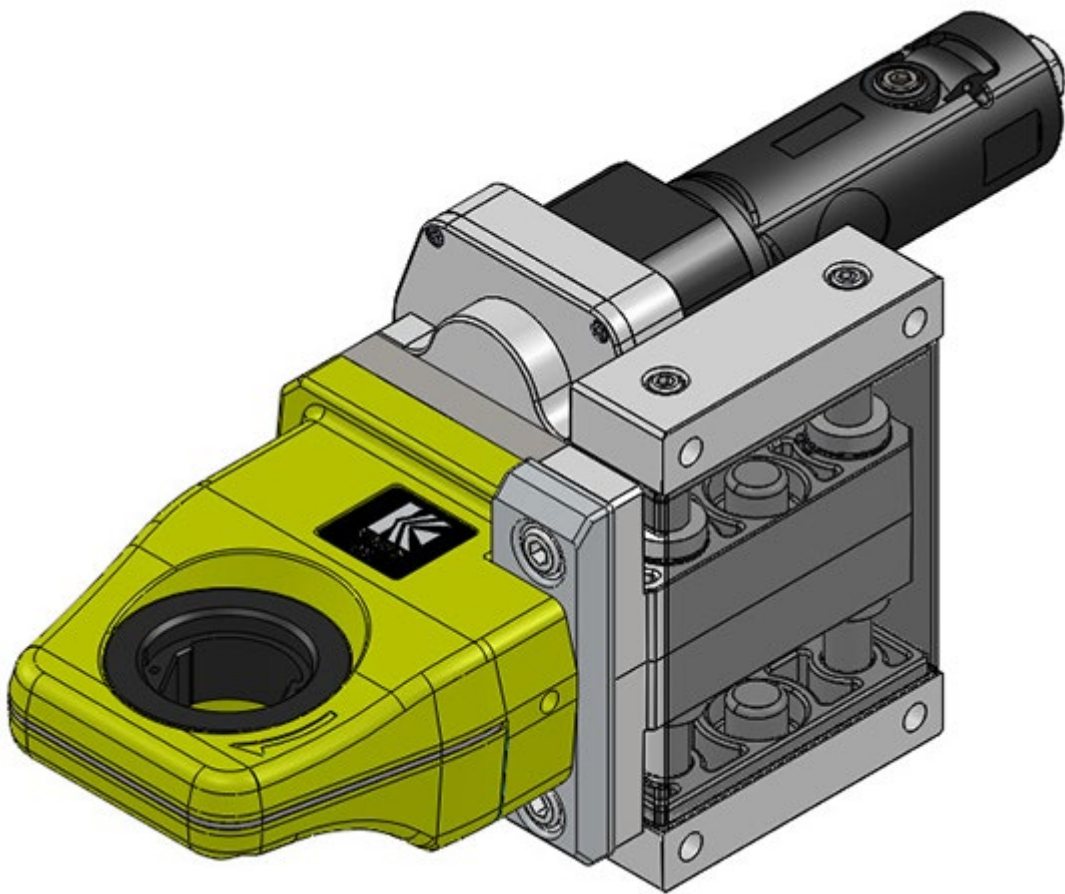




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Pneumatic Tip Dresser (CDP)
User's Manual

Please read this manual carefully before using the product.





ATTENTION TO SAFETY

※Please be sure to read ATTENTION TO SAFETY before using CDP.

CDP is intended only for the dressing of specified electrodes. This product is not to be used in any manner other than that which is specified within. We will not be held responsible for any damages or injuries caused as a result of misuse of this product.



SYMBOLS

※These following symbols, “Caution” and “Notice”, are used indicate possible hazards and to prevent their occurrence. Please be sure to follow the below.

 Caution	Be careful to follow directions as specified, as an error could lead to possible injury or death.
 Notice	Be careful to follow direction as specified, as an error could lead to malfunction and serious damage.























OTHER SYMBOLS

※The following symbols are explained below.














	This symbol indicates any actions which must not be done.
	This symbol indicates mandatory actions.

※After reading the manual, please set the manual to places where the administrator or the user of this product is able to check any time.

 **Caution**

<p> Absolutely never disassemble or reconfigure this machine or its parts</p> <p> This could result in operation malfunction, ignition, or injury.</p>	<p> Do not insert a finger or hand into gear opening while in operation.</p> <p> This will result in serious injury.</p>
<p> Avoid as much contact with water as possible.</p> <p> This could result in operation malfunction (short), electrical shock or ignition.</p>	<p> Do not insert metallic articles such as a pins or needles in gear or terminal box opening.</p> <p> This could result in operation malfunction or electrical shock.</p>
<p> Be sure to switch off the air supply when removing or repairing the air wiring.</p> <p> It can cause injury by getting pinched or caught.</p>	<p> Be sure that spatter does cover any wiring.</p> <p> This will prevent the melting of wire membrane and a potential shock hazard.</p>
<p> Remove the spatter, which covers the tip dresser periodically.</p> <p> Spatter build-up can cause operation malfunction or ignition resulting in injury.</p>	<p> Do not use acidic or chlorine detergents for maintenance purposes.</p> <p> Poisonous gas may be generated from the detergents, causing a possible health risk.</p>
<p> Remove any volatile liquid / oil that may accumulate on the nozzle cleaner.</p> <p> Spatter could cause ignition and possible Injury.</p>	<p> Use air hose with its inner diameter of over 10 mm.</p> <p> Lack of the air supply causes the torque shortage.</p>
<p> Do not allow power supply wiring to become damaged.</p> <p> Wiring damage could result in operation malfunction and ignition.</p>	

 **Notice**

<p> Firmly fix tip dresser to stand.</p> <p> If the Tip Dresser is not fixed tightly in operation, poor dressing and other problems could occur.</p>	<p>Supply lubricants by using lubricator.</p> <p> If the dresser is used with dry air, the motor can be burned and cause machine trouble.</p>
<p> Be sure that the inner diameter of the air hose is thick enough (over 10 mm).</p> <p> Lack of the air supply causes bad dressing.</p>	<p> Clean the air by using air filter or other tools.</p> <p> If the air was polluted, the motor can be burned and cause machine trouble.</p>
<p> Do not use any cutter or holder other than that which is intended and specified.</p> <p> Use of an unspecified cutter or holder, could result in damage.</p>	<p> Do not install the dresser close to the welding machine or thermal generation source.</p> <p> It may cause operation malfunction and accident.</p>
<p> Do not install between a welding machine and a transformer.</p> <p> Strong magnetic forces and heat can be dangerous and possibly cause malfunctions or ignition.</p>	

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CDP Air Dresser Capability

Model	Required Air Pressure	rpm at no load	Max. Torque	Air Consumption	Weight
CDP	0.5Mpa	88 rpm	80N.m	350L/min	5.9 kg

[[Features]]

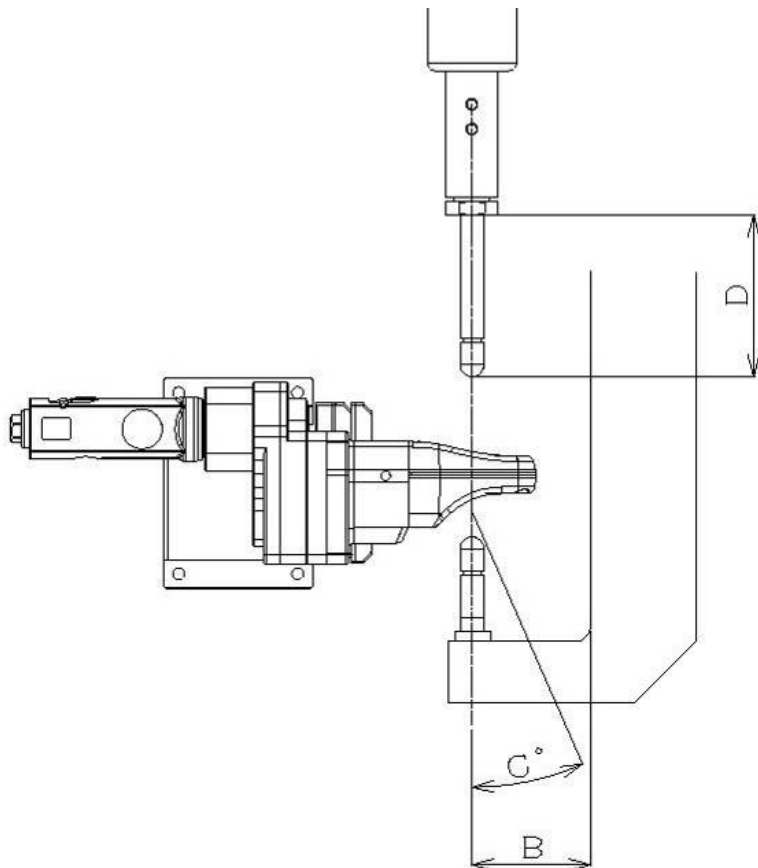
1. Pneumatic air motor operation.
2. Compact and lightweight design.
3. Our KTW cutter enables cap tips to be dressed within the pressure between, 1078[N] – 1960[N] (110kgf – 200kgf)
By using cutters for high pressure, the pressure can be set up to 1960[N] – 2960 [N] (200kgf – 300kgf)
4. Balancer unit mechanism greatly reduces stress on welding gun and dresser.

Criteria for Dressing Guns

(Applicable to both X-guns and C-guns; see figure 1 and 2)

1. A = 30mm or more. If A dimension is less than 30 mm, this dresser is not suitable, because it may contact gearbox.
Ref. Some special cutters require up to 35 mm.
2. B = 48mm or more. If B dimension is less than 48 mm, this dresser is not suitable, because it may contact gearbox.
3. Cap tip with "C" angle up to 15 degrees can be dressed.
When using the eccentric tips or guns with angle, please contact us.
4. D: When the length of shank of D dimension is long, contact us for solution.
5. E: The base tip and insert electrode requires a particular cutter.
We will customize a cutter if drawings of cap tip and the gun are provided.
6. Recommended dressing pressure is between 1078 N and 1960 N. (110 kgf to 200 kgf)
 - When dressing pressure is less than 1078 N, there is possibility of dressing defective because of dressing amount reduction.
 - High dressing pressure over 1960N and under 2960N might cause the dresser to stop or damage the cutter and holder, depending on the shape of cap tips. In this case, please reduce the dressing pressure.
 - When pressure is over 2960N, it must reduced.
7. Please select the cutter suitable for each cap tips.
8. For other specifications for the CDP, please contact our sales department.

Figure 1

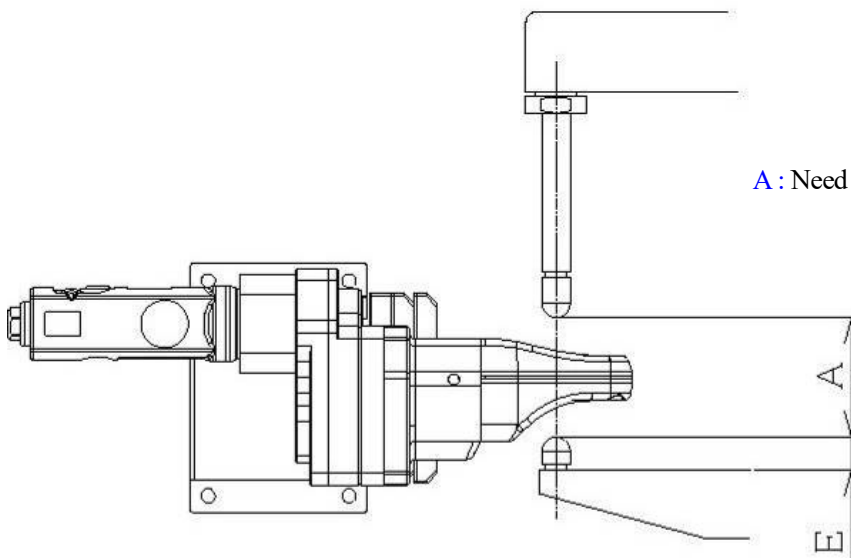


When measurement of D is $\phi 16 \times 90\text{mm}$ or $\phi 13 \times 70$,
the cap tips might not be stable to the cutter.

C Maximum 15°

B Must be more than 48mm.

Figure 2



A : Need a tip opening of more than 30mm.

E : Short cap tips may be dressed using special
cutters.

Cautions for Positioning the Dresser

1. The tip should be set vertical to the floating balancer. (See figure 3)
2. For X-guns, set the dressing location to the pressurization location. (See figure 4)
3. For C-guns, set the dressing location even level with pressurization location, otherwise it might cause poor dressing or damage gears and bearings.
4. Although the Balancer unit is a standard requirement, we also recommend you to locate the dressing position as precise as possible.
5. When dressing horizontal C-Guns, vertically set with equalizing mechanism is difficult to keep weight balance of springs, and pressurization point could easily change. In this case, please make sure of pressurization point very well when you teach robots. (See figure 4 and 5)

Figure 3

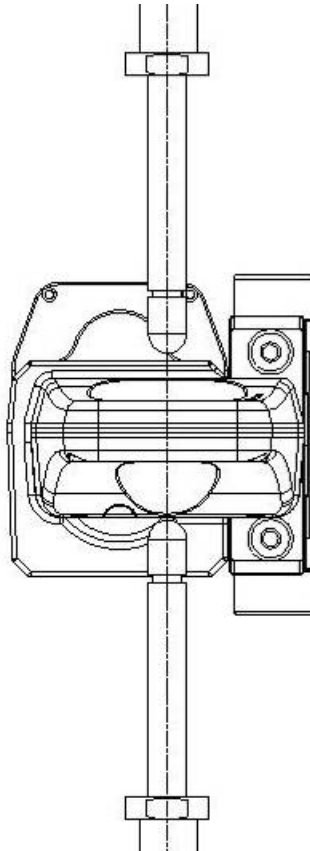


Figure 4

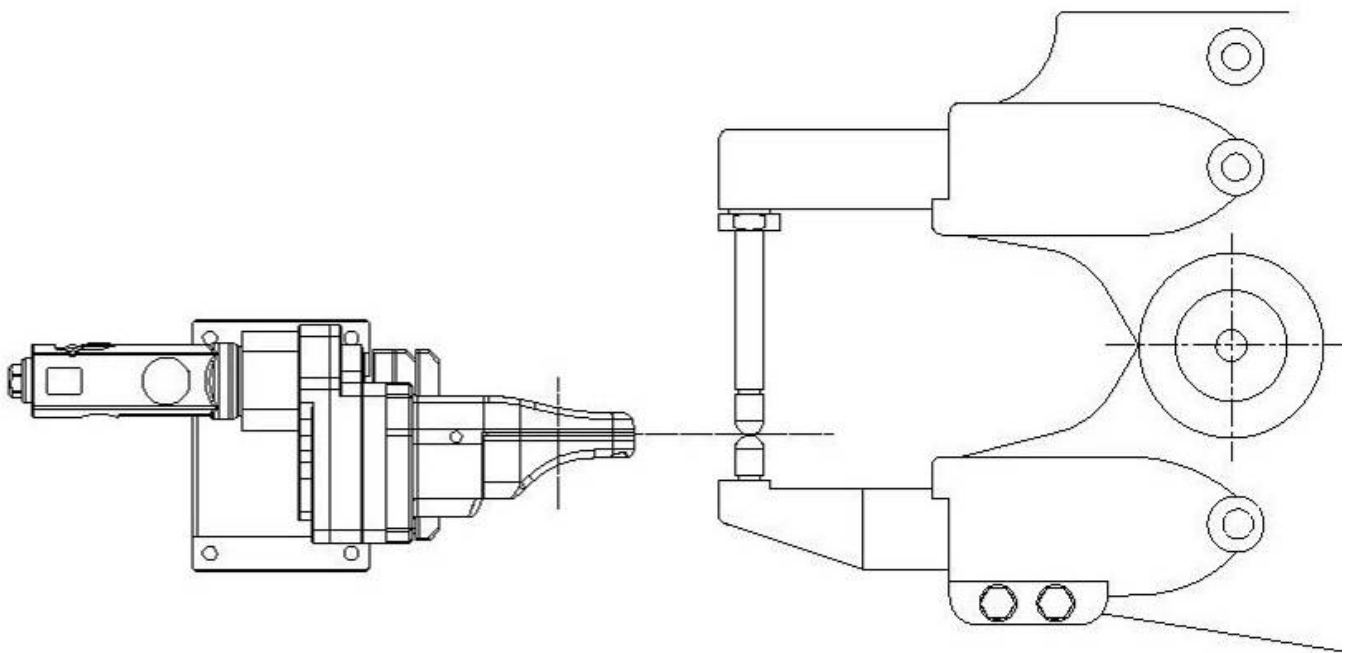
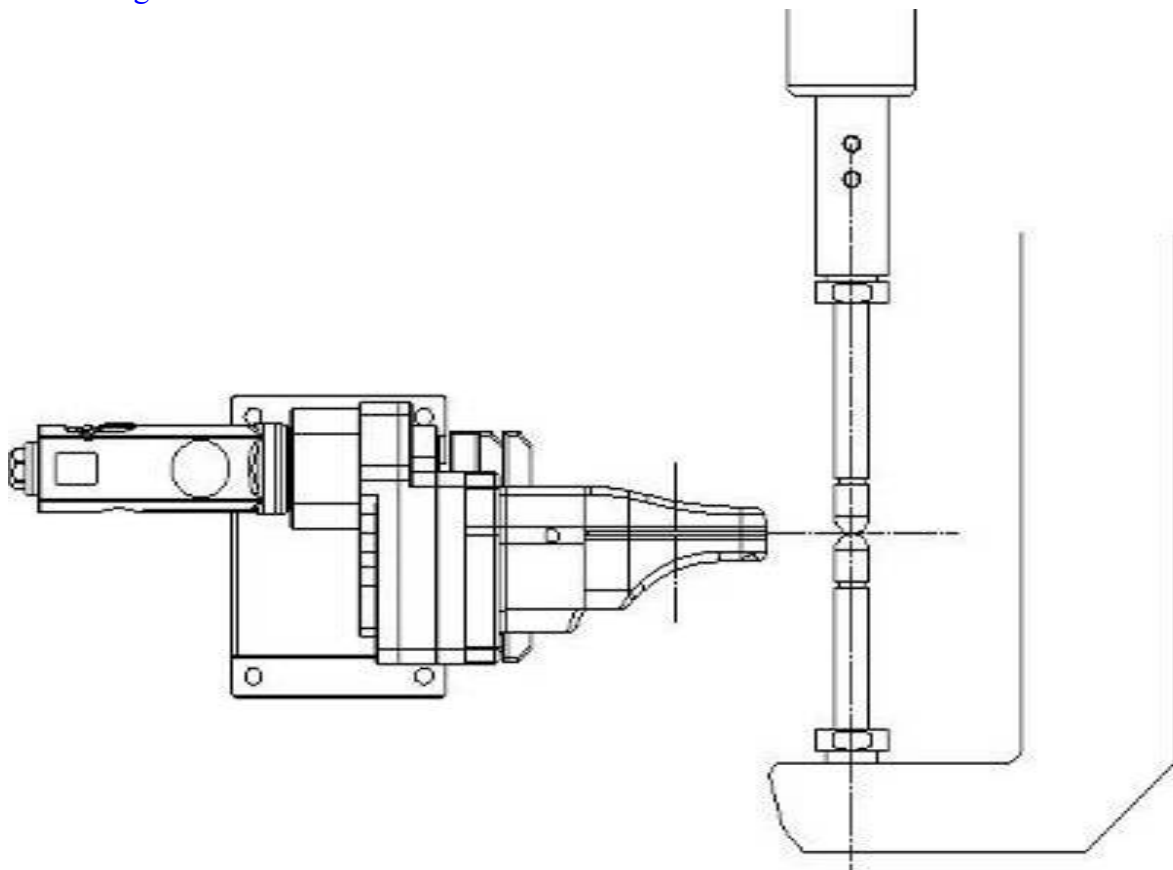


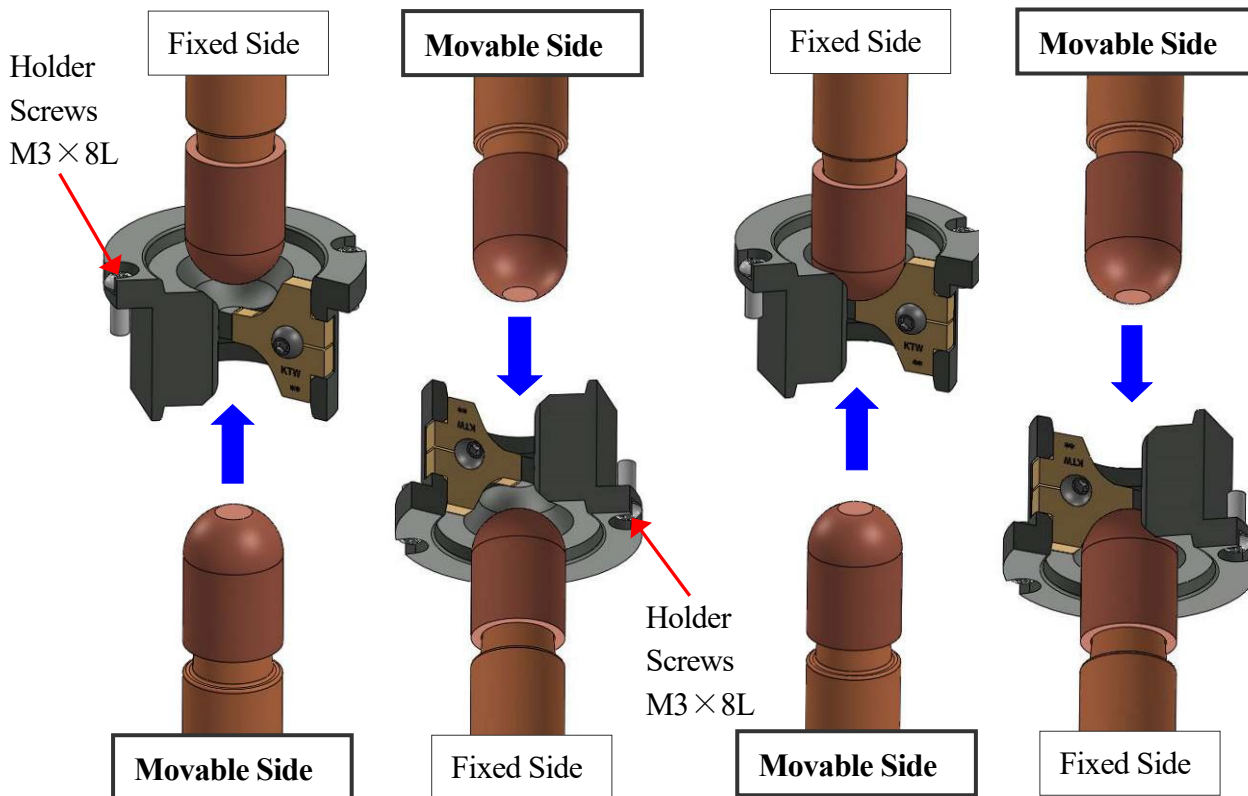
Figure 5



"ATTENTION" for dress teaching

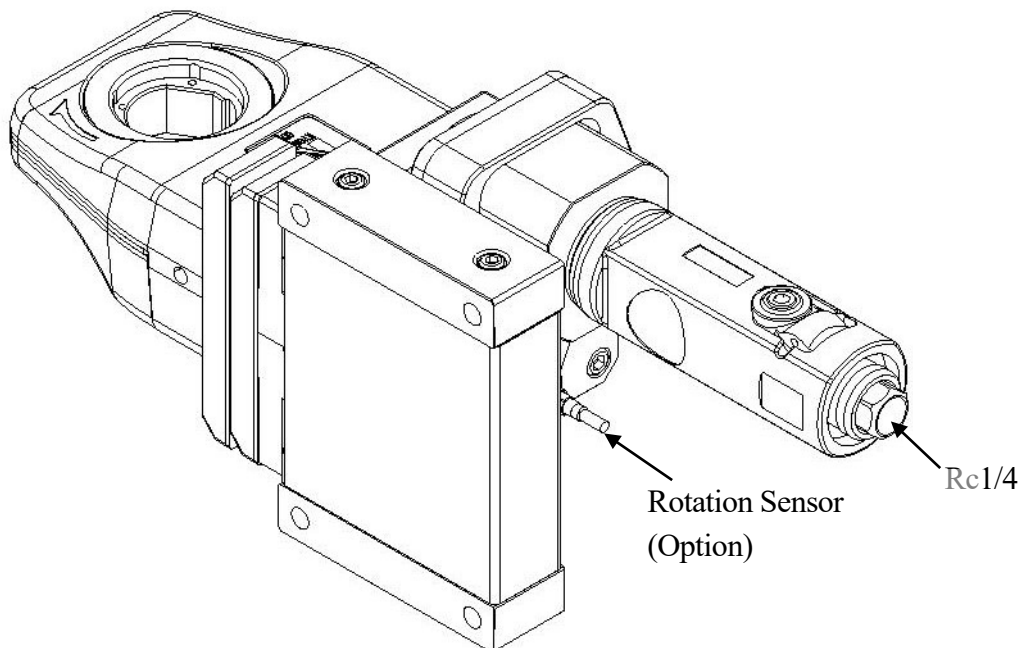
<Picture 1> **(Incorrect)**

<Picture 2> **(Correct)**



※Please don't make room between a cap on a fixed side and a cutter blade as picture 1 shows. It would cause screw heads broken off and a holder fallen off once the holder is pushed up or pushed down from the bottom side of the holder. Please have a cap touch on a cutter blade as a picture 2 shows for a proper dress teaching.

Wiring and Piping to the Dresser

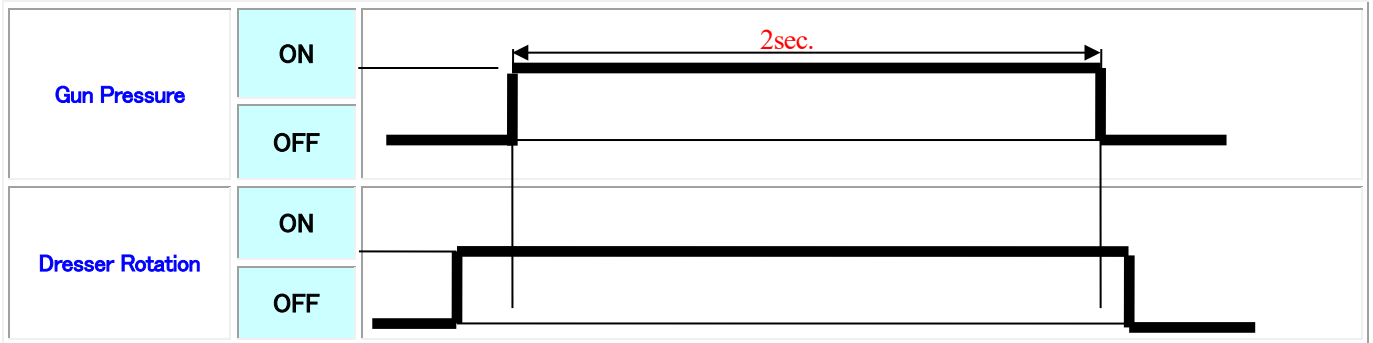


Rotation Sensor (Option)

- **Feature:** Detects the dressing motor rotation by converting the motor rotation into pulse signal with proximity sensor.
 - **Spec:** Proximity Sensor (Maker: OMRON)
DC Two-wire line E2E-X2D1N
- To prevent serious injuries, please make sure the air is turned OFF when setting or changing parts.
 - When piping or taking off, make sure the air is turned OFF.
 - **Please provide oil using a lubricator.**
 - Supply air over 0.5 Mpa.
 - Please use the air hose with its tube outer diameter 10 mm or over.
 - Please use air filter and supply clean air to the machine.
 - Please consider elasticity of the cable when wiring or piping the air since the balancer unit is installed.
 - Never perform live-line work. Be sure to switch off the power supply.

TIMING CHART

KTW Cutter (Clockwise Rotation Only)



1. Rotate the dresser clockwise before pressuring with the gun.
2. Set the dressing time according to your tip condition. Approximately **MAX 1sec.**

"ATTENTION"

It might cause a chip clogging if a dressing time is more than 2 sec.

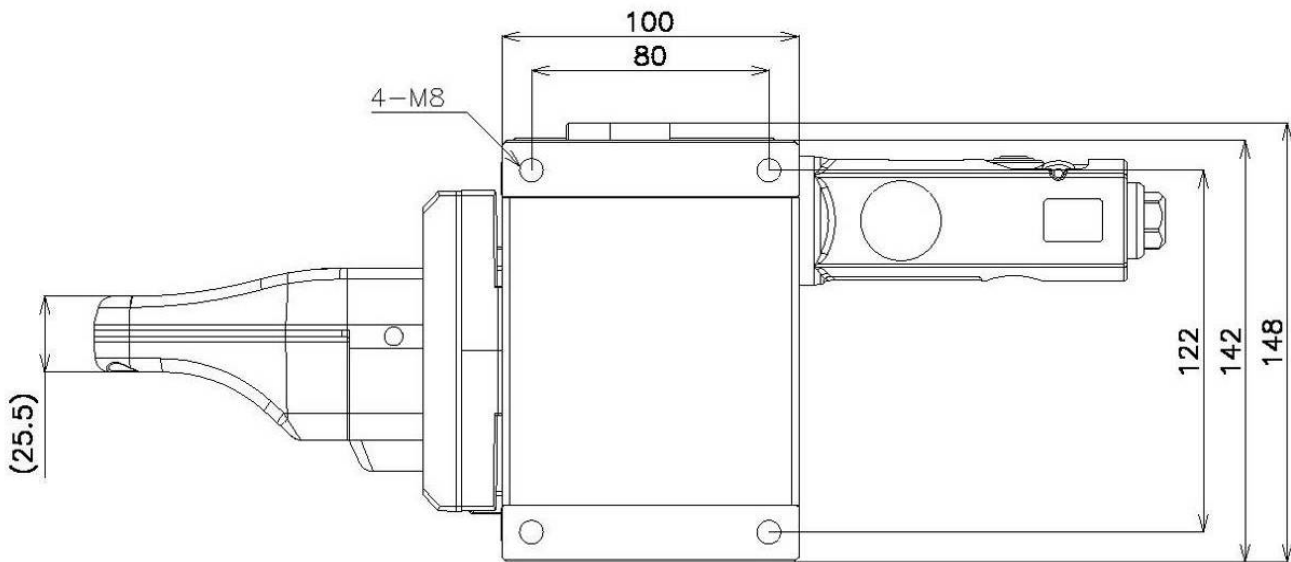
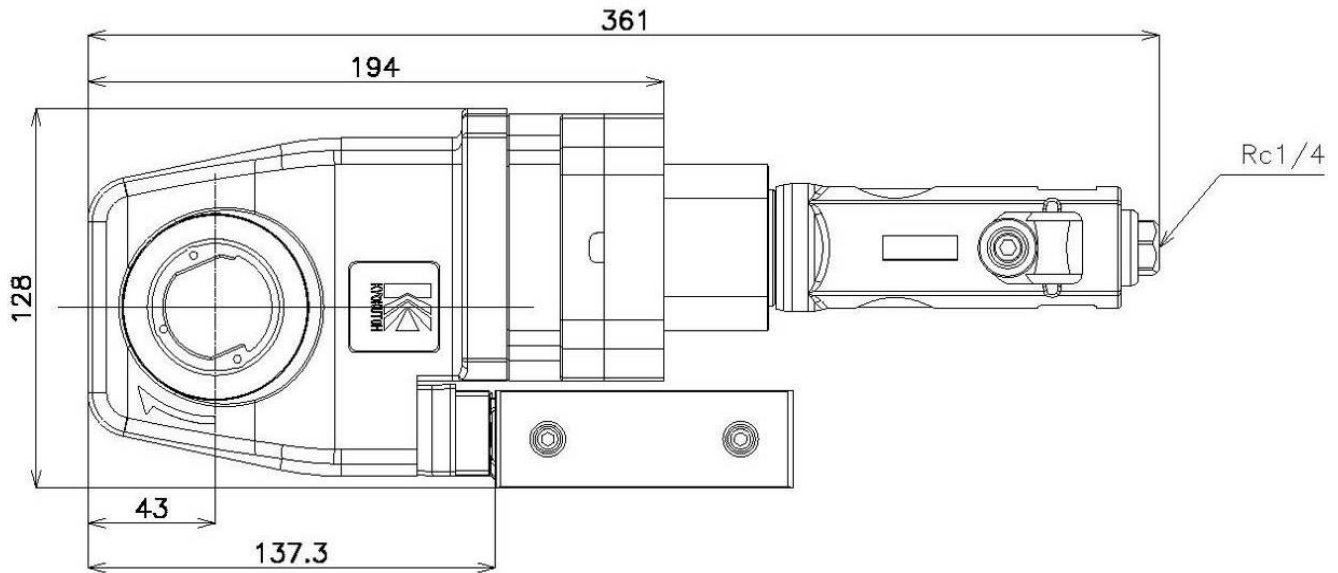
If dressing time is required more than 2 sec, it is recommended to be dressed multiple times to avoid chip clogging.

For example: If need 4 sec dressing time → 2 sec x 2 times dressing

3. Confirm rotating direction. (CLOCKWISE)
4. When finishing, release the gun when dresser is turning.

- * Before operating, make sure that the forms of cutter and tip are fitting.
- * When dressing is finished and small scrapes are left on the cap tips, both upper and lower tips should be touched with the cutter of revolving dresser before returning to original position.

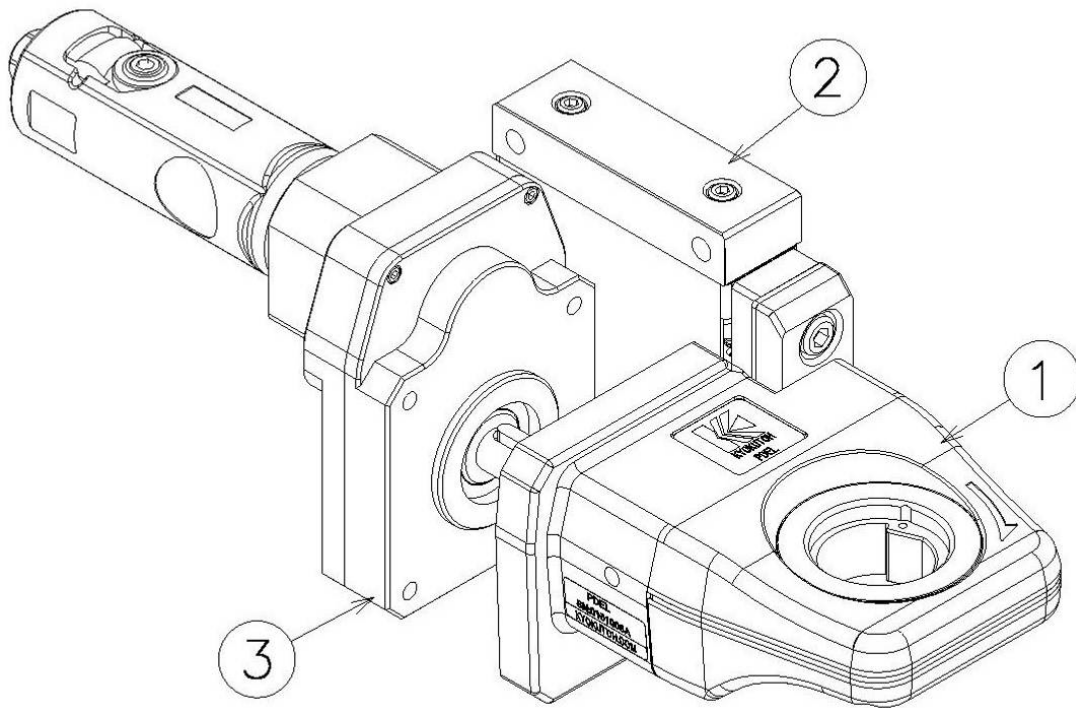
Drawings



The movement of the balancer is 15mm (under and above).

Parts List

No	Parts Name	Type Number	Amount
1	Dresser	CDP-14	1
2	Floating	ELFLU-15-02	1
3	Middle Deceleration Unit	CDPGG-01	1



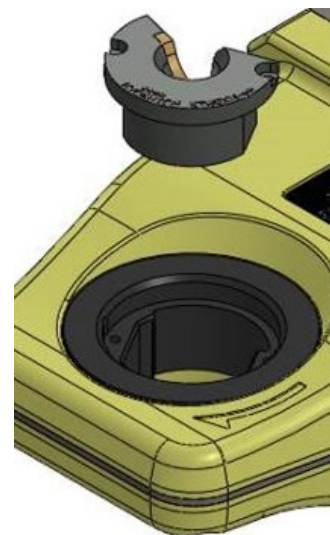
Replacement of Cutter

- When changing cutters, be sure to turn OFF the air supply.

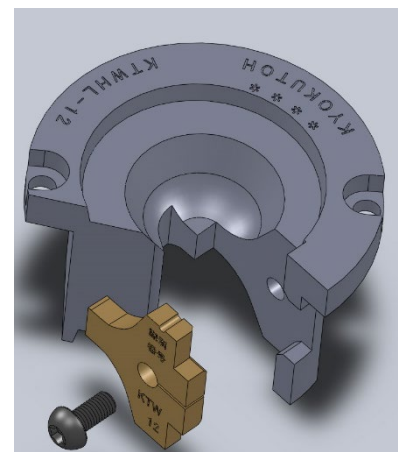
1. Remove the M3 screws of the holder.



2. Take out the holder from the dresser.



3. Unscrew the M3 torque screw of the cutter.

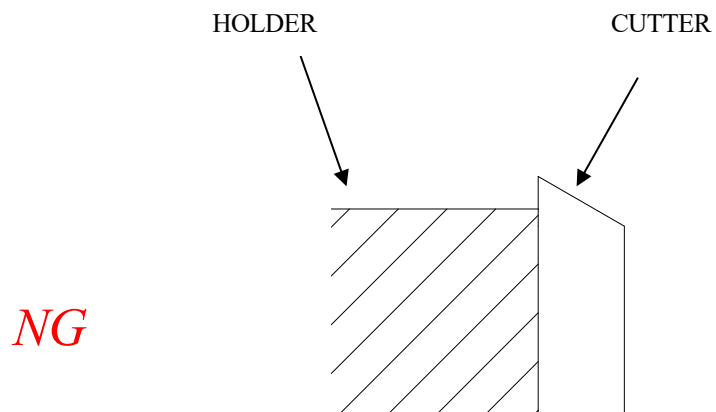
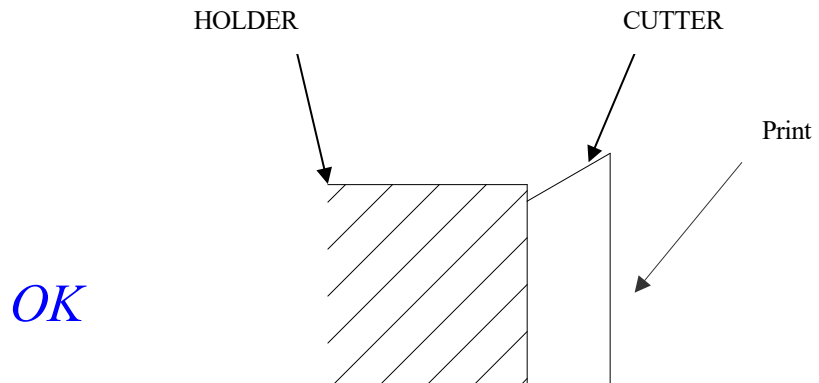


4. Replace a new cutter

Confirm cutter is placed in the proper direction.

Please install the angle narrow on the side where touches the holder. (Inscription faced up)

(Recommended torque for M3 screw is to 10–12kgf.cm).



5. Install the holder to the dresser by following the order in a reverse order (1 – 3).

Use M3 torque screw with lock tight.

(Recommended torque for M3 screw is to 10–12kgf.cm).

Cautions and Confirmation before the Operation

1. Reconfirm the specification. (Options, etc.)
2. Confirm the correspondence of the shape of cap tip and the shape of cutter.
3. Install the dresser in the place where the operator cannot touch it directly during the operation.
4. Make sure dresser and stand bolts are tightened firmly. Also, confirm stand is fixed securely to the floor.
5. When connecting wires to the dresser, operation procedures must be followed with the electric construction standard and also make sure that it is protected from cooling water and spatter.
6. Be sure dresser is grounded at the position away from spatter and cooling water.
7. When teaching the robot, please re-confirm the shape of cutter and the tips. Also make sure the cutter is tightly fixed.
8. Make sure the rotation is clockwise.
9. When teaching the robot, make sure there is no interference of any kind.
10. When pressuring, make sure the electricity is turned OFF and the pressure is set in proper value.
11. Make sure the shank or the tip is not swinging sideways. Also confirm the completion.

◆ The causes of the failure in dressing.

- ① The gun is not released when the dresser is in operation.
- ② The pressure is not set in required value.
- ③ The shape of cap tip and the cutter does not match.
- ④ The dressing time is not enough.
- ⑤ Dressing position is offset.
- ⑥ A drastic change of cap tip shape.

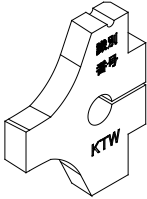
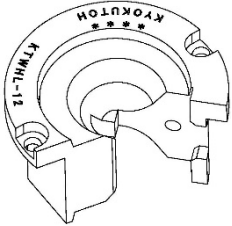
◆ For any problems, please contact our sales department.

Abnormality and Countermeasure

Abnormal Condition	Cause and Countermeasure
Dresser does not rotate.	<ul style="list-style-type: none"> * Required air pressure is not secured → Confirm the air pressure. * The gun pressure is higher than specified by our company. → Set gun pressure under 1960N(200kgf). * Motor is broken. → Need repair to replace the motor. * The shapes of the cutter and the cap tip are not fitting, and cling each other. → Check the cutter shape and replace it if necessary.
The motor is running but the cutter does not rotate.	<ul style="list-style-type: none"> * Gear in the gear box is broken. → Need repair to replace the gear.
The diameter of the dressed cap tip is different from the setting.	<ul style="list-style-type: none"> * Dressing time is too short. → Set the dressing time to the tip that has been crushed most. * The cutting capability of the cutter has deteriorated or the cutter has been damaged. → Replace the cutter and check the gun pressure. * Dressing point is not proper. → Re-do teaching. * The cutter is not suitable for the cap tip. → Check the cutter shape and replace it if necessary. * Gear in the gear box is broken. → Need repair to replace the gear. * The screw which fastens the cutter to the holder is loosen. → Tighten the screw.
Abnormal sound during dressing.	<ul style="list-style-type: none"> * Dressing point is not proper. → Re-do teaching. * The cutter has been damaged. → Replace the cutter and check the gun pressure.

Abnormal Condition	Cause and Countermeasure
Dresser leaves burr on the cap tip.	<ul style="list-style-type: none"> * The control method is not proper. → Release the gun while dresser is revolving, and then stop the dresser. * The shapes of the cutter and the cap tips are not fitting. → Check the cutter shape and replace it, if necessary. * The cutter has been damaged. → Replace the cutter and check the gun pressure. * The screw which fastens the cutter to the holder is loosen. → Tighten the screw.
The tip diameter is not at the center or the designated location.	<ul style="list-style-type: none"> * The tip is too short. → Replace the tip. * The dressing position is offset. → Recheck the teching of the robot. * The holder is expended. → Change to new holder.
The point of the cap tip is an oval, not a circle.	<ul style="list-style-type: none"> * The bolts which fasten the motor and the gear box are loosen. → Tighten the bolts. * The bolts that fasten the dresser to the stand are loosen. → Tighten the bolts * Holder is worn out. → Replace the holder.
Dressing does not complete in the set time	<ul style="list-style-type: none"> * The cutting capability of the cutter has deteriorated or the cutter has been damaged. → Replace the cutter and check the gun pressure. * Dressing time is too short. → Set the dressing time to the cap tip that has been crushed most. * The cap tip is soften after welding, the point of the cap tip gets widened. → Increase the dressing pressure gradually according to the time of dressing a cap tip when it is with gun voltage valve.
<p><<Remarks></p> <ul style="list-style-type: none"> •Please be sure the switch of the air supply is off when you are checking or replacing parts or the cutter. •When the dresser is out of order, please contact us immediately. Do not take the dresser apart. It would not be able to repair if you disassemble it. 	

Consumption Parts List

	<p>* Cutter</p> <ul style="list-style-type: none"> - Type Number : KTW-*** - Replacement Qty: 1 pc. - Replacement cycle: Total dressing time, 10,000 sec.
	<p>* Holder</p> <ul style="list-style-type: none"> - Type Number : KTWHL-*** - Replacement Qty: 1 pc. - Replacement cycle: Total dressing time, 30,000sec

MEMO

Contacts

Please contact us if there is any problem with our product.



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