

# Instruction Manual

## MOTOMAN Robotic Torches

**AR1440/AR2010/AR1730**

**MA1440/MA2010/MH24**

**AR700/AR900/AR1440E**

**YMXA-300R/308R/500R/508R/250RA**

**YMSA-300R/308R/500R/508R/250RA**

**YMSA-500W/508W**

**YMSA-500W(Water-Cooled Nozzle)/508W(Water-Cooled Nozzle)/500AW**

**YMSA-300R/308R/500R/508R(With Wire Clamp)**

**YMSA-500W/508W(With Wire Clamp)**

**ACC-308RR/308RX**

**TK-308RR/308RX/308RS**

**TK-508RR/508RX/508RS**

**TK-309R1**

**SRCT-308R/307R**

Please read this instruction manual  
before using the product.

Please be sure to deliver this instruction manual  
to the end user of this product.

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# NOTES REGARDING SAFETY

## Be sure to read these instructions before using the welding torch.

- In order to ensure safe operation, this equipment should only be set up, inspected and maintained by a qualified person, or by someone who has a through understanding of the welding equipment and who has received sufficient training in its use.
- In order to ensure safe operation, this equipment should only be operated by people who have read these instructions thoroughly and understood their contents and who have the knowledge and ability to handle the equipment safely.
- It is recommended that instruction in all aspects of safe operation should be obtained from institutions and associations which provide courses in proper welding techniques taught by qualified welding instructors.
- After reread these instructions, keep them in a safe and easily-accessible place so that they can be reread at a later date as required.
- Please contact TOKIN CORPORATION or its dealer if there are any unclear points in this manual. If there are any questions regarding service, contact the dealer of your purchase or TOKIN CORPORATION. The contact address and the telephone number are printed on the rear cover of this instructions.

## 1. Precautions for safety

- Different degrees of personal injury or equipment damage can occur if this welding torch is used incorrectly. The terms and symbols which appear in the "NOTES REGARDING SAFETY" section of these instructions are classified into three ranks according to the possible degree of danger or injury that each one warns against.

| Symbol                                                                            | Term           | Definition                                                                                                                                                     |
|-----------------------------------------------------------------------------------|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <b>DANGER</b>  | The instructions which follow this term represent situations where failure to follow the instructions will almost certainly result in severe injury or death.  |
|                                                                                   | <b>WARNING</b> | The instructions which follow this term represent situations where failure to follow the instructions can possibly result in severe injury or death.           |
|                                                                                   | <b>CAUTION</b> | The instructions which follow this term represent situations where failure to follow the instructions may result in injury to the operator or physical damage. |

In the above definitions, "severe injury" refers to cases of blindness, physical wounds, burns (high- and medium-temperature), electric shocks, fractures or poisoning which may leave scars or lasting ill-effects and for which medical treatment or prolonged hospitalization may be necessary. "Injury refers to cases of physical wounds, burns and electric shocks for which prolonged medical treatment and hospitalization are not necessary, and "physical damage" refers to extensive damage that may result in damaged property or broken equipment.

## 2. Items that must always be observed for safety

|                                                                                                       |                                                                                                                    |
|-------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|
| <b>WARNING</b><br> | <b>These items should be observed at all times in order to prevent the possibility of serious personal injury.</b> |
|-------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|

- Welding torches have been designed and manufactured with full consideration given to safety; however, the warning and cautions given in this "Notes Regarding Safety" section must always be strictly observed during use. If they are not observed, severe injury or death through misoperation may result.
- Do not unauthorized personal come into the area where welding equipment is being used.
- When welding equipment is turned ON, it generates a magnetic field. This magnetic field may adversely affect the operation of some sensors and gauges. For the same reason, people who are using a heartbeat pace maker must not go close to operating welding equipment or go into workshops where welding equipment is being used unless prior medical approval has been obtained.
- In order to ensure safe operation, welding torch, wire feeder and the welding power supply equipment should only be set up, inspected, maintained and repaired by a qualified person, or by someone who has a through understanding of welding equipment and who has received sufficient training in its use.
- In order to ensure safe operation, welding torch should only be operated by people who have read these instructions and the instructions for the wire feeder and power supply equipment through and understood their contents and who have the knowledge and ability to handle the equipment safely.
- Do not use welding torch for any applications other than for arc welding as explained in these instructions and in the instructions for the wire feeder and power supply equipment.

|                                                                                                                                                                                           |                                                                                                            |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| <b>WARNING</b><br>  | <b>These items should be observed at all times in order to prevent the possibility of electric shocks.</b> |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|

\*Touching the charged parts can cause fatal electric shocks or burns. Welding wire, contact tip and tip body are charged whenever the welding torch is turned ON and operating.

- Never Torch charged parts such as welding wire, or contact tip while welding torch is turned ON and operating.
- Grounding of welding power supply case and base metal and tools which are connected electrically to the base metal, must be carried out by a qualified electrician in accordance with the proper electrical engineering regulations.
- Turn OFF all input power supplies by turning OFF the switches in the distribution box before carrying out any inspections or maintenance.

- Inspections and maintenance should be carried out at periodic intervals, and the equipment must not be used until any damaged parts found have been repaired or replaced.
- Do not use cables that are damaged or that have exposed conductors, or that are rated lower than the specified level.
- Make sure that the cable is connected securely and that it is insulated.
- Welding cable should be connected as close as possible to the base metal being welded and it should be connected securely.
- Do not wear gloves which are torn or wet.
- Use a safety strap if welding in raised places.
- Turn OFF all power switches and the input power supply when not using.

|                                                                                                                                                                                       |                                                                                                                                                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>CAUTION</b><br>  | <b>Wear protective equipment at all times to protect yourself and others against arc beam, welding flashes, flying spatter and slag, and noise.</b> |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|

\*Welding flashes contain harmful ultraviolet and infrared lights which can cause inflammation or burn to eyes.

\*Flying spatter and slag can hurt the eyes and cause serious burns.

\*The noise generated by welding can cause problems with hearing.

- Always wear protective goggles or welding masks which have sufficient shielding properties when doing welding or when observing welding being done.
- Wear protective glasses to protect the eyes from spatter and slag.
- Hang a curtain around the area where welding is being carried out to prevent welding flashes from affecting passers-by.
- Wear protective clothing such as leather gloves, longsleeves, leg covers and a leather apron for protection while welding.
- Wear noise proof ear protectors if the noise level is too high.

|                                                                                                                                                                                       |                                                                                                                                             |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| <b>CAUTION</b><br>  | <b>Use protective equipment at all times to protect yourself and others against any fumes and gases that may be generated from welding.</b> |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|

\*Fumes and gases are generated when welding is carried out. Inhaling fumes and gases can be dangerous to your health.

\*Welding in confined spaces can reduce the oxygen content in the air, which can result in suffocation.

- To prevent gas poisoning and suffocation, always use a proper ventilation equipment to vent gases locally or entirely as stipulated by labor safety regulations and air contamination prevention regulations, or use an adequate breathing apparatus.
- When welding in a confined space, make sure that the air is circulating freely, wear some kind of breathing apparatus, and work only under the supervision of a properly trained supervisor.
- Toxic gases may be generated if welding is carried out near where degreasing, cleaning or demisting operations are also being carried out. Avoid welding near places where such operations are being carried out.
- Welding metal which has been plated with zinc will cause toxic fumes. Remove the plating before welding, or wear adequate absorption equipment for protection.

|                                                                                                                                                                                           |                                                                                                               |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| <b>CAUTION</b><br>  | <b>Be sure to observe the following to avoid burns from the nozzle and tip or injury from fine wire ends.</b> |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|

\*The nozzle or contact tip becomes very hot after use, and it can cause serious burns if touched.

- Do not touch the nozzle or tip immediately after welding has been completed.
- Do not bring the tip of the welding torch close to your face during wire inching.

|                                                                                                                                                                                           |                                                                                   |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| <b>CAUTION</b><br>  | <b>Be sure to observe the following to avoid fires, explosions and rupturing.</b> |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|

\*Fires can be caused by spatter and base metals which are hot after welding.

\*Fire can occur as a result of heat generated by the flow of current if the cable has not been correctly connected or there is an incomplete contact in the current path at the base metal being used.

\*Explosions can occur if an arc is generated near containers that contain flammable substances such as gasoline.

\*Ruptures can occur if welding sealed objects such as tanks and pipes.

- Do not use the welding torch in places where flying spatter can cause flammable materials to ignite.
- Do not use the welding torch near places where flammable gases are present.
- Keep base metals away from flammable materials immediately after welding as they may have become hot.
- Remove any flammable materials on the other side of ceilings, floors and walls that are being welded as sparks from welding could cause such materials to ignite.
- The welding cable should be connected as close as possible to the base metal being welded, and it should be connected securely.
- Do not weld gas cylinders which still contain gas.
- Do not weld sealed tanks or pipes.
- Keep a fire extinguisher close by the place where welding is being carried out in case a fire starts.

# [1]Specifications

## YMXA

| Torch Model          |    | YMXA-300R                      | YMXA-308R                      | YMXA-500R                      | YMXA-508R                      | YMXA-250RA       |
|----------------------|----|--------------------------------|--------------------------------|--------------------------------|--------------------------------|------------------|
| guidance             |    | Robot/Mechanical               | Robot/Mechanical               | Robot/Mechanical               | Robot/Mechanical               | Robot/Mechanical |
| Rated Current        | A  | 350(CO <sub>2</sub> )/300(MAG) | 350(CO <sub>2</sub> )/300(MAG) | 500(CO <sub>2</sub> )/350(MAG) | 500(CO <sub>2</sub> )/350(MAG) | 250(MIG)         |
| Duty Cycle           | %  | 60                             | 60                             | 60                             | 60                             | 60               |
| Applicable Wire Size | mm | (0.8) ~ 1.2                    | (0.8) ~ 1.2                    | 1.2 ~ (1.6)                    | 1.2 ~ (1.6)                    | (1.0) ~ 1.2      |
| Cooling Method       |    | Air Cooled                     | Air Cooled                     | Air Cooled                     | Air Cooled                     | Air Cooled       |
| cable Length         | m  | 0.8 ~ 2.0                      | 0.8 ~ 2.0                      | 0.8 ~ 2.0                      | 0.8 ~ 2.0                      | 0.8 ~ 2.0        |

## YMSA

| Torch Model          |    | YMSA-300R                      | YMSA-308R                      | YMSA-500R                      | YMSA-508R                      | YMSA-250RA       |
|----------------------|----|--------------------------------|--------------------------------|--------------------------------|--------------------------------|------------------|
| guidance             |    | Robot/Mechanical               | Robot/Mechanical               | Robot/Mechanical               | Robot/Mechanical               | Robot/Mechanical |
| Rated Current        | A  | 350(CO <sub>2</sub> )/300(MAG) | 350(CO <sub>2</sub> )/300(MAG) | 500(CO <sub>2</sub> )/350(MAG) | 500(CO <sub>2</sub> )/350(MAG) | 250(MIG)         |
| Duty Cycle           | %  | 60                             | 60                             | 60                             | 60                             | 60               |
| Applicable Wire Size | mm | (0.8) ~ 1.2                    | (0.8) ~ 1.2                    | 1.2 ~ (1.6)                    | 1.2 ~ (1.6)                    | (1.0) ~ 1.2      |
| Cooling Method       |    | Air Cooled                     | Air Cooled                     | Air Cooled                     | Air Cooled                     | Air Cooled       |
| cable Length         | m  | 0.8 ~ 2.0                      | 0.8 ~ 2.0                      | 0.8 ~ 2.0                      | 0.8 ~ 2.0                      | 0.8 ~ 2.0        |

## YMSA

| Torch Model          |    | YMSA-300R<br>(With wire clamp) | YMSA-308R<br>(With wire clamp) | YMSA-500R<br>(With wire clamp) | YMSA-508R<br>(With wire clamp) |
|----------------------|----|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| guidance             |    | Robot/Mechanical               | Robot/Mechanical               | Robot/Mechanical               | Robot/Mechanical               |
| Rated Current        | A  | 350(CO <sub>2</sub> )/300(MAG) | 350(CO <sub>2</sub> )/300(MAG) | 500(CO <sub>2</sub> )/350(MAG) | 500(CO <sub>2</sub> )/350(MAG) |
| Duty Cycle           | %  | 60                             | 60                             | 60                             | 60                             |
| Applicable Wire Size | mm | (0.8) ~ 1.2                    | (0.8) ~ 1.2                    | 1.2 ~ (1.6)                    | 1.2 ~ (1.6)                    |
| Cooling Method       |    | Air Cooled                     | Air Cooled                     | Air Cooled                     | Air Cooled                     |
| cable Length         | m  | 0.8 ~ 2.0                      | 0.8 ~ 2.0                      | 0.8 ~ 2.0                      | 0.8 ~ 2.0                      |

## YMSA

| Torch Model          |    | YMSA-500W                      | YMSA-508W                      | YMSA-500W/508W<br>(Water-cooled nozzle) | YMSA-500AW       | YMSA-500W/508W<br>(With wire clamp) |
|----------------------|----|--------------------------------|--------------------------------|-----------------------------------------|------------------|-------------------------------------|
| guidance             |    | Robot/Mechanical               | Robot/Mechanical               | Robot/Mechanical                        | Robot/Mechanical | Robot/Mechanical                    |
| Rated Current        | A  | 500(CO <sub>2</sub> )/400(MAG) | 500(CO <sub>2</sub> )/400(MAG) | 500(CO <sub>2</sub> )/400(MAG)          | 300(MIG)         | 500(CO <sub>2</sub> )/400(MAG)      |
| Duty Cycle           | %  | 80                             | 80                             | 80                                      | 50               | 80                                  |
| Applicable Wire Size | mm | 1.2 ~ (1.6)                    | 1.2 ~ (1.6)                    | 1.2 ~ (1.6)                             | 1.2 ~ (1.6)      | 1.2 ~ (1.6)                         |
| Cooling Method       |    | Water Cooled                   | Water Cooled                   | Water Cooled                            | Water Cooled     | Water Cooled                        |
| cable Length         | m  | 0.8 ~ 2.0                      | 0.8 ~ 2.0                      | 0.8 ~ 2.0                               | 0.8 ~ 2.0        | 0.8 ~ 2.0                           |

## ACC,TK,SRCT

| Torch Model          |    | ACC-308RR                      | ACC-308RX                      | TK-308RR                       | TK-308RX                       | TK-308RS                       |
|----------------------|----|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| guidance             |    | Robot/Mechanical               | Robot/Mechanical               | Robot/Mechanical               | Robot/Mechanical               | Robot/Mechanical               |
| Rated Current        | A  | 350(CO <sub>2</sub> )/300(MAG) | 350(CO <sub>2</sub> )/300(MAG) | 350(CO <sub>2</sub> )/300(MAG) | 350(CO <sub>2</sub> )/300(MAG) | 350(CO <sub>2</sub> )/300(MAG) |
| Duty Cycle           | %  | 60                             | 60                             | 60                             | 60                             | 60                             |
| Applicable Wire Size | mm | (0.8) ~ 1.2                    | (0.8) ~ 1.2                    | (0.8) ~ 1.2                    | (0.8) ~ 1.2                    | (0.8) ~ 1.2                    |
| Cooling Method       |    | Air Cooled                     | Air Cooled                     | Air Cooled                     | Air Cooled                     | Air Cooled                     |
| cable Length         | m  | 0.8 ~ 5.0                      | 0.8 ~ 5.0                      | 0.8 ~ 5.0                      | 0.8 ~ 5.0                      | 0.8 ~ 5.0                      |

| Torch Model          |    | TK-508RR                       | TK-508RX                       | TK-508RS                       | TK-309R1                       | SRCT-308R<br>SRCT-307R         |
|----------------------|----|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| guidance             |    | Robot/Mechanical               | Robot/Mechanical               | Robot/Mechanical               | Robot/Mechanical               | Robot/Mechanical               |
| Rated Current        | A  | 500(CO <sub>2</sub> )/400(MAG) | 500(CO <sub>2</sub> )/400(MAG) | 500(CO <sub>2</sub> )/400(MAG) | 350(CO <sub>2</sub> )/300(MAG) | 350(CO <sub>2</sub> )/300(MAG) |
| Duty Cycle           | %  | 60                             | 60                             | 60                             | 60                             | 60                             |
| Applicable Wire Size | mm | 1.2 ~ (1.6)                    | 1.2 ~ (1.6)                    | 1.2 ~ (1.6)                    | (0.8) ~ 1.2                    | (0.8) ~ 1.2                    |
| Cooling Method       |    | Air Cooled                     | Air Cooled                     | Air Cooled                     | Air Cooled                     | Air Cooled                     |
| cable Length         | m  | 0.8 ~ 5.0                      | 0.8 ~ 5.0                      | 0.8 ~ 5.0                      | 0.8 ~ 5.0                      | 0.8 ~ 5.0                      |

Remark

1: Type of shielding gas  
CO<sub>2</sub>---CO<sub>2</sub> 100%    MAG---CO<sub>2</sub> 20%; Argon 80%    MIG---Argon 100%

2: Type of electrode  
Solid and Flux cored wire

## [2]Model Notation

### YMXA

#### Y M X A - 3 0 0 R - M A 1 4 4 0 (Special Instruction)

|                                                                                                                                                                                                       |                                                                              |                                                                             |                                                                                                                                                                                                                                             |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|-----------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <div>Torch Model</div> <div>YMXA-300R    YMXA-508R</div> <div>YMXA-308R    YMXA-250RA</div> <div>YMXA-500R</div>                                                                                      | <div>Robot Model</div> <div>MA1440</div> <div>MA2010</div> <div>AR1730</div> | <div>Cable length</div> <div>850mm</div> <div>1270mm</div> <div>980mm</div> | <div>Special mention item</div> <div>●ACC…Hardened type torch.</div> <div>●Inner Tube Spec…For customers who prefer separate inner tube.</div> <div>●LINCOLN    direct connection type.</div> <div>●MILLER    direct connection type.</div> |
| <div>Annotation:</div> <div>Cable length for AR1440 and MA1440 is the same.</div> <div>Cable length for AR2010 and MA2010 is the same.</div> <div>Cable length for MH24 and AR1730 is the same.</div> |                                                                              |                                                                             |                                                                                                                                                                                                                                             |

### YMSA

#### Y M S A - 3 0 8 R - M A 2 0 1 0 (Special Instruction)

| Torch Model<br>YMSA-300R<br>YMSA-308R<br>YMSA-500R<br>YMSA-508R<br>YMSA-250RA<br>YMSA-300R (With Wire Clamp)<br>YMSA-308R (With Wire Clamp)<br>YMSA-500R (With Wire Clamp)<br>YMSA-508R (With Wire Clamp) | <table><tr><th>Robot Model</th><th>Cable length</th></tr><tr><td>MA1440</td><td>850mm</td></tr><tr><td>MA2010</td><td>1270mm</td></tr><tr><td>AR1730</td><td>980mm</td></tr></table> <p>Annotation:<br/>Cable length for AR1440 and MA1440 is the same.<br/>Cable length for AR2010 and MA2010 is the same.<br/>Cable length for MH24 and AR1730 is the same.</p> | Robot Model | Cable length | MA1440 | 850mm | MA2010 | 1270mm | AR1730 | 980mm | <p>Special mention item</p> <ul style="list-style-type: none"><li>●ACC…Hardened type torch.</li><li>●Inner Tube Spec…For customers who prefer separate inner tube.</li></ul> <p>Note: Inner Tube Spec is automatically applied to Torch with clamp Spec.</p> <ul style="list-style-type: none"><li>●LINCOLN direct connection type.</li><li>●MILLER direct connection type.</li></ul> |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|--------------|--------|-------|--------|--------|--------|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Robot Model                                                                                                                                                                                               | Cable length                                                                                                                                                                                                                                                                                                                                                      |             |              |        |       |        |        |        |       |                                                                                                                                                                                                                                                                                                                                                                                       |
| MA1440                                                                                                                                                                                                    | 850mm                                                                                                                                                                                                                                                                                                                                                             |             |              |        |       |        |        |        |       |                                                                                                                                                                                                                                                                                                                                                                                       |
| MA2010                                                                                                                                                                                                    | 1270mm                                                                                                                                                                                                                                                                                                                                                            |             |              |        |       |        |        |        |       |                                                                                                                                                                                                                                                                                                                                                                                       |
| AR1730                                                                                                                                                                                                    | 980mm                                                                                                                                                                                                                                                                                                                                                             |             |              |        |       |        |        |        |       |                                                                                                                                                                                                                                                                                                                                                                                       |

### YMSA

#### Y M S A - 5 0 0 W (With Wire Clamp) - M A 1 4 4 0 (Special Instruction)

| Torch Model<br>YMSA-500W<br>YMSA-508W<br>YMSA-500W(Water-Cooled Nozzle)<br>YMSA-508W(Water-Cooled Nozzle)<br>YMSA-500AW<br>YMSA-500W (With Wire Clamp)<br>YMSA-508W (With Wire Clamp) | <table><tr><th>Robot Model</th><th>Cable length</th></tr><tr><td>MA1440</td><td>850mm</td></tr><tr><td>MA2010</td><td>1270mm</td></tr><tr><td>AR1730</td><td>980mm</td></tr></table> <p>Annotation:<br/>Cable length for AR1440 and MA1440 is the same.<br/>Cable length for AR2010 and MA2010 is the same.<br/>Cable length for MH24 and AR1730 is the same.</p> | Robot Model | Cable length | MA1440 | 850mm | MA2010 | 1270mm | AR1730 | 980mm | <table><tr><th>Special mention item</th></tr><tr><td>●Inner Tube Spec…For customers who prefer separate inner tube.<br/>Note: Inner Tube Spec is automatically applied to Torch with wire clamp.</td></tr></table> | Special mention item | ●Inner Tube Spec…For customers who prefer separate inner tube.<br>Note: Inner Tube Spec is automatically applied to Torch with wire clamp. |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|--------------|--------|-------|--------|--------|--------|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| Robot Model                                                                                                                                                                           | Cable length                                                                                                                                                                                                                                                                                                                                                      |             |              |        |       |        |        |        |       |                                                                                                                                                                                                                    |                      |                                                                                                                                            |
| MA1440                                                                                                                                                                                | 850mm                                                                                                                                                                                                                                                                                                                                                             |             |              |        |       |        |        |        |       |                                                                                                                                                                                                                    |                      |                                                                                                                                            |
| MA2010                                                                                                                                                                                | 1270mm                                                                                                                                                                                                                                                                                                                                                            |             |              |        |       |        |        |        |       |                                                                                                                                                                                                                    |                      |                                                                                                                                            |
| AR1730                                                                                                                                                                                | 980mm                                                                                                                                                                                                                                                                                                                                                             |             |              |        |       |        |        |        |       |                                                                                                                                                                                                                    |                      |                                                                                                                                            |
| Special mention item                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                   |             |              |        |       |        |        |        |       |                                                                                                                                                                                                                    |                      |                                                                                                                                            |
| ●Inner Tube Spec…For customers who prefer separate inner tube.<br>Note: Inner Tube Spec is automatically applied to Torch with wire clamp.                                            |                                                                                                                                                                                                                                                                                                                                                                   |             |              |        |       |        |        |        |       |                                                                                                                                                                                                                    |                      |                                                                                                                                            |

### ACC,TK,SRCT

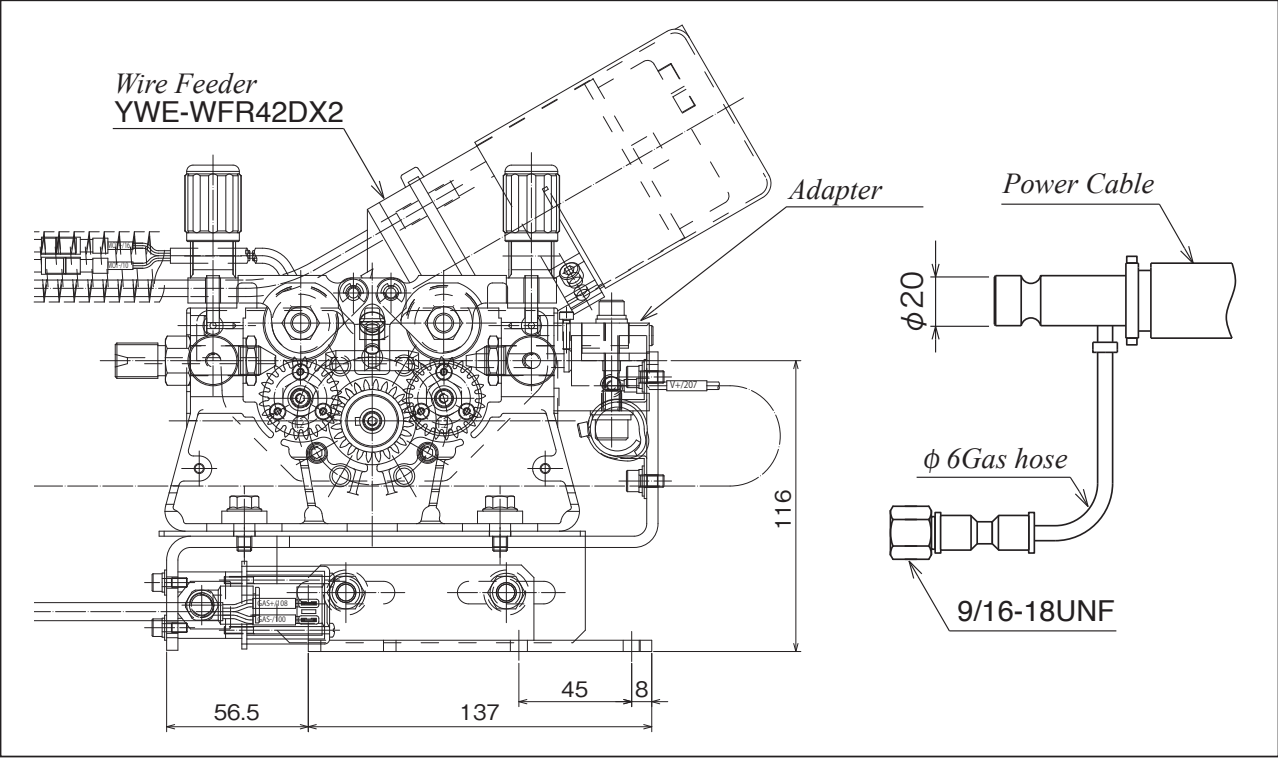
#### A C C - 3 0 8 R R - N - 1 . 3   S C

|                                                                                                                                                       |                                                                                                                                                                                                                                                                                                             |                                     |                                                           |
|-------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|-----------------------------------------------------------|
| <b>Torch Model</b><br>ACC-308RR   TK-508RX<br>ACC-308RX   TK-508RS<br>TK-308RR   TK-309R1<br>TK-308RX   SRCT-308R<br>TK-308RS   SRCT-307R<br>TK-508RR | <b>Robot Model</b><br>N…YASKAWA MOTOPAC type/PANASONIC type<br>D…DAIHEN direct connection type<br>DD…DAIHEN CMRE-741 <sup>1</sup> type<br>AD…TOKIN adapter type<br>LE…LINCOLN direct connection type<br>MIL…MILLER direct connection type<br>BZ…BINZEL adapter type<br>—…Earlier standard type <sup>2</sup> | <b>Power Cable length in meters</b> | <b>Option</b><br>SC…Internal shock sensor Cable<br>—…None |
|                                                                                                                                                       |                                                                                                                                                                                                                                                                                                             |                                     |                                                           |

<sup>1</sup>If using the DL350, please specify separately.

<sup>2</sup>If using the earlier standard types, special adapter is needed. (Ref.P26)

[3]Connection of the torch



[4]Replace Tip Body

When tip body is damaged by heat or screw jammed, replace tip body carefully (wih 10N • m tightening torque)

[5]Replace the Inner Tube

When the inner tube is worn,replace the inner tube.

| Parts No  | Model           | L mm  |
|-----------|-----------------|-------|
| YEA003013 | YMXA/YMSA-300R  | 174.5 |
| YEA003812 | YMXA/YMSA-308R  | 262.5 |
| YEA005013 | YMXA/YMSA-500R  | 188.5 |
| YEA005812 | YMXA/YMSA-508R  | 276.5 |
| YEA002514 | YMXA/YMSA-250RA | 158.7 |

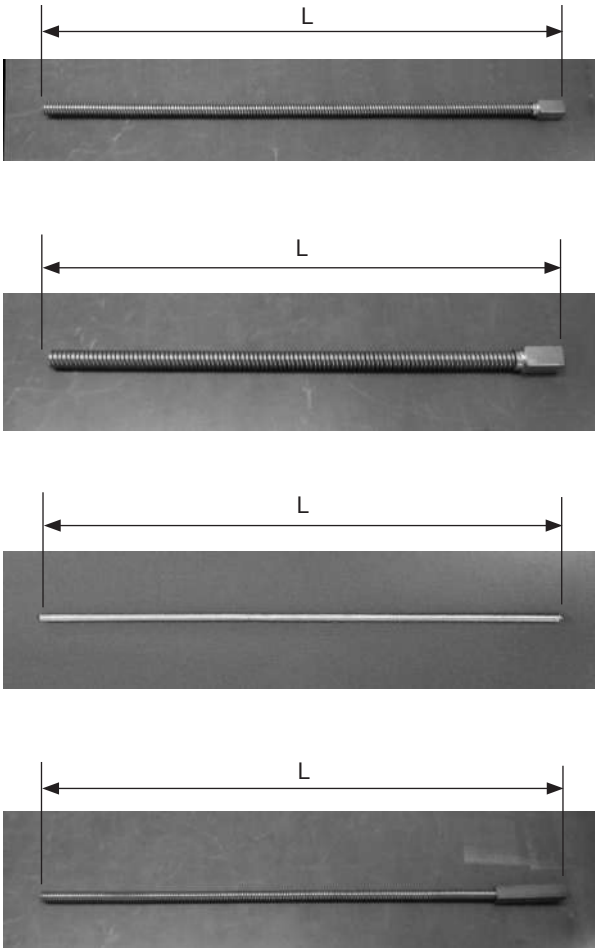
Standard specification for YMXA/YMSA torch series is Inner Tube less.

| Parts No  | Model      | L mm  |
|-----------|------------|-------|
| YEW005013 | YMSA-500W  | 184.5 |
| YEW005813 | YMSA-508W  | 261.6 |
| YEW005046 | YMSA-500AW | 200.5 |

Standard specification for YMXA/YMSA torch series is Inner Tube less.

| Parts No           | Model                             | L mm |
|--------------------|-----------------------------------|------|
| YM1408275-A-S12    | YMSA-300R (With Wire Clamp)       | 314  |
| YM1408275-D-S12    | YMSA-308R (With Wire Clamp)       | 402  |
| YM1408275-HA-S12   | YMSA-300R (With Wire Clamp) (ACC) | 258  |
| YM1408275-HD-S12   | YMSA-308R (With Wire Clamp) (ACC) | 339  |
| YM1408275-500R-S12 | YMSA-500R (With Wire Clamp)       | 328  |
| YM1408275-508R-S12 | YMSA-508R (With Wire Clamp)       | 416  |
| YM1408275-500W-S12 | YMSA-500W (With Wire Clamp)       | 324  |
| YM1408275-508W-S12 | YMSA-508W (With Wire Clamp)       | 402  |

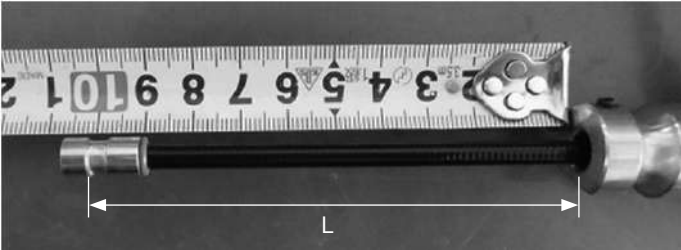
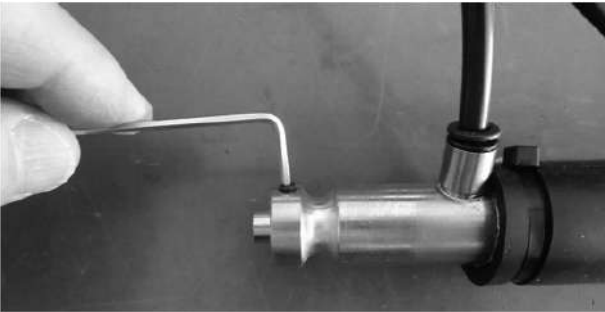
| Parts No | Model                      | L mm  |
|----------|----------------------------|-------|
| 016505   | ACC-308RR/ACC-308RX        | 270   |
| 016053   | TK-308RR/TK-308RX          | 335   |
| 016053   | TK-308RS                   | 269   |
| 016053   | TK-508RR/TK-508RX/TK-508RS | 335   |
| 016053   | TK-309R1                   | 230   |
| 3001004  | SRCT-308R                  | 410.5 |
| 3001047  | SRCT-307R                  | 331   |



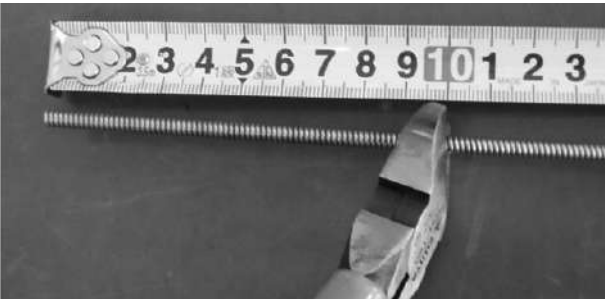
[6]Replace Liner

When wire feeding is not smooth, Liner may be clogged with wire shavings,rust or dart. So, replace Liner by following procedure.

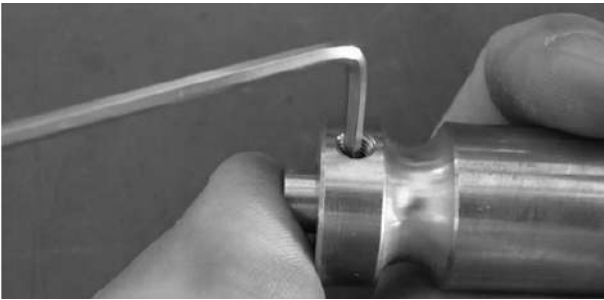
- ① Remove Power cable from Wire Feeder.
- ② Unscrew the bolt. Pull out Liner.
- ③ Insert the new Liner fully into Power cable.
- ④ Measure the length "L" which protrudes from the end. Below sample shows "L" is 100mm.



- ⑤ Pull Liner out and cut off the same length "L" at the front Remove burr.



- ⑥ Insert the adjusted Liner into Power cable. Screw the bolt.O-ring at the end of the liner prevents gas leaks.

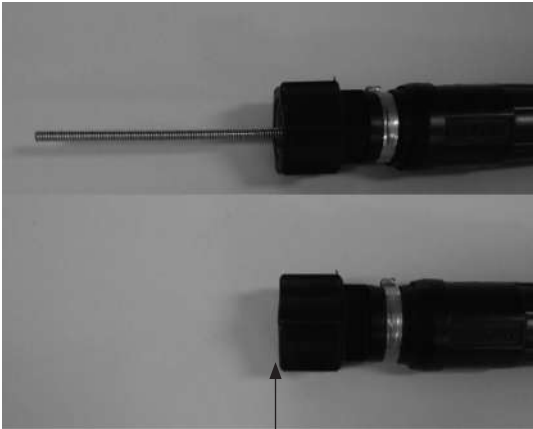
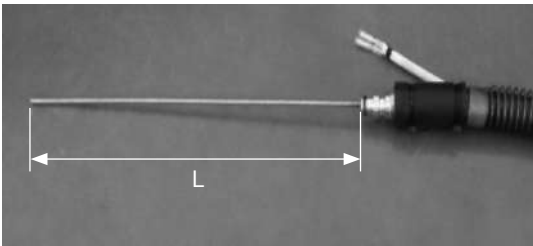


[7-1]Adjust Liner length of Power cable

Adjust Liner length "L" accordingly to the tables below.

| Model                           | L mm  | Model                           | L mm  |
|---------------------------------|-------|---------------------------------|-------|
| YMXA-300R                       | 205   | YMSA-300R                       | 294   |
| YMXA-300R (ACC)                 | 147.8 | YMSA-300R (ACC)                 | 237   |
| YMXA-308R                       | 292.5 | YMSA-308R                       | 382   |
| YMXA-308R (ACC)                 | 230.4 | YMSA-308R (ACC)                 | 319.5 |
| YMXA-500R                       | 218   | YMSA-500R                       | 308   |
| YMXA-508R                       | 306   | YMSA-508R                       | 396   |
| YMXA-250RA                      | 189.2 | YMSA-250RA                      | 278.2 |
| In the case of using Inner Tube | 35    | YMSA-500W                       | 304   |
|                                 |       | YMSA-508W                       | 382   |
|                                 |       | YMSA-500W (Water-Cooled Nozzle) | 304   |
|                                 |       | YMSA-508W (Water-Cooled Nozzle) | 382   |
|                                 |       | YMSA-500AW                      | 320   |
|                                 |       | In the case of using Inner Tube | 125   |

| Model                        | L mm |
|------------------------------|------|
| ACC-308RR/ACC-308RX          | 0    |
| TK-308RR/TK-308RX/TK-308RS   |      |
| TK-508RR/TK-508RX/TK-508RS   |      |
| TK-309R1/SRCT-308R/SRCT-307R |      |



Cutting the Liner

## [7-2]YMSA-500W/508W Procedure to Replace the Torch Body Tip Adapter

① YMSA-500 Torch Body



② Remove the nozzle.



③ Remove the orifice.



④ Remove the tip using a 12mm wrench.  
Be careful not to loosen the tip adapter.



⑤ Remove the tip adapter using a 12mm wrench.



⑥ After removing the tip adapter, clean off any spatter adhered to the threads.



- ⑦ Tighten the tip adapter to (8N.m) using a torque wrench. Be care not to over tighten. (Over tightening will damage the torch body.)



- ⑧ Tighten the tip to (3N.m). Over tightening will damage the tip and tip adapter. We recommend using a tool with a predesigned torque value. The below figure shows TokinArc tip replacement tool 046703 with torque grip TG3, made by TONE.



- ⑨ Attach the orifice. Remove any spatter adhered to the threads before tightening.

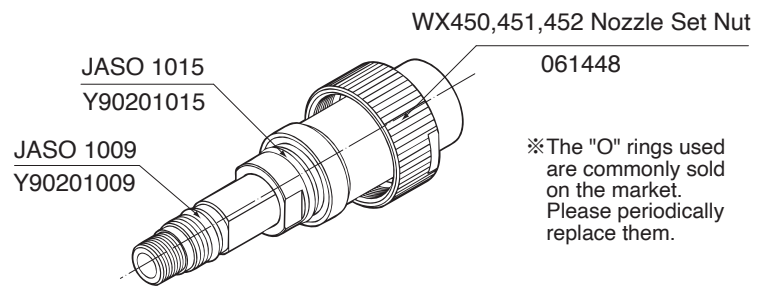


- ⑩ Attach the nozzle. Remove any spatter adhered to the threads before tightening.

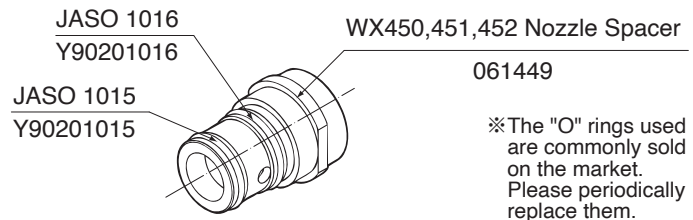


## [7-3]Assembling the YMSA-500W/508W End Parts

- 1** The torch body uses "O" rings in two places. Please set the JASO 1009 and JASO 1015 "O" rings into position on the torch body, and pass the nozzle set nut through. (If the "O" ring is coated with molybdenum (Mo), it will reduce the risk of damage when attaching and detaching.)



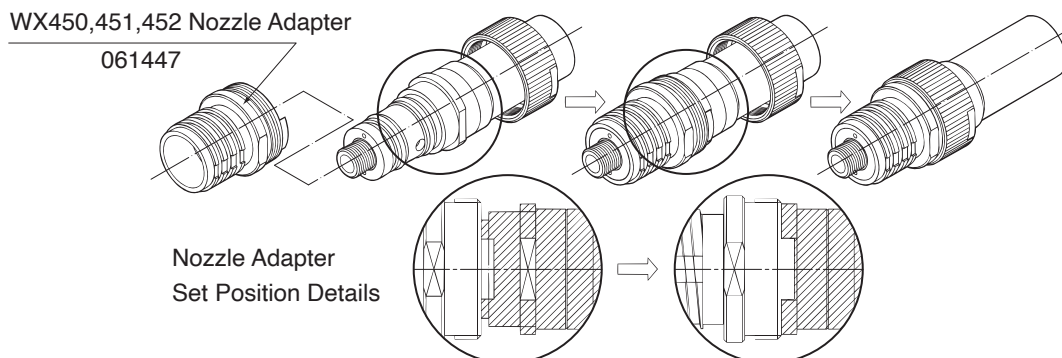
- 2** Please set the JASO 1015 and JASO 1016 "O" rings into position on the nozzle spacer. (If the "O" ring is coated with molybdenum (Mo), it will reduce the risk of damage when attaching and detaching.)



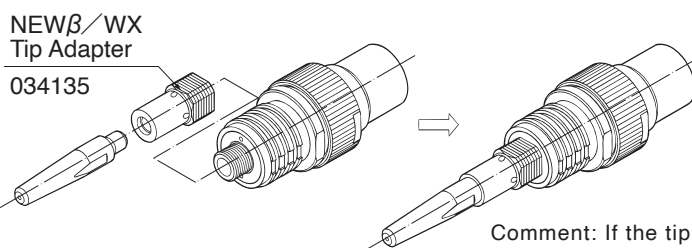
### For Air-Cooled Nozzle

- 4** As in the below illustration, please first insert the nozzle adapter firmly and completely into the milled face of the nozzle spacer. Then tighten the nozzle set nut.

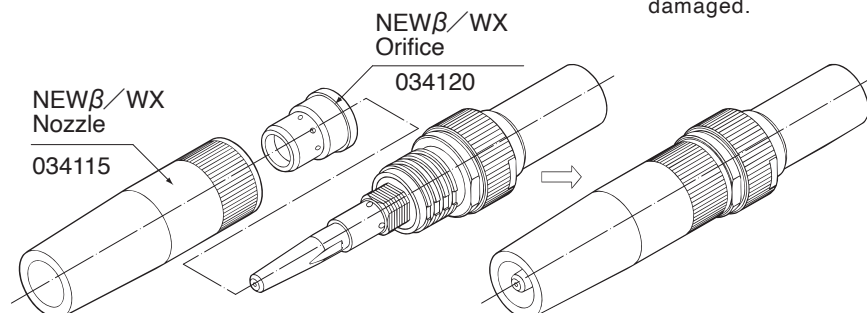
(When tightening the nozzle set nut into the nozzle adapter, use a regular or adjustable wrench on the respective milled faces on both sides. Also please be careful not to damage the nozzle adapter side when rotating the wrenches.)



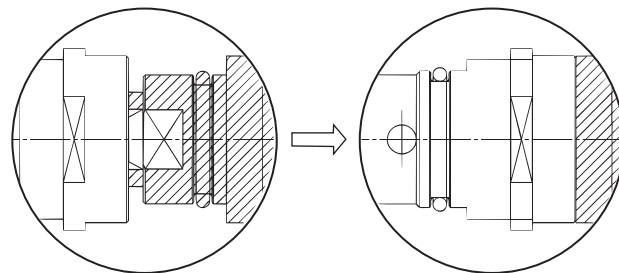
- 5** Set the end parts into the tip adapter and tighten the tip. (Please confirm the tip inner bore size is compatible with the wire diameter being used and tighten securely.)



- 6** Insert the orifice into the tip adapter and screw the nozzle in enough so that it doesn't loosen. (When firmly tightening the nozzle place a wrench on the milled face of the nozzle spacer and tighten.)

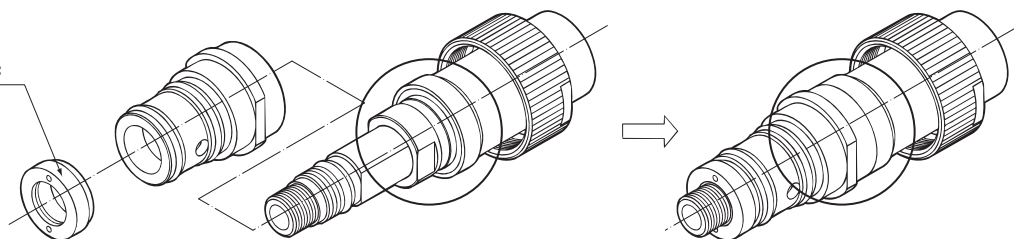


- 3** As in the below illustration, please first insert the nozzle spacer firmly and completely into the milled face of the torch body. Then tighten the WX center ceramic and nozzle spacer. (Please be careful not to damage the center ceramic while fasteing.)



Nozzle Spacer Set Position Details

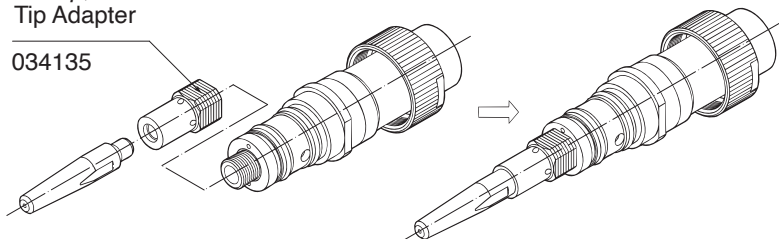
WX Center Ceramic  
061445



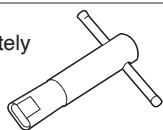
## For Water-Cooled Nozzle

- 4** Set the end parts into the tip adapter and tighten the tip. (Please confirm the tip inner bore size is compatible with the wire diameter being used and tighten securely.) □For replacing tips only a specialty tool is available.

NEWβ/WX  
Tip Adapter  
034135



Sold  
Separately



YJ9905200  
Tip Removal  
Specialty Tool

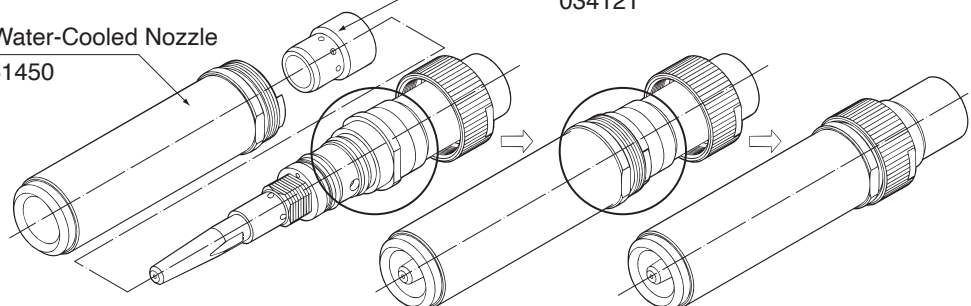
Comment: If the tip body is  
over tightened the  
center ceramic will  
be damaged.

- 5** Insert the WX water-cooled nozzle orifice into the tip adapter. For YMSA-500AW, Y902ALW10, YMST-9902ALW-10 please insert the water-cooled nozzle sleeve. As in the below illustration, please first insert the water-cooled nozzle firmly and completely into the milled face of the nozzle spacer. Then tighten the nozzle set nut.

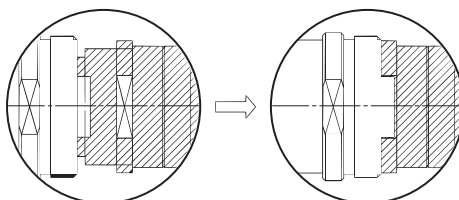
(When tightening the nozzle set nut into the water-cooled nozzle, use a regular or adjustable wrench on the respective milled faces on both sides. Also please be careful not to damage the water-cooled nozzle side when rotating the wrenches.)

WX450,451,452 Water-Cooled Nozzle  
061450

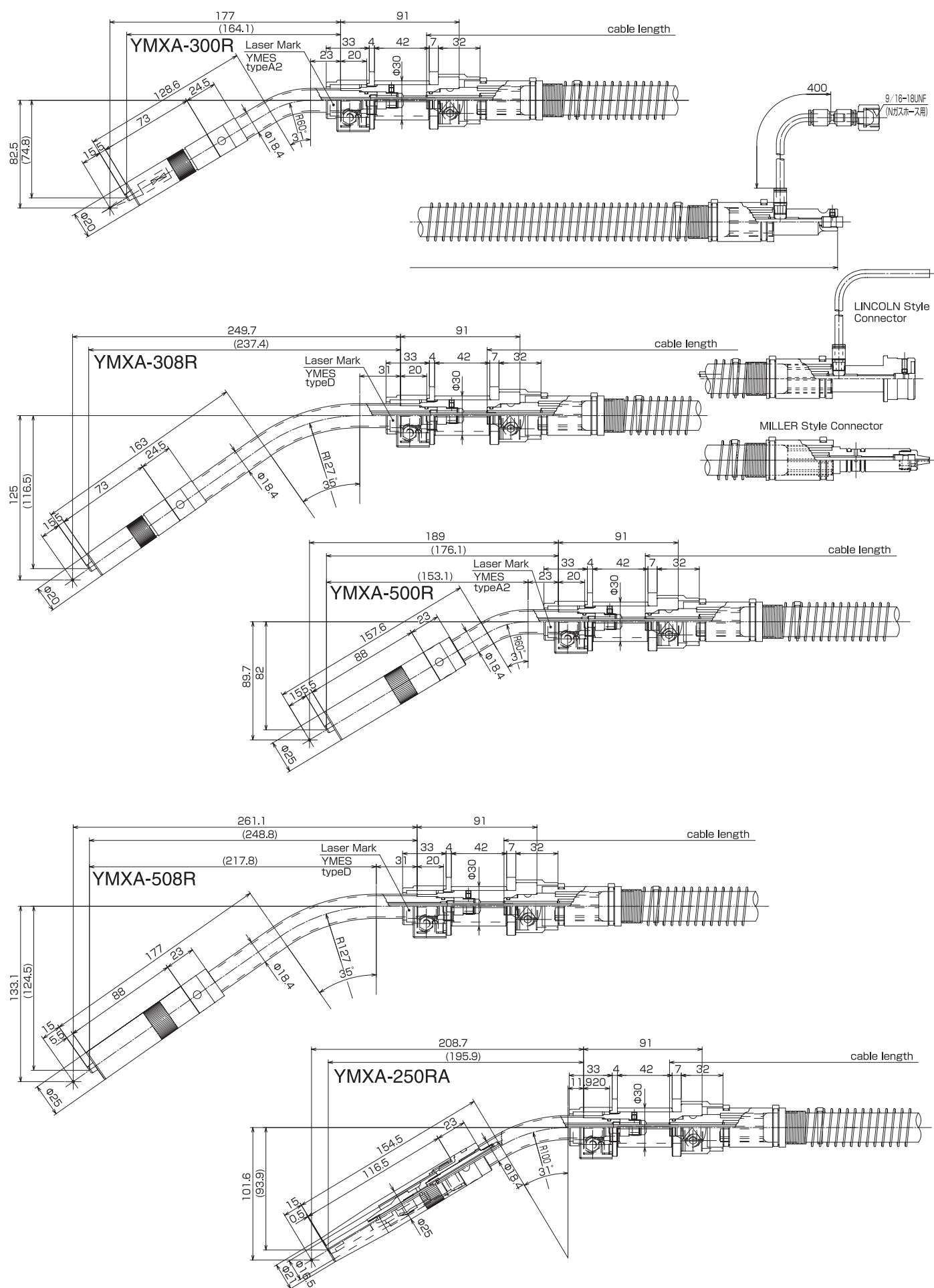
WX Water-Cooled Nozzle Orifice  
034121

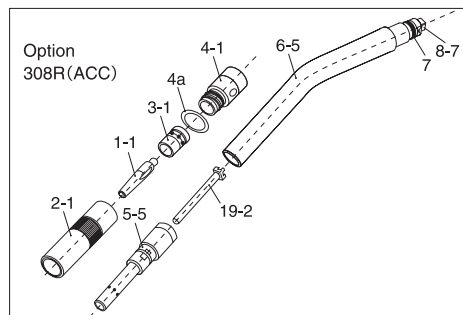
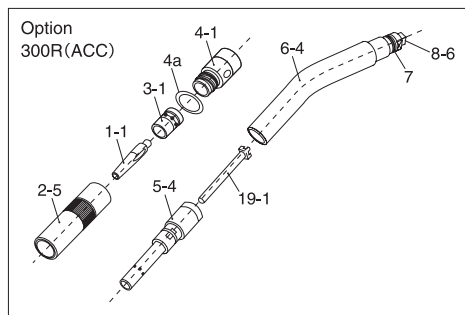
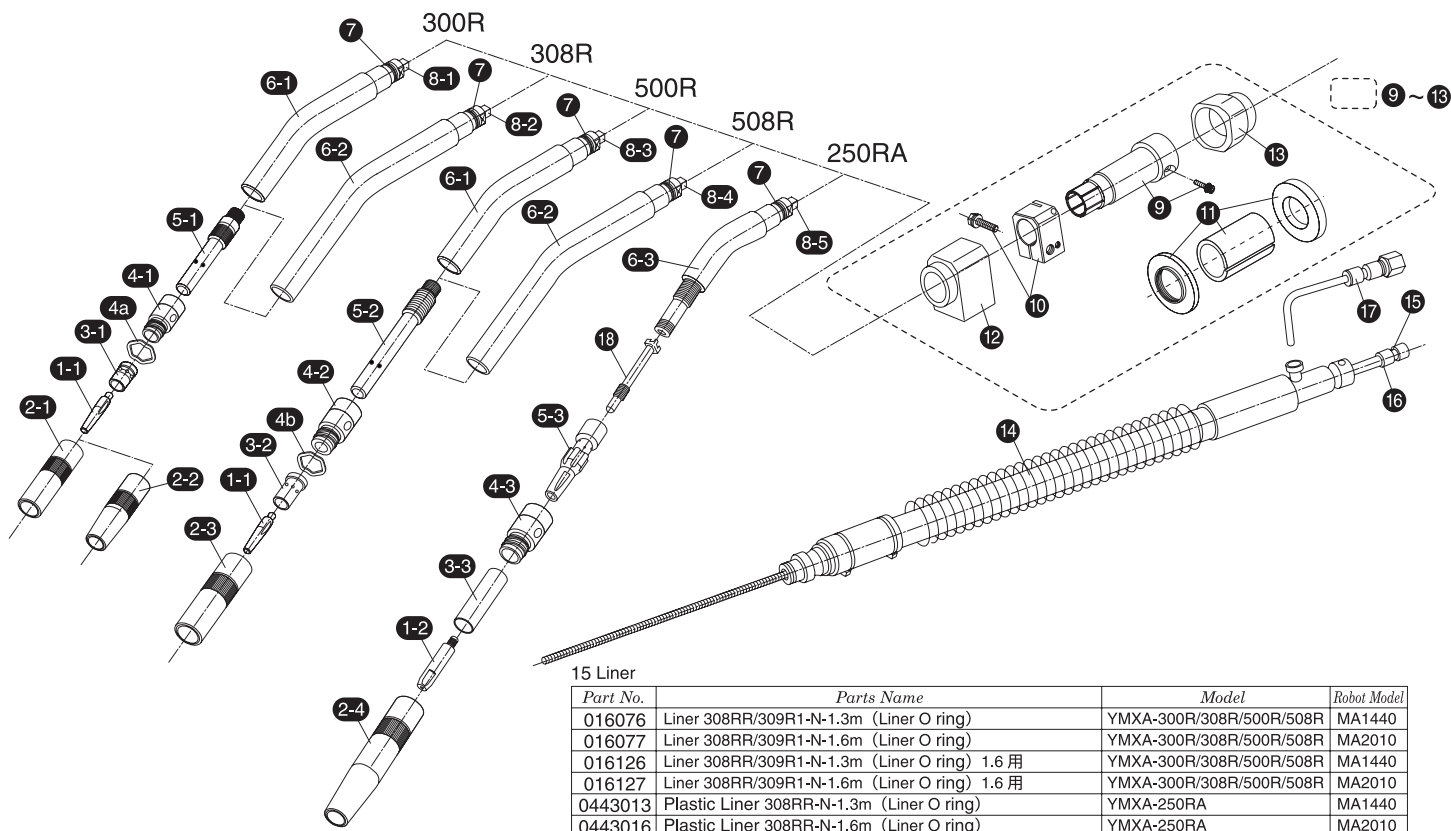


Water-Cooled Nozzle  
Set Position Details



## [8]Outline drawings & Parts drawings



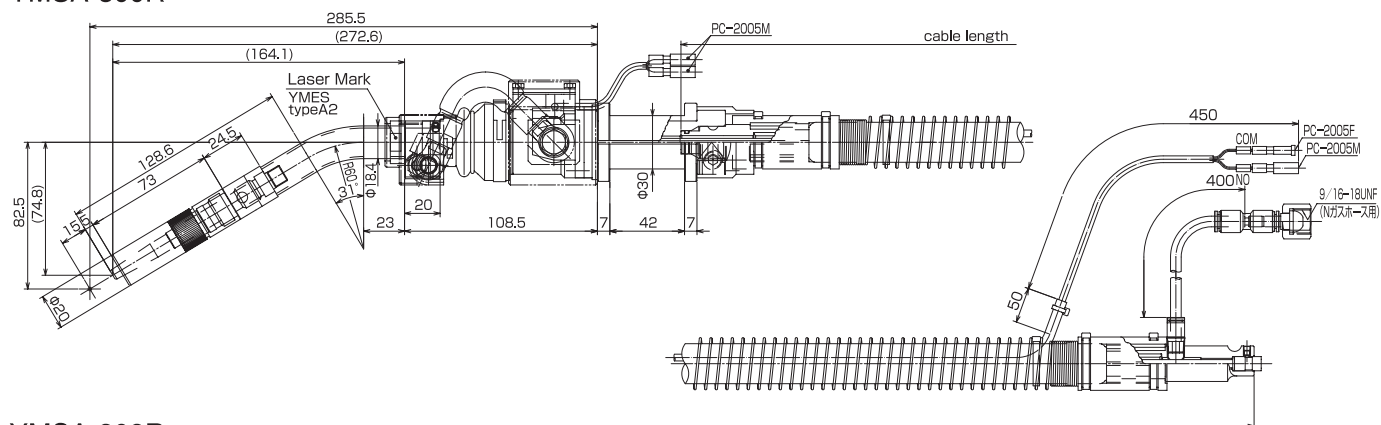


## YMXA-300R/308R/500R/508R/250RA Parts List

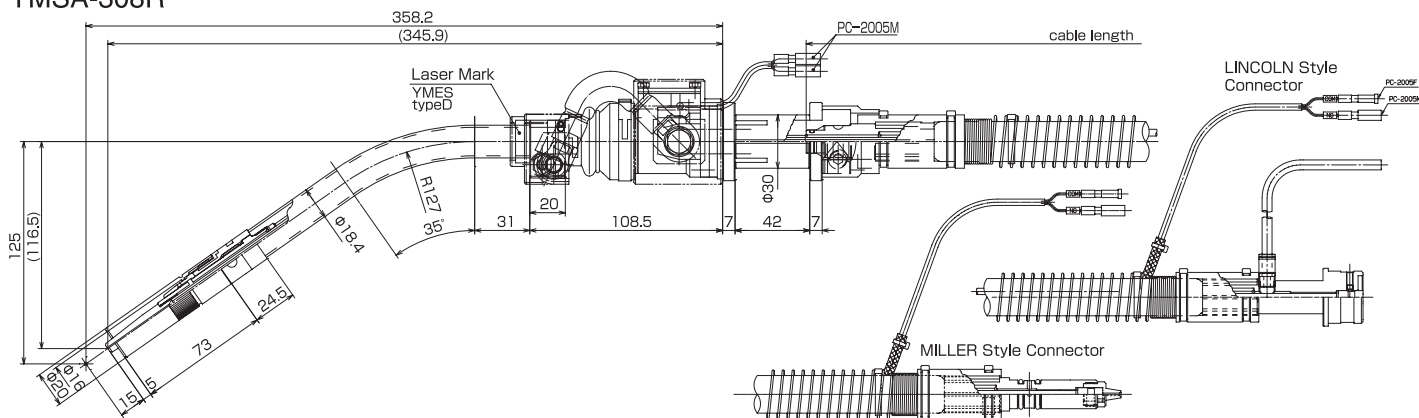
※1:Option Parts

| No.       | Part No.  | Parts Name                                      | No.              | Part No.     | Parts Name                                         |
|-----------|-----------|-------------------------------------------------|------------------|--------------|----------------------------------------------------|
| 1-1       | 002005    | N Tip 0.8mm                                     | 5-4,6-4,7        | YEA003018    | YMES-300R(ACC) Torch Body(With Tip body)           |
|           | 002001    | N Tip 0.9mm                                     | 5-5,6-5,7        | YEA003817    | YMES-308R(ACC) Torch Body(With Tip body)           |
|           | 002002    | N Tip 1.0mm                                     | 5-2,6-1,7        | YEA005011    | YMES-500R Torch Body(With Tip body)                |
|           | 002003    | N Tip 1.2mm                                     | 5-2,6-2,7        | YEA005811    | YMES-508R Torch Body(With Tip body)                |
|           | 002017    | N Tip 1.4mm                                     | 5-3,6-3,7        | YEA002519    | YMENS-250RA Torch Body(With Tip body)              |
|           | 002004    | N Tip 1.6mm                                     | 8-1              | YEA003013    | YMES-300R Inner Tube ※1                            |
| 1-2       | 002504    | N-MIG Tip 1.2mm                                 | 8-2              | YEA003812    | YMES-308R Inner Tube ※1                            |
| 2-1       | 001002    | N Nozzle 16mm 73L                               | 8-6              | YEA003017    | YMES-300R(ACC) Inner Tube ※1                       |
| 2-2       | 001003    | N Nozzle 12mm 73L                               | 8-7              | YEA003816    | YMES-308R(ACC) Inner Tube ※1                       |
| 2-3       | 001001    | N Nozzle 19mm 500A 88L                          | 8-3              | YEA005013    | YMES-500R Inner Tube ※1                            |
| 2-4       | YEA002511 | YMENS-250RA Nozzle                              | 8-4              | YEA005812    | YMES-508R Inner Tube ※1                            |
| 2-5       | 033203    | HR-350 Nozzle 16mm / N Nozzle 16mm 68L          | 8-5              | YEA002514    | YMENS-250RA Inner Tube                             |
| 3-1       | 003002    | N Orifice S                                     | 1-1 ~ 6-1,7      | YEA003010-IL | YMES-300R Torch Body Assy(Inner Tube Less)         |
| 3-2       | 003001    | N Orifice L                                     | 1-1 ~ 6-2,7      | YEA003810-IL | YMES-308R Torch Body Assy(Inner Tube Less)         |
| 3-3       | Y902ALW10 | YMST-9902ALW-10 Nozzle Sleeve                   | 1-1 ~ 6-1,7      | YEA005010-IL | YMES-500R Torch Body Assy(Inner Tube Less)         |
| 4-1       | 004002    | N Insulator S                                   | 1-1 ~ 6-2,7      | YEA005810-IL | YMES-508R Torch Body Assy(Inner Tube Less)         |
| 4-2       | 004001    | N Insulator L                                   | 1-1 ~ 6-4,7      | YEA003015-IL | YMES-300R Torch Body Assy(ACC-352,Inner Tube Less) |
| 4-3       | 004502    | Insulator N-L (YMES-250RA)                      | 1-1 ~ 6-5,7      | YEA003813-IL | YMES-308R Torch Body Assy(ACC-308,Inner Tube Less) |
| 4a        | 255406    | Wave Washer S                                   | 1-2 ~ 6-3,8-5,18 | YEA002510    | YMENS-250RA Torch Body Assy                        |
| 4b        | 255407    | Wave Washer L                                   |                  | YM1506270    | YMX Clamp Block Assy                               |
| 4-1+4a    | 004004    | N Insulator S (With Wave Washer)                | 11               | YM1305283    | YMX Insulation Spacer                              |
| 4-2+4b    | 004008    | N Insulator L (With Wave Washer)                | 12               | YM1304160    | YMX Insulation Cover                               |
| 5-1       | 016051    | TK-308RR Tip Body                               | 13               | YM1305286    | YMX Casing Cover                                   |
| 5-2       | 016403    | TK-508RR Tip Body                               | 9 ~ 13           | YM1305281    | YMX Clamp Body Assy                                |
| 5-3       | Y102ALW04 | YMENS-250RA Tip Body                            | 14 ~ 17          | YMC000A02    | YMXA Cable Assy MA1440                             |
| 5-4       | 016603    | ACC-352 Tip Body                                |                  | YMC000C02    | YMXA Cable Assy MA2010                             |
| 5-5       | 016503    | ACC-308RR Tip Body                              |                  | YMC000A04    | YMXA Cable Assy MA1440(AL)                         |
|           |           |                                                 |                  | YMC000C04    | YMXA Cable Assy MA2010(AL)                         |
| 6-1, 7    | YEA003012 | YMES-300R/500R Torch Body(Without Tip body)     | 15               |              | Liner                                              |
| 6-2, 7    | 3001043   | YMES-308R/508R Torch Body(Without Tip body)     |                  |              |                                                    |
| 6-3,7     | YEA002513 | YMENS-250RA Torch Body(Without Tip body)        | 16               | 036035       | Liner O ring(S-4)                                  |
| 6-4,7     | YEA003016 | YMES-300R Torch Body(ACC-352)(without Tip body) | 17               | YB0312082    | YMENS Gas Hose N                                   |
| 6-5,7     | 3002032   | ACC-308RX Torch Body(without Tip body)          | 18               | YEA002512    | Assistance Guide                                   |
| 7         | Y0000FP10 | O Ring 4D P-10                                  | 19-1             | 133005       | A-450S SUS Guide Tube                              |
| 5-1,6-1,7 | YEA003011 | YMES-300R Torch Body(With Tip body)             | 19-2             | 016504       | ACC-308RR Guide Tube                               |
| 5-1,6-2,7 | 3001042   | YMES-308R Torch Body(With Tip body)             |                  |              |                                                    |

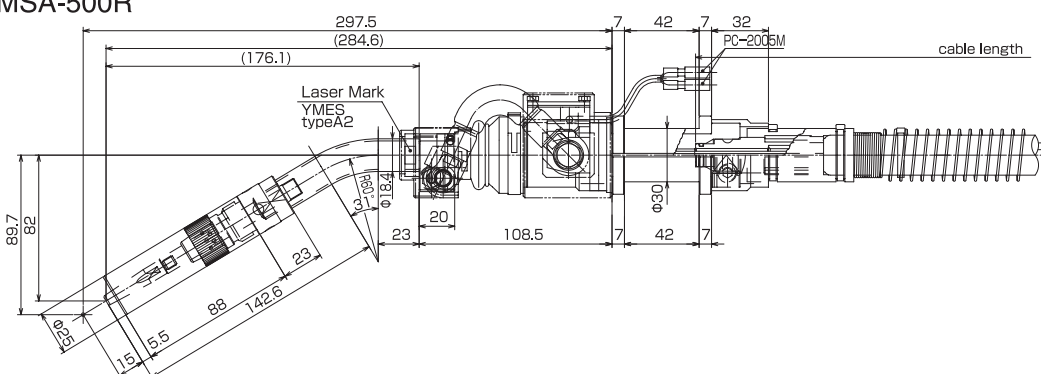
## YMSA-300R



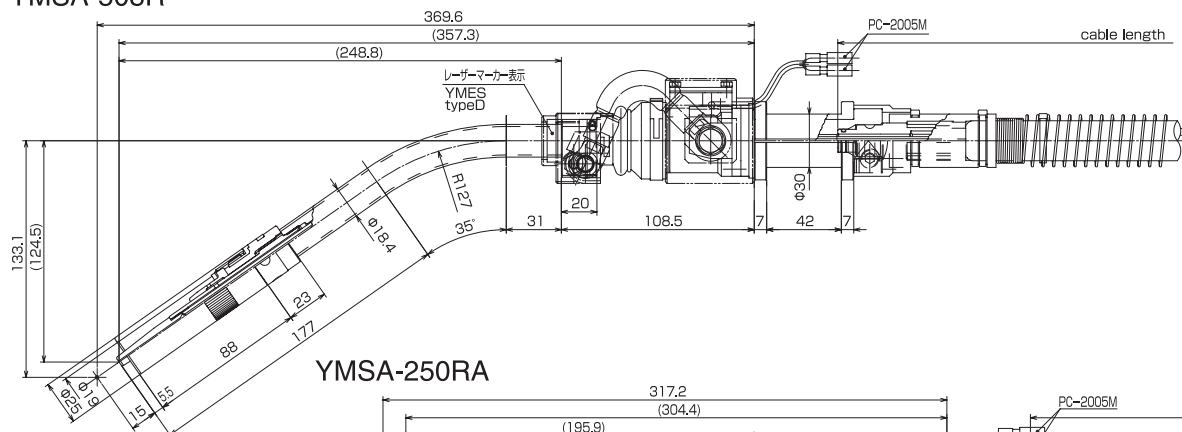
## YMSA-308R



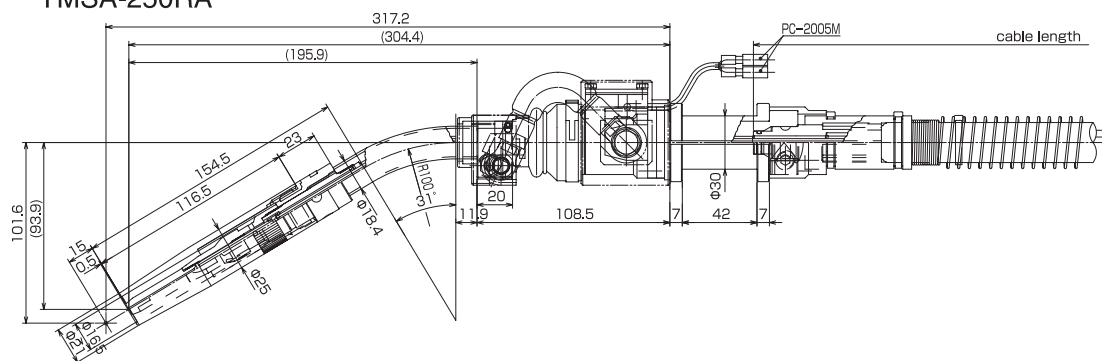
## YMSA-500R

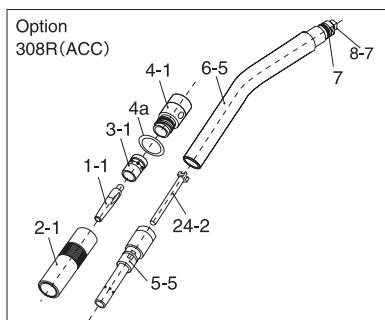
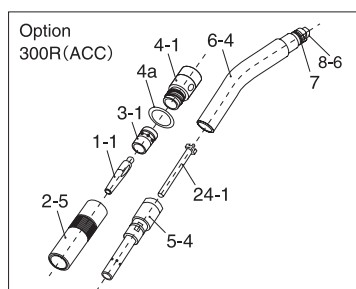
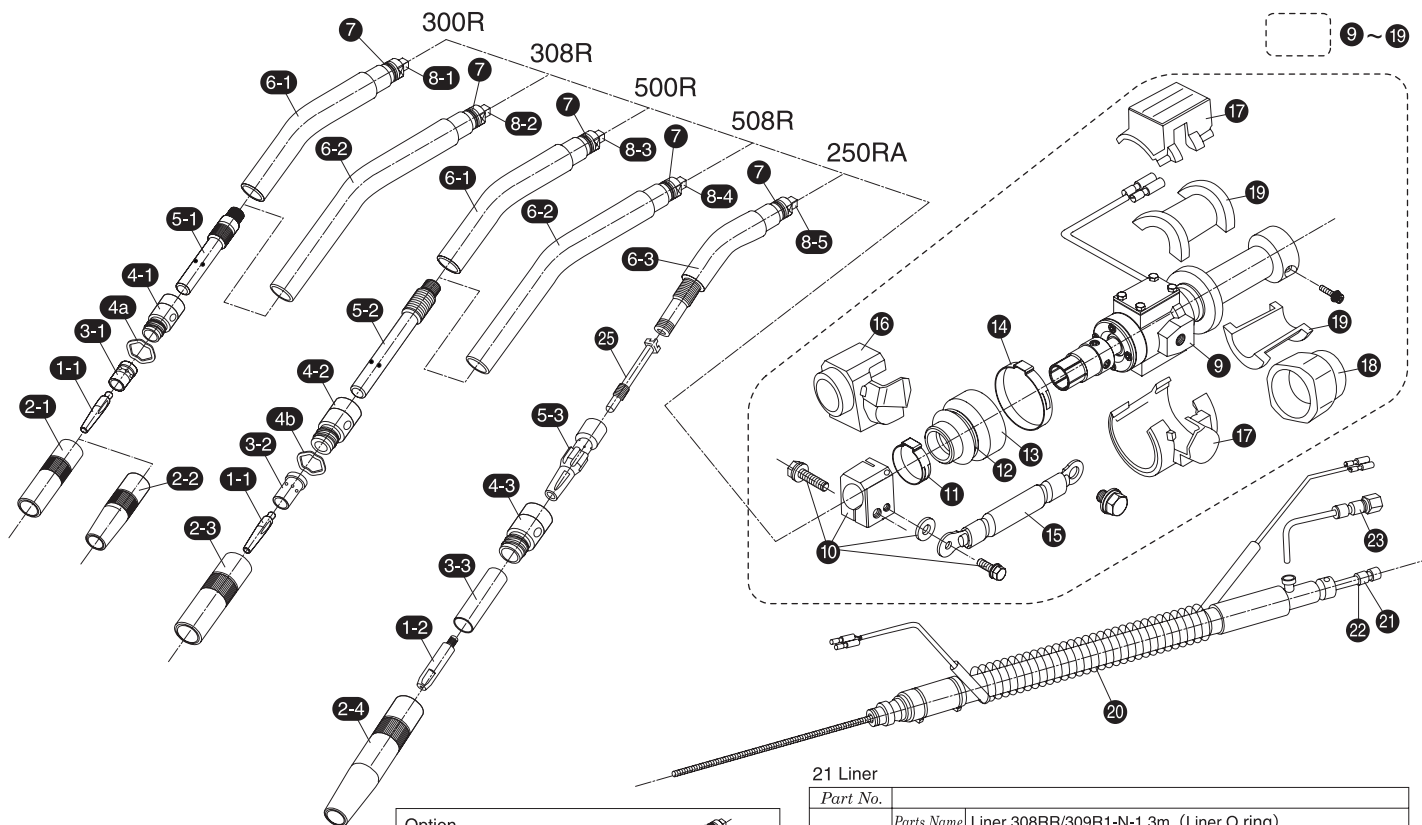


## YMSA-508R



## YMSA-250RA





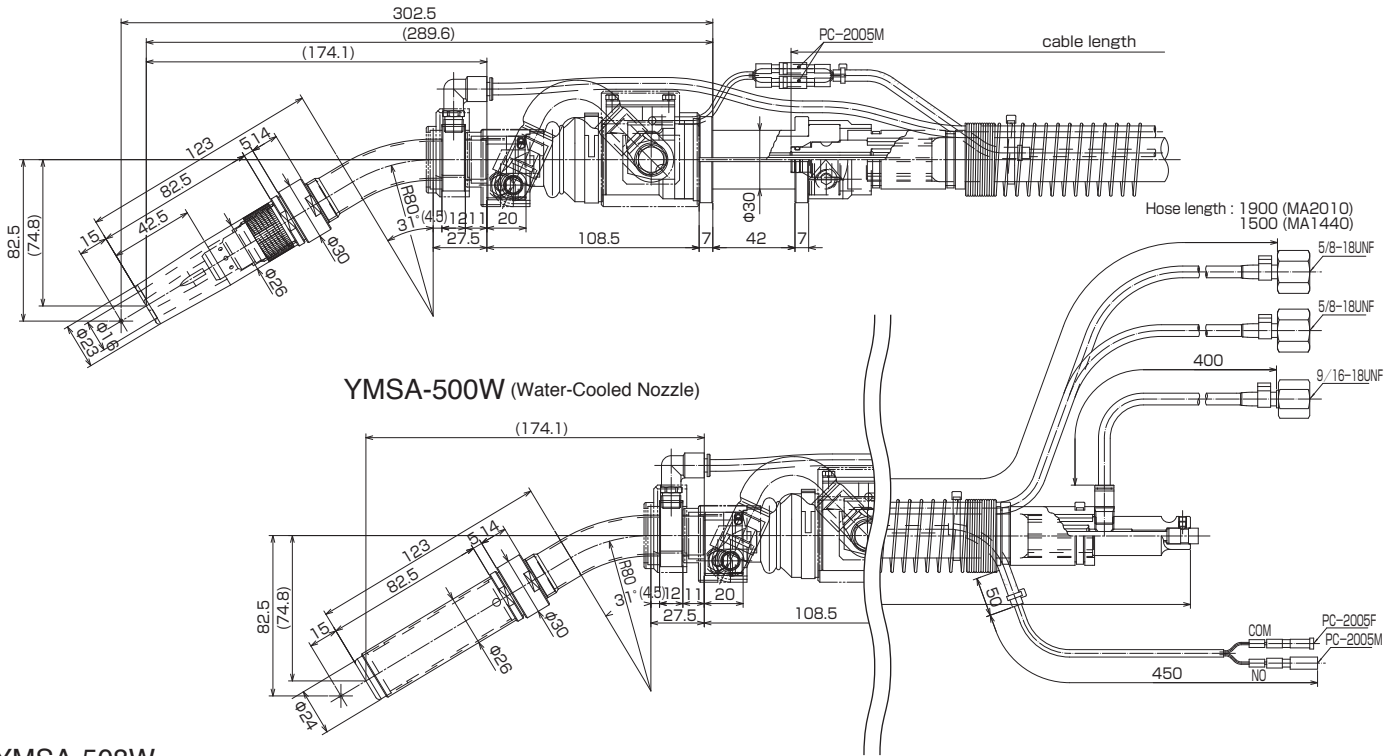
| 21 Liner |                                               |                          |             |
|----------|-----------------------------------------------|--------------------------|-------------|
| Part No. | Parts Name                                    | Model                    | Robot Model |
| 016076   | Liner 308RR/309R1-N-1.3m (Liner O ring)       | YMSA-300R/308R/500R/508R | MA1440      |
| 016077   | Liner 308RR/309R1-N-1.6m (Liner O ring)       | YMSA-300R/308R/500R/508R | MA2010      |
| 016126   | Liner 308RR/309R1-N-1.3m (Liner O ring) 1.6 用 | YMSA-300R/308R/500R/508R | MA1440      |
| 016127   | Liner 308RR/309R1-N-1.6m (Liner O ring) 1.6 用 | YMSA-300R/308R/500R/508R | MA2010      |
| 0443013  | Plastic Liner 308RR-N-1.3m (Liner O ring)     | YMSA-250RA               | MA1440      |
| 0443016  | Plastic Liner 308RR-N-1.6m (Liner O ring)     | YMSA-250RA               | MA2010      |

## YMSA-300R/308R/500R/508R/250RA Parts List

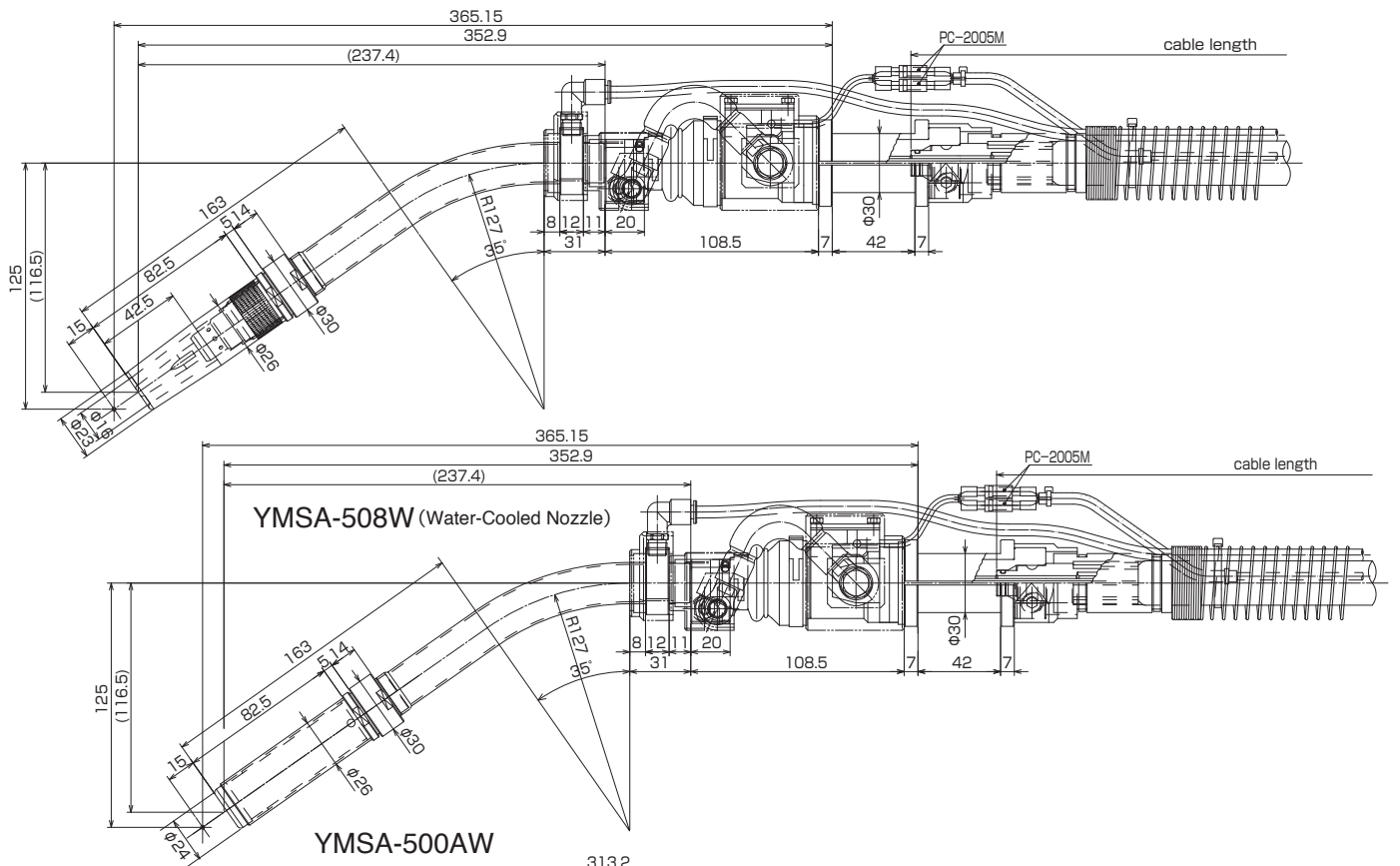
※1:Option Parts

| No.       | Part No.  | Parts Name                                      | No.              | Part No.     | Parts Name                                         |
|-----------|-----------|-------------------------------------------------|------------------|--------------|----------------------------------------------------|
| 1-1       | 002005    | N Tip 0.8mm                                     | 5-2,6-1,7        | YEA005011    | YMES-500R Torch Body(With Tip body)                |
|           | 002001    | N Tip 0.9mm                                     | 5-2,6-2,7        | YEA005811    | YMES-508R Torch Body(With Tip body)                |
|           | 002002    | N Tip 1.0mm                                     | 8-1              | YEA003013    | YMES-300R Inner Tube ※1                            |
|           | 002003    | N Tip 1.2mm                                     | 8-2              | YEA003812    | YMES-308R Inner Tube ※1                            |
|           | 002017    | N Tip 1.4mm                                     | 8-6              | YEA003017    | YMES-300R(ACC) Inner Tube ※1                       |
|           | 002004    | N Tip 1.6mm                                     | 8-7              | YEA003816    | YMES-308R(ACC) Inner Tube ※1                       |
| 1-2       | 002504    | N-MIG Tip 1.2mm                                 | 8-3              | YEA005013    | YMES-500R Inner Tube ※1                            |
| 2-1       | 001002    | N Nozzle 16mm 73L                               | 8-4              | YEA005812    | YMES-508R Inner Tube ※1                            |
| 2-2       | 001003    | N Nozzle 12mm 73L                               | 8-5              | YEA002514    | YMENS-250RA Inner Tube                             |
| 2-3       | 001001    | N Nozzle 19mm 500A 88L                          | 1-1 ~ 6-1,7      | YEA003010-IL | YMES-300R Torch Body Assy(Inner Tube Less)         |
| 2-4       | YEA002511 | YMENS-250RA Nozzle                              | 1-1 ~ 6-2,7      | YEA003810-IL | YMES-308R Torch Body Assy(Inner Tube Less)         |
| 2-5       | 033203    | HR-350 Nozzle 16mm / N Nozzle 16mm 68L          | 1-1 ~ 6-1,7      | YEA005010-IL | YMES-500R Torch Body Assy(Inner Tube Less)         |
| 3-1       | 003002    | N Orifice S                                     | 1-1 ~ 6-2,7      | YEA005810-IL | YMES-508R Torch Body Assy(Inner Tube Less)         |
| 3-2       | 003001    | N Orifice L                                     | 1-1 ~ 6-4,7      | YEA003015-IL | YMES-300R Torch Body Assy(ACC-352,Inner Tube Less) |
| 3-3       | Y902ALW10 | YMST-9902ALW-10 Nozzle Sleeve                   | 1-1 ~ 6-5,7      | YEA003813-IL | YMES-308R Torch Body Assy(ACC-308,Inner Tube Less) |
| 4-1       | 004002    | N Insulator S                                   | 1-2 ~ 6-3,8-5,25 | YEA002510    | YMENS-250RA Torch Body Assy                        |
| 4-2       | 004001    | N Insulator L                                   | 10               | YM1506270    | YMX Clamp Block Assy                               |
| 4-3       | 004502    | Insulator N-L (YMES-250RA)                      | 11               | 3001024      | Hose Clamp 286-7R                                  |
| 4a        | 255406    | Wave Washer S                                   | 12               | YM0980009    | YMST-9800-09 Ring                                  |
| 4b        | 255407    | Wave Washer L                                   | 13               | YM0980012    | YMST-9800-12 Rubber Boots                          |
| 4-1+4a    | 004004    | N Insulator S (With Wave Washer)                | 14               | 3001025      | Hose Clamp 455-7R                                  |
| 4-2+4b    | 004008    | N Insulator L (With Wave Washer)                | 15               | 3001023      | SRC Jumper Cable                                   |
| 5-1       | 016051    | TK-308RR Tip Body                               | 3001023-0001     |              | SRC Jumper Cable(60SQ)                             |
| 5-2       | 016403    | TK-508RR Tip Body                               | 16               | YM1304170    | SRC Clamp Block Cover                              |
| 5-3       | Y102ALW04 | YMENS-250RA Tip Body                            | 17               | YM1304171    | SRC Casing Cover                                   |
| 5-4       | 016603    | ACC-352 Tip Body                                | 18               | YM1305286    | YMX Casing Cover                                   |
| 5-5       | 016503    | ACC-308RR Tip Body                              | 19               | YM1405181    | YMSA Insulation Spacer                             |
| 6-1, 7    | YEA003012 | YMES-300R/500R Torch Body(Without Tip body)     | 9 ~ 19           | YM1308091    | YMS Unit Assy                                      |
| 6-2, 7    | 3001043   | YMES-308R/508R Torch Body(Without Tip body)     | 20 ~ 23          | YMC100A02    | YMSA Cable Assy MA1440                             |
| 6-3,7     | YEA002513 | YMENS-250RA Torch Body(Without Tip body)        |                  | YMC100C02    | YMSA Cable Assy MA2010                             |
| 6-4,7     | YEA003016 | YMES-300R Torch Body(ACC-352)(Without Tip body) |                  | YMC100A04    | YMSA Cable Assy MA1440(AL)                         |
| 6-5,7     | 3002032   | ACC-308RX Torch Body(Without Tip body)          |                  | YMC100C04    | YMSA Cable Assy MA2010(AL)                         |
| 7         | Y0000FP10 | O Ring 4D P-10                                  | 21               |              | Liner                                              |
| 5-1,6-1,7 | YEA003011 | YMES-300R Torch Body(With Tip body)             | 22               | 036035       | Liner O ring(S-4)                                  |
| 5-1,6-2,7 | 3001042   | YMES-308R Torch Body(With Tip body)             | 23               | YB0312082    | YMENS Gas Hose N                                   |
| 5-4,6-4,7 | YEA003018 | YMES-300R(ACC) Torch Body(With Tip body)        | 24-1             | YEA002512    | Assistance Guide                                   |
| 5-5,6-5,7 | YEA003817 | YMES-308R(ACC) Torch Body(With Tip body)        | 24-2             | 133005       | A-450S SUS Guide Tube                              |
| 5-2,6-1,7 | YEA005011 | YMES-500R Torch Body(With Tip body)             | 25               | 016504       | ACC-308RR Guide Tube                               |

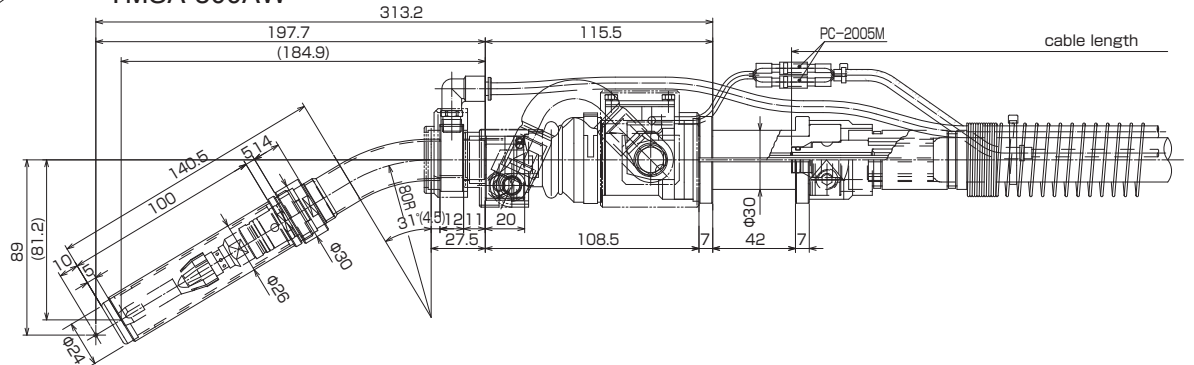
## YMSA-500W

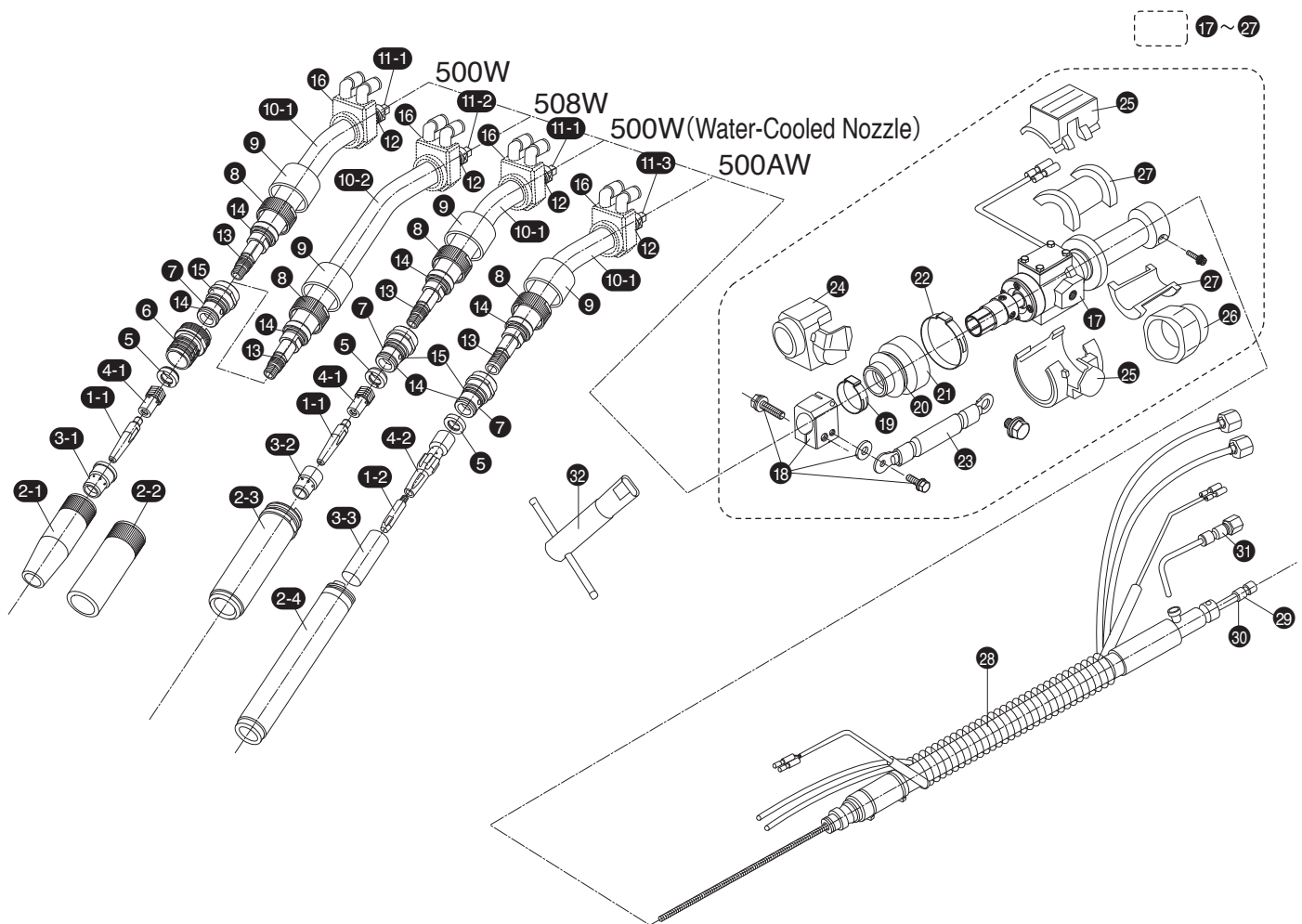


## YMSA-508W



## YMSA-500AW





29 Liner

| Part No. | Parts Name                                    | Model                              | Robot Model |
|----------|-----------------------------------------------|------------------------------------|-------------|
| 016076   | Liner 308RR/309R1-N-1.3m (Liner O ring)       | YMSA-500W/508W/500W (Water Nozzle) | MA1440      |
| 016077   | Liner 308RR/309R1-N-1.6m (Liner O ring)       | YMSA-500W/508W/500W (Water Nozzle) | MA2010      |
| 016126   | Liner 308RR/309R1-N-1.3m (Liner O ring) 1.6 用 | YMSA-500W/508W/500W (Water Nozzle) | MA1440      |
| 016127   | Liner 308RR/309R1-N-1.6m (Liner O ring) 1.6 用 | YMSA-500W/508W/500W (Water Nozzle) | MA2010      |
| 0443013  | Plastic Liner 308RR-N-1.3m (Liner O ring)     | YMSA-500AW                         | MA1440      |
| 0443016  | Plastic Liner 308RR-N-1.6m (Liner O ring)     | YMSA-500AW                         | MA2010      |

## YMSA-500W/508W/500W(Water-Cooled Nozzle)/508W(Water-Cooled Nozzle)/508AW Parts List

| No.             | Part No.  | Parts Name                                         | No.     | Part No.     | Parts Name                            |
|-----------------|-----------|----------------------------------------------------|---------|--------------|---------------------------------------|
| 1-1             | 002003    | N Tip 1.2mm                                        | 15      | Y90201016    | O ring 1016                           |
|                 | 002017    | N Tip 1.4mm                                        | 16      | YM1403087    | YMSA-500W Main Block Insuration Cover |
|                 | 002004    | N Tip 1.6mm                                        | 18      | YEA000018    | YSRC Clamp Block Assy                 |
| 1-2             | 023406    | D-MIG Tip 1.2mm                                    | 19      | 3001024      | Hose Clamp 286-7R                     |
|                 | 023409    | D-MIG Tip 1.6mm                                    | 20      | YM0980009    | YMST-9800-09 Ring                     |
| 2-1             | 034115    | NEW $\beta$ /WX Nozzle 16mm                        | 21      | YM0980012    | YMST-9800-12 Rubber Boots             |
| 2-2             | 034116    | NEW $\beta$ /WX Nozzle 19mm                        | 22      | 3001025      | Hose Clamp 455-7R                     |
| 2-3             | 061450    | WX451/452 Water-Cooled Nozzle                      | 23      | 3001023-0001 | SRC Jumper Cable (60SQ)               |
| 2-4             | KW0205061 | KWST-500AW Water-Cooled Nozzle                     | 24      | YM1304170    | SRC Clamp Block Cover                 |
| 3-1             | 034120    | NEW $\beta$ /WX Orifice                            | 25      | YM1304171    | SRC Casing Cover                      |
| 3-2             | 034121    | WX Water-Cooled Nozzle Orifice                     | 26      | YM1305286    | YMX Casing Cover                      |
| 3-3             | Y902ALW10 | YMST-9902ALW-10 Nozzle Sleeve                      | 27      | YM1405181    | YMSA Insulation Spacer                |
| 4-1             | 034135    | NEW $\beta$ /WX Tip Adapter                        | 17 ~ 27 | YM1504060    | YMS Unit Assy(500A)                   |
| 4-2             | CT9908192 | KWST-500AW Tip Body                                | 28 ~ 31 | YMC110A12    | YMSA-500W Cable Assy MA1440           |
| 5               | 061445    | WX Senter Ceramic                                  |         | YMC110C12    | YMSA-500W Cable Assy MA2010           |
| 6               | 061447    | WX451/452 Nozzle Adapter                           |         | YMC110A22    | YMSA-508W Cable Assy MA1440           |
| 7               | 061449    | WX451/452 Nozzle Spacer(With O ring1015,1016)      |         | YMC110C22    | YMSA-508W Cable Assy MA2010           |
| 8               | 061448    | WX451/452 Nozzle Nut                               |         | YMC110A04    | YMSA-500AW Cable Assy MA1440          |
| 9               | 061440    | WX451/452 Cover Rubber                             |         | YMC110C04    | YMSA-500AW Cable Assy MA2010          |
| 10-1            | YM1403082 | YMSA-500W Torch Body(With O ring 1009,1015,4D-P10) | 29      |              | Liner                                 |
| 10-2            | YM1411202 | YMSA-508W Torch Body(With O ring 1009,1015,4D-P10) | 30      | 036035       | Liner O ring(S-4)                     |
| 11-1            | YEW005013 | YMES-500W Inner Tube                               | 31      | YB0312082    | YMENS Gas Hose N                      |
| 11-2            | YEW005813 | YMES-508W Inner Tube                               | 32      | YJ9905200    | Tip removal tool                      |
| 11-3            | YEW005046 | YMES-500AW Inner Tube                              |         |              |                                       |
| 1~10-1,12~16    | YM1403081 | YMSA-500W Torch Body Assy                          |         |              |                                       |
| 1~10-2,12~16    | YM1411201 | YMSA-508W Torch Body Assy                          |         |              |                                       |
| 1~57~10-1,12~16 | YM1505312 | YMSA-500W(Water-Cooled Nozzle) Torch Body Assy     |         |              |                                       |
| 1~57~10-2,12~16 | YM1512102 | YMSA-500W(Water-Cooled Nozzle) Torch Body Assy     |         |              |                                       |
| 1~57~10-3,12~16 | YEW005045 | YMSA-500AW Torch Body Assy                         |         |              |                                       |
| 12              | Y0000FP10 | O ring 4D-P10                                      |         |              |                                       |
| 13              | Y90201009 | O ring 1009                                        |         |              |                                       |
| 14              | Y90201015 | O ring 1015                                        |         |              |                                       |

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Technical drawing of the PC-2005F cable assembly, showing dimensions and components. The drawing includes a side view of the cable with a laser mark and a detailed view of the connector assembly.

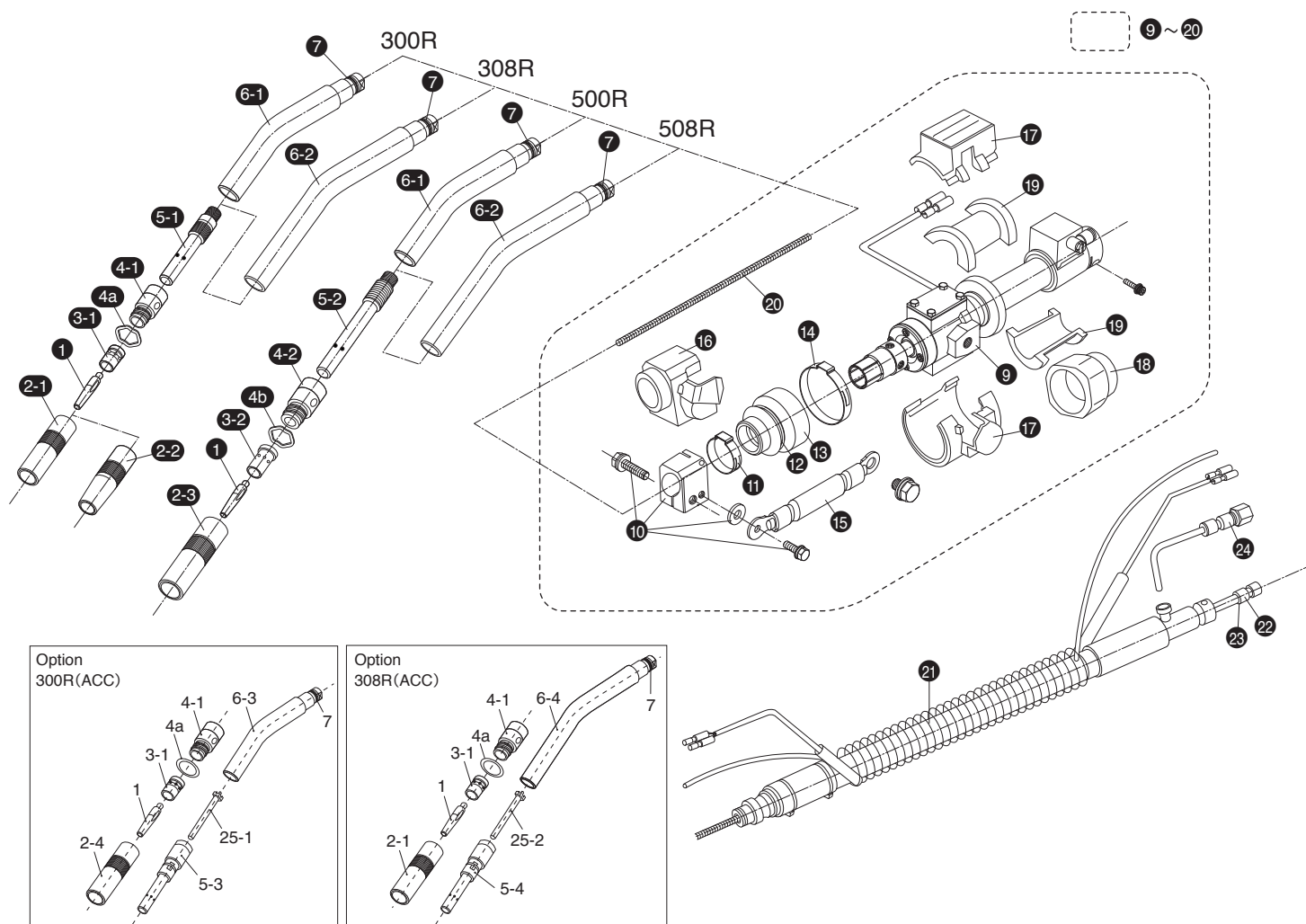
**Dimensions (mm):**

- Overall length: 358.2 (345.9)
- Length from laser mark to connector: 237.4
- Length from laser mark to connector (alternative): 125 (116.5)
- Length from laser mark to connector (alternative): 163
- Length from laser mark to connector (alternative): 24.5
- Length from laser mark to connector (alternative): 73
- Length from laser mark to connector (alternative): 15.5
- Length from laser mark to connector (alternative): 31
- Length from laser mark to connector (alternative): 20
- Length from laser mark to connector (alternative): 108.5
- Length from laser mark to connector (alternative): 7
- Length from laser mark to connector (alternative): 42
- Length from laser mark to connector (alternative): 55

**Components and Labels:**

- Laser Mark YMES typeD
- PC-2005M
- PC-2005F
- Φ30
- Φ18.4
- 35°
- 72.11
- 125 (116.5)
- 163
- 24.5
- 73
- 15.5
- 31
- 20
- 108.5
- 7
- 42
- 55
- cable length

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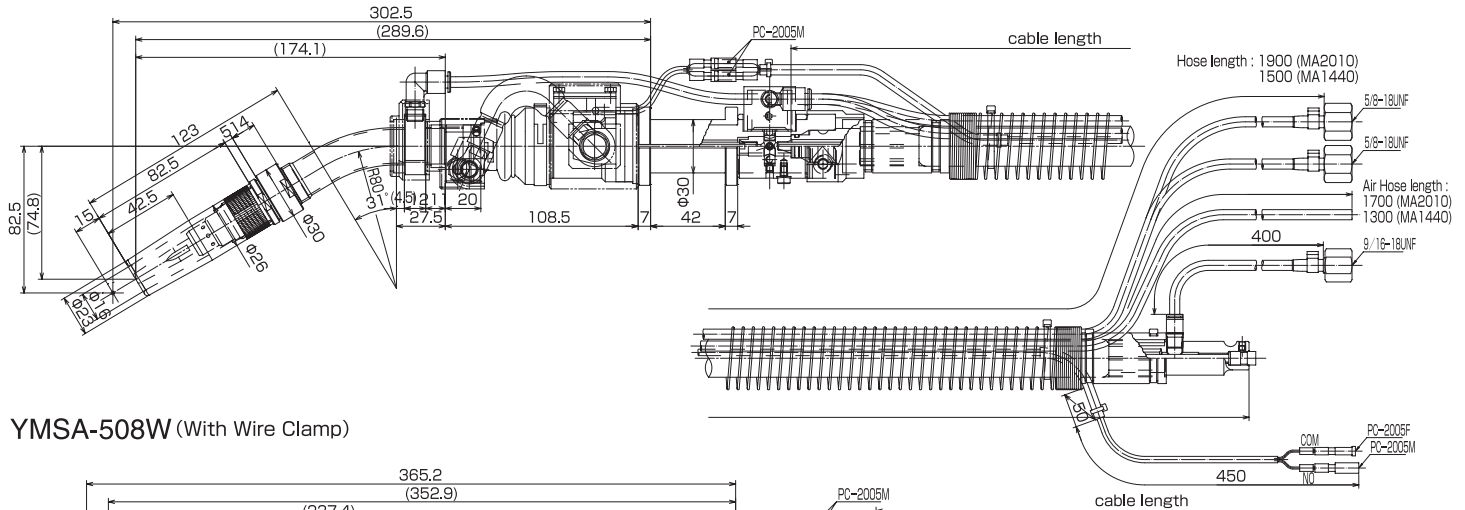
#### 22 Liner

| Part No. | Parts Name                                    | Model                                         | Robot Model      |
|----------|-----------------------------------------------|-----------------------------------------------|------------------|
| 016076   | Liner 308RR/309R1-N-1.3m (Liner O ring)       | YMSA-300R/308R/500R/508R<br>(With Wire Clamp) | MA1440<br>MA2010 |
| 016126   | Liner 308RR/309R1-N-1.3m (Liner O ring) 1.6 用 | YMSA-300R/308R/500R/508R<br>(With Wire Clamp) | MA1440<br>MA2010 |

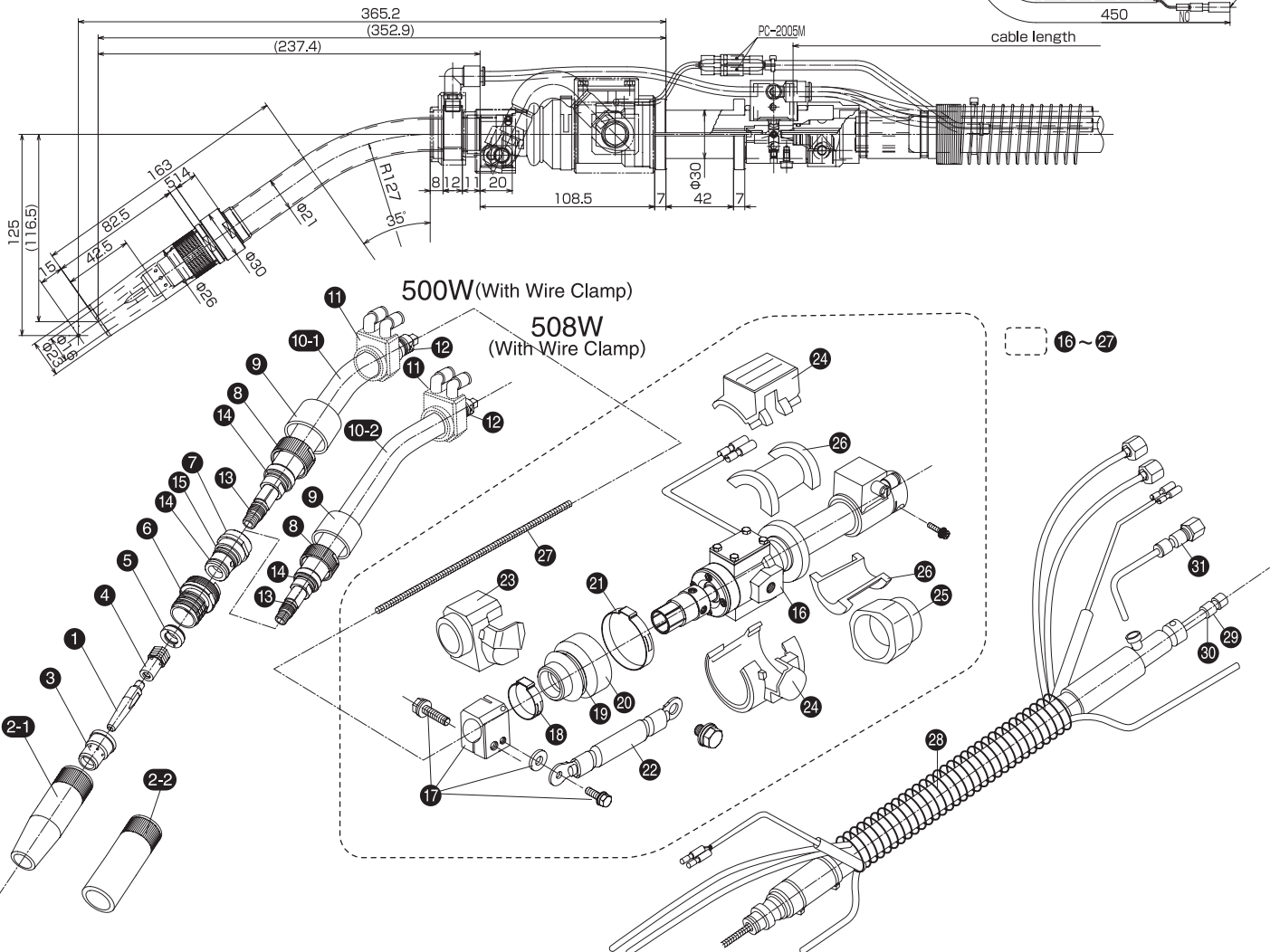
### YMSA-300R/308R/500R/508R (Wire Clamp) Parts List

| No.            | Part No.  | Parts Name                                      | No.       | Part No.           | Parts Name                                         |
|----------------|-----------|-------------------------------------------------|-----------|--------------------|----------------------------------------------------|
| 1              | 002005    | N Tip 0.8mm                                     | 1 ~ 6-1,7 | YEA003010-IL       | YMES-300R Torch Body Assy(Inner Tube Less)         |
|                | 002001    | N Tip 0.9mm                                     | 1 ~ 6-2,7 | YEA003810-IL       | YMES-308R Torch Body Assy(Inner Tube Less)         |
|                | 002002    | N Tip 1.0mm                                     | 1 ~ 6-1,7 | YEA005010-IL       | YMES-500R Torch Body Assy(Inner Tube Less)         |
|                | 002003    | N Tip 1.2mm                                     | 1 ~ 6-2,7 | YEA005810-IL       | YMES-508R Torch Body Assy(Inner Tube Less)         |
|                | 002017    | N Tip 1.4mm                                     | 1 ~ 6-3,7 | YEA003015-IL       | YMES-300R Torch Body Assy(ACC-352,Inner Tube Less) |
|                | 002004    | N Tip 1.6mm                                     | 1 ~ 6-4,7 | YEA003813-IL       | YMES-308R Torch Body Assy(ACC-308,Inner Tube Less) |
| 2-1            | 001002    | N Nozzle 16mm 73L                               | 10        | YEA000018          | YSRC Clamp Block Assy                              |
| 2-2            | 001003    | N Nozzle 12mm 73L                               | 11        | 3001024            | Hose Clamp 286-7R                                  |
| 2-3            | 001001    | N Nozzle 19mm 500A 88L                          | 12        | YM0980009          | YMST-9800-09 Ring                                  |
| 2-4            | 033203    | HR-350 Nozzle 16mm / N Nozzle 16mm 68L          | 13        | YM0980012          | YMST-9800-12 Rubber Boots                          |
| 3-1            | 003002    | N Orifice S                                     | 14        | 3001025            | Hose Clamp 455-7R                                  |
| 3-2            | 003001    | N Orifice L                                     | 15        | 3001023            | SRC Jumper Cable                                   |
| 4-1            | 004002    | N Insulator S                                   |           | 3001023-0001       | SRC Jumper Cable(60SQ)                             |
| 4-2            | 004001    | N Insulator L                                   | 16        | YM1304170          | SRC Clamp Block Cover                              |
| 4a             | 255406    | Wave Washer S                                   | 17        | YM1304171          | SRC Casing Cover                                   |
| 4b             | 255407    | Wave Washer L                                   | 18        | YM1305286          | YMX Casing Cover                                   |
| 4-1+4a         | 004004    | N Insulator S (With Wave Washer)                | 19        | YM1405181          | YMSA Insulation Spacer                             |
| 4-2+4b         | 004008    | N Insulator L (With Wabe Washer)                | 20        | YM1408257-A-S12    | YMSA-300R Inner Tube(Wire Clamp)1.0-1.2            |
| 5-1            | 016051    | TK-308RR Tip Body                               |           | YM1408257-D-S12    | YMSA-308R Inner Tube(Wire Clamp)1.0-1.2            |
| 5-2            | 016403    | TK-508RR Tip Body                               |           | YM1408257-HA-S12   | YMSA-300R Inner Tube ACC(Wire Clamp)1.0-1.2        |
| 5-3            | 016603    | ACC-352 Tip Body                                |           | YM1408257-HD-S12   | YMSA-308R Inner Tube ACC(Wire Clamp)1.0-1.2        |
| 5-4            | 016503    | ACC-308RR Tip Body                              |           | YM1408257-500R-S12 | YMSA-500R Inner Tube(Wire Clamp)1.0-1.2            |
| 6-1, 7         | YEA003012 | YMES-300R/500R Torch Body(Without Tip body)     |           | YM1408257-508R-S12 | YMSA-508R Inner Tube(Wire Clamp)1.0-1.2            |
| 6-2, 7         | 3001043   | YMES-308R/508R Torch Body(Without Tip body)     |           |                    |                                                    |
| 6-3, 7         | YEA003016 | YMES-300R Torch Body(ACC-352)(Without Tip body) | 9 ~ 20    | YM1408270-AWC      | YMSA Unit Assy(Wire Clamp) Air Cooled              |
| 6-4, 7         | 3002032   | ACC-308RX Torch Body(Without Tip body)          | 21 ~ 24   | YMC101A02          | YMSA Cable Assy MA1440(Wire Clamp)                 |
| 7              | Y0000FP10 | O Ring 4D P-10                                  |           | YMC101C02          | YMSA Cable Assy MA2010(Wire Clamp)                 |
| 5-1,6-1,7      | YEA003011 | YMES-300R Torch Body(With Tip body)             | 22        |                    | Liner                                              |
| 5-1,6-2,7      | 3001042   | YMES-308R Torch Body(With Tip body)             | 23        | 036035             | Liner O ring(S-4)                                  |
| 5-3,25-1,6-3,7 | YEA003018 | YMES-300R(ACC) Torch Body(With Tip body)        | 24        | YB0312082          | YMENS Gas Hose N                                   |
| 5-4,25-2,6-4,7 | YEA003817 | YMES-308R(ACC) Torch Body(With Tip body)        | 25-1      | 133005             | A-450S SUS Guide Tube                              |
| 5-2,6-1,7      | YEA005011 | YMES-500R Torch Body(With Tip body)             | 25-2      | 016504             | ACC-308RR SUS Guide Tube                           |
| 5-2,6-2,7      | YEA005811 | YMES-508R Torch Body(With Tip body)             |           |                    |                                                    |

## YMSA-500W (With Wire Clamp)



## YMSA-508W (With Wire Clamp)

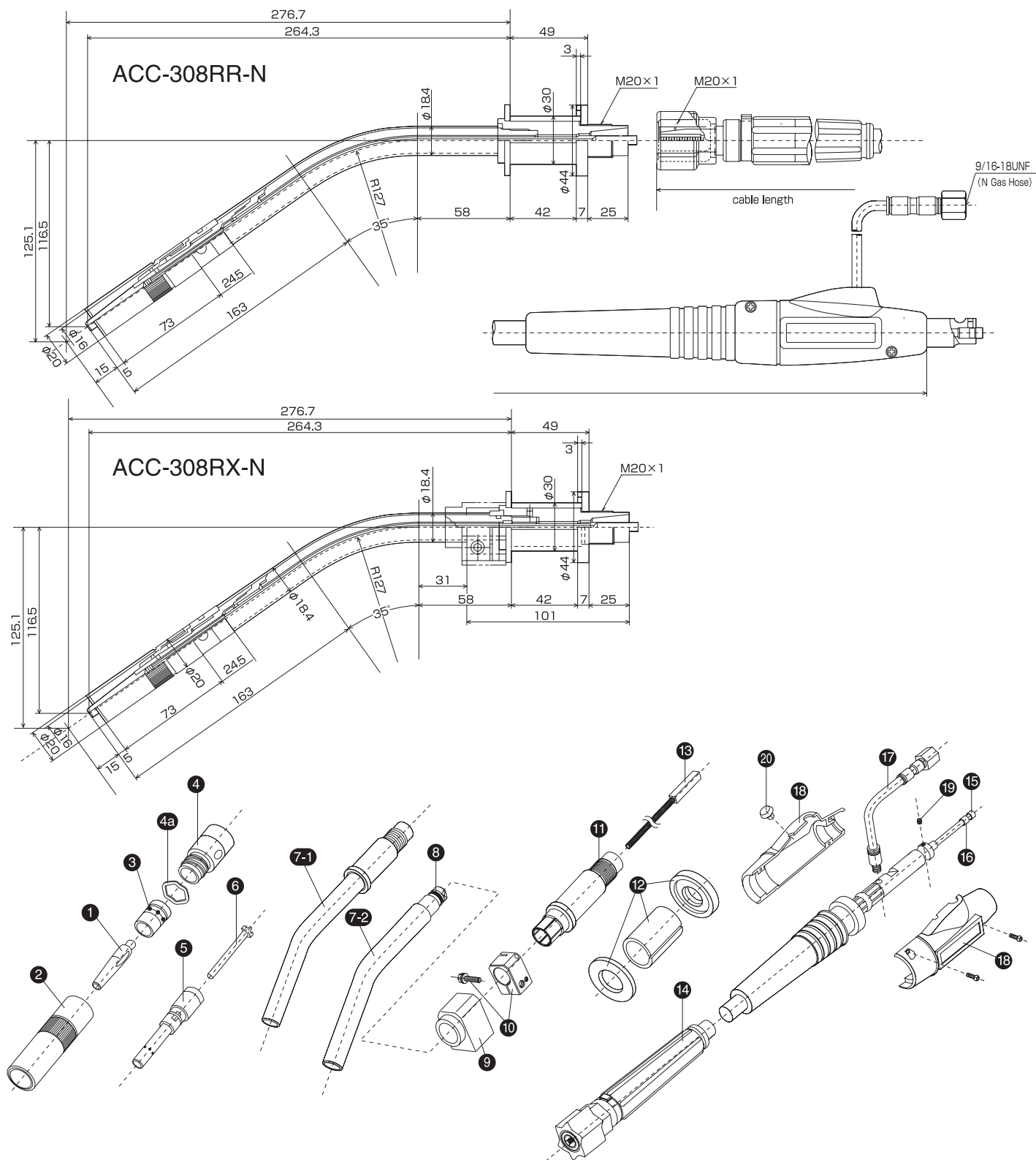


29 Liner

| Part No. | Parts Name                                   | Model                            | Robot Model   |
|----------|----------------------------------------------|----------------------------------|---------------|
| 016076   | Liner 308RR/309R1-N-1.3m(Liner O ring)       | YMSA-500W/508W (With Wire Clamp) | MA1440 MA2010 |
| 016126   | Liner 308RR/309R1-N-1.3m(Liner O ring) 1.6 用 | YMSA-500W/508W (With Wire Clamp) | MA1440 MA2010 |

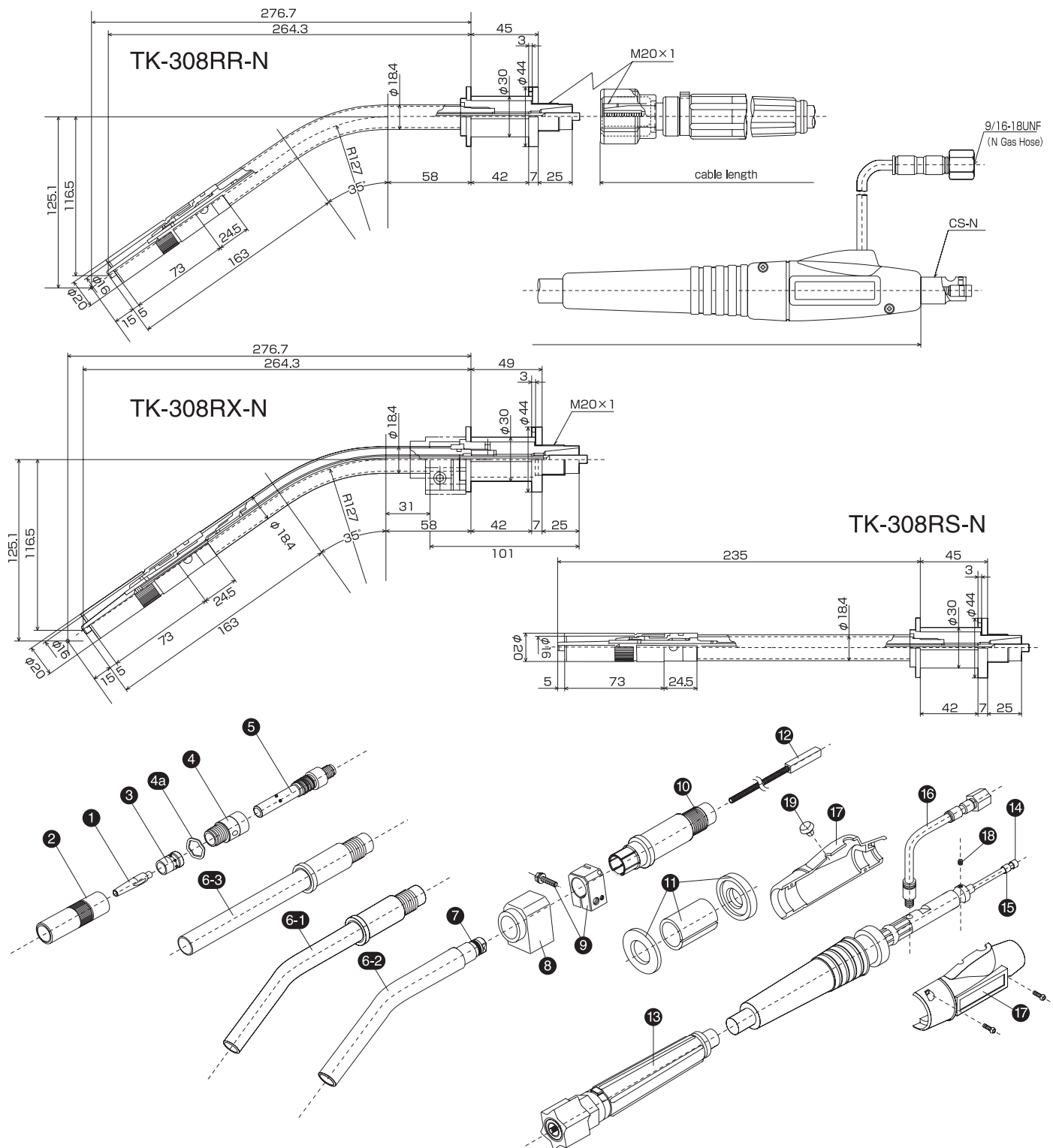
## YMSA-500W/508W(With Wire Clamp) Parts List

| No.  | Part No.  | Parts Name                                         | No.    | Part No.  | Parts Name                | No.     | Part No.           | Parts Name                                  |
|------|-----------|----------------------------------------------------|--------|-----------|---------------------------|---------|--------------------|---------------------------------------------|
| 1    | 002003    | N Tip 1.2mm                                        | 1 ~ 15 | YM1403081 | YMSA-500W Torch Body Assy | 26      | YM1405181          | YMSA Insulation Spacer                      |
|      | 002017    | N Tip 1.4mm                                        |        | YM1411201 | YMSA-508W Torch Body Assy | 27      | YM1408275-500W-S12 | YMSA-500W Inner Tube (Wire Clamp)1.2        |
|      | 002004    | N Tip 1.6mm                                        | 12     | Y0000FP10 | O ring 4D-P10             |         | YM1408275-508W-S12 | YMSA-508W Inner Tube (Wire Clamp)1.2        |
| 2-1  | 034115    | NEW β /WX Nozzle 16mm                              | 13     | Y90201009 | O ring 1009               | 16 ~ 27 | YM1408270-WWC      | YMSA Unit Assy (Wire Clamp) Water Cooled    |
| 2-2  | 034116    | NEW β /WX Nozzle 19mm                              | 14     | Y90201015 | O ring 1015               | 28 ~ 31 | YMC111A02          | YMSA-500W/508W Cable Assy(Wire Clamp)MA1440 |
| 3    | 034120    | NEW β /WX Orifice                                  | 15     | Y90201016 | O ring 1016               |         | YMC111C02          | YMSA-500W/508W Cable Assy(Wire Clamp)MA2010 |
| 4    | 034135    | NEW β /WX Tip Adapter                              | 17     | YEA000018 | YSRC Clamp Block Assy     | 29      |                    | Liner                                       |
| 5    | 061445    | WX Senter Ceramic                                  | 18     | 3001024   | Hose Clamp 286-7R         | 30      | 036035             | Liner O ring(S-4)                           |
| 6    | 061447    | WX451/452 Nozzle Adapter                           | 19     | YM0980009 | YMST-9800-09 Ring         | 31      | YB0312082          | YMENS Gas Hose N                            |
| 7    | 061449    | WX451/452 Nozzle Spacer(With O ring1015,1016)      | 20     | YM0980012 | YMST-9800-12 Rubber Boots |         |                    |                                             |
| 8    | 061448    | WX451/452 Nozzle Nut                               | 21     | 3001025   | Hose Clamp 455-7R         |         |                    |                                             |
| 9    | 061440    | WX451/452 Cover Rubber                             | 22     | 3001023   | SRC Jumper Cable (60SQ)   |         |                    |                                             |
| 10-1 | YM1403082 | YMSA-500W Torch Body(With O ring 1009,1015,4D-P10) | 23     | YM1304170 | SRC Clamp Block Cover     |         |                    |                                             |
| 10-2 | YM1411202 | YMSA-508W Torch Body(With O ring 1009,1015,4D-P10) | 24     | YM1304171 | SRC Casing Cover          |         |                    |                                             |
| 11   | YM1403087 | YMSA-500W Main Block Insulation Cover              | 25     | YM1305286 | YMX Casing Cover          |         |                    |                                             |



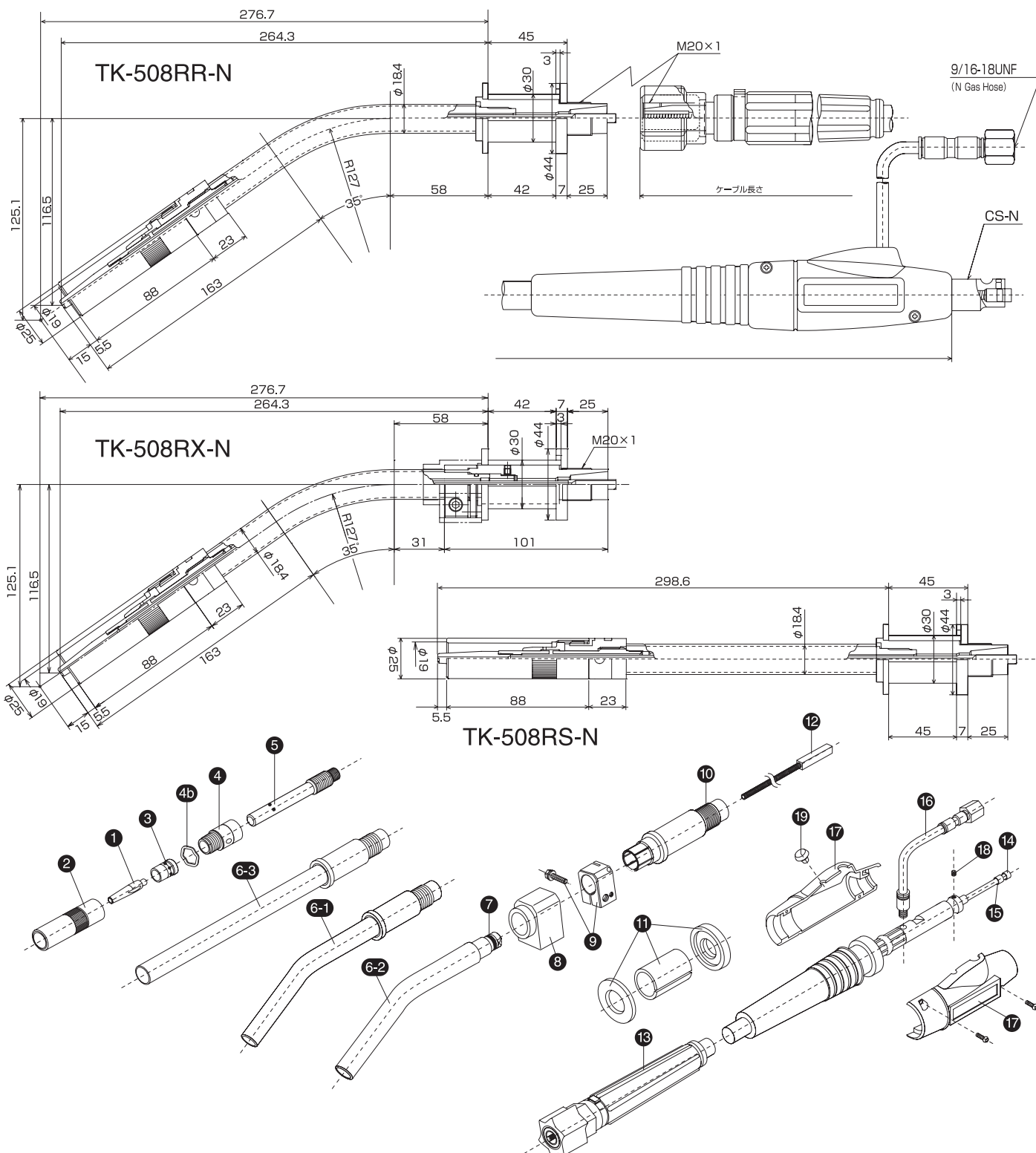
ACC-308RR-N/308RX-N Parts List

| No. | Part No.  | Parts Name        | No.     | Part No.  | Parts Name                       | No.         | Part No. | Parts Name                     |
|-----|-----------|-------------------|---------|-----------|----------------------------------|-------------|----------|--------------------------------|
|     | RA3RN0090 | ACC-308RR-N-0.9   | 3       | 003002    | N Orifice S                      | 1~7-1+12+13 | 016506   | ACC-308RR Torch Body Assy      |
|     | RA3RN0100 | ACC-308RR-N-1.0   | 4       | 004002    | N Insulator S                    | 1~7-2+8     | 3002031  | ACC-308RX Torch Body Assy      |
|     | RA3RN0110 | ACC-308RR-N-1.1   | 4a      | 255406    | Wave Washer S                    | 14 ~ 20     | 016N09   | 308RR/309R1-N Power Cable 0.9m |
|     | RA3RN0120 | ACC-308RR-N-1.2   | 4+4a    | 004004    | N Insulator S (With Wave Washer) |             | 016N10   | 308RR/309R1-N Power Cable 1.0m |
|     | RA3RN0130 | ACC-308RR-N-1.3   | 5       | 016503    | ACC-308RR Tip Body               |             | 016N11   | 308RR/309R1-N Power Cable 1.1m |
|     | RA3XN0090 | ACC-308RX-N-0.9   | 6       | 016504    | ACC-308RR SUS Guide Tube         |             | 016N12   | 308RR/309R1-N Power Cable 1.2m |
|     | RA3XN0100 | ACC-308RX-N-1.0   | 7-1     | 016501    | ACC-308RR Torch Body             |             | 016N13   | 308RR/309R1-N Power Cable 1.3m |
|     | RA3XN0110 | ACC-308RX-N-1.1   | 7-2+8   | 3002032   | ACC-308RX Torch Body             | 15          | 016076   | 308RR-N Liner 1.3m             |
|     | RA3XN0120 | ACC-308RX-N-1.2   | 5 ~ 7-1 | 016500    | ACC-308RR Torch Body(W/Tip Body) |             | 016122   | 308RR-N Liner 1.3m(0.9mm)      |
|     | RA3XN0130 | ACC-308RX-N-1.3   | 5~7-2+8 | 3002033   | ACC-308RX Torch Body(W/Tip Body) | 16          | 036035   | Liner O ring(S-4)              |
| 1   | 002005    | N Tip 0.8mm       | 8       | Y0000FP10 | O Ring 4D P-10                   | 17          | 033701   | N/D Gas Hose Assy              |
|     | 002001    | N Tip 0.9mm       | 9       | YM1304160 | YMX Insulation Cover             | 18,20       | 033108   | Robotic Torch Cable Supporter  |
|     | 002002    | N Tip 1.0mm       | 10      | YM1506270 | YMX Clamp Block Assy             | 19          | 031035   | Liner Set Screw M4*4           |
|     | 002003    | N Tip 1.2mm       | 11      | 3002012   | 308RX Clamp Body                 | 20          | 033742   | Plug Gushioning Rubber         |
| 2   | 001002    | N Nozzle 16mm 73L | 12      | 016052    | 308RR Insulation Spacer          | 9~12        | 3002011  | TK-308RX Clamp Body Assy       |
|     | 001003    | N Nozzle 12mm 73L | 13      | 016505    | ACC-308RR Inner Tube             | 1~7-2+8 ~13 | 3002030  | ACC-308RX Torch Assy           |



TK-308RR-N/308RX-N/308RS-N Parts List

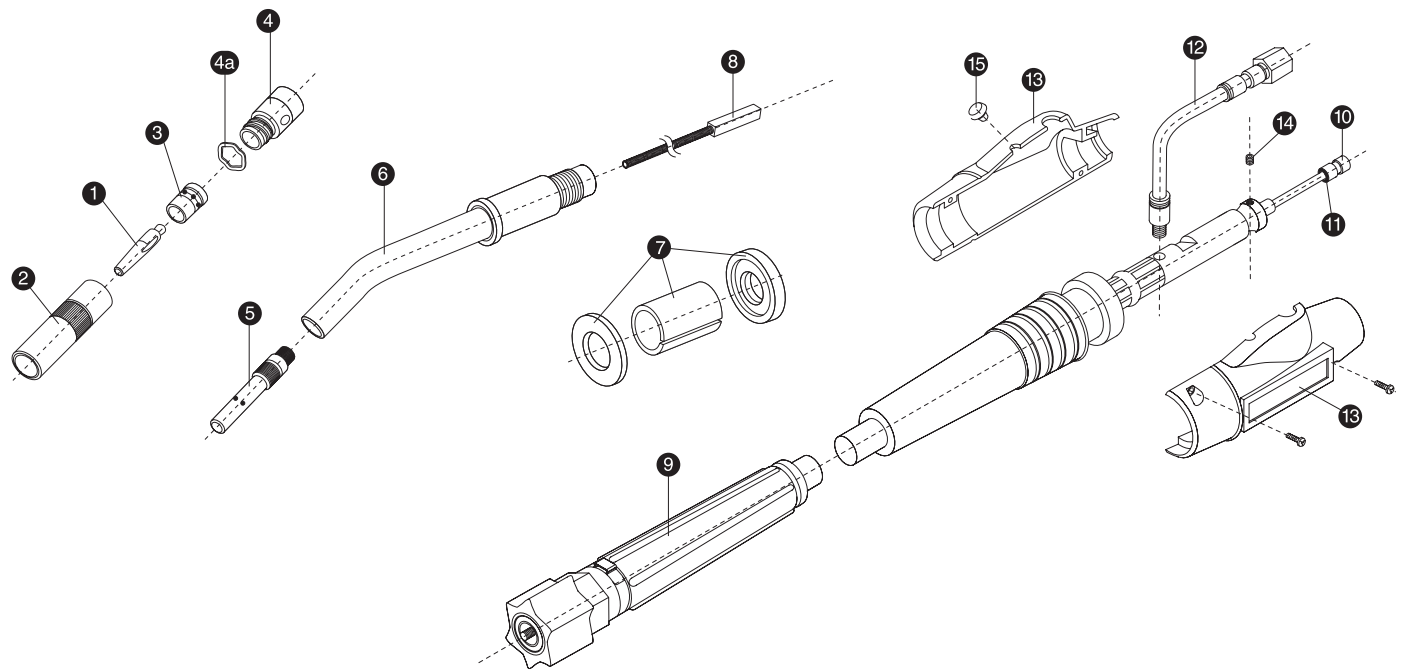
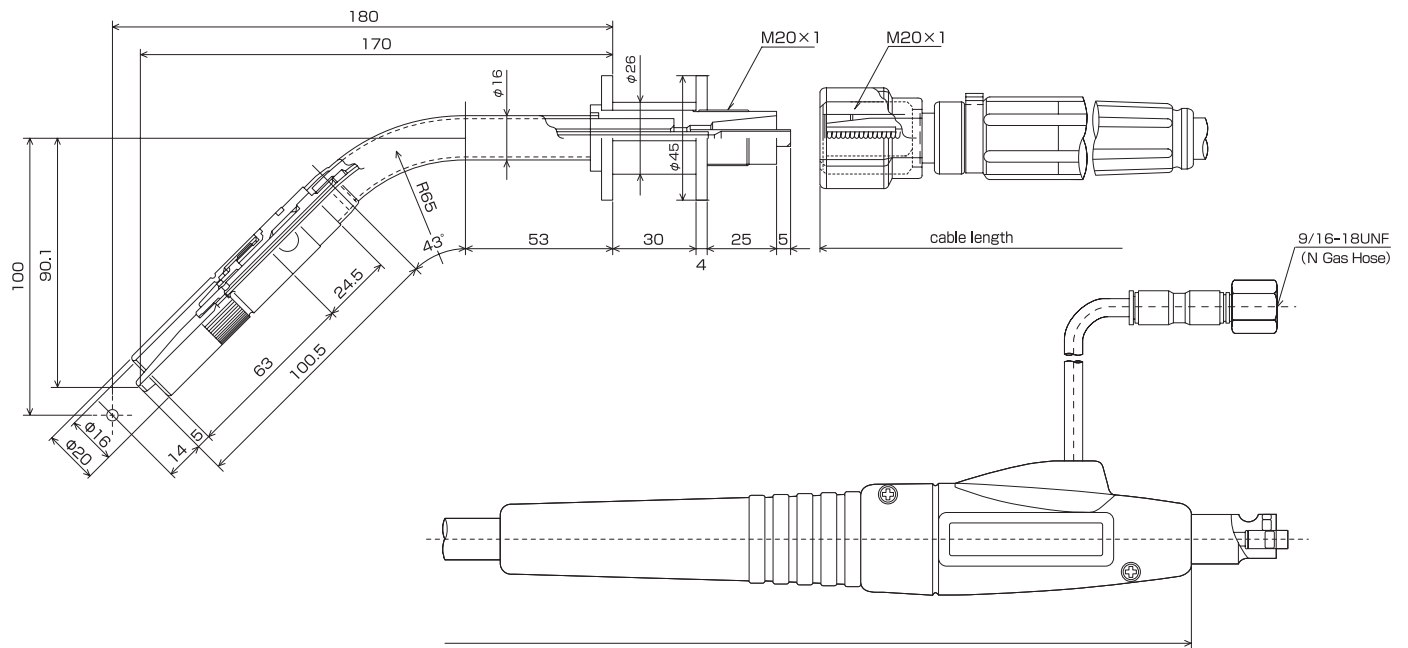
| No. | Part No.   | Parts Name     | No.     | Part No.  | Parts Name                         | No.            | Part No.     | Parts Name                                 |
|-----|------------|----------------|---------|-----------|------------------------------------|----------------|--------------|--------------------------------------------|
|     | RT3RN0090  | TK-308RR-N-0.9 | 2       | 001002    | N Nozzle 16mm 73L                  | 12             | 016053       | TK-308RR Inner Tube                        |
|     | RT3RN0100  | TK-308RR-N-1.0 |         | 001003    | N Nozzle 12mm 73L                  | 1~6-1+11+12    | 016058       | TK-308RR Torch Body Assy                   |
|     | RT3RN0110  | TK-308RR-N-1.1 | 3       | 003002    | N Orifice S                        | 1 ~ 6-2+7      | YEA003810-IL | YMES-308R Torch Body Assy(Inner Tube Less) |
|     | RT3RN0120  | TK-308RR-N-1.2 | 4       | 004002    | N Insulator S                      | 1 ~ 6-2+7 ~ 12 | 3002010      | TK-308RX Torch Assy                        |
|     | RT3RN0130  | TK-308RR-N-1.3 | 4a      | 255406    | Wave Washer S                      | 1~6-3+11+12    | 016045       | TK-308RS Torch Body Assy                   |
|     | RT3RXN0090 | TK-308RX-N-0.9 | 4+4a    | 004004    | N Insulator S(With Wave Washer)    | 13 ~ 19        | 016N09       | 308RR/309R1-N Power Cable 0.9m             |
|     | RT3RXN0100 | TK-308RX-N-1.0 | 5       | 016051    | TK-308RR Tip Body                  | 14             | 016N10       | 308RR/309R1-N Power Cable 1.0m             |
|     | RT3RXN0110 | TK-308RX-N-1.1 | 6-1     | 016054    | TK-308RR Torch Body(w/o Tip Body)  |                | 016N11       | 308RR/309R1-N Power Cable 1.1m             |
|     | RT3RXN0120 | TK-308RX-N-1.2 | 6-2+7   | 3001043   | YMES-308R Torch Body(w/o Tip Body) |                | 016N12       | 308RR/309R1-N Power Cable 1.2m             |
|     | RT3RXN0130 | TK-308RX-N-1.3 | 6-3     | 016044    | TK-308RS Torch Body(w/o Tip Body)  |                | 016N13       | 308RR/309R1-N Power Cable 1.3m             |
|     | RT3SN0090  | TK-308RS-N-0.9 | 5+6-1   | 016050    | TK-308RR Torch Body(W/Tip Body)    |                | 016076       | 308RR-N Liner 1.3m                         |
|     | RT3SN0100  | TK-308RS-N-1.0 | 5+6-2+7 | 3001042   | YMES-308R Torch Body(W/Tip Body)   | 15             | 016122       | 308RR-N Liner 1.3m(0.9mm)                  |
|     | RT3SN0110  | TK-308RS-N-1.1 | 5+6-3   | 016043    | TK-308RS Torch Body(W/Tip Body)    |                | 036035       | Liner O ring(S-4)                          |
|     | RT3SN0120  | TK-308RS-N-1.2 | 7       | Y0000FP10 | O Ring 4D P-10                     | 16             | 033701       | N/D Gas Hose Assy                          |
|     | RT3SN0130  | TK-308RS-N-1.3 | 8       | YM1304160 | YMX Insulation Cover               | 17,19          | 033108       | Robotic Torch Cable Supporter              |
| 1   | 002005     | N Tip 0.8mm    | 9       | YM1506270 | YMX Clamp Block Assy               | 18             | 031035       | Liner Set Screw M4*4                       |
|     | 002001     | N Tip 0.9mm    | 10      | 3002012   | 308RX Clamp Body                   | 19             | 033742       | Plug Gushioning Rubber                     |
|     | 002002     | N Tip 1.0mm    | 11      | 016052    | 308RR Insulation Spacer            |                |              |                                            |
|     | 002003     | N Tip 1.2mm    | 8 ~ 11  | 3002011   | TK-308RX Clump Body Assy           |                |              |                                            |



TK-508RR-N/508RX/508RS-N Parts List

| No. | Part No.   | Parts Name     | No.     | Part No.  | Parts Name                        | No.          | Part No. | Parts Name                    |
|-----|------------|----------------|---------|-----------|-----------------------------------|--------------|----------|-------------------------------|
|     | RT5RN0090  | TK-508RR-N-0.9 | 2       | 001001    | N Nozzle 19mm 500A 88L            | 8 ~ 11       | 3002011  | TK-308RX Clamp Body Assy      |
|     | RT5RN0100  | TK-508RR-N-1.0 |         | 001010    | N Nozzle 16mm 500A 73L            | 12           | 016053   | TK-308RR Inner Tube           |
|     | RT5RN0110  | TK-508RR-N-1.1 | 3       | 003001    | N Orifice L                       | 1~6-1+11+12  | 016401   | TK-508RR Torch Body Assy      |
|     | RT5RN0120  | TK-508RR-N-1.2 | 4       | 004001    | N Insulator L                     | 1 ~ 6-2+7    | 3002041  | TK-508RX Torch Body Assy      |
|     | RT5RN0130  | TK-508RR-N-1.3 | 4b      | 255407    | Wave Washer L                     | 1~6-2+7 ~ 12 | 3002040  | TK-508RX Torch Assy           |
|     | RT5RXN0090 | TK-508RX-N-0.9 | 4+4b    | 004008    | N Insulator L (With Wabe Washer)  | 1~6-3+11+12  | 016405   | TK-508RS Torch Body Assy      |
|     | RT5RXN0100 | TK-508RX-N-1.0 | 5       | 016403    | TK-508RR Tip Body                 | 13 ~ 19      | 017N09   | 508RR-N Power Cable 0.9m      |
|     | RT5RXN0110 | TK-508RX-N-1.1 | 6-1     | 016404    | TK-508RR Torch Body(w/o Tip Body) |              | 017N10   | 508RR-N Power Cable 1.0m      |
|     | RT5RXN0120 | TK-508RX-N-1.2 | 6-2+7   | 3002043   | TK-508RX Torch Body(w/o Tip Body) |              | 017N11   | 508RR-N Power Cable 1.1m      |
|     | RT5RXN0130 | TK-508RX-N-1.3 | 6-3     | 016407    | TK-508RS Torch Body(w/o Tip Body) |              | 017N12   | 508RR-N Power Cable 1.2m      |
|     | RT5SN0090  | TK-508RS-N-0.9 | 5+6-1   | 016400    | TK-508RR Torch Body(W/Tip Body)   |              | 017N13   | 508RR-N Power Cable 1.3m      |
|     | RT5SN0100  | TK-508RS-N-1.0 | 5+6-2+7 | 3002042   | TK-508RX Torch Body(W/Tip Body)   | 14           | 016126   | 508RR-N Liner 1.3m            |
|     | RT5SN0110  | TK-508RS-N-1.1 | 5+6-3   | 016406    | TK-508RS Torch Body(W/Tip Body)   | 15           | 036035   | Liner O ring(S-4)             |
|     | RT5SN0120  | TK-508RS-N-1.2 | 7       | Y0000FP10 | O Ring 4D P-10                    | 16           | 033701   | N/D Gas Hose Assy             |
|     | RT5SN0130  | TK-508RS-N-1.3 | 8       | YM1304160 | YMX Insulation Cover              | 17,19        | 033108   | Robotic Torch Cable Supporter |
| 1   | 002003     | N Tip 1.2mm    | 9       | YM1506270 | YMX Clamp Block Assy              | 18           | 031035   | Liner Set Screw M4*4          |
|     | 002017     | N Tip 1.4mm    | 10      | 3002012   | 308RX Clamp Body                  | 19           | 033742   | Plug Gushioning Rubber        |
|     | 002004     | N Tip 1.6mm    | 11      | 016052    | 308RR Insulation Spacer           |              |          |                               |

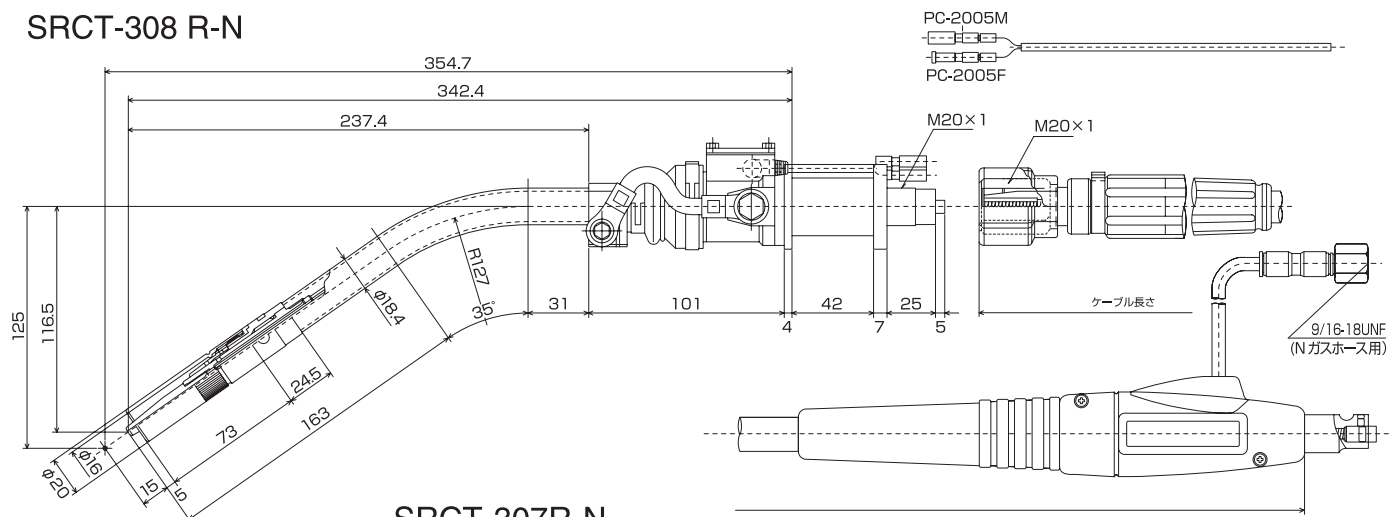
# TK-309R1-N



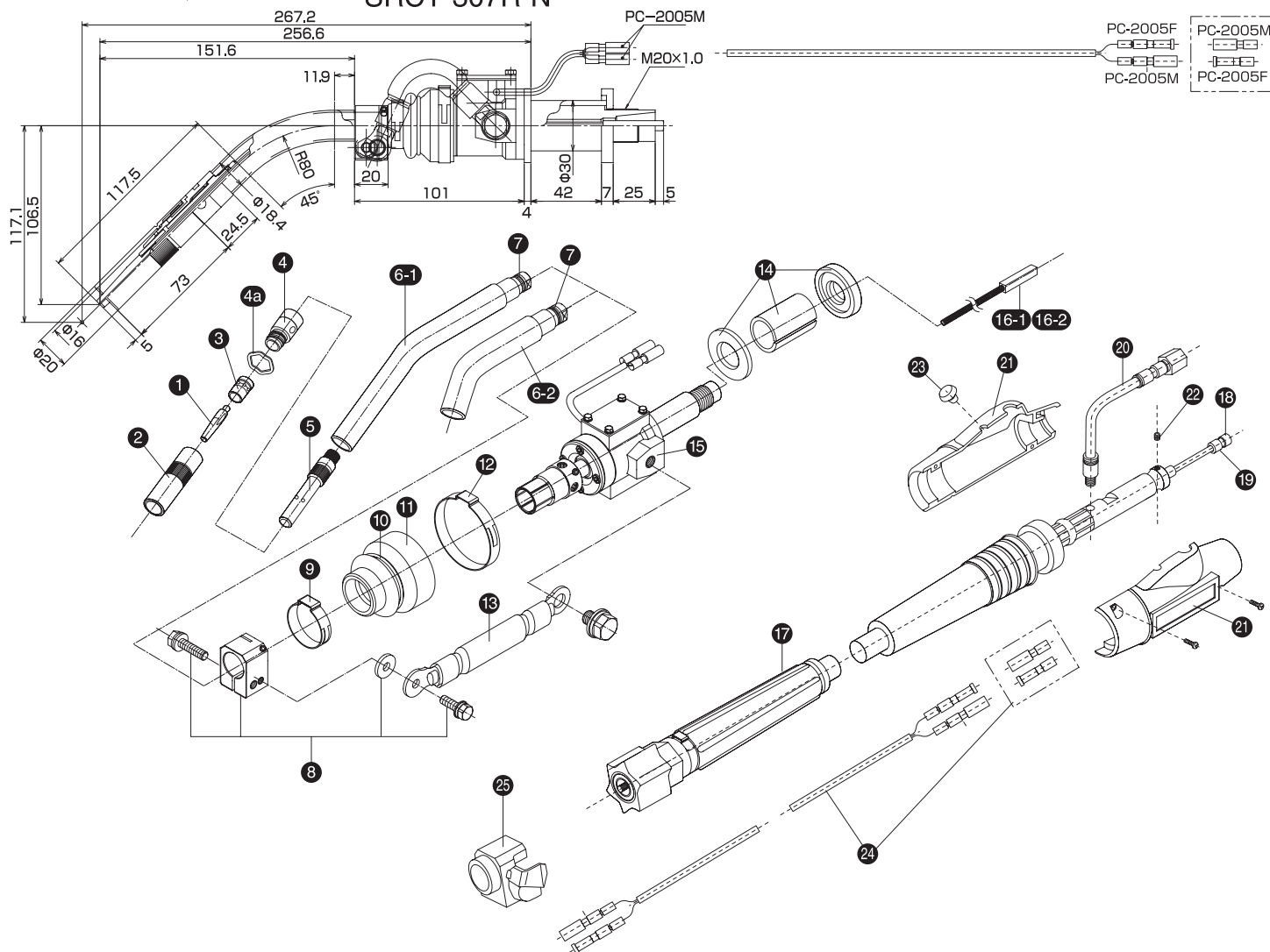
## TK-309R1-N Parts List

| No.  | Part No.  | Parts Name                        | No.    | Part No. | Parts Name                     |
|------|-----------|-----------------------------------|--------|----------|--------------------------------|
|      | RT9SN0090 | TK-309R1-N-0.9                    | 8      | 016053   | TK-308RR Inner Tube            |
|      | RT9SN0100 | TK-309R1-N-1.0                    | 1 ~ 8  | 016049   | TK-309R1 Torch Body Assy       |
|      | RT9SN0110 | TK-309R1-N-1.1                    | 9 ~ 15 | 016N09   | 308RR/309R1-N Power Cable 0.9m |
|      | RT9SN0120 | TK-309R1-N-1.2                    |        | 016N10   | 308RR/309R1-N Power Cable 1.0m |
|      | RT9SN0130 | TK-309R1-N-1.3                    |        | 016N11   | 308RR/309R1-N Power Cable 1.1m |
|      |           |                                   |        | 016N12   | 308RR/309R1-N Power Cable 1.2m |
|      |           |                                   |        | 016N13   | 308RR/309R1-N Power Cable 1.3m |
| 1    | 023010    | Contact Tip D-1.2                 | 10     | 016076   | 308RR-N Liner 1.3m             |
| 2    | 001013    | N Nozzle 16mm 63L                 |        | 016122   | 308RR-N Liner 1.3m(0.9mm)      |
| 3    | 003002    | N Orifice S                       | 11     | 036035   | Liner O ring(S-4)              |
| 4    | 004002    | N Insulator S                     |        | 033701   | N/D Gas Hose Assy              |
| 4a   | 255406    | Wave Washer S                     | 13,15  | 033108   | Robotic Torch Cable Supporter  |
| 4+4a | 004004    | N Insulation S (With Wave Washer) | 14     | 031035   | Liner Set Screw M4*4           |
| 5    | 036001    | CS Tip Body A                     | 15     | 033742   | Plug Gushioning Rubber         |
| 6    | 016047    | TK-309R1 Torch Body(w/o Tip Body) |        |          |                                |
| 5+6  | 016046    | TK-309R1 Torch Body(W/Tip Body)   |        |          |                                |
| 7    | 016048    | 309R1 Insulation Spacer           |        |          |                                |

## SRCT-308 R-N



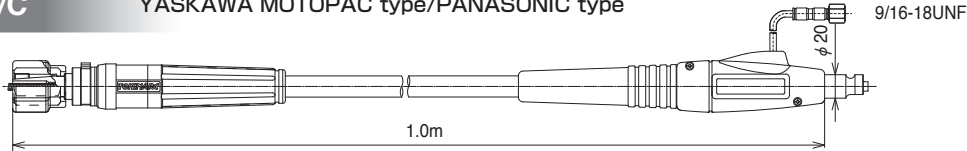
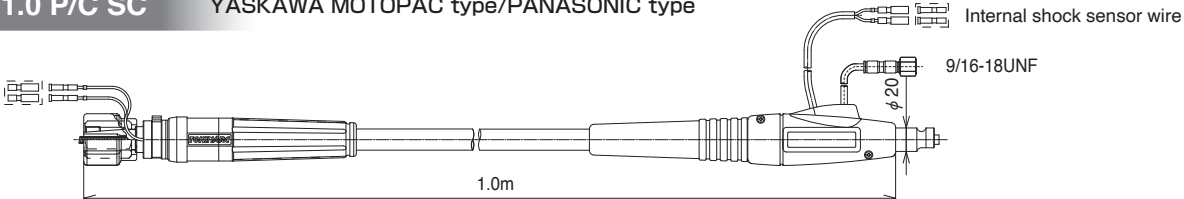
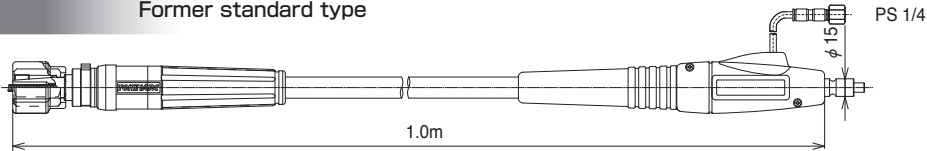
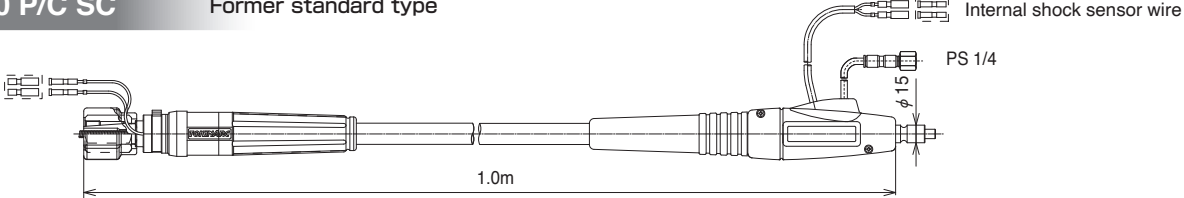
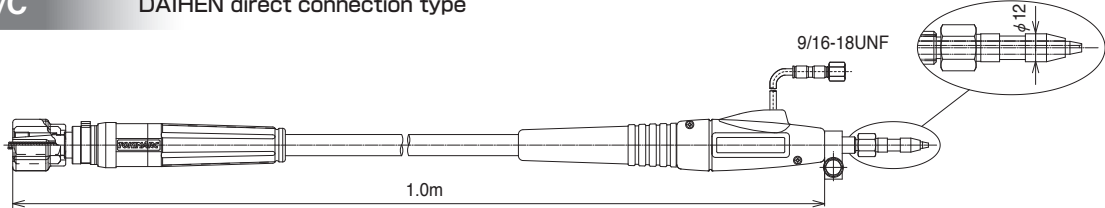
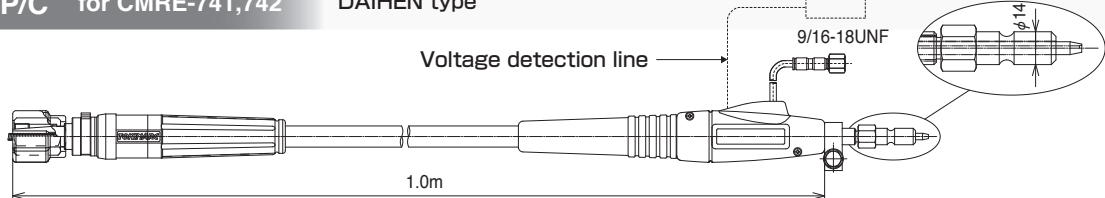
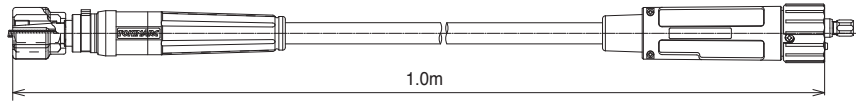
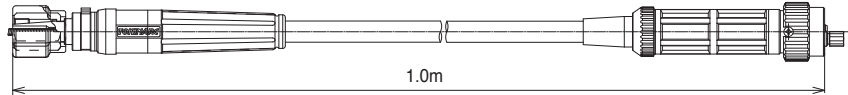
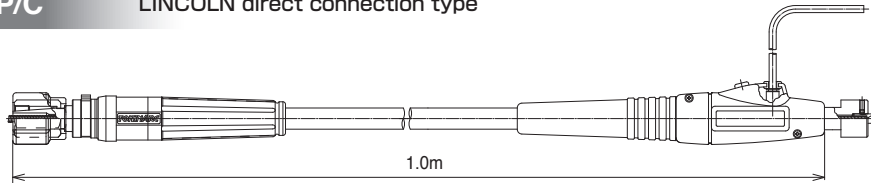
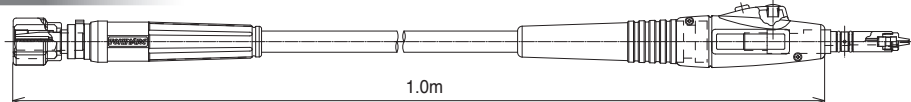
## SRCT-307R-N



## SRCT-308R/307R-N Parts List

| No. | Part No.  | Parts Name        | No.     | Part No.     | Parts Name                                 | No.    | Part No.  | Parts Name                      |
|-----|-----------|-------------------|---------|--------------|--------------------------------------------|--------|-----------|---------------------------------|
|     | RS3RN0090 | SRCT-308R-N-0.9   | 4a      | 255406       | Wave Washer S                              | 1~16-1 | 3000002   | SRCT-308R Torch Assy            |
|     | RS3RN0100 | SRCT-308R-N-1.0   | 4+4a    | 004004       | N Insulator S (With Wave Washer)           | 1~16-2 | 3001044   | SRCT-307R Torch Assy            |
|     | RS3RN0110 | SRCT-308R-N-1.1   | 5       | 016051       | TK-308RR Tip Body                          | 17~23  | 016N09    | 308RR/309R1-N Power Cable 0.9m  |
|     | RS3RN0120 | SRCT-308R-N-1.2   | 6-1+7   | 3001043      | YMES-308R Torch Body                       |        | 016N10    | 308RR/309R1-N Power Cable 1.0m  |
|     | RS3RN0130 | SRCT-308R-N-1.3   | 6-2+7   | 3002022      | TK-307RX Torch Body                        |        | 016N11    | 308RR/309R1-N Power Cable 1.1m  |
|     | RS9RN0090 | SRCT-307R-N-0.9   | 7       | Y0000FP10    | O-Ring 4D-P10                              |        | 016N12    | 308RR/309R1-N Power Cable 1.2m  |
|     | RS9RN0100 | SRCT-307R-N-1.0   | 1~6-1+7 | YEA003810-IL | YMES-308R Torch Body Assy(Inner Tube Less) |        | 016N13    | 308RR/309R1-N Power Cable 1.3m  |
|     | RS9RN0110 | SRCT-307R-N-1.1   | 1~6-2+7 | 3002021      | TK-307RX Torch Body Assy                   | 18     | 016076    | 308RR-N Liner 1.3m              |
|     | RS9RN0120 | SRCT-307R-N-1.2   | 8       | YEA000018    | YSRC Clamp Block Assy                      |        | 016122    | 308RR-N Liner 1.3m(0.9mm)       |
|     | RS9RN0130 | SRCT-307R-N-1.3   | 9       | 3001024      | Hose Clamp 286-7R                          | 19     | 036035    | Liner O ring(S-4)               |
| 1   | 002003    | N Tip 1.2mm       | 10      | YM0980009    | YMST-9800-09 Ring                          | 20     | 033701    | N/D Gas Hose Assy               |
|     | 002005    | N Tip 0.8mm       | 11      | YM0980012    | YMST-9800-12 Rubber Boots                  | 21,23  | 033108    | Robotic Torch Cable Supporter   |
|     | 002001    | N Tip 0.9mm       | 12      | 3001025      | Hose Clamp 455-7R                          | 22     | 031035    | Liner Set Screw M4+4            |
|     | 002002    | N Tip 1.0mm       | 13      | 3001023      | SRC Jumper Line                            | 23     | 033742    | Plug Gushioning Rubber          |
| 2   | 001002    | N Nozzle 16mm 73L | 14      | 016052       | 308RR Insulation Spacer                    | 24     |           | SRC Extra Cable(W/Terminal set) |
|     | 001003    | N Nozzle 12mm 73L | 8~15    | 3001001      | SRC Unit Assy                              | 25     | YM1304170 | SRC Clamp Block Cover           |
| 3   | 003002    | N Orifice S       | 16-1    | 3001004      | SRCT-308R Inner Tube                       |        |           |                                 |
| 4   | 004002    | N Insulator S     | 16-2    | 3001047      | SRCT-307R Inner Tube                       |        |           |                                 |

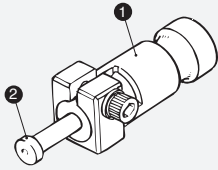
[9]Power Cable Specifications for Type MH

|                    |                                     |                                                                                      |
|--------------------|-------------------------------------|--------------------------------------------------------------------------------------|
| 308RR-N-1.0 P/C    | YASKAWA MOTOPAC type/PANASONIC type |    |
| 308RR-N-1.0 P/C SC | YASKAWA MOTOPAC type/PANASONIC type |    |
| 308RR-1.0 P/C      | Former standard type                |    |
| 308RR-1.0 P/C SC   | Former standard type                |    |
| 308RR-D-1.0 P/C    | DAIHEN direct connection type       |   |
| 308RR-DD-1.0 P/C   | for CMRE-741,742 DAIHEN type        |  |
| 308RR-AD-1.0 P/C   | TOKIN adapter type                  |  |
| 308RR-BZ-1.0 P/C   | BINZEL adapter type                 |  |
| 308RR-LE-1.0 P/C   | LINCOLN direct connection type      |  |
| 308RR-MIL-1.0 P/C  | MILLER direct connection type       |  |

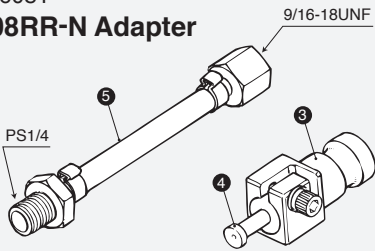
[10]Adapter Specifications

308RR Adapter (For Former standard type)

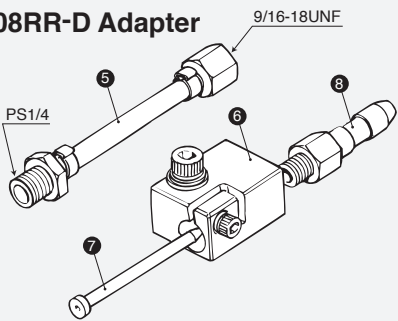
016080  
308RR-T Adapter



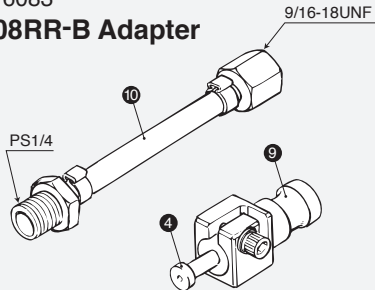
016081  
308RR-N Adapter



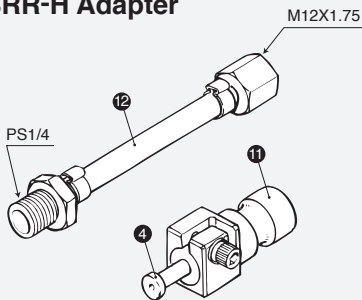
016082  
308RR-D Adapter



016083  
308RR-B Adapter



016084  
308RR-H Adapter

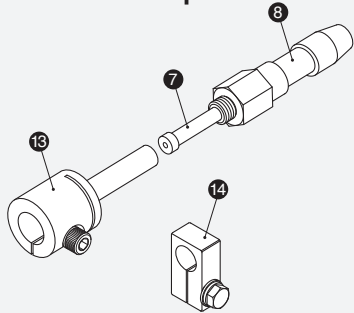


308RR Adapter Parts List

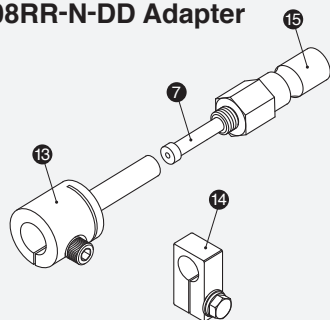
| Reference No. | Parts No. | Parts Name               |
|---------------|-----------|--------------------------|
| 1             | 016085    | 308RR-T Adapter Fitting  |
| 2             | 016180    | 308RR-T Wire Guide Pin   |
| 3             | 016086    | 308RR-N Adapter Fitting  |
| 4             | 016181    | 308RR-N/B/H Guide Pin    |
| 5             | 016184    | 308RR-N Adapter Gas Hose |
| 6             | 016087    | 308RR-D Adapter Fitting  |
| 7             | 023022    | WT-64 Outlet Guide       |
| 8             | 023023    | WT-64 Guide Adapter      |
| 9             | 016088    | 308RR-B Adapter Fitting  |
| 10            | 016185    | 308RR-B Adapter Gas Hose |
| 11            | 016089    | 308RR-H Adapter Fitting  |
| 12            | 016186    | 308RR-H Adapter Gas Hose |

308RR-N Adapter

021008  
308RR-N-D Adapter



021010  
308RR-N-DD Adapter



308RR-N Adapter Parts List

| Reference No. | Parts No. | Parts Name               |
|---------------|-----------|--------------------------|
| 13            | 021013    | N-D Adapter Fitting      |
| 14            | 023551    | DSRC-3531 P/C Attachment |
| 15            | 023024    | CMRE741 Guide Adapter    |

[11]Torch mounting bracket Specifications

Type MA (with an internally mounted Power Cable)  
for Motoman MA1440/MA2010

YJ1305273



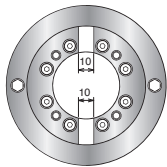
YMXA Bracket Assembly



●To use YMXA/YMSA, YMXA Bracket Assembly and YMA Flange are required.

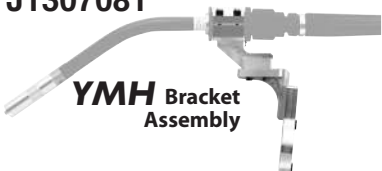
YJ1305277

YMA Flange



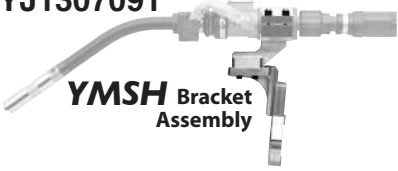
Type MH (with an externally mounted Power cable)  
for Motoman MA1440/MA2010

YJ1307081



YMH Bracket Assembly

YJ1307091



YMSH Bracket Assembly

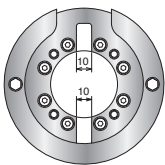


●To use TK-308RR, YMH bracket assembly and YMH flange are required.

●To use SRCT-308RR, YMSH bracket assembly and YMH flange are required.

YJ1307086

YMH Flange



TC1601T05-5

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**MOTOMAN Robotic Torches**

AR1440/AR2010/AR1730

MA1440/MA2010/MH24

AR700/AR900/AR1440E

|                |                         |
|----------------|-------------------------|
| March,2016     | Ver. 1.0 First Edition  |
| September,2016 | Ver. 2.0 Second Edition |
| January,2017   | Ver. 3.0 Third Edition  |
| January,2021   | Ver. 4.0 Fourth Edition |
| February,2022  | Ver. 5.0 Fifth Edition  |

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