

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

CE EN60974-7

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 thorough 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
	DANGER	The instructions which follow this term represent situations where failure to follow the instructions will almost certainly result in severe injury or death.
	WARNING	The instructions which follow this term represent situations where failure to follow the instructions can possibly result in severe injury or death.
	CAUTION	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

WARNING 	These items should be observed at all times in order to prevent the possibility of serious personal injury.
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- 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 thorough 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.

WARNING 	These items should be observed at all times in order to prevent the possibility of electric shocks.
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*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.

CAUTION 		Wear protective equipment at all times to protect yourself and others against arc beam, welding flashes, flying spatter and slag, and noise.
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*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.

CAUTION 		Use protective equipment at all times to protect yourself and others against any fumes and gases that may be generated from welding.
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*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.

CAUTION 		Be sure to observe the following to avoid burns from the nozzle and tip or injury from fine wire ends.
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*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.

CAUTION 		Be sure to observe the following to avoid fires, explosions and rupturing.
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*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 ※ Listed values are based on internal standards. Each value is not guaranteed.

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 ₂)/300(MAG)	350(CO ₂)/300(MAG)	500(CO ₂)/350(MAG)	500(CO ₂)/350(MAG)	250(MIG)
Duty Cycle	%	60	60	60	60	50
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 ₂)/300(MAG)	350(CO ₂)/300(MAG)	500(CO ₂)/350(MAG)	500(CO ₂)/350(MAG)	250(MIG)
Duty Cycle	%	60	60	60	60	50
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 (With wire clamp)	YMSA-308R (With wire clamp)	YMSA-500R (With wire clamp)	YMSA-508R (With wire clamp)
guidance		Robot/Mechanical	Robot/Mechanical	Robot/Mechanical	Robot/Mechanical
Rated Current	A	350(CO ₂)/300(MAG)	350(CO ₂)/300(MAG)	500(CO ₂)/350(MAG)	500(CO ₂)/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 (Water-cooled nozzle)	YMSA-500AW	YMSA-500W/508W (With wire clamp)
guidance		Robot/Mechanical	Robot/Mechanical	Robot/Mechanical	Robot/Mechanical	Robot/Mechanical
Rated Current	A	500(CO ₂)/400(MAG)	500(CO ₂)/400(MAG)	500(CO ₂)/400(MAG)	300(MIG)	500(CO ₂)/400(MAG)
Duty Cycle	%	80	80	100	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 ₂)/300(MAG)	350(CO ₂)/300(MAG)	350(CO ₂)/300(MAG)	350(CO ₂)/300(MAG)	350(CO ₂)/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 SRCT-307R
guidance		Robot/Mechanical	Robot/Mechanical	Robot/Mechanical	Robot/Mechanical	Robot/Mechanical
Rated Current	A	500(CO ₂)/400(MAG)	500(CO ₂)/400(MAG)	500(CO ₂)/400(MAG)	350(CO ₂)/300(MAG)	350(CO ₂)/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
 CO₂---CO₂ 100% MAG---CO₂ 20%; Argon 80% MIG---Argon 100%
- 2: Type of electrode
 Solid and Flux cored wire

[2]Model Notation

YMXA

YMXA-300R-MA1440 (Special Instruction)

Torch Model	
YMXA-300R	YMXA-508R
YMXA-308R	YMXA-250RA
YMXA-500R	

Robot Model	Cable length
MA1440	850mm
MA2010	1270mm
AR1730	980mm

Annotation:
 Cable length for AR1440 and MA1440 is the same.
 Cable length for AR2010 and MA2010 is the same.
 Cable length for MH24 and AR1730 is the same.

Special mention item
●ACC...Hardened type torch.
●Inner Tube Spec...For customers who prefer separate inner tube.
●LINCOLN direct connection type.
●MILLER direct connection type.

YMSA

YMSA-308R-MA2010 (Special Instruction)

Torch Model	
YMSA-300R	
YMSA-308R	
YMSA-500R	
YMSA-508R	
YMSA-250RA	
YMSA-300R (With Wire Clamp)	
YMSA-308R (With Wire Clamp)	
YMSA-500R (With Wire Clamp)	
YMSA-508R (With Wire Clamp)	

Robot Model	Cable length
MA1440	850mm
MA2010	1270mm
AR1730	980mm

Annotation:
 Cable length for AR1440 and MA1440 is the same.
 Cable length for AR2010 and MA2010 is the same.
 Cable length for MH24 and AR1730 is the same.

Special mention item
●ACC...Hardened type torch.
●Inner Tube Spec...For customers who prefer separate inner tube.
Note: Inner Tube Spec is automatically applied to Torch with clamp Spec.
●LINCOLN direct connection type.
●MILLER direct connection type.

YMSA

YMSA-500W (With Wire Clamp)-MA1440 (Special Instruction)

Torch Model	
YMSA-500W	
YMSA-508W	
YMSA-500W(Water-Cooled Nozzle)	
YMSA-508W(Water-Cooled Nozzle)	
YMSA-500AW	
YMSA-500W (With Wire Clamp)	
YMSA-508W (With Wire Clamp)	

Robot Model	Cable length
MA1440	850mm
MA2010	1270mm
AR1730	980mm

Annotation:
 Cable length for AR1440 and MA1440 is the same.
 Cable length for AR2010 and MA2010 is the same.
 Cable length for MH24 and AR1730 is the same.

Special mention item
●Inner Tube Spec...For customers who prefer separate inner tube.
Note: Inner Tube Spec is automatically applied to Torch with wire clamp.

ACC,TK,SRCT

ACC-308RR-N-1.3 SC

Torch Model	
ACC-308RR	TK-508RX
ACC-308RX	TK-508RS
TK-308RR	TK-309R1
TK-308RX	SRCT-308R
TK-308RS	SRCT-307R
TK-508RR	

Robot Model
N...YASKAWA MOTOPAC type/PANASONIC type
D...DAIHEN direct connection type
DD...DAIHEN CMRE-741 ¹ type
AD...TOKIN adapter type
LE...LINCOLN direct connection type
MIL...MILLER direct connection type
BZ...BINZEL adapter type
—...Earlier standard type ²

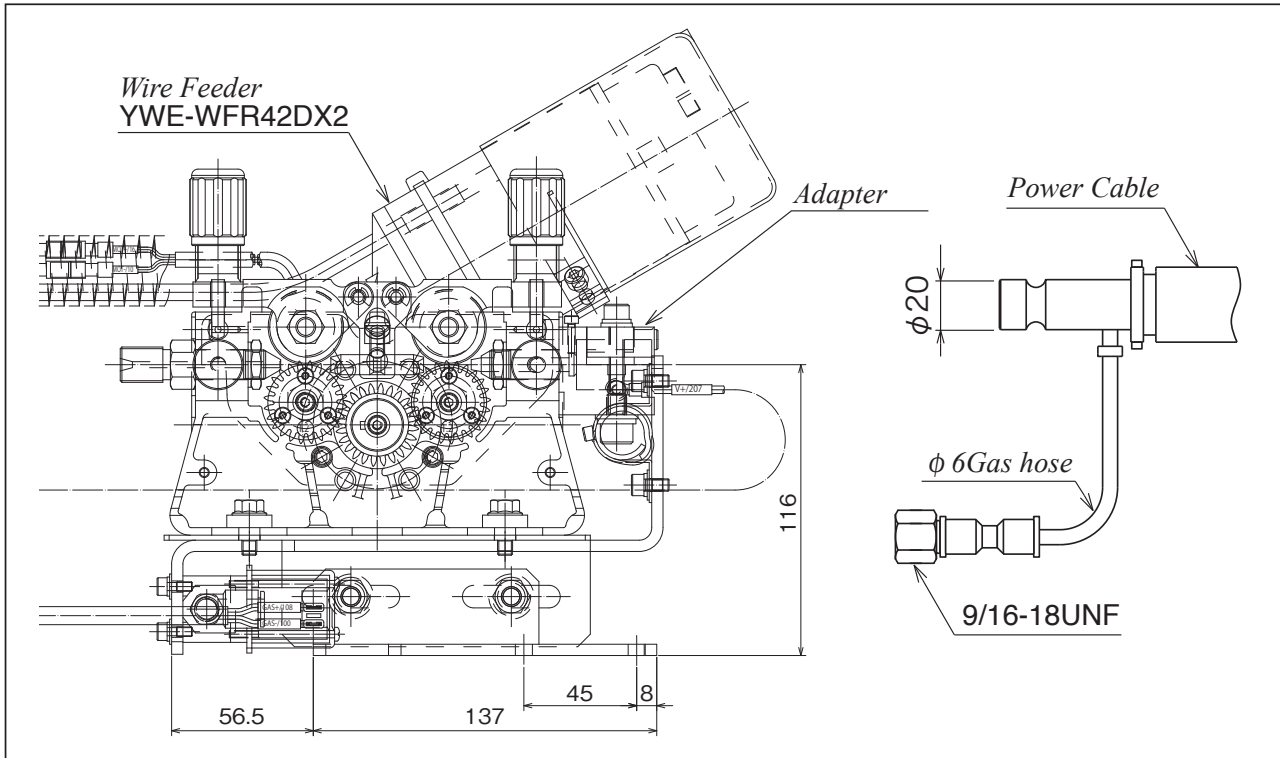
Power Cable length in meters

Option
SC...Internal shock sensor Cable
—...None

¹If using the DL350, please specify separately.

²If 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 (with 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

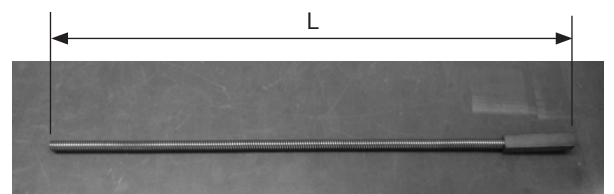
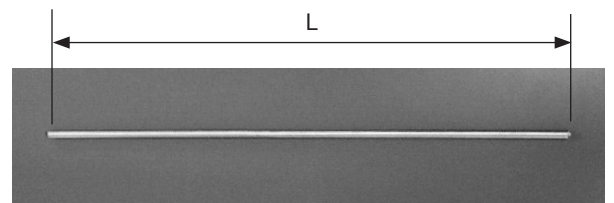
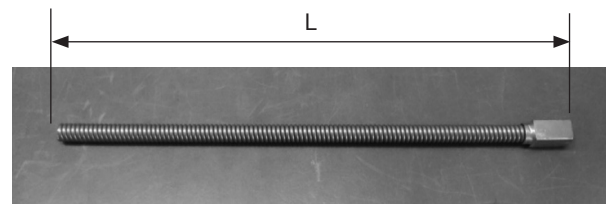
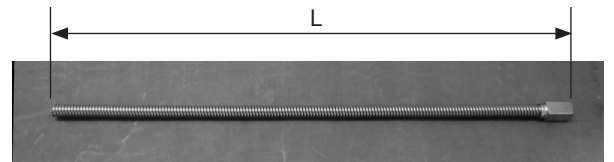
Standard specification for YMXA/YMSA torch series is Inner Tube less.

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

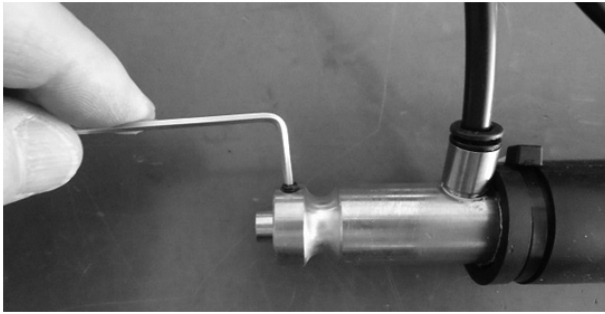


[6]Replace Liner

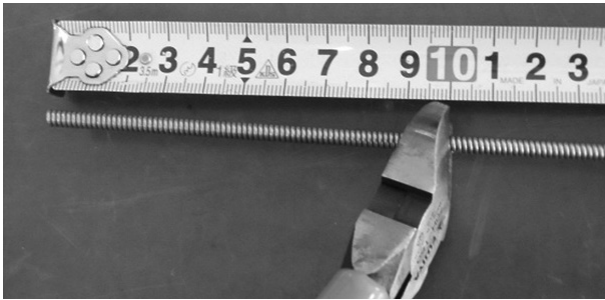
When wire feeding is not smooth, Liner may be clogged with wire shavings,rust or dart. So, replace Liner by following procedure.

① Remove Power cable from Wire Feeder.

② Unscrew the bolt. Pull out Liner.

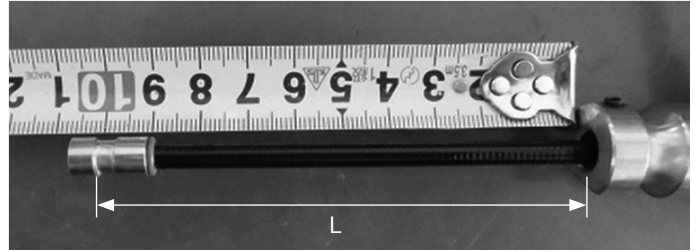


⑤ Pull Liner out and cut off the same length "L" at the front Remove burr.

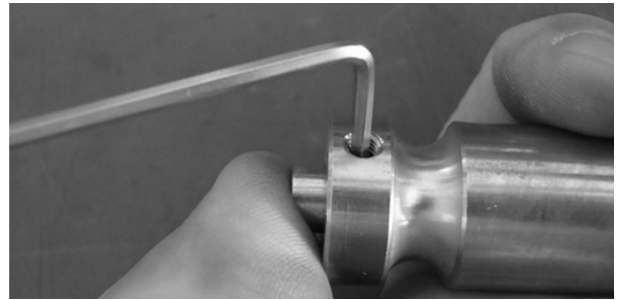


③ Insert the new Liner fully into Power cable.

④ Measure the length "L" which protrudes from the end. Below sample shows "L" is 100mm.



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

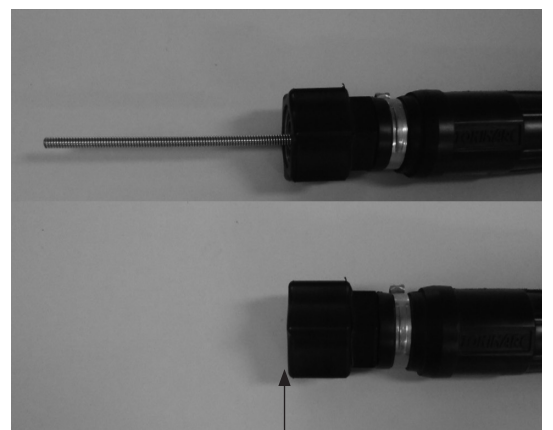
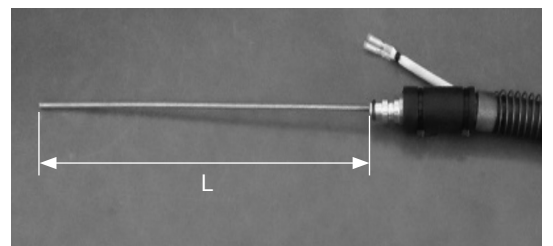
Adjust Liner length "L" accordingly to the tables below.

Model	L mm
YMXA-300R	205
YMXA-300R (ACC)	147.8
YMXA-308R	292.5
YMXA-308R (ACC)	230.4
YMXA-500R	218
YMXA-508R	306
YMXA-250RA	189.2
In the case of using Inner Tube	35

Model	L mm
YMSA-300R (With Wire Clamp)	7.5
YMSA-308R (With Wire Clamp)	7.5
YMSA-500R (With Wire Clamp)	7.5
YMSA-508R (With Wire Clamp)	7.5
YMSA-500W (With Wire Clamp)	7.5
YMSA-508W (With Wire Clamp)	7.5

Model	L mm
YMSA-300R	294
YMSA-300R (ACC)	237
YMSA-308R	382
YMSA-308R (ACC)	319.5
YMSA-500R	308
YMSA-508R	396
YMSA-250RA	278.2
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 TK-308RR/TK-308RX/TK-308RS TK-508RR/TK-508RX/TK-508RS TK-309R1/SRCT-308R/SRCT-307R	0



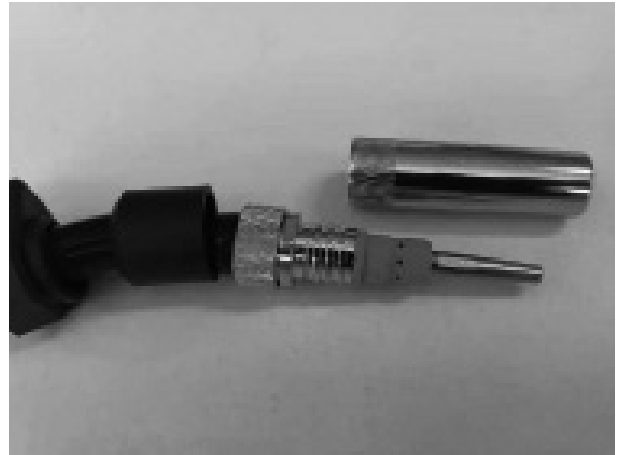
Cutting the Liner

[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.

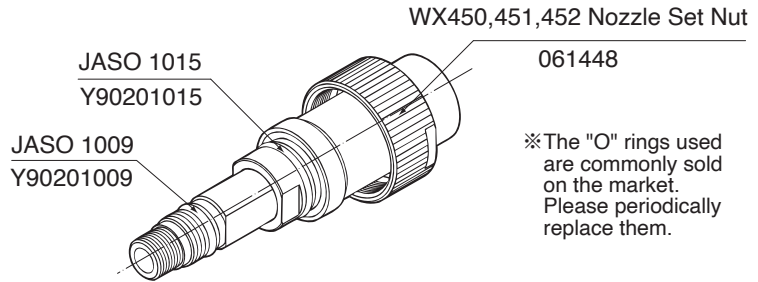


[7-2-2] ※ 2:Please be sure to make silicon coating in assembling insulation spacer.If fails, it might cause ground fault.

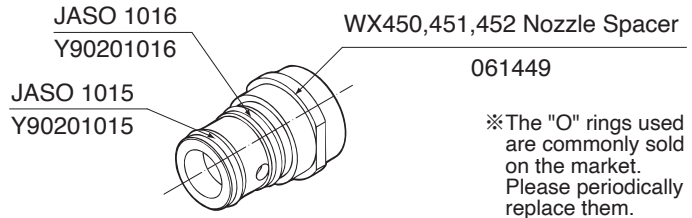


[7-3] Assembling the YMSA-500W/508W End Parts

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.)

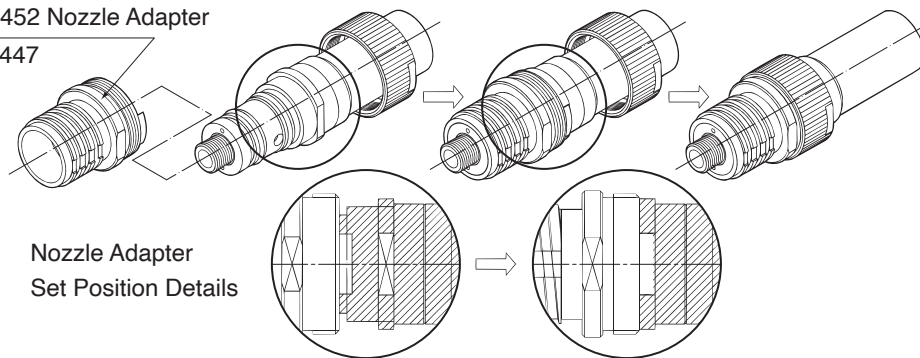


For Air-Cooled Nozzle

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.

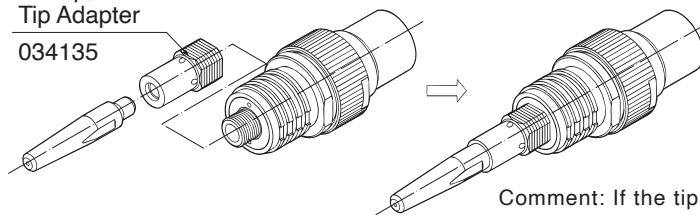
(When tightening the nozzle set nut into the nozzle adapter, use a regular or adjustable wrench on the respective milled faces on both sides. Also please be careful not to damage the nozzle adapter side when rotating the wrenches.)

WX450,451,452 Nozzle Adapter
061447



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.)

NEWβ/WX
Tip Adapter
034135

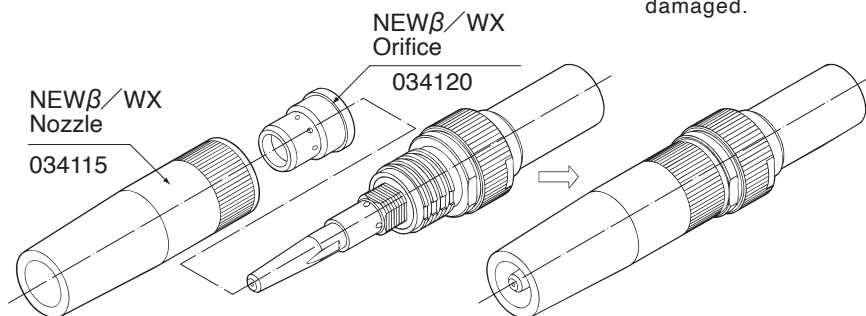


Comment: If the tip body is over tightened the center ceramic will be damaged.

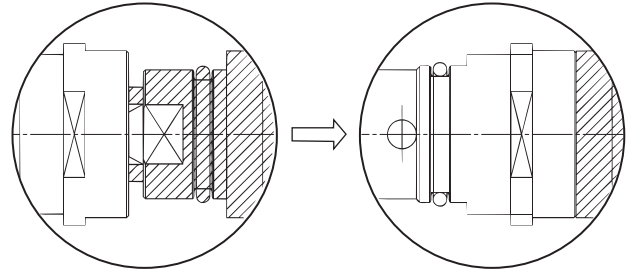
6 Insert the orifice into the tip adapter and screw the nozzle in enough so that it doesn't loosen. (When firmly tightening the nozzle place a wrench on the milled face of the nozzle spacer and tighten.)

NEWβ/WX
Orifice
034120

NEWβ/WX
Nozzle
034115

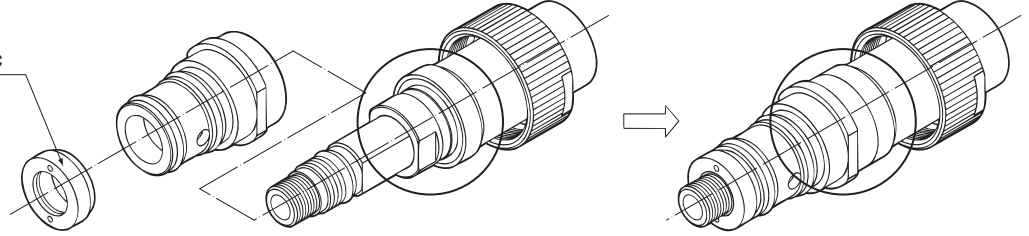


- 3** As in the below illustration, please first insert the nozzle spacer firmly and completely into the milled face of the torch body. Then tighten the WX center ceramic and nozzle spacer. (Please be careful not to damage the center ceramic while fasteing.)



Nozzle Spacer Set Position Details

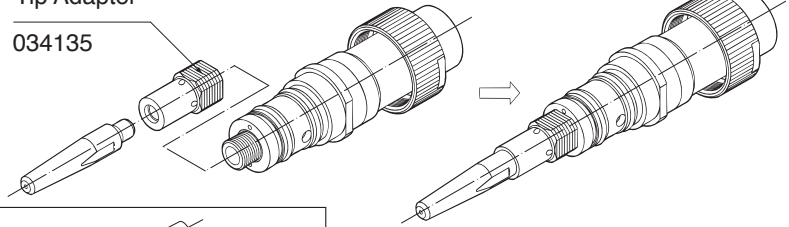
WX Center Ceramic
061445



For Water-Cooled Nozzle

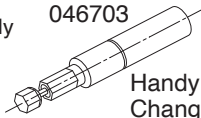
- 4** Set the end parts into the tip adapter and tighten the tip. (Please confirm the tip inner bore size is compatible with the wire diameter being used and tighten securely.) ; For replacing tips only a specialty tool is available.

NEWβ / WX
Tip Adapter
034135



Sold Separately

046703



Handy Tip Changer

046705



Handy Tip Changer
(with Torque Driver)

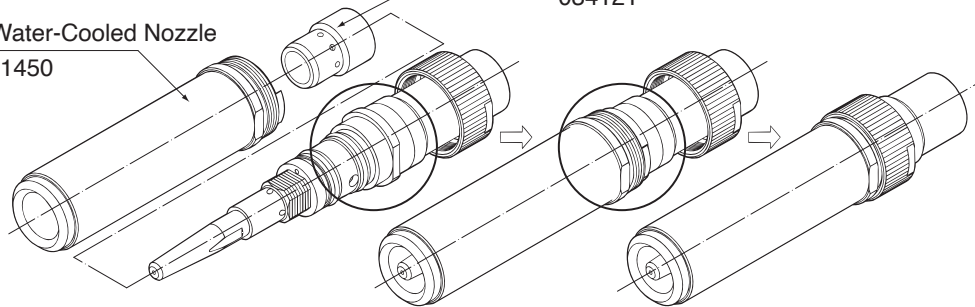
Comment: If the tip body is over tightened the center ceramic will be damaged.

- 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.

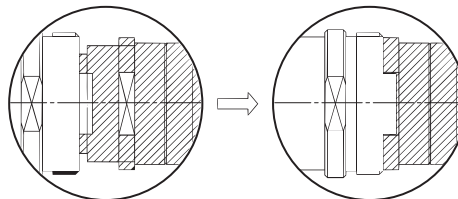
(When tightening the nozzle set nut into the water-cooled nozzle, use a regular or adjustable wrench on the respective milled faces on both sides. Also please be careful not to damage the water-cooled nozzle side when rotating the wrenches.)

WX450,451,452 Water-Cooled Nozzle
061450

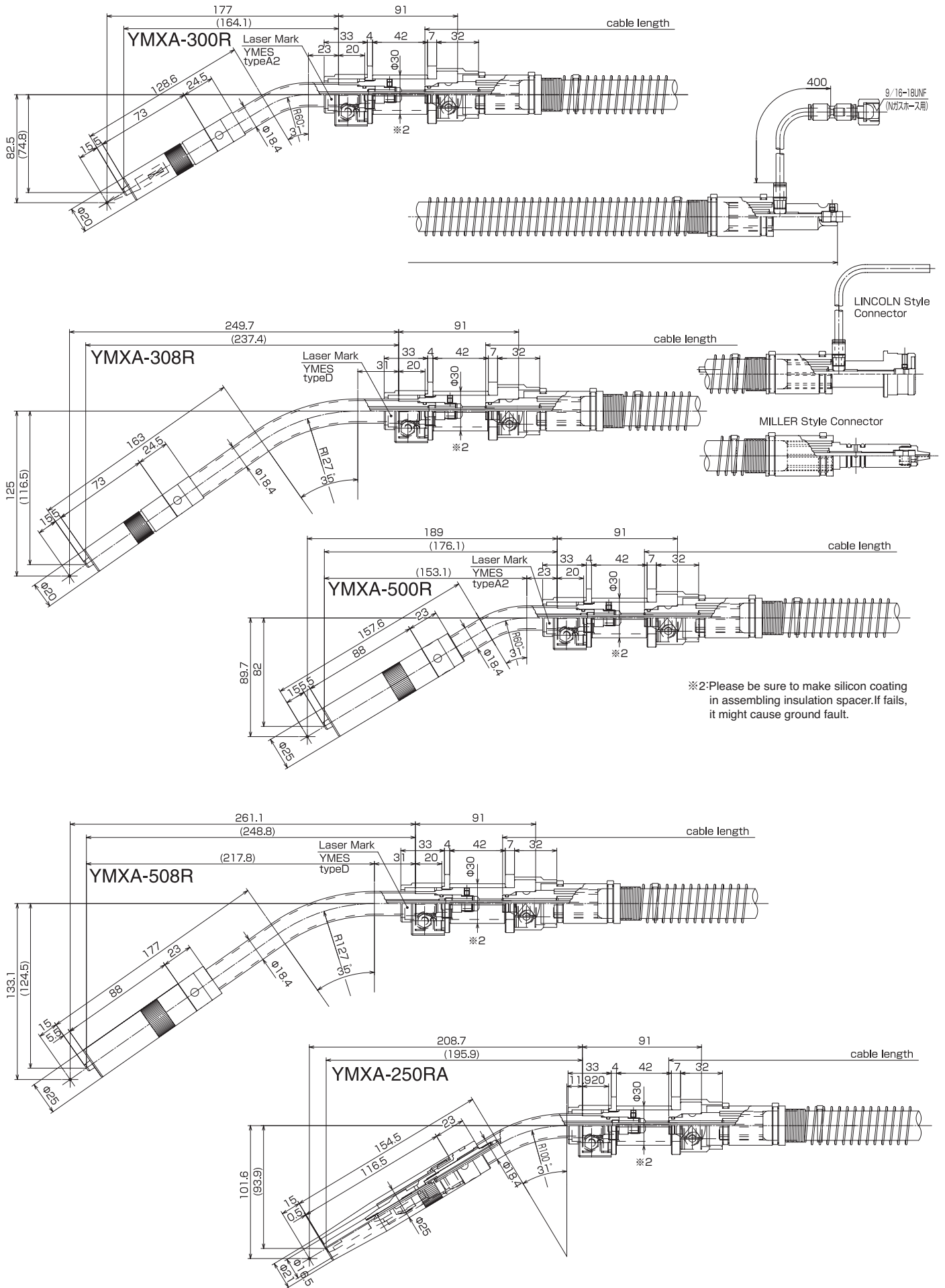
WX Water-Cooled Nozzle Orifice
034121

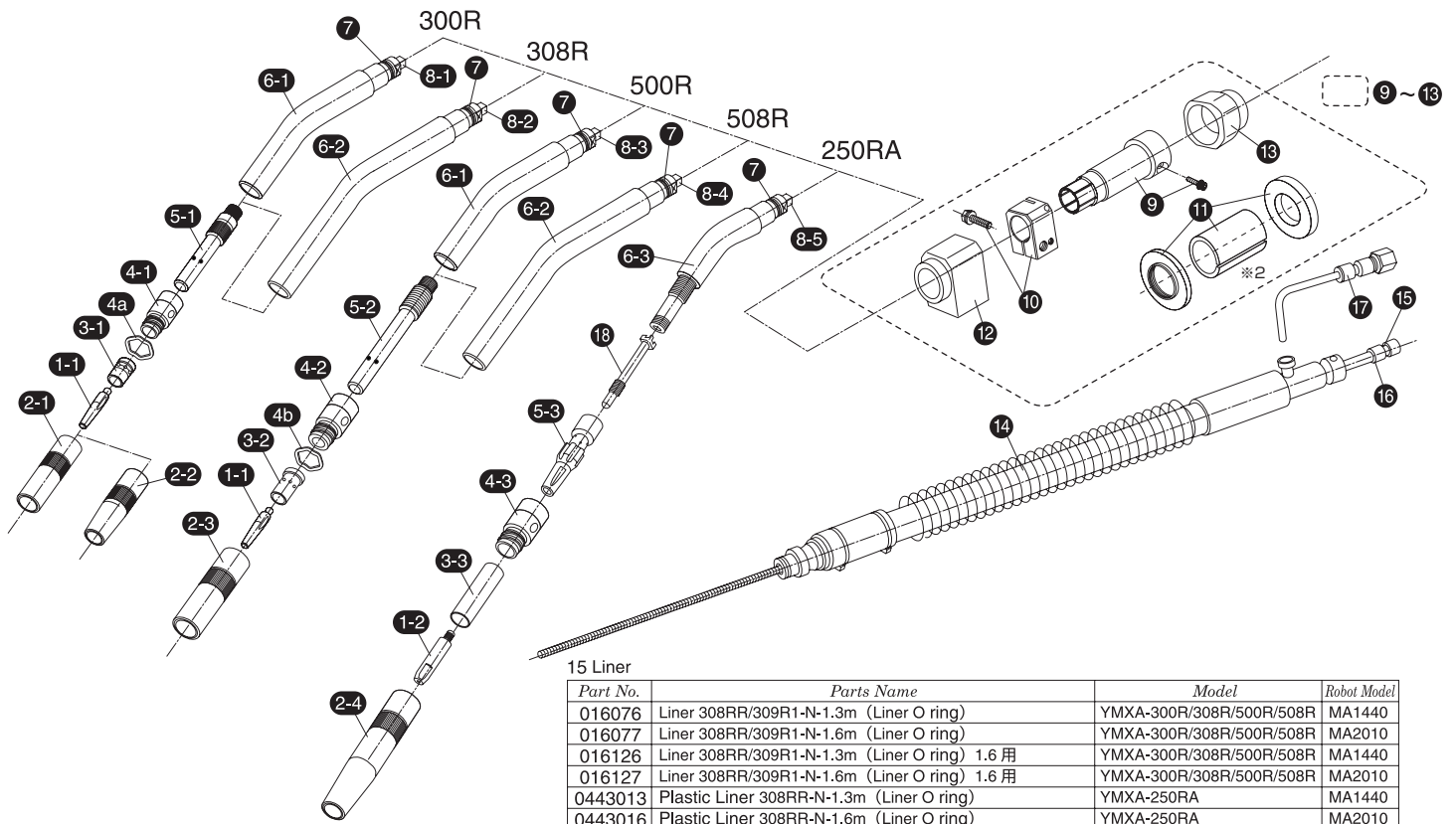


Water-Cooled Nozzle
Set Position Details



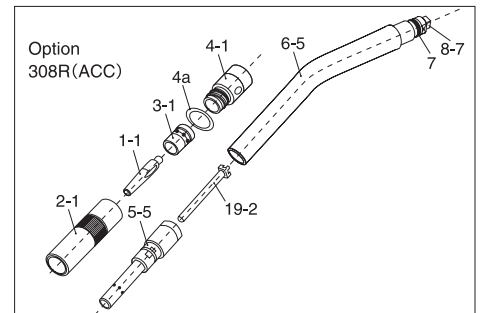
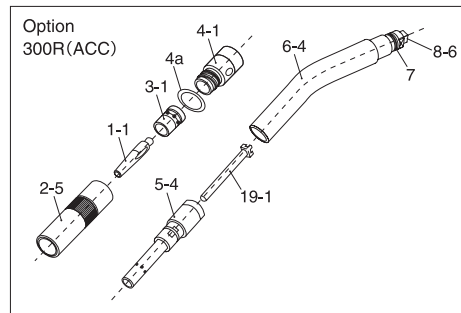
[8]Outline drawings & Parts drawings





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

※2:Please be sure to make silicon coating in assembling insulation spacer.If fails, it might cause ground fault.

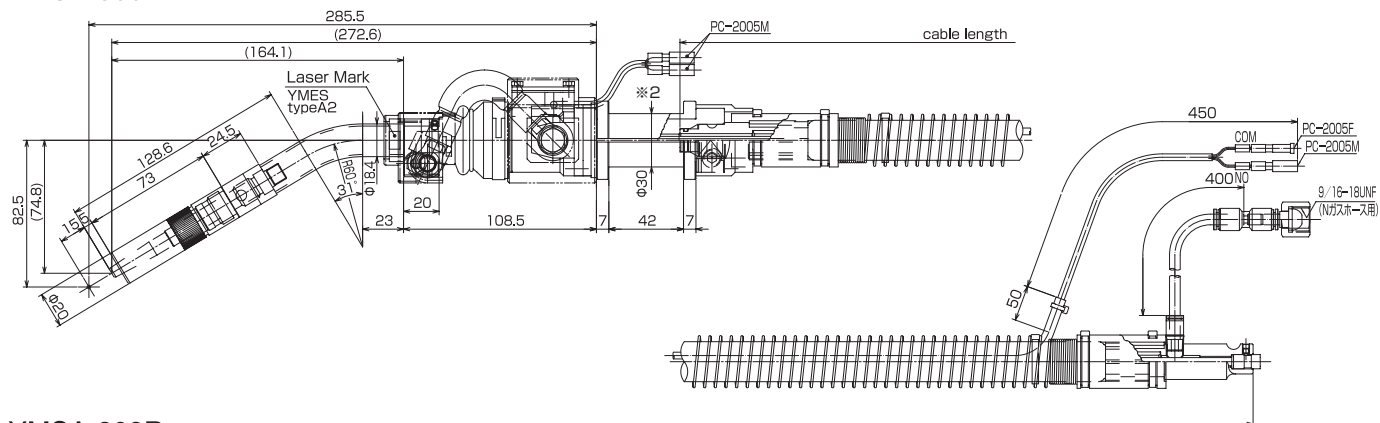


YMXA-300R/308R/500R/508R/250RA Parts List

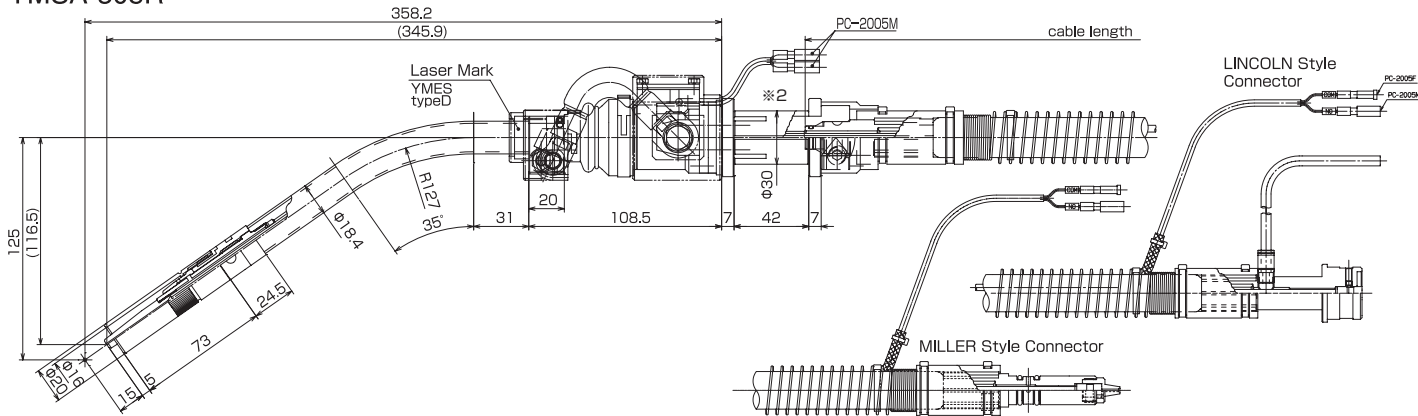
※1:Option Parts

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	10	YM1506270	YMX Clamp Block Assy
4-1+4a	004004	N Insulator S (With Wave Washer)	11	YM1305283	YMX Insulation Spacer ※2
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)
6-1, 7	YEA003012	YMES-300R/500R Torch Body(Without Tip body)		YMC000C04	YMXA Cable Assy MA2010(AL)
6-2, 7	3001043	YMES-308R/508R Torch Body(Without Tip body)	15		Liner
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)			

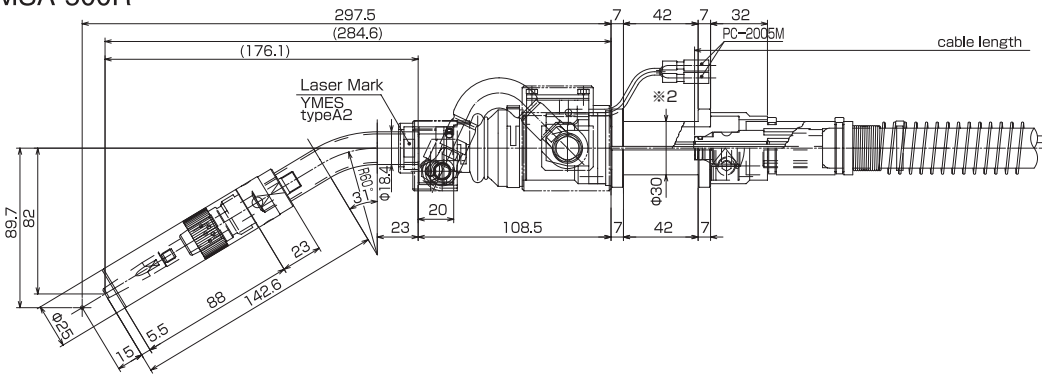
YMSA-300R



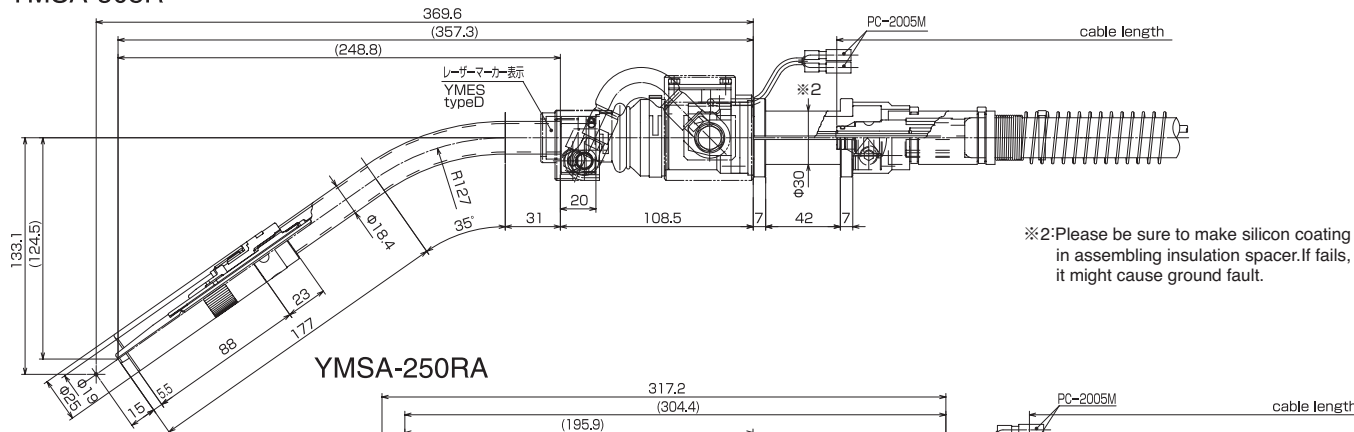
YMSA-308R



YMSA-500R

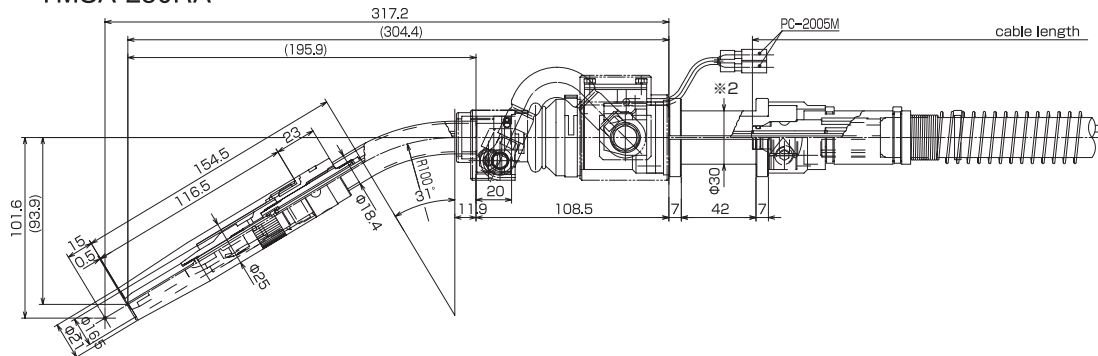


YMSA-508R

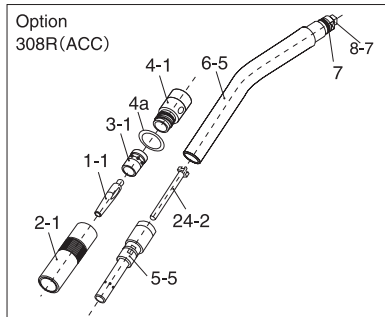
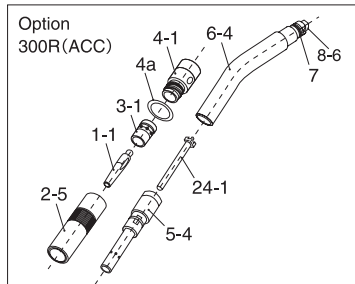
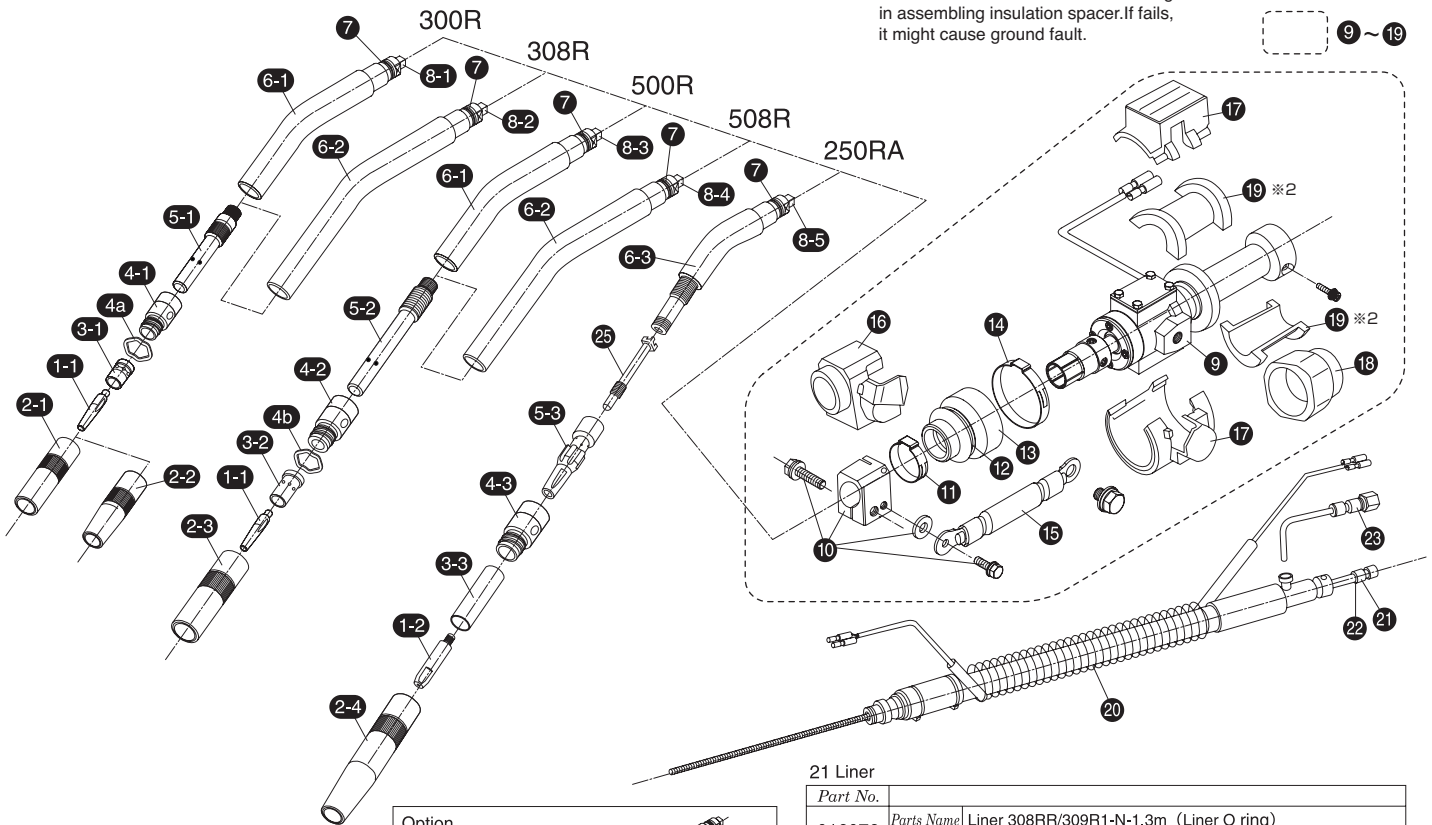


※2: Please be sure to make silicon coating in assembling insulation spacer. If fails, it might cause ground fault.

YMSA-250RA



※2:Please be sure to make silicon coating in assembling insulation spacer.If fails, it might cause ground fault.



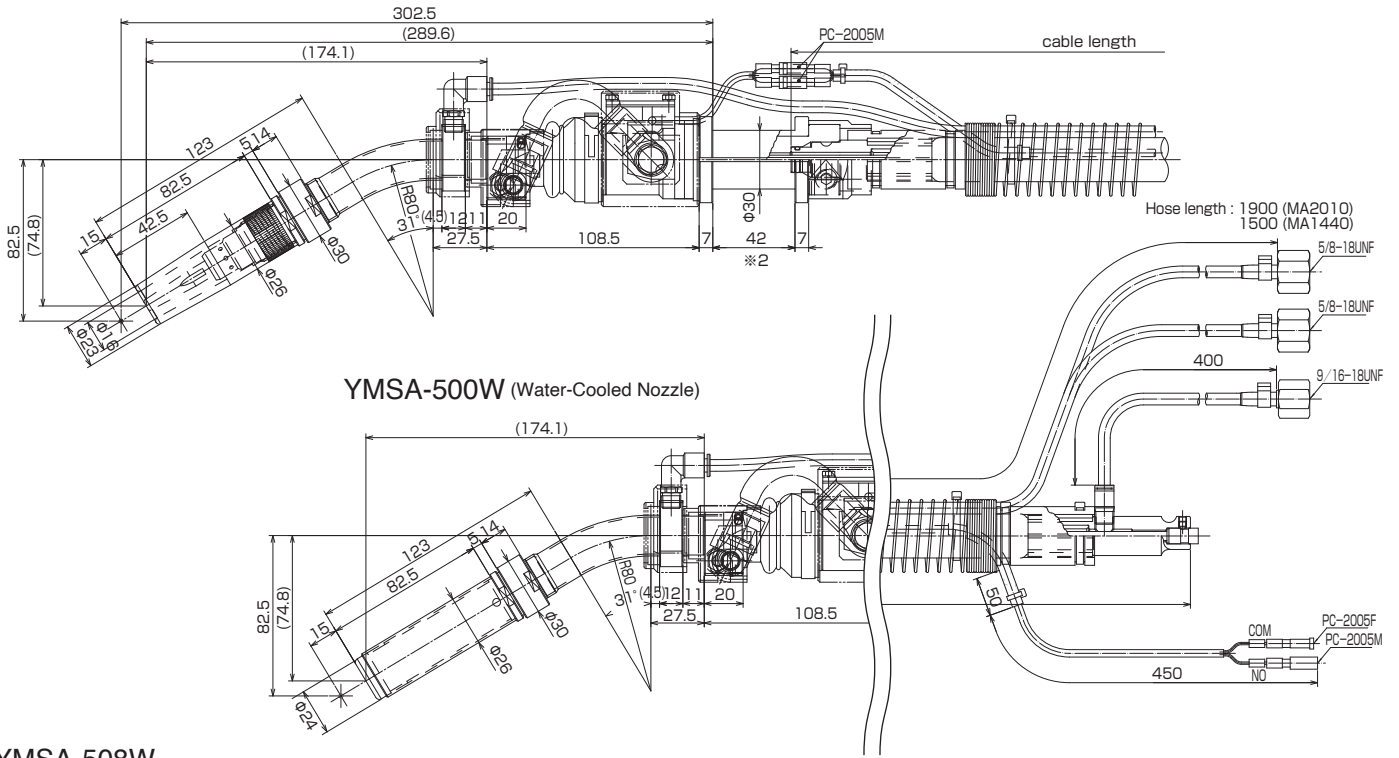
Part No.	Parts Name	Model	Robot Model
016076	Liner 308RR/309R1-N-1.3m (Liner O ring)	YMSA-300R/308R/500R/508R	MA1440
016077	Liner 308RR/309R1-N-1.6m (Liner O ring)	YMSA-300R/308R/500R/508R	MA2010
016126	Liner 308RR/309R1-N-1.3m (Liner O ring) 1.6用	YMSA-300R/308R/500R/508R	MA1440
016127	Liner 308RR/309R1-N-1.6m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

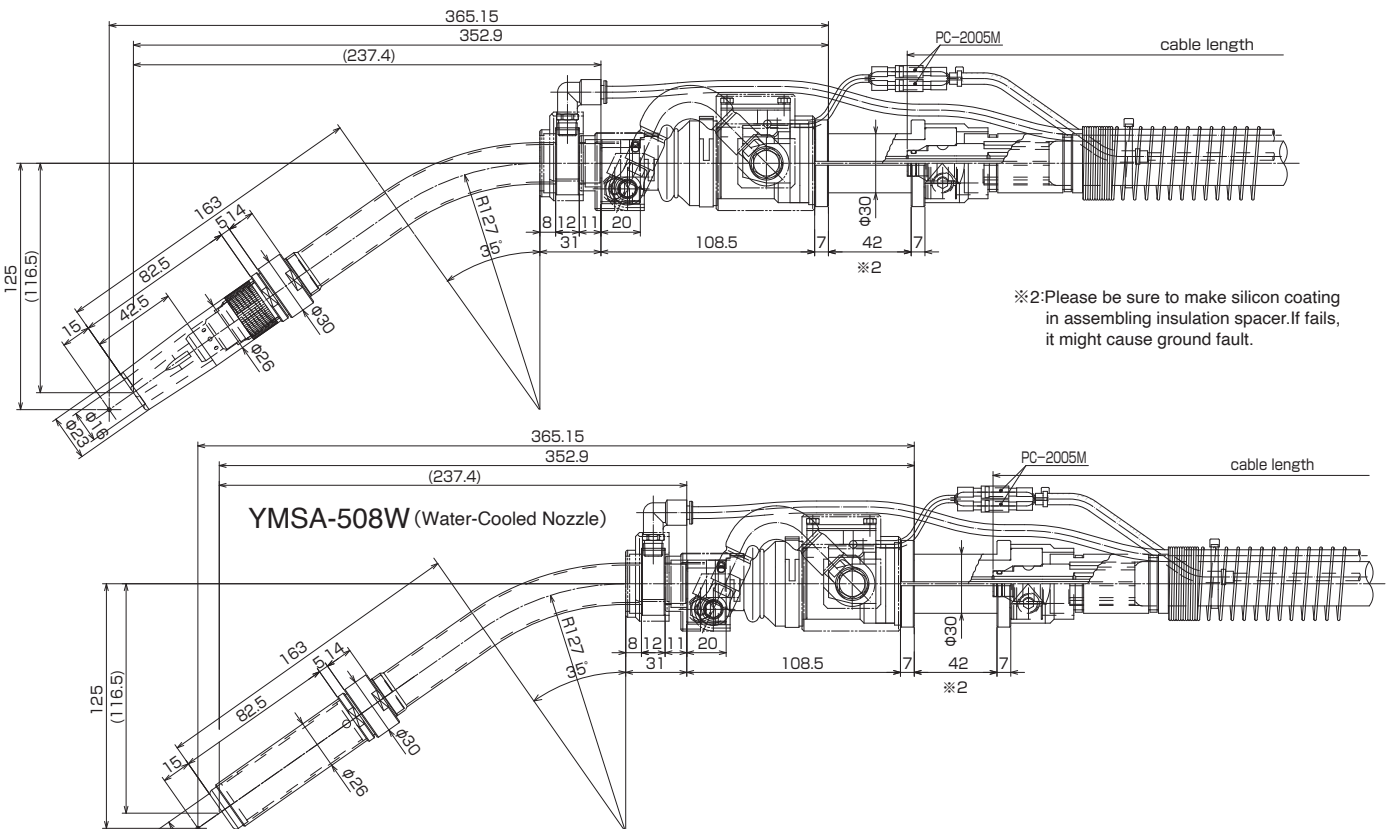
※1:Option Parts

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 ※2
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

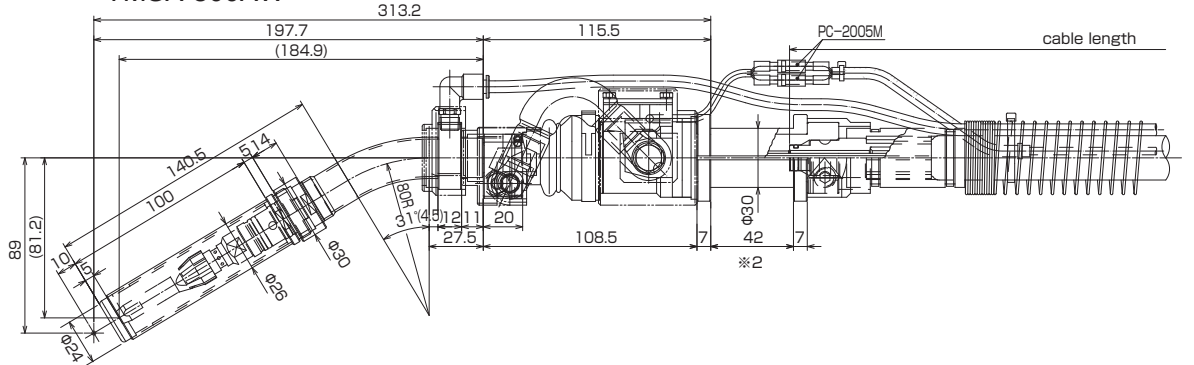
YMSA-500W

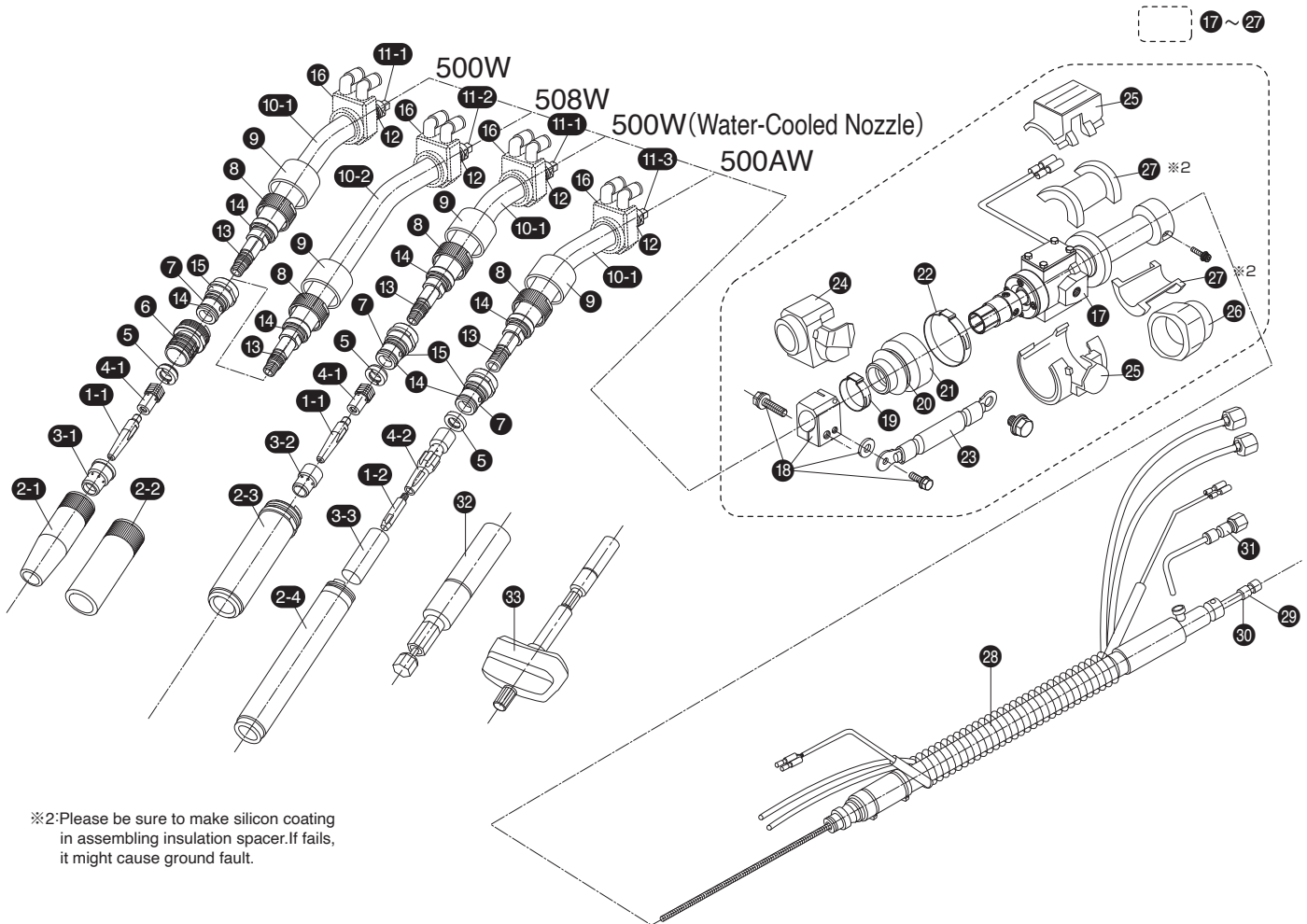


YMSA-508W



YMSA-500AW





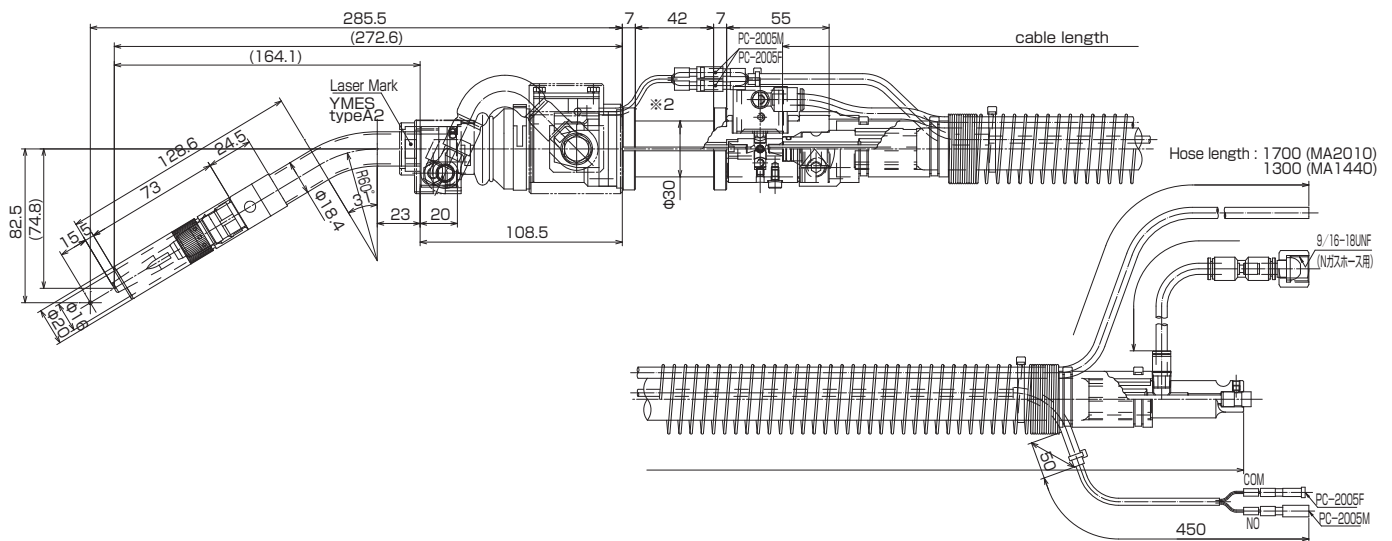
29 Liner

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

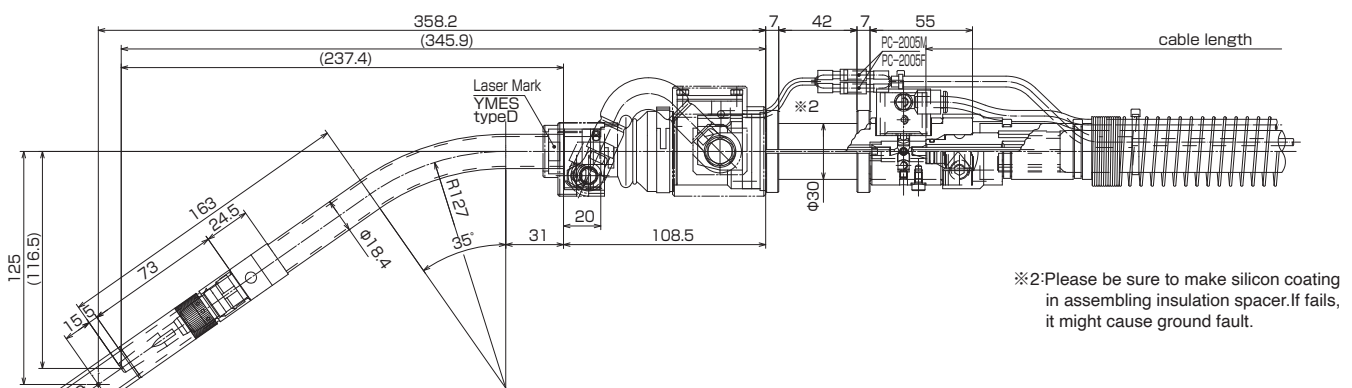
YMSA-500W/508W/500W(Water-Cooled Nozzle)/508W(Water-Cooled Nozzle)/508AW Parts List

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 β WX Nozzle 16mm	21	YM0980012	YMST-9800-12 Rubber Boots
2-2	034116	NEW β 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 β 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 ※2
4-1	034135	NEW β 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	046703	Handy Tip Changer
11-3	YEW005046	YMES-500AW Inner Tube	33	046705	Handy Tip Changer(with Torque Driver)
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			

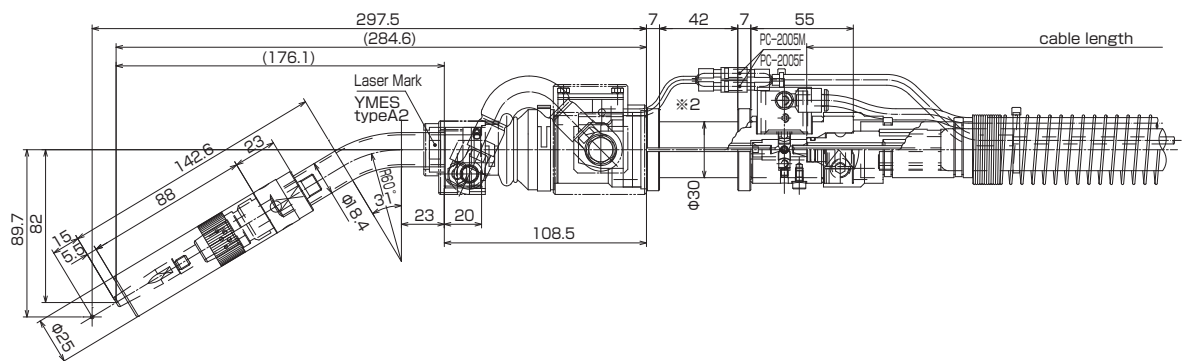
YMSA-300R (With Wire Clamp)



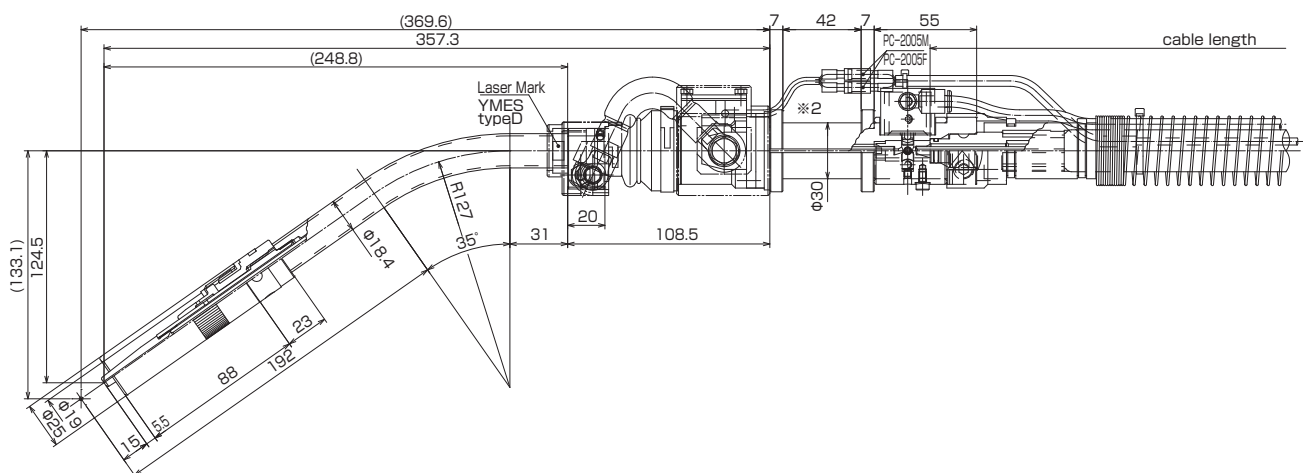
YMSA-308R (With Wire Clamp)

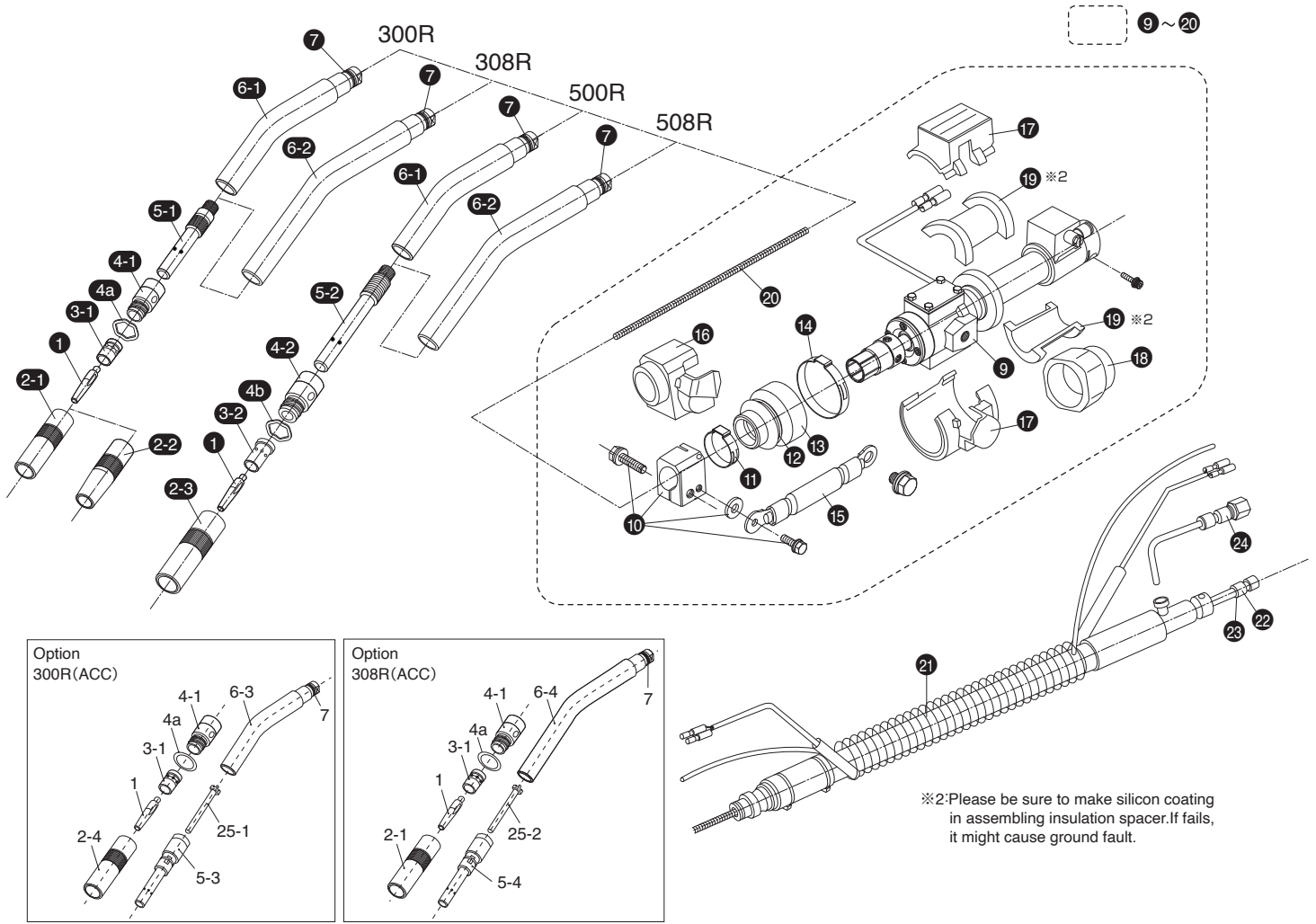


YMSA-500R (With Wire Clamp)



YMSA-508R (With Wire Clamp)





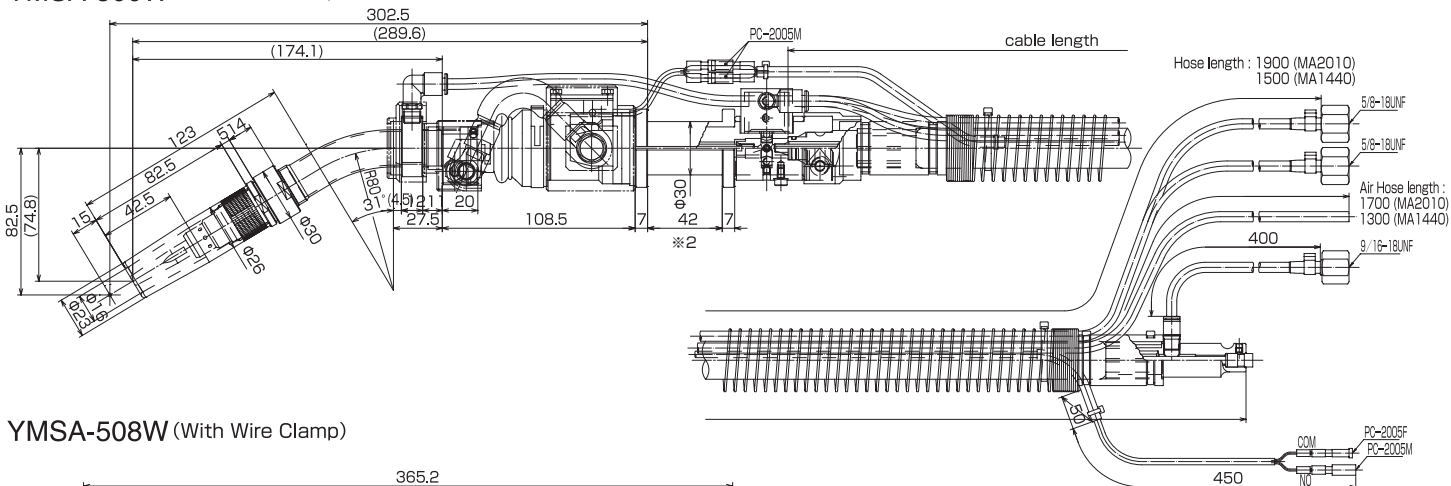
22 Liner

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

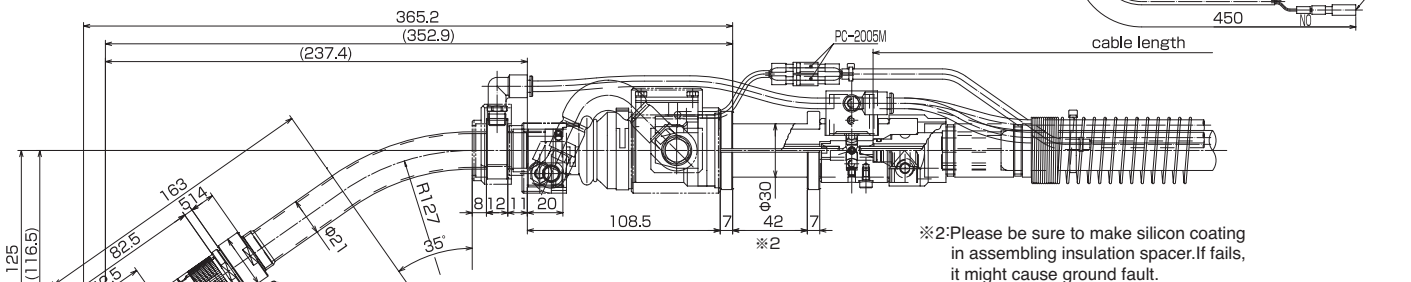
YMSA-300R/308R/500R/508R (Wire Clamp) Parts List

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 ※2
4-2+4b	004008	N Insulator L (With Wave 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)			

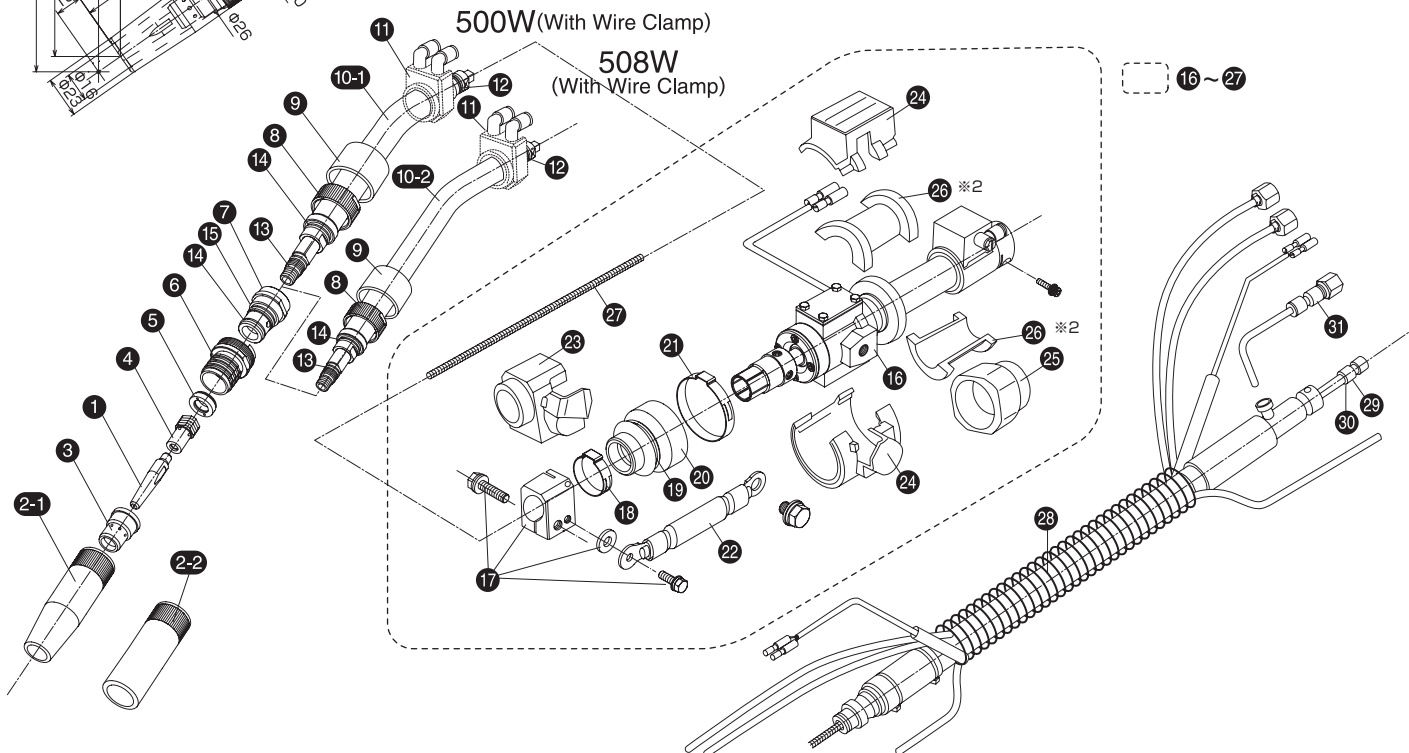
YMSA-500W (With Wire Clamp)



YMSA-508W (With Wire Clamp)



※2: Please be sure to make silicon coating in assembling insulation spacer. If fails, it might cause ground fault.

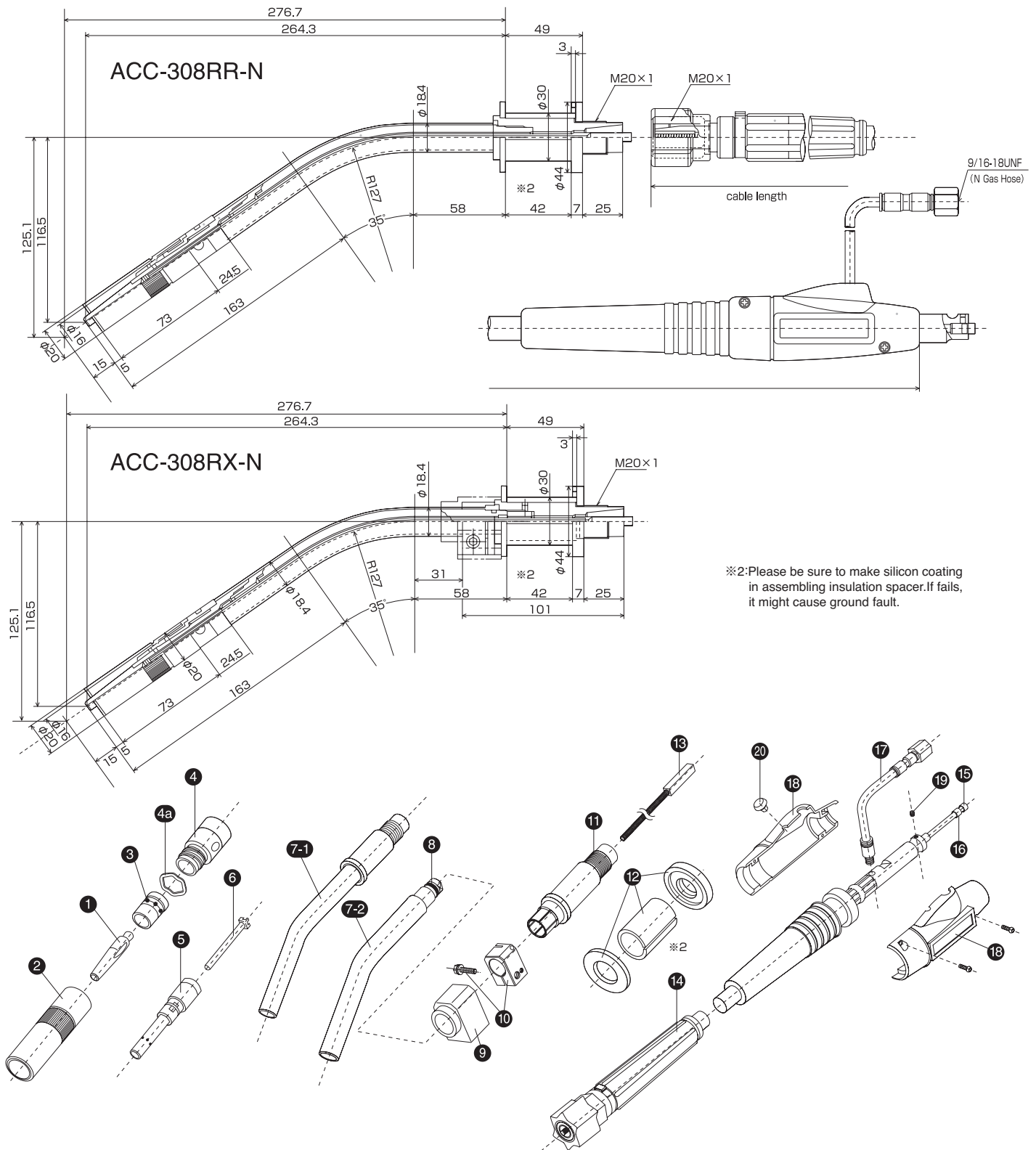


29 Liner

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

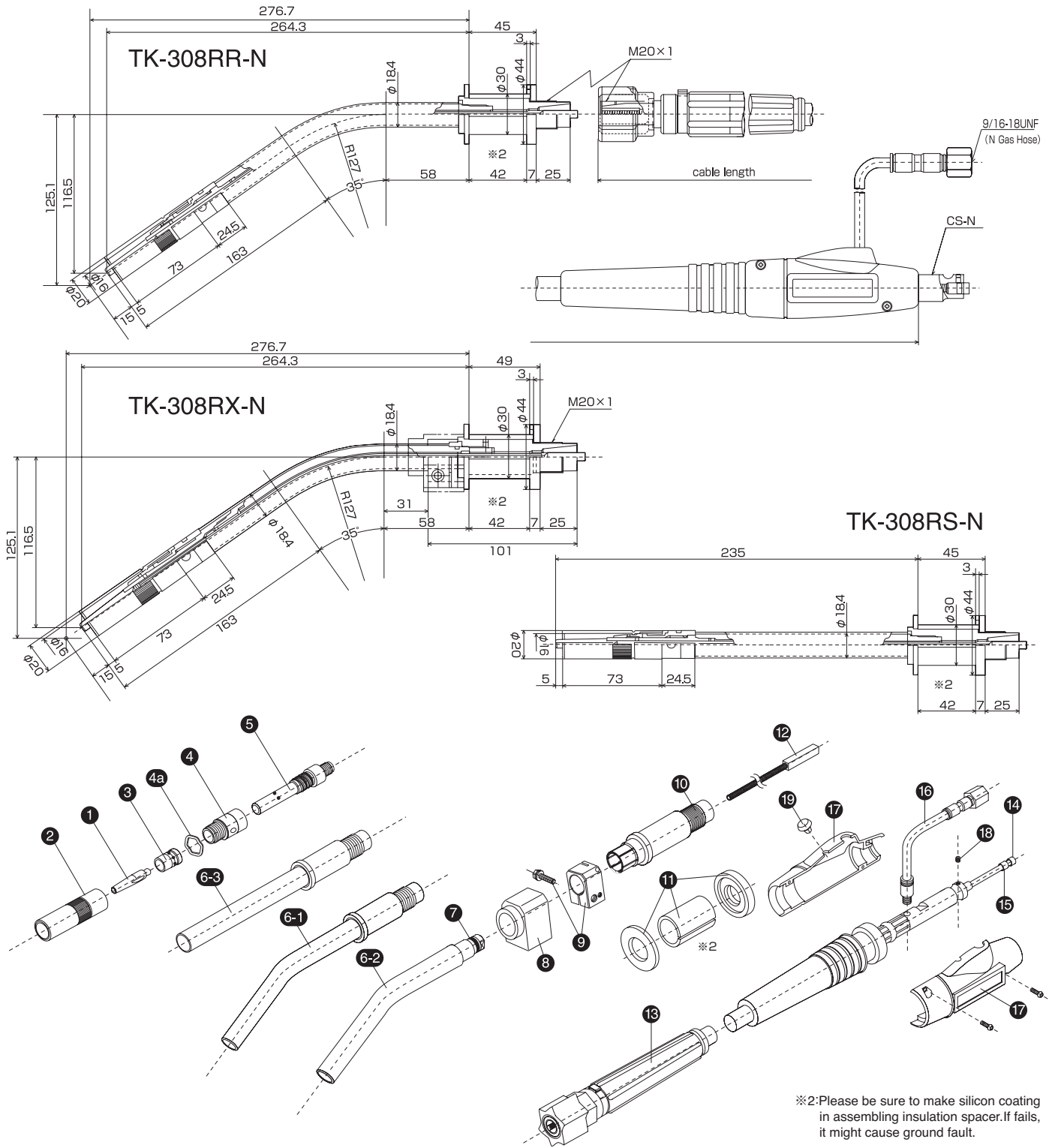
YMSA-500W/508W(With Wire Clamp) Parts List

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 ※2
	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		Y0000FP10	O ring 4D-P10	16 ~ 27	YM1408275-508W-S12	YMSA-508W Inner Tube (Wire Clamp)1.2
2-1	034115	NEW β/WX Nozzle 16mm	13	Y90201009	O ring 1009	28 ~ 31	YM1408270-WWC	YMSA Unit Assy (Wire Clamp) Water Cooled
2-2	034116	NEW β/WX Nozzle 19mm	14	Y90201015	O ring 1015		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			



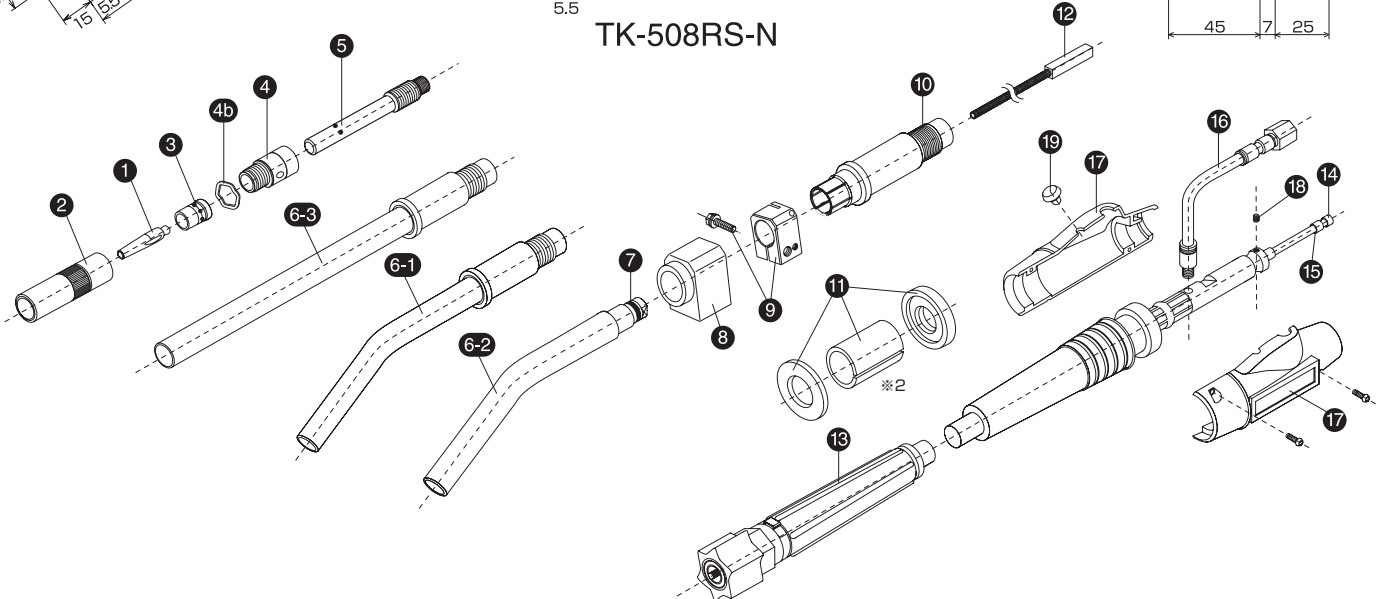
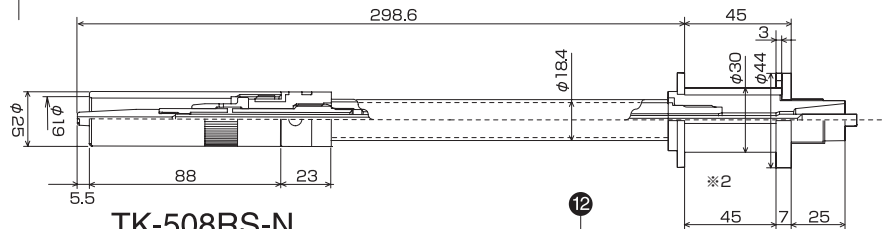
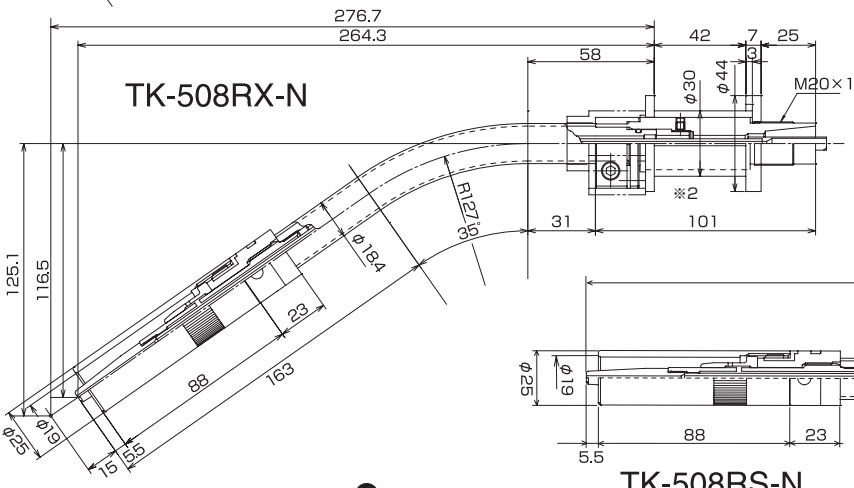
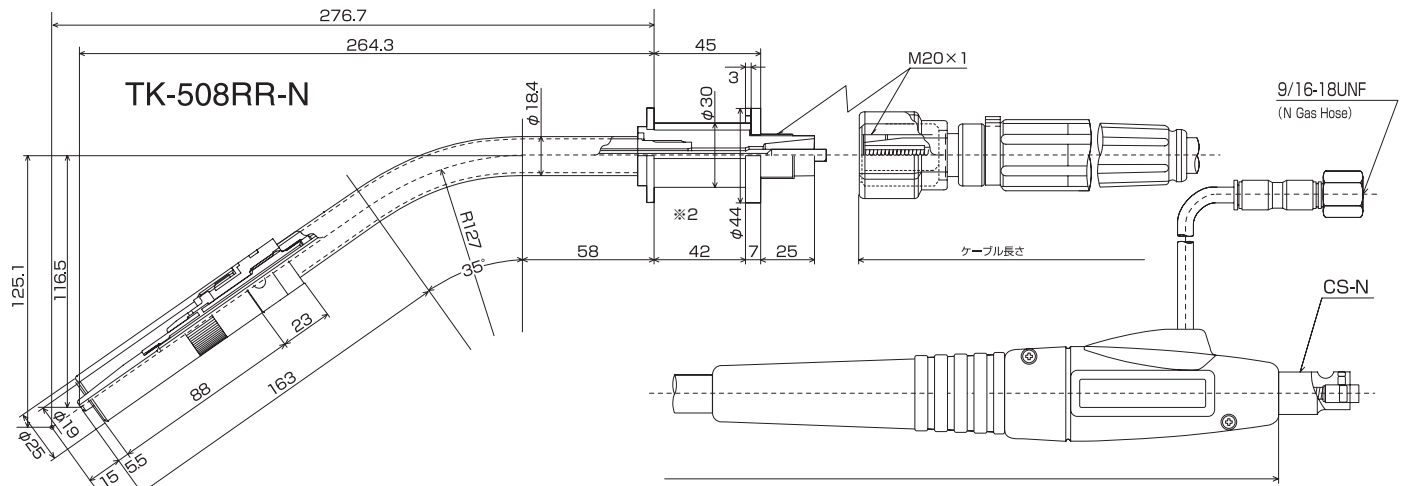
ACC-308RR-N/308RX-N Parts List

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 ※2	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

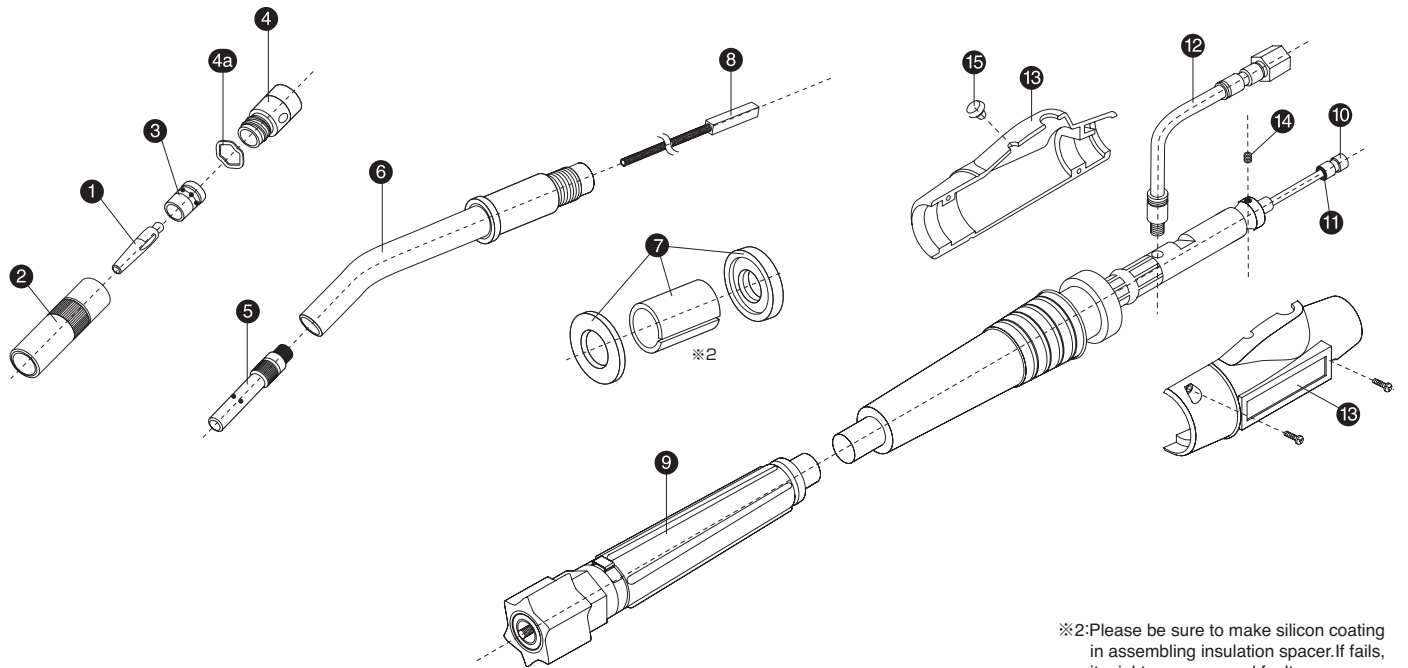
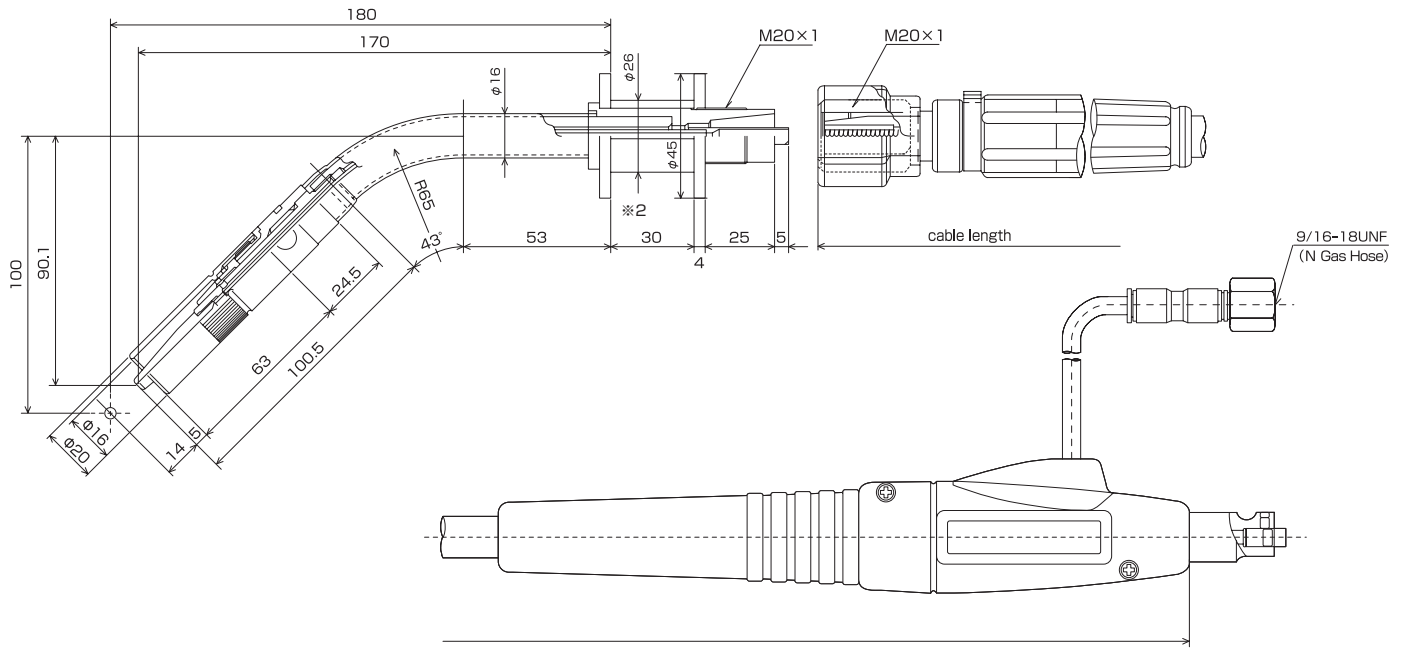
No.	Part No.	Parts Name	No.	Part No.	Parts Name	No.	Part No.	Parts Name
	RT3RN0090	TK-308RR-N-0.9	2	001002	N Nozzle 16mm 73L	12	016053	TK-308RR Inner Tube
	RT3RN0100	TK-308RR-N-1.0		001003	N Nozzle 12mm 73L	1~6-1+11+12	016058	TK-308RR Torch Body Assy
	RT3RN0110	TK-308RR-N-1.1	3	003002	N Orifice S	1~6-2+7	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		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)	14	016076	308RR-N Liner 1.3m
	RT3SN0100	TK-308RS-N-1.0	5+6-2+7	3001042	YMES-308R Torch Body(W/Tip Body)		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)	15	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 ※2			
	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		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 ※2				

TK-309R1-N

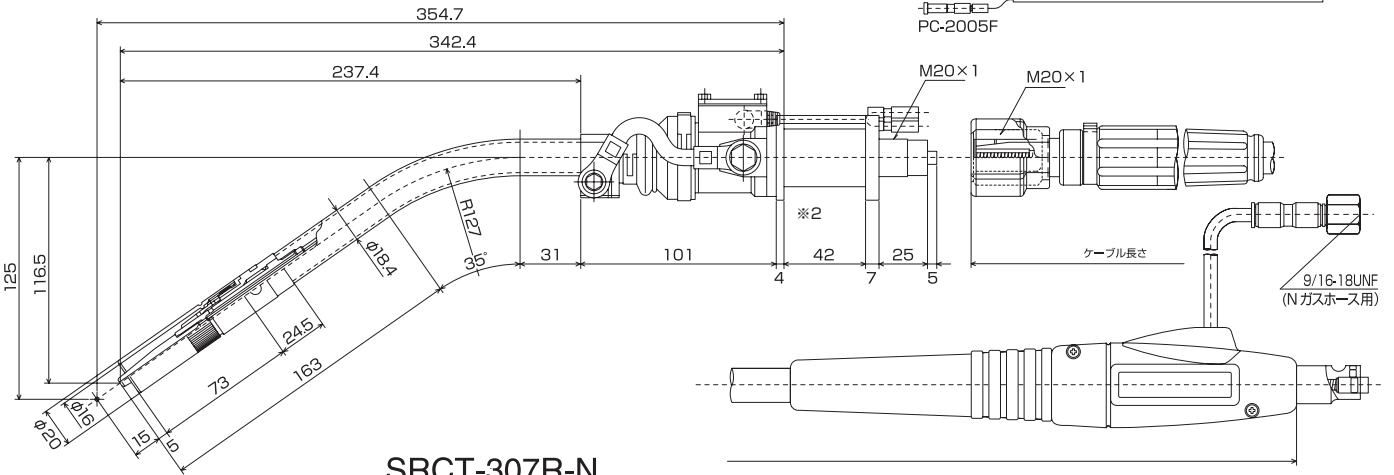


※2: Please be sure to make silicon coating in assembling insulation spacer. If fails, it might cause ground fault.

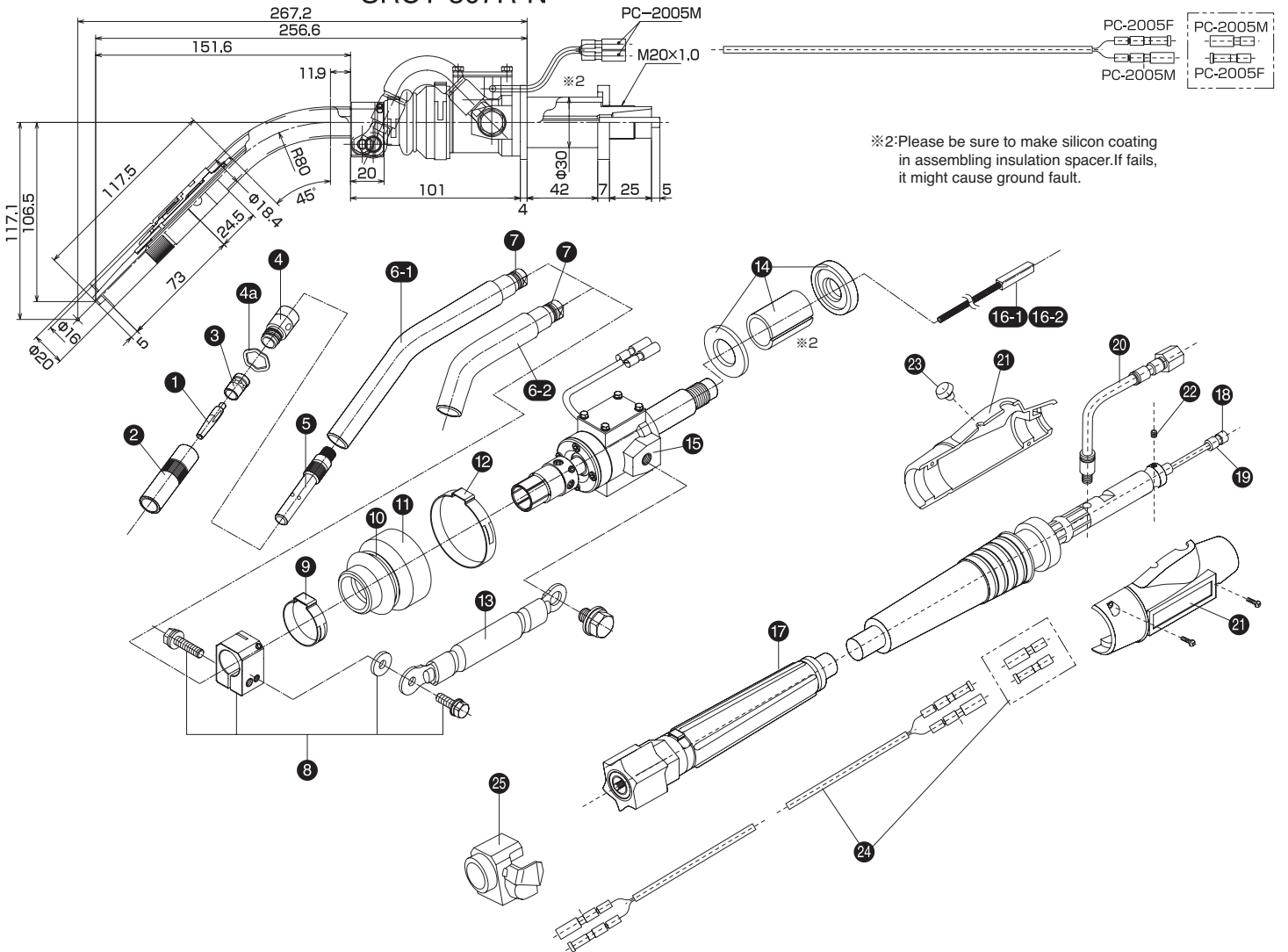
TK-309R1-N Parts List

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
1	023010	Contact Tip D-1.2		016N12	308RR/309R1-N Power Cable 1.2m
2	001013	N Nozzle 16mm 63L		016N13	308RR/309R1-N Power Cable 1.3m
3	003002	N Orifice S	10	016076	308RR-N Liner 1.3m
4	004002	N Insulator S		016122	308RR-N Liner 1.3m(0.9mm)
4a	255406	Wave Washer S	11	036035	Liner O ring(S-4)
4+4a	004004	N Insulation S (With Wave Washer)	12	033701	N/D Gas Hose Assy
5	036001	CS Tip Body A	13,15	033108	Robotic Torch Cable Supporter
6	016047	TK-309R1 Torch Body(w/o Tip Body)	14	031035	Liner Set Screw M4*4
5+6	016046	TK-309R1 Torch Body(W/Tip Body)	15	033742	Plug Gushinging Rubber
7	016048	309R1 Insulation Spacer ※2			

SRCT-308 R-N



SRCT-307R-N

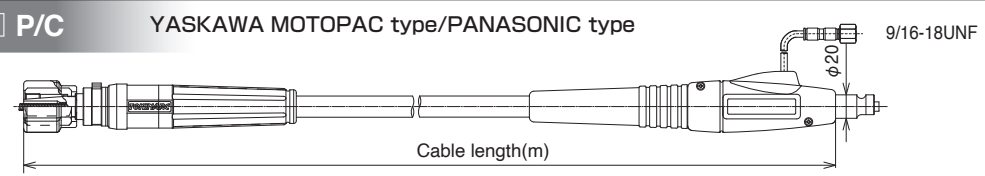
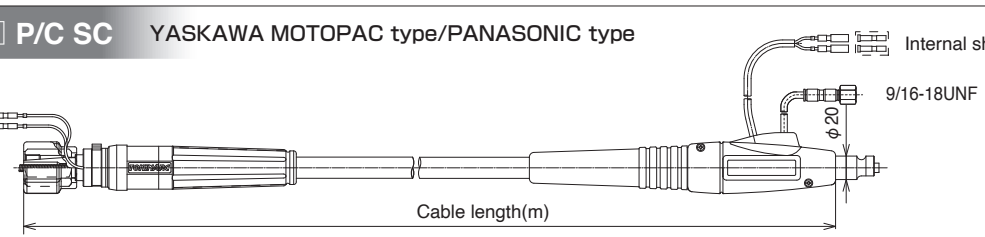
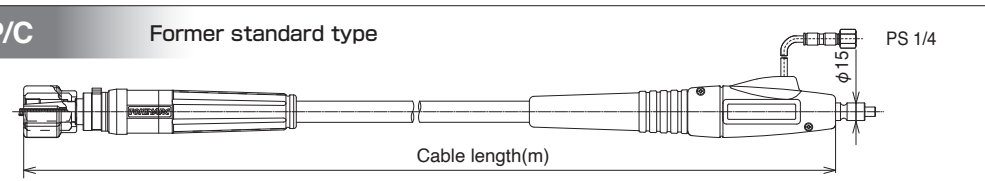
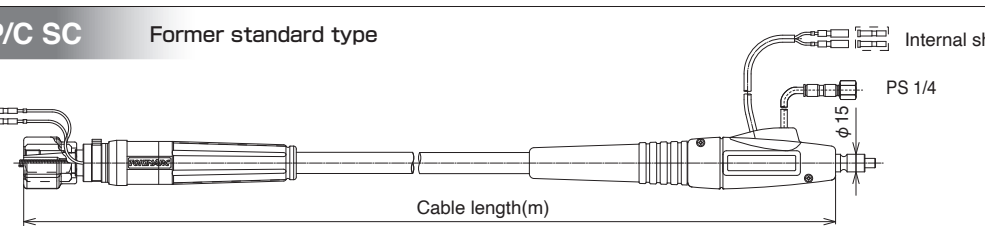
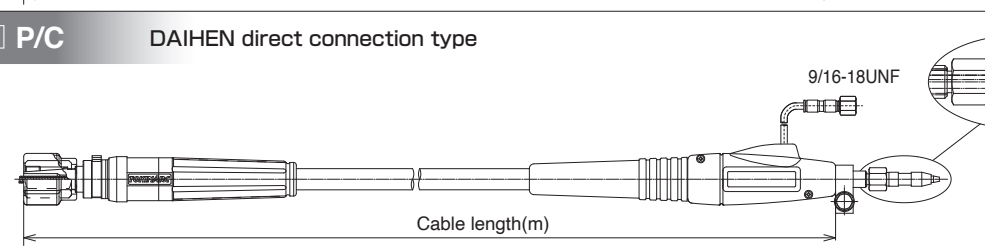
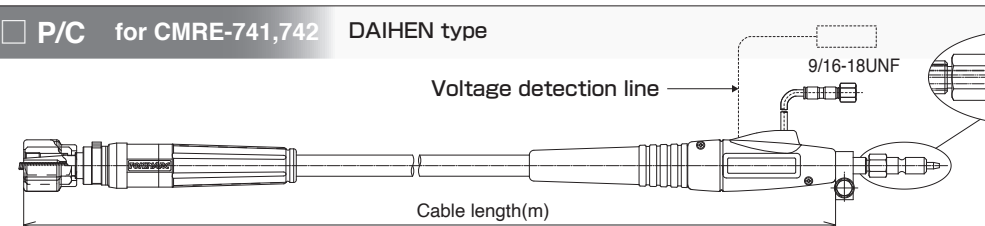
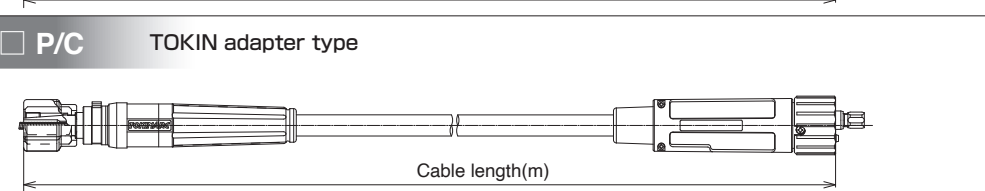
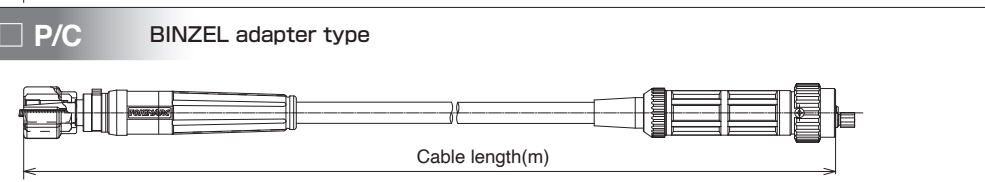
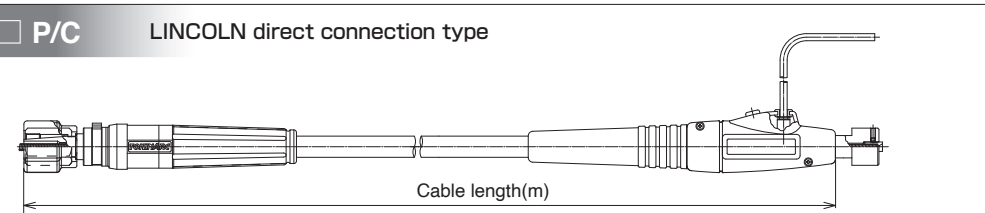
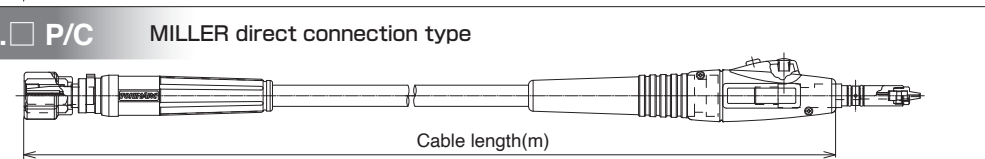


SRCT-308R / 307R-N Parts List

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 ※2	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

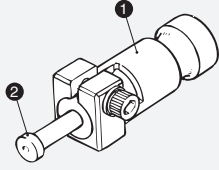
※1 : Please specify cable length (m), according to robot model.
 ※2 : Cable length is available from 0.8m to 5.0m, in increments of 0.1m.

<p>308RR-N-□.□ P/C</p> 	<p>YASKAWA MOTOPAC type/PANASONIC type</p> <p>9/16-18UNF</p>
<p>308RR-N-□.□ P/C SC</p> 	<p>YASKAWA MOTOPAC type/PANASONIC type</p> <p>Internal shock sensor wire</p> <p>9/16-18UNF</p>
<p>308RR-□.□ P/C</p> 	<p>Former standard type</p> <p>PS 1/4</p>
<p>308RR-□.□ P/C SC</p> 	<p>Former standard type</p> <p>Internal shock sensor wire</p> <p>PS 1/4</p>
<p>308RR-D-□.□ P/C</p> 	<p>DAIHEN direct connection type</p> <p>9/16-18UNF</p>
<p>308RR-DD-□.□ P/C</p> 	<p>for CMRE-741,742 DAIHEN type</p> <p>Voltage detection line</p> <p>9/16-18UNF</p>
<p>308RR-AD-□.□ P/C</p> 	<p>TOKIN adapter type</p>
<p>308RR-BZ-□.□ P/C</p> 	<p>BINZEL adapter type</p>
<p>308RR-LE-□.□ P/C</p> 	<p>LINCOLN direct connection type</p>
<p>308RR-MIL-□.□ P/C</p> 	<p>MILLER direct connection type</p>

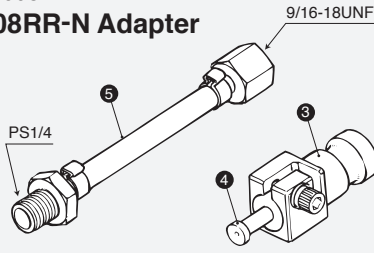
[10]Adapter Specifications

308RR Adapter (For Former standard type)

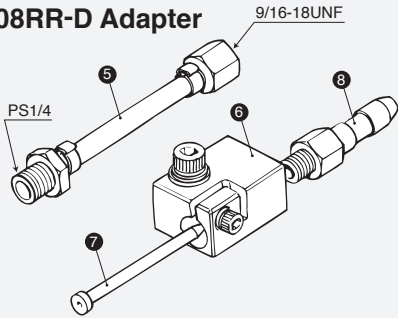
016080
308RR-T Adapter



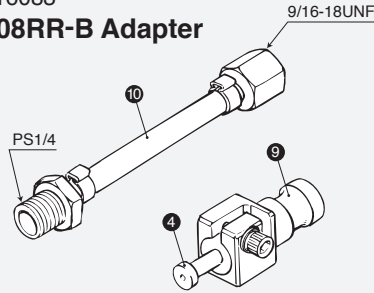
016081
308RR-N Adapter



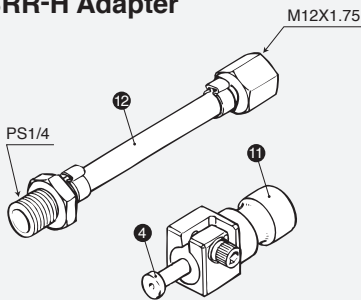
016082
308RR-D Adapter



016083
308RR-B Adapter



016084
308RR-H Adapter

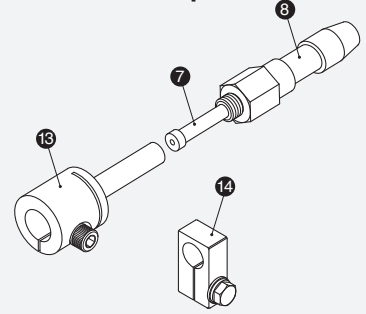


308RR Adapter Parts List

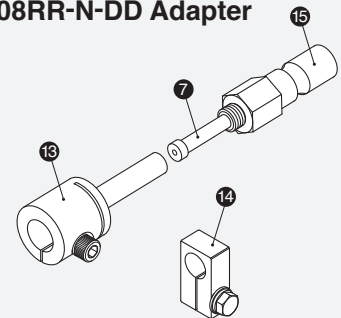
Reference No.	Parts No.	Parts Name
1	016085	308RR-T Adapter Fitting
2	016180	308RR-T Wire Guide Pin
3	016086	308RR-N Adapter Fitting
4	016181	308RR-N/B/H Guide Pin
5	016184	308RR-N Adapter Gas Hose
6	016087	308RR-D Adapter Fitting
7	023022	WT-64 Outlet Guide
8	023023	WT-64 Guide Adapter
9	016088	308RR-B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



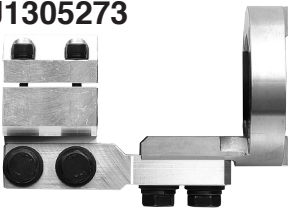
308RR-N-DD Adapter Parts List

Reference No.	Parts No.	Parts Name
13	021013	N-D Adapter Fitting
14	22202A	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

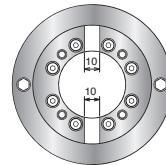


YMXA Bracket Assembly

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

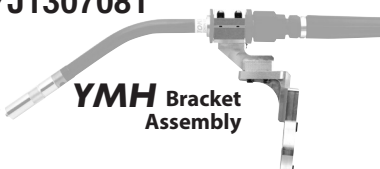
YJ1305277

YMA Flange



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

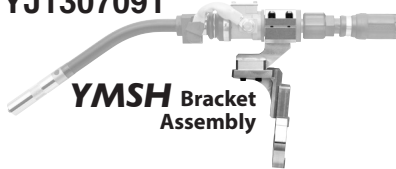
YJ1307081



YMH Bracket Assembly

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

YJ1307091

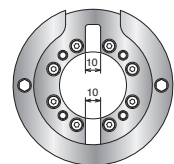


YMSH Bracket Assembly

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

YJ1307086

YMH Flange



TC1601T05-8

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
February,2023	Ver. 6.0 Sixth Edition
October,2023	Ver. 7.0 Seventh Edition
December,2024	Ver. 8.0 Eighth Edition

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