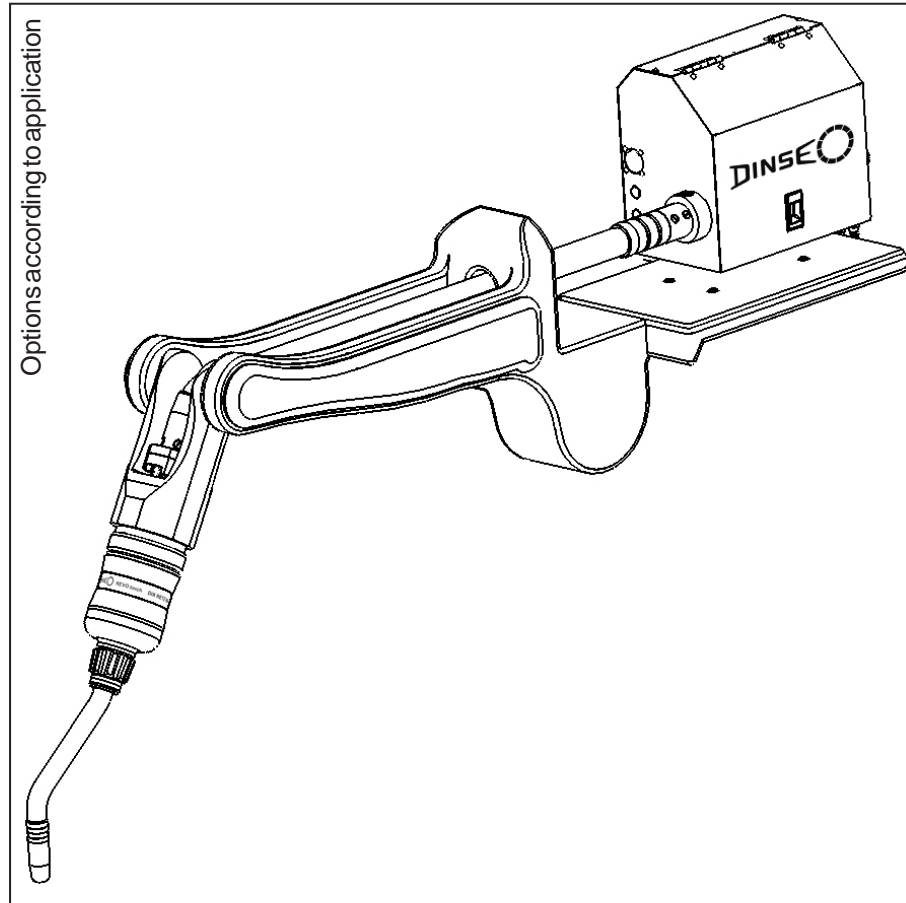




Operating Instructions

Keep for future use!



Sample application

REVO.torch Rotary interface liquid-cooled DIX RETZ 600

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Make sure to read these operating instructions before startup to guarantee the safe handling of the **DINSE** product. The operating company must make these operating instructions available to the operator and make sure that the operator has read and understood them.

Keep the operating instructions in a safe place for future use. Leave a notice indicating the storage location readily visible at the work location.



These products meet the

- 2004/108/EC – EMC directive
- 2006/95/EC – Low-voltage directive
- IEC 60974-7 – Arc welding equipment (welding torches)
- IEC 60974-10 – Arc welding equipment (Electromagnetic Compatibility EMC)



According to IEC 60974 this product may be used in environments with increased electrical hazard.

Technical Standards and Accident Prevention Regulations:

The following technical standards and accident prevention regulations must be observed when installing, operating and servicing the rotary interface.

- IEC 60974-4 – Arc welding equipment (Inspection and checks during operation)
- IEC 60974-9 – Arc welding equipment (Setup and operation)
- TRGS 528 – Technical rules on hazardous substances Welding tasks
- BGR 500 – Operating work equipment
- Chapter 2.26 – Welding, cutting and related processes
- BGV A3 – Electrical systems and equipment
- EN 175 – Personal protection - Devices for eye and face protection during welding and related processes

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You have purchased a quality product from **DINSE Inc.**
Thank you for your trust.

This product is manufactured with the utmost care and is constantly monitored during production. The function of each components is tested before and after assembly.

These technically sophisticated welding accessories are characterized by inspections during production, precisely coordinated materials and production on state-of-the-art machinery.

Please contact us with any questions or requests regarding accessories and features. Our application engineers will be glad to assist you.

DINSE Inc.

121 West Trade Street, Suite 2850
Charlotte, NC 28202 USA
Phone.:517 416 5294 • Fax.:888 896 4871:
s a l e s @ d i n s e - u s . c o m
w w w . d i n s e - u s . c o m

1. Introduction

1.1 EC Declaration of Conformity

EC declaration of conformity acc. to directive 2006/95/EC, annex III B (Original EC-declaration of conformity)



Herewith declares

the producer

Name, form of organization: Dinse, G.m.b.H.
Address: Tarpen 36
22419 Hamburg Germany

that the following appliance

General identification: Rotary interface
Function: Liquid cooled torch set with unlimited rotating torch head.
Model: DIX RETZ 600 (L) Art.-Nr.: 687101001 (687101008)

equates to all relevant regulations of the above mentioned directive, including its time to change that statement valid.

This appliance complies with the following further EC Directives, including its time to change that statement valid:

- 2004/108/EG

The following harmonized standards were applied in full:

- IEC 60974-7
- IEC 60974-10

Person who is authorized to compile the technical documentation:

Name: Michael Meinke Address: Dinse G.m.b.H.
Tarpen 36
22419 Hamburg
Germany

Subscriber

Place of issue: Hamburg / Germany
Date of issue: 11.06.2012
Function of the subscriber at the company: Managing director
Name of the subscriber: Torsten Lischke

Technical design
Peter Zander

Signature:



DINSE G.m.b.H. · Tarpen 36 · 22419 Hamburg · Tel: +49-(0)40-658 75-0 · Fax: -200 · E-Mail: info@dinse-gmbh.com · www.dinse-gmbh.com

2. Safety

2.1 Symbols used













All **DINSE** products are equipped with protective devices. They are built reliably using state-of-the-art technology and acknowledged safety rules. Improper use or use other than for the intended purpose may lead to possible risks to:

- The life and health of the operator
- The product and other property of the operating company
- The efficient working of the product.




This is about your safety!

The following symbols are used in these operating instructions:

Danger and prohibitive symbols

 Danger from electric shock	 Danger of burns from hot parts
 Danger of hand injuries	 Risk of blinding and flash arcs
 Fire hazard	 Risk of explosion
 Danger from toxic materials	 Danger from high noise levels
 Danger from gas cylinder	 Risk of property damage or dangerous situation!
 Wear eye protection!	 Always pull power plug before opening!

Other symbols

 <i>Technical information and usage tips</i>	• List
 You are prompted to perform an action.	1. Carry out the action in the order specified.
 Tighten screw securely with specified torque	

2. Safety

2.2 Intended use

The sole use of the rotary interface is to facilitate the rotation of the welding torch on the robot arm and the transport of filler materials when welding and soldering.

The rotary interface is **not** suitable for outdoor use!

The rotary interface works with the MIG or MAG process and is designed for max. 113 V floating value (peak value).

The current source supplying the rotary interface must meet this condition!

► Verify this before initial startup.

Any other use is considered **not to conform** with regulations.

The manufacturer is not liable for resulting damages; the operating company alone bears the risk. The intended use also includes observing the assembly, disassembly, startup, operating and maintenance instructions stipulated by the manufacturer.



Unauthorized conversions and modifications of the rotary interface are not permitted for safety reasons.

2. Safety

2.3 Risk when used as intended

Attention: Observe accident prevention regulations!
Disregarding the following safety measures may pose a risk to life!



The arc rays can damage the eyes and burn the skin!

- ▶ Never look into the arc without eye protection.
- ▶ Wear the required protective clothing before welding (e.g. protective welding gloves).
- ▶ Use welding helmet or face shield with appropriate arc protection filter.



Electric shock may cause death!

- ▶ Pull the power plug for all inspection and maintenance tasks and make sure that nobody switches the power supply on during maintenance!
- ▶ Do not use torch or grounding cables or supply lines with damaged insulation.
- ▶ Damage must be repaired immediately by a trained electrician!
- ▶ Operate the rotary interface only with the housing in place and the dust boot in position!



Toxic welding fumes and gases are a health hazard!

- ▶ Do not inhale the welding fumes and gases.
- ▶ Use welding fume extraction and service regularly.
- ▶ Wear a compressed air breathing mask in tight spaces if no flue gas extraction is available.
- ▶ Ensure there is an adequate supply of fresh air.



Risk of injury especially to the hands and other body parts from protruding wire!

- ▶ Do not hold hands or other body parts in front of the contact tip while inspecting the wire transport!

Risk of injury from moving components inside the rotary interface!

- ▶ Operate the rotary interface only with the housing in place and the dust boot in position!

2. Safety

2.3 Risk when used as intended



WARNING!

Risk of eye injuries from flying chips, wire electrode abrasion and spatters when blowing out compressed air through the torch set!

- ▶ Always wear safety goggles or a visor.



WARNING!

Risk of fire from sparks!

- ▶ Do not weld near flammable materials or liquids.
- ▶ Move containers with flammable liquids from the work area.
- ▶ Any cause of ignition, e.g. sparks, glowing parts, must be prevented.
- ▶ Check constantly that no sources of fire have developed in the work area.
- ▶ Make sure that adequate fire extinguishing devices are available.



DANGER!

Risk of explosion from sparks!

- ▶ Do not weld near explosive materials or liquids.
- ▶ Move containers with explosive liquids away from the work area.
- ▶ Any cause of ignition, e.g. sparks, glowing parts, must be prevented.



WARNING!

Risk of burns from the hot surface of the rotary interface and the torch head!

- ▶ Do not touch the rotary interface and/or torch head directly after welding.
- ▶ Allow the rotary interface and the torch head to cool properly before replacing the liner or other wear parts.



WARNING!

Risk of hearing damage from high noise levels!

- ▶ Always wear hearing protection.



DANGER!

Danger from exploding gas cylinders!

- ▶ Protect gas cylinders from excessive heat, mechanical shocks, cinders, open fire, sparks and arcs.
- ▶ Always place gas cylinders upright and secure them against tipping over.
- ▶ Never place a welding torch on a gas cylinder.
- ▶ Never touch a gas cylinder with the wire electrode or the welding torch.
- ▶ Never weld on a pressurized gas cylinder.
- ▶ Never wrap a welding current cable around a gas cylinder.
- ▶ Never integrate a gas cylinder into the welding current circuit

2. Safety

2.4 Permitted operators

The rotary interface may be installed and operated only by persons trained by **DINSE Inc.** and/or authorized agents, who are familiar with the relevant safety regulations!

2.5 Warranty claim

The suitability of the rotary interface for the respective application must be determined by the user and is not covered by the manufacturer's product liability.

For more information about warranty please read the general terms of delivery of **DINSE Inc.** at www.dinse-gmbh.com.

Claims can only be made under the warranty if:

- The product has been used as intended
- The product has been operated properly
- Original components and spare parts from **DINSE Inc.** have been used
- The safety instructions have been observed

Please note that repairs may generally be performed only by **DINSE Inc.** or trained electricians authorized by them!

In the event of significant complaints during the warranty period, the rotary interface must be returned unmodified to **DINSE Inc.**



Product liability and warranty become void in the event of unauthorized interventions!

2. Safety

2.6 Packaging and shipping

The rotary interface is carefully inspected and packaged before shipping; however, damage during transport cannot be ruled out.

In the event of malfunctions please contact **DINSE Inc.** and ship the complete rotary interface to:

**TANDEM Global
Logistics Chicago**

8 3 0 D I L L O N D R I V E
W o o d D a l e , I L 6 0 1 9 1 U S A
P h o n e : 6 3 0 8 6 0 1 7 0 3 • F a x : 6 3 0 8 6 0 1 7 4 6 :
t v d e i j k h o f f @ t a n d e m g l o b a l l o g i s t i c s . c o m
w w w . t a n d e m g l o b a l l o g i s t i c s . c o m

The rotary interface must be adequately protected for shipping to prevent damage!

Enclosing information regarding the malfunction will help our service department to determine the cause and shorten the repair times significantly.

2.7 Recycling / Disposal In countries of the European Union:



Do not discard electrical devices with household waste.

According to the European Directive 2002/96/EC on used electrical and electronic devices and its implementation into national legislation, used electrical devices must be collected separately for proper, environmentally-friendly recycling.

In other countries:

Some of the materials of the rotary interface can be reused. By reusing some parts or raw materials from used products you can make an important contribution to environmental protection. Contact your local authorities if you need information about collection sites in your vicinity.

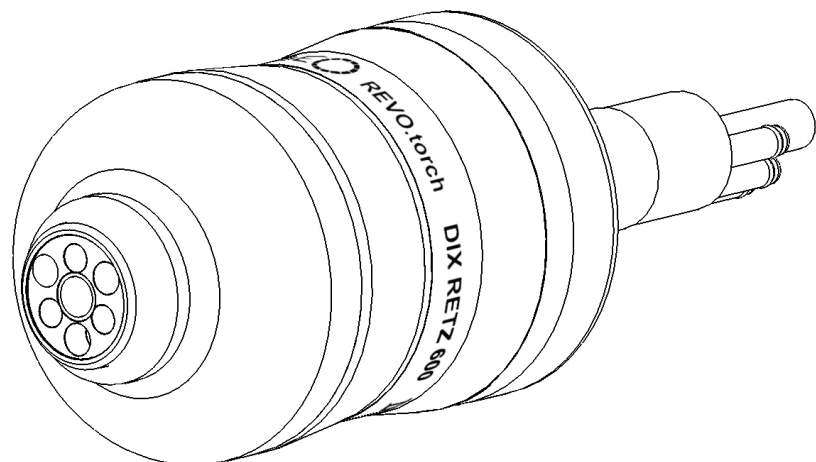
3. Technical data



Liquid-cooled rotary interface	Welding method:	MIG/MAG welding and soldering
	Protection class:	IP 23
	Rotary interface:	Transfer of: Filler wire Welding current Shield gas Compressed air Coolant
	Rotation:	unlimited
	Crash protection (deflection)	15°
	Dimensions (ø x L):	ø 94 mm x 154 mm (without current shaft)
	Weight:	approx. 3.4 kg
	Ambient temperature	
	- during operation:	14 °F to 104 °F
	- during storage	14 °F to 131 °F

Parameters for liquid-cooled automatic torch sets according to DIN EN 60974-7

Min. water flow:	0.29 gal/min
Pump pressure	max. 6 bar (87 psi) (impact pressure)
Max. water temperature:	131 °F
Cooling medium:	demineralized (deionized) water



There are many different robot types and robot manufacturers. Given the limitations of space, the assembly is shown based on a virtual robot, since the individual process steps for the different robot types do not differ. Please refer to the appendices for special features of some robot types.

For the details of the different system versions such as length of the supply hose, torch head components, spare and wear parts, please refer to the respective current spare and wear parts lists.

Different welding tasks occurring in practical applications are covered by a variety of torch head designs with special gas nozzles, contact tips and tip adapters.

For example, with out-of-position welding at low amperage (short-arc) a gas nozzle with a small inside diameter and a long contact tip adapter is normally used.

Welding tasks with high output (spray-arc), by contrast, should generally be performed with a short tip adapter and a gas nozzle with large inside diameter.

For aluminum welding, drive rolls with specifically shaped grooves in the wire feeder system should be used.

When using wire electrodes made from aluminum and chromium-nickel, a capillary liner is recommended instead of a liner.

5. Startup

5.1 Assembly on robot arm

5.1.1 Tools and components



*Use only tools that are free from grease and not worn.
The relevant accident prevention regulations apply at the assembly site.
The electrical connection may only be made by a trained electrician.*

You will need the following tools to assemble the torch set:

- Hex key sizes 2.5 mm / 3 mm / 4 mm / 5 mm
- Wrench 8 mm
- Wire cutter
- Hook spanner DIX SLAT 4

Depending on the contact tip selected:

- Special spanner DIX SSL 1/2
- Socket spanner DIX SSLA 1 / DIX SSLA 2 / DIX STLA 3 M8
- Socket spanner DIX SCS 300



*For more information about **DINSE** tools, refer to the **DINSE** product catalog.*

Have the following components ready for assembly:

- Adapter flange DIX ADFR 63xx (type depending on robot)
- Rotary interface DIX RETZ 600 (L)
- Torch set DIX RETZ 610 - xx
- Connecting piece DIX MES 300/500
- Liner *and/or capillary liner*
- Torch head, e.g. DIX METZ 6-3-528



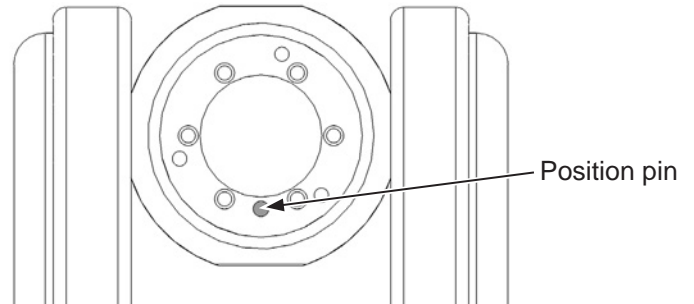
To determine the correct adapter flange to use, please refer to the adapter flange list in the product catalog.

5. Startup

5.1 Assembly on robot arm

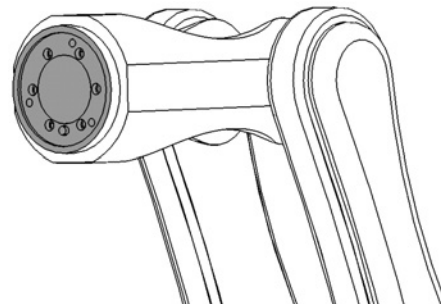
5.1.2 Assembling insulating sleeve and adapter flange

1. Before mounting the rotary interface the robot must be set to the reference point to facilitate the installation of the rotary interface.

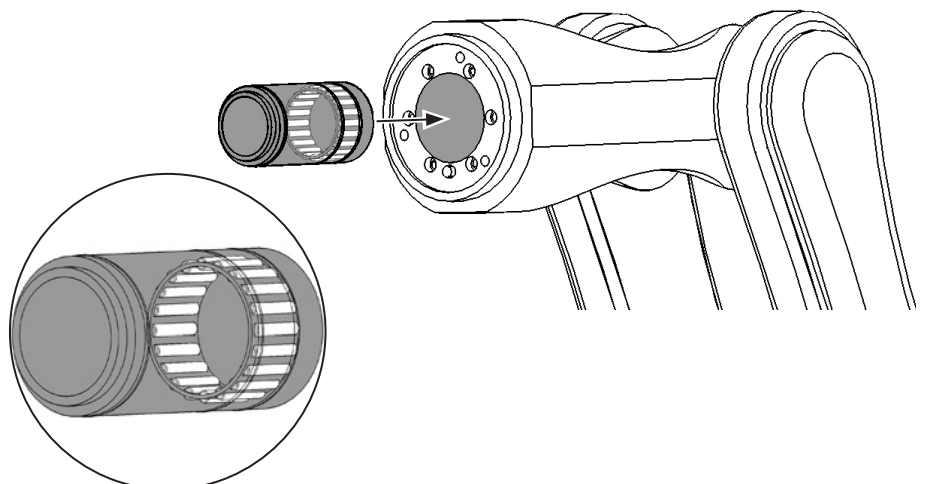


Depending on the robot type, the position pin must be in a specific position. In this case, the position pin is down when the reference point is set.

2. Thoroughly clean and degrease the flange and the leadthrough of the robot arm.



3. Insert the insulating sleeve into the leadthrough with the bearing side forward.



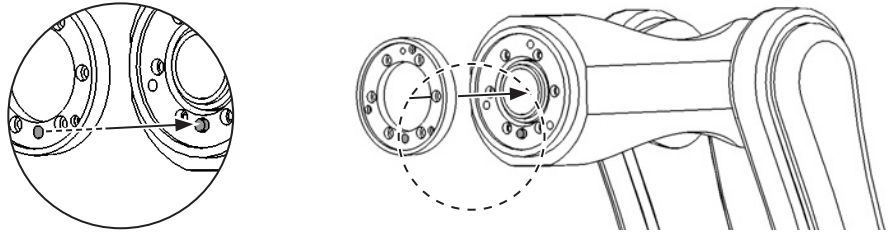
5. Startup

5.1 Assembly on robot arm



Please note the assembly instructions for ABB robots with additional adapter flange in appendix A!

4. Set the adapter flange on the flange of the robot arm. Align the adapter flange on the position pin.

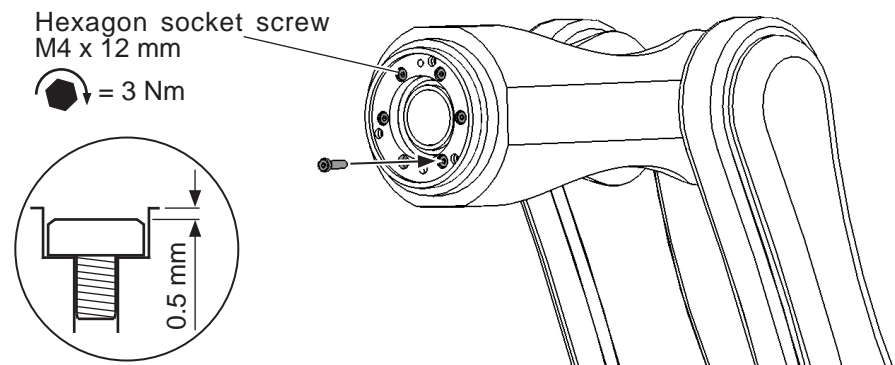


CAUTION!

Protruding heads of the hexagon socket screws can cause electric shocks through the adapter flange on the robot.

- Make sure that the hexagon socket screws **do not** protrude beyond the countersink.

5. Attach the adapter flange with a 3 mm hex key and the hexagon socket screws supplied and tighten to 3 Nm.



5.1.3 Mounting the wire feeder



- Mount the wire feeder using the optional mounting plate set.

It is advisable to mount the wire feeder before the torch set. This is because the torch set can only be mounted to the wire feeder when it is positioned very close to the robot arm. Once the wire feeder is in its operating position, the connection of the wire feeder is no longer accessible.

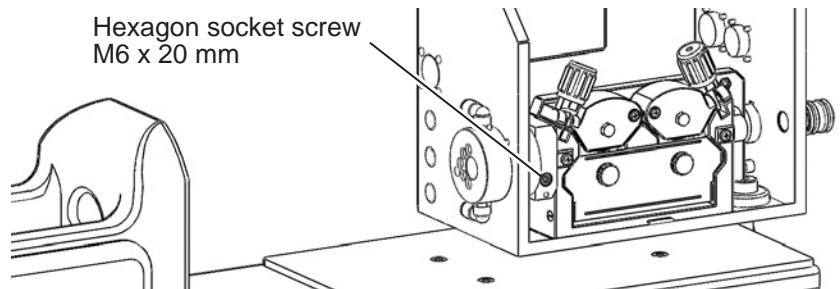
A mounting plate set matching your robot type can be manufactured and supplied upon request.

5. Startup

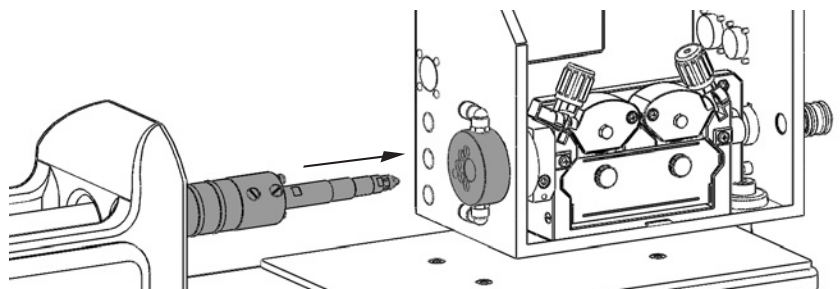
5.1 Assembly on robot arm

5.1.4 Mounting the torch set on the wire feeder

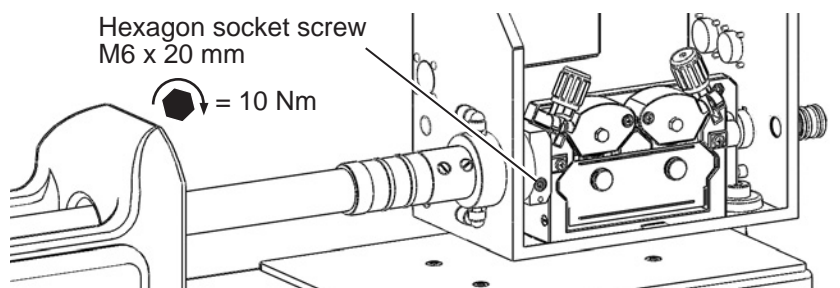
1. Once the wire feeder is very close to the robot arm, move it into a position where you have free access to all connections.
2. Open the cover of the wire feeder.
3. Loosen the hexagon socket screw of the clamping piece with a 5 mm hex key.



4. Guide the torch set through the 4th axis of the robot arm and insert the connecting mandrel against the stop into the DIX REMA 100 connection set.



5. Tighten the hexagon socket screw of the clamping piece in the wire feeder with a 5 mm hex key to 10 Nm.



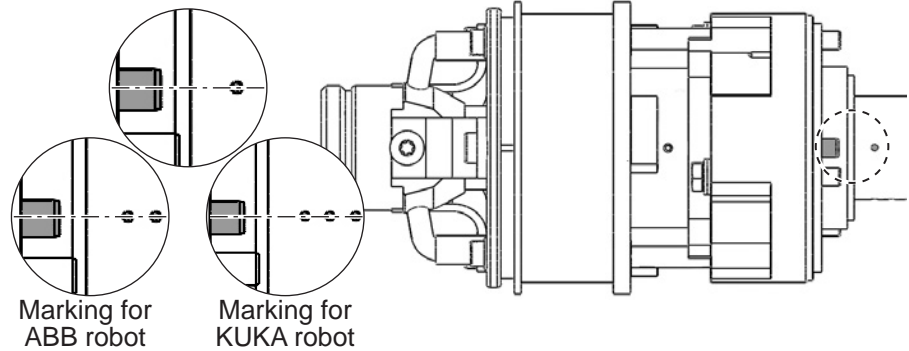
6. Close the cover of the wire feeder and move it to its operating position, if applicable.

5. Startup

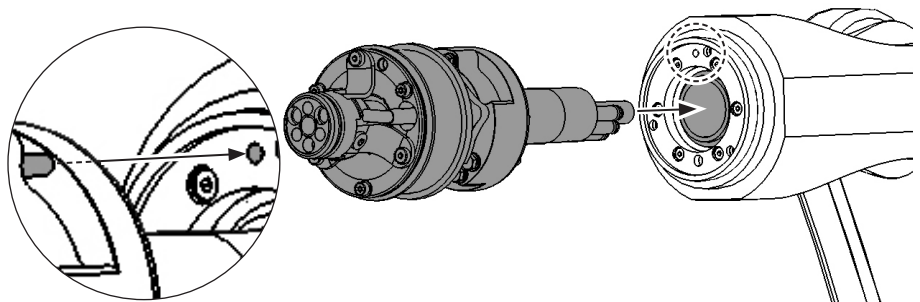
5.1 Assembly on robot arm

5.1.5 Mounting the rotary interface

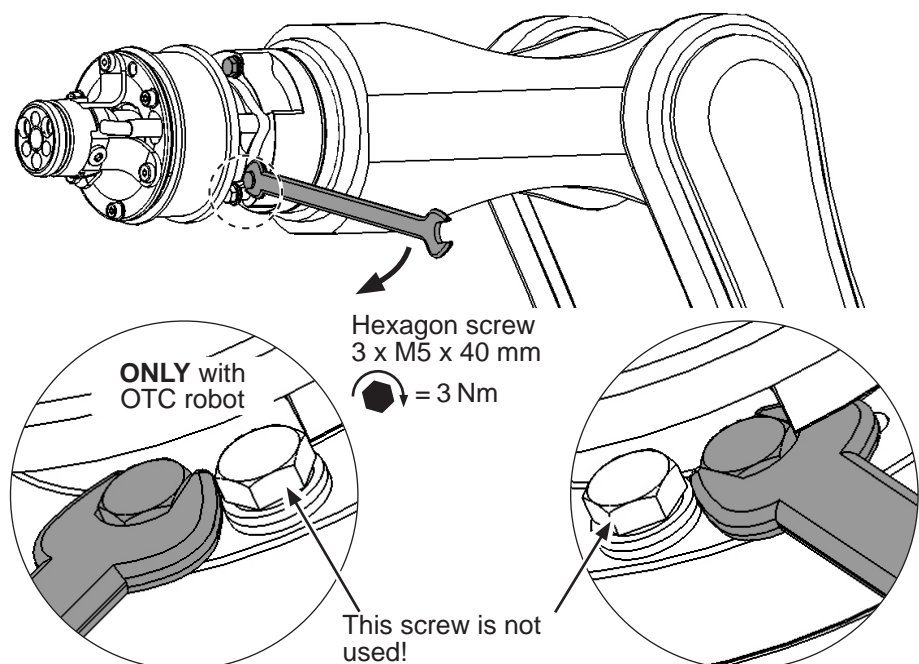
1. Align the marking on the current shaft toward the straight pin.



2. Insert the rotary interface against the stop into the insulating sleeve. Align the rotary interface on the position pin.



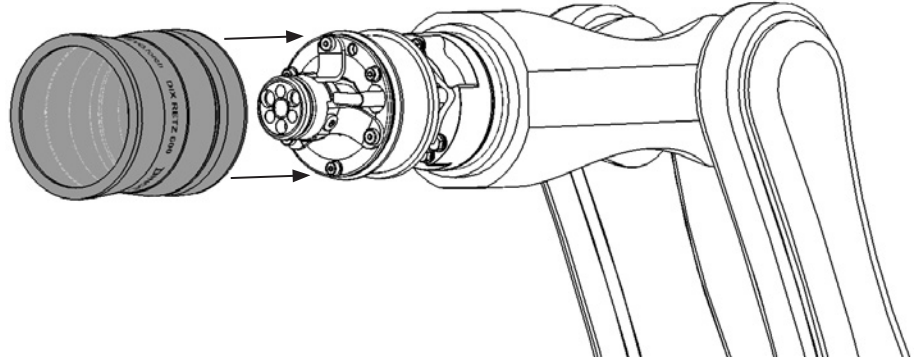
3. Tighten the rotary interface with an 8 mm hex key to 3 Nm.



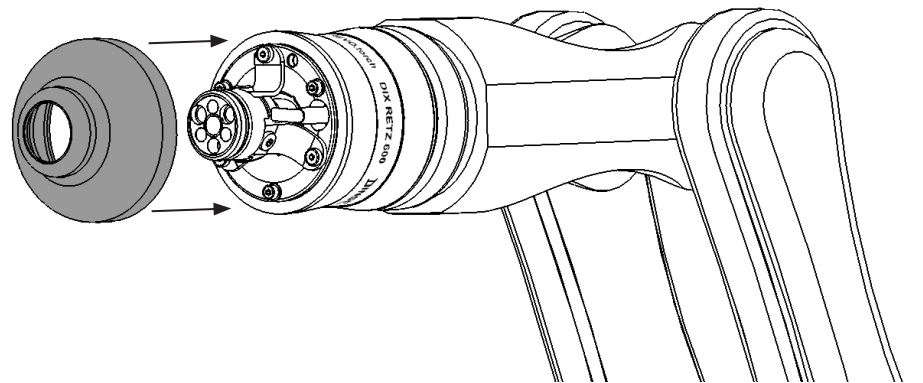
5. Startup

5.1 Assembly on robot arm

4. Push the housing against the block onto the rotary interface.



5. Position the dust boot on the rotary interface.

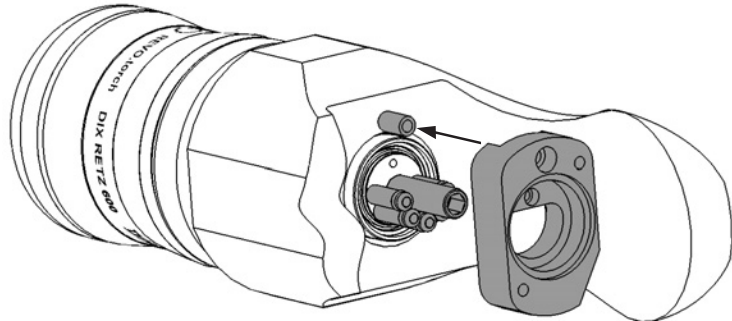


5. Startup

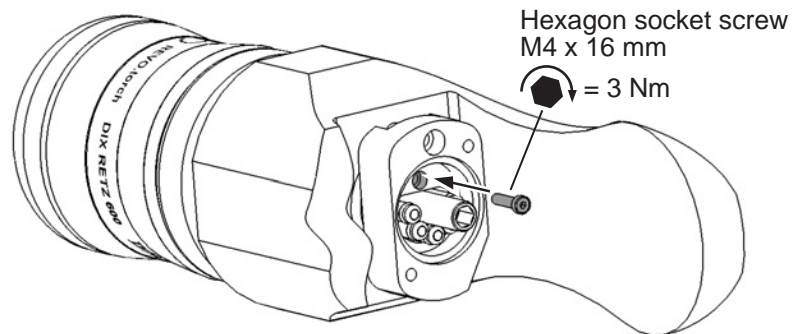
5.1 Assembly on robot arm

5.1.6 Mounting the rotary interface

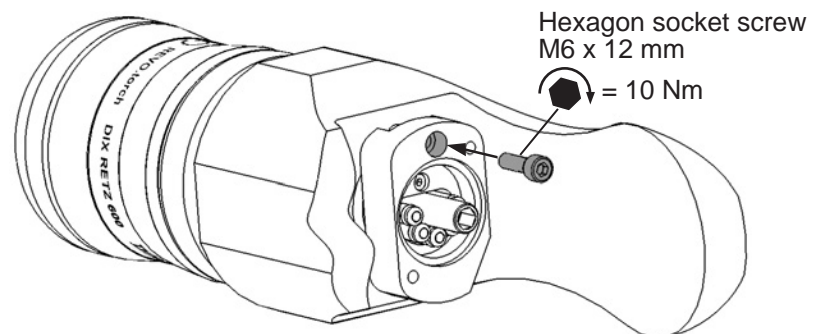
1. Place the anti-twist safeguard onto the current shaft.



2. Tighten the hexagon socket screw M4 x 16 mm supplied with a 3 mm hex key to 3 Nm.



3. Tighten the hexagon socket screw M4 x 12 mm supplied with a 5 mm hex key to 10 Nm.



Note the special features with Fanuc robots, see appendix B.

5. Startup

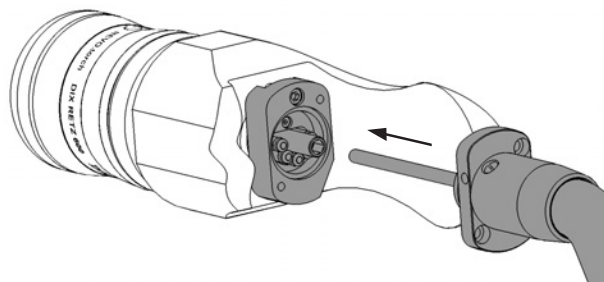
5.1 Assembly on robot arm

5.1.7 Mounting the torch set on the rotary interface

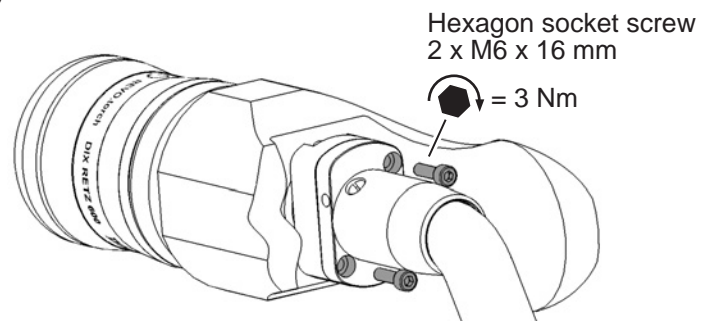


Note the assembly of the set guidance features with Fanuc robots, see appendix C.

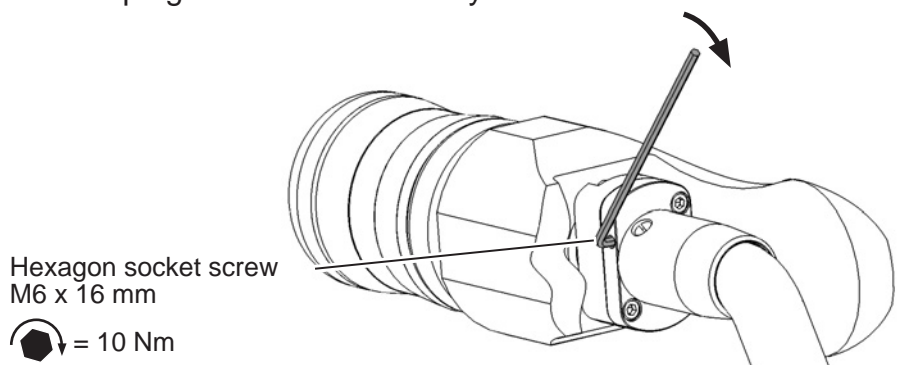
1. Place the torch set onto the current shaft; the conduit hose must be inserted into the current shaft.



2. Fasten the torch set on the anti-twist safeguard with the two hexagon socket screws (M6 x 12 mm) supplied with a 5 mm hex key to 3 Nm.



3. Tighten the lateral hexagon socket screw (M6 x 16 mm) for clamping with a 5 mm hex key to 10 Nm.

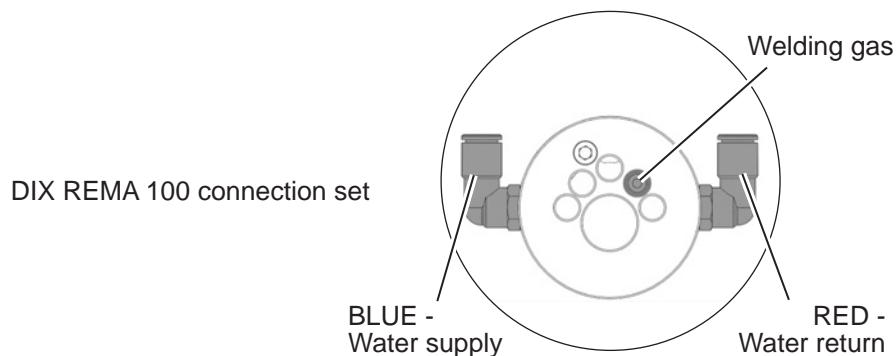
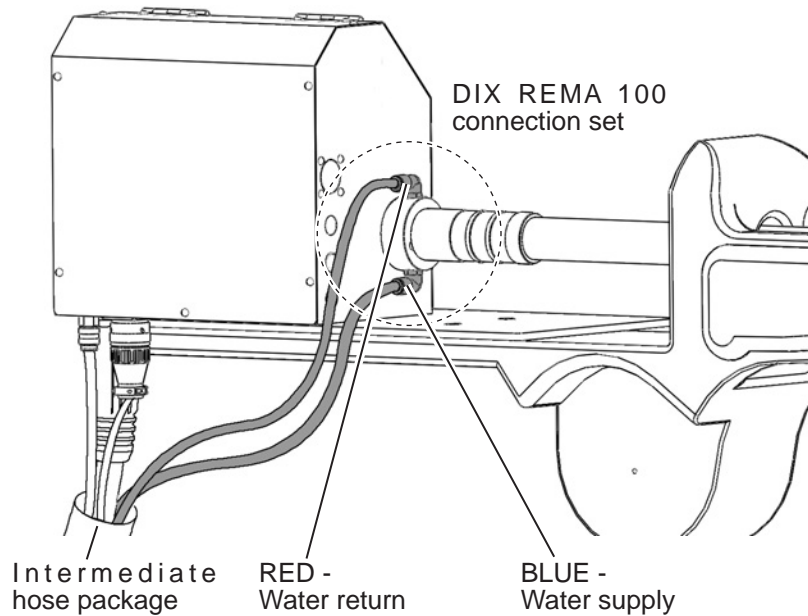


5. Startup

5.1 Assembly on robot arm

5.1.8 Connecting cooling water on the DIX REMA 100

1. Connect the blue hose from the intermediate hose package to the blue connection of the DIX REMA 100 connection set
2. Connect the red hose from the intermediate hose package to the red connection of the DIX REMA 100 connection set



●
I
N
F
O

When you are using a **DINSE** wire feeder of the "**WF**" series, the cooling water connection of the intermediate hose package is not made via the DIX REMA 100 connection set.

More information about the connection of the intermediate hose package is available in the operating instructions of the **DINSE** wire feeder of the "**WF**" series.

●
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F
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If you are not using a **DINSE** wire feeder, you may optionally connect the external DIX REMO 101 protection module. For more information on the connection refer to appendix C.


5. Startup

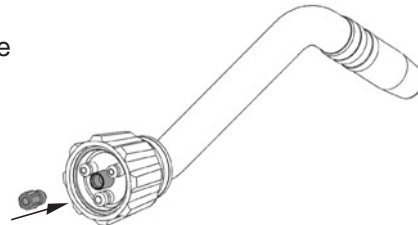
5.1 Assembly on robot arm

5.1.9 Mounting the torch head

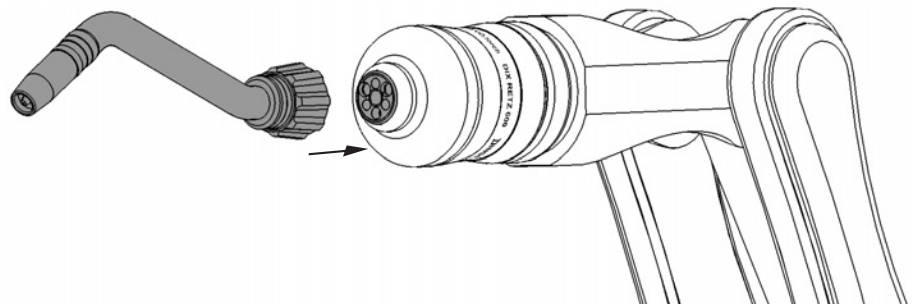
1. Screw the DIX MES 300/500 connecting piece by hand into the torch head.
2. Tighten the connecting piece with an 8 mm wrench (hand-tight).

Connecting piece
DIX MES 300/500

 = hand-tight



3. Place the torch head onto the connection body of the rotary interface and tighten the cap nut by hand.

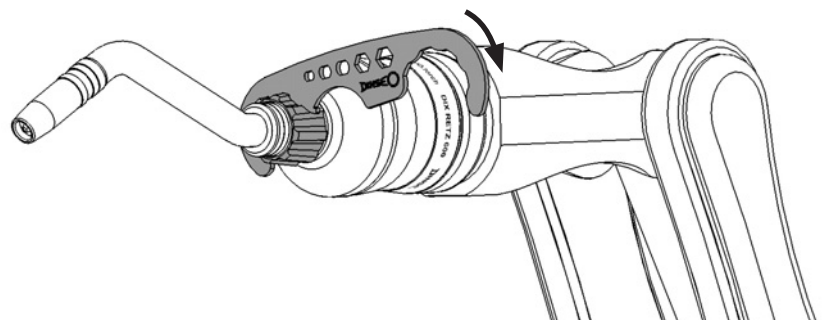


WARNING!

Incorrect positioning of the DIX SLAT 4 hook spanner may cause hand injuries and/or damage the hook spanner or the cap nut.

- Make sure the DIX SLAT 4 hook spanner is seated properly on the cap nut.

4. Tighten the cap nut firmly with the DIX SLAT 4 hook spanner to ensure secure positioning of the torch head.

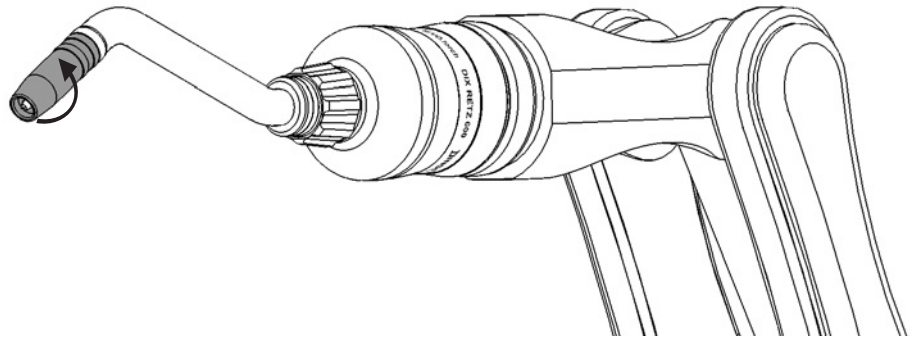


5. Startup

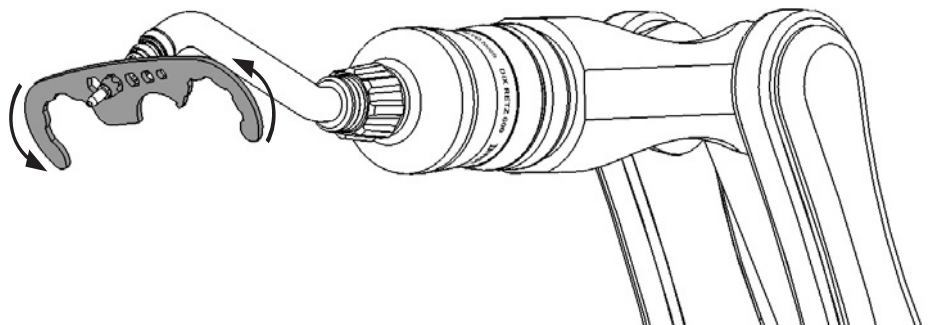
5.1 Assembly on robot arm

5.1.10 Inserting the liner

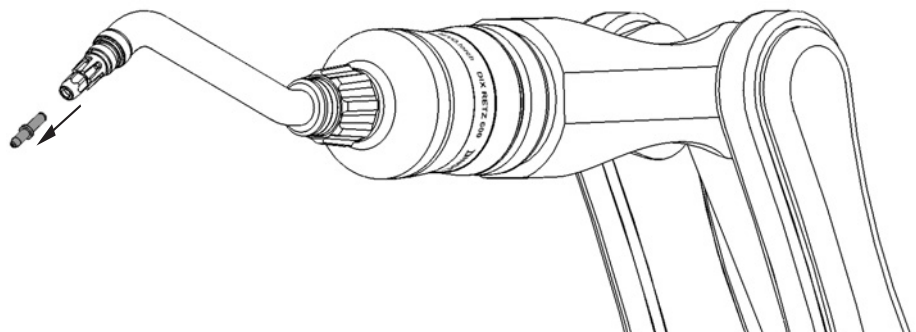
1. Unscrew the gas nozzle from the torch head.



2. Unscrew the clamping nut on the torch head with the **DINSE** DIX SLAT 4 hook spanner.



3. Pull out the contact tip.



5. Startup

5.1 Assembly on robot arm



CAUTION!

A liner with too small an inside diameter restricts the wire transport. Too large an inside diameter may have a negative impact on the weld seam quality.

- ▶ Check the inside diameter of the liner and, if necessary, replace it with the correct liner.
- ▶ Refer to the spare and wear parts lists to choose the correct liner.

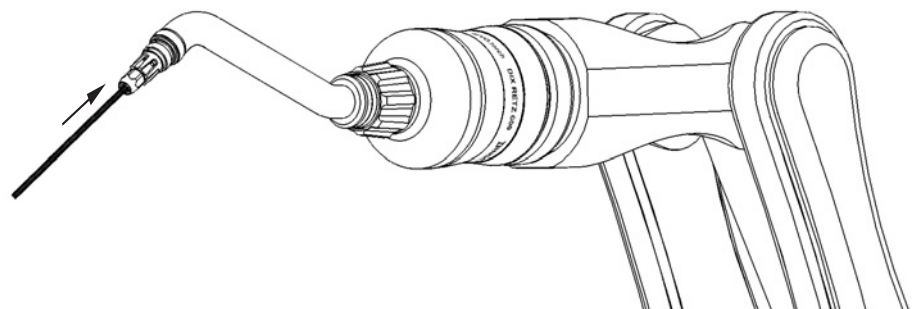


CAUTION!

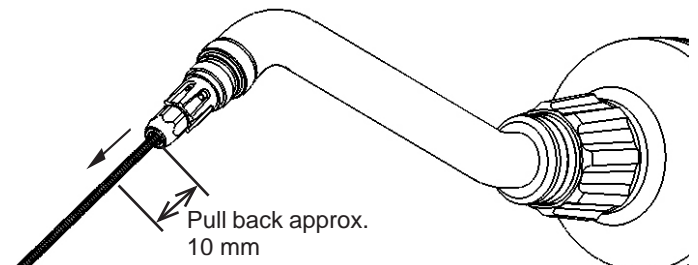
A sharp bur at the tip of the liner may destroy the conduit hose.

- ▶ Take care when using liners cut to length by **DINSE Inc.** that you introduce them with the ground off end into the torch set.
- ▶ With liners that you have cut to size yourself, ensure that you first debur one end and introduce the liner with the deburred end into the torch set.
- ▶ Note the instructions for cutting liners in **appendix E**.

4. Guide the liner into the torch head and slide the liner against the stop in the wire feeder.



5. Pull back the line by approx. 10 mm



5. Startup

5.1 Assembly on robot arm

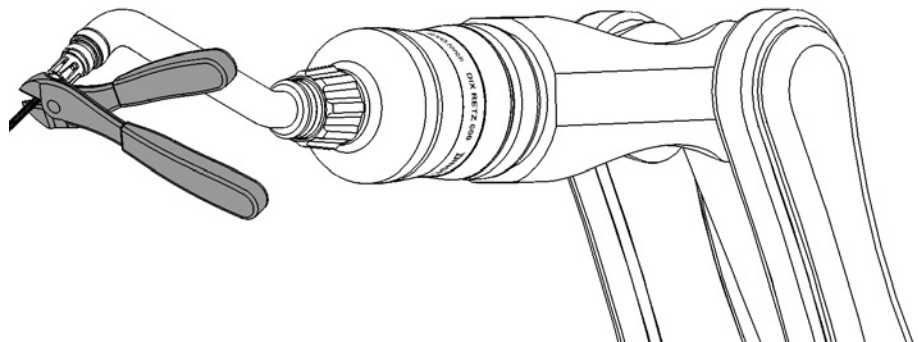


CAUTION!

Bur created during cutting may interfere with the wire transport.

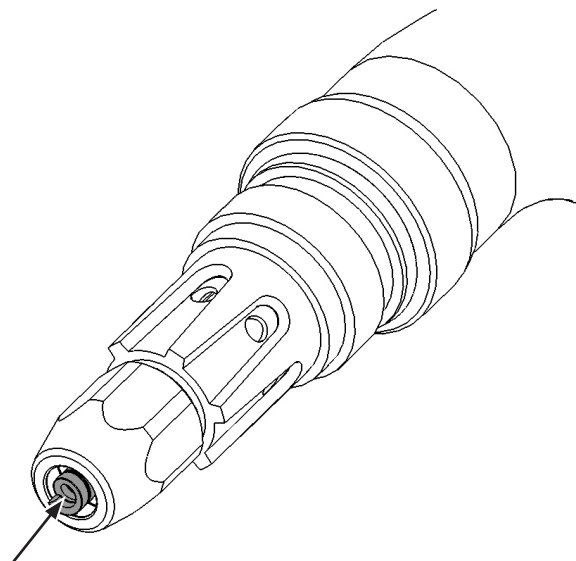
- ▶ Note the instructions for cutting liners in **appendix E**.
- ▶ Check the end of the liner for bur after cutting and remove it if necessary.

6. Cut the liner flush on the torch head using a wire cutter.



7. Inspect the liner for:

- correct positioning
- burs which may obstruct the opening of the liner.
- remove bur with a wire cutter.

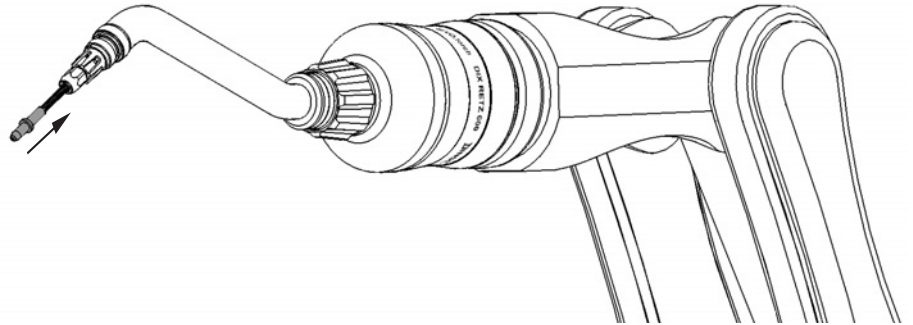


The liner must be free from burs!

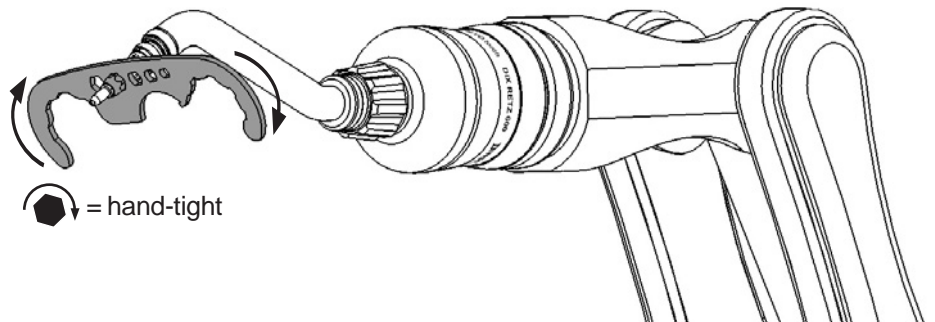
5. Startup

5.1 Assembly on robot arm

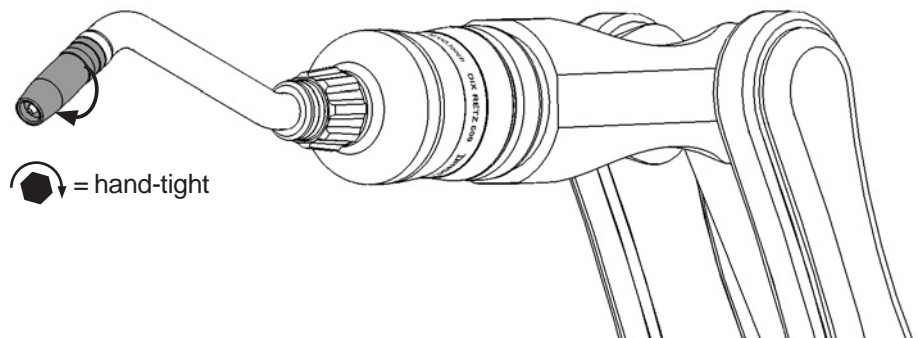
8. Slide the liner with the contact tip into the torch head and screw down the clamping nut by hand.



9. Tighten the clamping nut with the DINSE DIX SLAT 4 hook spanner (hand-tight).



10. Screw the gas nozzle back onto the torch head and tighten it (hand-tight).



5. Startup

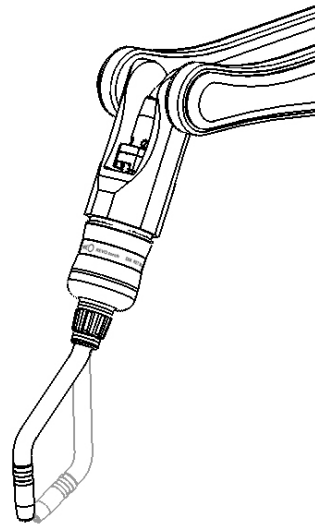
5.1 Assembly on robot arm

5.1.11 Checking the travel paths

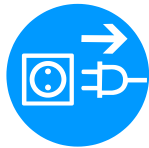


*The **DINSE REVO.torch welding system** makes all travel paths of the robot possible. The unlimited rotation of the rotary interface provides excellent component accessibility. The torch set follows each bending or extension of the robot arm because of its extreme mobility.*

1. Check that the robot can be moved easily to any position and the torch head can rotate without restriction.



The DIX RETZ 600 (L) rotary interface is largely maintenance-free as a result of the use of high-quality components. We recommend regular inspections to ensure trouble-free operation. The frequency of individual inspections and maintenance tasks depends here on the conditions under which the torch sets are used. Each user should therefore prepare his own maintenance schedule.



Make absolutely sure to pull the power plug before any inspection or maintenance task!

- ▶ Make sure that no one switches the power on during maintenance!
- ▶ Pull the compact plug and, if applicable, the control wire plug of the torch set from the power supply!



WARNING!

Risk of eye injuries from flying chips, wire electrode abrasion and spatters when blowing out compressed air through the torch set!

- ▶ Always wear safety goggles or a visor.

The following tasks must be performed regularly to ensure perfect functioning:

- General visual inspection of the set for damage and signs of wear.
- Check of all detachable connections to ensure that they are properly in position.
- Remove material abrasions on the wire (depending on the wire quality and the feed rate) by blowing out compressed air through the liner of the conduit hose (max. 6 bar / 87 psi).
- Replace as necessary:
 - Contact tip
 - Gas nozzle
 - Liner
 - Clamping nut
 - Gas diffuser
 - Insulator
 - and all other relevant consumables
- Inspect housing and dust boot for correct fit and damage.



- Always keep the connections of the torch head and connection body clean, since dirty connections may interfere with good contact and the torch set would no longer work correctly.
- If the torch head is replaced frequently, any defective or worn sealing rings (O-rings) on the torch head should also be replaced in a timely manner.
- Protect the set against excessive bending stress to increase the service life.
- Check the weight and lever ratios when replacing tools.
- Check the mounting connections and loads for the system.
- Replenish the coolant after each set change. Coolants are subject to normal contamination; replacing the cooling liquid at regular intervals is therefore recommended. Only demineralized (deionized) water should be used as coolant.



*Use only original components and spare parts from **DINSE Inc.!***

Please also observe the maintenance instructions for the wire feeder and the other components such as power source, cooling and spool system.

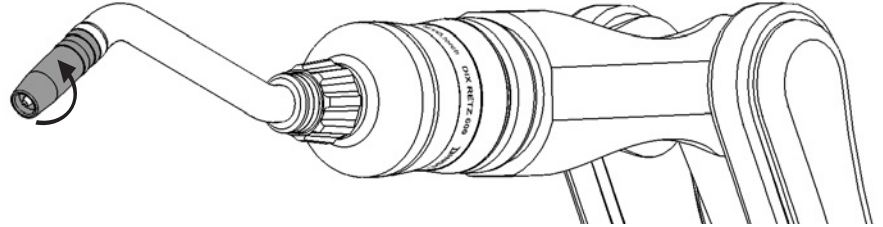


*We recommend sending the complete rotary interface to **DINSE Inc.** for maintenance and service once a year.*

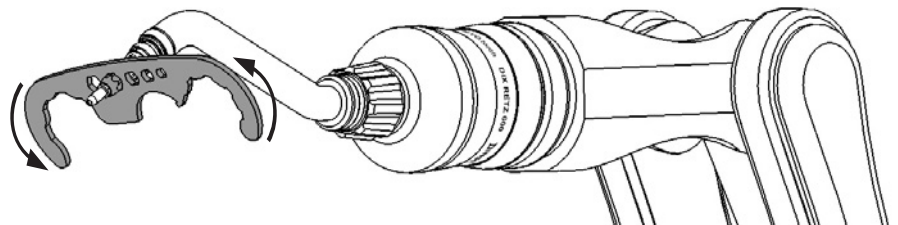
6. Maintenance notes

6.1 Replacing the liner

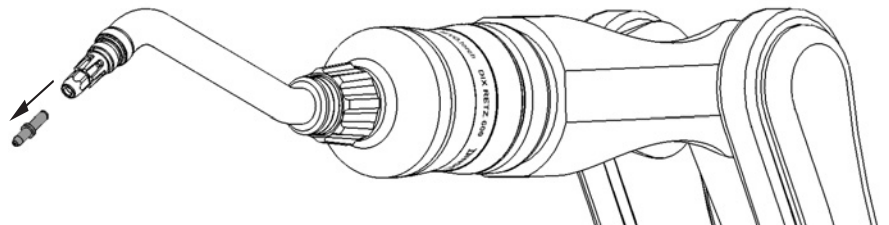
1. Unscrew the gas nozzle from the torch head.



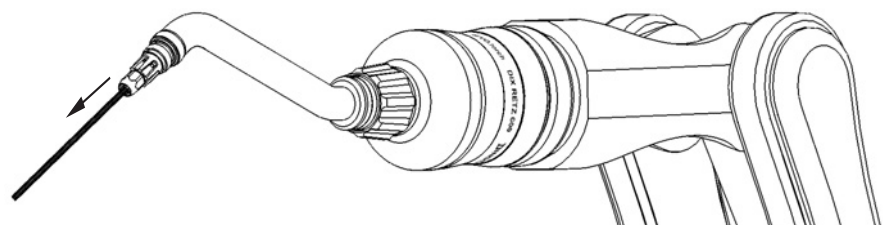
2. Unscrew the clamping nut on the torch head with the **DINSE DIX SLAT 4** hook spanner.



3. Pull out the contact tip.



4. Pull out the liner.



5. Insert the new liner as described in 5.1.10 from page 26.

6. Maintenance notes

6.2 Liquid-cooled torch set

A thermodynamic equilibrium is created between the torch set and the cooling system. The heat absorbed by the torch head (depending on the welding current) is dissipated to a cooling unit via the cooling liquid after it has been conveyed through through the supply hose.



CAUTION!

In the event of a defect the temperature may rise to impermissible values. This would result in premature wear and destroy the supply hose!

► Always ensure adequate cooling.



CAUTION!

The water connections may begin to leak due to high pressure if the cooling system remains switched on when changing the torch set or the welding torch. Water may then enter the line and have a negative impact on the weld quality.

► Switch off the cooling system when replacing the torch set or the welding torch.

► Make sure that cooling liquid does not enter the liner when changing the torch set.

The max. permitted welding current values listed in Table 1 (see Technical Data, page 14) refer to:

- direct coupling of the supply line to the cooling system
- a set length of 3 m
- a powerful cooling system with clean cooling ribs and filters.
- an ambient temperature of 68 °F

The level of the cooling liquid in the cooling system must be checked after changing the set and replenished if necessary. Cooling liquids are subject to normal contamination; replacing the cooling liquid at regular intervals is therefore recommended.

*Before changing the torch set please read the information entitled "Robot position for liquid-cooled torch sets" in **appendix F**.*



6.3 Repairing a torch set



*Please note that repairs may generally be performed only by **DINSE Inc.** or trained electricians authorized by them!*

All products are subject to strict production and final inspections. If you nevertheless encounter a malfunction at any time, check the torch set according to the following table. If the suggested measures are not successful, contact **DINSE Inc.** in the interest of your own safety

Fault	Possible cause	Remedy
Wire is not being transported or only moves jerkily	Clogged or damaged liner	Clean or replace the liner
	Contact tip orifice too small	Use a contact tip matching the wire
	Liner with inside diameter too small	Use a liner matching the wire
	The layer reeling of the wire spool used is defective	Replace the spool.
	The spool is deformed or chipped	Replace the spool.
	The brake on the wire spool is set too tight	Correct the setting of the spool brake
	Control signal not available	Connect the wire feeder to the power supply
No inert gas (depending on the features)	Solenoid valve in wire feeder defective	Replace solenoid valve (only by trained electrician)
Reset accuracy faulty	The rotary interface has become loosened	Make sure to check the mounting of the rotary interface.
Welding torch becomes too hot	Cooling liquid hoses not connected	Connect the cooling liquid hoses with the wire feeder case
	Cooling liquid level too low	Replenish cooling liquid
	Leak in cooling circuit	Repair the leak and replenish the cooling liquid
	Cooling liquid contaminated	Replace the cooling liquid with new one. The contaminated cooling liquid must be disposed of properly.
	Cooling hose clogged	Remove the clogging in the cooling hose

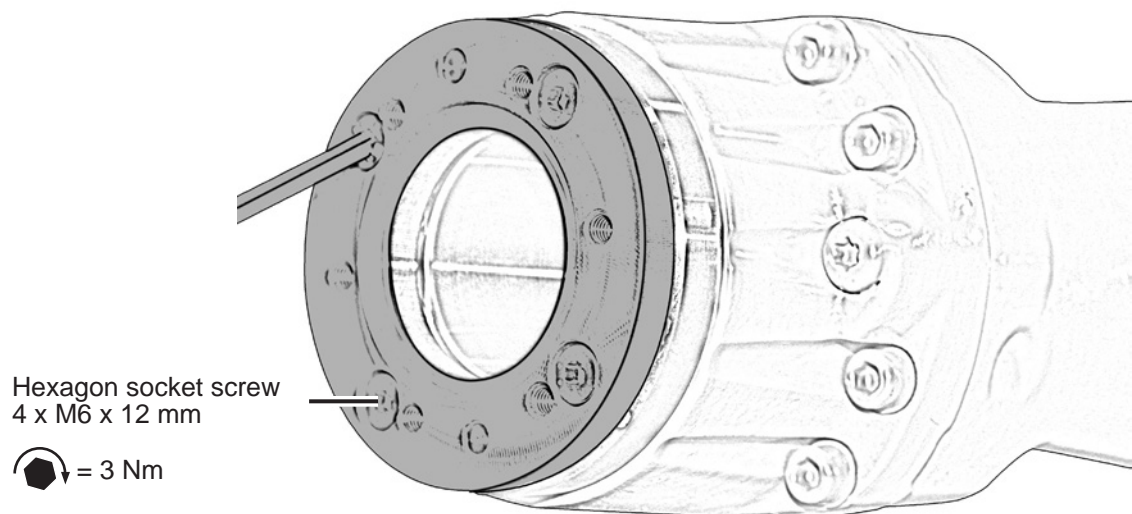
Installing auxiliary adapter flange with ABB robot



1. Set the additional adapter flange on the flange of the robot arm.
Align the adapter flange on the position pin.

The position pin must be on top!

2. Attach the adapter flange with a 5 mm hex key and the hexagon socket screws supplied and tighten to 3 Nm.




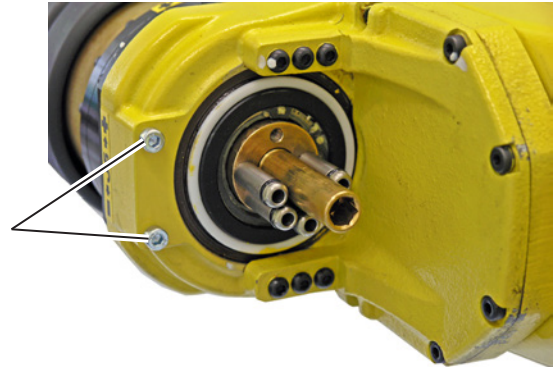
3. Now proceed as described from step 4 in "5.1.2 Assembly of the adapter flange" on page 18.

Installing anti-twist safeguard with Fanuc robots

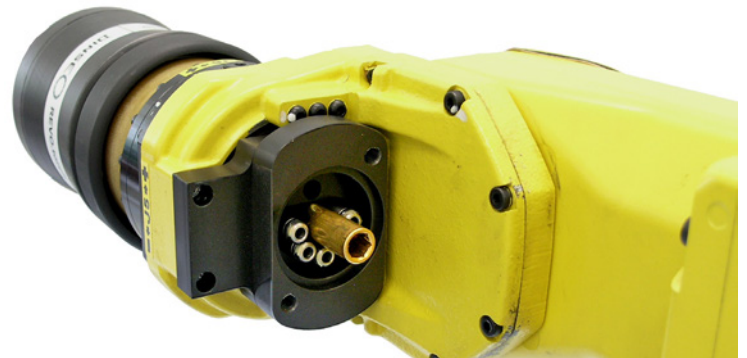
1. Tighten the two hexagon socket screws (M4 x 10 mm) with a 3 mm hex key to 3 Nm.

Hexagon socket screws
2 x M4 x 10 mm

 = 3 Nm




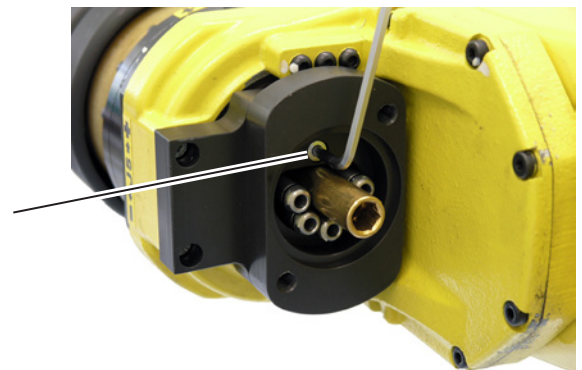
2. Place the anti-twist safeguard onto the current shaft.



3. Tighten the hexagon socket screw (M4 x 16 mm) with a 3 mm hex key to 3 Nm.

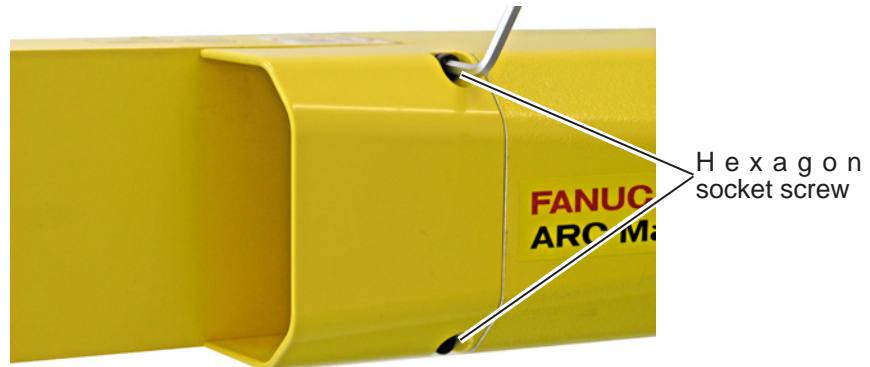
Hexagon socket screw
M4 x 16mm

 = 3 Nm

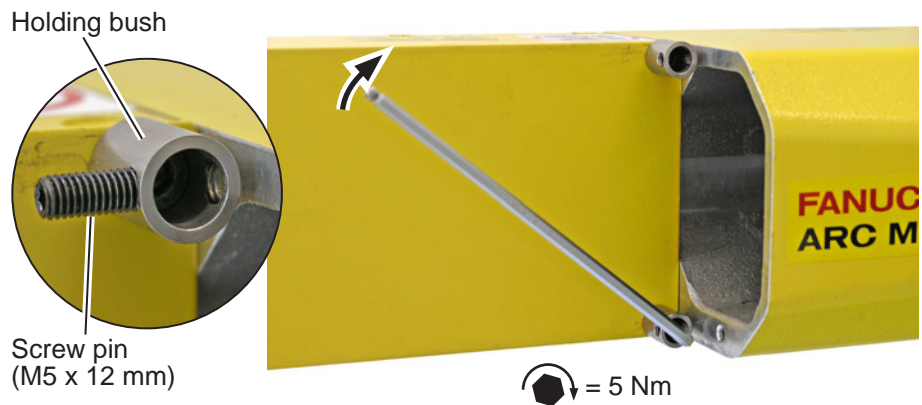


Mounting the DINSE set guide for Fanuc robots

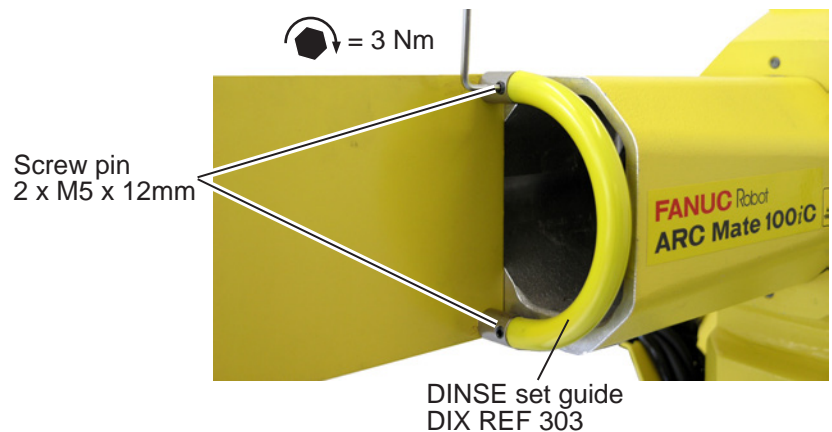
1. Loosen the two hexagon socket screws holding the shim with a 4 mm hex key and remove the shim.



2. Fasten the holding bushes to the robot arm with a 4 mm hex key to 5 Nm.

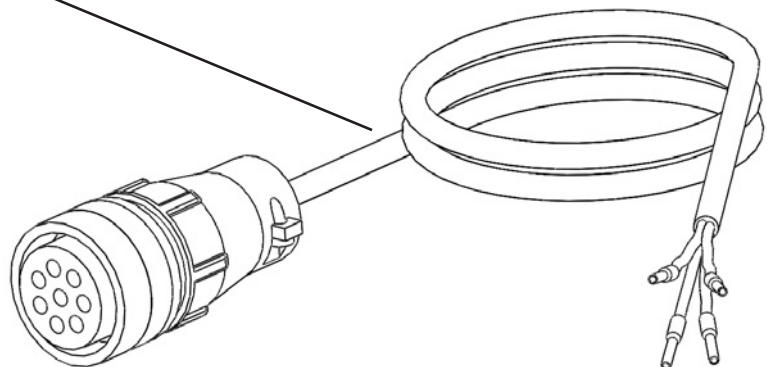
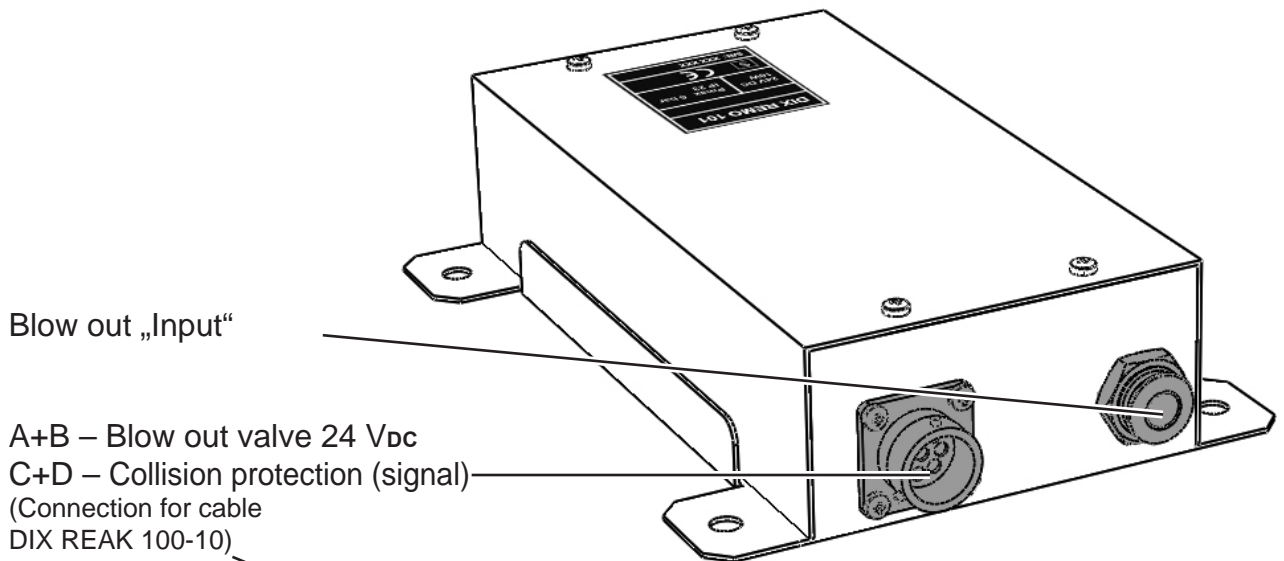
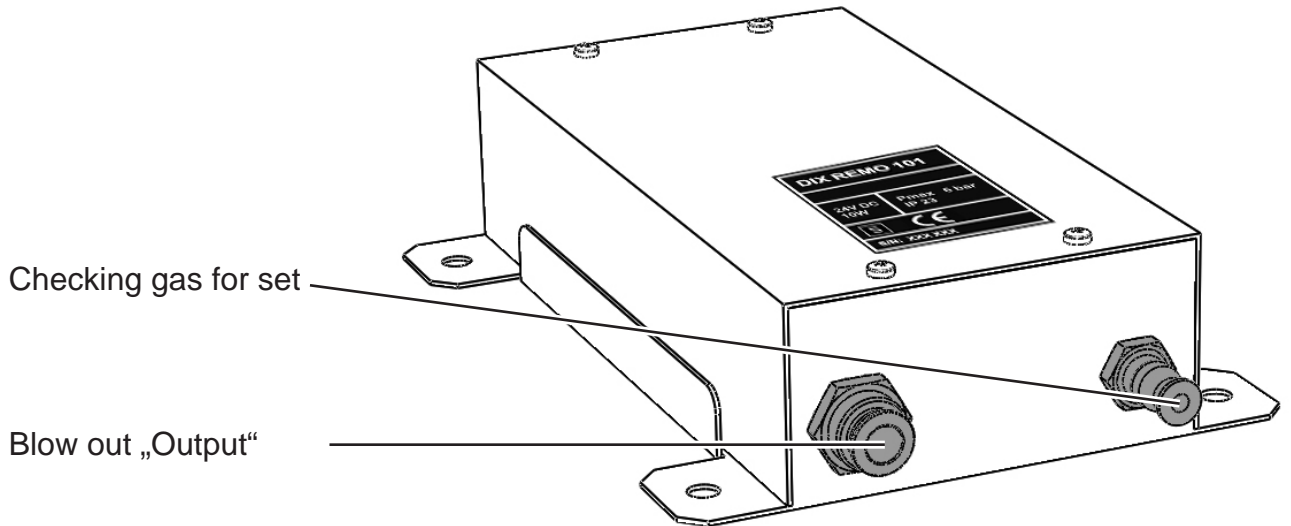


3. Insert the DINSE set guide into the holding bushes.
4. Fix the DINSE set guide with screw pins (M5 x 12 mm) using a 2.5 mm hex key with 3 Nm.



Appendix D

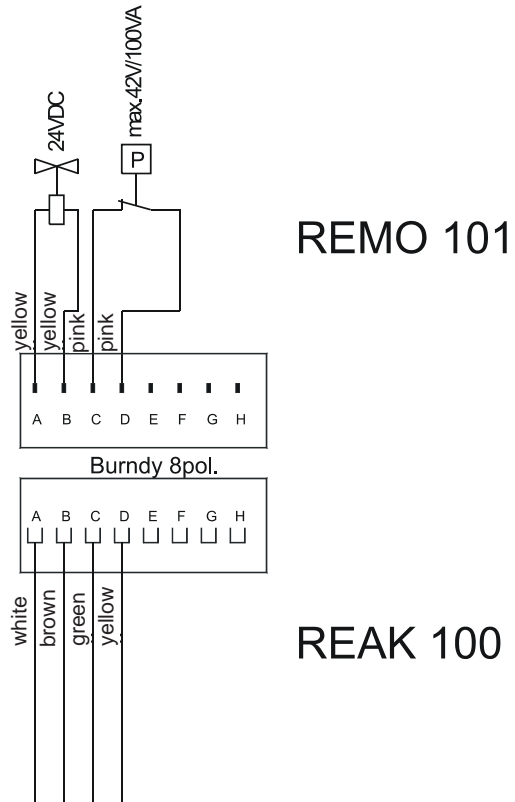
Connections of the DIX REMO 101 protection module



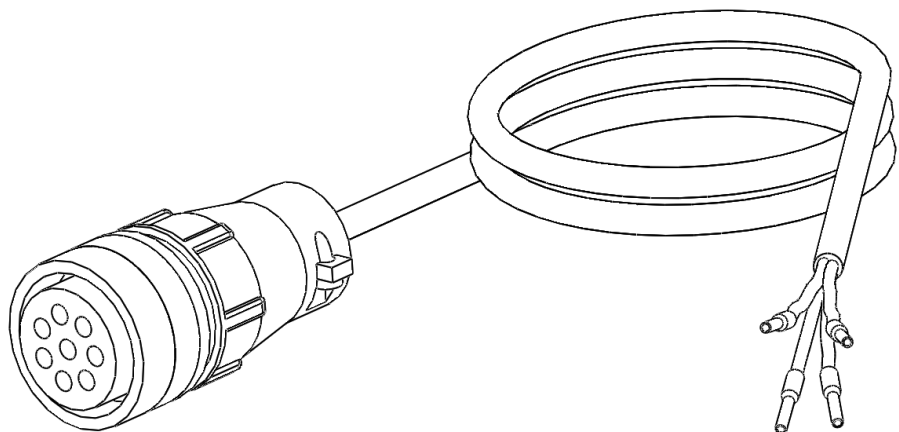
Appendix D

Pin assignment of the DIX REMO 101 protection module

Pin assignment

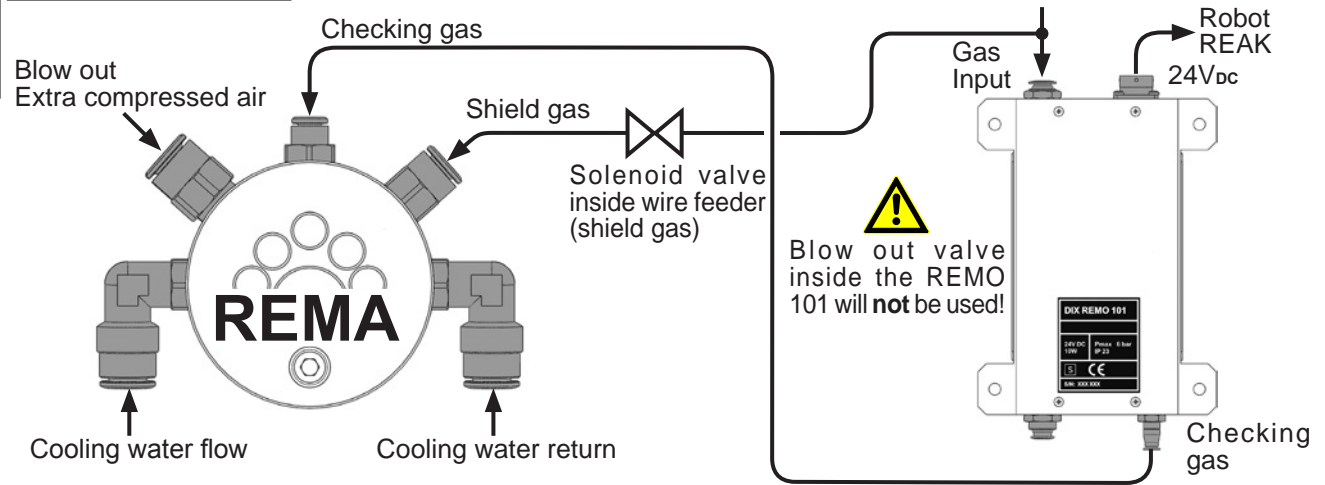


Power supply cable
DIX REAK 100-10
(10 m long)

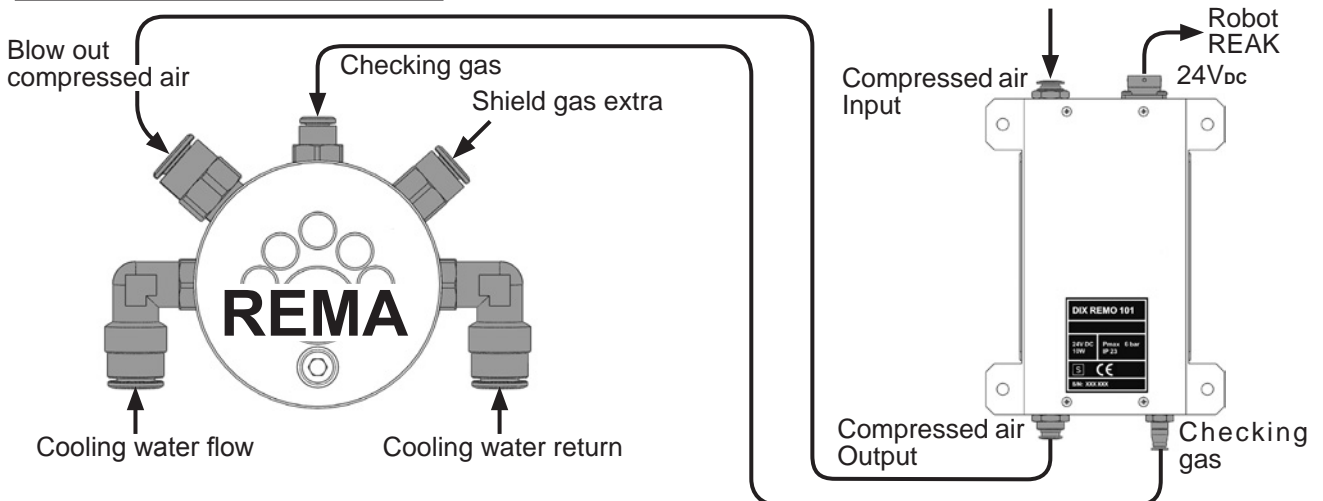


Wiring diagram

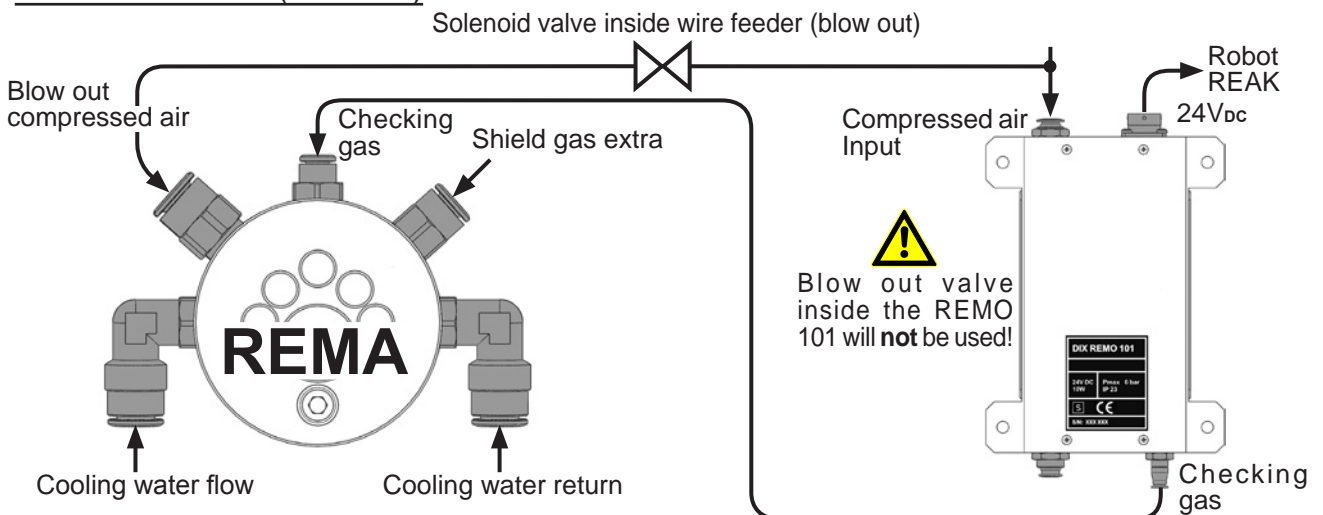
REMO 101 with gas



REMO 101 with air (version 1)

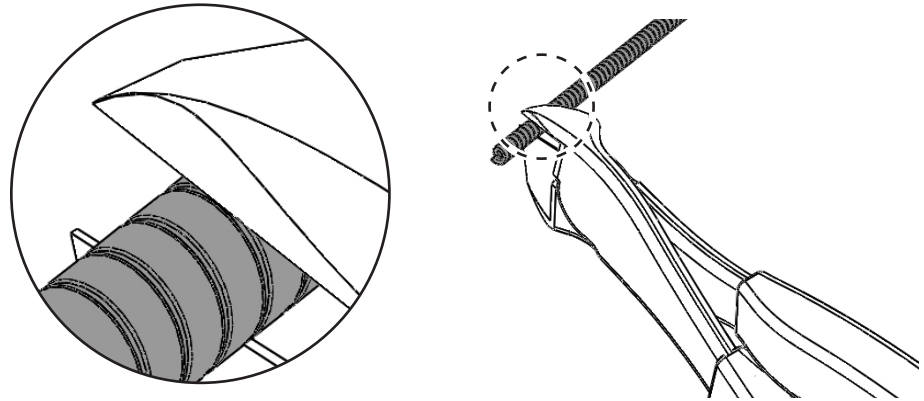


REMO 101 with air (version 2)

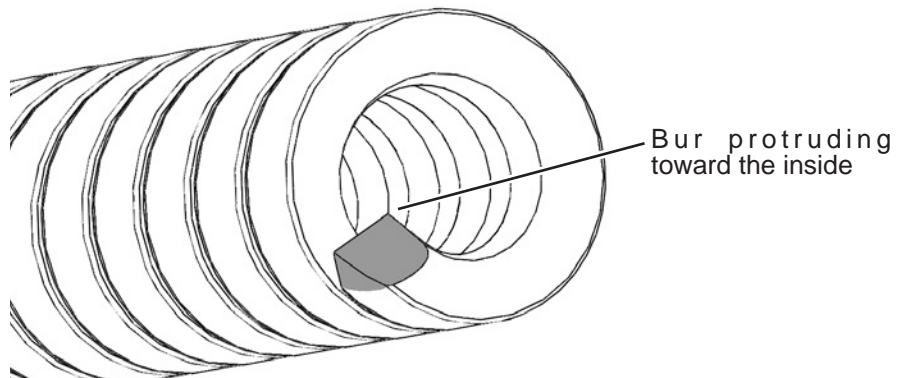


Cutting the liner

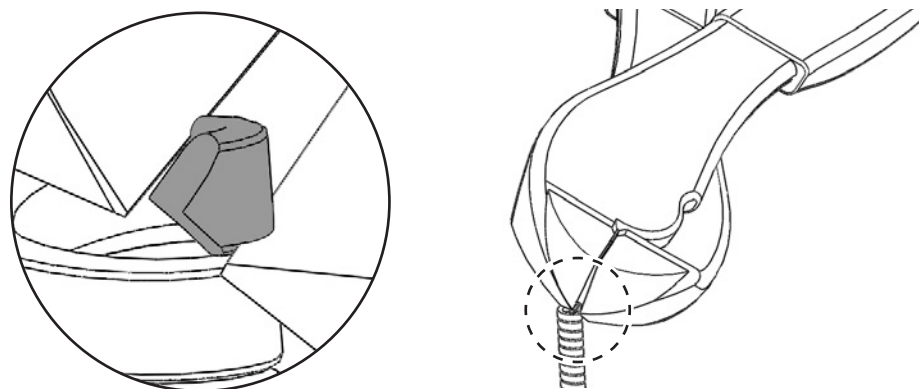
1. Start the wire cutter at the groove to cut off the liner.



2. Check the cut off end of the liner for bur protruding toward the inside and which could interfere with the wire transport.



3. Start the wire cutter approx. at an angle of 45° to cut off the bur.

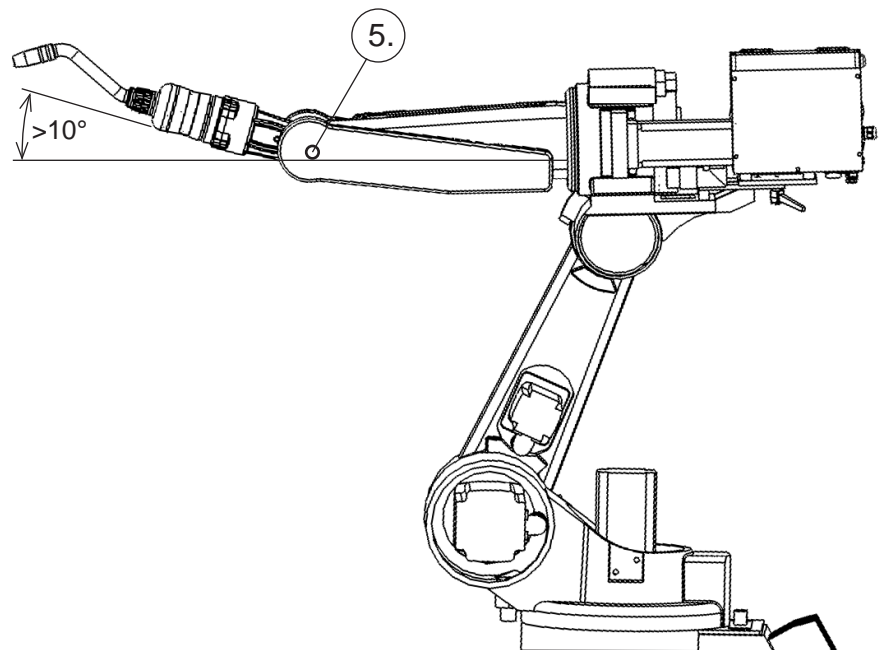


Robot position with liquid-cooled torch sets

Proceed as follows:

- ▶ Switch off the cooling system when replacing the torch set.
- ▶ Ensure that cooling liquid does not enter the rotary interface when changing the torch set.
- ▶ Move the 5th robot axis into position so that the rotary interface points to the top within at least 10° .

The cooling liquid cannot then flow into the rotary interface



Check the level of the cooling liquid in the cooling system after replacing a set and replenish it, if necessary.