



# Operating Instructions

Safeguard for future use!



Sample application

## **TANDEM** **Torch cleaning station** **DIX PRS 600 TD** **Wire cutter** **DIX PRA 600**

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Read these operating instructions without fail before commissioning, to make sure that you use the **DINSE**-product safely. The owner must make available these operating instructions to the operator and make sure that the operator reads and understands the instructions.

Preserve the operating instructions in a safe place for future reference. Display a note prominently in the working area specifying the place where the instructions are kept.



These products comply with

1. 2004/108/EC - Electromagnetic compatibility
2. 2006/ 42/EC - Machine safety

As concerns 1: Electromagnetic compatibility is assessed on the basis of the following standards:

EN 61000-6-2 - Interference immunity

EN 61000-6-4 - Emissions

The results are documented in test reports 17/536

As concerns 2: Machine safety is assessed on the basis of the standards mentioned next.

EN ISO 12100-1 - Machine safety  
- Basic terminology and methodology

EN ISO 12100-2 - Machine safety  
- Technical guidelines

DIN EN ISO 13857 - Machine safety  
- Safety clearances to prevent contact  
between hazardous areas and upper limbs

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## 1. Introduction

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You have purchased a quality product from **DINSE Inc.**  
Thank you for your confidence in our products.

This carefully manufactured product is under constant supervision during production. Each system is tested for proper functionality before and after assembly.

Tests during production, precisely matched materials and manufacture on special high-grade production machines characterize this technically sophisticated welding accessory.

Please contact us if you have any questions or requests concerning accessories or equipment. Our application engineers will be glad to assist you.

### **D I N S E   I n c .**

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Charlotte, NC 28202 USA  
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w w w . d i n s e - u s . c o m

## 1. Introduction

### 1.1 Declarations of conformity DIX PRS 600



#### EC declaration of conformity acc. to directive 2006/42/EC, annex II 1.A (Original EC-declaration of conformity)



Herewith declares

the producer

Name, form of organization: Dinse, GmbH

Address: Tarpen 36  
22419 Hamburg Germany

that the following appliance

General identification: Torch-Cleaning-Station

Function: Cleaning of torch and contact tip of MIG/MAG-Tandem-  
Torchheads

Model: DIX PRS 600 TD

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:

• EN 61000-6-2 • EN 61000-6-4 • EN ISO 12100-1 • EN ISO 12100-2  
• DIN EN ISO 13857

Person who is authorized to compile the technical documentation:

Name: Michael Meinke

Address: Dinse GmbH  
Tarpen 36  
22419 Hamburg  
Germany

#### Subscriber

Place of issue: Hamburg / Germany

Date of issue: 26.09.2011

Function of the subscriber at  
the company:

Name of the subscriber:

Managing director  
Torsten Lischke

Technical design

Signature:



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## 1. Introduction



## 1.2 Declarations of conformity DIX PRA 600

### EC declaration of conformity acc. to directive 2006/42/EC, annex II 1.A (Original EC-declaration of conformity)



Herewith declares  
the producer

Name, form of organization: Dinse, GmbH  
Address: Tarpen 36  
22419 Hamburg Germany

that the following appliance

General identification: Wire-Cutter  
Function: Cutting off wires of the torch head  
Model: DIX PRA 600

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:

• EN 61000-6-2 • EN 61000-6-4 • EN ISO 12100-1 • EN ISO 12100-2  
• DIN EN ISO 13857

Person who is authorized to compile the technical documentation:

Name: Michael Meinke

Address: Dinse GmbH  
Tarpen 36  
22419 Hamburg  
Germany

Subscriber

Place of issue: Hamburg / Germany  
Date of issue: 20.06.2011

Function of the subscriber at  
the company:

Name of the subscriber:

Managing director  
Torsten Lischke

Technical design

Signature:



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## 2. Safety



### 2.1 Symbols used in operating manual

All **DINSE** products are equipped with safety devices. They are manufactured using the latest technology and in accordance with approved safety regulations.










**WARNING!** Improper or unauthorized use carries the risk of:

- Causing harm to Operator's life and limb
- Causing harm to the product itself and/or other property
- Preventing efficient operation of the product




**We are concerned about your safety!**

The following symbols are used in this operating manual:

#### Hazard warnings and instructions

 Danger of electric shock	 Hazard due to harmful or caustic substances
 Danger of hand injury	 Danger due to automatic start-up of machine
 Danger due to flying chips	 Danger of material damage or unsafe conditions
 Wear eye protection!	 Always pull out the power plug before opening.
 De-energize before working	

#### Other symbols

 <i>Technical information and tips</i>	<ul style="list-style-type: none"><li>• List</li></ul>
 Operator's Action is Required.	<ol style="list-style-type: none"><li>1. Perform the necessary steps in the prescribed sequence for numbered items.</li><li>2.</li></ol>
 Tighten the screw firmly to the prescribed torque	



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## 2. Safety

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### 2.2 Intended purpose

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The DIX PRS 600 TD torch cleaning station is only used to clean the double gas nozzles (standard - DIX 1-3-5018 TD) of DINSE-MIG/MAG-TANDEM welding torches within the scope of its technical data.

The DIX PRA 600 wire cutter is only used to cut the wire electrodes of welding torches within the scope of its technical data.

The DIX PRS 600 TD torch cleaning station and the DIX PRA 600 wire cutter are designed for a maximum of 24 V  $\text{DC}$  and a maximum of 6 bar of Compressed air.

The power supply and Compressed air supply for the DIX PRS 600 TD torch cleaning station and the DIX PRA 600 wire cutter must satisfy these requirements!

Check for compliance before using the equipment for the first time.

Arbitrary conversions and modifications of the DIX PRS 600 TD torch cleaning station and the DIX PRA 600 wire cutter are not permitted due to safety considerations.

## 2. Safety



### 2.3 Safeguarding against potential hazards during regular usage

**Attention: Always observe the accident prevention and safety regulations listed below. Failure to follow these reasonable safety measures can endanger your life!**



#### **Electric shock can be lethal!**

- Before performing any inspection or maintenance, disconnect the power plug and make sure the supply voltage cannot be turned on by anyone during inspection or maintenance!
- Welding torches and electrode holders should always be placed in an insulated holder when not in use.
- Do not use torch, ground, or supply cables that show any signs of damaged insulation.
- Damage should be repaired immediately by a qualified electrician!



**The DIX PRM 600 torch cleaning agent presents a health hazard if vapors or spray are inhaled or if it comes into contact with your eyes or prolonged contact with the skin. Ingesting the torch cleaning agent can lead to aspiration and chemical pneumonitis!**

- Do not drink the DIX PRM 600.
- Do not inhale the vapors or spray of the DIX PRM 600.
- Ensure an adequate supply of fresh air.
- Wear oil-resistant protective clothing, gloves and protective eyewear when handling the torch cleaning agent.



**Risk of injury to the hands or other body parts due to automatic starting of the torch cleaning station DIX PRS 600 TD or the wire cutter DIX PRA 600!**

- Do not place your hands near the milling area, if the DIX PRS 600 TD or the DIX PRA 600 is ready!
- Ensure that the DIX PRS 600 TD and the wire cutter DIX PRA 600 is de-energized and de-pressurized while you are replacing the rotary grinder.
- Ensure that the DIX PRS 600 TD and DIX PRA 600 is protected against unintentional start-up, including by other persons.



**Risk of eye injury due to flying chips and splashing torch cleaning agent during the cleaning process!**

- Always wear safety goggles or a visor.

## 2. Safety



### 2.3 Safeguarding against potential hazards during regular usage

Observe the safety regulations mentioned below.



**CAUTION!**

- The DIX PRS 600 TD torch cleaning station and the DIX PRA 600 wire cutter start automatically. If the installation site is located within a fused area, which must be entered during setup and maintenance work, the devices must be integrated into a higher-level safety system by the system operator. In this case, you must also ensure that the entire system is shut down. The system must be secured against an unintentional restart, including by other persons. Failure to observe this can lead to serious injuries and/or damage to the system or its components.

- During use outdoors, provide for appropriate protection against all weather conditions (especially rain and frost).

- The specified operating pressure must not be exceeded.

- The DIX PRS 600 TD torch cleaning station or the DIX PRA 600 wire cutter may only be operated as independent products if the housing is closed.



- The Compressed air supply must be interrupted during setup or maintenance work to ensure that the devices are de-pressurized. The power plug must also be pulled to ensure that the devices are de-energized.

The devices must be secured against unintentional restarting, by other individuals as well. Failure to observe this can lead to serious injuries and/or damage to the devices or their components.

- Add-ons, which are not offered as accessories, may only be attached with the manufacturer's approval.

## 2. Safety

### 2.3 Safeguarding against potential hazards during regular usage

- If the DIX PRS 600 TD torch cleaning station is to be used in an environment with corrosive or caustic vapors or liquids, the manufacturer's approval is required.  
Failure to observe this will void the warranty.
- If the DIX PRA 600 wire cutter is to be used in an environment with corrosive or caustic vapors or liquids, the manufacturer's approval is required.  
Failure to observe this will void the warranty.
- When shutting down the welding system, you must ensure that no welding torches remain in the DIX PRS 600 TD torch cleaning station.
- Before start-up, check to see whether the right gas nozzle grinder is installed for the gas nozzle in use.
- During the installation and start-up, ensure that the DIX PRS 600 TD torch cleaning station and the DIX PRA 600 wire cutter are never unintentionally put into operation, including by other persons.



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## 2. Safety

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### 2.4 Authorized operators

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The DIX PRS 600 TD torch cleaning station and the DIX PRA 600 wire cutter must only be operated by individuals who have been trained by **DINSE Inc.** and who have read and understand the relevant safety instructions contained in this manual!

### 2.5 Limited Warranty

Seller guarantees Goods meet applicable standards only when used as directed under normal operation or service. This guarantee is effective for one (1) year from the date of shipment for the original Buyer and is not transferable.

Please refer to the complete warranty claim at [www.dinse-us.com](http://www.dinse-us.com) for further details and exceptions of the warranty.

Warranty claims can only be asserted given:

- Use for the intended purposes
- Proper operation
- **Use of original components and spare parts from DINSE Inc.**
- Observance of safety instructions

In the event your **DINSE** product needs repair, any repairs must be performed by either **DINSE** electricians or qualified electricians appointed by **DINSE Inc.!**

If you have a complaint about your **DINSE** product during the valid warranty term, do NOT make any modifications to the product. Please send the product “as-is” to **DINSE Inc.** immediately.



***Unauthorized tampering, modifications, repairs, or changes to the DINSE product will result in lack of warranty coverage and will void any warranty claims, implied or otherwise, as well as any suitability or fitness for particular purposes claims by DINSE Inc.!***

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## 2. Safety

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### 2.6 Packaging and dispatch

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The torch cleaning station has been checked and carefully packed before shipment, however damages may occur during shipping and this product should be carefully inspected prior to use.

In case of damage, contact **DINSE Inc.** immediately and return the entire torch cleaning station at your expense to:

**TANDEM Global  
Logistics Chicago**

830 Dillon Drive  
Wood Dale, IL 60191 USA  
Phone.:630 860 1703 • Fax.:630 860 1746:  
tvdeijkhoff@tandemgloballogistics.com  
www.tandemgloballogistics.com

*IN THE EVENT YOUR DINSE TORCH CLEANING STATION NEEDS  
TO BE RETURNED:*

1. Please be sure to carefully pack the torch cleaning station in a suitable container with sufficient packing material in order to avoid causing any damages during shipping.
2. Please include a note describing the problem(s) with sufficient detail. This will help our service department to determine the cause of the problem sooner, and can reduce the time it takes to repair the torch cleaning station.

### 2.7 Recycling/ Disposal



Only applies to EU countries.

Do not discard electrical tools with ordinary waste!

As per EU directive 2002/96/EC regarding old electrical and electronic equipment and as implemented in national law, used electrical tools must be collected separately and recycled in an eco-friendly manner.

Applies to other countries.

Some of the materials can be reused. Reusing some parts of raw materials from used products is an important way of helping to protect the environment.

Contact your local authority in the event that you require information on local collection points.





### 3. Technical data



Program control	electro pneumatic
Control	24 V DC
Current consumption, max	300 mA
Output power	8 W
Compressed air, max	6 bar
Air consumption	approx. 420 l/min
Cleaning time, max	7 - 7.5 s
Non-stick agent	1 l
Protection class	IP 21
Dimensions (L/B/H) (with wire cutter and drip cup)	419 mm/300 mm/520 mm
Weight (with wire cutter and drip cup)	15.8 kg
Ambient temperature	
- during operation	- 10° C bis + 40° C
- during transport and storage	- 10° C bis + 55° C



## 4. Installation



### 4.1 Setup and mounting



**WARNING!**



**Risk of injury, especially to the hands and other limbs due to the automatic start-up of the DIX PRS 600 TD torch cleaning station or the DIX PRA 600 wire cutter!**

- Ensure that the DIX PRS 600 TD and the DIX PRA 600 are de-energized and de-pressurized until the installation is completed.
- Ensure that the DIX PRS 600 TD and the DIX PRA 600 are protected against unintentional start-up, including by other persons.

The DIX PRS 600 TD torch cleaning station can be installed in any desired position, with some restrictions. The container for the non-stick agent must always be vertical to ensure that the non-stick agent does not drain out.

Firmly secure the DIX PRS 600 TD on a shock-resistant support using four M8 x 16 mm screws.

Secure the DIX PRS 600 TD on the optionally available DIX PRF 600 assembly fixture using four M8 x 20 mm screws. If you use the DIX PRF 600 assembly fixture, it must be anchored to the floor using four  $\varnothing$  12 mm screws.



## 4. Installation

## 4.2 Installation and setup

#### 4.2.1 Replacing the rotary grinder



## WARNING!



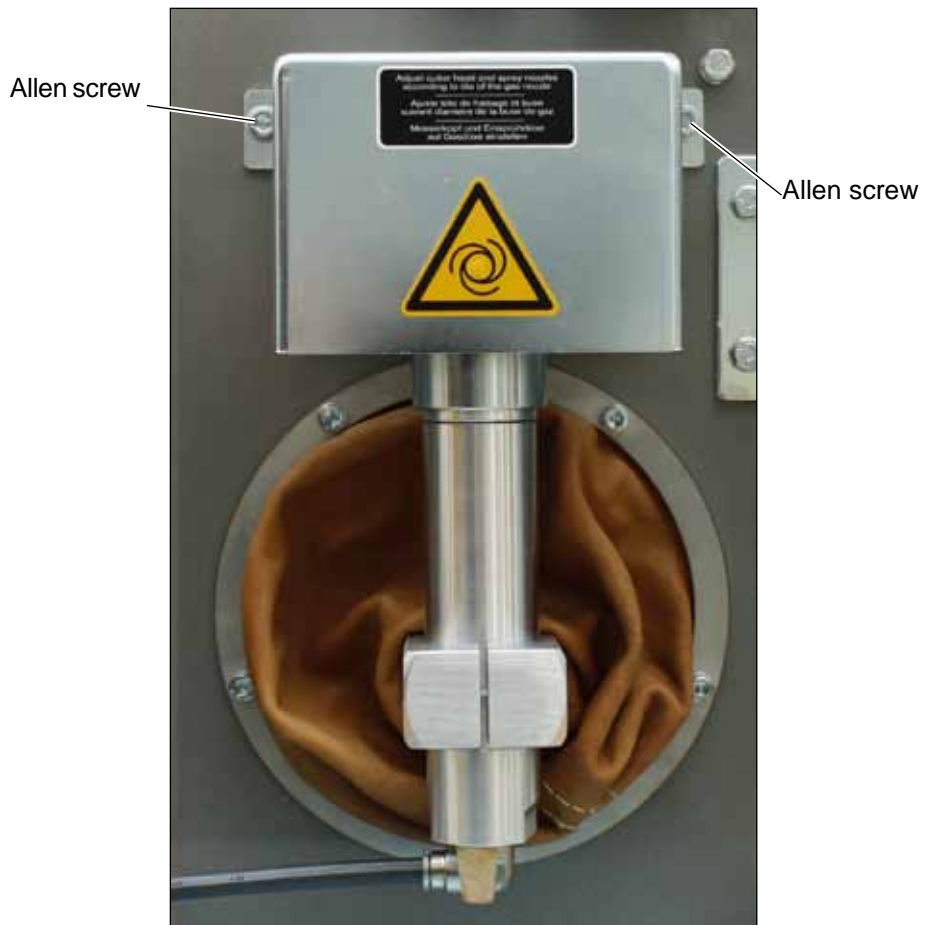
**Risk of injury, especially to the hands and other limbs due to the automatic start-up of the DIX PRS 600 TD torch cleaning station!**

- Ensure that the DIX PRS 600 TD is de-energized and depressurized while you are replacing the rotary grinder.
- Ensure that the DIX PRS 600 TD is protected against unintentional start-up, including by other persons.

Select the correct rotary grinder for the gas nozzle that is in use. You can determine the correct grinder using the list of grinders on the DINSE spare- and wear part lists.

Remove the two allen head screws of the protective cover of the spray nozzles, using an Size 5 allen wrench.

Remove the  
protective cover



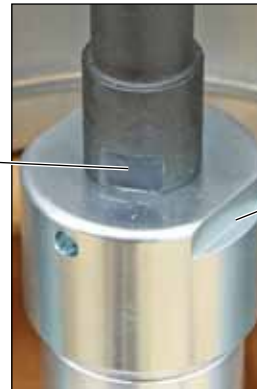
## 4. Installation



### 4.2 Installation and setup

1. Using an Size 36 open-ended wrench, secure the shaft on the spanner flat of the motor protective cap.
2. Using a second Size 17 open-ended wrench, manually loosen and unscrew the rotary grinder counter-clockwise.
3. Manually screw the selected grinder clockwise onto the motor shaft.
4. Using an Size 36 open-ended wrench, secure the shaft on the spanner flat of the motor protective cap.
5. Using a second Size 17 open-ended wrench, firmly tighten the grinder clockwise.

Spanner flat of the rotary grinder for tightening/loosening (during installation or replacement)



Spanner flat of the motor protection cap for tightening/loosening (during installation or replacement)



When tightening/loosening the grinder using the Size 17 open-ended wrench

Counter hold with an open-ended wrench Size 36

## 4. Commissioning

### 4.2 Installation and setup

#### 4.2.2 Setting the rotary grinder



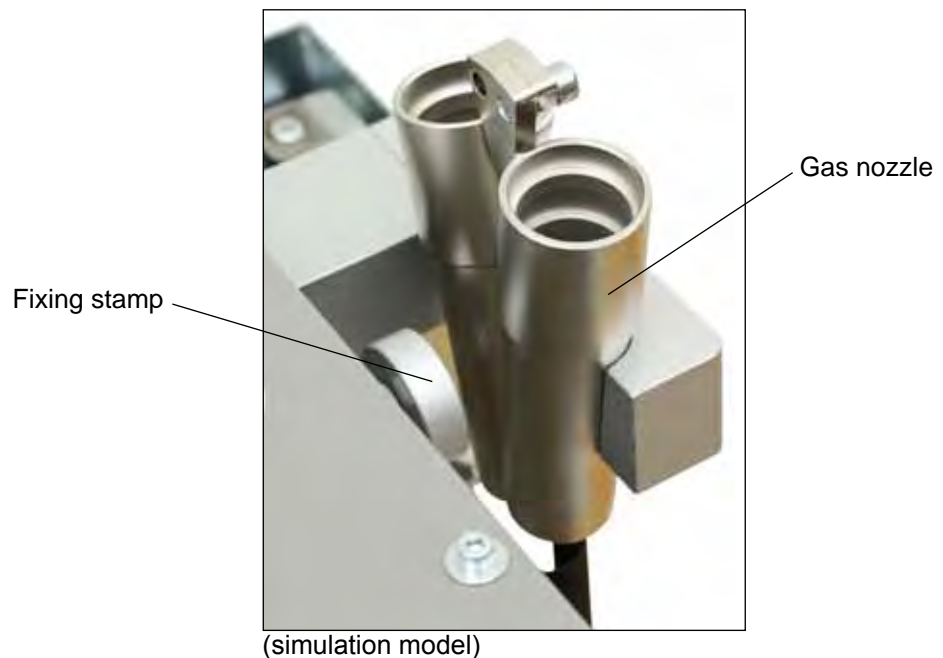
**Risk of injury, especially to the hands and other limbs due to the automatic start-up of the DIX PRS 600 TD torch cleaning station!**

- Ensure that the DIX PRS 600 TD is de-energized and de-pressurized while you are replacing the rotary grinder.
- Ensure that the DIX PRS 600 TD is protected against unintentional start-up, including by other persons.

Insert the double gas nozzle.

The conical gas nozzle is inserted into the top of the torch cleaning station.

The fixing stamp is holding the gas nozzle in the center position.



## 4. Commissioning



### 4.2 Installation and setup



**CAUTION!**

**Positioning the rotary grinder too high can damage the gas nozzle, the contact tip and the gas distributor.**

- Ensure that the rotary grinder is correctly positioned.
- The rotary grinder must not touch the gas nozzle, the contact tip or the gas distributor.

Set the grinding depth.

1. Loosen the allen head screw on the motor mount using an Size 5 allen wrench.



Motor protective cap

Motor

Motor mount

Allen head screw Size 5

## 4. Commissioning



### 4.2 Installation and setup



**WARNING!**

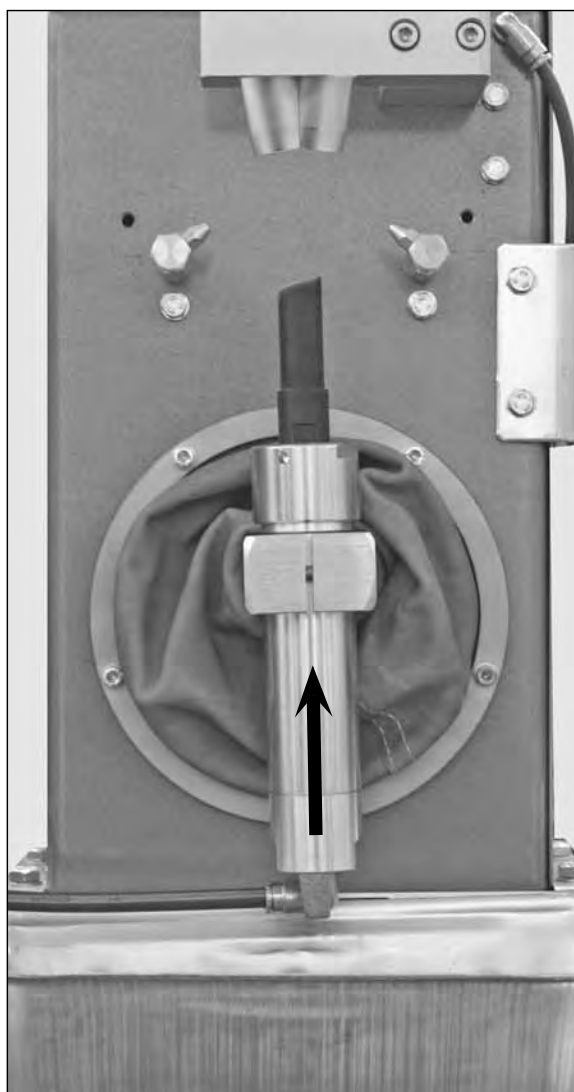
*When de-pressurized, the motor can be moved by hand.*

*If you push the rotary grinder up and down, be careful!*

***Please check this before moving!***



2. Manually push the motor downward until the motor protective cap rests on the motor mount.
3. Push the motor into the uppermost position.





## 4. Commissioning

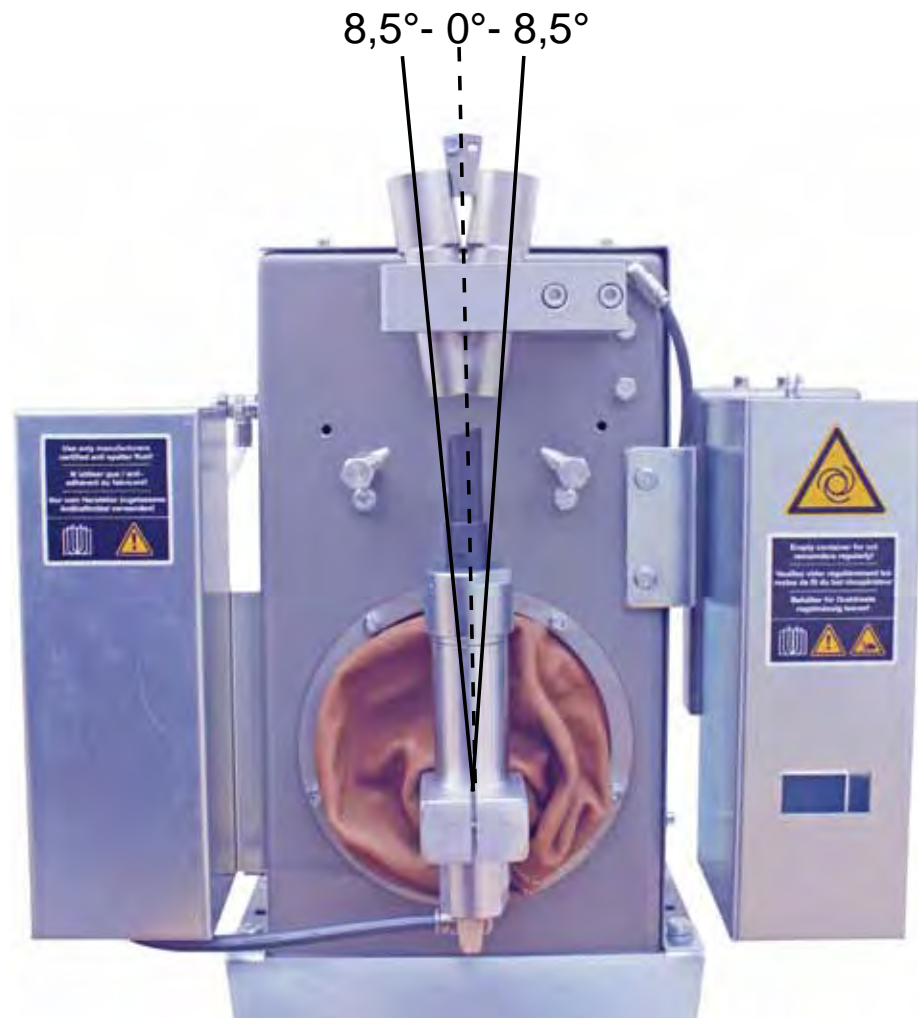


### 4.2 Installation and setup

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I  
N  
F  
O

4. Carefully push the motor with the installed rotary grinder mount into one of the gas nozzle in the cleaning position.
5. From the 0° position it can be moved 8.5° into the one and then 8.5° into the other direction, in order to clean the double gas nozzle (factory setting).

*The rotary grinder must not touch the gas nozzle, the contact tip or the gas distributor.*




## 4. Commissioning

### 4.2 Installation and setup

5. Tighten the allen head screw on the motor mount using an Size 5 allen wrench to a torque of 10 Nm.



Allen head screw size 5

 = 10 Nm

## 4. Commissioning



### 4.2 Installation and setup

#### 4.2.3 Function test



*The basic function of the DIX PRS 600 TD gas nozzle cleaning station can also function without an electrical connection if the Compressed air supply is connected (6 bar/ 87 psi).  
The solenoid valve is manually operated.*



**WARNING!**



**Risk of injury, especially to the hands and other limbs due to the automatic start-up of the DIX PRS 600 TD torch cleaning station!**

Proceed as follows:

1. Connect the DIX PRS 600 TD torch cleaning station to the robot control system.
  - 24 Volt input for solenoid valve
  - 24 Volt output back from the proximity Sizeitch, clamping cylinder
2. Connect the Compressed air supply.
3. The clamping cylinder should be back in position.
4. Put the robot with a completely installed welding torch into the cleaning position.
5. Turn the slotted screw on the solenoid valve 90° to test the function of the DIX PRS 600 TD.
6. After the function test is completed, turn the slotted screw on the solenoid valve back 90°.



## 4. Commissioning

### 4.2 Installation and setup

#### 4.2.4 Injecting with non-stick agent

The injection time is controlled by a pneumatic signal contact breaker to achieve a constant injection time. The amount of non-stick agent that is injected can be individually set. The rule is: as much as needed and as little as possible.



**The DIX PRM 600 torch cleansing agent presents a health hazard if vapors or spray are inhaled or if it comes into contact with your eyes.**

- Do not inhale the vapors or spray of the DIX PRM 600.
- Provide for sufficient fresh air.
- Wear protective eyewear when handling DIX PRM 600.

The manually actuated „injection“ is used:

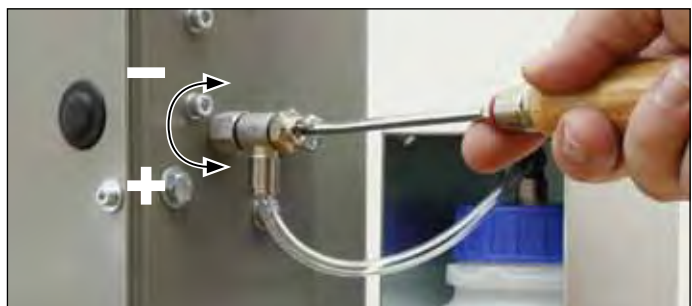
- For the initial start-up
  - When the non-stick agent container has been completely emptied
  - When the amount of the non-stick agent is to be set
1. Connect a supply container that is full of non-stick agent.
  2. Press the manual injection actuator until spray is visible at the spray nozzles.

Manual actuator „Injection“



3. Turn the dosing screw on the throttle valve to set the desired amount of non-stick agent that is to be used.
4. Press the manual actuator to control the amount of non-stick agent that is set.

Non-stick agent  
 – less  
 + more



## 4. Commissioning

### 4.2 Installation and setup

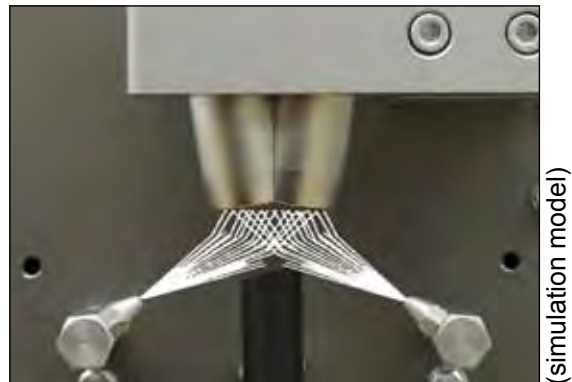
#### 4.2.5 Automatic injection of the gas nozzle

After the gas nozzle is cleaned, the motor moves back to the initial position and actuates the 5/2-way distributing valve and supplies air pressure to the signal contact breaker.

Non-stick agent is sucked out of the supply container through the 5/2-way distributing valve and a special nozzle. It shoots out through the injection nozzles and coats the gas nozzle with non-stick agent.

After approx. 0.5 seconds the signal contact breaker stops the injection process.

*The two streams of spray must meet in front of the gas nozzle to ensure that they enter the gas nozzle.*



(simulation model)

#### 4.2.6 Installing the protective cover

1. Install the protective cover of the spray nozzles and firmly tighten the two allen screws using an Size 5 allen wrench, to a torque of 10 Nm.



## 4. Commissioning



### 4.3 Pin assignment of the electrical connection of the DIX PRS 600 TD

PIN	Assignment
1	24 V <sub>DC</sub> output for robot (cleaning start)
2	0 V <sub>DC</sub>
3	24 V <sub>DC</sub> power supply
4	Input for robot (clamping cylinder limit Sizeitch)
5	Ground/housing not connected

### 4.4 Program sequence with robot

„Clean gas nozzle“



**WARNING!**

**ONLY** blow-out the tandem welding system outside of the torch cleaning station, because otherwise contaminants may get into the station.

**Danger of personal injury and material damage. Only start the program if all measures have been taken for commissioning.**

Make sure that:

- the correct electrical and pneumatic connection was selected
- the correct cleaning cutter for the double gas nozzles is in the station
- the correct non-stick spray is used
- the torch cleaning station is operable in its initial position

1. Move the robot to the wire cutter position
2. Shorten both welding wires in order to make sure that the welding wire does not get into the rotating cutter (see also section 8. Wire-cutter DIX PRA 600)
3. Wait for about 0.5 seconds for the cutting process
4. Input S1 “Limit Sizeitch clamping cylinder open”, PIN 4 = I

***The torch cleaning station is ready for operation.***

### 4.4 Program sequence with robot

„Clean gas nozzle“

5. Move robot into cleaning position.
6. Set output of robot (cleaning start), PIN 1 = 1 (solenoid valve = 1)  
3 to 5 seconds long until the motor is up in the end position.  
*The gas nozzle is clamped, the rotary grinder is rotating and the motor moves upward.*
7. Approx 1.5 seconds after setting output of cleaning, the prompt appears: If S1 is „Clamping cylinder limit Sizeitch open“, PIN 4 = 0  
*If PIN 4 does not = 0 – EMER STOP!*
8. If output of cleaning is off, PIN 1 = 0 (solenoid valve = 0)  
*The motor moves down. When the motor is down, the rotary grinder stops. The clamping cylinder opens and the gas nozzle is automatically injected with non-stick agent for approx. 0.5 seconds.*
9. When the motor is down, the following prompt appears: If S1 is „Clamping cylinder limit Sizeitch open“, PIN 4 = 1  
*If PIN 4 does not = 1 after 8 seconds – EMER STOP!*
10. Motor OFF, motor moves to cleaning position 2  
Clamp gas nozzle and motor ON  
*Rotary grinder cleans the second gas nozzle*
11. If the motor is down, the rotary grinder stops,  
*the clamping cylinder opens and the second gas nozzle is automatically sprayed for about 0.5 seconds with a non-stick spray.*  
*Clamping cylinder back*  
PIN 4 = 1 is simultaneously the END of cleaning  
*If PIN 4 not = 1 – **EMERGENCY SHUTDOWN!***
12. Move the robot out of the cleaning position no earlier than 0.5 seconds after the injection process.

See also pneumatic and wiring diagram in Section 7



The DIX PRS 600 TD torch cleaning station is largely maintenance-free thanks to the use of high-quality components.  
The DIX PRS 600 TD can be operated without pneumatic oil.

Conduct regular inspections to guarantee problem-free operation. Individual checks and maintenance tasks should be performed at intervals depending on the conditions under which the torch cleaning station is operated. Each user must accordingly define a customized maintenance schedule.



### **Risk of injury, especially to the hands and other limbs due to the automatic start-up of the DIX PRS 600 TD torch cleaning station!**

- De-energize and de-pressurize the DIX PRS 600 TD before starting any maintenance work.
- Ensure that the DIX PRS 600 TD is protected against unintentional restart, including by other persons.

To ensure problem-free functioning, the following items should be observed:

- General visual inspection of the DIX PRS 600 TD torch cleaning station for damage and signs of wear.
- Check that all loose connections are fitted correctly.
- Lubricate all of the moving shafts once a month.
- Weekly cleaning is recommended.
- The level of non-stick agent in the container depends on the cleaning cycle and the set amount. It must be checked regularly.
- Visual inspection of the connecting lines for damage.
- Observe the maintenance instructions for the peripheral devices.



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

## 6. Fault remedy



All products undergo strict control during and after production. If something should nevertheless malfunction, check the DIX PRS 600 TD torch cleaning station in accordance with the list provided below. If the specified measures are not successful, please contact DINSE Inc. for your own safety.

Malfunction	Possible causes	Remedy
The motor does not move up/down	No voltage at the solenoid valve	Check the 24 VDC voltage at the valve
	The solenoid valve is defective	Check the solenoid valve and replace it if necessary
	The throttle valve cannot be regulated	Turn the throttle valve open and closed, replace if necessary
	The seal in the cylinder is defective	Replace the entire seal set
The motor remains in the cleaning position	The solenoid valve is not in the "ZERO" position after the voltage is disconnected	Check the 24 VDC voltage at the valve
	The solenoid valve is defective	Check the solenoid valve and replace it if necessary
The motor does not rotate	The distributing valve is defective	Check the distributing valve and replace it if necessary
	The air hose is defective	Check the air hose and replace it if necessary
	The motor is defective	Check the motor and replace it if necessary
Robot does not move in or out of cleaning position	Gas nozzle "The signal is still set" clamped	Check the limit Switch of the clamping cylinder and replace it if necessary

## 6. Fault remedy



Malfunction	Possible causes	Remedy
The non-stick agent is not injected	The wrong non-stick agent was used	Only use the Dinse DIX PRM 600 non-stick agent
	The injection amount is too little	Increase the injection amount at the throttle valve.
	The injection nozzle(s) is/are clogged or defective	Drill the injection nozzle(s) open with a 0.8 mm drill, replace the injection nozzle(s) if necessary
	The distributing valve is defective	Check the distributing valve and replace it if necessary
	The signal contact breaker is defective	Check the signal contact breaker and replace it if necessary
	The solenoid valve is defective	Check the solenoid valve and replace it if necessary
The non-stick agent is injected unevenly	The injection amount is too little	Increase the injection amount at the throttle valve.
	The injection nozzle(s) is/are clogged or defective	Drill the injection nozzle(s) open with a 0.8 mm drill, replace the injection nozzle(s) if necessary
	The injection nozzles are not adjusted	Check the setting of the injection nozzles and correct it if necessary
The welding torch was poorly cleaned or damaged	The Compressed air motor is incorrectly positioned (vertical)	Check the setting of the motor and correct it if necessary
	The welding torch is secured in the wrong position	Check the setting of the lock and correct it if necessary
	The wrong rotary grinder is selected for the gas nozzle	Select the correct rotary grinder from the list of accessories on page 40
The welding wire is bent during cleaning	The welding wire is very soft	Move the welding wire back to the contact tip before cleaning

## 6. Fault remedy

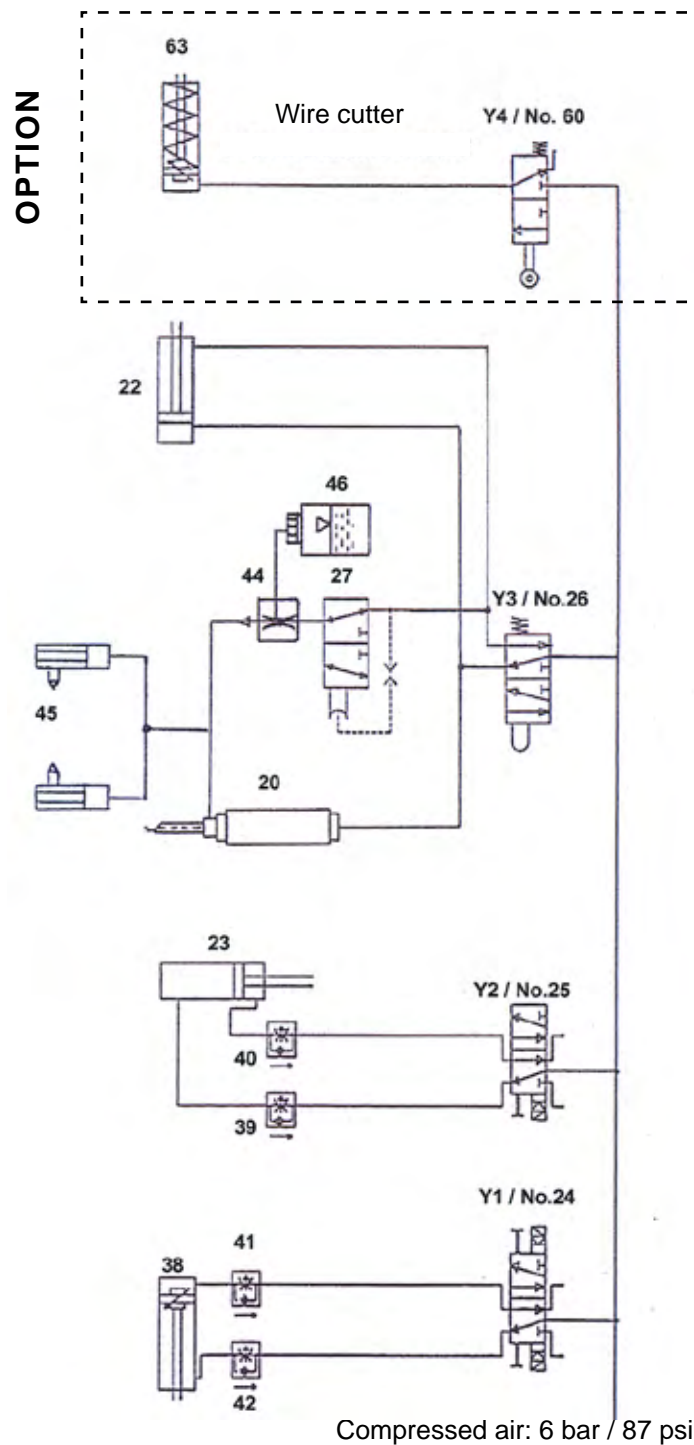


Malfunction	Possible causes	Remedy
Motor does not move to cleaning position 2	Limit Switch motor down mechanically defect	Check cabling
		Replace cabling
		Check motor
		Replace motor
	Pivot valve does not move	Check pivot valve
		Replace pivot valve
	Pivot cylinder is not working properly	Check pivot cylinder
		Replace pivot cylinder
	Throttle check valve cannot be controlled	Throttle check valve incorrectly installed or defective
		Twist or untwist throttle check valve
Replace throttle check valve		
Pivot position Switch not actuated	Check pivot position Switch	
	Replace pivot position Switch	
The welding wire was bent during cleaning	Sealing in the cylinder shift unit defective	Completely replace sealing set
	The welding wire must be cut before cleaning	Cut back the welding wire back up to the contact tip
	The welding wire is very soft	Before cleaning, move the welding wire back to the contact tip

## 7. Pneumatic and wiring diagram



### 7.1 Pneumatic diagram DIX PRS 600 TD



***Ensure that repairs are generally only carried out by  
DINSE Inc. or specialists trained by DINSE Inc.!***

## 7. Pneumatic and wiring diagram



### 7.2 Pneumatic diagram DIX PRS 600 TD (configuration)

Pos.	Article description
20	Pneumatic motor
21	Gas nozzle fixing unit (Dinse Tandem)
21a	Stop clip clamping unit
22	Clamping cylinder 15mm hub gas nozzle tandem
23	Moving unit with motor holder tandem
24	Y1 Sizeivel solenoid valve incl. 2 connecting plugs
25	Y2 Solenoid valve motor up/down
26	Y3 Pilot valve 5/2-ways
27	Signal disrupter
28	S1 Limit Sizeitch Clamping cylinder (10 Hub) „Not clamped“
29	S5 Limit Sizeitch Pivot position left (with blocking diode)
30	S6 Limit Sizeitch Pivot position right (with blocking diode)
31	S4 Limit Sizeitch motor down
32	S2 Limit Sizeitch motor up
33	S3 Pushbutton manual start cleaning
34	K1 Current impulse relay left/right
35	Connectors (silver)
36	Cable box (red)
37	Terminal strip 11-pin
38	Pivot cylinder with fork head
39	Throttle check valve motor up
40	Throttle check valve motor down
41	Throttle check valve pivot left
42	Throttle check valve pivot right
43	Venturi nozzle vacuum system non-stick spray
44	Throttle valve venturi nozzle
45	Nozzle holder with injection nozzle complete
46	Plastic bottle content 1 liter, system D, complete
47	Holder plastic bottle 250x87x84 mm
48	Leather cover motor holder for two-wire device
49	Air supply 1/4" complete
50	Casing cutter two-wire device
51	Cleaning rotary grinder 17/11mm, for Dinse Tandem





## 8. Wire cutter DIX PRA 600

### 8.1 Technical data

Control	24 V <sub>dc</sub>
Compressed air	6 bar max. 8 bar
Air consumption	0.1 liters/second
Cutting performance max.	1.6 mm with two welding wires
Protection class	IP 21
Dimensions	220/100/ 245 (L/B/H in mm)
Weight (incl. drip cup)	ca. 4.3 kg
Ambient temperature	
- during operation	14 °F a 104 °F -
- during transport and storage	14 °F a 131 °F



## 8. Wire cutter DIX PRA 600

### 8.2 Installation when retrofitting the DIX PRA 600

The wire cutter DIX PRA 600 is mounted on the torch cleaning station DIX PRS 600 T.



**Risk of injury, especially to the hands and other limbs due to the automatic start-up of the DIX PRS 600 TD torch cleaning station or the DIX PRA 600 wire cutter!**

- De-energize and de-pressurize the DIX PRS 600 TD and the DIX PRA 600 before starting any maintenance work.
- Ensure that the DIX PRS 600 TD and the DIX PRA 600 is protected against unintentional restart, including by other persons.

When using the wire cutter, the protective cover is removable. Remove the wing screw of the protective cover and remove it.



Wing screw

## 8. Wire cutter DIX PRA 600



### 8.3 Pin assignment of the electrical connection

PIN	Assignment
1	24 V <sub>DC</sub> output for robot (cut wire)
2	0 V <sub>DC</sub>

#### 8.3.1 Program sequence with robot "Cut wire"

1. Move robot into cutting position  
*(Position: Fixed blade in center, lying on the wire but no pressure on the wire)*
2. Apply 24 VDC output of robot (wire cutting) until wire is cut  
*The wire cutter closes.*
3. Reset 24 VDC (low) output for robot (wire cutting)  
*The wire cutter opens.*
4. Move robot into cleaning position.  
*For the rest of the program sequence, see 4.4 Program Sequence with robot „Cleaning the gas nozzle“.*



## 8. Wire cutter DIX PRA 600



### 8.4 Servicing the DIX PRA 600

The wire cutter is largely maintenance-free because of the use of high-grade components.

Conduct regular inspections to guarantee problem-free operation. The frequency of single inspections and maintenance work depends on operating conditions. Each user must accordingly define a customized maintenance schedule.



**Risk of injury, especially to the hands and other limbs due to the automatic start-up of the DIX PRS 600 TD and the DIX PRA 600 torch cleaning station!**

- De-energize and de-pressurize the DIX PRS 600 TD and the DIX PRA 600 before starting any maintenance work.
- Secure the DIX PRS 600 TD and the DIX PRA 600 against an unintentional restart.

To ensure trouble-free functioning, the work described next should be carried out at regular intervals:

- General visual inspection of the DIX PRA 600 and the DIX PRA 600 wire cutter for damage and signs of wear.
- Check that all loose connections are fitted correctly.
- Lubricate all of the moving shafts once a month.
- Weekly cleaning is recommended.
- Visual inspection of the connecting lines for damage.
- Observe the maintenance instructions for the peripheral devices.



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

## 8. Wire cutter DIX PRA 600



### 8.5 Fault remedy

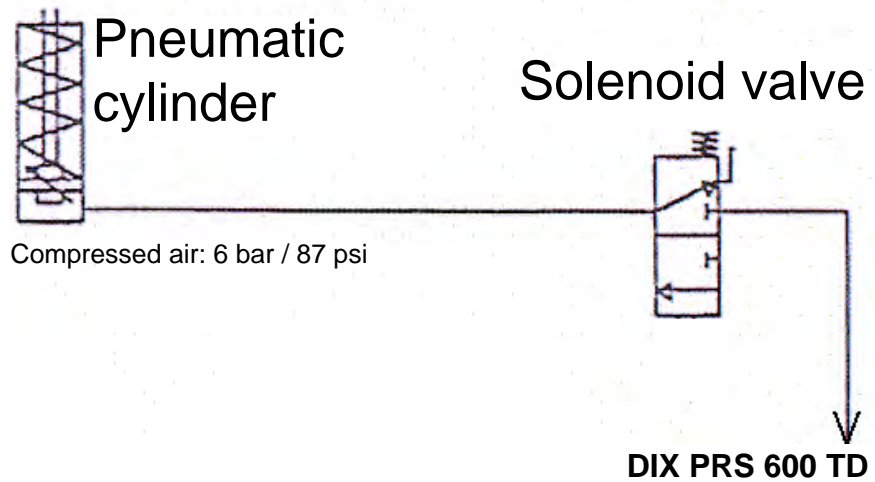
All products undergo strict control during and after production. If something should nevertheless malfunction, check the wire cutter DIX PRA 600 in accordance with the list provided below. If the prescribed measures are not successful, please contact DINSE Inc. for your own safety.

Malfunction	Possible causes	Remedy
The welding wire was bent during cleaning	The welding wire must be cut before cleaning	Cut back the welding wire back up to the contact tip
The welding wire was not cut	The voltage is missing on the wire cutter	Check the voltage 24 V <sub>DC</sub>
	Pneumatics disconnected	Check pneumatic hoses and, if applicable, connect
	Is the correct pressure even connected?	Check pneumatic hoses and, if applicable, connect
	Compressed air decrease	Check pneumatic hoses and, if applicable, replace these
	The cutters in the wire cutter are defective	Replace the complete cutter set
	The welding wire is not positioned in the middle	Position: middle cutter, placed on the fixed cutter
	The pneumatic hoses are defective	Check pneumatic hoses and, if applicable, replace these
	The motor is defective	Check the motor and, if applicable, replace it

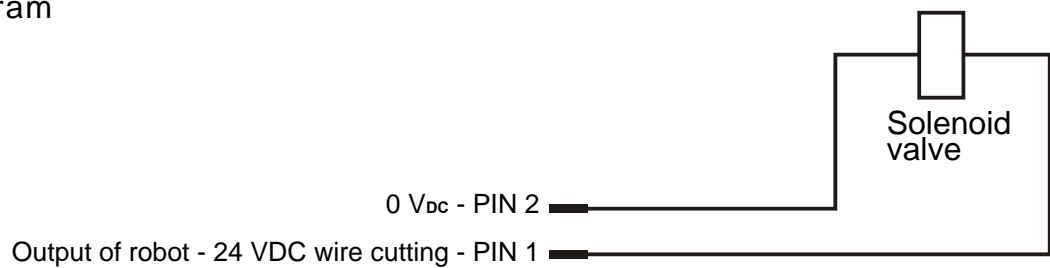
## 8. Wire cutter DIX PRA 600

### 8.6 Pneumatic and wiring diagram

#### 8.6.1 Pneumatic diagram DIX PRA 600



#### 8.6.2 Wiring diagram DIX PRA 600



***Ensure that repairs are generally only carried out by  
DINSE Inc. or specialists trained by DINSE Inc.!***

**Torch cleaning agent  
(non-stick agent)  
DIX PRM 600**



**Assembly fixture  
DIX PRF 600**

