

# DEPRAG

## Operating Instruction Booklet

### Pneumatic Plier

**48-401**  
**48-401-1**

**807683 A**  
**220483 A**

Dear Customer:

This tool is the result of more than 70 years of experience in the design and manufacturing of pneumatic tools for the industrial market.

We kindly ask that you read these operating instructions carefully so that you will be able to use this tool safely and for many years to come. If you need additional information, please contact your DEPRAG

Representative, one of our international support offices or us direct at DEPRAG. We will be happy to answer any questions. Please visit our web site: [www.deprag.com](http://www.deprag.com)

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## 1 Safety Tips

### 1.1. General Safety Tips



**Before operating tool make sure to carefully read and observe this operating instruction.**

Generally, the operator of the equipment and/or machinery is responsible for the equipment's perfect condition and operation, while observing all necessary safety regulations. The equipment and/or machinery has been constructed in accordance with the newest level of technology while recognizing all necessary safety-related requirements. Nevertheless, while operating the equipment and/or machinery there is a risk of bodily harm to the operator as well as damage to equipment and/or machinery and other property.

Operate the equipment and/or machinery only if equipment/machinery

- Is used for the task it was designed for
- is in perfect working condition and safe to use.


It is important to observe the technical data of the equipment, especially in regards to the environmental temperatures. The designated area of use for this equipment is clearly described in chapter *Designated Equipment Use* and those requirements have to be observed as well. Prerequisite for the safe conduct and the uninterrupted operation of the equipment, is the knowledge of the basic safety tips and the safety regulations. Additionally, all current regulations for a safe operational area, for accident-prevention guidelines of electrical and mechanical installations, as well as noise suppression demands must be observed. During any maintenance or repair work, a clean work surface is recommended. Also, it is not recommended to either eat or smoke during repair or maintenance. Arbitrary changes made to the equipment, which alters its designated use, voids the warranty and cancels the manufacturers liability.

- The tool is not insulated to protect against an electrical power surge.
- It is not recommended to use this tool in explosive hazardous environments, unless it was specifically designed for such a use.
- During the disconnection or reconnection of the tool from the compressed air, an injury is possible because of a whipping pressure-hose.

The operating instruction booklet, especially the safety symbols and safety tips attached to the equipment or included in the documentation, must be observed at all times by all persons getting into contact with the equipment.

## 1.2. Safety Tips for machines for cutting and squeezing



- Keep your hands away from the cutting/pressing opening! Tool inserts with a wide “mouth” especially may cause injuries.
  - Make sure to never operate the tool holding it towards yourself or any other person.
  - Cut-off pieces or work parts of especially brittle material may be catapulted off – so watch out! When starting the tool, always pay attention to adjust the operating tool tip so that this risk will be reduced. Make sure to wear protective goggles!
  - Before putting the tool back down make sure to secure the lever, in order to avoid inadvertent start of tool.
  - When connecting/disconnecting tool to/from air supply, take absolute care NOT to activate operating lever. After using and before putting it down, tool should be disconnected from air supply.
  - Check plier inserts prior to operation and make sure they are not worn. If necessary, install new inserts (injuries may be caused by using worn/broken inserts).
- 
- The plier should only be used for the intended application. Tool may be damaged by cutting or bending tests, in the attempt to increase its power capability.
  - For exchange of inserts, tool has to be disconnected from power/air supply .
  - Maximum operating (flow) pressure must not be exceeded. Make sure to use a pressure regulator so that air flow pressure is checked before reaching the tool.
  - Do not wear any loose clothing or jewellery. They may get caught on the moving parts. Protect long hair by using a hair net.

## 1.3. Owner Obligation

The owner is obliged to only let persons operate the equipment, who

- are familiar with basic work environment safety rules and accident-preventing regulations. Also, those persons must have been instructed in the correct use of the equipment.
- have read and understood all safety and warning notifications in the Operating Instruction Booklet, as well as all other documentation pertaining to this equipment.
- check and confirm at regular intervals, that a safety oriented operation is guaranteed.

Only qualified and authorized personnel is allowed to operate, maintain and repair this equipment. A malfunction, which impairs operator safety, must be immediately removed.

## 1.4. Operator Obligation

Personnel, who is engaged in the operation of the equipment, must always be committed to

- observe the basic safety and accident preventing regulations,
- read and observe the safety and warning notifications of this operating instruction booklet.

## 1.5. Warranty and Liability

Unless otherwise specified, our “General Sales and Delivery Conditions” apply. Warranty and liability claims in regards to persons or equipment damages are invalid, if one or several of the following causes apply:

- Use of the equipment in a non-designated application.
- Improper installation, operation, service or maintenance of the machine.
- Operation of the machine with either defective or removed safety and protection devices.
- Non-observance of the requirements stated in the operating instruction booklet, in regards to transportation, storage, mounting, installation, operation, maintenance and service of the equipment.
- Structural change or adjustment on the equipment to a non-designated use.
- Inadequate supervision of wear parts.
- Improper repair, inspection or maintenance.
- Catastrophic cases because of a war, acts of god or other reasons which are beyond our control.

## 1.6. Symbol Description



Read and observe the Operating Instruction Booklet, prior to and during operation of tool.



### **DANGER**

Reference to an immediate danger to a person. May lead to serious injuries or even death, if unobserved!



Properly recycle environmentally damaging grease, cooling agents or detergents



### **RECOMMENDATIONS**

Important or additional information on the equipment or in the documentation



Use eye protection or wear safety goggles



Wear hearing protection



Warning against hand-injuries.

Attention: Keep away your hands from areas, which are marked with this symbol!



Hands may be crushed, seized or otherwise injured.



## ESD-protected area

Equipment may be damaged or destroyed by an electrostatic discharge.

Maintenance and repair on hydraulic and pneumatic equipment may only be performed by specially trained personnel!



Disconnect equipment from air supply, prior to repair of pneumatic or hydraulic equipment.

Provide regular preventive maintenance on hoses and airlines. Exchange hose lines, even if there is no visible damage! (Observe corresponding requirements of the manufacturer!)

After repair and maintenance, check the following items:

- make sure all detached and re-attached connections are solid.
- confirm that removed covers, screens or filters were re-installed
- During disconnecting or reconnecting of an air-operated equipment, injury may occur due to a whipping air-hose

After conclusion of maintenance or repair and prior to start of operation, make sure to

- remove all materials, tools and other supplies needed for the maintenance or repair from work area of the equipment
- remove leaking liquid or oils
- make sure all safety devices on the equipment work perfectly!

## 1.7. Observe Environmental Regulations



When working on or with the equipment, it is imperative to observe all requirements in regards to waste-disposal and proper recycling.

Especially during installation, repair or maintenance, water damaging agents such as

- lubricating grease and oil
- hydraulic fluid
- cooling agents
- solvent-containing cleaning agents

must not leak into the ground or into the sewage system!

Such materials must be stored, transported, contained and recycled in suitable containers.

## 2 Designated Equipment Use

DEPRAG pneumatic pliers are to be used for cutting, bending, sealing/stamping, pressing and mounting of hose/spring clamps.

## 3 Installation

- Blow out air line and pressure hose, prior to connection it to the tool.
- Make sure all air lines have sufficient cross-section (see technical data) and hoses must be free of bends and kinks. The hose length should not exceed 2 meters.
- All DEPRAG Pliers may be operated with lubricated air or non-lubricated. (see paragraph: Maintenance and Upkeep). Best results are achieved, when plier is lubricated with 1 – 2 drops of oil per 1m<sup>3</sup>. When plier is operated with dry air, a performance reduction of up to 20% may occur and maintenance will increase!
- Connect the equipment as follows:
  - a) for standard operation connect to a maintenance unit consisting of filter with condensation reservoir, oiler and pressure regulator. When selecting a maintenance unit, make sure to observe the plier's air consumption requirement (see technical data).

Air Consumption	Thread Size	Part No.
0,05 - 0,5 m <sup>3</sup> /min	G 1/4	820454 A
0,15 – 1,5 m <sup>3</sup> /min	G 1/2	820455 A
0,8 – 4,0 m <sup>3</sup> /min	G 3/4	821608 A

- b) for the use with minimal lubrication connect equipment to a maintenance unit, consisting of Filter with condensation reservoir and Regulator

Air Consumption	Thread Size	Part No.
0,05 - 0,5 m <sup>3</sup> /min	G 1/4	822408 A
0,15 – 0,9 m <sup>3</sup> /min	G 3/8	826981 A
0,5 – 1,5 m <sup>3</sup> /min	G 1/2	822409 A
0,8 – 6,0 m <sup>3</sup> /min	G 3/4	826982 A

Each in connection with a Point-of-Use Oiler (Part No. 378077 A)

- c) For oilfree operation, connect to Filter/Regulator, consisting of Filter with condensation reservoir and Pressure Regulator.

Air Consumption	Thread Size	Part No.
0,05 - 0,5 m <sup>3</sup> /min	G 1/4	822408 A
0,15 – 0,9 m <sup>3</sup> /min	G 3/8	826981 A
0,5 – 1,5 m <sup>3</sup> /min	G 1/2	822409 A
0,8 – 6,0 m <sup>3</sup> /min	G 3/4	826982 A

- Check pressure at directly on the machine. The Regulator needs to be adjusted to an airflow of 6,3 bar (90 PSI). A higher pressure will lead to increased wear and tear. A lower pressure will result in reduced power output.

In regards to air-quality according to ISO8573-1, we recommend:

	CLASS	RESIDUE OF OIL	RESIDUE OF DUST		RESIDUE OF WATER	
		Content mg/m <sup>3</sup>	Particle Size μm	Concentration max. mg/m <sup>3</sup>	Dew Point °C	Pressure Concentration max. g/m <sup>3</sup>
Lubricated Air	4	5	15	8	+3	6
Dry Air	3	1	5	5	-20	0,88

## 4 Operation



### Attention:

Plier starts by activating lever valve. Air flow pressure must not drop beyond 5 bar!

## 5 Handling

Die Handhabung des DEPRAG Zange ist sehr einfach.

Auf sicheren Stand achten und die Zange mit beiden Händen greifen. Sobald der Hebel gedrückt wird, schließt oder öffnet sich der Zangeneinsatz und verformt das Material (abhängig vom eingebauten Zangeneinsatz).

Nach dem Loslassen des Hebels wird die Zange entlüftet und ist automatisch wieder startbereit.

## 6 Assembly - Disassembly

**Disassembly:** (see Spare Parts Drawing)



**Prior to disassembly, disconnect equipment from air-supply! Only experienced maintenance personnel may assemble or disassemble this equipment.**

After repair or maintenance, verify that equipment runs to specification!

Principally, use only DEPRAG original spare parts. Otherwise, a reduction in equipment power output and an increased maintenance requirement will occur.

If NON-DEPRAG parts are installed, DEPRAG is entitled to void any existing warranty and liability obligations.

### Disassembly instruction for Type 48-401

1. Disconnect plier from air supply.
2. Unscrew hex. nut 807737 and remove the two insert bolt 807736.
3. Remove plier insert pair complete with spring (see leaf let D4810).
4. Unscrew threaded pin 800543.



#### **Attention:**

Secure the pliers' head 220442 during disassembly. The head is under tension of the piston spring and can create injuries when jumping off.

5. Unscrew plier head 220442 (right hand thread).
6. Remove spring 807740.
7. Remove piston 807742.



#### RECOMMENTDATION

For easy disassembly of piston 807742:

Hold pliers against a pad of soft material. Connect pliers to compressed air with a low air pressure of max. 2 bar and pull start trigger. Piston will slide out automatically.

**Make sure N O T to hold the plier directed towards yourself or any other person.**

**Disconnect machine from air supply.**

8. Push out bearing needle 807745.
9. Remove push button, spring, valve pin and o-ring.
10. Unscrew threaded plug 807744.
11. Remove o-rings and valve ball.

**Assembly:**

1. Assemble o-rings 807721 and 802504 and valve ball 802187.
2. Screw in threaded plug 807744.
3. Assemble push button, spring, valve pin and o-ring.
4. Press in bearing needle 807745.
5. Grease piston 807742 and slide into housing.
6. Slide spring 807740 into the housing.
7. Assemble pliers' head 220442/220303 (right-hand thread).
8. Secure pliers' head with adjustment screw 800543 in required position.
9. Assembly plier insert pair complete with spring.
10. Assemble the two insert bolts 807736 and screw on the four hex. nuts 807737.
11. Check function and inserts gap. Adjust gap with the two adjustment screws 800543 if required.

## Disassembly instruction for Type 48-401-1

1. Disconnect plier from air supply.
2. Unscrew nut 220436 using wrench AF 13 (right-hand thread).
3. Unscrew threaded pin 800520.
4. Remove bearing screw 220434.
5. Remove plier insert pair complete with spring (see leaf let D4810).
6. Unscrew threaded pin 800543.



### Attention:

Secure the pliers' head 220442 during disassembly. The head is under tension of the piston spring and can create injuries when jumping off.

7. Unscrew plier head 220442 (right hand thread).
8. Remove spring 807740.
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## Assembly:

1. Assemble o-rings 807721 and 802504 and valve ball 802187.
2. Screw in threaded plug 807744.
3. Assemble push button, spring, valve pin and o-ring.
4. Press in bearing needle 807745.
5. Grease piston 807742 and slide into housing.
6. Slide spring 807740 into the housing.
7. Assemble pliers' head 220442/220303 (right-hand thread).
8. Secure pliers' head with adjustment screw 800543 in required position.
9. Assemble plier insert pair complete with spring.

10. Place the bearing screw 220434 into the plier head.
11. Screw on the threaded pin 800520.
12. Assemble nut 220436 using wrench AF13 (right-hand thread).
13. Check function and inserts gap. Adjust gap with the two adjustment screws 800543 if required.



## 7 Maintenance and Upkeep

Testing and maintenance can be provided by Operator. Disassembly and re-assembly of the DEPRAG Plier should be done by experienced maintenance personnel. Incorrect assembly or disassembly may lead to injury of operators and damage the tool.

The tool requires little maintenance. If the following service instructions are observed, the tool will have a long life expectancy and will remain in a safe condition.

- Check tool on a regular basis for external damage.
- Check your maintenance unit on a regular basis, make sure that sufficient oil is in the lubricator (if lubrication is used) and that the adjustment is correct. We recommend for your lubricator DEPRAGOL, part 790081 E (250 cm<sup>3</sup>).
- After cleaning, the moving parts (such as piston) will have to be greased prior to re-assembly, preferably with Grease no.
- After assembly, fill 2 – 3 drops of DEPRAGOL into the air inlet nipple.
- If tool is being used with lubrication, we recommend to have it tested and cleaned every 12 months (single shift).
- If tools are being used without lubrication, we recommend to have them tested and cleaned every 6 months (single shift).
- Exchange broken or worn plier insert immediately, for they may cause injury to the Operator.
- In case of tool malfunctions, we recommend to send the machine to DEPRAG.

### 7.1. Wear Parts

QUANTITY	NAME	PART No.
1	Piston	807742
1	Plier Insert Pair (Accessories are optional equipment)	807680
1	Plier Insert Pair (Accessories are optional equipment)	807681
1	Plier Insert Pair (only for model 48-408-1)	220454
2	O-Ring 4x2	807721
1	O-Ring 6x2	802504
1	O-Ring 30x3	807743

## 7.2. Trouble Shooting

In the case of a malfunction, check and observe all instructions contained in this technical documentation. If necessary, adjust equipment as needed.

Possible faults and their causes are shown below:

<b>ERROR</b>	<b>REASON</b>	<b>SOLUTION</b>
Plier does not start	No air, Shut-Off valve is closed	Open Shut-Off valve
Insufficient Power	Air pressure too low	Minimum air pressure should be 90 PSI for maximum performance
	Restriction in air hose	Remove bends or other restrictions
	Hose I.D. is too small	Use required hose I.D.
	Plier insert is worn	Exchange plier insert
	Piston is worn	Exchange piston

If necessary, please send tool to DEPRAG for service.

## 8 Delivery Capacity

Please check the delivery capacity in regards to its completeness.

<b>QUANTITY</b>	<b>NAME</b>	<b>PART No.</b>
1	Operating Instruction Booklet	010254 EN
1	Plier	807683 A 220483 A

## 9 Storage

Unused machines should be stored in a dry, locked area.

## 10 Technical Data

**Manufacturer** DEPRAG SCHULZ GMBH u. CO.  
**Address** Kurfürstenring 12 - 18 Postfach 1352  
D-92224 Amberg D-92203 Amberg  
**Phone** 09621/371-0  
**Fax** 09621/371-120

### Technical Data:

<b>MODEL NO.</b>	<b>48-401</b>	<b>48-401-1</b>
<b>PART NO.</b>	<b>807683 A</b>	<b>220483 A</b>
<b>Pressing power</b>	3400 N	
<b>Length incl. Plier insert</b>	ca. 200 mm	
<b>Main body dia</b>	49 mm	
<b>Weight incl. Plier insert</b>	0,58 kg	0,60 kg
<b>Required Hose I.D.</b>	6 mm	
<b>Air pressure</b>	6 bar	
<b>Air Consumption (per stroke)</b>	0,25 l	
<b>Air pressure (bar)</b>	6,3	
<b>Connecting thread</b>	G 1/4 "	

## 11 Disposal

Unused machines should be stored in a dry, locked area. Observe local and environmental regulations for the separation and recycling of materials.



**Recycle waste oil to avoid environmental contamination!**

## 12 Conformity Declaration

### EC-Conformity Declaration according to the EC-Machine-Guidelines 98/37/EC, Amendment IIA

We,

DEPRAG SCHULZ GMBH & CO.  
PO Box 1352  
D-92203 Amberg

hereby confirm, that the design of the  
Plier

**48-401**  
**48-401-1**

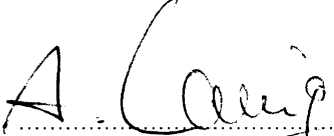
conforms to the following, relevant regulation:

- EC-Machine-Guidelines, Version 98/37/EC, Amendment No. 1 and No. 2.2.

Applicable Standard:

- EN 292

Amberg, 17.03. 2004

  
Dipl. Ing. (FH) A. Langig  
Mr. Design Dept.

## 13 Service Locations and Authorized Partners

### ARGENTINIEN

#### ERIN s.a.

Av. Constituyentes 5751  
RA-1431 Buenos Aires  
Tel./Fax: +54 (0) 11 / 4573.1313

### AUSTRALIEN

#### De Rossi Industrial Pty. Ltd.

Unit 1 – 2 / 600 Liverpool Road  
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Tel.: +61 (0)2 / 8732.7200  
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### BELGIEN

#### Aijkens en Zumpolle B.V.

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### BRASILIEN

#### METALFEMA Ltda.

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### DÄNEMARK

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### FRANKREICH

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### GRIECHENLAND

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### IRAN

#### NACCARSON AIR TOOLS Co., Ltd.

Azadi Ave. No. 625  
IR-Tehran 14 588  
Tel.: +98 (0) 21 / 6006602 + 6015656  
Fax: +98 (0) 21 / 6009451

### IRLAND

#### Production Equipment Ltd.

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e-mail: [sales@productionequipment.ie](mailto:sales@productionequipment.ie)

### ITALIEN

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I-20090 Vimodrone/Mi  
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Fax: +390 02 / 2740 0607  
e-mail: [pallotti@drex.com](mailto:pallotti@drex.com)

### JAPAN

#### NIPPON GESCO Ltd.

P.O. Box 255 Kyobashi Tokyo  
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Chuo-Ku, Tokyo  
Tel.: +81 (0) 3 / 3542.2400  
Fax: +81 (0) 3 / 3542.2420  
e-mail: [mail@gesco.co.jp](mailto:mail@gesco.co.jp)

### KOREA (Süd)

#### Handwerkzeuge

#### DONG WON POWER-TECH.INC.

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Fax: +82 (0) 2 / 2 688.2842  
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### KROATIEN

#### SM AUTOMATIKA D.O.O

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Fax: +385(0)13 87 89 78  
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e-mail: [info@sm-automatika.hr](mailto:info@sm-automatika.hr)

### LITAUEN

#### HIDROTEKA

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LT-3028 KAUNAS  
Tel.: +370 (0) 37 / 352195  
Fax: +370 (0) 37 / 351952  
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