

# HX33

## Operating Instructions

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Pneumatic Crimp Machine

Version HX33-DS Rev. B

## Translation of the original operating instructions

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### Producer

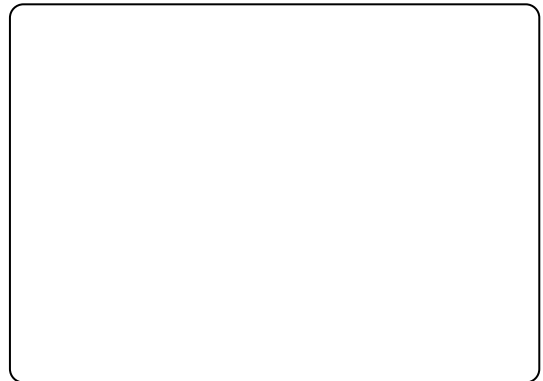
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03.01.2016	REV. A
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We reserve the right to make technical changes necessary to improve the machine that could diverge from figures and information in these instructions.

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## **1 Introduction**

### **1.1 Product Specification**

The DMC HX33 is a bench top pneumatic crimp machine that is compatible with M22520/5 military and many DMC "Y-die" series crimp dies. The die sets are interchangeable and can be easily installed and removed from the HX33 pneumatic crimp tool.

Utilizing the enclosed foot pedal, the crimping cycle of the HX33 is activated and allows the operator to have both hands free to insert the crimped item and wire. All HX33 crimp tools are equipped with a positive closing mechanism to ensure consistent crimp quality.

The HX33 has an emergency release button that will open the crimping jaws in the event of blocked jaws caused by operation or handling errors or wrongly placed terminals.


All other applications of the HX33 are only permitted with a written permission of the manufacturer. For all unauthorised applications of the HX33 the manufacturer cannot be held liable for any resultant damage or injury.

## 1.2 Conformity




The machine may only be used for the purpose specified in the operating instruction. The producer as well as the distributor will not be liable for any damages which may result due to the machine being used for a purpose other than that for which it was intended. **This is done entirely at the user's own risk.**

The HX33 pneumatic crimp machine is CE compliant. **The original of the following declaration of conformity was supplied together with the operating instructions of the machine.**



WDT®  
WIRE PROCESSING SYSTEMS  
a WEZAG brand



**Konformitätserklärung**  
gemäß EG-Richtlinie Maschinen 2006/42/EG vom 17.05.2006  
**Declaration of Conformity**  
according to EC Machinery Directive 2006/42/EG of May 17<sup>th</sup>, 2006

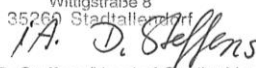
<p><b>Bezeichnung der Maschine</b> Description of the machine</p> <p><b>Maschinentyp</b> Type of machine</p> <p><b>Seriennummer der Maschine</b> Serial number of the machine</p> <p><b>Hersteller der Maschine</b> Manufacturer of the machine</p> <p><b>Zutreffende EU Richtlinien</b> Applicable EU directives</p> <p><b>Angewandte harmonisierte Normen</b> Applied harmonized norms</p>	<p>Pneumatische Crimpmaschine Pneumatic Crimping Machine</p> <p>UP 14, UP 14 BA, UP 14 Z, UP 14 ZLW, UP 14 ZLD</p> <p>Seriennummer eintragen.</p> <p>WEZAG GmbH Werkzeugfabrik Wittigstr. 8 35260 Stadtallendorf Deutschland/Germany</p> <p>2006/42/EG    Maschinenrichtlinie                          Machinery Directive</p> <p>DIN EN ISO 12100; DIN EN ISO 13857; DIN EN 349; DIN EN ISO 13849-1</p>
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Wir erklären, dass die oben genannte Maschine in ihrer Konzipierung und Bauart und in der von uns in Verkehr gebrachten Ausführung allen einschlägigen Bestimmungen der Maschinenrichtlinie sowie den weiteren oben aufgeführten Richtlinien entspricht. Bei Änderungen der Maschine verliert diese Erklärung ihre Gültigkeit.

We declare that the above mentioned machine, with its design and type of construction, as well as the produced version, meets all relevant regulations of the Machinery Directive as well as the above mentioned harmonized norms. This declaration will lose its validity in case of any modifications.

Stadtallendorf, 15.09.2016  
Ort & Datum/ Place & Date

WEZAG GMBH  
Werkzeugfabrik  
Wittigstraße 8  
35260 Stadtallendorf



Mrs. Dr. D. Steffens/Head of Quality Management  
Name & Funktion/Name & Function

Konformitätserklärung\_UP14\_REV\_E

Fig. 1.1

## 1.3 Dealing with the Operating Instruction

The operating instruction manual contains all information concerning operating elements, operation, commissioning, and maintenance work as well as technical data.

The operating instruction must be constantly within reach of the HX33 pneumatic crimp machine. Every machine operator must read and understand the operating instruction in order to ensure safe and efficient production with this piece of equipment.

DMC declines to accept any liability for damages that are incurred due to the fact that the instructions on the machine or in the operation instruction have been disregarded.

The user is responsible for supplementing the operation instruction with any instructions resulting from current national regulations for accident prevention and protection of the environment.

**This operating instruction has to be guarded for later use.**

**The German original version of the operating instruction is legally binding.**

## 2 Safety

### 2.1 Warning & Safety Precautions in this Operating Instruction

The following warnings and safety related cautionary notices in the individual chapters alert you to various levels of danger:



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#### DANGER

+ Identifies an **imminent, serious danger**, which, if it is not avoided, will lead to serious injuries or even to death.

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#### CAUTION

+ Identifies a **possible danger**, which, if it is not avoided, will lead to serious injuries or even to death.

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#### ATTENTION

+ Identifies a **potential dangerous situation**, which, if it is not avoided, can lead to medium or minor injuries or material damages.

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#### INFORMATION

+ If this information is not followed, it can lead to a deterioration of the operating procedure.

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### 2.2 Safety Precautions

The HX33 pneumatic crimp machine has been constructed according to state-of-the-art technology and the acknowledged technical safety regulations.

When carrying out jobs such as installation, putting the machine into operation or setting it up, operation, changing the conditions of use and the mode of operation or carrying out maintenance and service jobs, it is important to observe the procedures for switching off the machine described in the operation instruction.

Please observe the national regulations according to the minimum age of the personnel operating the HX33 pneumatic crimp machine. Allowing younger persons access to the machine is strictly prohibited.

- + Do not operate the HX33 pneumatic crimp machine until you have studied and fully understood all the instructions described in this operating instruction.
- + Operate the HX33 pneumatic crimp machine in a dry and dust free environment only. The crimp machine is only allowed to be used when it is in complete functional condition.
- + Do not modify the HX33 pneumatic crimp machine nor use it for any purpose for which it was not intended.
- + The use a chain hoist or lifting device is recommended for transporting the crimping machine.
- + Wear suitable safety shoes when transporting the machine.
- + Prior to starting up the HX33 pneumatic crimp machine, make sure it is firmly positioned on a sturdy stand or bench to prevent it from tipping over. Ensure that the table or bench is stable enough to support the machine in normal use.
- + Assure an appropriate table height. The table height is dependent on the position of the operator, (work in sitting or standing position) according to prEN 894-4:2004, Table A.1
- + Assure appropriate illumination of the working place. (EN 1837:1999 – chapter 4.2: “The general value of illumination has to be 500 lx [...]”).
- + Connect compressed air supply only with the supplied compressed air hose.
- + Place the pneumatic tubes on the floor or out of the way so that they do not cause a trip hazard.
- + Pneumatic tubes must not be damaged.
- + Place the foot pedal on the floor. No other place is allowed. The foot pedal must be movable, so that the operator has the possibility to change his position for ergonomic and production needs.
- + Do not lay the foot pedal in aisles or walkways.
- + Assure free access to the operating elements of the machine, especially the foot pedal.
- + Before starting maintenance, disassembly or repair work, the crimp machine must be disconnected from air supply.
- + Maintenance work may be performed only by authorized and properly trained personnel.
- + Due to the risk of hand or finger injury, never try to reach into the machine before having assured that the machine is disconnected from the air supply. Disconnect the air supply before changing the safety guard and the dies.
- + Before commissioning the machine, it is always important to check whether all safety devices, especially the safety guard and the die set, are installed and are functioning correctly.
- + Check the release button before starting the work on the crimp machine. In the case of imminent danger immediately press the release button. The release button must be within the direct reach of the operator. It must not be covered.
- + Exercise caution at all times when the HX33 pneumatic crimp machine is switched on.
- + The HX33 pneumatic crimp machine is not allowed to be used without a installed die set and safety guard.
- + The HX33 pneumatic crimp machine may only be set up and operated in perfect technical condition, observing all the safety regulations and considering any possible dangers.
- + The crimp machine is only allowed to be used when it is in a completely functional condition.
- + If you suspect that the machine cannot be operated safely, it must be switched off and secured against anyone accidentally switching it on.
- + In cases of a machine malfunction, production must be stopped and the malfunction must be fixed before continuing work with the machine.
- + Work with caution.
- + Only one person is allowed to work on or with the machine at a time.

- + Only trained personal are allowed to work on or with the machine.
- + It is only allowed to work with the specified air pressure.
- + When working with the HX33 pneumatic crimp machine, do not wear loose clothing, jewellery or long, loose hair that can get caught in the HX33 pneumatic crimp machine.
- + Disconnect the HX33 pneumatic crimp machine from the air supply before attempting any maintenance work. Due to the risk of hand or finger injury, never try to reach into the machine before having assured that the machine is disconnected from the air supply.
- + The machine can only be depressurized by disconnecting the machine from the main air supply.

## 2.3 Responsibilities

The HX33 pneumatic crimp machine may only be operated by suitably trained and authorized personnel. The user must clearly define and observe the responsibilities of the personnel for operation, set-up, maintenance, and service. It is particularly important to define who is responsible for work on the pneumatic equipment. Such work should only be carried out by specially trained staff.

Should the user make any changes to the machine without consulting the producer or the distributor, the latter will not be liable for any damage that may result.

The user of the HX33 pneumatic crimp machine is responsible for making sure that all persons involved in any way, either in the installation or in maintenance of the machine, have been thoroughly trained on the system using this operating instruction.

The user is also responsible for the training of operators and the instruction must include the following aspects:

- + **Purpose of the machine**
- + **Hazard zones**
- + **Safety rules and regulations**
- + **Functionality of the various components of the machine**
- + **Proper operation of the machine**

To assure full familiarization with the system, the training must be conducted in the native language of the operators involved.

<b>Staff qualifications required in conjunction with the use of the HX33 pneumatic crimp machine:</b>	
<b>Installation Set-up Instruction</b>	Technical personnel with language proficiency in either English or German, in addition to the native language of the operator.
<b>Operation</b>	Through qualified personnel trained as indicated above.
<b>Maintenance Service</b>	Technical personnel with proficiency in English or German.

The safety instructions, warnings, and precautions contained in the individual chapters must be strictly observed by all users and operators.



## 2.4 Designed Use

- + Realization of crimp connections up to a wire size of 10AWG (5.3mm<sup>2</sup>) depending on the terminal design.

The HX33 pneumatic crimp machine is designed for the use of the DMC “Y-die” series dies. The HX33 pneumatic crimp machine should only be used with the dies specified by DMC. It is only allowed to use the HX33 pneumatic crimp machine together with the DMC die sets for the preparation of crimp connections!

## 2.5 Predictable Misuse

- + Every application which is not mentioned in chapter 2.4 “Designed Use”.

## 2.6 Hazardous Areas

1. Hazardous Area: Area of interchangeable crimping dies  
Person at risk: Operator  
Type of Hazard: Hand Injuries
2. Hazardous Area: Opened machine  
Person at risk: Installation Engineer  
Type of Hazard: Direct or indirect contact with movable parts of the machine,  
Hand injuries (cuts from sharp edges)  
Hand injuries (risk of crushing)

### 3 Shipment

#### 3.1 Packing

Upon receipt, unpack the HX33 pneumatic crimp machine carefully and check that you have received all components against the packing slip, declaration of conformity, and operating instructions. We recommend that you retain the packing for further dispatch and for storage.

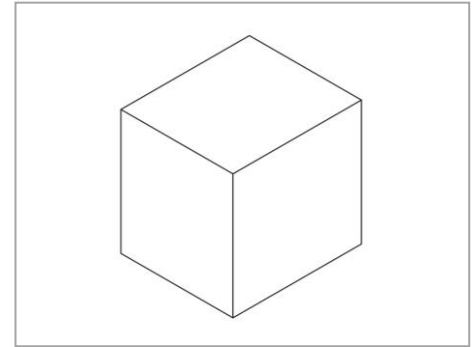


Fig. 3.1

Dimension :

Length: 24,5" (620 mm)

Width: 13.0" (330 mm)

Height: 14.2" (360 mm)

Gross-Weight: 41.1 lbs (18,5 kg)



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**DANGER**

+ Use a chain hoist or lifting device to transport the crimping machine.

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#### 3.2 Packing Contents

1 pc	HX33 pneumatic crimp machine (without die set)
1 pc	Operating Instructions (German original version)
1 pc	Operating Instructions (English translation of the original version)
1 pc	Safety guard
1 pc	Pneumatic foot pedal with cover
1 pc	Hexagon wrench key SW 2,0
1 pc	Air hose set
1 pc	Declaration of conformity

## 4 Technical Description

### 4.1 Operators Guide

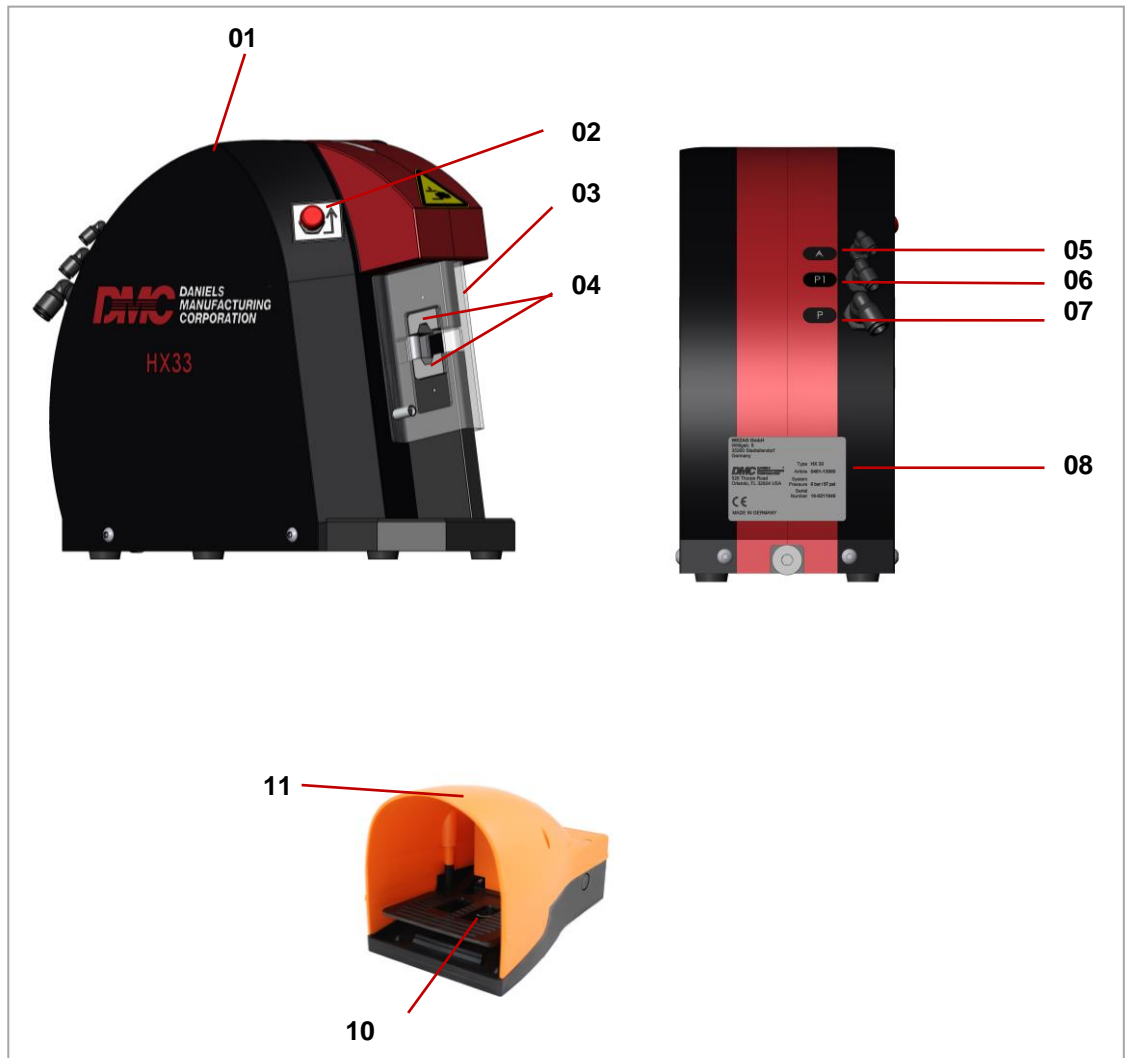


Fig. 4.1

Item	Description
01	HX33 pneumatic crimp machine
02	Release Button
03	Safety guard
04	Die Set
05	A =control pressure (foot pedal)
06	P1 = compressed air (foot pedal)
07	P = compressed air
08	Label with serial number
09	Pneumatic foot pedal
10	Safety cover for foot pedal

## 4.2 Machine Identification

Item	Description
1	Machine Type
3	Article Number
4	Air Pressure
2	Serial Number



Fig. 4.2

## 4.3 Technical Data

### Dimension:

Length overall:	11.8" (300 mm)
Width:	4.9" (125 mm)
Height:	10.2" (260 mm)

Weight with foot pedal: 32 lbs (14,5 kg)

Air pressure:	max. 87-116 psi / 6-8 bar
Air consumption per stroke:	5.2 l
crimp force at 87psi/6 bar:	3147lbf / 14 kN
crimp force at 116psi/8 bar:	3597 lbf / 16 KN
Noise level:	73 dB (A)

## 4.4 Safety Guard

The HX33 pneumatic crimp machine has a special safety guard (in the scope of the delivery).



### INFORMATION

- + In case of an accident, because of mishandling or manipulation of the safety guard, the manufacturer cannot be held liable for any resultant damage or injury.

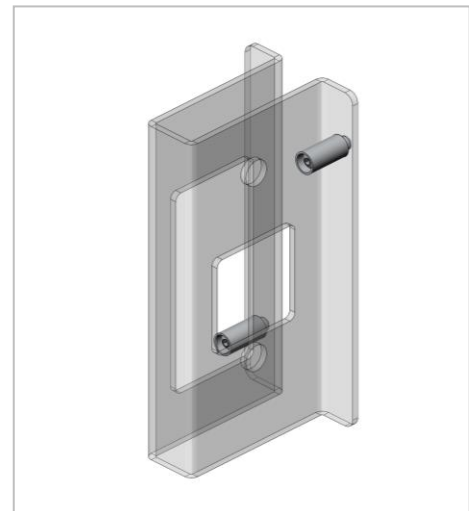


Fig. 4.3

## 4.5 Release Button

In case of jammed jaws caused by operation or handling errors or wrongly placed terminals the jaws can be opened as follows:

- + Press release button.



Fig. 4.5

## 5 Transport and Installation

### 5.1 Transport

The weight of the HX33 pneumatic crimp machine is approx. 32 lbs / 14 kg.



#### CAUTION

- + Wear suitable safety shoes when transporting the machine.



#### ATTENTION

- + Pneumatic tubes must not be damaged.

### 5.2 Installation



#### ATTENTION

- + Position the HX33 pneumatic crimp machine on a flat surface and assure the stability of the machine. Ensure that the table or bench is stable enough to support the machine in normal use.
- + Assure an appropriate table height. The table height is dependent on the position of the operator, (work in sitting or standing position) according to prEN 894-4:2004, Table A.1.
- + Assure appropriate illumination of the working place. (EN 1837:1999 – chapter 4.2: “The general value of illumination has to be 500 lx [...]”).



#### INFORMATION

- + To reduce production noise or vibration, the machine can be placed on an insulating rubber mat.

Place the foot pedal on the floor. No other place is allowed!



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**ATTENTION**

- + Place the pneumatic tubes on the floor so that they do not cause a trip hazard.
  - + Do not lay the foot pedal in aisles or walkways.
  - + Assure free access to the operating elements of the machine, especially the foot pedal.
  - + During transport and installation of the machine, wear suitable safety shoes.
- 



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**INFORMATION**

- + To ensure fatigue-proof use, the user has to take a working position where the machine is in a right height position and an acceptable usage of the foot pedal is possible. The foot pedal has to be installed in a stable position. The position of the foot pedal should be chosen in that way, that free access will be possible.
- 

## 6 Commissioning / Connecting to Compressed Air Supply



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**DANGER**

- + Due to the risk of hand or finger injury, never try to reach into the machine before having assured that the machine is disconnected from the air supply. Disconnect the air supply before changing the safety guard and the dies.
- 



---

**CAUTION**

- + The HX33 pneumatic crimp machine may only be set up and operated in perfect technical condition, observing all the safety regulations and considering any possible dangers.
  - + The crimp machine is only allowed to be used with mounted dies and safety guard.
  - + The crimp machine is only allowed to be used when it is in complete functional condition.
  - + When working with the HX33 pneumatic crimp machine, do not wear loose clothing, jewellery or long, loose hair that can get caught in the HX33 pneumatic crimp machine.
  - + Work with caution.
  - + In cases of a machine malfunction, production must be stopped and the malfunction must be fixed before continuing work with the machine.
  - + Only one person is allowed to work on or with the machine at a time.
  - + Only trained personal are allowed to work on or with the machine.
  - + Assure free access to the operating elements of the machine, especially the foot pedal.
  - + It is only allowed to work with the specified air pressure.
-

Connect the pneumatic foot pedal connection **1** with connection **P1** on the machine (PU air hose  $\varnothing$  6 / 4 mm).

Install control cable of the pneumatic foot pedal **4** on connection **A** of the machine (PU air hose  $\varnothing$  4 / 2,5 mm).

Use the HX33 pneumatic crimp machine only with conditioned air (lubricated and filtered). Standard Filter: 30  $\mu$ m.

Connect connection **P** of the machine with air hose  $\varnothing$  8 / 6 mm to the compressed air supply.

**Air pressure: 87-116psi / 6 - 8 bar**

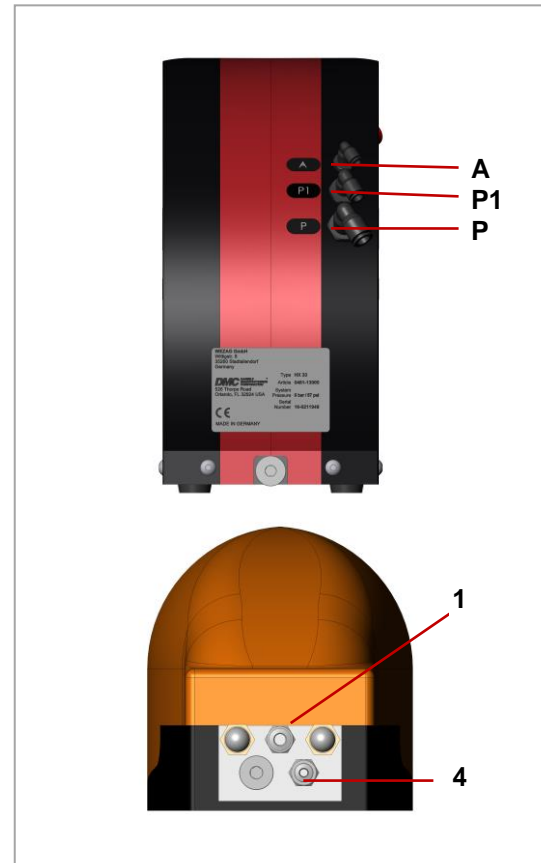


Fig. 6.1



#### CAUTION

- + Connect compressed air supply only with the supplied compressed air hose.
- + The machine can only be depressurized by disconnecting the machine from the main air supply.



#### INFORMATION

- + Use only lubricated and filtered compressed air.

## 7 Tooling



### DANGER

- + Due to the risk of hand or finger injury, never try to reach into the machine before having assured that the machine is disconnected from the air supply. Disconnect the air supply before changing the safety guard and the dies.



### CAUTION

- + The HX33 pneumatic crimp machine may only be set up and operated in perfect technical condition, observing all the safety regulations and considering any possible dangers.
- + The crimp machine is only allowed to be used with mounted dies and safety guard.
- + When working with the HX33 pneumatic crimp machine, do not wear loose clothing, jewellery or long, loose hair that can get caught in the HX33 pneumatic crimp machine.
- + Work with caution.
- + Only one person is allowed to work on or with the machine at a time.
- + Only trained personal are allowed to work on or with the machine.
- + Assure free access to the operating elements of the machine, especially the foot pedal.
- + It is only allowed to work with the specified air pressure.

1. Disconnect pneumatic supply.
2. Remove the safety guard 1.
3. Remove special screws of die set 2.
4. Slide the upper and lower die in the adapter and tighten the screws.
5. Install the safety guard 1 and tighten the screws.

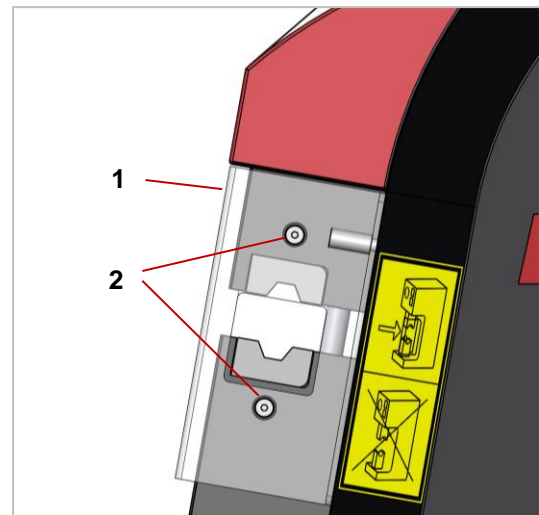


Fig. 7.1



### INFORMATION

- + Control the right position of the die halves! The size of the profile should be in line!



## 8 Normal Operation / Production Cycle



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### DANGER

- + Due to the risk of hand or finger injury, never try to reach into the machine before having assured that the machine is disconnected from the air supply. Disconnect the air supply before changing the safety guard and the dies.
- 



---

### CAUTION

- + The HX33 pneumatic crimp machine may only be set up and operated in perfect technical condition, observing all the safety regulations and considering any possible dangers.
  - + The crimp machine is only allowed to be used with mounted dies and safety guard.
  - + When working with the HX33 pneumatic crimp machine, do not wear loose clothing, jewellery or long, loose hair that can get caught in the HX33 pneumatic crimp machine.
  - + Work with caution.
  - + In cases of a machine malfunction, production must be stopped and the malfunction must be fixed before continuing work with the machine.
  - + Only one person is allowed to work on or with the machine at a time.
  - + Only trained personal are allowed to work on or with the machine.
  - + Assure free access to the operating elements of the machine, especially the foot pedal.
  - + It is only allowed to work with the specified air pressure.
- 



---

### ATTENTION

- + Position the HX33 pneumatic crimp machine on a flat surface and assure the stability of the machine. Ensure that the table or bench is stable enough to support the machine in normal use. During the utilization, the machine has to be placed on a table or a similar flat surface.
  - + Place the foot pedal on the floor. No other place is allowed. The foot pedal must be movable, so that the operator has the possibility to change his position for ergonomic and production needs. Do not lay the foot pedal in aisles or walkways.
  - + Place the pneumatic tubes on the floor so that they do not cause a trip hazard.
- 

#### Crimp process:

1. Insert the crimp contact in the die profile. Please pay attention to the correct profile assignment and to the correct positioning within the crimp profile!
2. Insert the wire/cable which is stripped acc. to the specification and position it for crimping.
3. Press the foot pedal to start the crimp process.
4. Keep the foot pedal pressed until the crimp cycle is finished.
5. Remove crimped contact.

## 9 Maintenance



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### DANGER

- + Due to the risk of hand or finger injury, never try to reach into the machine before having assured that the machine is disconnected from the air supply. Disconnect the air supply before changing the safety guard and the dies.
- 



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### CAUTION

- + Connect compressed air supply only with the supplied compressed air hose.
  - + Before starting maintenance, disassembly or repair work, the crimp machine must be disconnected from air supply.
  - + Maintenance work may be performed only by authorized and properly trained staff. The housing and the covers in particular may only be removed by specially trained staff.
  - + When working with the HX33 pneumatic crimp machine, do not wear loose clothing, jewellery or long, loose hair that can get caught in the HX33 pneumatic crimp machine.
  - + The crimp machine is only allowed to be used when it is in complete functional condition.
  - + The crimp machine is only allowed to be used with mounted dies and safety guard.
  - + Work with caution.
  - + Only one person is allowed to work on or with the machine at a time.
  - + Assure free access to the operating elements of the machine, especially the foot pedal.
  - + It is only allowed to work with the specified air pressure.
- 

## 9.1 Maintenance Plan



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### DANGER

- + Due to the risk of hand or finger injury, never try to reach into the machine before having assured that the machine is disconnected from the air supply. Disconnect the air supply before changing the safety guard and the dies.
- 



---

### CAUTION

- + Before starting maintenance, disassembly or repair work, the crimp machine must be disconnected from air supply.
  - + Maintenance work may be performed only by authorized and properly trained staff. The housing and the covers in particular may only be removed by specially trained staff.
  - + When working with the HX33 pneumatic crimp machine, do not wear loose clothing, jewellery or long, loose hair that can get caught in the HX33 pneumatic crimp machine.
  - + Work with caution.
- 

Regular maintenance and cleaning of the parts which can be reached without opening the machine will prolong the life of the machine. Do not use rough materials to clean the machine such as steel wool. The machine and or machine part should not be cleaned with compressed air. The crimping machine as well as the machine parts must not be cleaned with hard objects like scrapers, steel wool or similar. Vacuum heavily soiled parts and wear.

### 9.1.1 Daily

- + Visual inspection of the HX33 pneumatic crimp machine.
- + Check air pressure (87-116psi / 6-8 bar) of the house installation (manometer not in the scope of the delivery).
- + Check oil-level of service unit of the house air supply (not in the scope of the delivery).

### 9.1.2 After every 100.000 crimp cycles or every 2 years

Please contact the producer or the distributor of the machine for inspections in the recommended intervals.

**Service address:**

DMC  
Daniels Manufacturing Corporation  
526 Thorpe Road  
Orlando, FL 32824-8133  
USA

Telephone: 001 407 855 6161

[www.dmctools.com](http://www.dmctools.com)

Please have the following information ready when you contact service:

- + Machine Type/Part Number, Machine Serial Number

## 10 Problem Handling and Fault Diagnostics



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### DANGER

- + Due to the risk of hand or finger injury, never try to reach into the machine before having assured that the machine is disconnected from the air supply. Disconnect the air supply before changing the safety guard and the dies.
- 



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### CAUTION

- + Before starting maintenance, disassembly or repair work, the crimping machine must be disconnected from air supply.
  - + Maintenance work may be performed only by authorized and properly trained staff. The housing and the covers in particular may only be removed by specially trained staff.
  - + When working with the HX33 pneumatic crimp machine, do not wear loose clothing, jewellery or long, loose hair that can get caught in the HX33 pneumatic crimp machine.
  - + Work with caution.
  - + Before commissioning the machine, it is always important to check whether all safety devices, especially the safety guard and the die set, are installed and are functioning correctly.
- 

In the event of a problem, our customer service personnel will be able to help you.

**Service address:**

DMC  
Daniels Manufacturing Corporation  
526 Thorpe Road  
Orlando, FL 32824-8133  
USA

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## 11 Removal from Service, Demounting, Disassembly,



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### DANGER

- + Due to the risk of hand or finger injury, never try to reach into the machine before having assured that the machine is disconnected from the air supply. Disconnect the air supply before changing the safety guard and the dies.
- 



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### CAUTION

- + Before starting maintenance, disassembly or repair work, the crimping machine must be disconnected from air supply.
  - + Maintenance work may be performed only by authorized and properly trained staff. The housing and the covers in particular may only be removed by specially trained staff.
  - + When working with the HX33 pneumatic crimp machine, do not wear loose clothing, jewellery or long, loose hair that can get caught in the HX33 pneumatic crimp machine.
  - + Only one person is allowed to work on or with the machine at a time!
  - + Work with caution.
  - + The machine can only be depressurized by disconnecting the machine from the main air supply.
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## 12 Storage

Store the machine in the original carton at room temperature.

## 13 Disposal

For the disposal of the HX33 pneumatic crimp machine, send it back to DMC.

**14 Exploded View Drawing, Spare Part List**

**14.1 Exploded View Drawing**

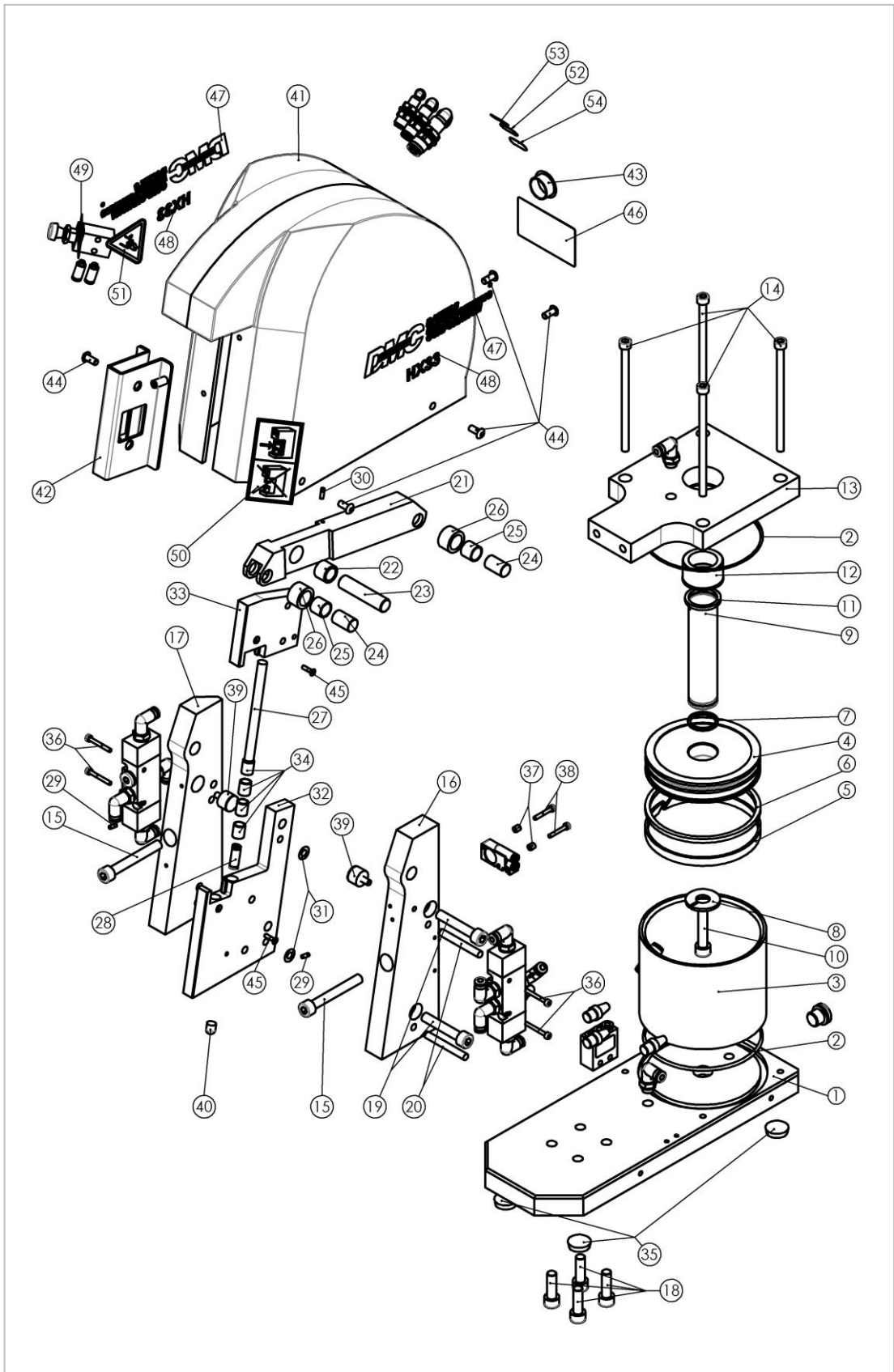


Fig. 14.1

## 14.2 Parts List Exploded View Drawing

Pos.-No.	Pieces	Art.-No.	Description
1	1	2481-01001	Bottom plate
2	2	8480-84001	O-Ring Ø100x2 DIN 3771
3	1	2480-82016	Cylinder Housing
4	1	2480-84012	Piston
5	1	2480-84015	Piston guide band
6	1	8480-84007	O-Ring Ø92x4 DIN 3771
7	1	8480-84002	O-Ring Ø22x2 DIN 3771
8	1	2481-01020	Damping disc Ø30/12x2,5
9	1	2481-01007	Piston rod
10	1	8480-88011	Hex. socket screw M8x40 DIN912
11	1	8480-84003	O-Ring Ø25x3 DIN 3771
12	1	2481-01008	Cylinder Liner
13	1	2481-13012	Cover Plate
14	4	8480-99129	Hex. socket screw M6x110 DIN912
15	2	8480-88008	Hex. socket screw M8x60 DIN912
16	1	2481-13001	Plate, right
17	1	2481-13002	Plate, left
18	4	8480-99137	Hex. socket screw M8x25 DIN912
19	2	8481-01001	Hex. socket screw M8x45 DIN912
20	2	8480-99109	Cylinder bolt 6h6x50 DIN6325
21	1	2481-13005	Lever
22	1	8480-89037	Cylinder liner Ø16/12 x12
23	1	2481-13009	Bolt
24	2	2481-13011	Bolt
25	2	8481-13002	Plain bearing XSM-1214-12 (Iigus)
26	2	2481-13007	Roll
27	1	8481-13013	Cylinder bolt 8m6x100 DIN6325
28	1	8481-13003	Pressure Spring D-180D L0 41, Ln 21,82, Lndyn 23,11
29	2	8183-79006	Hexagon socket set screw M3x8 DIN913
30	1	8332-12003	Hexagon socket set screw M3x10 DIN913
31	2	8480-99055	Adjusting washer Ø6/12 x 0,2 DIN 988
32	1	2481-13003	Lower die plate
33	1	2481-13004	Upper die plate
34	4	8481-13001	Plain bearing
35	4	8480-84004	Rubber foot Ø20
36	4	8480-89010	Hex. socket screw M3x25 DIN912

Pos.-No.	Pieces	Art.-No.	Description
37	2	8481-03064	Distance piece Ø5,0/3,1x5,0
38	2	8388-83001	Hex. socket screw M3x20 DIN912
39	2	1481-13004	Adjusting screw
40	1	2481-13006	Spring pin
41	1	1481-13001	Cover Plate complete
42	1	1481-13005	Safety guard complete Daniels
43	1	8481-13004	Decorative plug, black
44	6	8481-02008	Hexagon lens head screw M5x12 (galvanized-blue)
45	2	8480-96065	Hexagon countersunk screw M3x12 DIN 7991 galvanized
46	1	4481-13100	Machine identification
47	2	5481-13002	Label "DMC"
48	2	5481-13003	Label "HX 33"
49	1	5481-14003	Label "Release"
50	1	5480-88002	Label "Hinweis Fingerschutz"
51	1	5480-81005	Label "Warnung Handverletzung"
52	1	5481-03004	Label P1
53	1	5481-03003	Label A
54	1	5481-02006	Label P

The repair of the machine has to be executed by trained personnel. Please contact the producer or distributor of the machine!

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### 14.3 Pneumatic Diagram

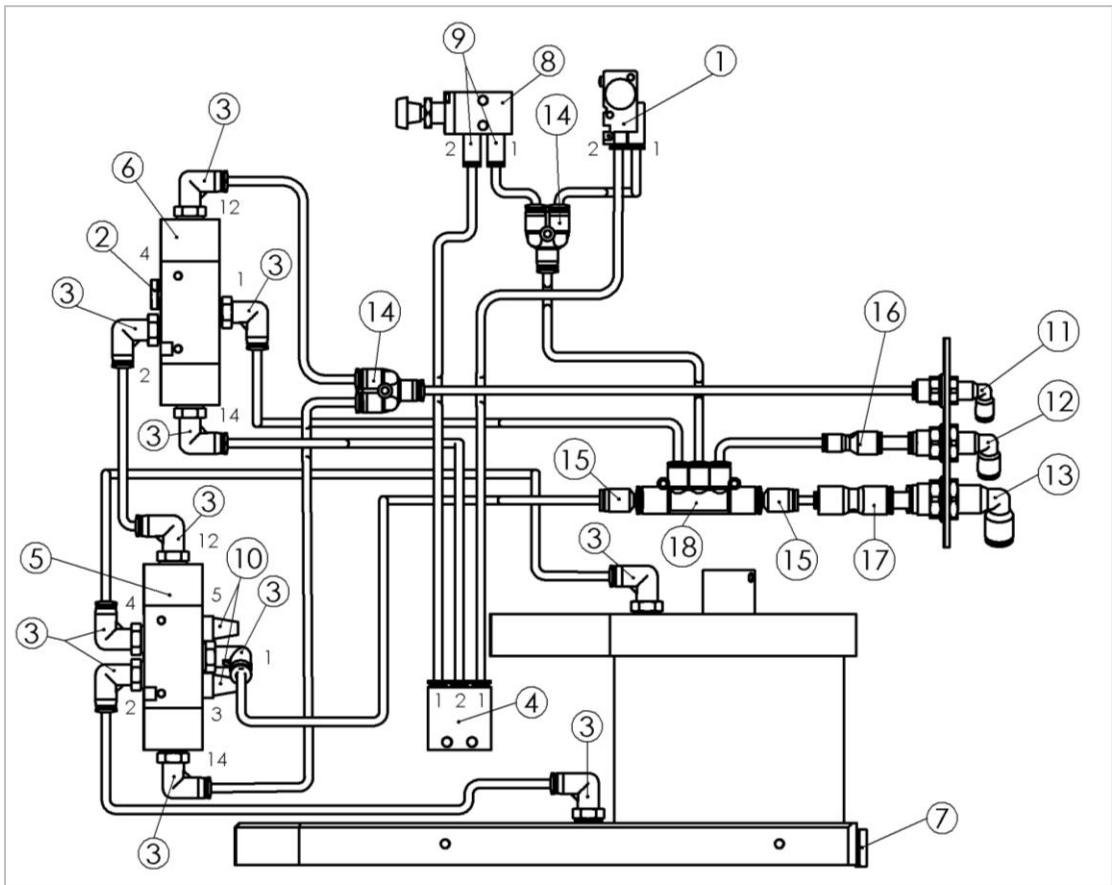


Fig. 14.2

### 14.4 Parts List Pneumatic

Pos-No.	Pcs	Article-No.	Description
1	1	8480-88005	pneumatic mini touch valve
2	1	8480-88071	Plug G1/8
3	11	8480-88084	L-screw in connector G1/8 - Ø 4 mm
4	1	8480-88086	Oder valve
5	1	8480-88089	5/3 pneumatic valve
6	1	8480-85002	5/2 pneumatic valve
7	1	8480-88043	Plug G1/4"
8	1	8480-89007	3/2 way control valve
9	2	8480-88081	Screw in connector M 5 - Ø 4 mm
10	2	8480-88063	Compressed air muffler G 1/8
11	1	8481-13008	Angle bulkhead connector
12	1	8481-13007	Angle bulkhead connector
13	1	8481-13006	Angle bulkhead connector
14	2	8480-88072	Y-connector Ø 4
15	2	8480-88077	Reducing connector Ø 6/4
16	1	8481-13010	Straight connector Ø 6 to Ø 4
17	1	8481-13009	Straight connector Ø 8 to Ø 4
18	1	8480-88082	T-5 Multiple Connector Ø 6 / Connections Ø 4



## 14.5 Accessories overview for re-orders

1. Pneumatic foot pedal with cover
2. Air hose set
3. Hexagon Wrench Key AF 2,0

Order-No. 1481-03033  
Order-No. 1881-03001  
Order-No. 8480-86018

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- + Machine Serial Number

## 14.6 Additional Information / Limitation of Liability / Limited Warranty

DMC offers complete refurbishing, and recalibration services.

DMC specially engineers, and manufactures complete tool kits to satisfy individual customer requirements, such as total aircraft support, general shop maintenance, production, on board ship maintenance, and vehicle service etc...

### ***Limitation of Liability***

DANIELS MANUFACTURING CORPORATION IS NOT LIABLE FOR CONSEQUENTIAL OR SPECIAL DAMAGES OF ANY NATURE OR KIND RESULTING FROM THE USE, OR MISUSE, OF ANY OF ITS PRODUCTS. OWNERS AND USERS OF DMC PRODUCTS ASSUME FULL RESPONSIBILITY FOR INSTRUCTING THEIR EMPLOYEES IN THE PROPER AND SAFE USE OF SUCH PRODUCTS.

### ***Limited Warranty***

DMC (Daniels Manufacturing Corporation) warrants each new product sold by it to be free from defects in material and workmanship under normal use and service. DMC's obligation under this warranty is limited to the free correction or, at DMC's option, the refund of the purchase price of any such product which proves defective in normal service within ninety (90) days after delivery to the first user, provided that the product is returned to DMC with all transportation charges prepaid and which shall appear to DMC's satisfaction, after DMC's inspection, to have been defective in material and workmanship, it being understood that DMC products are not consumer products. This warranty shall not cover any damage to any product which, in the opinion of DMC, was caused by normal wear, misuse, improper operation, tampering, neglect or accident. This warranty is in lieu of all other warranties express or implied. No warranty, express or implied, is made or authorized to be made or assumed with respect to products of Daniels Manufacturing Corporation other than those herein set forth.