

# Ageo

## OPERATING MANUAL

**Machine No.:**

**Model:**

**DP 3000RT**

Contents:

- Operating instructions
- Copyright
- Declaration of EG-Conformity
- Spare parts: ratchet mechanism



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Appendix: ratchet mechanism

# Operating Instructions for Mandrel press AGEO – DP 3000RT with ratchet mechanism

## 1. Instruction

The AGEO-Mandrel press is a machine tool designed for daily operation, which has proven itself for decades. It is mainly used to push in or press out turning mandrels, bushings, roller bearings, bolts and pins, etc. and can also be used for assembly work.

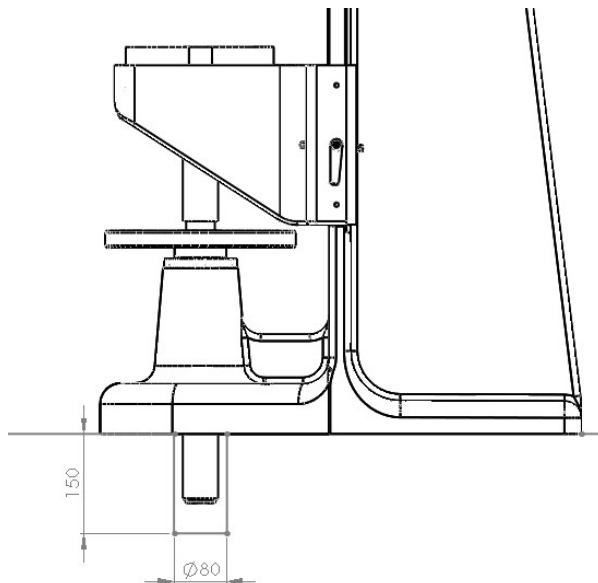
Bending jobs can be achieved with the relevant special tools, and special broaching tools will efficiently work small keyways and similar profiles.

The length of the lever is designed for the operator to easily apply the correct working pressure.

## 2. Mounting

Before the AGEO-Mandrel press is used, it must be bolted down on an even, fortified industrial floor, using suitable anchoring plugs, a pit with a minimum of 150 mm depth and diameter of 80 mm must be let into the floor to facilitate the operation of the adjustable table.

If this is not done before mounting the press, the path of the adjustable table will be impeded.





**When the floor is uneven or not sufficiently fortified, the press may become unstable and could present a hazard for hands, feet or other parts of the body.**

The approved safety regulations and guidelines are to be applied for the lifting and the transport of the AGEO-Mandrel press.

Safety regulations:

According to the European Union and the country in which the machine is to be operated.

### **3. Operation**

Before the press is used, all unpainted parts must be freed of the anticorrosive protection. The moving parts and the guides must always be lightly greased.

The ratchet lever and the hand wheel at the head of the press will operate the AGEO-Mandrel press. Operation of the ratchet lever drives the press plunger (ram/toothed rack) down to accomplish a working stroke.

When the stroke is completed, the operator must return the ratchet lever to the initial position, making sure that the release bolt (Pos. 8) falls into the gap on the cam plate (Pos. 6) (always keep the release bolt lightly greased).

The operator can now bring the press plunger into the desired position by using the hand wheel (Pos. 10). (Don't forget the preload force).

When the machine is not being operated, the press plunger must be lowered to a point where an accidental movement of the plunger is not possible.



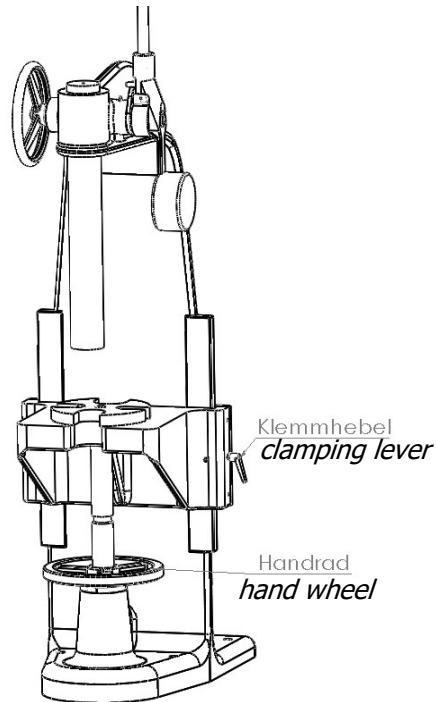
**Beware of crushing or cutting fingers or hands.**

#### 3.1. Adjustment of the table

The operator can easily manually adjust the table height of the DP3000RT to set the jaw distance from a minimum of 400 mm to a maximum of 780 mm. The movement of the press plunger will not be impaired.

If adjustment is required, loosen the clamping lever on the right side of the table, to prevent damage to the table, the spindle or the guide.

The table position can now easily be altered by using the hand wheel.



After the table is adjusted into position, it must again be secured with the clamping lever.

### 3.2. Retaining the plunger in position

The plunger (ram/toothed rack) is prevented from unintentional sinking by 2 disk springs (Pos. 11), which are located between the press head and the hand wheel (Pos. 10). The disk springs are preloaded with a disc (Pos. 9) and a hexagonal screw M10 (SW17).

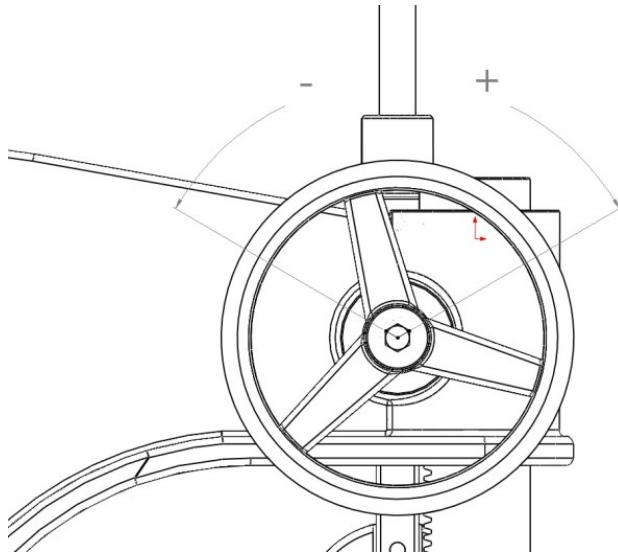
This preloading generates friction between pinion shaft (Pos. 1) and press head thus preventing the weight of the press plunger turning the pinion shaft and letting the rack down unintentionally.

(Pos. \*) see blue print – “Ersatzteile Ratschenantrieb”

### 3.3. Adjustment of the preload force

Due to preloading, a higher operating force must be applied to move the press plunger up and down. If the preload force is not correctly adjusted in respect to the weight of the plunger and tool, it can move down unintentionally.

- Turn the adjusting screw M10 (hexagonal screw SW 17mm):



+ clockwise to increase preload

- counter clockwise to reduce preload

- Test the effectiveness of the preload force. If necessary, repeat the operation.



**Since this movement is uncontrolled, the danger of injuring the operator and others standing close to the machine is high.**

#### **4. Warning notice**

Maintenance or repair must always be carried out by qualified persons with knowledge of

- safety regulations
- accident prevention regulations
- guidelines and approved rules of engineering (i.e. VDE-regulations, DIN EN- standards).

The qualified person must

- be able to evaluate the assigned job
- recognize and eliminate possible danger
- have the permission of the work safety officer to carry out the required work and requirements.

#### **Please note:**

**\* NEVER lengthen the lever with a tube or the like to increase the force of the press plunger. Otherwise there is danger of damaging machine parts through overload, and / or injury to the operator (by failure of components).**

**\* NEVER force the lever into the start position, as this will damage the release bolt and possibly the associated mechanics. In this case, a normal work cycle is no longer possible and the danger of the operator being injured by the lever rises considerably.**

**\* The hand wheel to adjust the press plunger may ONLY be moved when the lever is in the start position. Otherwise lever and press plunger may move downwards unintentionally, possibly causing injury to the operator.**

**ALL OPERATORS MUST BE INFORMED OF THIS FACT.**

**The manufacturer will not take responsibility for any damage!**



## 5. Performance and Maintenance

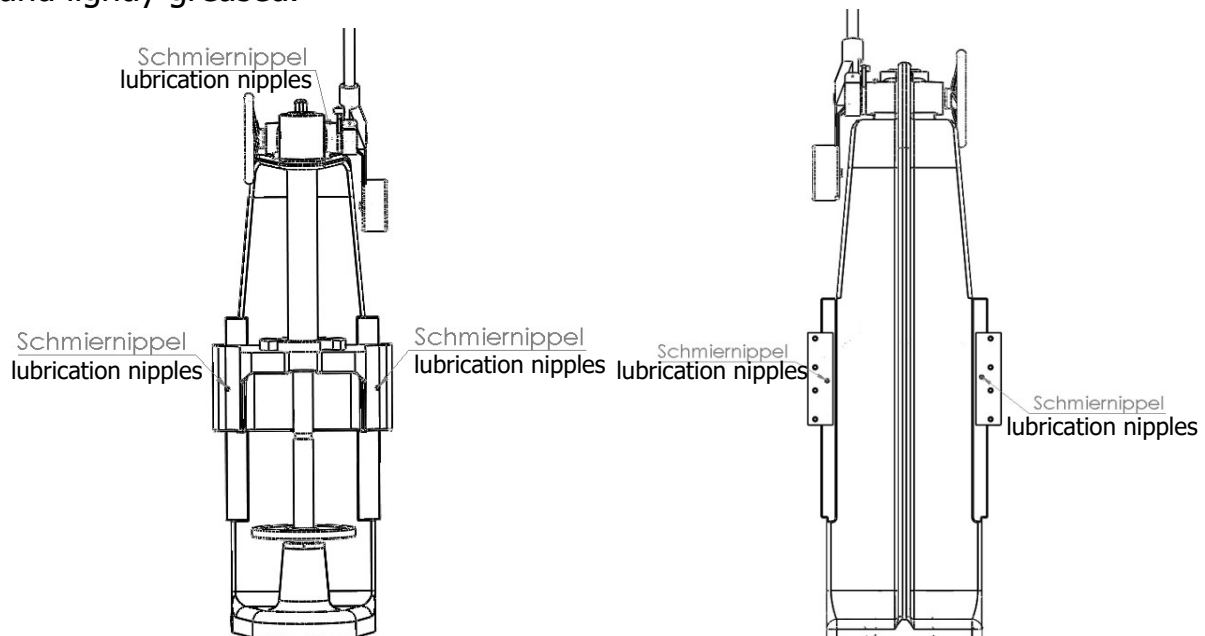
### Performance

The AGEO DP3000RT press is devised for a maximum performance of

***30kN (approx. 3.000 kg)***

### Maintenance

Every 10 to 14 days, the machine must be lightly greased with a grease press at the lubrication nipples. To lengthen the operating life of the press plunger (ram/toothed rack), the spindle and the table guides, they should be kept clean and lightly greased.



When parts and components of the press reach the end of their economic lifetime, e.g. by wear, corrosion, mechanical stress, fatigue and/or through other causes, they must be dismantled and disposed of according to national and international laws and guidelines.

The same applies to all used lubricants, grease and other materials.



**Intentional or unintentional reutilisation of worn parts, such as pinion shaft, ratchet wheel, pawl, etc. could endanger persons, machines and environment. All local laws must be applied.**

When ordering spare parts, please advise the

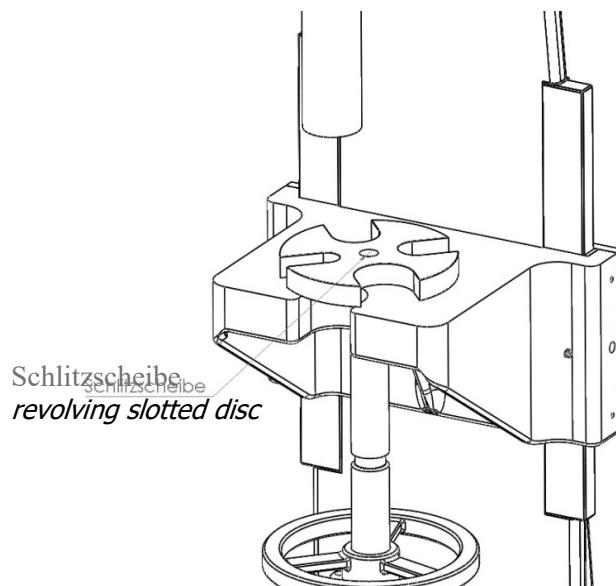
- model of the press
- machine number
- year of construction

This information can be found on the machines name.

## 6. Special accessories

### 6.1 Revolving slotted disc

As standard equipment, this press has a revolving slotted disc serving as base for the press plunger (ram/toothed rack). The four different open slots (clearance sizes see below) serve as a quick aide to push out or press in bearings, bushings, rings, or bushes from shafts or similar.



*DP 3000RT - 35, 50, 65, 80 mm*



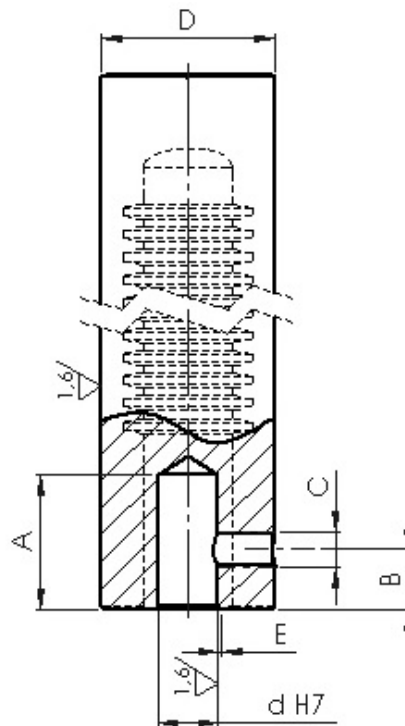
**Beware of crushing or cutting fingers or hands.**

## 6.2. Tool receiving socket in plunger / ram (similar DIN810)


The plunger (ram/toothed rack) from a mandrel press can be furnished with a drilled hole to allow mounting of special tools (=tool receiving socket). The tool receiving socket is fitted centrally on the underside of the plunger. To secure the tool the grub screw on the side of the plunger is fastened to prevent the tool dropping out of the socket.

Note: Depending on the tool used the total weight of the plunger will change on account of the extra weight. When first using a tool always test and if necessary adjust the preload force of the plunger as stated in 3.2. of this operating manual.

The size of the tool receiving socket depends on the model of the press.



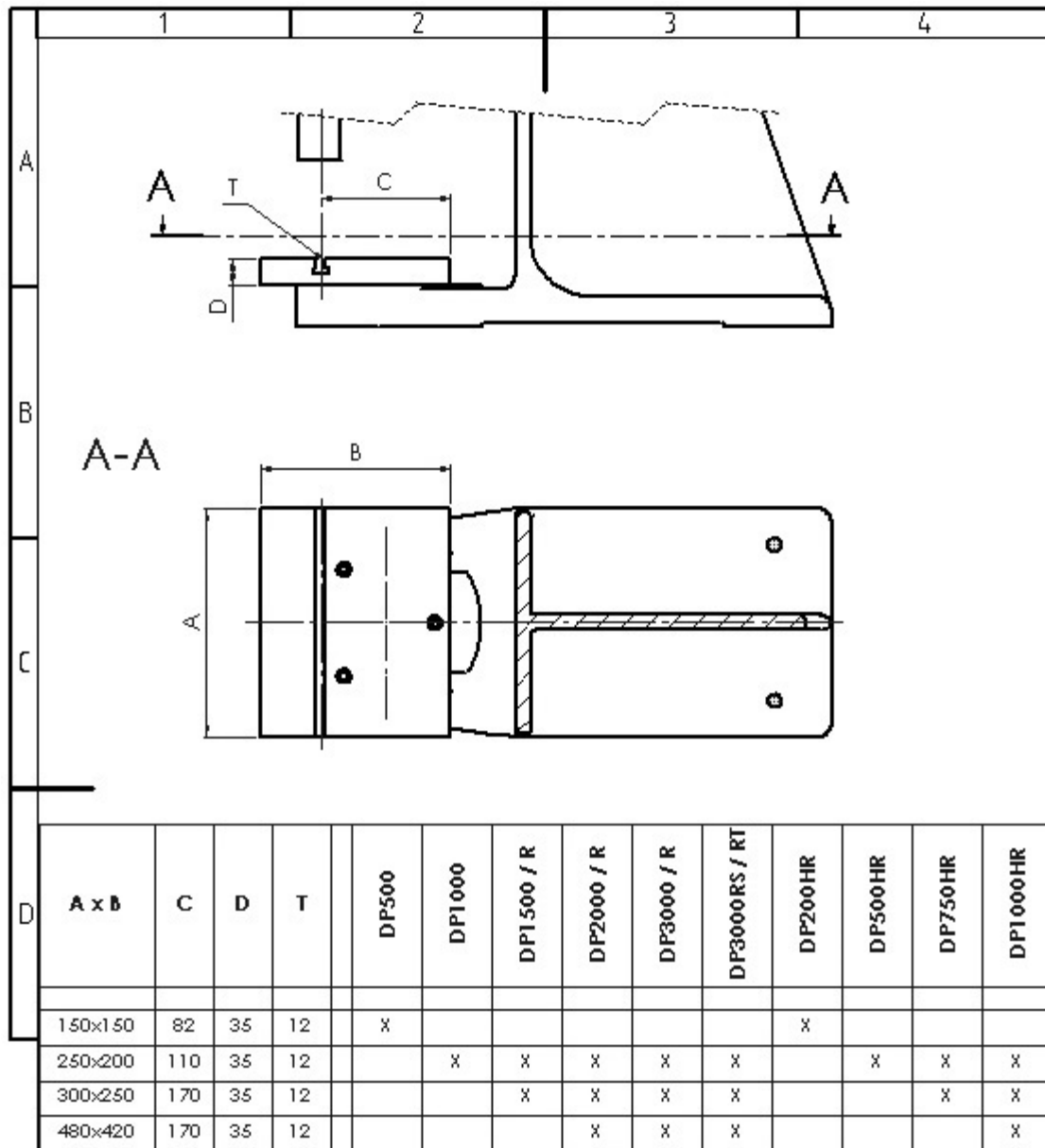
d H7	A	B	C	Possible in ram Ø				E
				D 32	D 40	D 58	D 78	
10	28	12	M 8	X	X	X	X	1x45°
12	32	12	M 8	X	X	X	X	1x45°
16	36	20	M 10	X	X	X	X	1x45°
20	45	20	M 12			X	X	1,6x45°
25	50	25	M 12			X	X	1,6x45°
32	60	28	M 16			X	X	1,6x45°
40	75	40	M 20				X	2x45°
50	85	40	M 20				X	2x45°

 Priority if no data

### 6.3. Clamping plate with T-slot

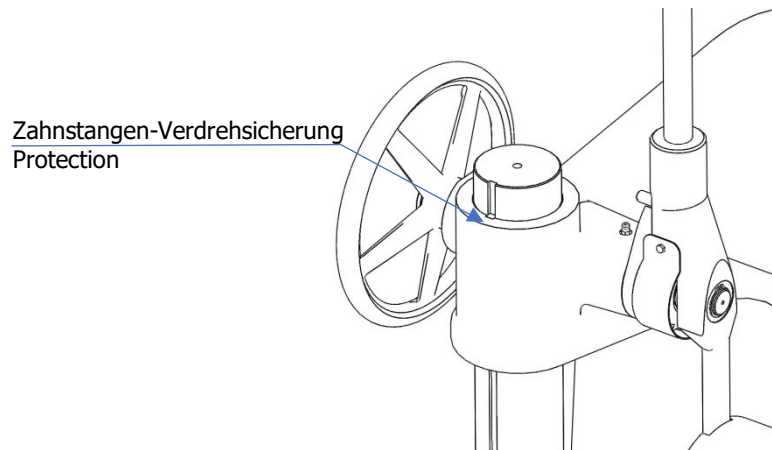
Instead of the slotted disc we can offer a clamping plate with T-slot (DIN 650) in different sizes. A clamping plate with T-slot is convenient for mounting special devices, equipments and tools.

The clamping plate with T-slot is assembled in dead centre to the plunger.



#### 6.4. Protection against torsion for the plunger (toothed rack)

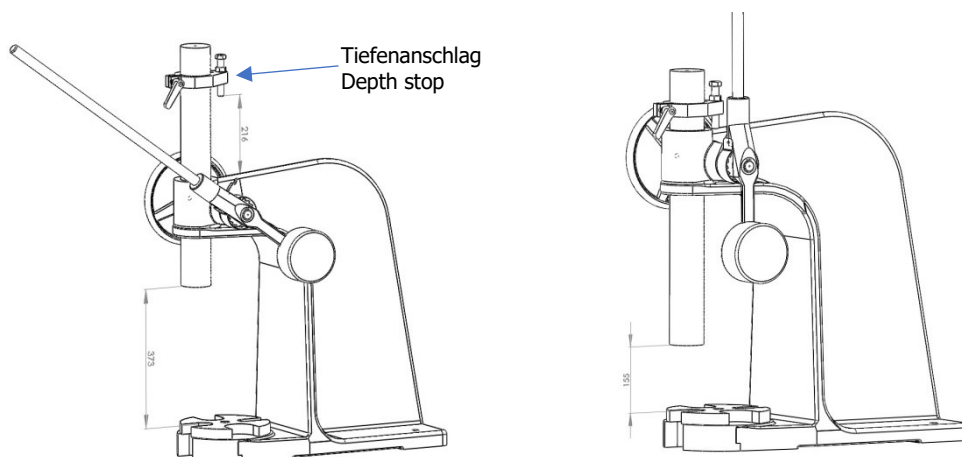
Bending, joining or assembling can lead to torsion forces. These torsion forces can alter the fitting accuracy of the tool and can also damage the plunger and / or pinion shaft. The protection against torsion for the plunger prevents this.



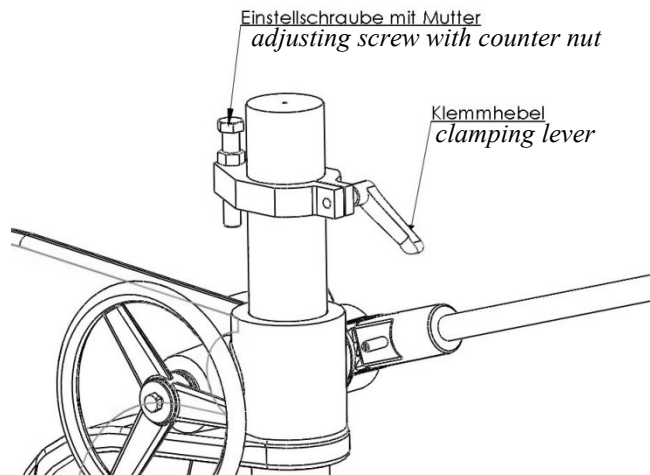
#### 6.5. Depth stop adjustable

The adjustable AGEO depth stop for your mandrel press is solidly build and easy to use. It is generally used as a stroke limitation and can be adjusted to the needed dimension simply with only few hand movements.

By untightening the clamping lever the AGEO depth stop can be adjusted to the required level, tightening the clamping lever fixes the depth stop. Using a wrench (size depending on the mandrel press model) to loosen the adjusting screw with counter nut at the back of the depth stop is another possibility of adjustment.



After altering the position of the depth stop and initial operation the clamping lever and the counter nut of the adjusting screw must both be tested for stability to prevent unintentional and uncontrolled movement of the press or part of the press.



**Beware: Danger of cutting and / or clamping of hands, fingers and body parts. Grave danger from flying parts!**

## 7. Declaration of EG-Conformity and technical documents

### Copyright

The copyright for this manual and the contents remains with the manufacturer. This manual is intended only for the user company and its operators.

You may copy the manual for your own use.

It contains regulations and details which may not, in full or in part,

- be copied,
- distributed, or
- disclosed to third persons.

Violations of these regulations may cause legal penalties.



### Production and distribution

**Ageo Press GmbH**

Phone: (+49)0 6157- 98 95 00

Werner-von-Siemens-Str. 35

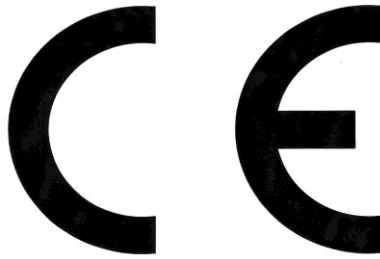
Fax: (+49)0 6157- 98 95 09

D- 64319 Pfungstadt  
Germany

[info@dornpresse.de](mailto:info@dornpresse.de)

[www.dornpresse.de](http://www.dornpresse.de)





## **EG – DECLARATION OF CONFORMITY**

In accordance with standard procedure 2006/42/EG

This model:

**Name of manufacturer: AGEO-Mandrel press**

**Model: DP3000RT with retched lever**

has been developed and manufactured in accordance with standard guidelines EG 2006/42/EG and is the responsibility of:

**Ageo Press GmbH  
Werner-von-Siemens-Str. 35  
D- 64319 Pfungstadt  
Germany**

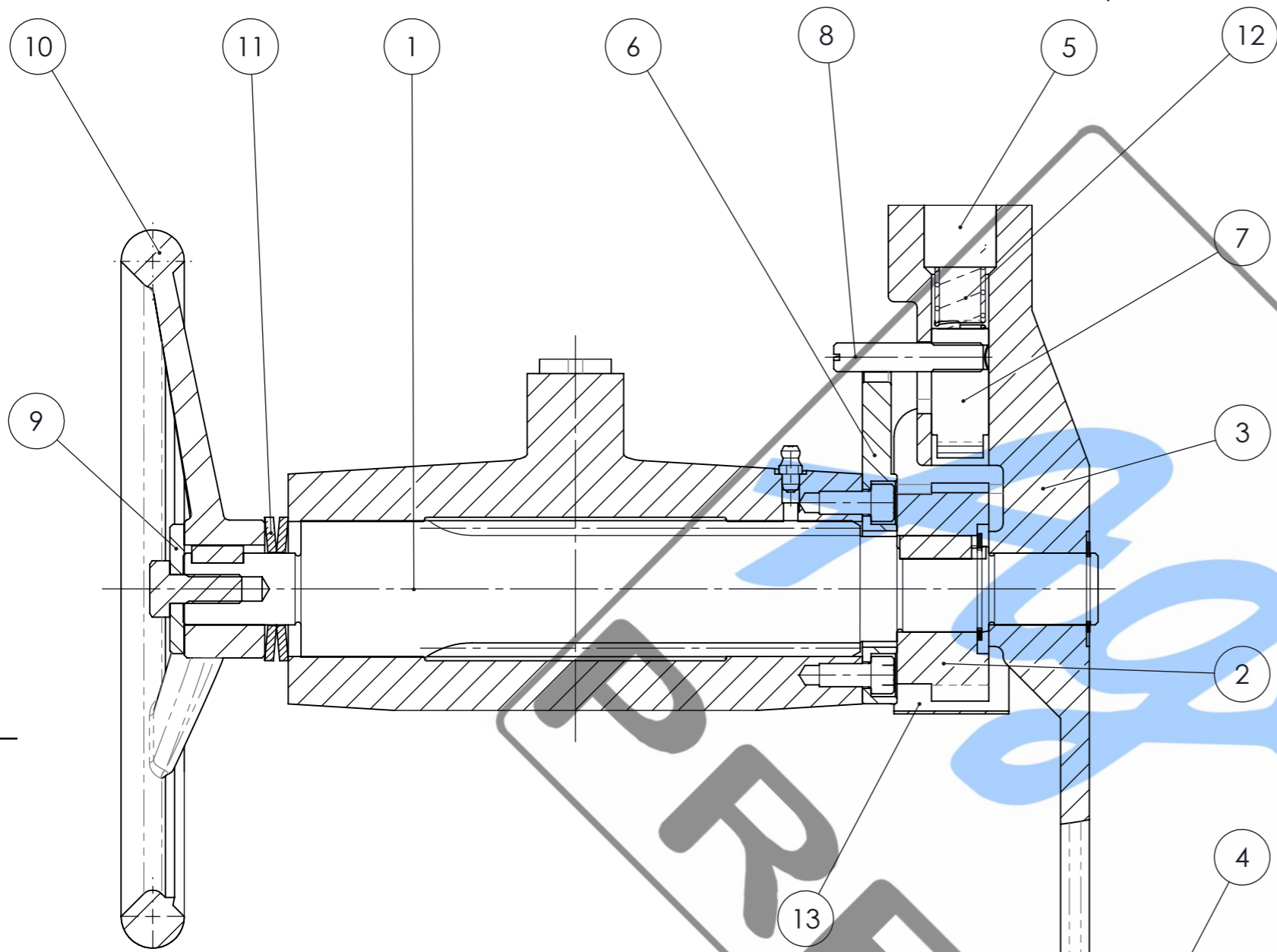
Following engineering standards have been applied:

- DIN EN 12100: Safety of machinery, appliances and plants.
- EN ISO 14121: Appraisal of risks.
- EN ISO 12100: Minimizing of risks.
- Complete technical documentation.
- The operating manual in English.

If necessary, special data pertaining to the machine may be submitted to official authorities.

Pfungstadt, 31.10.2018

Kirsten Press  
General Manager



Pos.	Ersatzteile	Spare parts	Pièces de rechange
1	Ritzelwelle	Pinion shaft	Pignon
2	Sperrrad	Ratchet wheel	Roue à rochet
3	Hebel	Lever	Levier
4	Gewichtscheibe	Weight	Dique à poids
5	Arm	Arm	Bras
6	Kurvenscheibe	Plate cam	Disque à courbe
7	Sperrklinke	Pawl	Cliquet
8	Bolzen	Bolt	Broche à filet
9	Scheibe	Plate	Rondelle
10	Handrad - Ø250	Handwheel - Ø250	Volant - Ø250
11	Tellerfeder	Plate spring	Ressort à disque
12	Druckfeder	Compressing spring	Ressort de pressio
13	Sperrradschutz	Protection plate	Tôle de protection

Allgemeintoleranzen DIN 7168 / 1 mittel		entstand aus					
Oberflächenbeschaffenheit DIN ISO 1302, Reihe 3		Kanten entgratet					
Oberfläche:		Gruppe	Pos.-Nr.	mal	Index	Änderung	Datum
	Datum	Name		Maßst.	"Schutzvermerk nach DIN 34 beachten"		
Bearb.	7.3.2012	Weyhmüller		1:2			
Gep.				Benennung Ersatzteile für Ratschenantrieb			
Ageo-Press GmbH Werner von Siemens Str. 35 D-64319 Pfungstadt / BRD www.dornpresse.de		Zeichn.-Nr.		DP00-0-07(3)		Blatt 1 von 1	
Ageo- PRESS		Ers. für		Ers. durch		Gewicht: 190,21 kg	

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