Operator's manual

TruTool N 500 (1A2)

---

english

TRUMPF

Contents

1. Safety

1.1 General safety information

Other countries

- Read the operating manual and the safety information (order no. 0373678, red document) in their entirety before starting up the machine. Closely follow the instructions given.
- Adhere to the safety regulations in accordance with DIN VDE, CEE, AFNOR and to the specific regulations of the country of operation.

Danger

Risk of fatal injury from electric shock

- When working with the machine do not touch any electrical lines. The machine is not insulated.

Warning

Risk of injury due to improper handling.

- Always remove the compressed air hose from the machine prior to maintenance work.
- Check the compressed air hose, connection coupling, and machine for damage each time before using the machine.
- Wear safety glasses, hearing protection, protective gloves and work shoes when working at the machine.
- Connect compressed air only when the machine is switched off.
- Always lay the compressed air hose away from the back of the machine.

1.2 Specific safety information

Warning

Risk of injury to hands

- Do not reach into the processing line with your hand.
- Use both hands to hold the machine.

Caution

Damage to property due to improper handling!

Machine will be damaged or destroyed.

- Have servicing and inspections of hand-held compressed air tools carried out by a qualified technician. Only use original TRUMPF accessories.

Warning

Risk of injury from hot and sharp chips!

Hot and sharp chips are emitted from the chip dumping at high speed.

- The use of a chip bag is recommended.

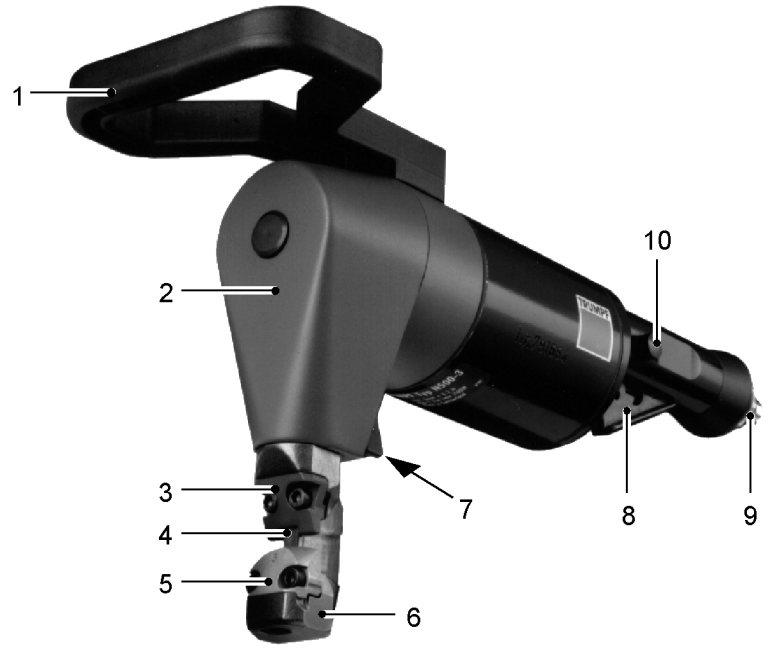
Warning

Risk of injury from falling machinery!

The entire weight of the machine must be taken up after processing of the work workpiece.

- Use suspension eyelet with balancer.

2. Description



1	Handle	5	Die	8	Lever
2	Gear housing	6	Die carrier	9	Quick-release coupling
3	Punch guide	7	Lock (clamping for the die)	10	Pushbutton (locking pin)
4	Punch				

Nibbler TruTool N 500 Fig. 53777

2.1 Correct use

Warning

Risk of injury

- Only use the machine for work and materials described in "Intended use".

The TRUMPF Nibbler TruTool N 500 is a hand tool powered by compressed air used for the following applications:

- Slitting plate-shaped workpieces made of a punchable material such as steel, aluminum, non-ferrous heavy metals, and plastic.
- slitting of tubes and machining of edged sheet profiles and/or press brake bendings, e.g. for tanks, crash barriers, troughs, etc.
- Nibbling straight or curved exterior and interior cutouts.
- Nibbling along scribed lines or templates.

Note
The nibbling process produces cutting edges free of deformations.

2.2 Technical data

	Other countries	USA
	Value	**Value**
Max. material thickness: **Steel 400 N/mm²** **Steel 600 N/mm²** **Steel 800 N/mm²** **Aluminum 250 N/mm²**	 5.0 mm 3.2 mm 2.5 mm 7 mm	 0.2 in 0.125 in 0.1 in 0.28 in
Working speed	1.4 m/min	4.6 ft/min
Nominal power consumption	1100 W	1100 W
Stroke rate at complete load	530/min	530/min
Weight	4.8 kg	10.58 lbs
Cutting track width	8 mm	0.31 in
Start hole diameter for die	41 mm	1.6 in
Sheet profile 90° bending radius inside	8 mm	0.31 in
Smallest radius with curved cuts	90 mm	3.54 in
Max. operating pressure (flow pressure)	6.2 bar	90 psi
Air consumption at 6 bar	0.8 m³/min	28.3 cubic ft/min
Connecting thread	1/4"	1/4"
Inside diameter of the compressed air hose	10mm	0.4 in (3/8")

Technical data Table 1

Noise and vibration	**Measured values in accordance with EN 50144**
A-class sound pressure level	Typically 86 dB (A)
A-class acoustic power level	Typically 94 dB (A)
Hand-arm vibration	Typically less than or equal to 3.7 m/s²

Measured noise and vibration values Table 2

Note
The measured values specified above may be exceeded while working.

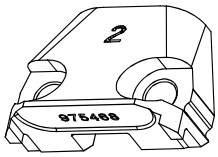
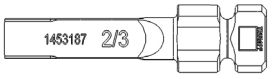
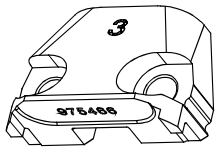
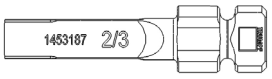
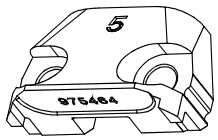
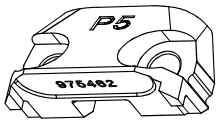
3. Setting work

3.1 Selecting the tool

Tensile strength of the workpiece	Acceptable material thickness
Mild steel up to 400 N/mm²	5 mm
Stainless steel up to 600 N/mm²	3.2 mm
Stainless steel up to 800 N/mm²	2.5 mm
Aluminum up to 250 N/mm²	7 mm

Table 3

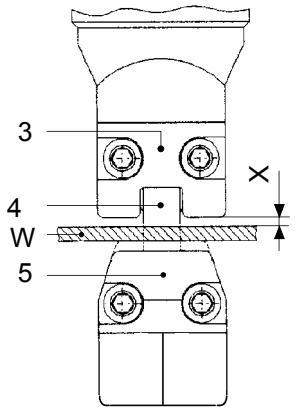
Certain material thicknesses can be machined, depending on the workpiece type.

Material thickness [mm]		Type of die	Type of punch
Single rolled sheet	Sectional sheet		
1-2	1	 Order no. 975468	 Order no. 1453187
2-3.2	1-2	 Order no. 975466	 Order no. 1453187
3-5	2-3	 Order no. 975464	 Order no. 1451224
5-7	3-5	 Order no. 975462	 Order no. 1451224

Selecting type of die and punch

Table 4

Use the die with the greatest feasible height



3	Punch guide	W	Workpiece
4	Punch (2/3,5/P5)	x	Clearance between sheet surface and punch guide
5	The four types of dies (2,3,5,P5)		

Clearance between die and punch guide Fig. 52810

Note
The distance between the sheet surface and the punch (x) must remain as small as possible.

Does severe back-and-forth movement (hammering) occur during the cutting process?

The reason is an unsuitable die. Excessive tool wear and increasing loads on the machine are the result.

- ➢ Use the die with the greatest feasible height.

4. Operation

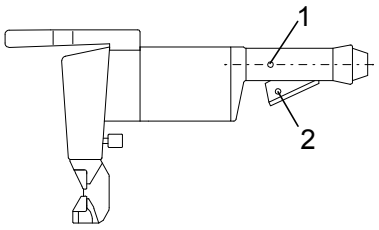
4.1 Working with the TruTool N 500

Warning

Risk of injury due to improper handling.

- Make sure the machine is always in a stable position when operating it.
- Never touch the tool while the machine is running.
- Always move the machine during work away from your body.
- Do not operate the machine above your head.

Switching on the TruTool N 500



1 Push button 2 Lever

Fig. 10332

1. Press the pushbutton (1).
2. Actuate the lever (2).
   The motor continues to run for as long as the lever remains pressed down.
3. Release the pushbutton (1).

Note
The cutting result is improved and the service life of the punch increased if the cutting track is coated with oil before machining the workpiece.

Material	Oil
Steel	Punching and nibbling oil (0.5 l, order no. 103387)
Aluminum	Wisura oil (1 l, order no. 125874)

Table 5

Working with the TruTool N 500

1. Do not move the machine towards the workpiece until full speed has been reached.
2. Machine the material.
   - Machine the desired cutting line

3. In the event that the cutting track ends in the sheet, pull the still-running machine a few millimeters back towards where the cutting track has already been cut open.
4. Switch off machine.

Switching off the TruTool N 500

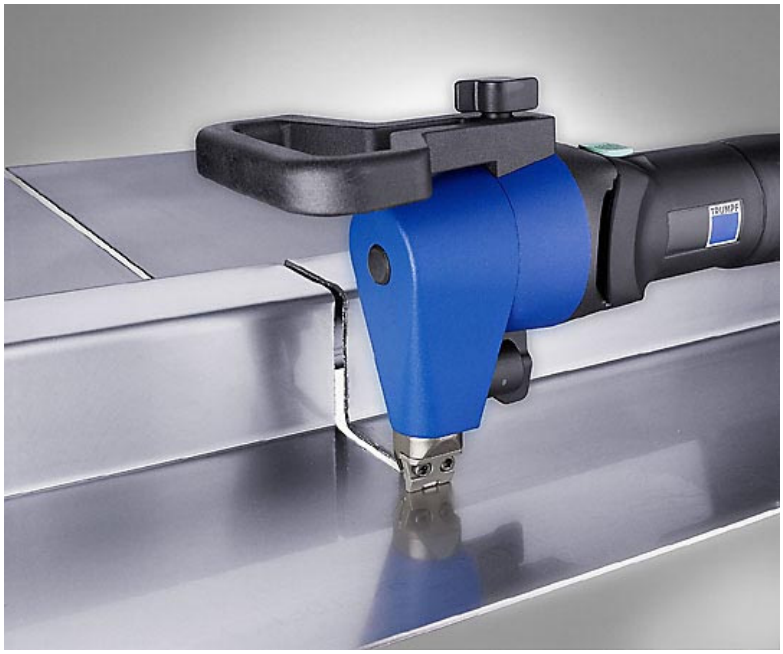
➢ Release lever.

The lever springs back to the initial position and the compressed air is interrupted.

4.2 Changing the cutting direction

In situations where space is limited, the tool and/or the cutting direction can be turned by 90° to the right, to the left, or by 180° (see Fig. 52772, p. 16).

1. Open locking mechanism (9).
2. Rotate die carrier (7) by 90° or 180° in the desired direction.
3. Close locking mechanism (9).

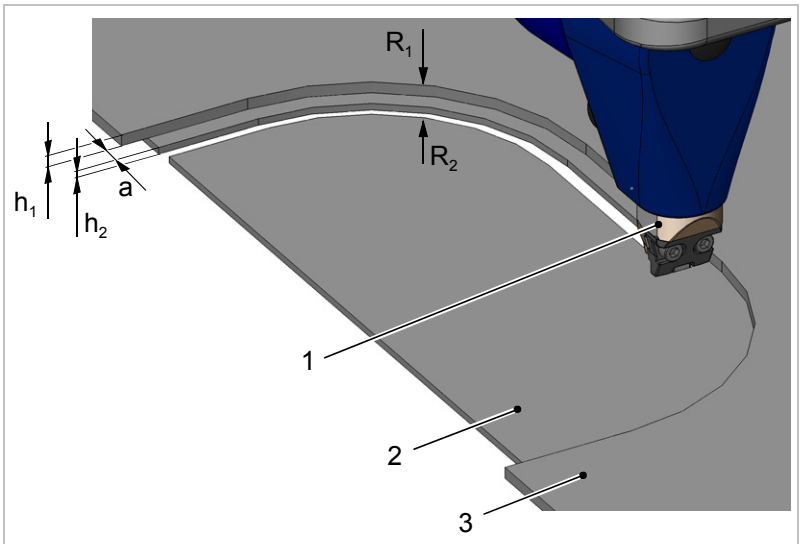


Cutting profiles Fig. 52794

4.3 Nibbling with templates

The following requirements must be met when nibbling with templates:

- The template must be at least 3 mm thick.
- The contour of the template must have a clearance of 8.5 mm to the contour to be nibbled out.
- Observe a minimum radius of 90 mm on the workpiece.
- The nibbler is to be guided in such a way that the punch guide is always up against the template.



1	Punch guide	h_1	Thickness of the template
2	Workpiece	h_2	Thickness of the workpiece
3	Template	R_1	Minimum radius in the template
a	Clearance of the contour of the template to the contour of the workpiece to be nibbled out	R_2	Minimum radius in the workpiece

Fig. 52793

4.4 Making inner cutouts

➢ Make a start hole at least 41 mm in diameter.

5. Maintenance

Warning

Risk of injury due to uncontrolled machine movements.

- Remove the compressed air hose when changing tools and before performing any maintenance work on the machine.

Caution

Damage to property caused by blunt tools!

Machine overload.

- Check the cutting edge of the cutting tool hourly for wear. A sharp punch provides good cutting performance and is easier on the machine. Regrind or replace the punch promptly.

Warning

Risk of injury due to repair work not being carried out properly!

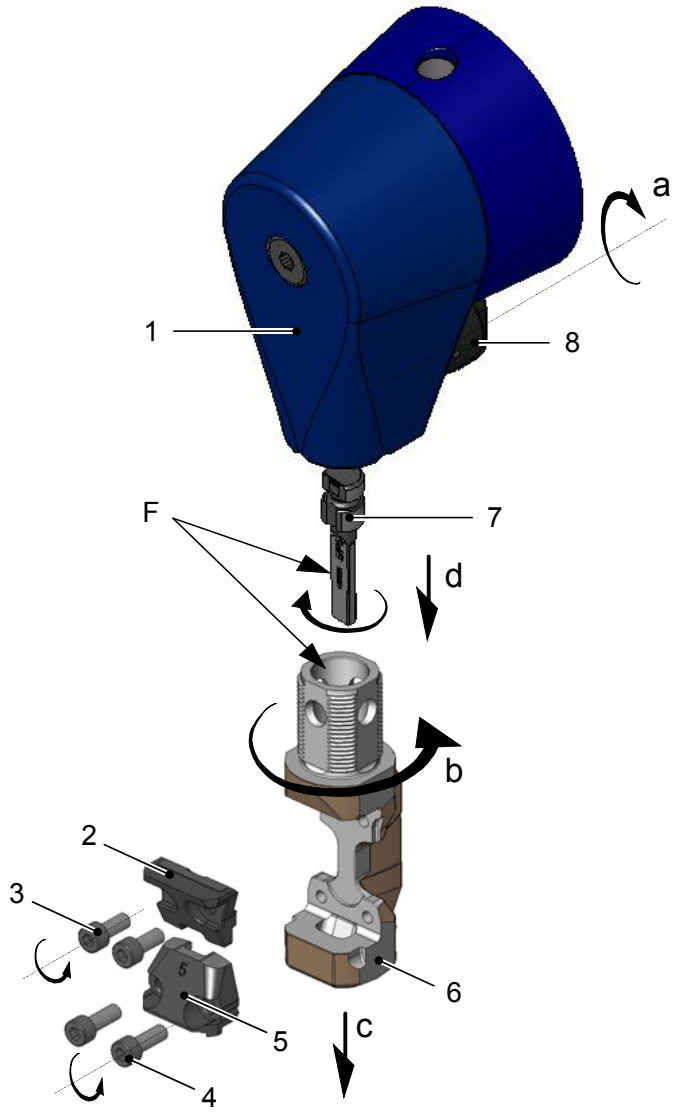
Machine does not work properly.

- Repair work may only be carried out by a qualified technician.

Maintenance point	Procedure and interval	Recommended lubricant	Lubricant order no.
Punch	Regrind as needed (see section 5.2, p. 18).	-	-
Punch	Change as needed (see section 5.1, p. 16).	-	-
Ventilation slots	Clean as needed	-	-
Die	Replace as necessary.	-	-
Punch and die carrier	Lubricate upon tool change	Lubricating grease "G1"	0344969
Gearbox and gear head	After 300 operating hours, arrange for a qualified technician to relubricate or to replace the lubricating grease.	Lubricating grease "G1"	0139440
Filter, oil mist lubrication device	Maintain daily in accordance with the manufacturer's specifications (see "Supplying with power and guaranteeing lubrication", p. 19).	-	-
Strainer	Clean every 10 operating hours and when there has been a decline in performance (see "Cleaning the strainer", p. 20).	-	-

Maintenance points and maintenance intervals Table 6

5.1 Replacing the tool



1	Gear housing	6	Die carrier
2	Punch guide	7	Punch
3	Screws for fastening the punch guide	8	Locking mechanism
4	Screws for fastening the die	F	Lubricating grease "G1" (40 g, order no. 0344969)
5	Die		

Fig. 52772

➢ If the punch or die becomes blunt, resharpen the punch or change the tool.

Disassembling the punch

1. Open locking mechanism (8).
2. Rotate the die carrier (6) by 45°.
3. Pull die carrier (6) out towards the bottom.
4. Turn punch (7) until it can be pulled out.

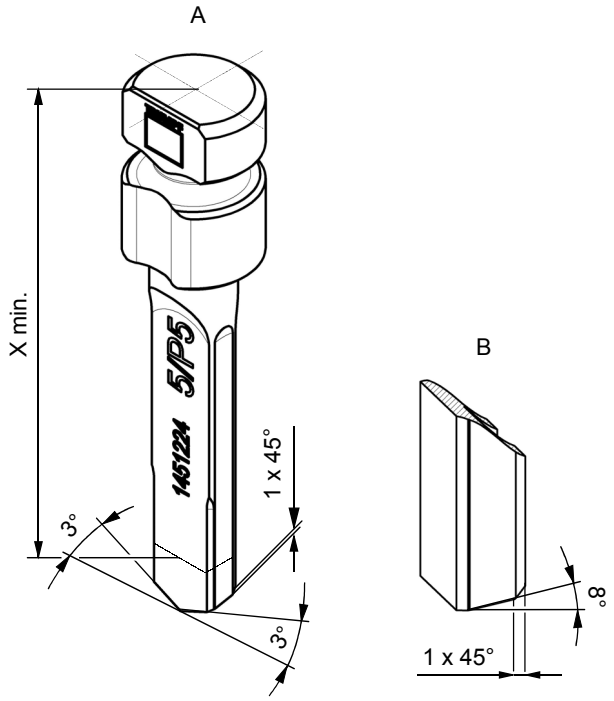
Installing the punch

1. Lightly lubricate the square part of the punch (7) and bore hole on the die carrier (6) with lubricating grease "G1" (order no. 0344969).
2. Rotate the punch (7) to the 45° position.
3. Connect the die carrier (6).
4. Make the locking mechanism (8) engage.

Changing the die and the punch guide

1. To replace the die and the punch guide, unscrew the fixing screws (3 and 4).
2. Clean the support areas on the die carrier (6).
3. Take care to ensure that the replacement parts are clean.
4. Lubricate the guide surfaces of the punch guide with lubricating grease "G1" (order no. 0344969).
5. Screw the fastening screws tightly when mounting the die and the punch guide (torque 9 Nm). Use original screws only.

5.2 Regrinding the punch



A Punch (Standard)
X min. minimum length of the punch

B Recommendation for the polished section of a standard punch for aluminum machining.

Fig. 52773

The punch can be reground, depending on the die with which it is utilized

Note
Dies can not be resharpened.

1. Regrind the grinding surface, making sure that it is well-cooled during the process.
2. Lightly apply fine-grained oil stone to the cutting edge.
3. Observe the minimum length (X min.) while grinding.
4. Replace shorter punches.

Punch	Die	Regrinding reserve of the punch	Minimum length (X min.) of the punch
5/P5	P5	0.5 mm	58.8 mm
5/P5	5	2.8 mm	56.5 mm
2/3[1]	2, 3	-	-

Table 7

[1] This type of punch cannot be reground.

5.3 Supplying with power and guaranteeing lubrication

Caution

Damage to property due to improper handling!

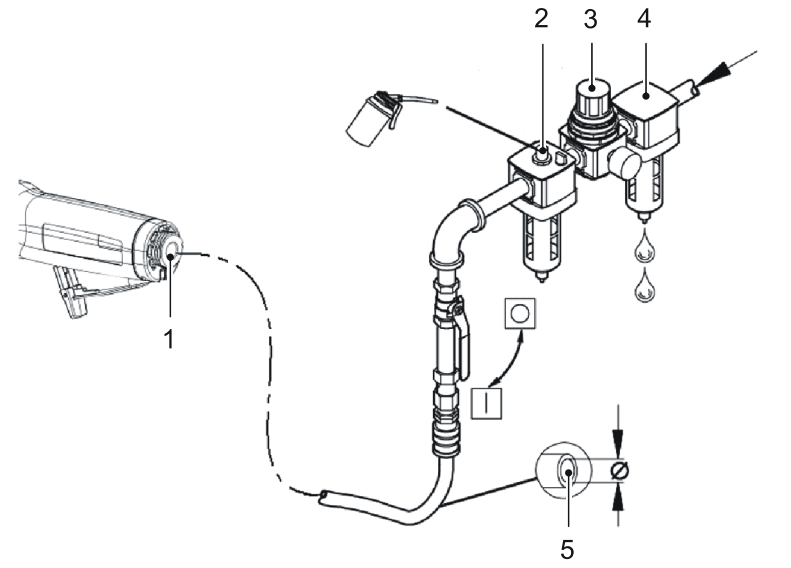
Failure of the compressed air motor.

- ➢ Do not exceed the maximum operating pressure.
- ➢ Regularly lubricate the compressed air motor. Install an oil mist lubrication device into the compressed air line.

Supplying compressed air

Prerequisites

- The pressure regulating valve and the connecting threads are laid out correctly (see "Technical data", Table 1, p. 8).



1	Connecting thread 1/4"	5	Inside diameter of the compressed air hose min. 10 mm or 3/8"
2	Oil mist lubrication device		
3	Pressure regulating valve		
4	Filter and water separator		

Compressed air supply Fig. 52385

1. Install the filter and water separator (4).
2. Drain/check the water separator daily.

Note
To ensure a supply of compressed air the tube cross-sections in the entire line system must be twice to three times the size of the inside diameter of the compressed air hose.

Checking the oil supply

➢ Hold a piece of paper in front of the exhaust air vent in the motor housing when the machine is running.

The oil supply is sufficient when oil spots appear.

When there is no oil mist lubrication device available:

➢ Fill the air inlet bore hole with 0.5-1 ccm of oil every two hours.

Recommended lubricant

- BP Energol RD 80 (-15° to +10°C/+5° to +50°F).
- BP Energol RD-E80 (+10° to +30°C/+50° to +86°F).
- Shell Tellus Oil 15 (-15° to +10°C/+5° to +50°F).
- Torculla 33 (+10° to +30°C/+50° to +86°F).

Note
Secure the compressed air hose against undesired movements using a compressed air safety device.

5.4 Replacing fins

Worn fins decrease machine performance.

➢ Have the fin set checked and replaced as needed by a qualified technician.

Note
Only use original replacement parts and observe the information on the rating plate.

5.5 Cleaning the strainer

Dirty strainers decrease machine performance. Clean the strainer, which is screwed into the connection piece (328), every 10 operating hours. (For an illustration of the positions 328 (= "connection") and 329 (= "nipple"), see the replacement parts list.)

1. Unscrew the strainer and blow it out with compressed air.
2. Screw the strainer back in.

6. Original accessories and wearing parts

TruTool N 500	Supplied original accessories	Wearing parts	Options	Order no.
Handle, complete	+			0974659
Allen key DIN 911-4	+			0067849
Lubricating grease "G1" can (40 g)	+			0344969
Case	+			0982540
Operator's manual	+			1453370
Safety information (red document)	+			0373678
Punch 5/P5		+		1451224
Punch 2/3		+		1453187
Die 2		+		0975468
Die 3		+		0975466
Die 5		+		0975464
Die P5		+		0975462
Chip bag			+	0103557
Punching and nibbling oil for steel (1 l)			+	0103387
Punching and nibbling oil for aluminum (1 l)			+	0125874
Suspension eyelet			+	0097208

Table 8

Ordering original parts and expendable parts

To ensure the correct and fast delivery of original parts and wearing parts:

1. Specify the order number.
2. Enter further order information:
   - Voltage information.
   - Quantity
   - Machine type.
3. Provide complete shipping information:
   - Correct address.
   - Desired delivery type (e.g. air mail, courier, express mail, ordinary freight, parcel post).
4. Send the order to the TRUMPF representative office. Refer to the address list at the end of the document for TRUMPF service addresses.