Operator's manual

N 700-2

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english

TRUMPF

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1. Safety

USA/CAN

- Read the operator's manual and the general safety rules (material number 1239438, red document) completely before putting the machine into service. Follow precisely the instructions contained therein.

Other countries

- Read the operator's manual and the safety instructions (material number 125699, red document) completely before putting the machine into service. Follow precisely the instructions contained therein.
- 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!

- Pull the plug from plug socket before undertaking any maintenance work at the machine.
- Check the plug, cable and machine for damage each time before using the machine.
- Keep the machine dry and do not operate it in damp rooms.
- Connect the earth leakage (EL) circuit breaker with a maximum release current of 30 mA when using the electric tool outside.

Warning

Danger of injury due to improper handling!

- Wear safety glasses, hearing protection, protective gloves and work shoes when working at the machine.
- Do not insert the plug unless the machine is switched off. Pull the power plug after use.

Warning

Danger of injury to hands!

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

Caution

Damage to property due to improper handling!

The machine will be damaged or destroyed.

- Do not use the power cable to carry the machine.
- Always lay the electrical cable away from the back of the machine and do not pull it over sharp edges.
- Have hand-held electrical tools serviced and checked by qualified technicians. Only use original TRUMPF accessories.

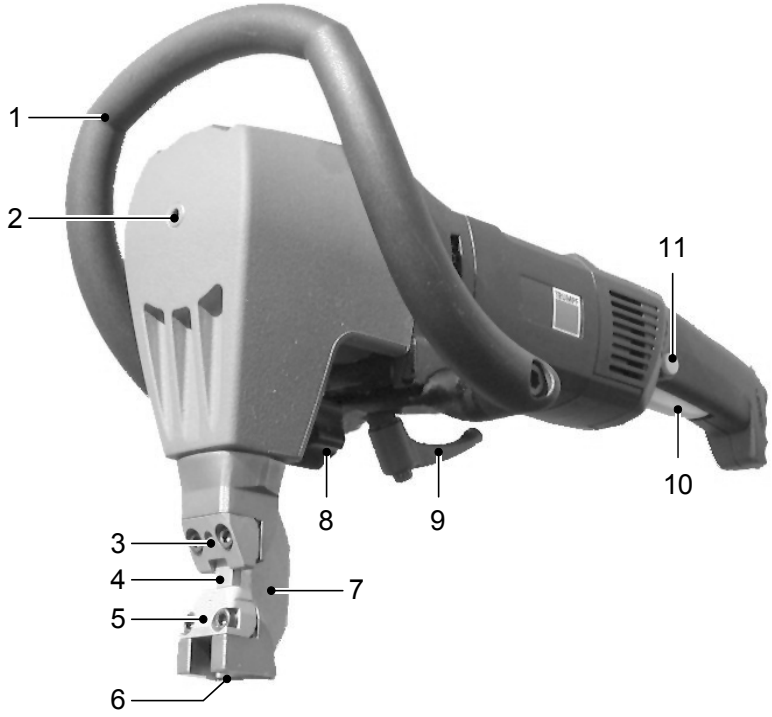
Warning

Risk of injury from hot and sharp chips!

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

- ➢ Make sure the chips are emitted downwards.
- ➢ Use a chip bag (optional).

2. Description



1	Bow-handle (can be installed at 2 positions)	5	Die	9	Clamping lever for fastening the handle
2	Eccentric shaft	6	Chip dumping	10	On/Off switch
3	Punch guide	7	Die carrier	11	Release inhibiter knob
4	Punch	8	Locking mechanism for die carrier		

Nibbler N 700-2 Fig. 38379

2.1 Intended use

Warning

Danger of injury!

- Use machine only for the processing and materials that are described under "Correct use".

The TRUMPF Nibbler N 700-2 is an electric hand tool 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 workpieces that are free of deformations.

2.2 Technical data

	Other countries			USA
	Values	**Values**	**Values**	**Values**
Voltage	230 V	120 V	110 V	120 V
Frequency	50/60 Hz	50/60 Hz	50 Hz	50/60 Hz
Max. material thickness				
• **Steel 400 N/mm²**	7.0 mm	7.0 mm	7.0 mm	0.28 in
• **Steel 600 N/mm²**	5.0 mm	5.0 mm	5.0 mm	0.2 in
• **Steel 800 N/mm²**	3.5 mm	3.5 mm	3.5 mm	0.14 in
• **Aluminum, 250 N/mm²**	10 mm	10 mm	10 mm	0.4 in
Working speed	1.3 m/min	1.1 m/min	1.1 m/min	3.6 ft/min
Nominal power consumption	1600 W	1500 W	1500 W	1500 W
Power consumption	7.4A	13.5A	14.4A	13.5 A
No load rate	440/min	470/min	440/min	470/min
Weight	8.3 kg	8.3 kg	8.3 kg	15.4 lbs
Cutting track width	11 mm	11 mm	11 mm	0.433 in
Start hole diameter for die	60 mm	60 mm	60 mm	2.4 in
Sheet profile 90° bending radius inside	min. 10 mm	min. 10 mm	min. 10 mm	0.4 in
Smallest radius with curved cuts	135 mm	135 mm	135 mm	5.3 in
Clearance to template	11 mm	11 mm	11 mm	0.433 in
Protective insulation	Class II	Class II	Class II	Class II

Technical data Tab. 1

Noise and vibration	**Measured values in accordance with EN 60745**
A-classified sound pressure level	Typically 89 dB (A)
A-classified acoustic power level	Typically 100 dB (A)
Hand-arm vibration	Typically less than or equal to 2.5 m/s²

Noise and vibration Tab. 2

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

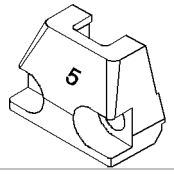
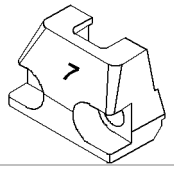
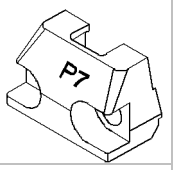
3. Tool assembly

3.1 Selecting the die

One of three types of dies can be selected for the machining process, depending on material thickness, tensile strength and type of workpiece:

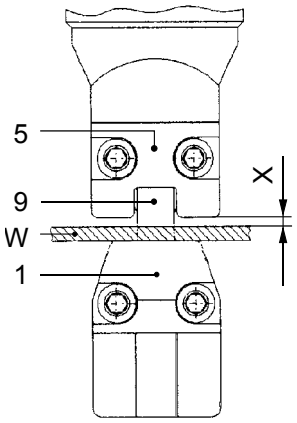
Make sure that the X distance is as small as possible so that the machine is well clamped and does not rattle.

(see Fig. 16811, p. 8)

Material	Type of die					
	5		7		P7	
						
	Mat. no. 0098723		Mat. no. 0098722		Mat. no. 0098721	
	Material thickness		Material thickness		Material thickness	
	Level work-pieces	Profiles with press brake bending up to 90°	Level work-pieces	Profiles with press brake bending up to 90°	Level work-pieces	Profiles with press brake bending up to 90°
Aluminum 250 N/mm	3-5 mm	-3 mm	5-7 mm	3-5 mm	7-10 mm	5-7 mm
Mild steel 400 N/mm	3-5 mm	-3 mm	5-7 mm	3-5 mm	-	5-7 mm
Stainless steel 600 N/mm²	3-5 mm	-3 mm	-	3-5 mm	-	-
Stainless steel 800 N/mm²	-2.5 mm	-2.5 mm	-	-	-	-

Tab. 3

Use the die with the greatest feasible height

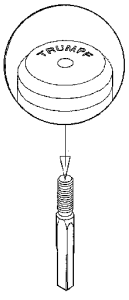
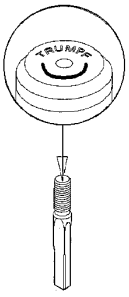


1	Die	W	Workpiece
5	Punch guide	X	Clearance between sheet surface and punch guide
9	Punch		

Direct clearance from the die to the punch Fig. 16811

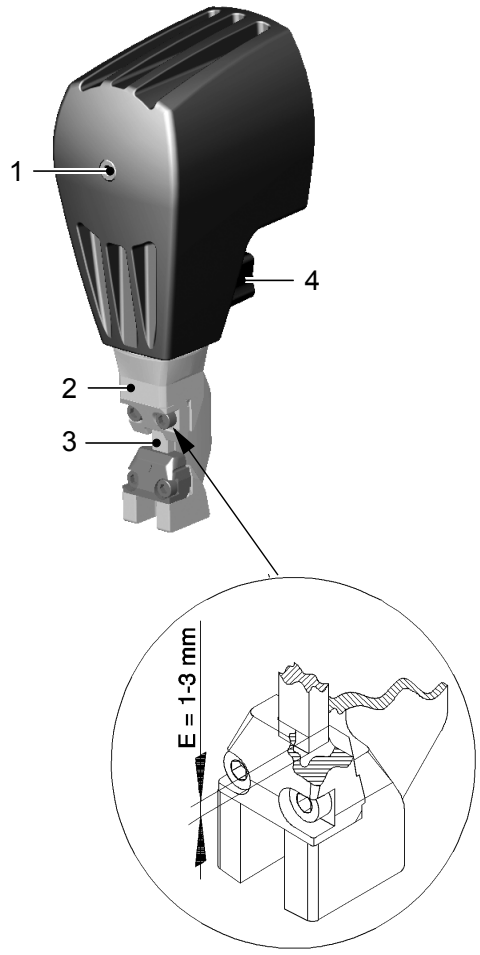
3.2 Selecting the punch

To process sheets with different tensile strengths, there are 2 different punches:

Components	Punch	
	Standard	High-tensile
		
Part number:	104589	104590
Aluminum 250 N/mm	+	-
Mild steel 400 N/mm	+	-
Stainless steel 600 N/mm²	-	+
Stainless steel 800 N/mm²	-	+

Tab. 4

3.3 Checking penetration depth of the punch



1	Eccentric shaft	4	Locking mechanism
2	Die carrier	E	Penetration depth
3	Punch		

Penetration depth of the punch Fig. 38378

The penetration depth of the punch into the die should be 1 to 3 mm.

1. Rotate the eccentric shaft (1) until the punch (3) has reached its maximum penetration depth.
2. Open locking mechanism (4).
3. Rotate the die carrier (2) by 360° as often as needed until the punch penetration depth of 1-3 mm has been achieved. One rotation (360°) corresponds to a height adjustment of 1.75 mm
4. Close locking mechanism (4).

3.4 Selecting the handles

Suitable handles can be used depending on the exact application.

2 handle types are available:

- Bow-handle.
- Compact handle.

1 Clamping lever

Fig. 38389

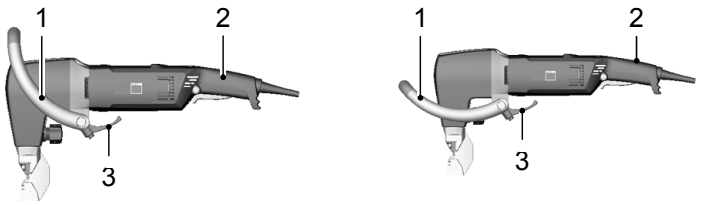
➢ Fasten the handle to the machine without a tool using the clamping lever (1).

Swiveling the handle

Indexing means that each handle can be clamped in 2 positions.

1. Turn the clamping lever (1) by approx. 2 revolutions.
2. Swivel the handle.
3. Fix the clamping lever (1).

Bow-handle

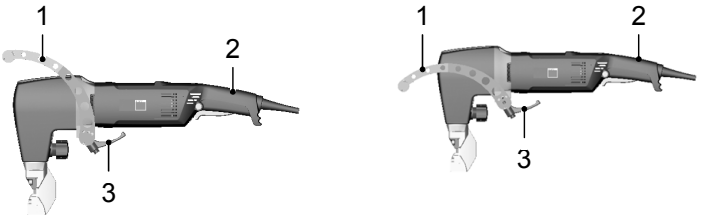


1 Bow-handle
2 Motor handle
3 Clamping lever

Fig. 38391+38390

The bow-handle provides optimum gripping positions at all working positions. When used with the motor handle, the machine weight is distributed over both handles.

Compact handle



1 Compact handle
2 Motor handle
3 Clamping lever

Fig. 38392+38393

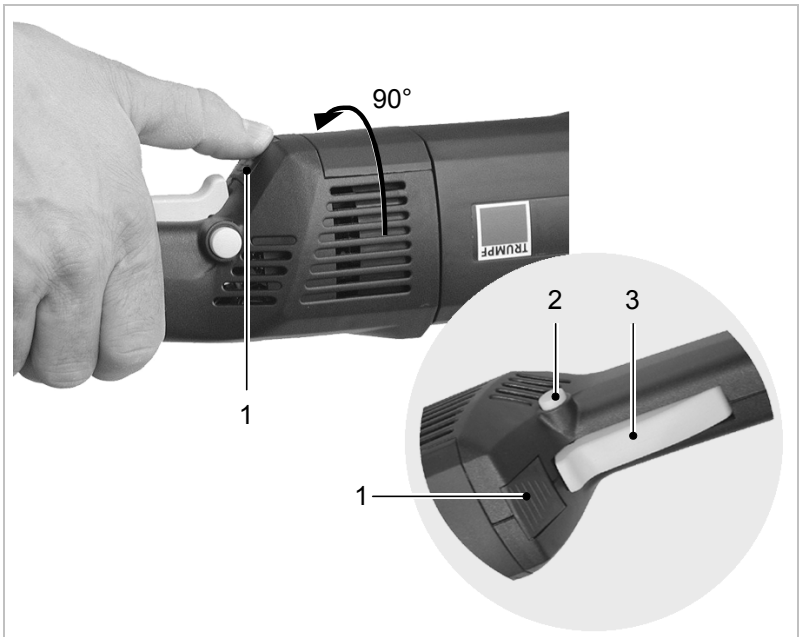
The compact handle was developed for applications where lack of space is an issue, e.g. for the machining of profiles.
In addition, the handle is made of steel and is heat-resistant.

3.5 Motor handle

Caution

Damage to property from dust being sucked into the ventilation slot!

- Turn the motor handle so that air suction point cannot suck in any dust.



1	Release knob	3	On/Off switch
2	Release inhibiter knob		

Fig. 38394

For applications where the machine is to be used tilted at an angle of 90°, it is advisable to turn the handle accordingly.

1. Press the release knob (1).
2. Turn the handle (+/- 90°).
3. Let go of the release knob (1).
4. Turn the handle carefully until it engages.

4. Operation

4.1 Working with the N 700-2

Caution

Damage to property due to high power supply voltage!

Motor damage

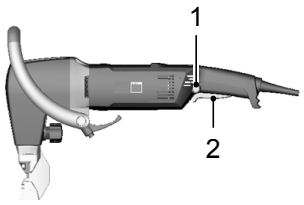
- Check the power supply voltage. The power supply voltage must correspond to the information on the type plate of the machine.

Warning

Danger of injury due to improper handling!

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

Switching on the N 700-2



1 Release inhibiter knob 2 On/Off switch

Fig. 38380

Continuous operation

1. Press the release inhibiter knob (1), keep holding it and press the ON-OFF switch (2).

   The motor will start to run.

2. Let go of the ON-OFF switch (2).

Note
Momentary operation is possible.
Press the release inhibiter knob (1). Keep holding it and press the ON-OFF switch (2). Then let go of the release inhibiter knob.

Working with the N 700-2

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 machine (still running) a few millimeters back towards where the cutting track has already been cut open.
4. Switch off machine.

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, Material No. 103387
Aluminum	Wisura oil, Material No. 125874

Recommendation for oil Tab. 5

Switching off the N 700-2

➢ Press and release the On/Off switch (2).

4.2 Changing the cutting direction

In situations where space is limited, the tool can be mounted in such a way as to have a different cutting direction.

- Mount the tool at an angle turned 90° to the right or to the left (cutting of profiles).
- Mount the tool at a 180° rotation (nibbling to the rear).

1. Open locking mechanism (8).
2. Turn the die carrier (7) in the desired direction.
3. Close locking mechanism (8).
4. Check the depth of penetration of the punch.

4.3 Nibbling with templates

The following requirements must be met when nibbling with templates:

- The template must be at least 5 mm thick.
- The contour of the template must have a clearance of 11 mm to the contour to be nibbled out.
- Guide the nibbler in such a way that the exterior cut-out of the punch guide (5) always remains up against the template.
- Observe a minimum radius of 135 mm.

4.4 Making inner cutouts

Inner cutouts require a start hole of at least 60 mm in diameter.

5. Maintenance

Caution

Damage to property due to blunt tools!

Machine overload

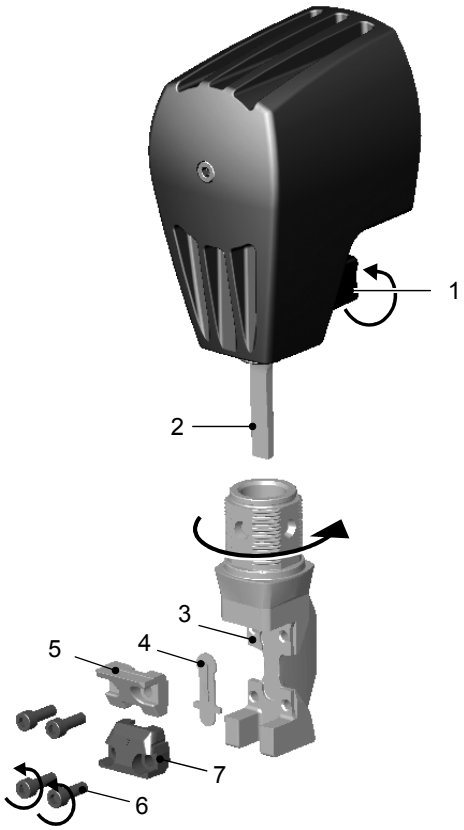
- Check the tool hourly for wear. Sharp tools cut better and help keep the machine in good condition. Change the tools as soon as necessary.

Warning

Danger of injury due to improper repairs!

Machine does not work properly.

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



1	Locking mechanism	4	Wearing plate	6	Screws for fastening of die and punch guide
2	Punch	5	Punch guide		
3	Die carrier			7	Die

Fig. 38381

Maintenance point	Procedure and interval	Recommended lubricants	Material No. Lubricants
Punch, die and wearing parts	Check hourly	-	-
Punch and die carrier	With each tool change	-	-
Punch	Regrind/replace as needed	-	-
Ventilation slot/grid	Clean as needed	-	-
Die	Replace as necessary	-	-
Wearing plate	Replace as necessary	-	-
Gearbox and gear head (2)	After 300 operating hours, arrange for a trained specialist to relubricate or to replace the lubricating grease.	"G1" lubricating grease	139440

Maintenance points and maintenance intervals Tab. 6

5.1 Changing the tool

If the punch and/or die is blunt or the type of application changes, the tools must be reground or replaced.

Replacing the punch

1. Release the lock (1).
2. Rotate the die carrier (3) by 45°.
3. Pull die carrier (3) out towards the bottom.
4 Remove punch (2) by rotating it.
5. Lubricate the square part of the punch and die carrier bore hole with "G1" grease, TRUMPF Material No. 139440.
6. Align the punch to 45°.
7. Check the depth of penetration of the punch.

Changing the die and the punch guide

1. To replace the die and the punch guide, unscrew the fixing screws (6).
2. Clean the support areas on the die carrier (3).
3. Take care to ensure that the replacement parts are clean.
4. Lubricate the guide surfaces of the punch guide with "G1" grease, TRUMPF Material No. 139440.
5. Screw the fastening screws tightly when mounting the die and the punch guide. (Tightening torque 20 Nm) Only use original screws!

(see Fig. 38381, p. 16)

5.2 Resharpening tools

Punch

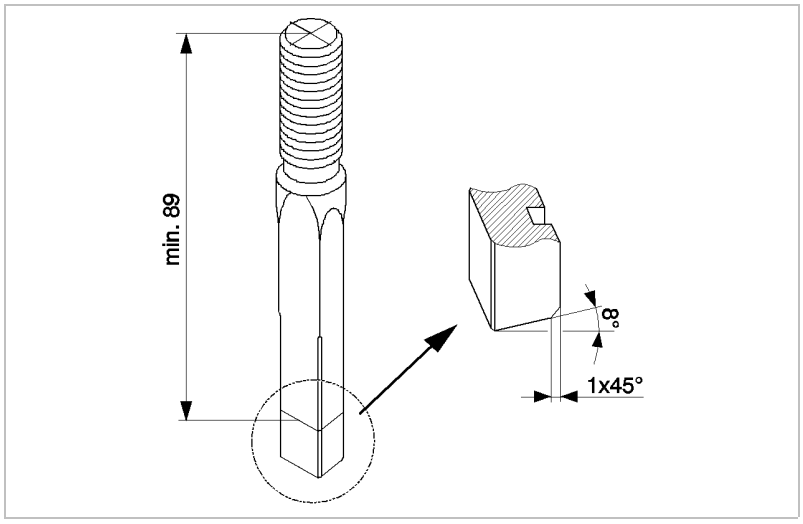


Fig. 9432

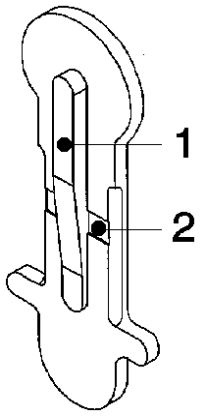
The punch can be reground by a total of approximately 10 mm.

- Regrind the grinding surface in accordance with the following diagram, making sure that it is well-cooled during the process.
- Lightly apply fine-grained oil stone to the cutting edge.
- Observe a minimum length of 89 mm Shorter punches must be replaced (risk of collision).

Dies

Dies may not be reground.

5.3 Checking/replacing the wearing plate



1 Elevation 2 Depression

Wearing plate Fig. 9468

The wearing plate protects the die carrier against excessive wearing. (Order No. 0119173V.)

1. Replace the wearing plate when the raised part (1) is worn down.
2. Replace the wearing plate when the depression (2) is no longer visible.

Note
Excessive wearing can overload the machine and lead to a worsening of cutting quality.

5.4 Replacing carbon brushes

The motor comes to a standstill whenever the carbon brushes are worn out.

- Have the carbon brushes checked and replaced as required by a qualified specialist.

Note
Only use original replacement parts and observe the specifications on the type plate.

6. Original accessories and wearing parts

Designation	Supplied accessories	Wearing parts	Options	Material number
Punch (standard)	+	+		0104589
Punch for high-tensile sheets		+	+	0104590
Die 5		+	+	0098723
Die 7	+	+		0098722
Die P7		+	+	0098721
Wearing plate	+	+		0119173
Allen key DIN 911-5	+			0067857
Lubricating grease "G1" tube (25 g)	+			344969
Lubricating grease "G1" can (900 g)			+	139440
Operator's manual	+			1277783
Safety information (red document), other countries	+			0125699
Safety information (red document), USA	+			1239438
Bow-handle, complete	+			1279590
Compact handle, complete	+			1279618
Punching and nibbling oil for steel (0.5 liter)			+	0103387
Punching and nibbling oil for aluminum (1 liter)			+	0125874
Chip bag			+	0109275
Case	+			1279611

Original accessories, wearing parts and optional items Tab. 7

Ordering wearing/ expendable parts

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

1. Specify the material number.
2. Enter further order data:
   - Voltage data
   - Number of pieces
   - Machine type
3. Specify the complete shipping information:
   - Correct address.
   - Required delivery type (e.g. air mail, courier, express mail, ordinary freight, parcel post).
4. Send the order to your TRUMPF representative.

   Refer to the address list at the end of the document for TRUMPF service addresses.