

Streckfuss USA, Inc.

Model C094

Operating Instructions

Machine Serial Number:

Retention of Title

We reserve all rights for this document.
It may not be duplicated or made accessible to third parties
without our consent.

This documentation and the information contained therein
have been compiled with the appropriate care.

The company Burst & Zick GmbH however shall not
accept responsibility for typing and other errors
or damages resulting there from.

Version: 2.0.

Stand: Jan. 05

Burst & Zick GmbH
Vorrichtungsbau
An der Rossweid 8
D – 76229 Karlsruhe
Tel. +49 721/61 17 75
Fax. +49 721/61 53 92

EC Declaration of Conformity
According to EC Machinery Directive 98/37/EEC, Annex II A

We herewith declare that the machine described hereinafter satisfies the essential safety and health requirements set out in the EC Machinery Directive with regard to its design and construction as well as the type marketed by us.

In case of an alteration of the machine without our agreement this declaration shall become void.

We furthermore point out that for the installation of spare parts only original parts of the company Burst & Zick GmbH may be used.

Description of the machine:	Automatic cutting, forming and bending machine
Machine type:	C 094
Machine number:	06.04.108 / 109
Applicable directives:	EC Machinery Directive (98/37/EEC) EC Low Voltage Directive (73/23/EEC); EC Electromagnetic Compatibility Directive (89/336/EEC) as amended by 93/31/EEC
Applied harmonized standards, particularly:	EN 292-1, EN 292-2, EN 294, EN 349, EN 60204-1
Attachment of the CE label:	CE 01
Date / Manufacturer - Signature:	<u>7/6/2010</u>
Title of the undersigned:	Managing Director

General

1. Notes on Industrial Safety

The following notes on industrial safety have to be specially adhered to:

- The automatic cutting and bending machine C094 has been constructed according to the current state of the art and conforms to the ESD regulations. Nevertheless, perils may arise from this machine if it is used by untrained personnel or for other than the intended purposes.
- **Statement on the Residual Risk**
 1. Danger of electric shock if the switchbox is opened while voltage-carrying. Work in and on the electrical equipment may principally only be carried out by qualified electricians.
 2. Danger of contusion and shearing during setup operation.
 3. The electric motor can reach an operating temperature of more than 60 °C / 140 °F.
 4. Extreme care is necessary during set up time of machine to prevent hands or fingers from being wedged or cut. All areas of possible danger are being marked with signs.
- Applicable accident prevention regulations have to be adhered to by the user, particularly the
 - General regulations (VBG 1) as issued by the German Verwaltungs-Berufsgenossenschaft - trade association for administrative trades,
 - Power-actuated work equipment (VBG 5)
- The machine may only be operated by trained personnel.
- Any mode of operation which can impair the safety of the machine has to be refrained from.
- The user undertakes to operate the machine only in perfect condition.
- Unauthorized alterations or variations which impair safety have to be refrained from.
- Safety devices may principally not be dismantled or put out of operation. If it is indispensable to dismantle safety devices for the purpose of tool changes or for maintenance and repair work, the safety device has to be reinstalled immediately afterwards.

2. Table of Contents:

General Information

General.....	4
1. Notes on Industrial Safety.....	4
2. Table of Contents:.....	5
3. General Description	6
4. Technical Data	6
5. Component Specifications:	7
6. Machine Overview.....	8
Machine Set Up	9
1. Placing Machine.....	9
2. Powering up the Unit	9
3. Insertion of Taped Components into Machine.....	10
4. Setting the Counter (optional).....	11
5. Turning Machine ON.....	11
6. Bringing Machine to a Halt.....	11
7. Operating Speed.....	11
Adjustments and Change of Tools.....	12
1. Basic Notes on Machine Adjustments and Change of Tools.....	12
2. Tooling Exchange	13
2. Lower Tool.....	14
3. Tool Adjustments.....	14
4. Cut Length is to be set by use of the micrometer (9).....	14
5. Actions Required for Different Component Pitch	15
6. Keeping Record of Issues and Follow-up Actions.....	16
Maintenance.....	17
Attachments	18
1. Electrical Schematic C094 (without counter).....	19
2. Electrical Schematic C094 (with counter)	20
3. Parts List C094 (Elektr. Teile)	21
4. Pneumatic Layout C094 – 01	22
5. Parts List Pneumatic Layout C094 – 01	23
6. SPARE PARTS LIST	24

3. General Description

This Machine is designed for processing taped radial components.

Components are fed into the unit by tape rollers. Tape tracks and tools are easily exchanged for the use of components on 12.7 mm or 15.0 mm tape. The finished parts slide into a catch bin.

Options:

- De-Reeler
- Component Counter. This allows to run a preset number of components and after the number is reached, machine stops automatically.

4. Technical Data

Deminsions	Width:	500 mm (w/o de-reeler)
	Length:	400 mm
	Hight:	500 mm
Weight:		~20 kg
Drive:		Electrically and air pressure
Power:		115V - 230 V / 50 - 60 Hz
Control:		Siemens- SPS „LOGO“
Air Pressure:		6 bar
Output:		max. 5000 components per hour
Tape Specifications:		12,7 mm resp. 15 mm (retrofitable)
Component Pitch:	min.	2,5 mm
	max.	Depents upon form shape
Lead SizeØ:		0,4 bis 0,8 mm

5. Component Specifications:

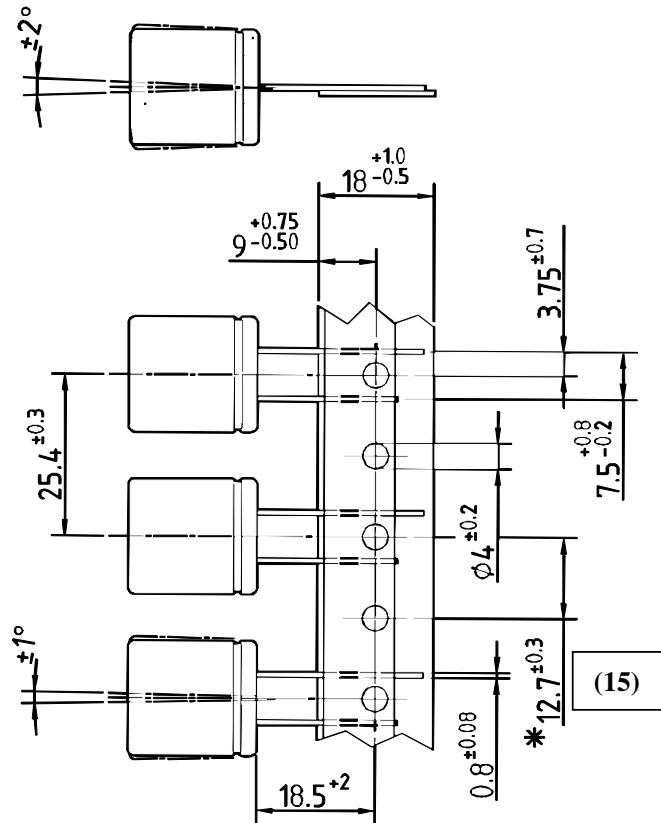
Caution:

Any component that meets the IEC Norm can successfully be processed with this machine. Should however, some components deviate from these IEC Norms, the manufacturer cannot be made responsible for form shapes outside specs due to the component not meeting IEC Norms.

Anmerkung*

Grenzmaß über 20 Lochabstände ± 1 mm

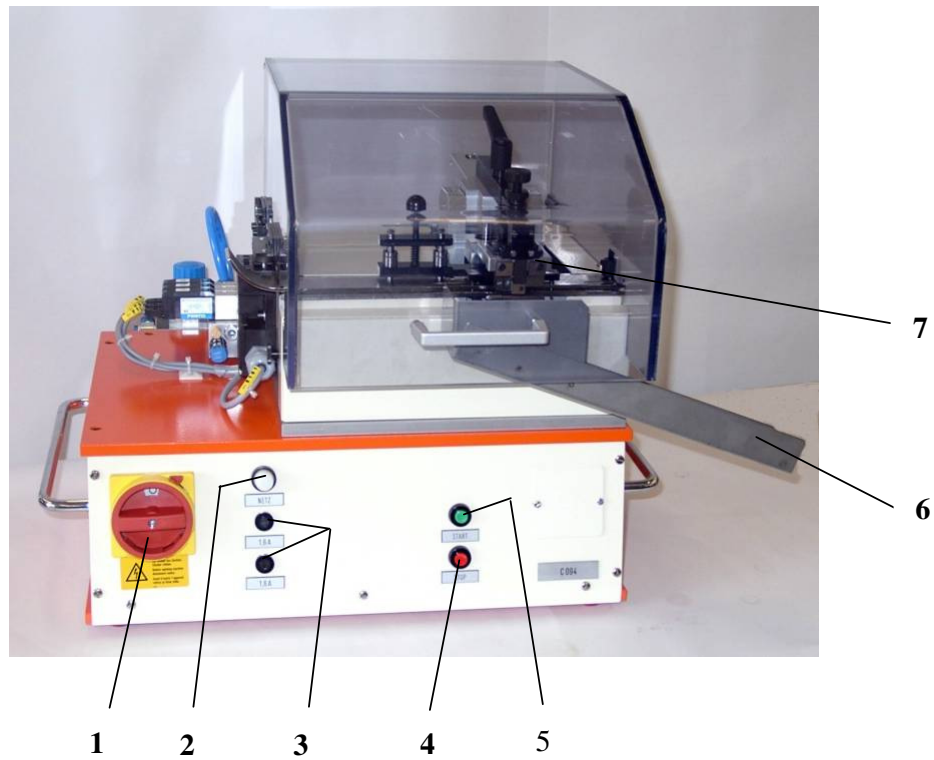
tolerance of the distance of
20 transport holes ± 1 mm



Picture 1

IEC- Form Toleranzen

6. Machine Overview



Picture 2
Model C094

1. Power Switch ON-OFF (EIN – AUS)
2. Control Light
3. Fuses
4. STOP- Button
5. START- Button
6. Component Slide
7. Tools

Machine Set Up

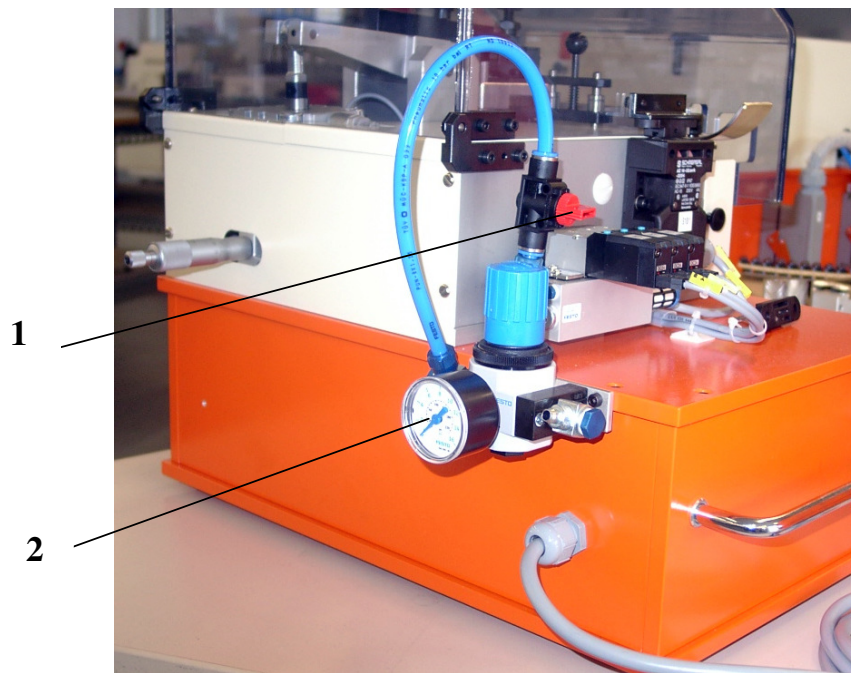
1. Placing Machine

Machine is fully assembled and ready for operation. Any issues i.e. contents of shipment which do not comply with Packing List, or possible damage of the equipment that occurred during transit should be reported immediately.

Machine must be placed on a solid working surface.

2. Powering up the Unit

- Connect power cord coming from back of the unit to an approved electrical outlet – 230V/50 Hz.
- On the back of the machine is an air pressure regulator with a NW 6 hose. Machine is set at 6 bar which is the operating pressure.

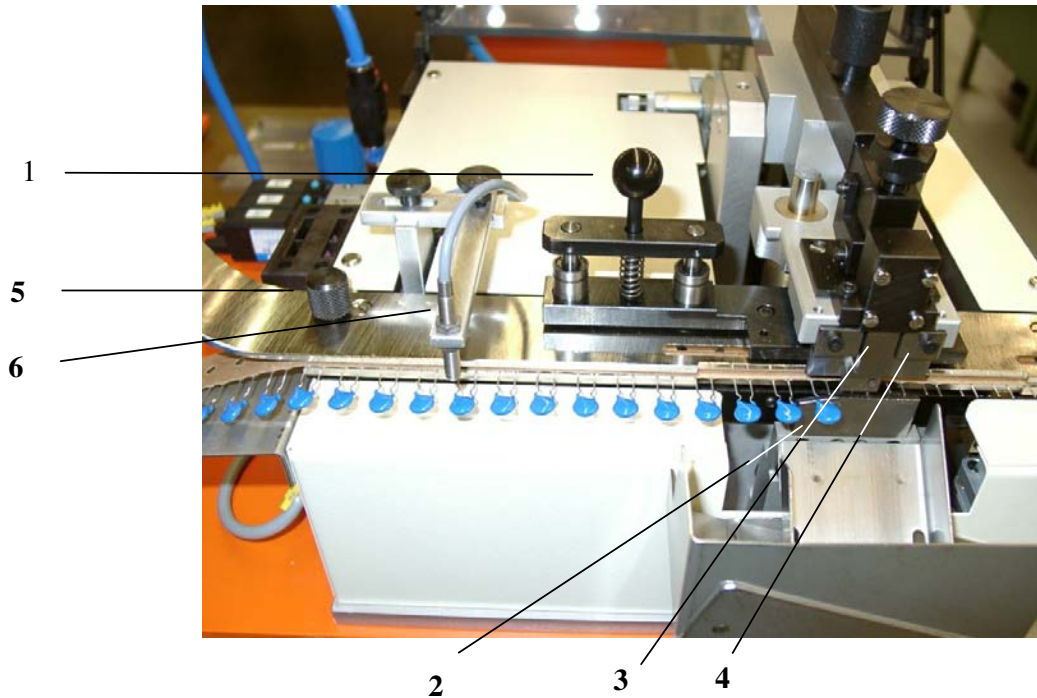


Picture 3 – Air Pressure Connection

1. Stop Valve
2. Manometer with air pressure connection

3. Insertion of Taped Components into Machine

1. Raise protective cover.
2. Slide taped components from left to right into the guide rail.
3. Lift up the component centering assembly with the handle (1). Slide tape across the driver pins until the first component is situated right in front of the cutting tool.
4. Lower the component centering assembly back down. At this time the driver pins must produce through the holes in the tape.



Picture 4 - Centering of Tape and Tools

1. Handle (Raises the component centering assembly)
2. Lower Tool
3. Upper Tool
4. Stress Relief Die
5. Knurled Knot (Clamping component guide)
6. Component counter sensor

4. Setting the Counter (optional)

- Place taped components into the guide rails as described in (3)
- Push the keys to preset the required number. The display P1 will blink

Reference: If no numbers are being keys in withing 5 sec of the blinking, the device will default to the previous setting.

To validate the set number, the „P“ key has to be pushed.

5. Turning Machine ON

The following criteria needs to be met:

- Main power switch to „ON“ („EIN“)
- Air pressure must be activated (open stop valve)
- Hood must be closed.

Start machine by pressing the „START“ button.

6. Bringing Machine to a Halt

Push the „STOP“ button or initiate any of the activities listed under 5. (I.e. by lifting the safety hood).

7. Operating Speed

Operating speed is set by the manufacturer at optimal speed.

PLEASE DO NOT MAKE ANY CHANGES !

Adjustments and Change of Tools

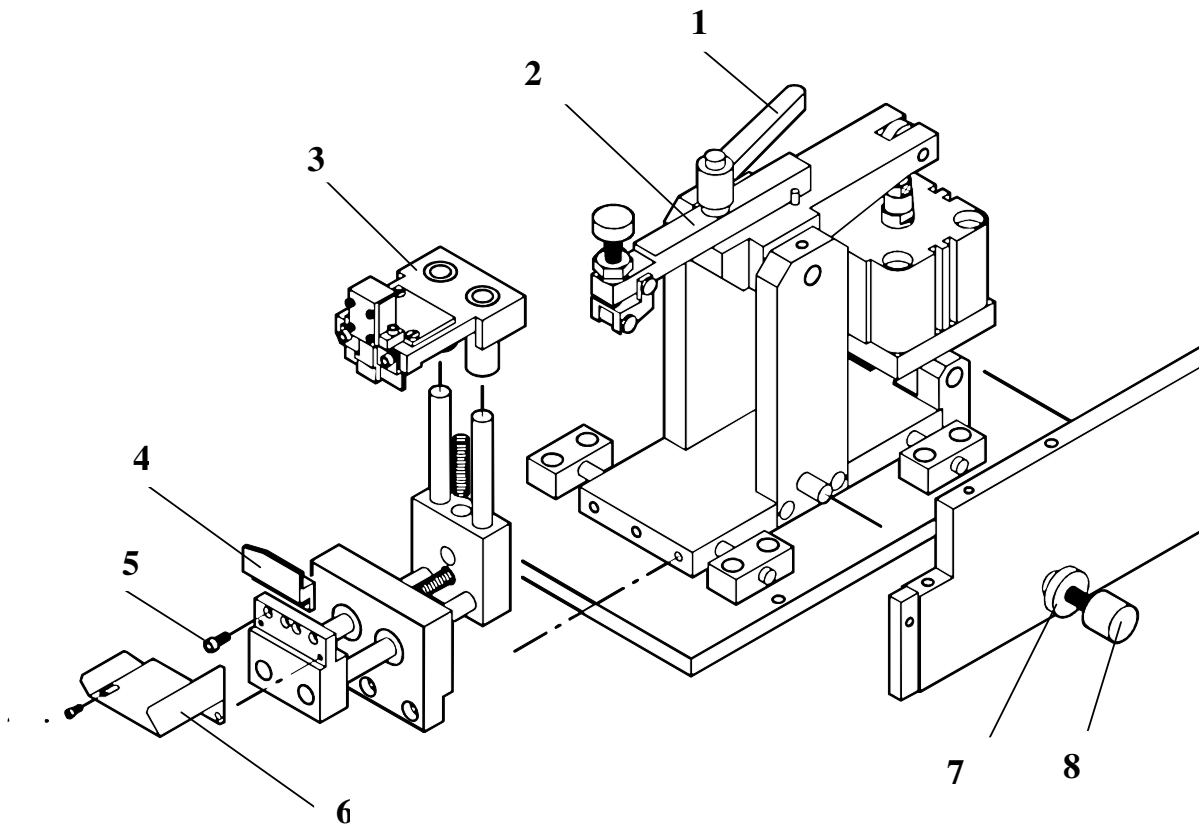
1. Basic Notes on Machine Adjustments and Change of Tools

- For tooling exchange and service work the machine must be disengaged from both air and power.

Main power switch must be on „OFF“ („AUS“) and cable must be unplugged.

- Please ensure, that all removed parts, loosened bolts and nuts, are being either reinstalled respectively retightened again after completing adjustments etc.
- To prevent from experiencing serious damage, all adjustments should be made with great care and based on the instructions provided within this manual.

2. Tooling Exchange



Picture 5 – Tool Exchange

- | | |
|------------------------|----------------------|
| 1. Tool locking lever | 5. Cheese head screw |
| 2. Tooling lever | 6. Component Slide |
| 3. Upper tool complete | 7. Knurled nut |
| 4. Lower die | 8. Lead screw |

1.1. Upper Tool

- 1.1. Loosen the tooling locking lever (1) and move tooling lever (2) to the side.
- 1.2. The complete upper tool (3) can now easily be lifted out straight through the guide posts. Another upper tool can now be installed.
- 1.3. Slide the new tool over the guide posts and push downward and bring the tooling lever (2) back into it's original position.
- 1.4. Tighten the locking lever back into position.

2. Lower Tool

- 2.1. Remove component slide (6).
- 2.2. Remove cheese head screw (5) and remove the lower tool (4)
- 2.3. Install the new tool by reversing steps 2.1 and 2.2.

3. Tool Adjustments

3.1. Upper Tool

This is a fixed tool, no adjustment are required.

3.2. Lower Tool

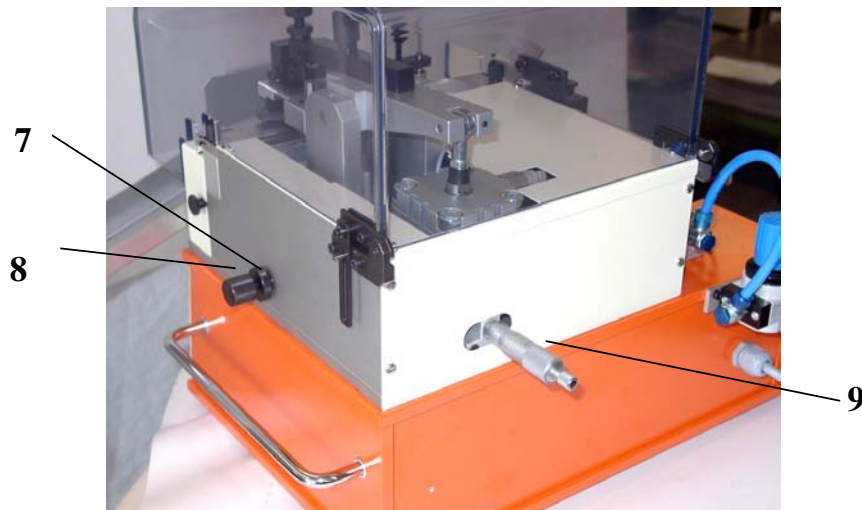
Lower Tool requires adjustment(s) whenever the component pitch changes:

1. Slide component tape between upper and lower tools.
2. Now check and ensure that the leads are situated exactly below the tools.

Adjustments that might be necessary: Loosen the knurled knob (7) and turn the spindle (8) which will move the tooling plate horizontally.

4. Cut Length is to be set by use of the micrometer (9)

Advice: Cycle a few components through the machine, measure those to ensure they meet your specs before engaging machine into full production run.



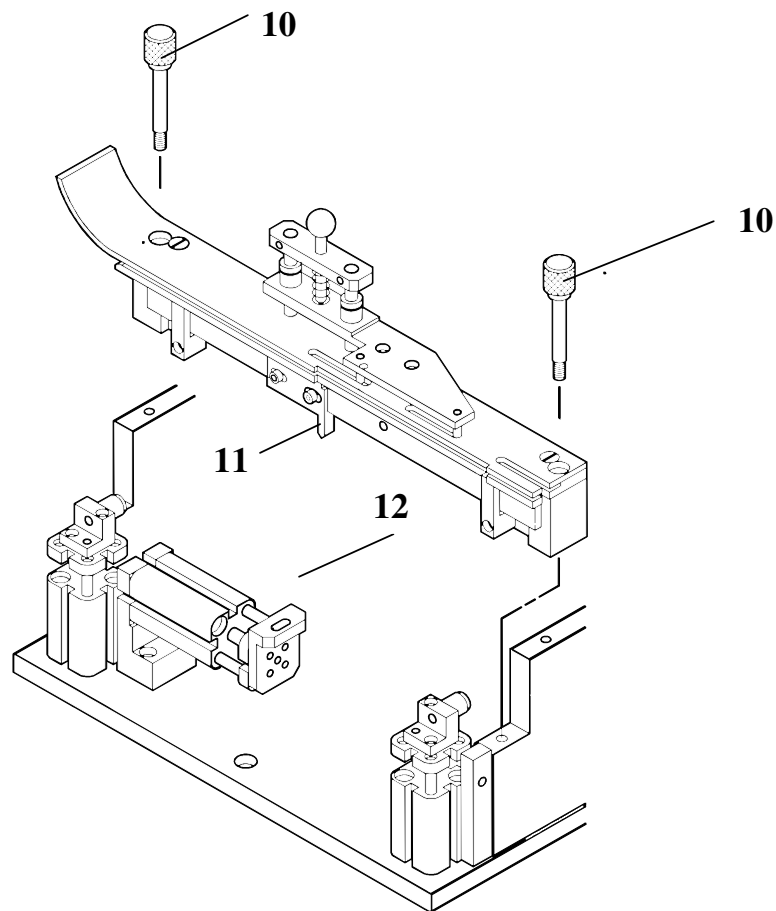
Picture 6 – Setting of Cut Length

- 7. Knurled Knob
- 8. Lead Screw
- 9. Micrometer

5. Actions Required for Different Component Pitch

5.1. Exchanging of the Tape Guide

1. Remove upper tool from machine.
2. Disrupt air pressure supply and drain pneumatic system meaning: the stop valve located on the back of the machine must be closed: than hold down the „START“ button as long as it takes to bring the machine to a stop.
3. Remove front panel.
4. Remove knurled knob (10).
5. Lift up the entire tape guide assembly. Replace with the exchange tape guide assembly. Make sure that the driver pin (11) is being hooked up with the feed cylinder (12).
6. Re-tighten the knurled knobs and put front panel back into place.



Picture 7 – Exchanging the Tape Guide

10. Knurled Knob

11. Driver Pin

12. Feed Cylinder

6. Keeping Record of Issues and Follow-up Actions

By following all instructions and guide lines provided in this manual correctly, this machine will meet all your expectations. However, we highly recommend that all and any issues with the unit are being reported to us. Keeping a record (as shown below) is an excellent way of keeping a machine history.

Type of Issue	Cause of Issue	Action Performed

Maintenance

Any maintenance and/or repair work should be performed by trained personell only !

For safety reasons always disconnect machine from power supply during any repair of maintenance !

Table for Maintenance					
					Maintenance to be done
	d	w	m	a	
Machine	X				Remove all scrap leads and other debris with a brush
Tools		X			Check for possible lead build-up Remove build-up where needed
All flat rails/guides		X			Clean and lubricate with a light weight oil
Ball Bearings			X		Clean and lubricate with a light weight oil

d = daily

w = weekly

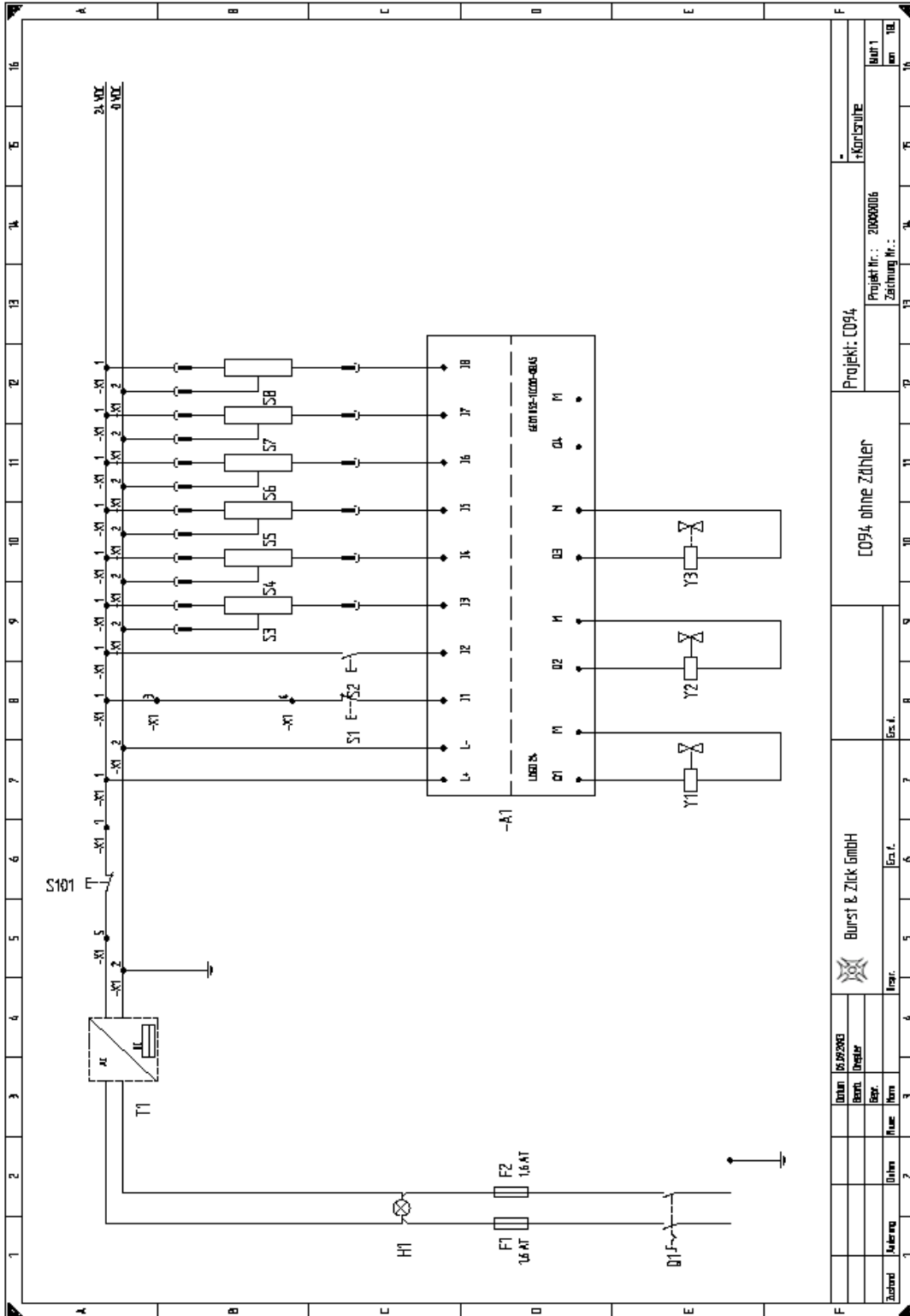
m = monthly

a = annually

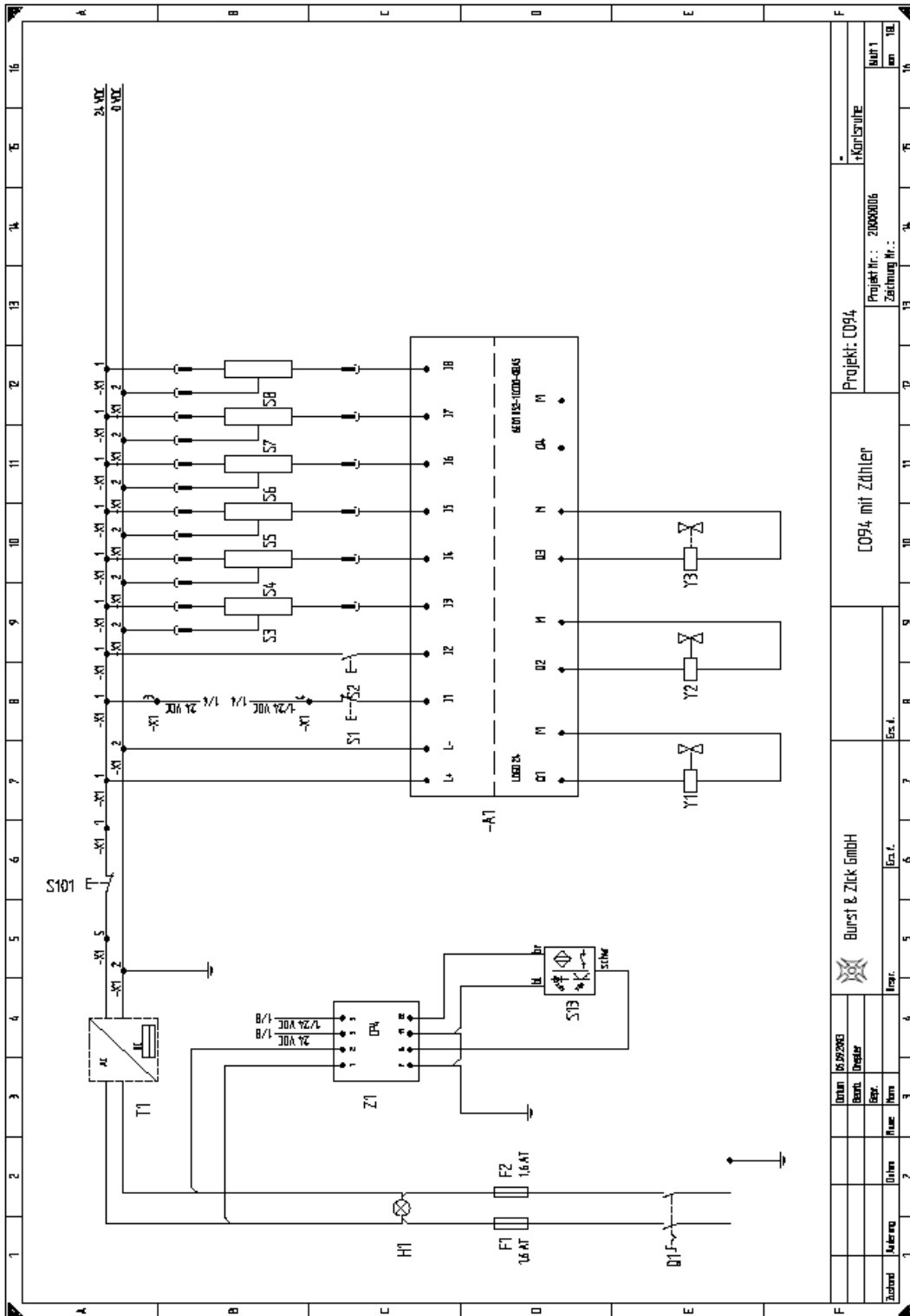
Attachments

1. Electrical Layout
2. Parts List (electrical parts)
3. Pneumatic Plan C094- 01
4. Pneumatic Devices Used C094- 01
5. Parts List (mechanical parts)

1. Electrical Schematic C094 (without counter)



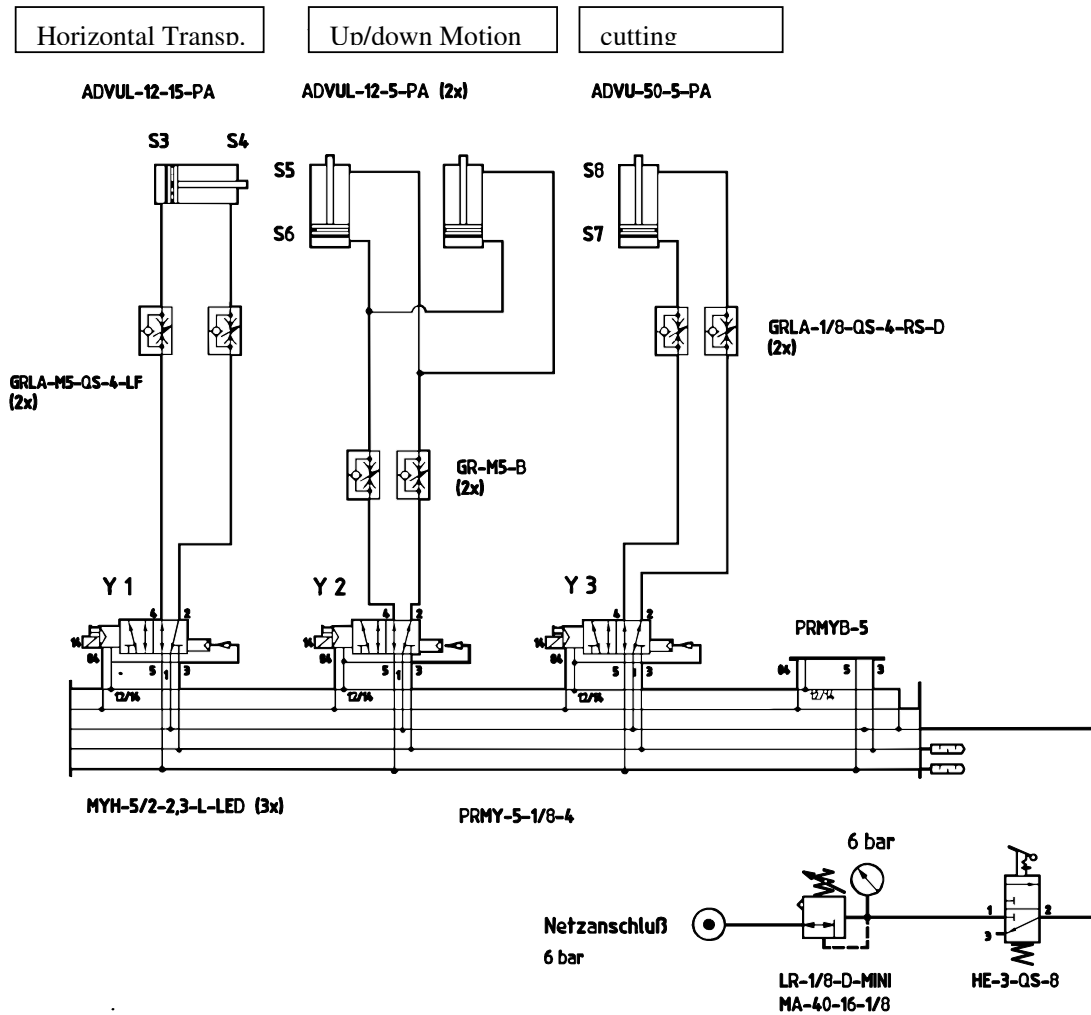
2. Electrical Schematic C094 (with counter)



3. Parts List C094 (Elektr. Teile)

Location	Article	Designation
A1	SPS- Control	LOGO 24L OBA1
F 1 + F 2	Fuse Holder	0031.1085
F 1+ F 2	Fuse	1,6 A slow
H 1	Operating bulb	230 V
H 1	Bulb holder	1.60502 102/0214
Q 1	Main switch	CA10 T302 / D-A004 EG
S 1	Push key – read	10 100 1011 / 0301
S 2	Push key – green	10 100 1001 / 0507
S 3 – S8	Reed switch	SME-8-S-LED-24
S 3 – S8	Cable with box	SIM-M8-3GD-2,5-PU
S 13	Reflexion light switch	LTK-1050-303-506
S101	Safety switch	AZ16 –02 zvrk
T 1	Power Pack LOGO Power 1,3 A	GEP 13331-13H01
Y1 – Y3	Single solenoid valve	MYH-5/2-2,3-L-LED
Y1 – Y3	Cable with box	KMYZ-1-24-LED

4. Pneumatic Layout C094 – 01



5. Parts List Pneumatic Layout C094 – 01

Qty	Description	Type of Device
1	Pressure Control Valve	LR-1/8-D-MINI
1	Manometer	MA-40-16-1/8
1	Solenoid Valve	HE-3-QS-8
3	Stop Valve	MYH-5/2-2,3-L-LED
1	Block	PRMY-5-1/8-4
1	Cover Plate	PRMYB-5
2	Compact Cylinder	ADVUL-12-5-PA
1	Compact Cylinder	ADVUL-12-15-PA
1	Compact Cylinder	ADVU-50-5-PA
2	Retr.Resistor Check Valve	GRLA-M5-QS-4-LF
2	Retr. Resistor Check Valve	GRLA-1/8-QS-RS-D
2	Retr. Resistor Check Valve	GR-M5-B

6. SPARE PARTS LIST

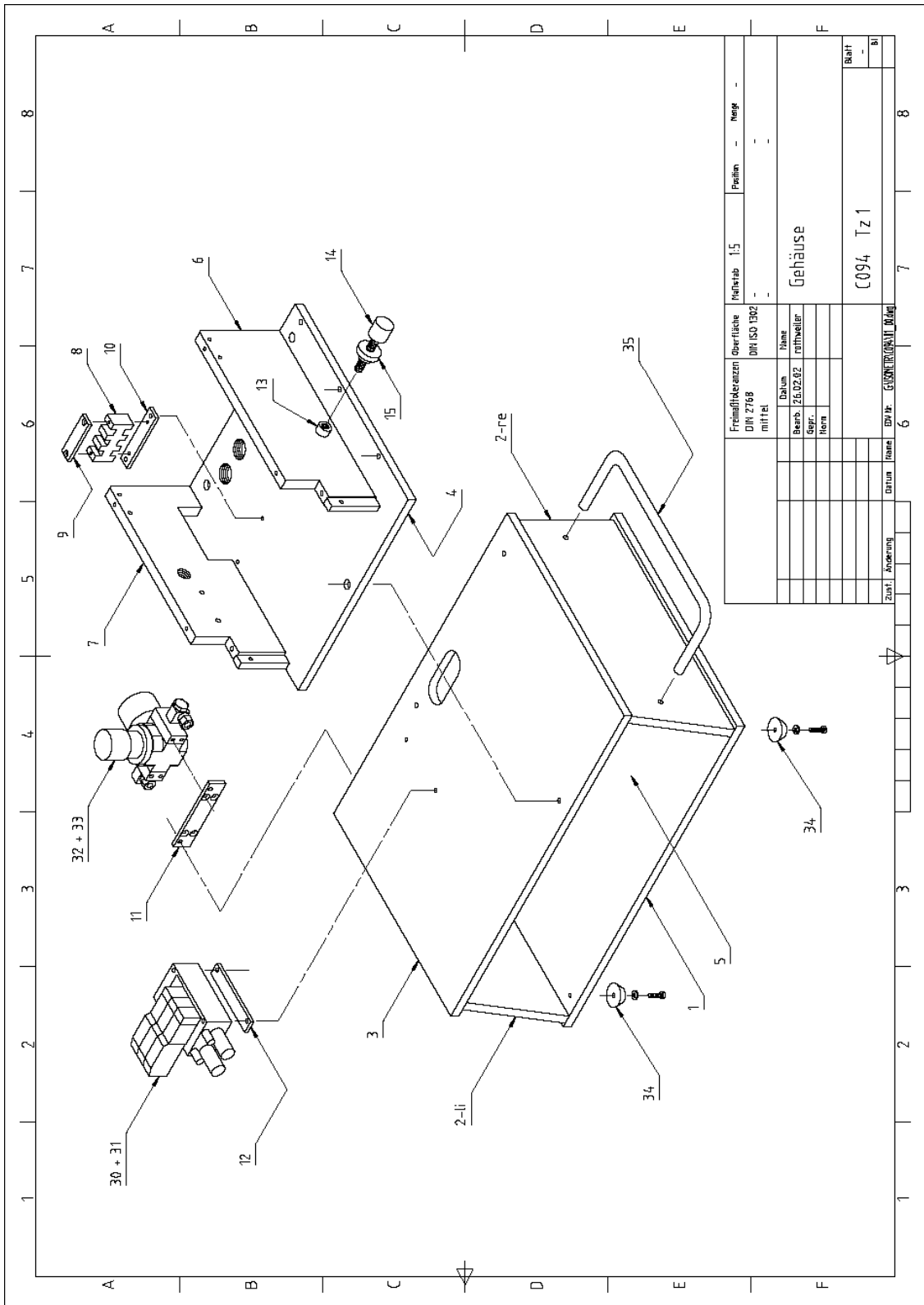
Table of Contents

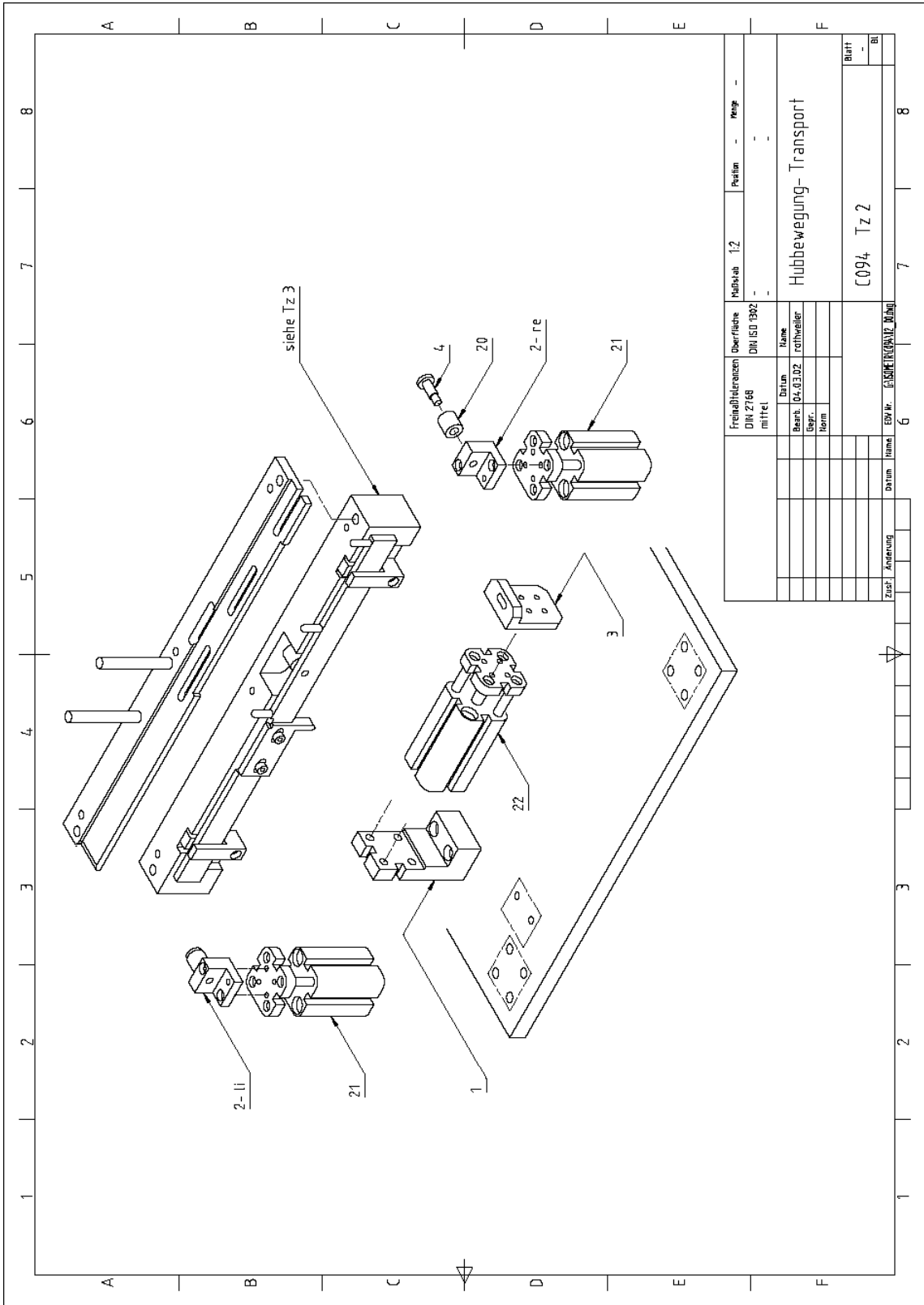
Housing	Tz 1
Stroke Motion (Transport)	Tz 2
Handling of tools	Tz 3
Transport.....	Tz 4
Die Block Assembly	Tz 5
Machine Casing	Tz 9
Cutting Tool.....	Tz 10
Safety Hood	Tz 11

Tz 1 - Housing

Item	Qty	Dwg	Description	Notes
1	1	Tz 1 T. 1	Base Plate	
2	2	Tz 1 T. 2	Side Plate	1x left, 1x right *)
3	1	Tz 1 T. 3	Cover Plate	
4	1	Tz 1 T. 4	Base Plate	
5	1	Tz 1 T. 5	Rear Plate	
6	1	Tz 1 T. 6	Side Plate (right side)	
7	1	Tz 1 T. 7	Side Plate (left side)	
8	1	Tz 1 T. 8	Holder	
9	1	Tz 1 T. 9	Mount	
10	1	Tz 1 T. 10	Cover	
11	1	Tz 1 T. 11	Mounting Plate	
12	1	Tz 1 T. 12	Spacer Rail	
13	1	Tz 1 T. 13	Threaded Socket	
14	1	Tz 1 T. 14	Lead Screw	
15	1	Tz 1 T. 15	Counter Nut (Knurled Knob)	
30	1		Valve PRMY-5-1/8-4	
31	3		Magnetic Valve	
32	1		Pressure Regulator LR-1/8-MINI-D	
33	1		Manometer MA-40-16-1/8	
34	4		Rubber Foot	
35	2		Handle Bar GN 425-235 CR	

Note *) Please specify left or right when placing an order

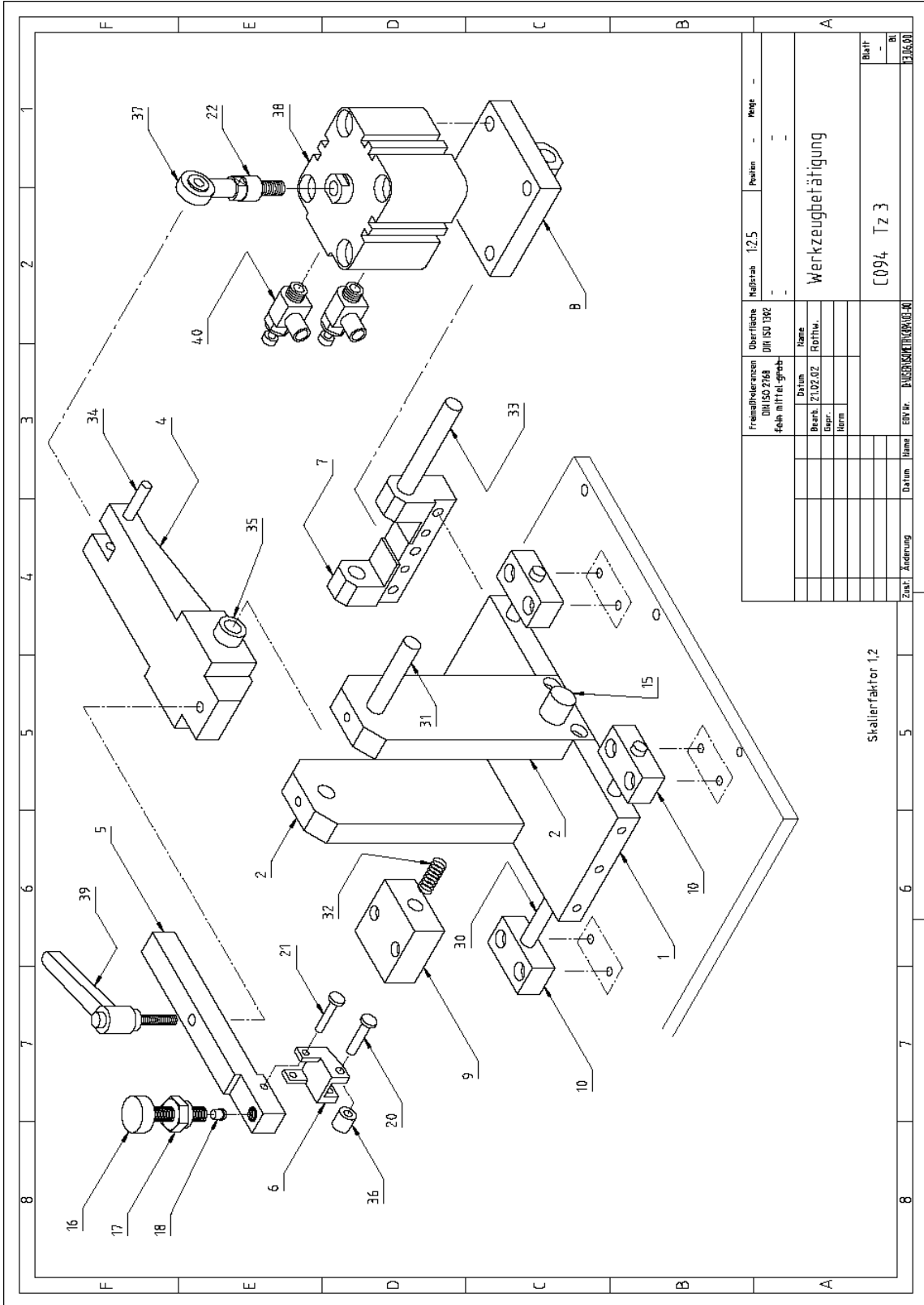




Freiüblicherweise DIN 2768 mittel	Überfläche DIN ISO 1302 -	Maßstab 1:2	Position -	Reviz. -
Hubbewegung-Transport				
C094 Tz 2				
Blatt				
- B1				

Tz 3 - Handling of Tools

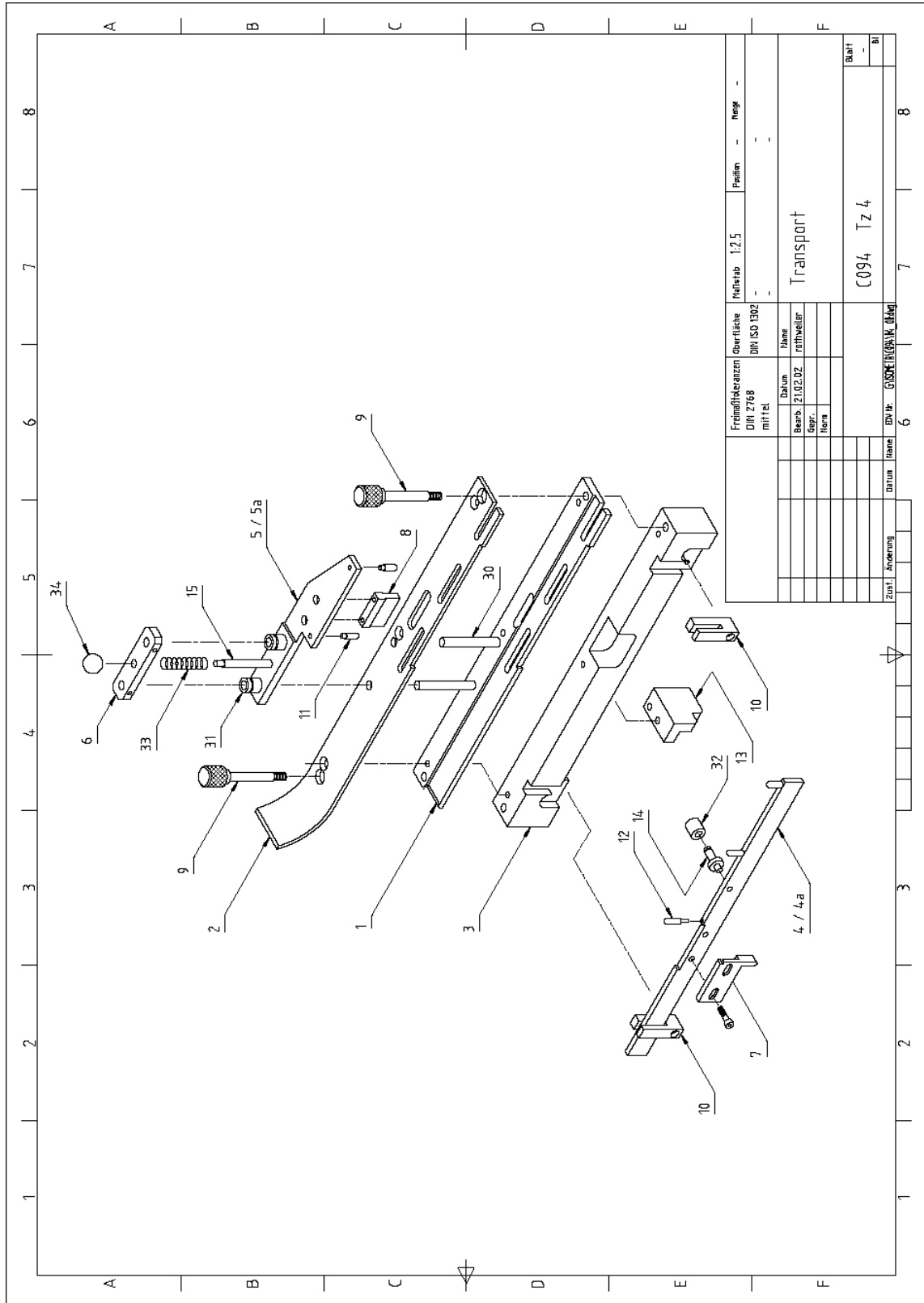
Item	Qty	Dwg	Description	Notes
1	1	Tz 3 T. 1	Bearing Plate	
2	2	Tz 3 T. 2	Bracket	
4	1	Tz 3 T. 4	Level	
5	1	Tz 3 T. 5	Level	
6	1	Tz 3 T. 6	Support Bracket	
7	1	Tz 3 T. 7	Pivot	
8	1	Tz 3 T. 8	Support Plate	
9	2	Tz 3 T. 9	Block for Pressure Spring	
10	4	Tz 3 T. 10	Block	
15	1	Tz 3 T. 15	Pin	
16	1	Tz 3 T. 16	Adjustment Screw	
17	1	Tz 3 T. 17	Nut	
18	1	Tz 3 T. 18	Cap	
20	1	Tz 3 T. 20	Pin	
21	1	Tz 3 T. 21	Pin	
22	1	Tz 3 T. 22	Pin	
30	4		Shaft, hardened $\varnothing 8h6 \times 55$	
31	1		Shaft, gehärtet $\varnothing 10h6 \times 80$	
32	1		Pressure Spring D-166 D	
34	1		Shaft, hardened $\varnothing 6h6 \times 35$	
35	2		SM- Bushing $\varnothing 10 \times \varnothing 16 \times 20$	
36	1		Needle Bearing NK 5/10	
37	1		Ball Joint SGS-M6	
38	1		Compactzylinder ADVU-50-5-PA	
39	1		Locking Lever GN-100-14-M6x 32 sw	
40	2		Retr.Rest.Check Valve GRLA-1/8-QS-RS-D	



Tz 4 - Transport

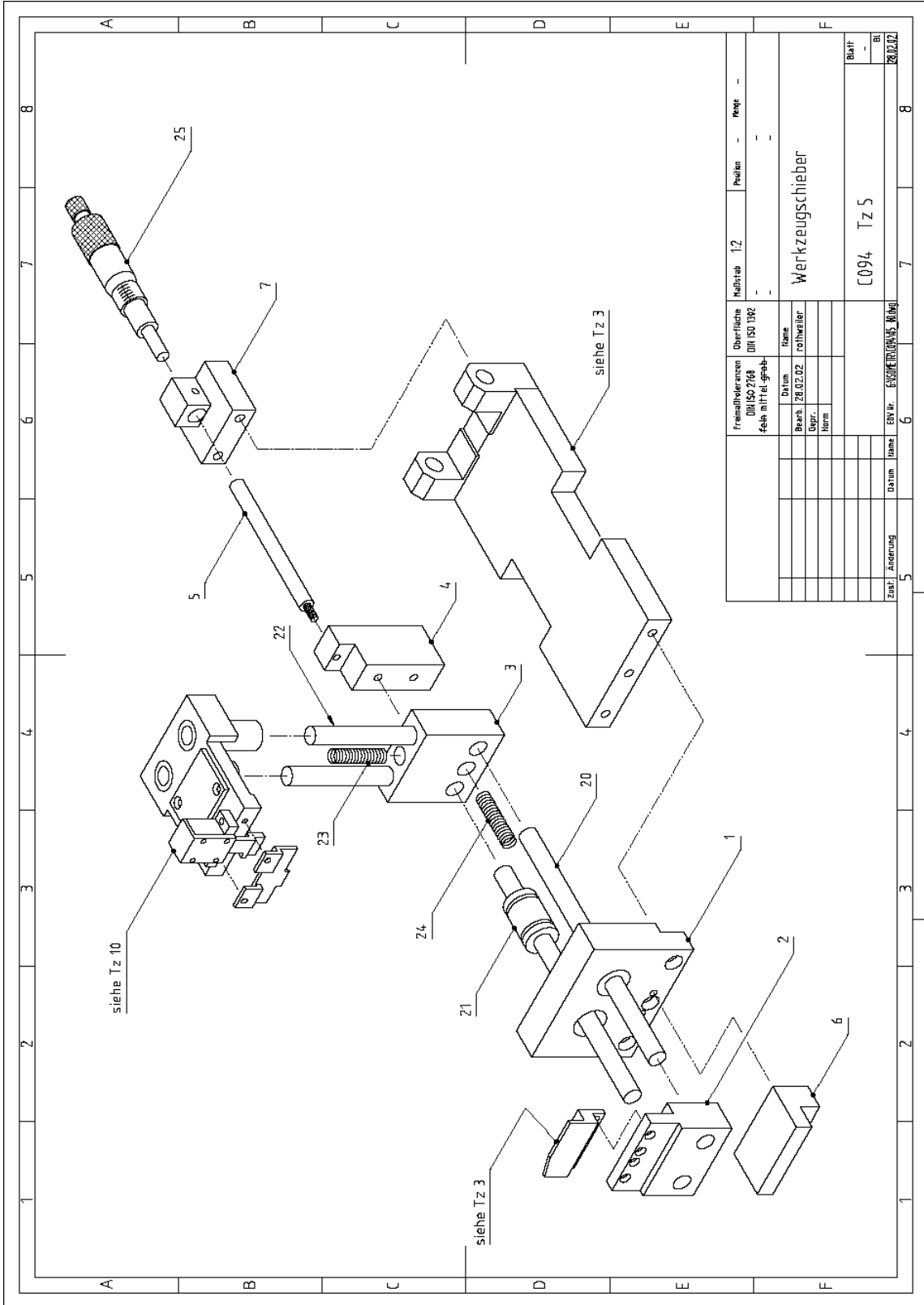
Item	Qty	Dwg	Description	Notes
1	1	Tz 4 T. 1	Guide Rail (Tape)	
2	1	Tz 4 T. 2	Guide	
3	1	Tz 4 T. 3	Indexing Beam	
4	1	Tz 4 T. 4	Indexing Grip Rail	Pitch 12,7 ¹⁾
4a	1	Tz 4 T. 4a	Indexing Grip Rail	Pitch 15 ¹⁾
5	1	Tz 4 T. 5	Tape Centering	Pitch 12,7 ¹⁾
5a	1	Tz 4 T. 5a	Tape Centering	Pitch 15 ¹⁾
6	1	Tz 4 T. 6	Plate	
7	1	Tz 4 T. 7	Latch Plate	
8	1	Tz 4 T. 8	Ledge	
9	2	Tz 4 T. 9	Knurled Knob	
10	2	Tz 4 T. 10	Support Bracket	
11	2	Tz 4 T. 11	Driver	
12	3	Tz 4 T. 12	Driver	
13	1	Tz 4 T. 13	Stop Plate	only at pitch 12,7
14	1	Tz 4 T. 14	Bearing Bolt	
15	1	Tz 4 T. 15	Pin	
30	2		Fitted Pin $\varnothing 6m6 \times 70$ DIN 6325	
31	2		Ball-Rotating Socket N-6V	
32	1		Needle Bearing NK 5/10	
33	1		Pressure Spring	
34	1		Ball Knob M4 DIN 319	

1) Please specify when placing an order



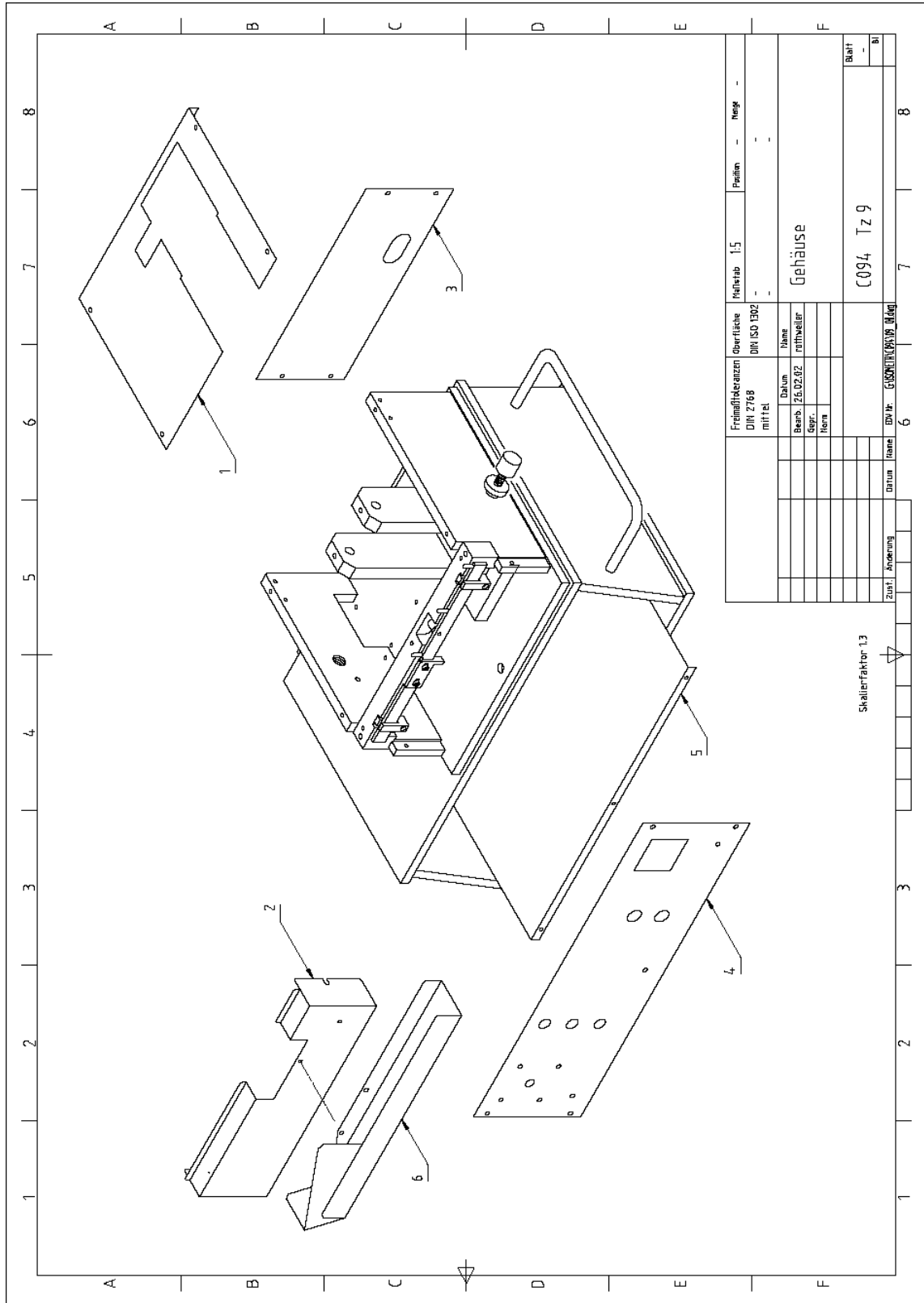
Tz 5 - Werkzeugschieber

Item	Qty	Dwg	Description	Notes
1	1	Tz 5 T. 1	Tooling Support Block	
2	1	Tz 5 T. 2	Tooling Holder	
3	1	Tz 5 T. 3	Guide	
4	1	Tz 5 T. 4	Back Support	
5	1	Tz 5 T. 5	Shaft	
6	1	Tz 5 T. 6	Angle Bracket	
20	2		Shaft, hardened Ø10h6 x 78	
21	2		Ball Rotating Socket N-10V	
22	2		Shaft, hardened Ø10h6 x 88	
23	1		Pressure Spring D-199	
24	1		Pressure Spring	
25	1		Mikrometer	



Tz 9 - Machine Housing

Item	Qty	Dwg	Description	Notes
1	1	Tz 9 T. 1	Top Panel	
2	1	Tz 9 T. 2	Front Panel	
3	1	Tz 9 T. 3	Back Panel	
4	1	Tz 9 T. 4	Front Panel	
5	1	Tz 9 T. 5	Chassis	
6	1	Tz 9 T. 6	Slide Tray	
8	1	Tz 9 T. 8	Component Slide Channel	
9	1	Tz 9 T. 9	Tape Feed Inlet	



Tz 10 - Cutting Tool

Item	Qty	Drw	Description	Notes
1	1	Tz 10 T. 1	Tooling Guide Plate	
2	1	Tz 10 T. 2	Cutting Tool – Top	
3	1	Tz 10 T. 3	Cutting Tool – Bottom	
5	1	Tz 10 T. 5	Plate	
6	1	Tz 10 T. 6	Casing for Stress Relief	
7	1	Tz 10 T. 7	Stress Relief Die	
8	1	Tz 10 T. 8	Bracket for Stress Relief Die	
15	1		Pressure Spring D-072 A	
16	2		Bearing Bushing Ø10 x Ø16 x 43	

Tz 11 - Safety Hood

Item	Qty	Dwg	Description	Notes
1	1	Tz 11 T. 1	Hodd	
2	2	Tz 11 T. 2	Hinge	
3	2	Tz 11 T. 3	Hinge	1x left, 1x right *)
4	1	Tz 11 T. 4	Hood Suppoer Latch	
5	1	Tz 11 T. 5	Bracket	
6	1	Tz 11 T. 6	Bushing	
7	1	Tz 11 T. 7	Washer	
8	1	Tz 11 T. 8	Threaded Mounting Plate	
20	1		Safety Switch, AZ 16 zvrk	
21	1		Bracket for Safety Switch	
22	1		Hood Handle 10501-003 154	

***) Please specify left or right when placing an order.**

