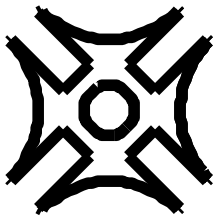
Cutting, forming and bending machine

with touch tool feature
for radial taped components

Type C093

Translation of the original operating manual



Burst & Zick GmbH

Retention of Title

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EC Declaration of Conformity
In according to EC Machinery Directive 2006/42/EG
Appendix 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:	**Cutting, forming and bending machine with touch tool feature**
Machine type:	**C 093**
Machine number:	**19.10.162**
Applicable directives:	EC Machinery Directive (2006/42/EG appendix II A) EC Low Voltage Directive (2014/35/EG); EC Electromagnetic Compatibility Directive (2014/30/EG)
Applied harmonized standards, particularly:	EN ISO 12100:2010 DIN EN 13857 DIN EN 60204-1 DIN EN 61000-6-1 DIN EN 61000-6-3 DIN EN 14070 was pulled up informatively
Attachment of the CE label:	**CE**
Place/Date/Signature:	Karlsruhe, den 09.10.2019

Managing director

General

1. Notes on industrial safety

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

- The cutting, forming and bending machine C093 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.

  The danger areas are marked with signs.

- Applicable accident prevention regulations have to be adhered to by the user, particularly the

  - DGUV Regulation 1

- 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.

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3. General description

The C093 is designed specifically to provide an effective polarity protection for radial taped components, capacitors and diodes.

Besides the touch tool feature, which eliminates tolerances of the tape a coding tool is being used, turning the first lead of each component by 180 degrees. During this process the component is being bent and cut within a tolerance of +/- 0.1 mm.

The feeding of the components is done exclusively via tape rolls. For this purpose a combined receptacle for component-rolls or ammopack are available. With the use of exchangeable tape-feedings it is possible to work with components of a pitch size of 12,7 mm and as well with components of a pitch size of 15 mm.

The finished parts are being delivered into a container in loose form.

Options:

- De-reeler for all common tape rolls
- Component centering
- Tape chopper unit

Operational sequence

The component is processed in two steps. At the first step, the component is transported under the tool. If the optional centering is built-in, the component will be centered. After the part is touched in order to compensate the belt tolerances. The clamping die clamps the component, and the blade cuts off one component pin. The bending tool moves upward and rotates the cuted component pin. Thereafter, the component is transported. Having touched the first step, the coding tool bends the legs finished and the cutter cuts off the other leg. The finished component falls through a chute into a bulk container.

Please note:

All IEC approved taped components can be processed with this machine.

Should parts, not conforming to IEC standard norm, be processed through this machine, our otherwise provided machine guarantees are not applied.

Note

tolerance per 20 holes of component tape: +/- 1mm

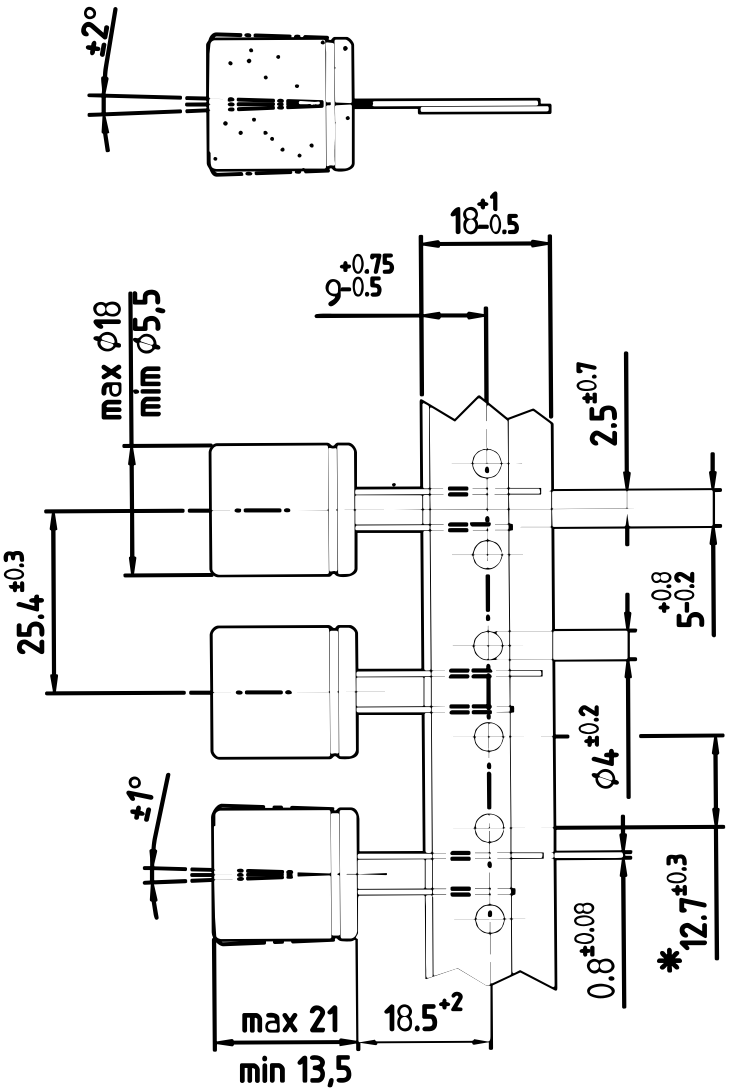


Figure 1
IEC Form Tolerances

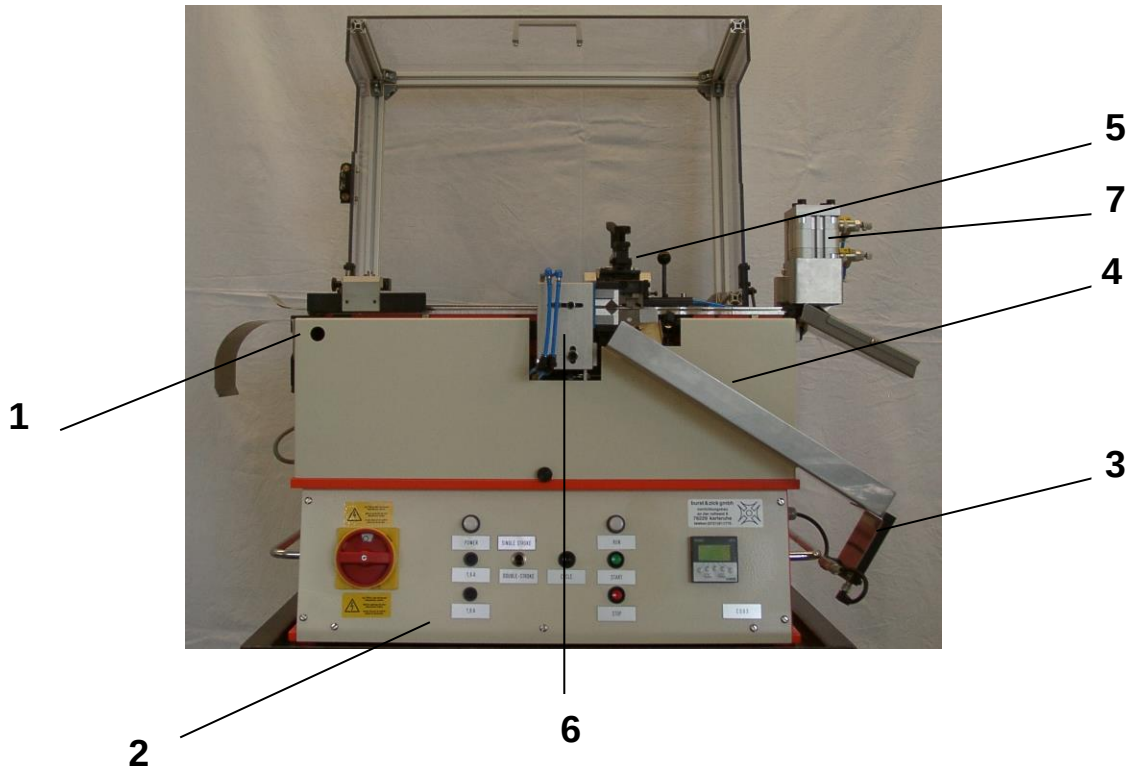


Figure 2
Cutting and Bending Machine C093

1. Mounting Drilling (Exchange of the Tape Feeding)
2. Operating Panel
3. Fork light barrier
4. Component chute
5. Toolings
6. Centering of component
7. Tap chopper unit (optional)

4. Technical data

Dimensions	Widht: Depth: Height:	650 mm (without de-reeler) 450 mm 500 mm
Weight:		app. 50 kg
Cycle time:		app. 3600 components / hour
Electrical connection		230 V / 50 Hz or 115V / 50 Hz look (label)
Air pressure		6 bar
Tape hole spacing		12,7 mm or 15 mm
Component pitch	Min.	2,5 mm
	Max.	7,62 mm
Lead Ø		app. 0,4mm – 0,8 mm
		0,6 mm (at 3mm cutting length)

Commissioning

1. Installation

The machine is delivered fully assembled and installed. Please check the shipment immediately with the help of the delivery note and/or the packing list. In case the consignment is incomplete or if damages have occurred during transport, please inform us immediately.

Place the machine on a stable, level working table.

2. Electric Connection

Connect power cable with 230V / 50 Hz or 115V 50/60 Hz socket. Look at the label witch Voltage you need.

3. Air pressure connecting

Connect a NW 6 hose with the regulator (at back of the unit). Set air to 6 bar.

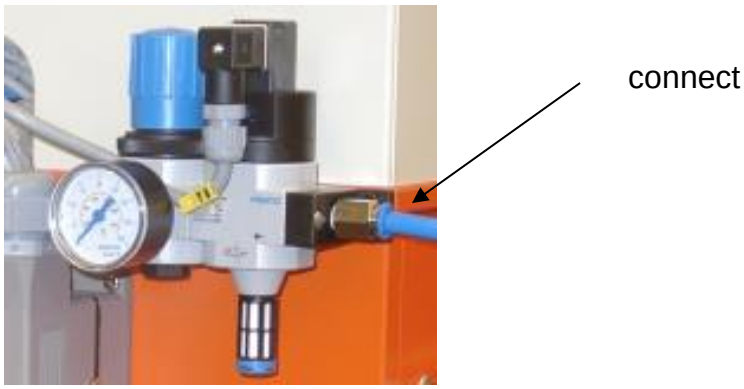


Figure 3
Air pressure connecting

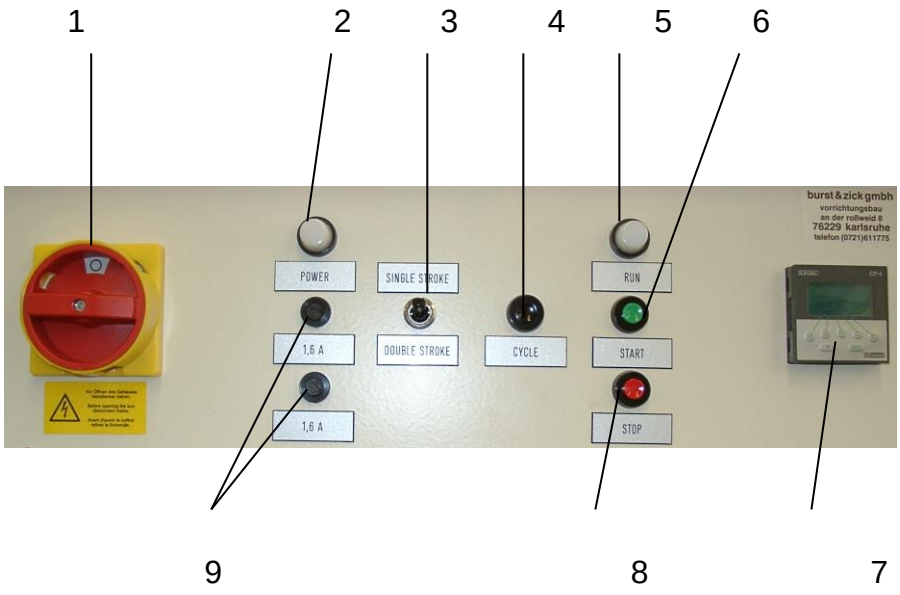
4. Working with the machine

4.1 Turn on the machine

1. Close protection cover (for safety reasons the machine can only be started with closed protection cover).
2. Actuate power switch.
3. Reset counter.
4. Run the machine by releasing the START button respective the CYCLE button.

START- button ⇨ Continues run until the you open the safety hood, press stop,or the componet belt is empty.

CYCLE- button ⇨ Start for a working cycle. (Adjusting the Machine).

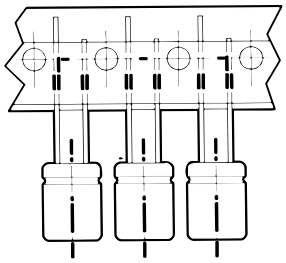


1. Main Switch
2. Power Control Lamp (Main Switch ON)
3. Switch single stroke double stroke
4. CYCLE- Button
5. Operating Lamp (Machine is switched on)
6. START- Button
7. Counter
8. STOP- Button
9. Fuses

Fig. 4
Control panel

5. Insertion of component tape

5.1. Smaller components are mostly taped like this:



1. In this case set switch SINGLE STROKE – DOUBLE STROKE to **SINGLE STROKE**
2. Insert component tape as follows:
   - 2.1. Open protection cover.
   - 2.2. Slide component tape from left into the guiding rails.
   - 2.3. Lift component centering at the handle and slide the tape over the catch pins so that the first component arrives immediately in front of the tool.
   - 2.4. Lower the component centering. The centering pins must enter the transport holes.
   - 2.5. Check:
     1. Switch set to **SINGLE STROKE.**
     2. The first component in the tape is right in front of the tool.

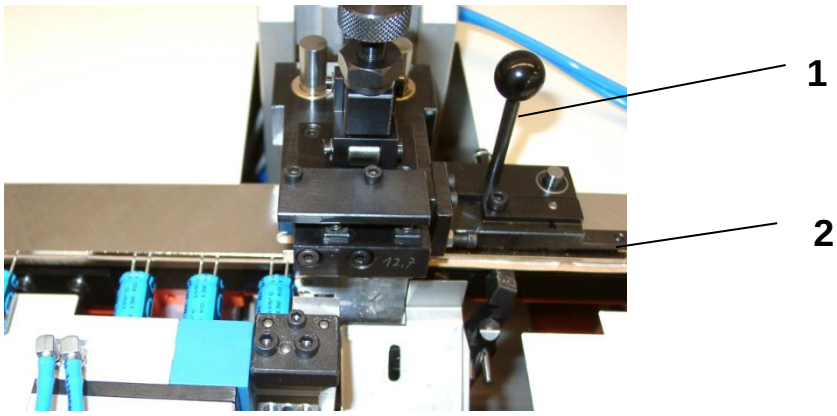
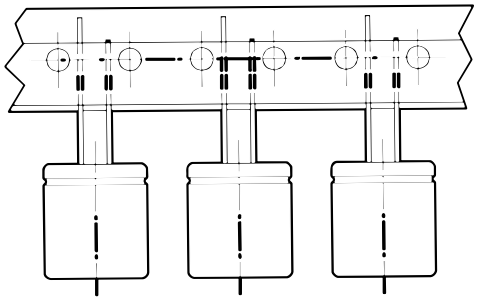


Figure 5
Tape is right in the machine
1. Handle
2. Tape centering

5.2 Larger components are mostly taped like this:



1. Set switch SINGLE STROKE – DOUBLE STROKE to **DOUBLE STROKE** .
2. Insert component tape as follows:
   - 2.1. Open protection cover.
   - 2.2. Slide component tape from left into the guiding rails.
   - 2.3. Lift component centering at the handle and slide the tape over the catch pins so that the first component arrives immediately in front of the tool.
   - 2.4. Lower the component centering. The centering pins must enter the transport holes.
   - 2.5. Check:
     1. Set switch to **DOUBLE STROKE**.
     2. The first component in the tape is right in front of the tool.

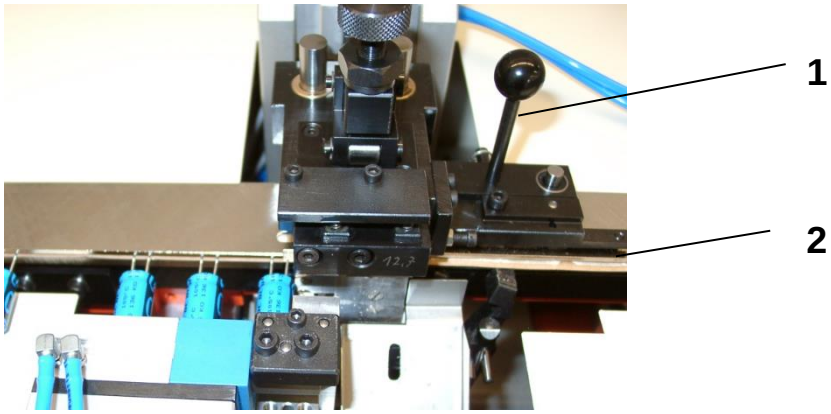


Figure 6

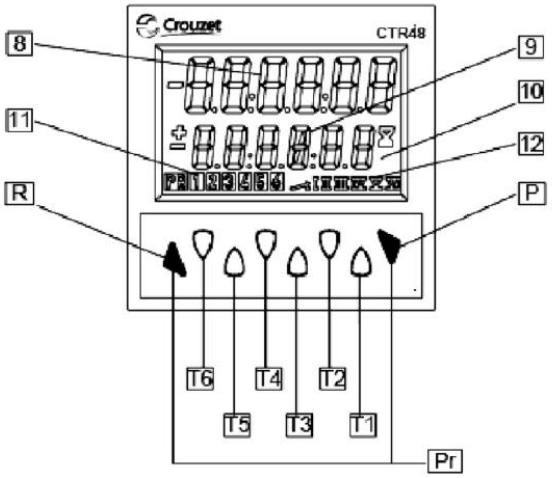
Tape is right in the maschine

1. Handle

2. Tape centering

6. Counter

Extract from original instruction of the manufacturer, Crouzet



T1–6	Decade key T1…T6
P	Prog/Mode key
R	Reset key
8	Current count value/main counter
9	Preset value/Total count/Batch counter
10	Run display for Timer
11	Shows which preset value is being displayed
12	Shows which preset output is active
PR	Keys necessary for programming the parameters (highlighted in grey)

7. Working speed

The cycle-time of the Machine was set by the use of cylinders – and air chokes to an optimum.

Please do not make any changes here.

Tool change and adjustment

1. Basic points for unit adjustments

1. Prior to any non-operational work the machine must be secured to prevent possible damage or unauthorised activities during that time.
2. Switch main power to **OFF**
3. Make very sure that upon completion of any adjustments all loosened tooling, bolts and screws are retightened safely.
4. Upon request, the manufacturer will set up the machine for any chosen component. To prevent damage to the unit and/or tooling changes to settings should be performed based on instructions provided in the manual.

1a. Adjustment of coding opening

Normally the coding opening is adjusted to 0 by Burst & Zick (figure 7).
It´s possible to modify the coding opening by the spindle (Tz6 T12) at the stop (Tz6 T11). Loosen the nut, adjust spindle and tighten the nut. If you turn the spindle out, the coding opening becomes larger, turn the spindle in, the coding opening becomes smaller.



Coding opening = 0



Coding opening >0

Figure 7 – coding opening

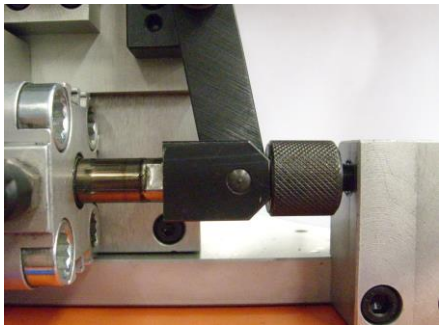


Figure 8 – Spindle und stop

2. Tooling exchange

2.1 Upper Tool

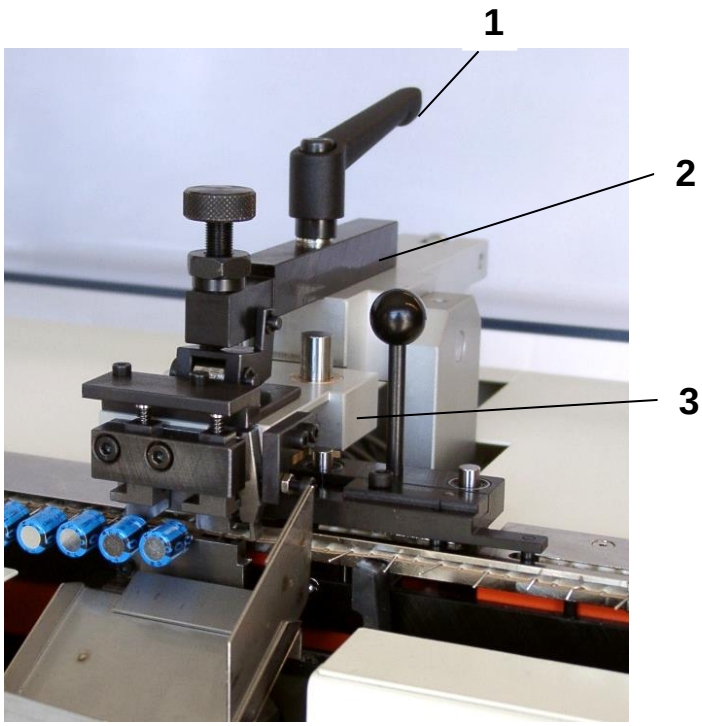


Figure 9 - Upper Tool

1. Locking lever
2. Tooling lever
3. Upper tool

Use machine only when the safety hood is closed.

Loosen locking lever and swing tooling lever to side.

1. Loosen locking lever and swing tooling lever to side.
2. Now the cutter can be removed in an upward motion.
3. Insert the new tool starting at the top with a downward motion. Push firmly for correct position and bring tooling lever back to place.
4. Tighten locking lever.

2.2 Lower Tool

1. Remove both, right cylinder bolt and component slide.
2. Remove left cylinder bolt and lift off lower cutter tool.

Please note: make sure the spring loaded tool base does not jump out of the guide slots.

3. Insert new cutter tool and secure in position with the left cylinder bolt. At the same time push the spring loaded tool base back into the guide slots.
4. To check for correct installation: Slide holding the bending pin should move freely when handled manually up and down.
5. Install component slide back onto unit.

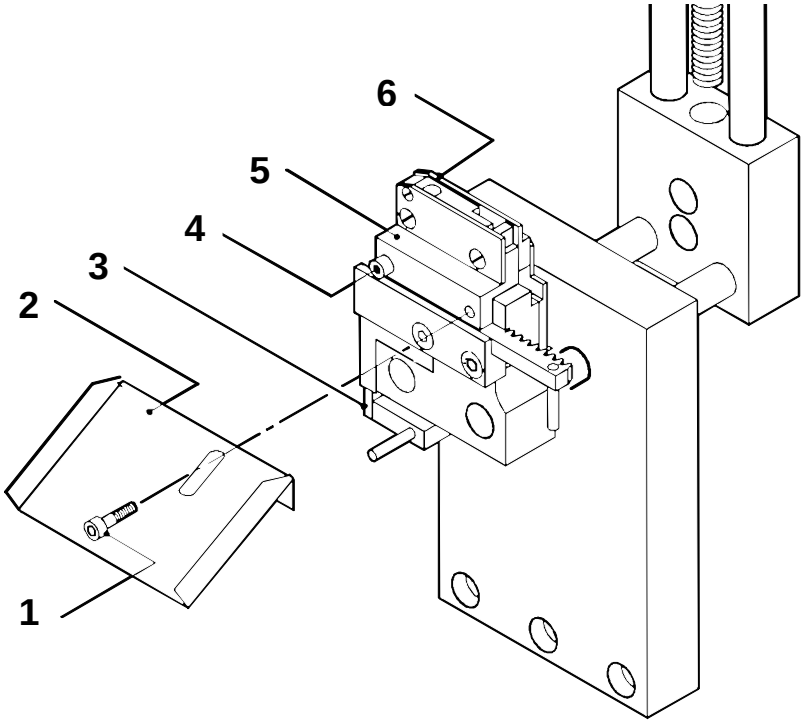


Figure 10 - Tooling Exchange – Lower Tool

1. Right side cylinder bolt
2. Component slide
3. Lever with bending pin
4. Left side cylinder bolt
5. Lower cutter
6. Spring loaded tool base

3. Tooling adjustments

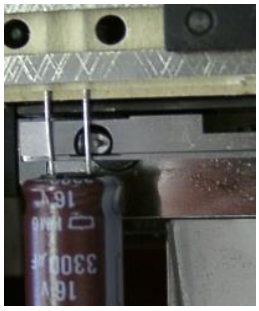
3.1 Upper tool

Fixed – no adjustments are required.

3.2 Lower tool

Any time the component pitch changes, adjustments are necessary.

1. Position component tape between upper and lower tool.
2. Please check: The bending pin must meet the right component lead exactly at component lead center as it moves upward.



3. **Correctional step**
   Loosen knurled knob (6). By turning the spindle (5) the entire tooling plate can be moved horizontally for centering purposes.

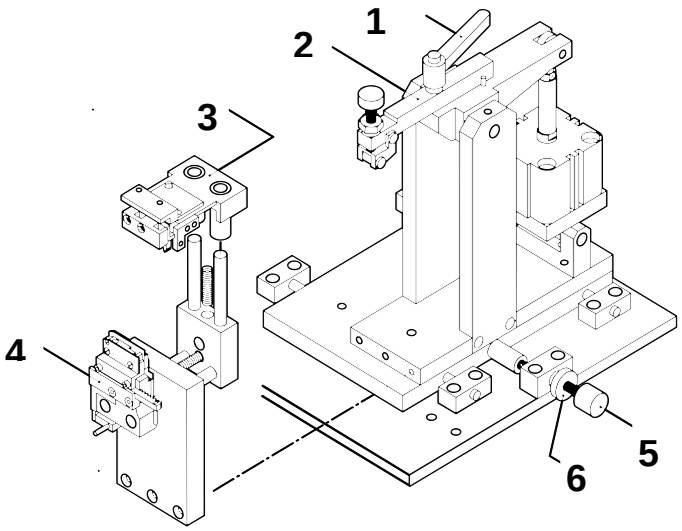


Figure 11 - Tooling change

1. Locking lever
2. Tooling lever
3. Upper tool
4. Lower tool
5. Spindle
6. Knurled knob

4. Modification to another pitch- size

4.1. Exchange of the tape feeding

1. Disconnect the machine from the power supply and the compressed air network.
2. Take the upper tool out of the machine.
3. If necessary remove the tape chopper unit. (Chapter 6.1)
4. If necessary remove the centering of component. To do this, unscrew the Allen screw of the component centering and remove the component centering. (Figure 14)
5. Feed the socket wrench SW 5 into the mounting-drilling (1) in the front of the safety-cover and open the hexagon-screw (2) which is sitting behind. Open as well the thread-pin (3) at the right side of the cover. Do not take the screws completely out only open them.
6. Take off the comp. tape feeding and change it.
7. Tighten the Allen screw (2) and the set screw (3)

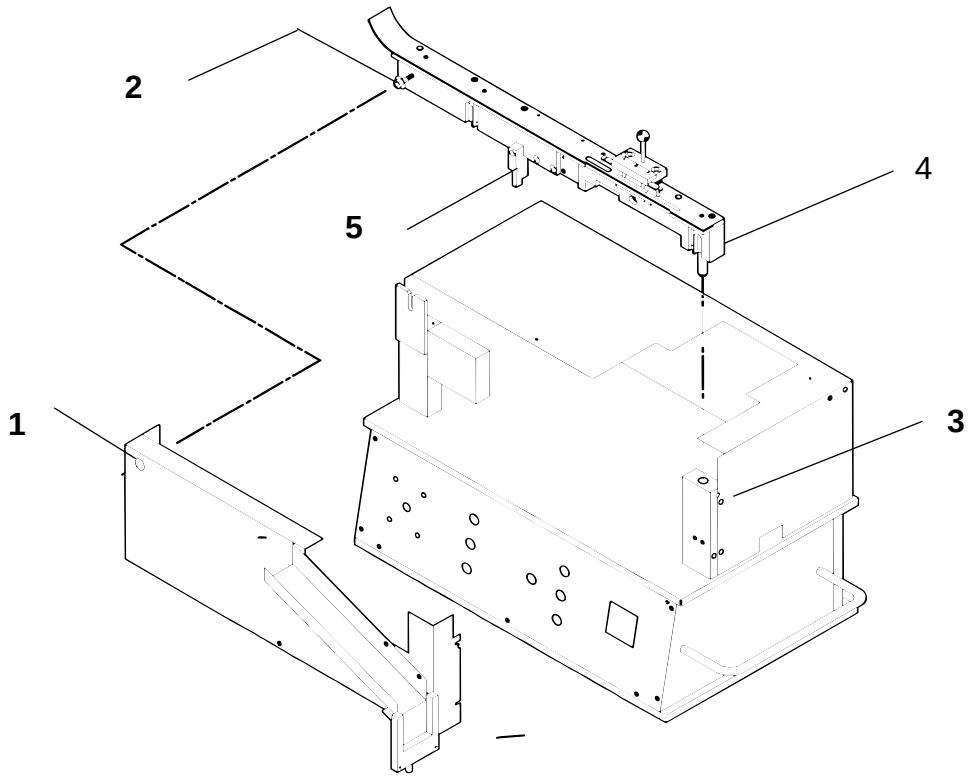


Figure 12 – Exchange of the tape feeding

1.. Mounting drilling
2. Allen screw
3.. Set screw
4. Tape feeding
5. Stopper (only at pitch 12,7)

4.2 Exchange of the Fingers

When retrofitting to a different grid size, the finger (Tz.6 T 4/5) must also be changed for the respective grid dimension.

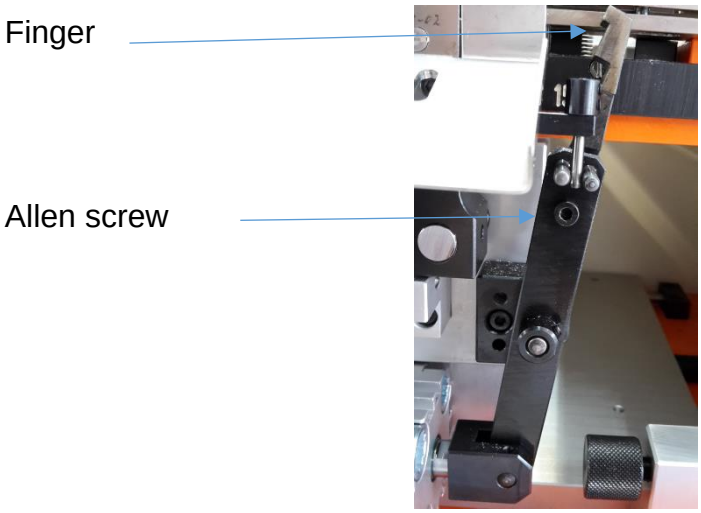


Figure 13 – Exchange of the Finger

Unscrew the Allen screw and change the finger.

4.3 Exchange oft he tools

For each pitch and the right tools must be installed. The tool change is described in chapter 2.

5. Centering of component (optional)

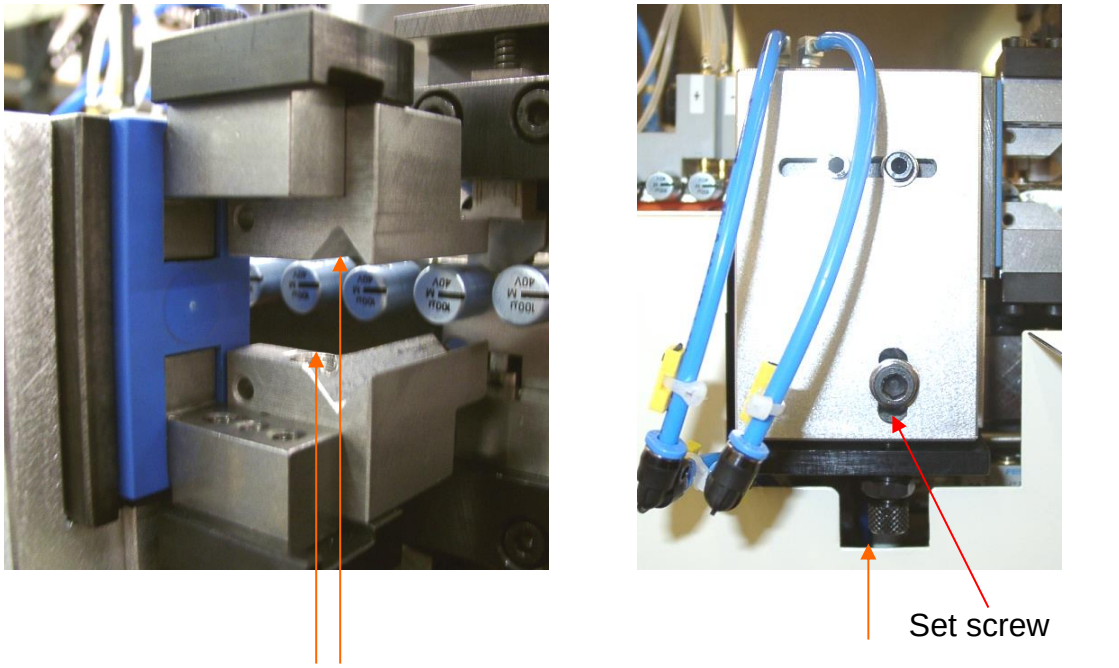


Figure 13 – centering of component

Prism Change to another Component Size:

Loosen 2 prism screws

Lower prism – screw is located at the inside of prism

Upper prism – screw is located at top plate

Remove both prisms

Position new prisms

And tighten both screws back down again

Fine adjustment for height prism:

Loosen the set screw, loosen the nut, throwing the screw for high adjustment, tighten the nut than tighten the set screw.

6. Tape copper unit (optional)

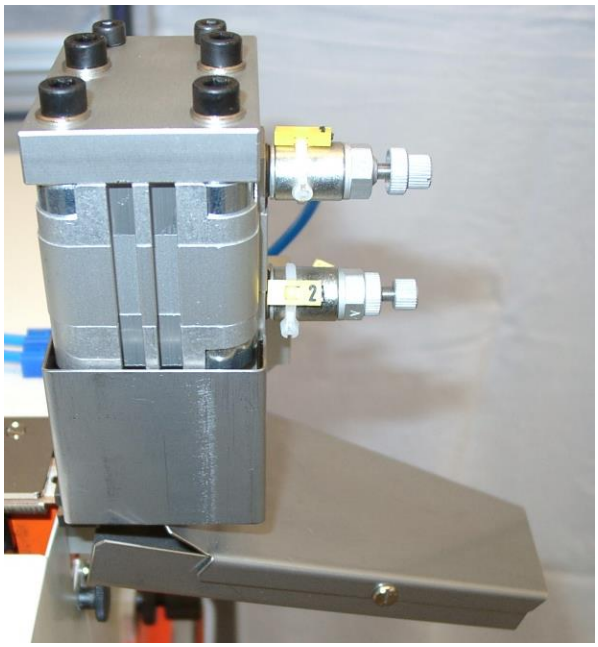


Figure 14 tape chopper unit

6.1 Transport Unit Change from 12,7 mm to 15 mm including tape chopper

1. Remove all air hoses
2. Remove slide track
3. Remove socket head-cap screw
4. Remove tape chopper
5. Follow the instructions on page 19 of this manual for complete exchange
6. To re-install the tape chopper reverse all steps as described above
7. By use of the two socket head-cap screws, adjust the tape chopper back or to the hole of the component tape.

Faults and their rectification

Caution: **All maintenance and repair work may only be performed by qualified and trained personnel!**

If used properly, the machine will function virtually without trouble. If, contrary to expectation, faults should occur, please inform your supplier first.

Your contact: **Burst & Zick GmbH, Tel. +49 721/61 17 75**

The type of fault discussed consequently can be taken down in the following table with the description of causes and measures for the correction of the faults.

Type of fault	Cause	Measures

Maintenance

1. Maintenance plan

	Interval				Task
	d	w	m	y	
Machine, general	X				Vacuum-clean or clean from wire clippings and other remains with a brush.
Tools		X			Check bending and cutting tools for tin deposits and remove these, if necessary, without damaging the tools.
All sliding parts conveyor graspers etc.		X			Clean and lubricate slightly with oil. **No grease**
Electrical check			X	X	To note local provisions as in Germany DGUV Regulation 3

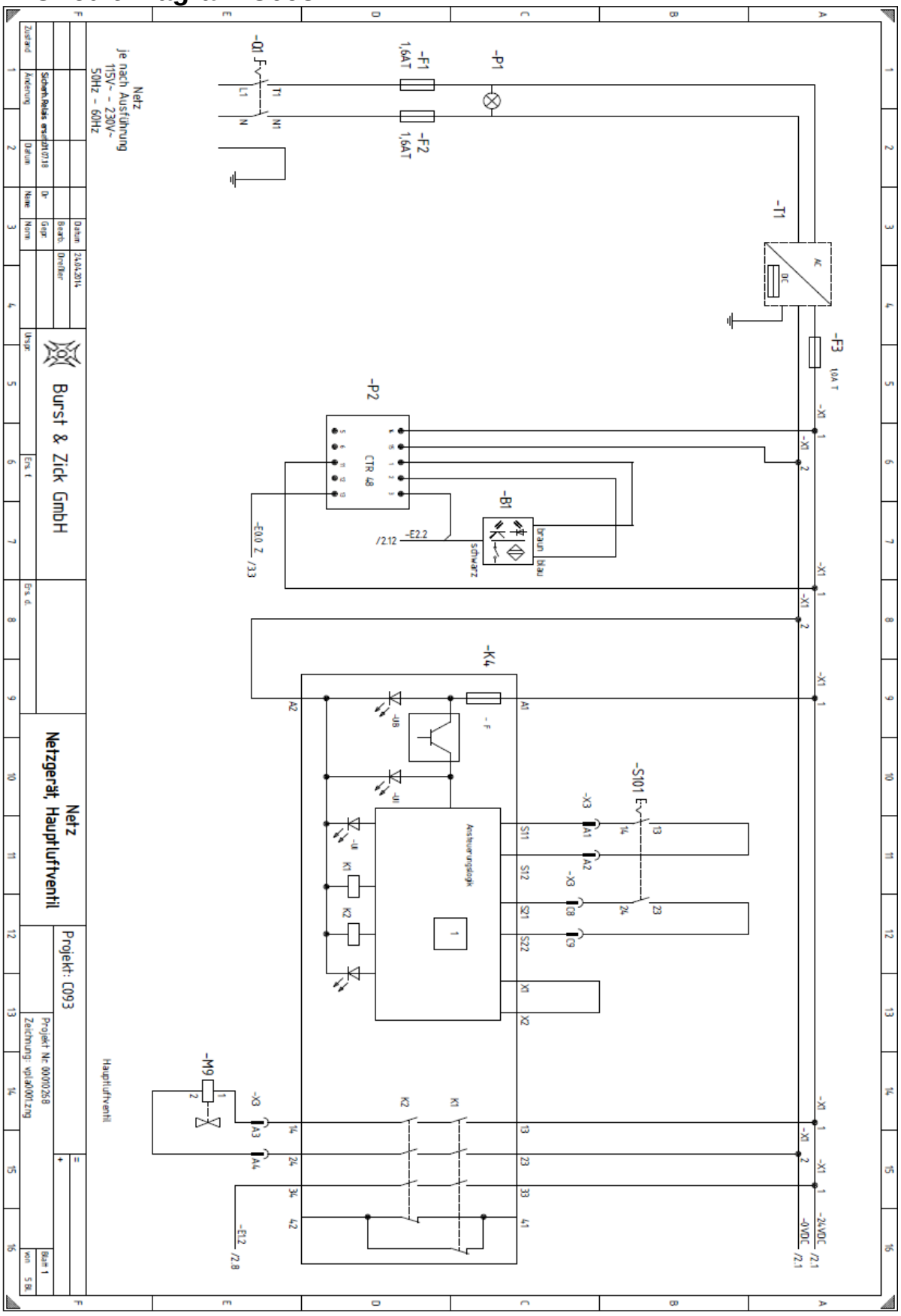
d = daily
w = weekly
m = monthly
y = annualy

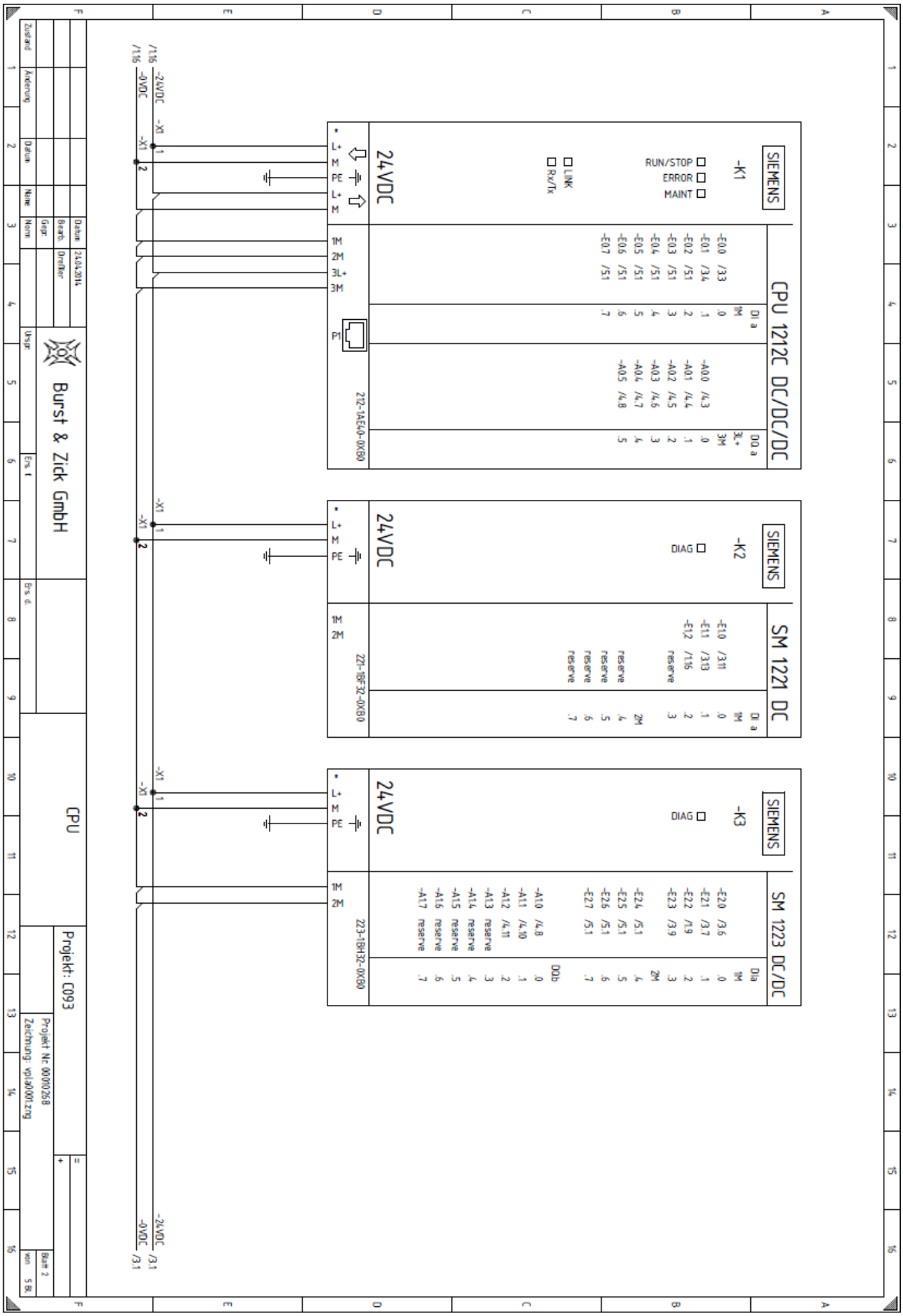
Caution: All maintenance and repair work may only be performed by trained specialists!

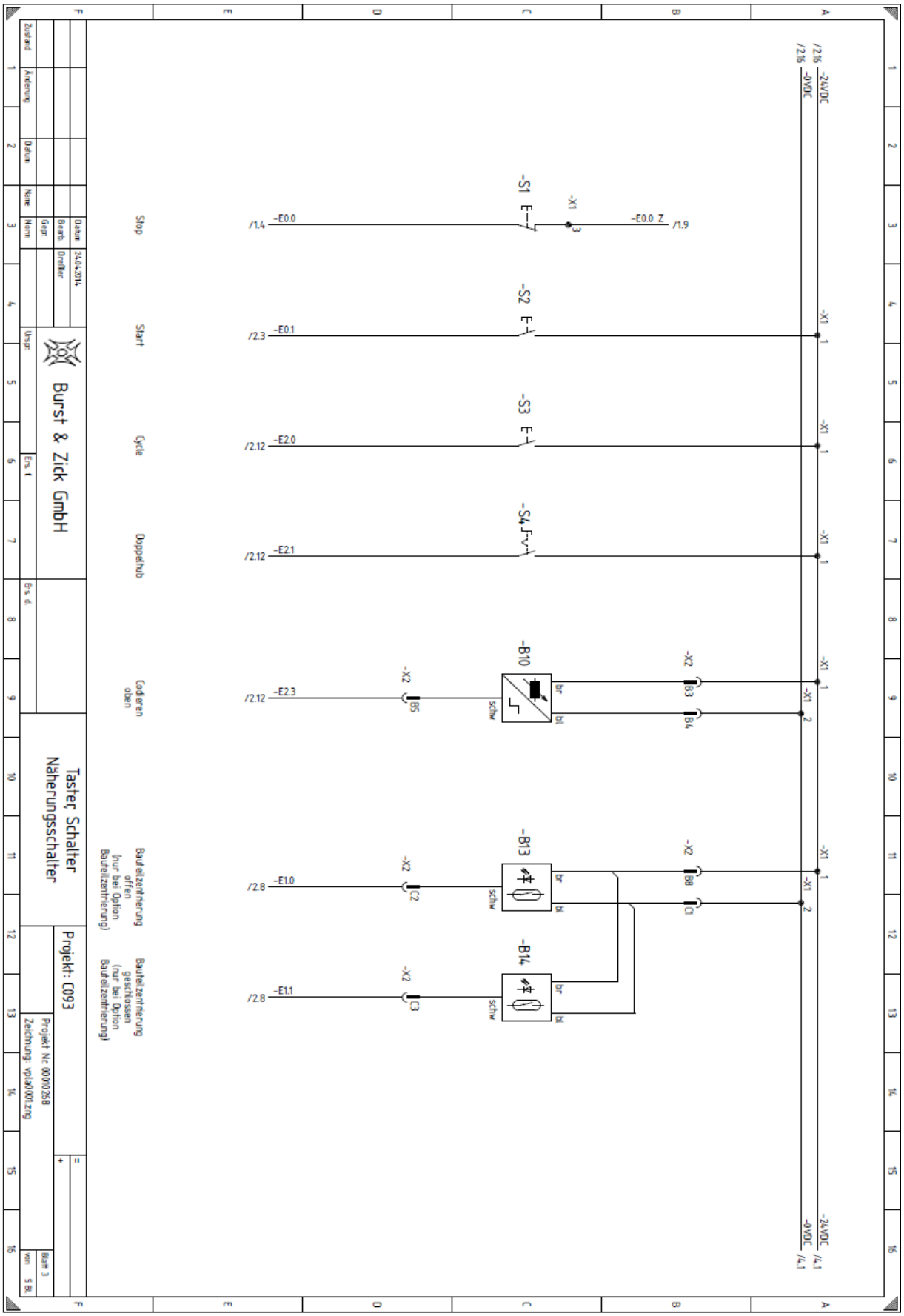
Caution: No grease may be used for lubricating moving and sliding parts. Use thin lubricants only.

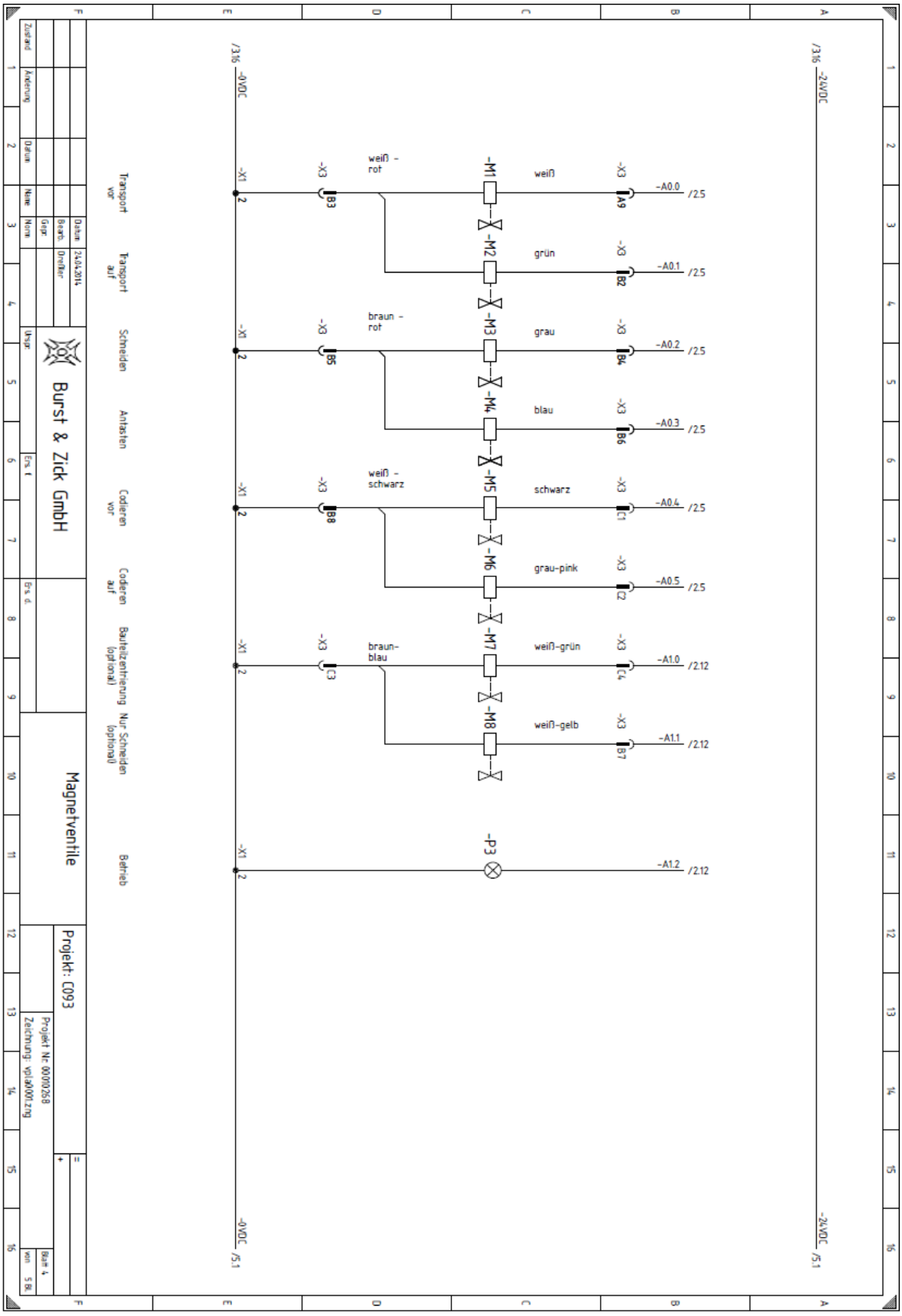
Technical documents

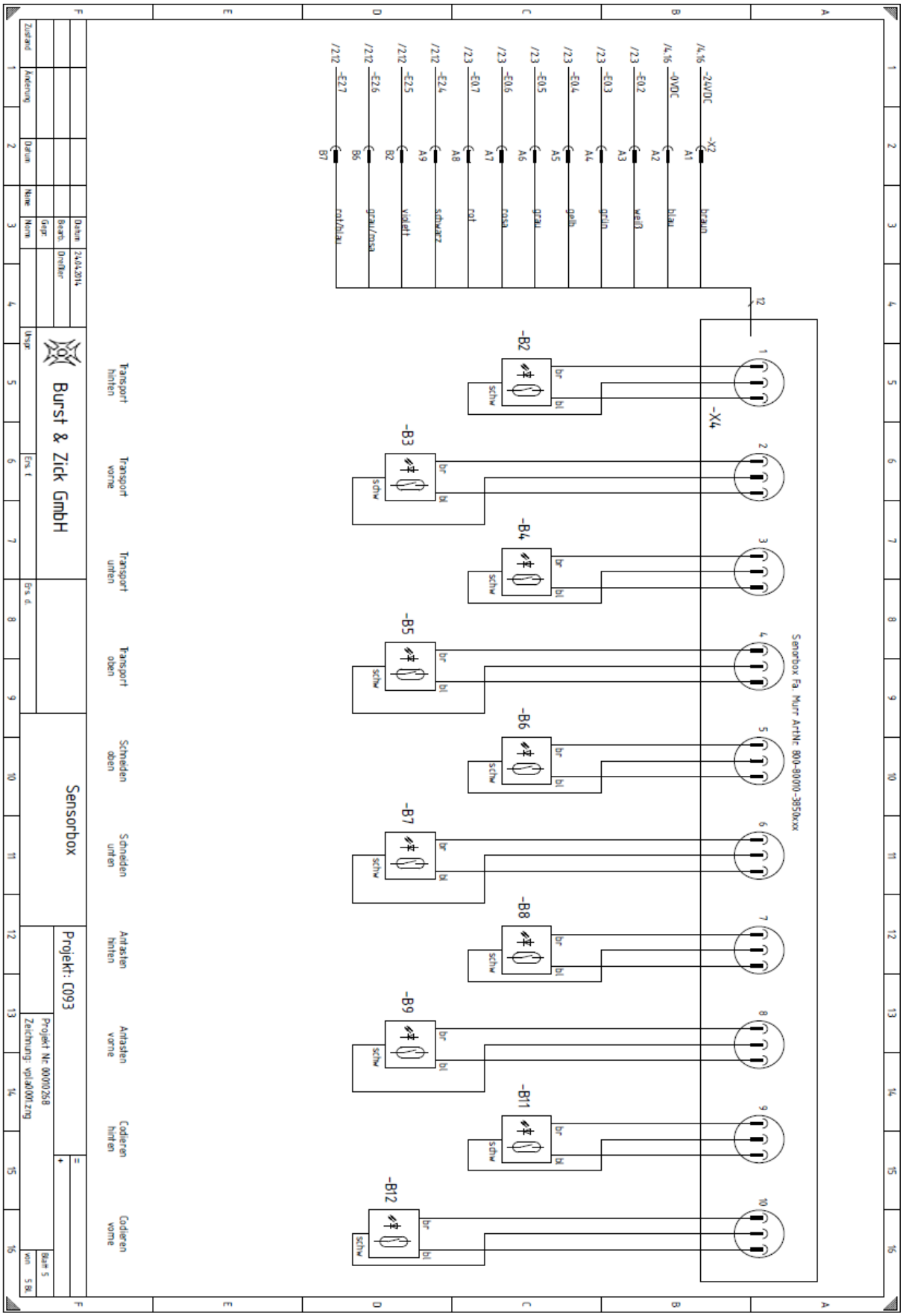
1. Circuit Diagram C093




SIEMENS
-K1
CPU 1212C DC/DC/DC
RUN/STOP
ERROR
MAINT
LINK
Rx/Tx
24VDC
SIEMENS
-K2
SM 1221 DC
DIAG
24VDC
SIEMENS
-K3
SM 1223 DC/DC
DIAG
24VDC
-24VDC
-0VDC
Burst & Zick GmbH
CPU
Projekt: C093


Burst & Zick GmbH
Taster, Schalter
Näherungsschalter
Projekt: C093
Projekt Nr. 00000258
Zeichnung: vpla0001.zng
Datum 21.01.2014
Name
Bearb. Dreßler
Gepr.
Norm
Änderung
Zustand
Shop
Start
Cycle
Doppelhub
Coaxieren oben
Baufeizentrierung offen (nur bei Option Baufeizentrierung)
Baufeizentrierung geschlossen (nur bei Option Baufeizentrierung)
-24VDC
0VDC
-S1
-S2
-S3
-S4
-B10
-B13
-B14
-X1
-X2
-E0.0
-E0.1
-E2.0
-E2.1
-E2.3
-E1.0
-E1.1
br
bl
schw

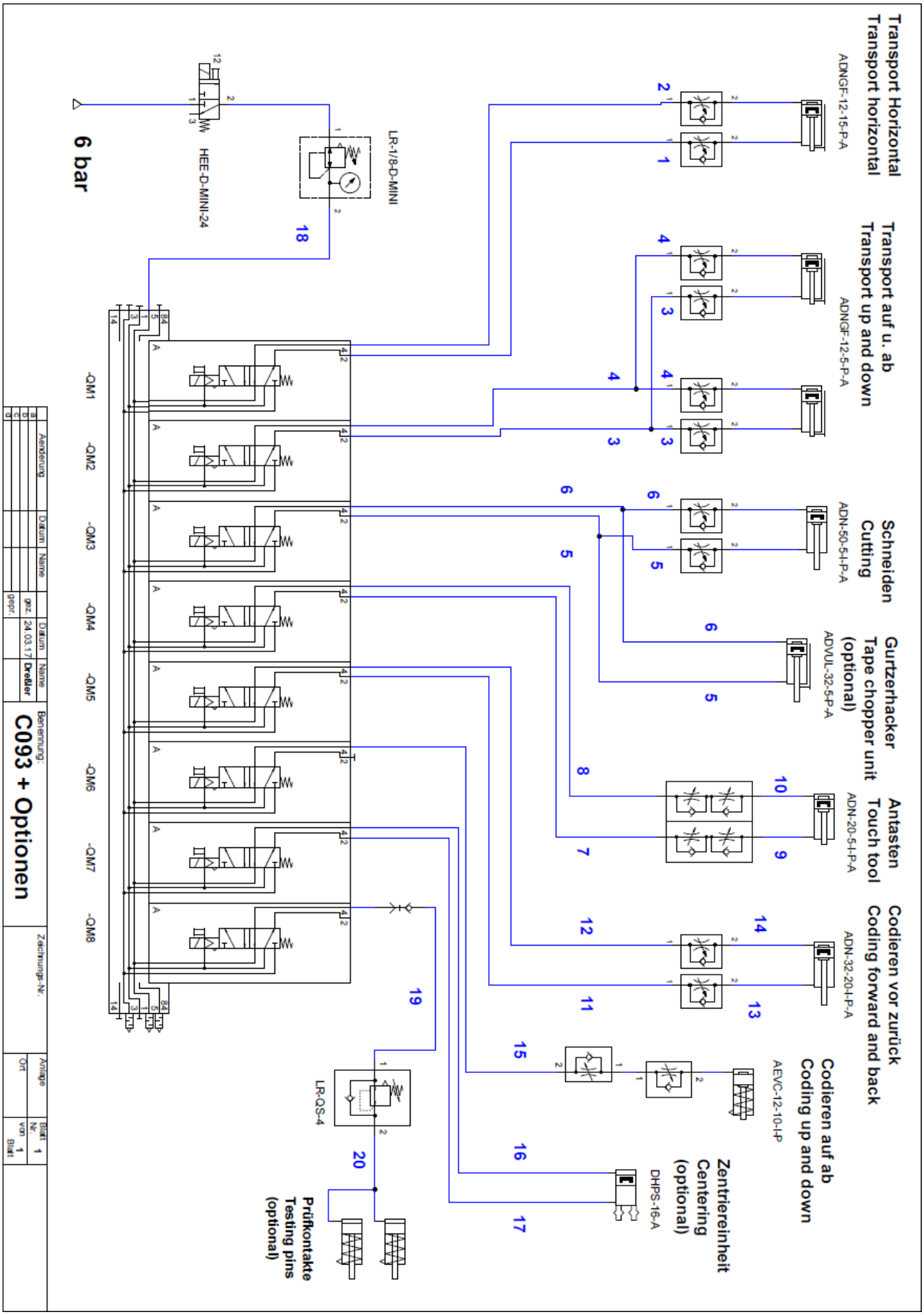

Burst & Zick GmbH
Magnetventile
Projekt: C093
Transport vor
Transport auf
Schneiden
Antasten
Codieren vor
Codieren auf
Bauteilzentrierung (optional)
Nur Schneiden (optional)
Betrieb
-M1
-M2
-M3
-M4
-M5
-M6
-M7
-M8
-P3
weiß
grün
grau
blau
schwarz
grau-pink
weiß-grün
weiß-gelb
weiß - rot
braun - rot
weiß - schwarz
braun-blau
-A0.0
-A0.1
-A0.2
-A0.3
-A0.4
-A0.5
-A1.0
-A1.1
-A1.2
-24VDC
0VDC


Burst & Zick GmbH
Sensorbox
Projekt: C093
Sensorbox Fa. Murr ArtNr 800-80000-3850xxx
-X2
-X4
-B2
-B3
-B4
-B5
-B6
-B7
-B8
-B9
-B11
-B12
braun
blau
weiß
grün
gelb
grau
rosa
rot
schwarz
violett
grau/rosa
rot/blau
Transport hinten
Transport vorne
Transport unten
Transport oben
Schneiden oben
Schneiden unten
Antasten hinten
Antasten vorne
Codieren hinten
Codieren vorne

2. Piece- and spare parts list electrical parts C093

Name	Type	Number	Recommended spare parts
Q1	Main switch	CA10 T302/D-A004 EG	
F1,F2	Fuse holder FEF Locking device Fuse 1,6AT Cap	0031.1085 0696.0033 419-993 0859.0042	 10 pieces
F3	Fuse holder Fuse 1,0 AT	UK 5 HESI 5x20mm	 10 pieces
P1	Lamp socket Lamp 230V Cap	1.60502.1020214 578-367 5.52011.026	
P2	Counter	CTR 48	
P3	Lamp socket Lamp 24V-30V Cap	1.60502.1020214 193-5020 5.52011.026	
T1	Power supply 1,3A	DSP 30-24	
K1	S7-1200 CPU 1212C	6ES7 212-1AE40-0XB0	
K2	Signalboard	6ES7 221-0BD30-0XB0	
K3	Signal modul	6ES7 223-1BH32-0XB0	
K4	Safety relais	SRB-E-301MC	
X1	Terminal blocks	WDK 2,5	
X2, X3	Socket housing Busch insert Socket shell Pin insert	09200160301 09210253101 09200160541 09210253001	
S1	Push button red	101001011/0301	
S2	Push button green	101001001/0507	
S3	Push button black	101001.001/0104	
S4	Toggle switch	0100.1201	
B2-B9	Proximity switch	SME8-M-DS-24V-K0,3-M8D	5 pieces
B10	Proximity switch	SIEN-M5B-PS-S-L	1 piece
M1-M8	Valve cluster	VTUG-10MSDR-S1T-25V20-G18-U-M5S-6A+M1	
M9	Electromagnetic valve Plug	HEE-D-Mini-24 172956 MSSD-EB 151687	
S 101	Safety switch Actuator B2	AZ 16-02 zvrk AZ 15/16	
X4	Sensor pad	800-80010-3850300	
B1	Folk light barrier	0GU050G3-T3	1 piece

3. Pneumatic layout C093



4. Certification for protective disks

Bescheinigung für Schutzscheiben ESLON-DC PVC 401 AS nach EN 10204

Bescheinigung nach EN 10204 (Werksbescheinigung)
Certification of Compliance with the Order

Best.: 820700

Wir bescheinigen die Übereinstimmung unserer Lieferungen mit den Lieferbedingungen / Bestellungen der	We certifies the compliance of the delivered parts with the delivery standards / purchase order of

Theodor Schmid GmbH
Glasgroßhandlung
An der Roßweid 2
76229 Karlsruhe

Bescheinigende Firma	Certifying Company

Sekisui Chemical GmbH
Cantadorstr. 3
40211 Düsseldorf

Bemerkungen	Remarks

ESLON-DC PVC 401AS
antistatisch, klar, transparent
1000x2000x5mm
Oberflächenwiderstand
$3 \times 10^7 \sim 5 \times 10^7\ \Omega/sq$

SEKISUI CHEMICAL GmbH
Cantadorstr. 3
40211 Düsseldorf

11.04.2008

Datum	Unterschrift / Stempel	Date	Signature / Stamp

Spare parts catalogue

Cutting- and bending machine CO93

Housing ..... Tz 1

Transport ..... Tz 2

Tool movement ..... Tz 3

Tape centering ..... Tz 4

Tool slider (touch tool) ..... Tz 5

Drive planishing movement ..... Tz 6

Cutting tool botto, ... Tz 7

Cutting tool top ..... Tz 8

Safety hood ..... Tz 10

Component guiding ..... Tz 14

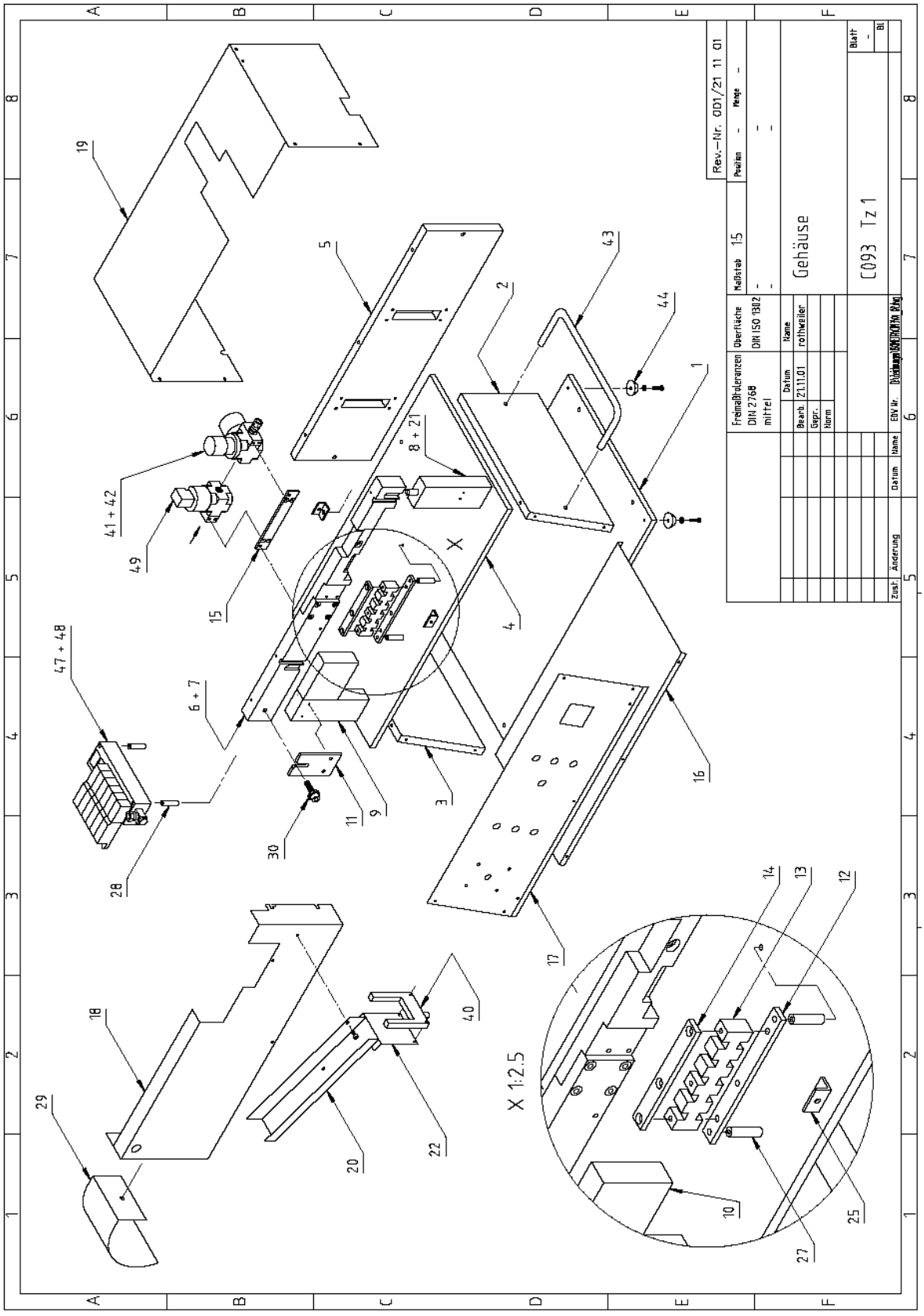
Tape chopper unit ..... Tz 16

Spare part suggestion

Tz 1 - Housing

Item	Qty.	Drawing no.	Description	Notes
1	1	C093 - Tz 1 T. 1	Base plate	
2	1	C093 - Tz 1 T. 2	Side panel, right	
3	1	C093 - Tz 1 T. 3	Side panel, left	
4	1	C093 - Tz 1 T. 4	Carrier plate	
5	1	C093 - Tz 1 T. 5	Back panel	
6	1	C093 - Tz 1 T. 6	Carrier	
7	1	C093 - Tz 1 T. 7	Carrier	
8	1	C093 - Tz 1 T. 8	Carrier	
9	1	C093 - Tz 1 T. 9	Carrier	
10	1	C093 - Tz 1 T. 10	Carrier	
11	1	C093 - Tz 1 T. 11	Plate	
12	1	C093 - Tz 1 T. 12	Ledge	
13	1	C093 - Tz 1 T. 13	Holder	
14	1	C093 - Tz 1 T. 14	Cover	
15	1	C093 - Tz 1 T. 15	Fixture plate	
16	1	C093 - Tz 1 T. 16	Housing	
17	1	C093 - Tz 1 T. 17	Front panel	
18	1	C093 - Tz 1 T. 18	Safety sheet, front	
19	1	C093 - Tz 1 T. 19	Safety sheet, rear	
20	1	C093 - Tz 1 T. 20	Chute	
21	1	C093 - Tz 1 T. 21	Centring bolt	
22	1	C093 - Tz 1 T.22	Holder for light barrier	
25	2	C093 - Tz 1 T.25	Angle	
27	2	C093 - Tz 1 T.27	Distance bolt	
28	2	C093 - Tz 1 T.28	Distance bolt	
29	1	C093 - Tz 1 T.29	Inlet	
30	1	C093 - Tz 1 T.30	Disc (with screw)	
31	1	C093 - Tz 1 T.31	Component chute	
32	1	C093 - Tz 1 T.32	Front sheet	
33	1	C093 - Tz 1 T.33	Component chute (faulty parts)	
40	1		Fork light barrier OG 50	

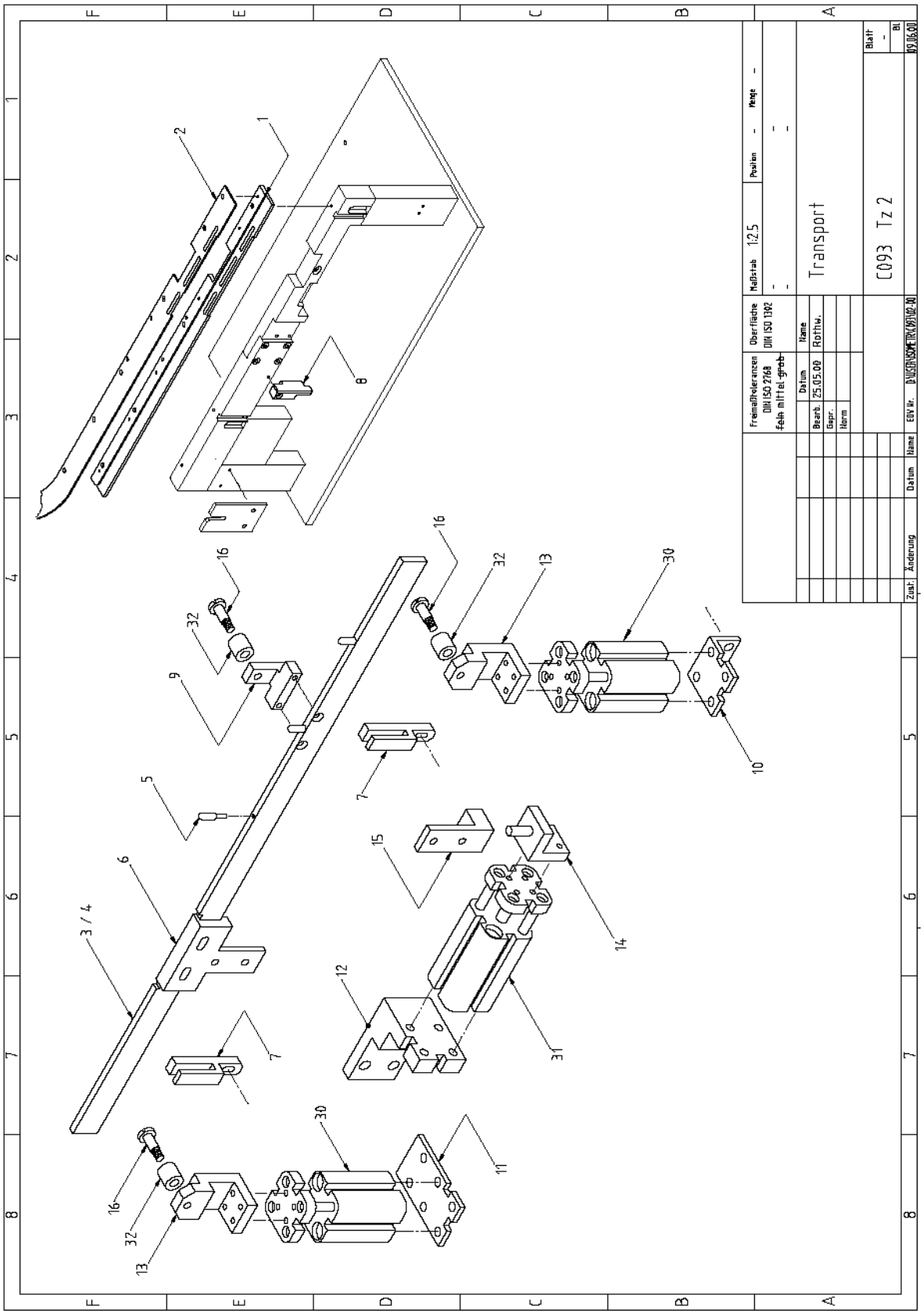
Item	Qty.	Drawing no.	Description	Notes
41	1		Pressure controller LR-1/8-MINI-D	
42	1		Manometer MA-40-16-1/8	
43	2		Handle GN 425-235 CR	
44	4		Rubber foot	
45	1		Magnet valve HEE-D-Mini-24	
47	1		Valve block VTUG-010	
48	8		Magnet valve	



Tz 2 - Transport

Item	Qty.	Drawing no.	Description	Notes
1	1	C093 - Tz 2 T.1	Guiding rail	
2	1	C093 - Tz 2 T.2	Guiding	
3	1	C093 - Tz 2 T.3	Rail	Pitch 12,7 [1)]
4	1	C093 - Tz 2 T.4	Rail	Pitch 15 [1)]
5	3	C093 - Tz 2 T.5	Catch	
6	1	C093 - Tz 2 T.6	Slide	
7	2	C093 - Tz 2 T.7	Guiding	
8	1	C093 - Tz 2 T.8	Stroke- limiter	only Pitch12,7
9	1	C093 - Tz 2 T.9	Holder	
10	1	C093 - Tz 2 T.10	Holding angle, right	
11	1	C093 - Tz 2 T.11	Holding angle, left	
12	1	C093 - Tz 2 T.12	Holding angle	
13	2	C093 - Tz 2 T.13	Holder	
14	1	C093 - Tz 2 T.14	Angle	
15	1	C093 - Tz 2 T.15	Holder	
16	3	C093 - Tz 2 T.16	Bolt	
30	2		Cylinder ADVUL-12-5PA	
31	1		Cylinder ADVUL-12-15PA	
32	3		Needle bearing NK 5/10	

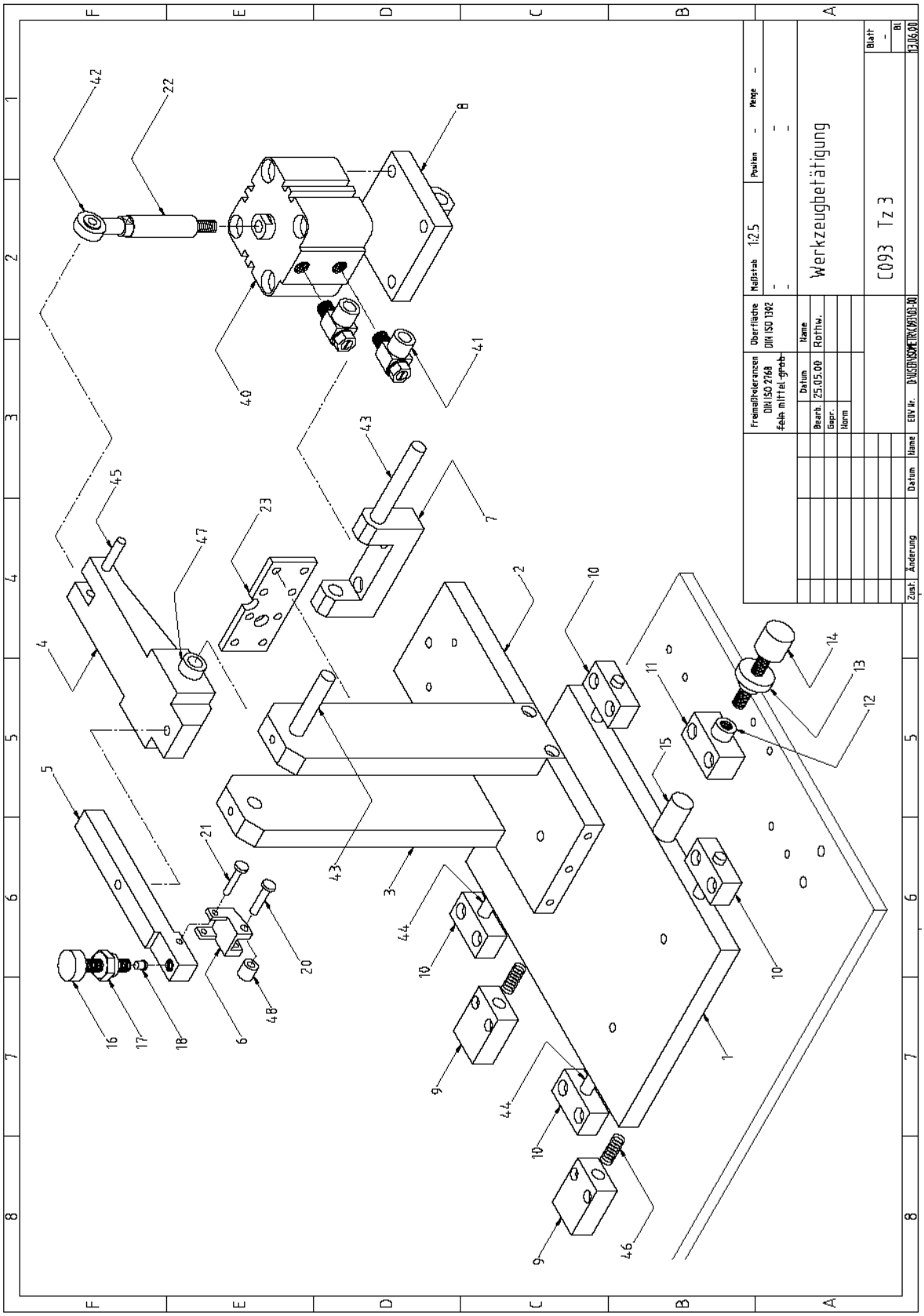
[1)] Optionally as requested


Transport
C093 Tz 2
Maßstab 1:2.5
Position -
Menge -
Oberfläche DIN ISO 1302
Freimaßtoleranzen DIN ISO 2768 fein mittel grob
Datum 25.05.00
Name Rotthw.
Bearb.
Gepr.
Norm
Änderung
Datum
Name
Zust.
Blatt -
Bl
1
2
3 / 4
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Tz 3 - Tool Movement

Item	Qty.	Drawing no.	Description	Notes
1	1	C093 - Tz 3 T.1	Bearing plate	
2	1	C093 - Tz 3 T.2	Bearing plate	
3	2	C093 - Tz 3 T.3	Bearing plate	
4	1	C093 - Tz 3 T.4	Lever	
5	1	C093 - Tz 3 T.5	Lever	
6	1	C093 - Tz 3 T.6	Holder	
7	1	C093 - Tz 3 T.7	Bearing	
8	1	C093 - Tz 3 T.8	Holder	
9	2	C093 - Tz 3 T.9	Spring bearing	
10	4	C093 - Tz 3 T.10	Bearing	
11	1	C093 - Tz 3 T.11	Bearing	
12	1	C093 - Tz 3 T.12	Threaded bushing	
13	1	C093 - Tz 3 T.13	Nuts	
14	1	C093 - Tz 3 T.14	Spindle	
15	1	C093 - Tz 3 T.15	Bold	
16	1	C093 - Tz 3 T.16	Adjustment screw	
17	1	C093 - Tz 3 T.17	Nuts	
18	1	C093 - Tz 3 T.18	Cover	
20	1	C093 - Tz 3 T.20	Bold	
21	1	C093 - Tz 3 T.21	Bold	
22	1	C093 - Tz 3 T.22	Pulling rod	
23	1	C093 - Tz 3 T.23	Traverse	
40	1		Cylinder ADVUL-50-5-PA	
41	2		Choke valve GRLA-1/8-PK4-B	
42	1		Joint Head SGS-M6	
43	2		Shaft, hardened ∅10h6 x 80	
44	4		Shaft, hardened ∅8h6 x 55	
45	1		Shaft, hardened ∅6h6 x 35	
46	2		Pressure spring D-166 D	

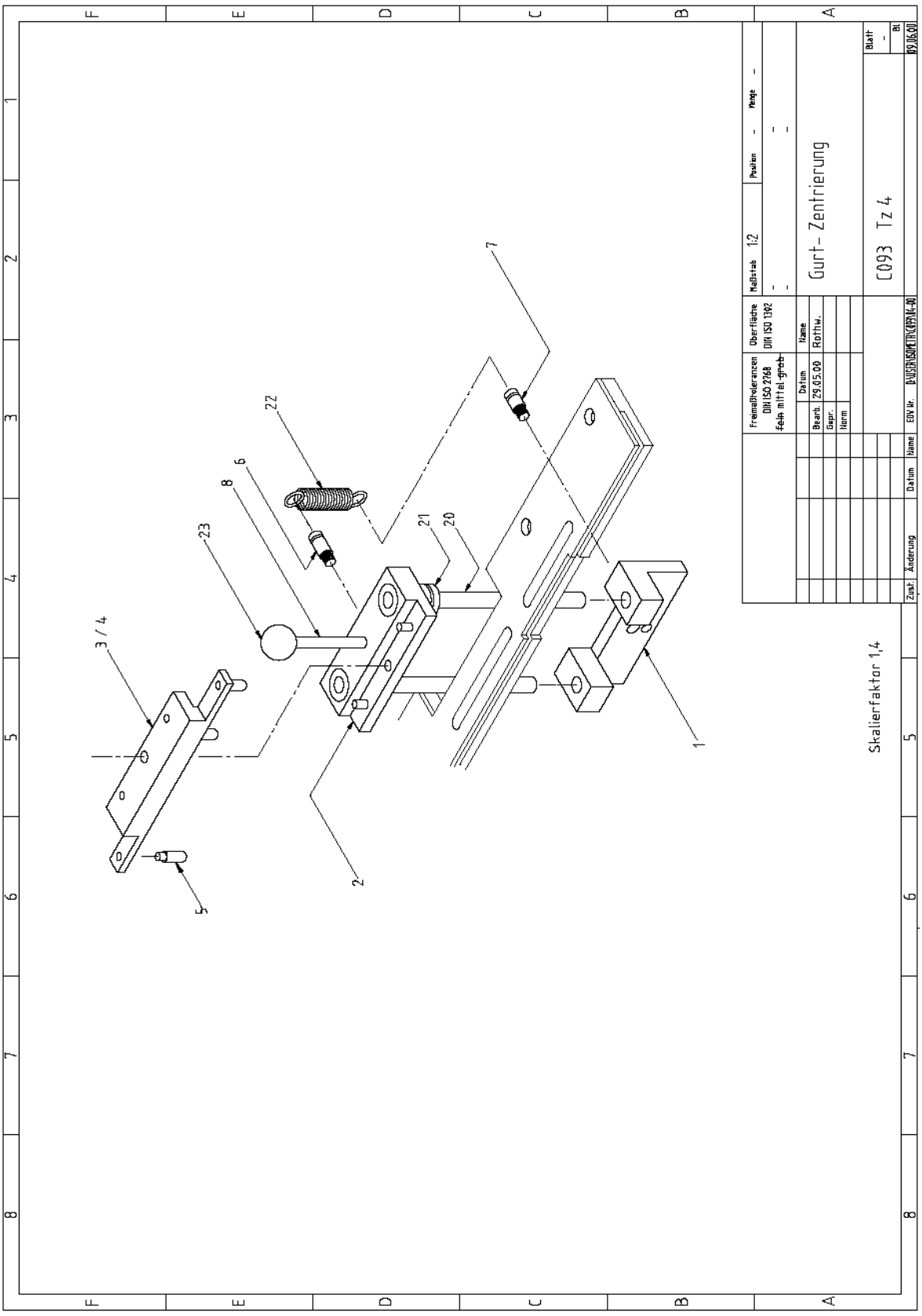
Item	Qty.	Drawing no.	Description	Notes
47	2		SM- bushing ∅10 x ∅16 x 20	
48	1		Needle bearing NK 5/10	


Werkzeugbetätigung
C093 Tz3
Maßstab 1:2,5
Positionen -
Menge -
Oberfläche DIN ISO 1302
Freimaßtoleranzen DIN ISO 2768 fein mittel grob
Name
Datum
Bearb. 25.05.00 Rothw.
Gepr.
Norm
Änderung
Datum
Name
ERV Nr.
Blatt: - Bl
13.06.00

Tz 4 - Tape- Centering

Item	Qty.	Drawing no.	Description	Notes
1	1	C093 - Tz 4 T.1	Holder	
2	1	C093 - Tz 4 T.2	Centring, top	
3	1	C093 - Tz 4 T.3	Tape centring	Pitch 12,7 [1)]
4	1	C093 - Tz 4 T.4	Tape centring	Pitch 15 [1)]
5	3	C093 - Tz 4 T.5	Catch	
6	1	C093 - Tz 4 T.6	Spring bolt	
7	1	C093 - Tz 4 T.7	Spring bolt	
8	1	C093 - Tz 4 T.8	Bolt	
20	2		Match pin ∅6m6 x 70 DIN 6325	
21	2		Ball bushing N-6V	
22	1		Tension spring Z-093 HI	
23	1		Knob M4 DIN 319	

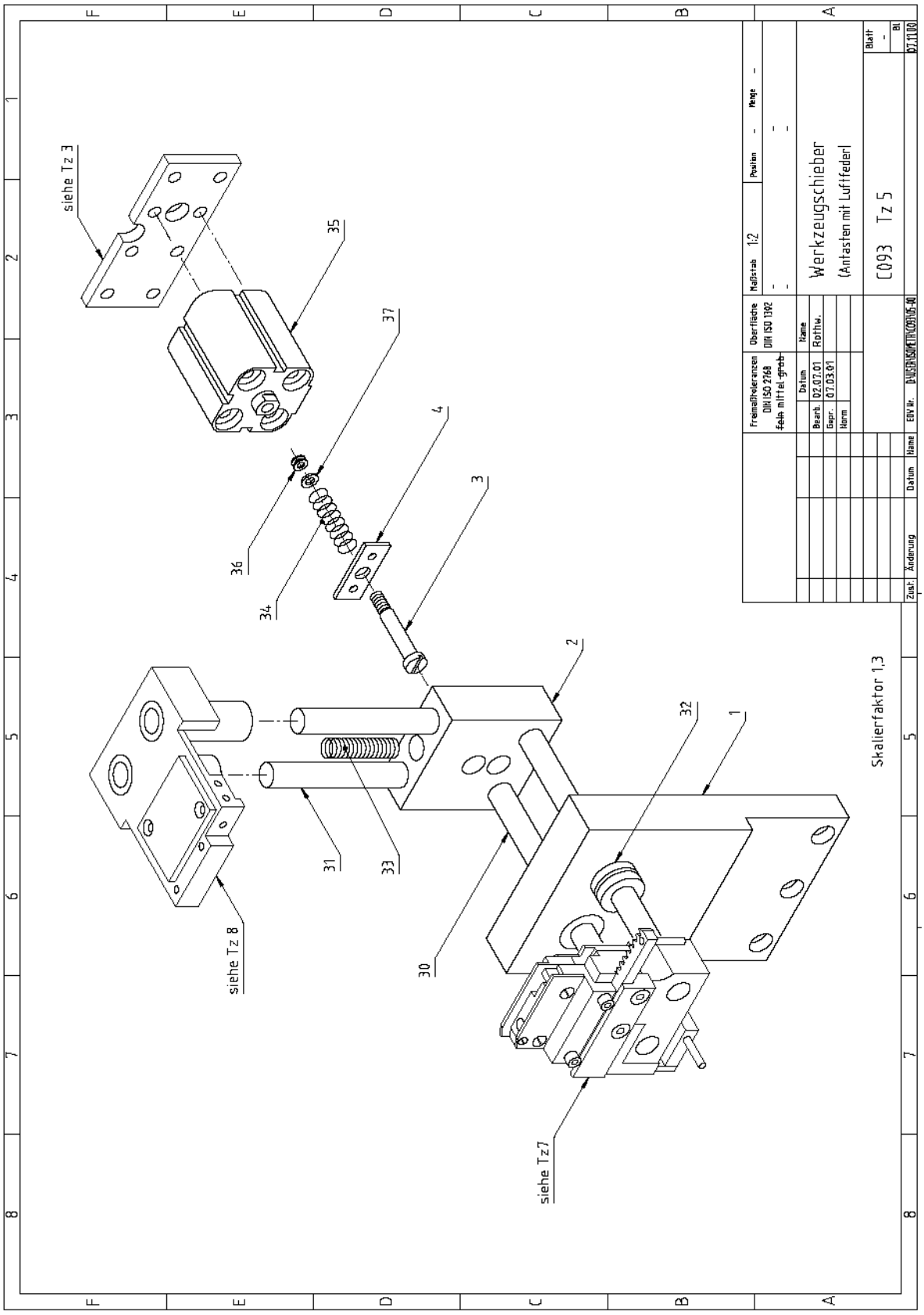
[1)] Optionally as requested


Gurt- Zentrierung
C093 Tz 4
Maßstab 1:2
Positionen - - -
Menge -
Oberfläche DIN ISO 1302
Freimaßtoleranzen DIN ISO 2768 fein mittel grob
Datum 29.05.00
Name Rothw.
Bearb.
Gepr.
Norm
Zust. Änderung Datum Name
Blatt - Bl
Skalierfaktor 1,4
1
2
3 / 4
5
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20
21
22
23

Tz 5 - Tool Slider

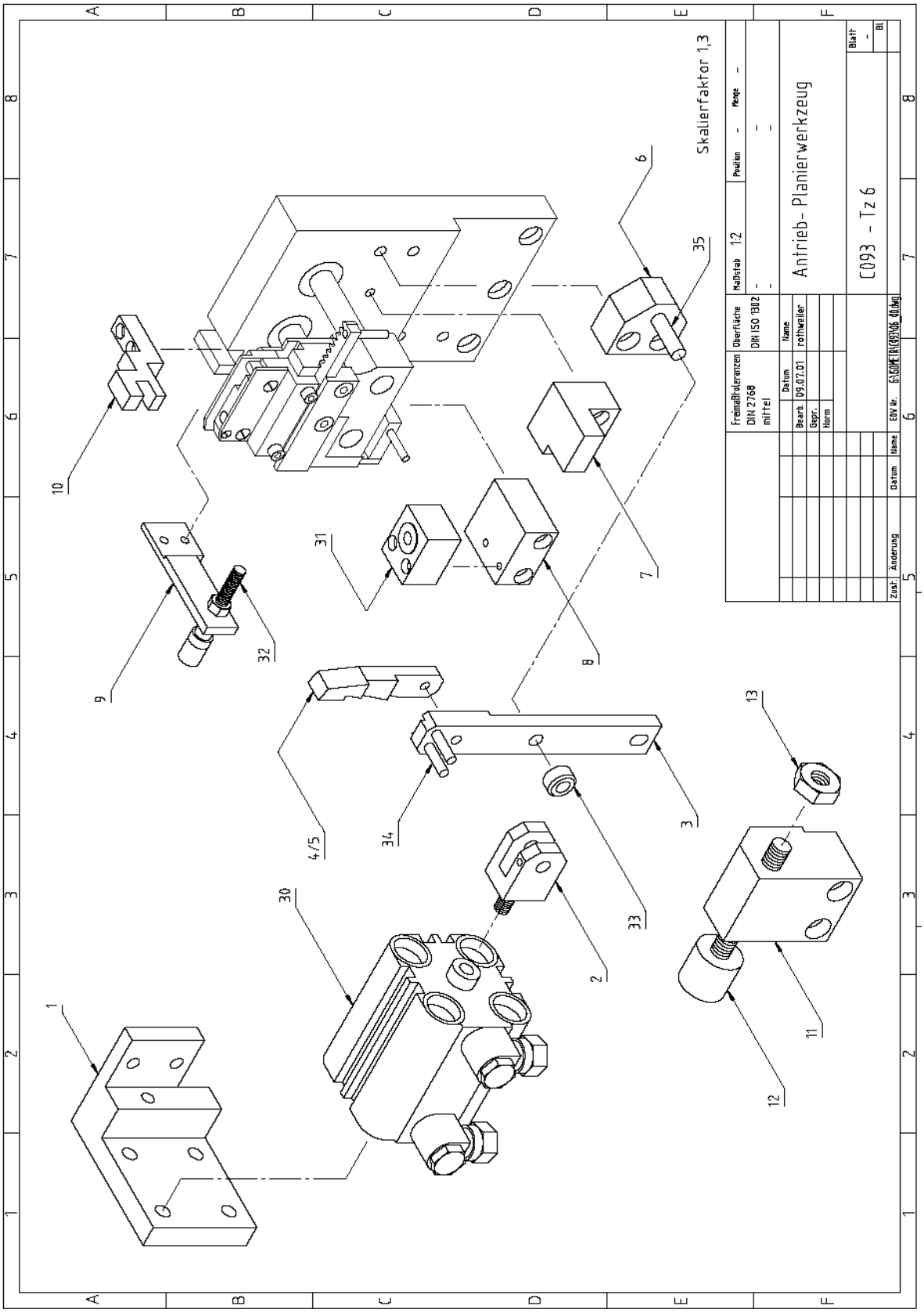
(Touch Tool with Air Spring)

Item	Qty.	Drawing no.	Description	Notes
1	1	C093 - Tz 5 T.1	Bearing plate	
2	1	C093 - Tz 5 T.2	Guiding	
3	1	C093 - Tz 5 T.3	Bolt	
4	1	C093 - Tz 5 T.4	Plate	
30	2		Shaft, hardened ∅10h6 x 78	
31	3		Shaft, hardened ∅10h6 x 88	
32	2		Ball bushing N-10V	
33	2		Pressure spring D-199	
34	1		Pressure spring	
35	1		Cylinder ADVU-20-5 PA	


siehe Tz 3
35
37
4
3
36
34
2
32
1
31
33
30
siehe Tz 8
siehe Tz7
Skalierfaktor 1,3
Maßstab 1:2
Positionen -
Menge -
Werkzeugschieber
(Antasten mit Luftfeder)
C093 Tz 5
Oberfläche DIN ISO 1302
Freimaßtoleranzen DIN ISO 2768 fein mittel grob
Datum
Name
Bearb. 02.03.01 Rathw.
Gepr. 07.03.01
Norm
Änderung
EDV Nr.
Blatt -

Tz 6 - Drive- Planishing Movement

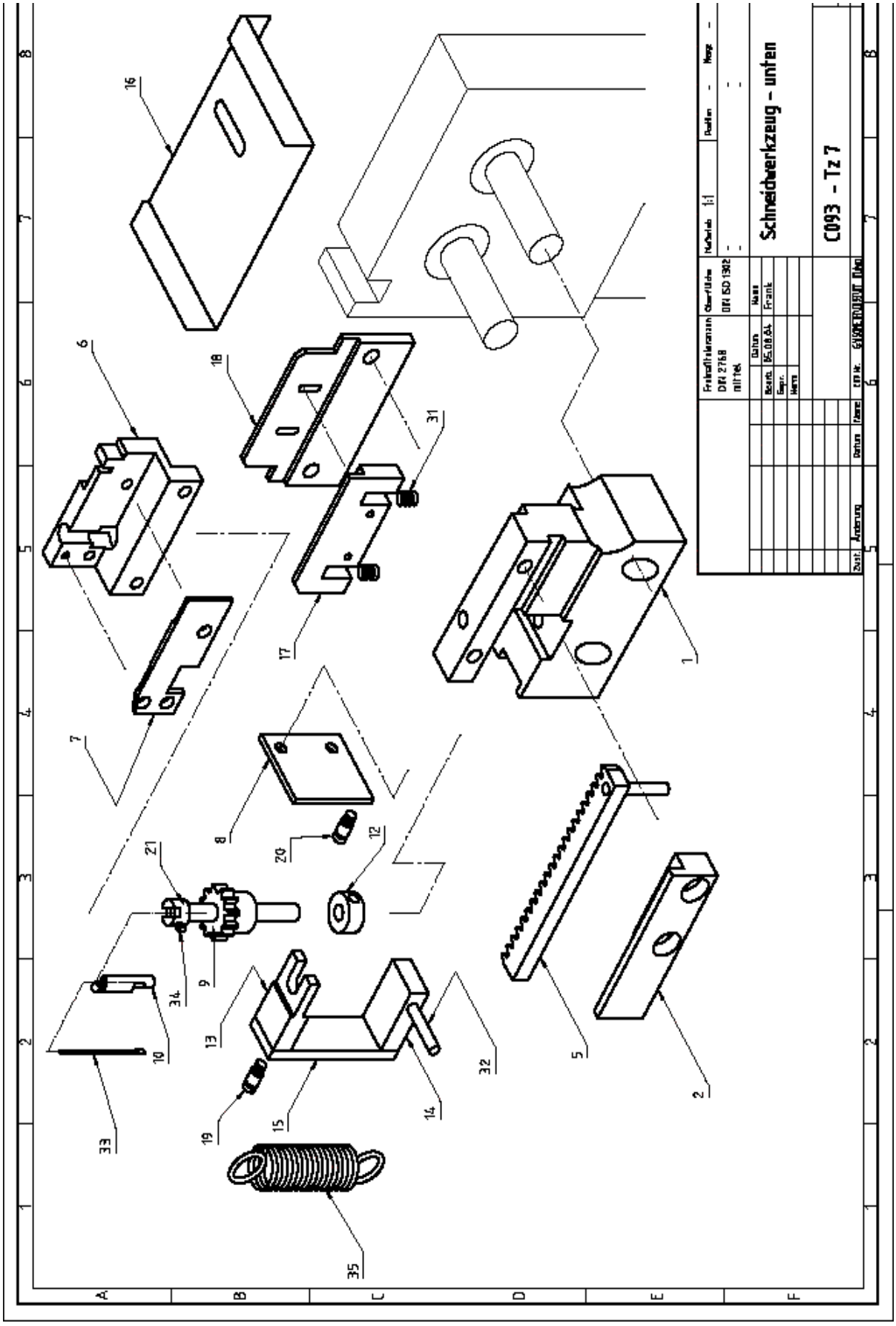
Item	Qty.	Drawing no.	Description	Notes
1	1	C093 - Tz 6 T.1	Holding angle	
2	1	C093 - Tz 6 T.2	Joint head	
3	1	C093 - Tz 6 T.3	Lever	
4	1	C093 - Tz 6 T.4	Finger	Pitch 12,7 mm
5	1	C093 - Tz 6 T.5	Finger	Pitch 15 mm
6	1	C093 - Tz 6 T 6	Bearing	
7	1	C093 - Tz 6 T.7	Stopper	
8	1	C093 - Tz 6 T.8	Holder	
9	1	C093 - Tz 6 T.9	Sensor holder	
10	1	C093 - Tz 6 T.10	Stopper	
30	1		Cylinder ADVU-32-PA	
31	4		Cylinder AV-12-4	
32	4		Proximity switch	
33	4		Setting ring ∅6	


Skalierfaktor 1,3
Antrieb- Planierwerkzeug
C093 - Tz 6
Maßstab 1:2
Oberfläche DIN ISO 1302
FreimaßToleranzen DIN 2768 mittel
Name rothweiler
Datum 05.07.01
Bearb.
Gepr.
Norm
Zust. Änderung
Datum
Name
Blatt -
Bl.

Tz 7 - Cutting Tool - Bottom

Item	Qty.	Drawing no.	Description.	Notes
1	1	C093 - Tz 7 T.1	Tool carrier	
2	1	C093 - Tz 7 T.2	Guiding holder	
5	1	C093 - Tz 7 T.5	Tooth rack	
6	1	C093 - Tz 7 T.6	Coding tool- bottom	
7	1	C093 - Tz 7 T.7	Cover plate	
8	1	C093 - Tz 7 T.8	Plate	
9	1	C093 - Tz 7 T.9	Tooth wheel	
10	1	C093 - Tz 7 T.10	Bending tool	
12	1	C093 - Tz 7 T.12	Bushing	
13	1	C093 - Tz 7 T.13	Catch	
14	1	C093 - Tz 7 T.14	Holder	
15	1	C093 - Tz 7 T.15	Slide	
16	1	C093 - Tz 7 T.16	Chute	
17	1	C093 - Tz 7 T.17	Spring ground	
18	1	C093 - Tz 7 T.18	Spring holder	
19	1	C093 - Tz 7 T.19	Spring bold	
20	1	C093 - Tz 7 T.20	Spring bold	
21	1	C093 - Tz 7 T.21	Bending tool - shaft	
31	1		Pressure spring	
32	1		Dowel pin ∅3m6 x 20	
33	1		Needle 239.1.0080.100	
34	2		Special-Set screw M3x2	
35	1		Pull sring Z 073 I	

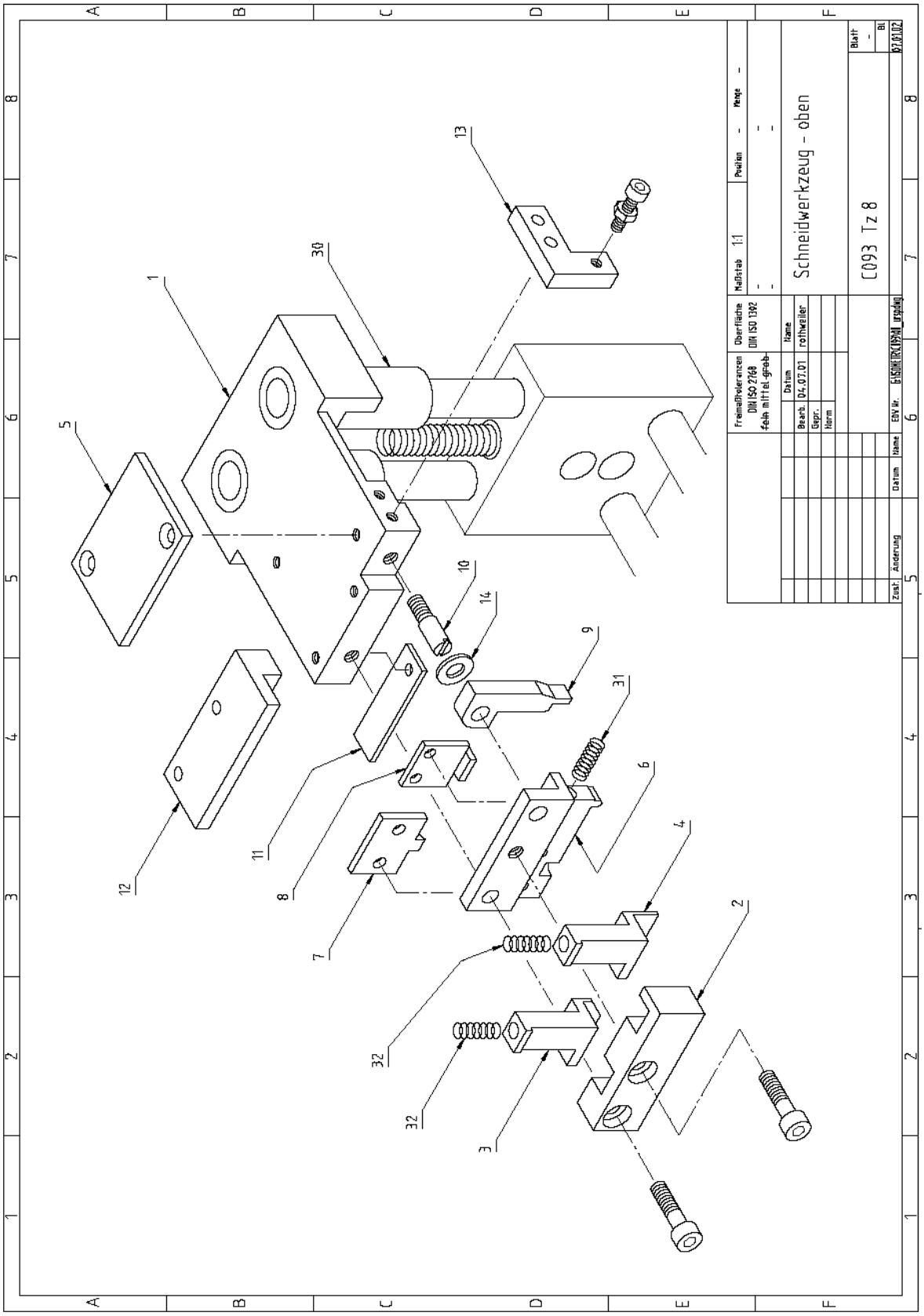
Please indicate the machine number for tooling orders.


Schneidwerkzeug - unten
C093 - Tz 7
Maßstab 1:1
Maße in mm
Oberfläche DIN ISO 1302
Allgemeintoleranz DIN 2768 mittel
Datum 05.08.04
Name Frank
Ersatz für
Ersatz durch
Änderung
Datum
Name
Benennung
Sachnummer
Blatt
Blätter
1
2
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Tz 8 - Cutting Tool- Top

Item	Qty.	Drawing no.	Description.	Notes
1	1	C093 - Tz 8 T.1	Tool guiding	
2	1	C093 - Tz 8 T.2	Guiding rail	
3	1	C093 - Tz 8 T.3	Clamping die (cutting & coding)	
4	1	C093 - Tz 8 T.4	Clamping Die (cutting & coding)	
5	1	C093 - Tz 8 T.5	Plate	
6	1	C093 - Tz 8 T.6	Coding tool- top	
7	1	C093 - Tz 8 T.7	Blade	
8	1	C093 - Tz 8 T.8	Blade	
9	1	C093 - Tz 8 T.9	Finger	
10	1	C093 - Tz 8 T.10	Bold	
11	1	C093 - Tz 8 T.11	Pressure plate	
12	1	C093 - Tz 8 T.12	Ledge	
13	1	C093 - Tz 8 T.13	Angle	
30	2		Bearing bushing ∅10 x ∅16 x 43	
31	1		Pressure spring	
32	2		Pressure spring	

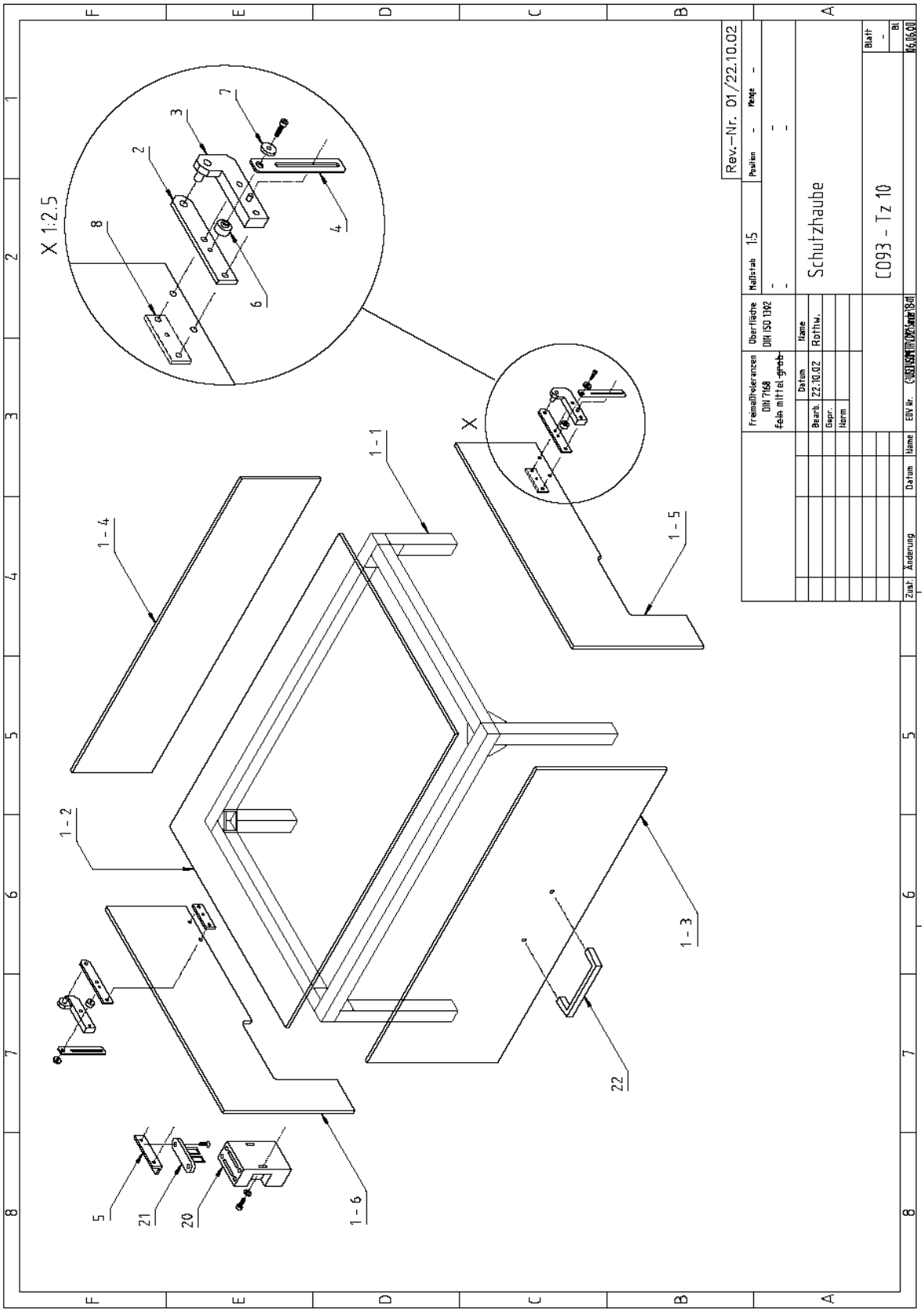
Please indicate the machine number for tooling orders.


Schneidwerkzeug - oben
C093 Tz 8
Maßstab 1:1
Oberfläche DIN ISO 1302
Freimaßtoleranzen DIN ISO 2768 fein mittel grob
Name
rothweiler
Datum
04.07.01
Bearb.
Gepr.
Norm
Zust. Änderung
Datum
Name
ENV Nr.
Blatt
Bl.
07.07.02

Tz 10 - Safety Hood

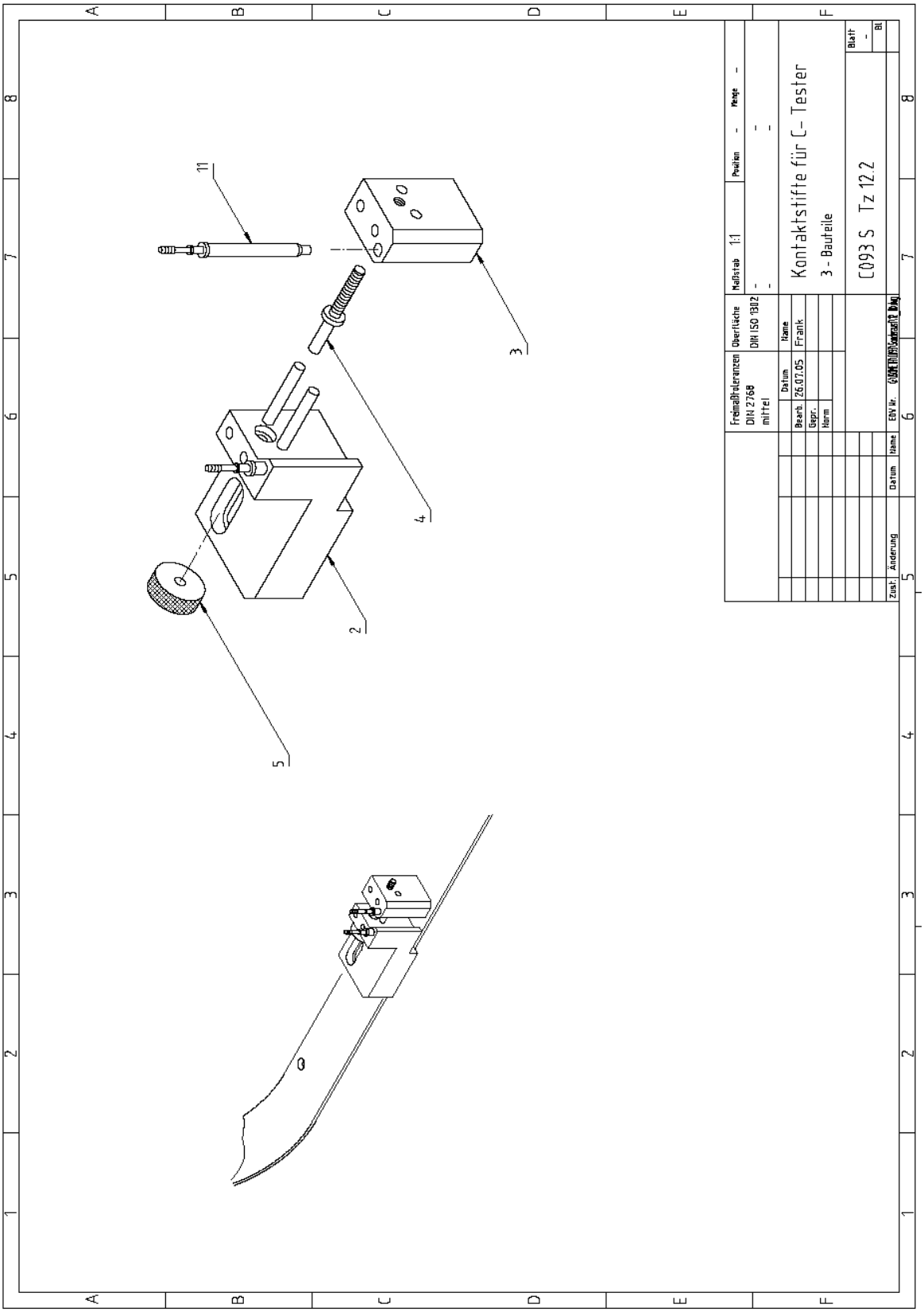
Item	Qty.	Drawing no.	Description.	Notes
1	1	C093 - Tz 10 T.1	Safety hood	
	1	T.1- 1	Profile frame	
	1	T.1- 2	Upper panel	
	1	T.1- 3	Front panel	
	1	T.1- 4	Rear panel	
	1	T.1- 5	Side panel, right	
	1	T.1- 6	Side panel, left	
2	2	C093 - Tz 10 T.2	Hinge	
3	2	C093 - Tz 10 T.3	Hinge	*)
4	2	C093 - Tz 10 T.4	Lift	
5	1	C093 - Tz 10 T.5	Holder	
6	1	C093 - Tz 10 T.6	Bushing	
7	1	C093 - Tz 10 T.7	Distance ring	
8	2	C093 - Tz 10 T.8	Threaded plate	
20	1		Safety switch AZ 16 zvrk	
21	1		Fixture for safety switch	
22	1		Handle, 10501-003 154	

Note *) = 1x left
1x right, please state in your order !



Tz 12.2 - Contact Pins for C- Test

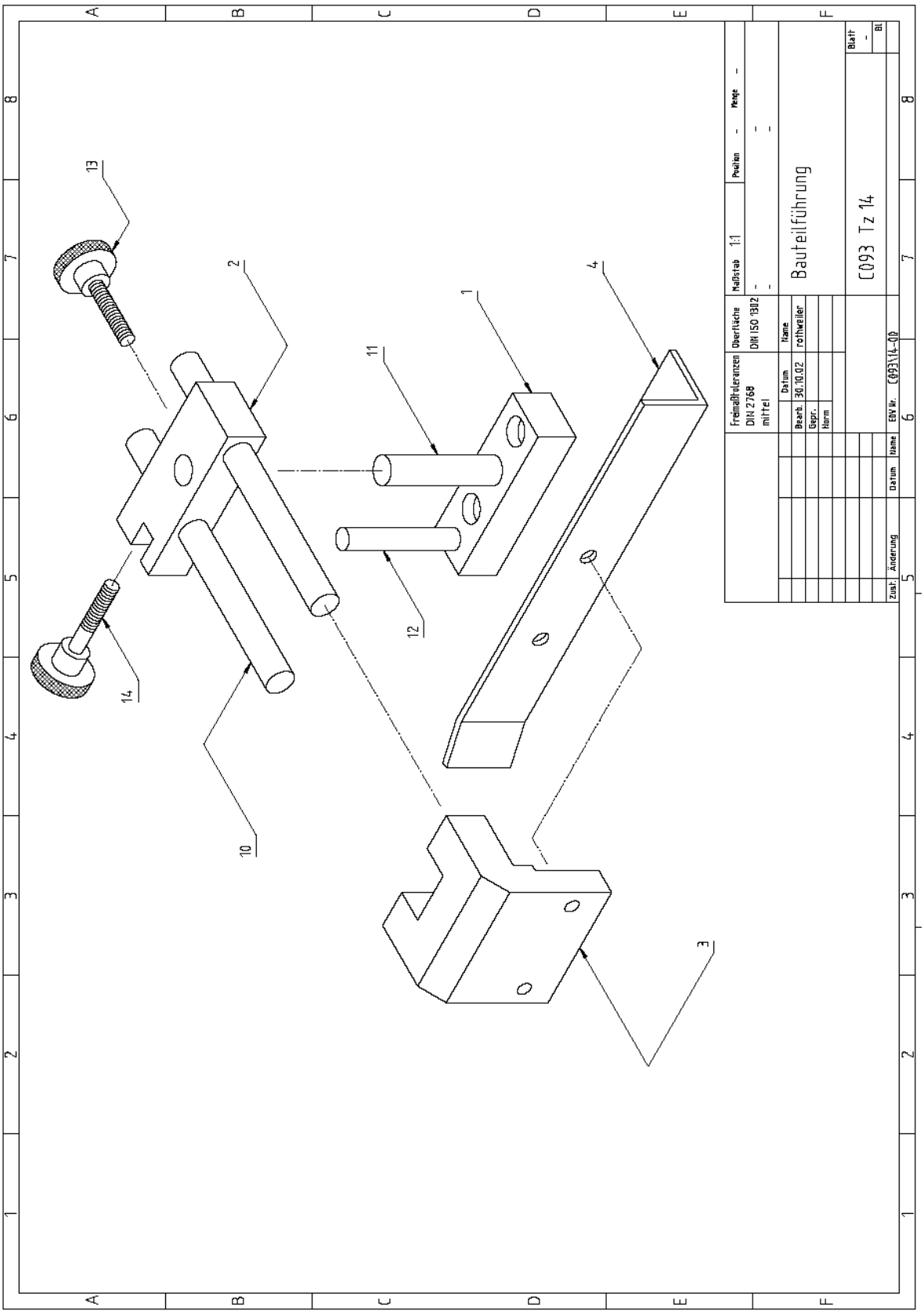
Item	Qty.	Drawing no.	Description.	Notes
2	1	C093 S - Tz 12 T.2	Holder	
3	1	C093 S - Tz 12 T.3	Holder	
4	1	C093 S - Tz 12 T.4	Spindle	
5	1	C093 S - Tz 12 T.5	Knob	
11	2		Pneumatic contact pin PK S300 206 250 A 1502 B	


11
3
4
2
5
Kontaktstifte für C-Tester
3-Bautteile
C093 S Tz 12.2

Tz 14 - Component Guiding

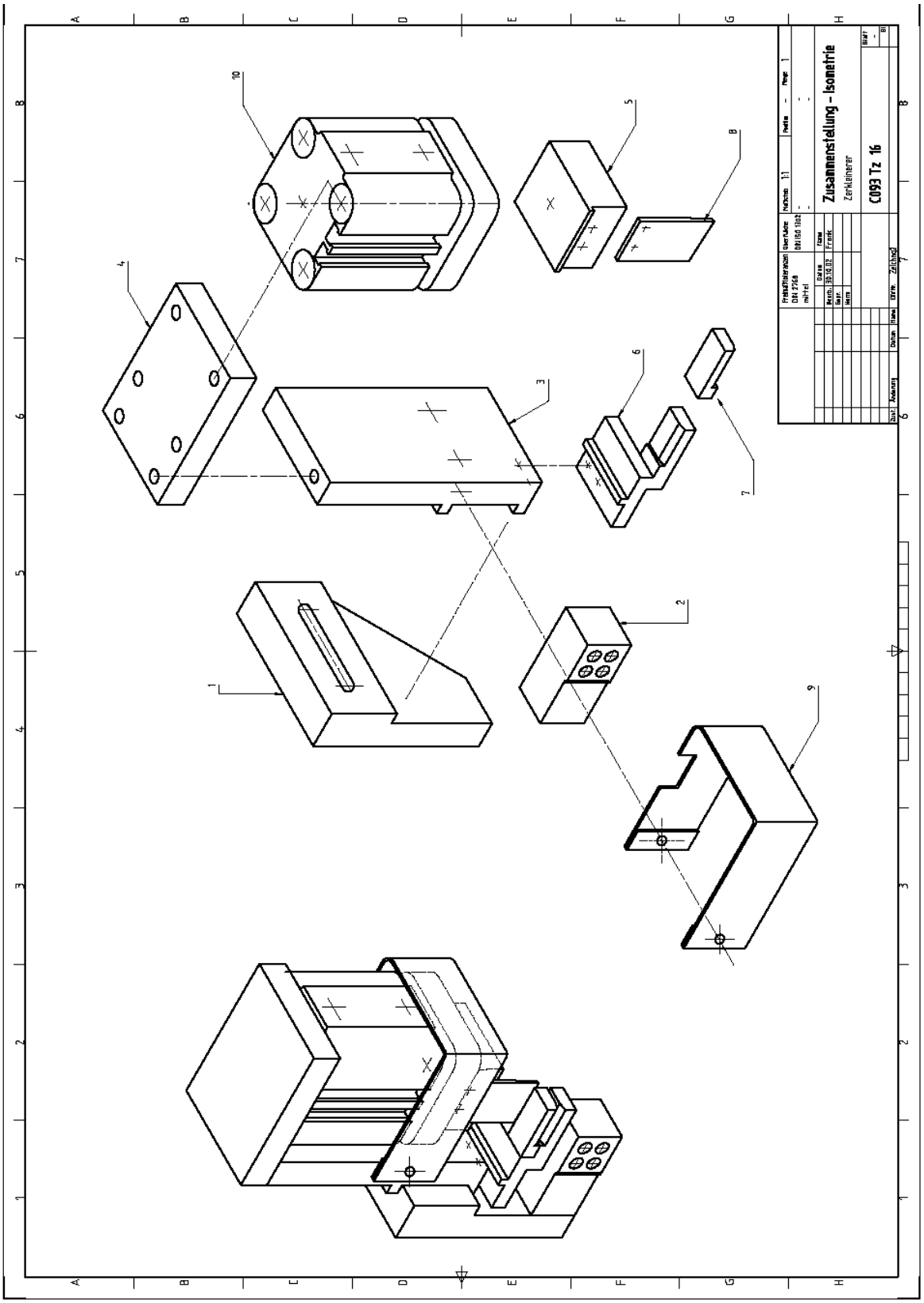
Item	Qty.	Drawing no.	Description.	Notes
1	1	C093 - Tz 14 T.1	Bearing	
2	1	C093 - Tz 14 T.2	Guiding	
3	1	C093 - Tz 14 T.3	Holder	*)
4	1	C093 - Tz 14 T.4	Component guiding	
10	2		Shaft, hardened ∅8h6 x 70	
11	1		Shaft, hardened ∅8h6 x 35	
12	1		Cylinder Pin ∅6m6 x 35	
13	1		Screw M4	

Note *) = 1x left
1x right, please state in your order !


13
2
11
1
4
12
14
10
3
Maßstab 1:1
Positionen - -
Menge - -
Oberfläche DIN ISO 1302
Name rothweiler
Datum 30.10.02
Bearb.
Gepr.
Norm
FreimaßToleranzen DIN 2768 mittel
Bauteilführung
C093 Tz 14
EBV Nr. C093\14-00
Blatt - Bl
Zust. Änderung
Datum
Name

Tz 16 - Tape chopper unit (optional)

Item	Qty.	Drawing no.	Description.	Notes
1	1	C093 - Tz 16 T.1	Plate	
2	1	C093 - Tz 16 T.2	Holder	
3	1	C093 - Tz 16 T.3	Adjustable plate	
4	1	C093 - Tz 16 T.4	Upper blade	
5	1	C093 - Tz 16 T.5	Holder	
6	1	C093 - Tz 16 T.6	Blade bottom	
7	1	C093 - Tz 16 T.7	Guidance	
8	1	C093 - Tz 16 T.8	Blade	
9	1	C093 - Tz 16 T.9	Cover	
10	1		Cylinder ADVUL 32-5-PA Nr. 156874	
11	1		Check valve GRLA 1/8-QS6-B Nr. 162965	


Zusammenstellung - Isometrie
Zerkleinerer
C093 Tz 16

Spare part suggestion C 093 mechanical parts

Item	Qty.	Drawing no.	Description
Tz 7- T. 5	1	Gear rack	C093 Tz 7- T.5
Tz 7- T. 6	1	Lower coding tool	C093 Tz 7- T.6
Tz 7- T. 7	1	Cover plate	C093 Tz 7- T.7
Tz 7- T. 9	1	Gear wheel	C093 Tz 7- T.9
Tz 7- T. 10	1	Bending tool	C093 Tz 7- T.10
Tz 7- T. 30	1	Pressure spring	D- 110 E
Tz 7- T. 31	2	Pressure spring	D- 110 E
Tz 8- T. 3	1	Clamping die	C093 Tz 8- T.3
Tz 8- T. 4	1	Clamping die	C093 Tz 8- T.4
Tz 8- T. 6	1	Upper coding tool	C093 Tz 8- T.6
Tz 8- T. 7	1	Blade	C093 Tz 8- T.7
Tz 8- T. 8	1	Blade	C093 Tz 8- T.8
Tz 8- T. 9	1	Finger	C093 Tz 8- T.9
Tz 8- T. 31	1	Pressure spring	D- 110 E
Tz 8- T. 32	1	Pressure spring	D- 110 E

Please indicate the machine number for tooling orders.