Operating manual for Control unit P/N 754003-3

Translation of original Operation Manual

Doc. no. 12264-754003-3 Rev. C

SAFETY INSTRUCTIONS

for Control Units [Elevator/Power Slips]

OUR goal is to produce tools that help you work safely and efficiently.
The most important safety device for this tool is YOU.
YOUR good judgement is the best protection against injury.

Maintenance Hazards

⚠ **Always remember** to shut down all rig supply and get in safe condition before starting maintenance work on the control units.

⚠ **Always plan** maintenace on a regular basis. Note and file checks as shown in inspection/check table.

Operation Hazards

⚠ **Practice safety** at all times when operating/ maintaining the control unit. Always wear your personal protective equipment (PPE e.g. gloves, hard hat, eye protection,…)

⚠ **Never** operate the control units open. All Flaps and locks must be closed and secured for operation.

⚠ **Keep in mind** that the control unit is purchased and designed as a separate supporting tool.

Therefore make sure that a proper Interlock system is installed and in operation.

⚠ **Inter Lock** control setting

Elevator		Power Slip		Control
Holds weight Doors closed	+	Weightless Slips UP	→	1. Doors locked 2. Slips enabled
Weightless Doors closed	+	Holds weight Slips DOWN	→	1. Doors enabled 2. Slips locked
Weightless Doors open	+	Holds weight Slips DOWN	→	1. Doors enabled 2. Slips locked
Holds weight Doors closed	+	Weightless Slips DOWN	→	1. Doors locked 2. Slips enabled

Inspection / Check table

Task / Interval	Daily	Monthly	2 Year
1. Visual check for damages	☑	☑	☑
2. Visual check for leakage and hose condition	!	!	!
3. Check fastener , couplings and screws for corrosion	☑	☑	☑
4. Perform a function test and display check	☑	☑	☑
5. Visual check for leakage inside control unit	☒	!	!
6. Check all cable connections	☒	!	!
7. Full Inspection [see below]	☒	☒	!

☑ Necessary ☒ Not necessary ! Safety task!
Take out of service and repair!

Full Inspection

- Check all Component condition and function
- Replace bad/worn components
- Perform a 100% pressure test (hydraulic devices) for 5 minutes and check for leakage
- Check all connections for proper installation

⚠ **NOTE** Rig operations may have different time schedules, replace hose and cable after 5 years at latest. Double check with rig superintendent.

⚠ **Mandatory** The locking cannot be unset/overwritten by giving a control unit command.

FORUM™ B+V Oil Tools

DO NOT DISCARD - GIVE TO OPERATOR

Printed in Germany

This publication is intended exclusively for the use of the version of the device described on the cover page. The values specified in this manual represent the nominal value of a unit produced in series. The values in individual units may have slight differences.

Please contact the technical department of your supplier for further information on adjustment, maintenance, and repairs.

This publication was complied with the utmost care. All data in this manual takes place using best knowledge. This manual is based on the latest product information that was available at the time of release.
However, **Zeppelin Baumaschinen GmbH** cannot be made liable either for any errors that may possibly occur in this publication or for the consequences related to them.

History of revisions

Version	Date	Comments	Author
A	??	Initial Release	
B	??	Update release	ROH
C	20/05/2015	Update Release	ROH

Manufacturer/sales: FORUM B + V Oil Tools

P/N: 754003-3

SN: Serial number (see type plate on device)

Year of manufacture: xxx/YY (see type plate on device)

Table of contents

OPERATION Manual

List of illustrations

1. General

Operators are obliged to observe this operating manual carefully.

1.1. Safety rules

This means that operators must pay particular attention to the safety rules and the operating and maintenance sections of this manual.

1.2. Safety measures

Zeppelin Baumaschinen GmbH does not accept any liability whatsoever for damage or injuries, which are caused by a failure to observe the safety measures or by carelessness during the installation, use, adjustment or maintenance of the equipment.
Safety is primarily based on common sense. Hence there are no general safety rules.
Every situation is more likely to have its own characteristics which cannot always be covered by rules. Hence experience and common sense are the key safety requirements.
It is the sole responsibility of users and operators to ensure that they adhere to the local health and safety regulations before starting to operate the equipment.

1.2.1. Symbols and information

In this document you will encounter five symbols that contain further information:

ATTENTION! Identifies a procedure which, if not carried out properly, can cause damage to the device.

! DANGER ! This type of warning alerts users to parts of the device which pose a risk of injury.

! HAZARD! This type of warning alerts users to parts of the device which pose a risk of injury.

! WARNING! Indicates a potentially dangerous situation. If this situation is not prevented, it COULD result in death or serious injuries.

Note! This symbol indicates a section of the text that contains further information on carrying out a particular task or to a reference or regulation, which contains further information.

1.2.2. Text conventions

- The names of menu commands, symbols, dialogs, buttons, and keys are written in **bold**.
- Underlining is used to highlight terms.
- *Italics* are used to highlight information.

1.3. Customer services

Please contact customer services if you have any problems and/or questions:

Modifications resulting from service and maintenance work which is carried out improperly or incorrectly ultimately exclude **Zeppelin Baumaschinen GmbH** from any liability.

1.4. Safety and maintenance

All the devices from **Zeppelin Baumaschinen GmbH** have been developed and tested in compliance with strict safety regulations. These include testing and approval on the part of official bodies and adherence to existing environmental standards.

Note!	It is essential you observe the following recommendations in order to ensure personal safety and the long-term functioning of the device.

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Note!	All the necessary operational and maintenance work must be carried out by technically qualified, trained personnel only. Modifying the operating parameters is not allowed.

2. Rules and operating instructions

You should also read and follow the following rules and operating instructions.

2.1. Operating personnel

Operating the equipment should be left to trained technicians only. Temporary workers and trainees must only be allowed to work on the equipment if they are supervised and instructed by trained personnel.

2.2. Operating and maintenance

Everyone working on or with the equipment should familiarize themselves with the contents of this manual and must follow the instructions precisely.

The management and operating personnel are duty-bound to inform the staff about the contents of this manual and comply with all the rules and information therein.

Note! Please refer to the instructions described in chapter 7 for all the necessary installation and/or maintenance instructions.

2.3. Water and moisture

Please make sure that all the protective equipment in the electrical system is installed, in order to ensure adequate protection against moisture and water, by providing the cable connections to the control unit with self-adhesive heat-shrink tubes. Omissions can cause the safety switches to malfunction and result in personal injuries and damage to parts of the equipment.

3. Safety instructions and warnings

The safety instructions and warnings result from the risk analysis. The following possible sources of hazards were examined and analyzed during the risk analysis:

- Danger to life
- Danger of being crushed
- Danger of being burned
- Danger of electrocution
- Noise pollution/hearing loss
- Eye damage
- Examination of protective measures (personal protective equipment for operators) is provided for the explosion-proof areas

! HAZARD ! **Warning of dangerous electrical voltage:**

Electrical machines contain dangerous live parts and can cause very severe injury to people and severe damage to equipment if used improperly, operated incorrectly, inadequately maintained, and dismantled in an unauthorized manner.

Operation is only permitted provided that the device is correctly connected.

Any work on the electrical equipment must only be carried out when the power supply is switched off. It is essential you disconnect the system from the power supply before you open the switch box.

3.1. Duties of operators

The control unit can pose a risk if it is used improperly or when in an improper condition. Operators are duty-bound to operate the control unit only when it is in perfect condition. Operators must appoint and instruct responsible people. Only use employees who have been trained and instructed. Clearly identify employees' responsibilities as regards operating, servicing, and maintaining the device. Check that the employees are conscious of safety and the hazards involved in their work, and are duly observing the operating manual. The employees responsible for operating the controls must have read and understood the operating manual before they start work. Store the operating manual and applicable rules so that the operating and maintenance personnel can access them.

3.2. Organizational measures

Operators must provide the following personal protective equipment:

- Safety helmets
- Safety shoes
- Work gloves
- Safety goggles
- Hearing protection

All the available safety equipment is listed in point 6 and must be checked regularly.

4. Technical data

4.1. Weights and measures

Total weight	approx. 35 kg
Dimensions:	
Height	approx. 400 mm
Width	approx. 300 mm
Depth	approx. 210 mm

Control Unit – Dimensions

4.2. Electrical connections

(see Image Connections)

Connections:

S1: Hydraulic valve for 24 V [DC] power supply input to solenoid A

S2: Hydraulic valve for 24 V [DC] power supply input to solenoid B

S3: Signal output of piston pressure switch with a maximum voltage of 250 V

4.3. Hydraulic connections

(see Image Connections)

P1 maximum flow pressure: 350 bar

T1 maximum return pressure: 120 bar

A1 + B1 working lines maximum pressure: 350 bar

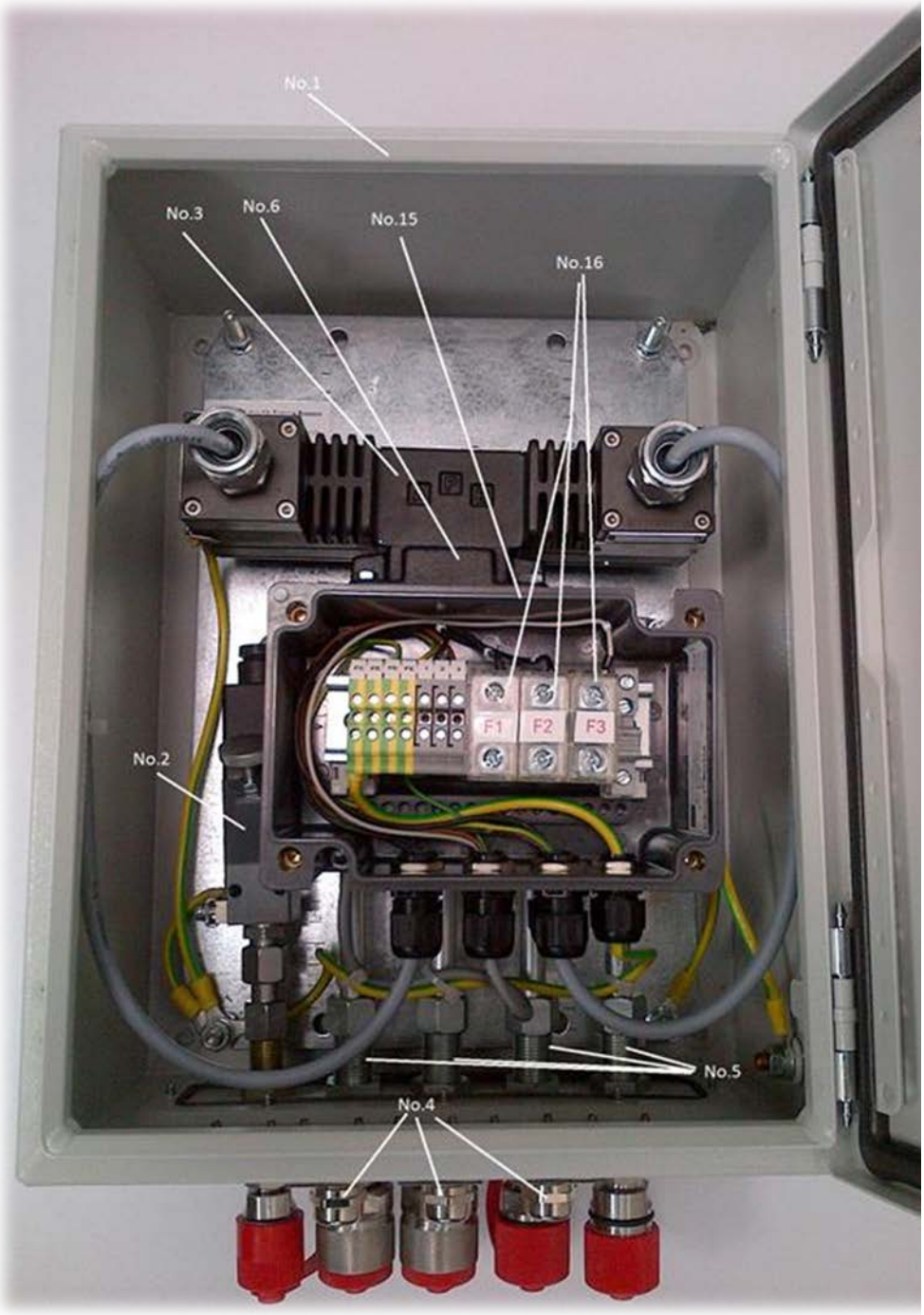
C1 pressure switch. P max.: 600 bar adjustment range 100 bar-400 bar

Connections

5. DESCRIPTION

The control unit consists of the following components:

Components numbered according to Images 3 and 4



Inside Connections

Outside Connections

Pos	Qty	P/N	Description
1	1	645120	Rittal switch cabinet
2	1	675074	SUCO pressure switch
3	1	755743	4/3-way directional valve
4	1	755197	Cable connections M16x1,5
5	1	755370	Schott screw connection
6	1	754111	Mounting plate for directional valve
7	1	754112	Set of labels for S1, S2, S3, C1, A1, B1, T1, P1
9	1	612936	Quick connection plug
13	1	612966	Quick connection socket
14	2	612937	Quick connection socket
15	4	645003-3	Terminal box (steel)
16	4	-	Fuses (included in Terminal Box)
17	6	645834	Quick connection socket

6. Operation

6.1. Use

The control unit is used to control one or more hydraulic components, such as the extension and retraction of a double action hydraulic cylinder via A1 and B1. In addition, it transmits an electrical signal (C1) to a monitoring system via an adjustable pressure switch. The electrical connections of the 4-3-way valve and the pressure switch are reliably distributed via an explosion-proof terminal box, including connection fuses. The power supply and hydraulic supply for the control unit must be supplied by the customer.

6.1.1. Intended use

Only the customer is allowed to use the device as intended.

It must only be used as intended, to control hydraulic components, such as double action hydraulic cylinders.

6.1.2. Improper use

Uses other than the uses identified are not allowed.

Improper use can cause hazards. Improper use in this sense is the dismantling of unspecified parts or the transportation of unspecified components.

6.2. Tools

Never use damaged (maintenance) tools.
Only use a tool for its intended purpose.

6.3. Safety equipment

You must install all the (available) safety equipment correctly. You must only be replaced by qualified maintenance engineers for maintenance and inspection purposes.

Check all the safety equipment at regular intervals and repair immediately if it malfunctions.

6.4. Warranty

! WARNING! **You must read through this operating manual carefully before commissioning the control unit.**

The manufacturer does not accept any liability for damage and operational malfunctions arising from non-compliance with the operating manual.

Due to existing national accident-prevention and environmental regulations, operators need to add operating instructions, including information on compulsory supervision and notification as regards taking account of operational peculiarities, e.g. with respect to organizing work.

Warranty is null and void in the event of:

- Improper use
- Use of unauthorized equipment
- Incorrect connection
- Non-use of original replacement components and accessories
- Retrofits which have not been approved by **Zeppelin Baumaschinen GmbH**
- Failure to carry out the required service work
- Carrying out welding work
- Modifications and conversions without the manufacturer's written permission

6.5. Function of the electrical safety equipment

The electrical safety equipment consists basically of the explosion-proof components, such as explosion-proof solenoids for directional valves, explosion-proof pressure switches, explosion-proof terminal boxes, and explosion-proof connection fuses.

7. Commissioning/Installation/Dismantling

7.1. Commissioning

The control unit must be checked by a qualified person prior to the first commissioning. All the components and movable parts must be subjected to a visual inspection and functional tests. Their completeness and safe functioning must be checked. The perfect functioning of the control unit must be checked before commissioning.

7.2. Mechanical assembly

The maximum required floor loading is 900 N. Operators are instructed to ensure the device is adequately anchored, so that it can be installed correctly.

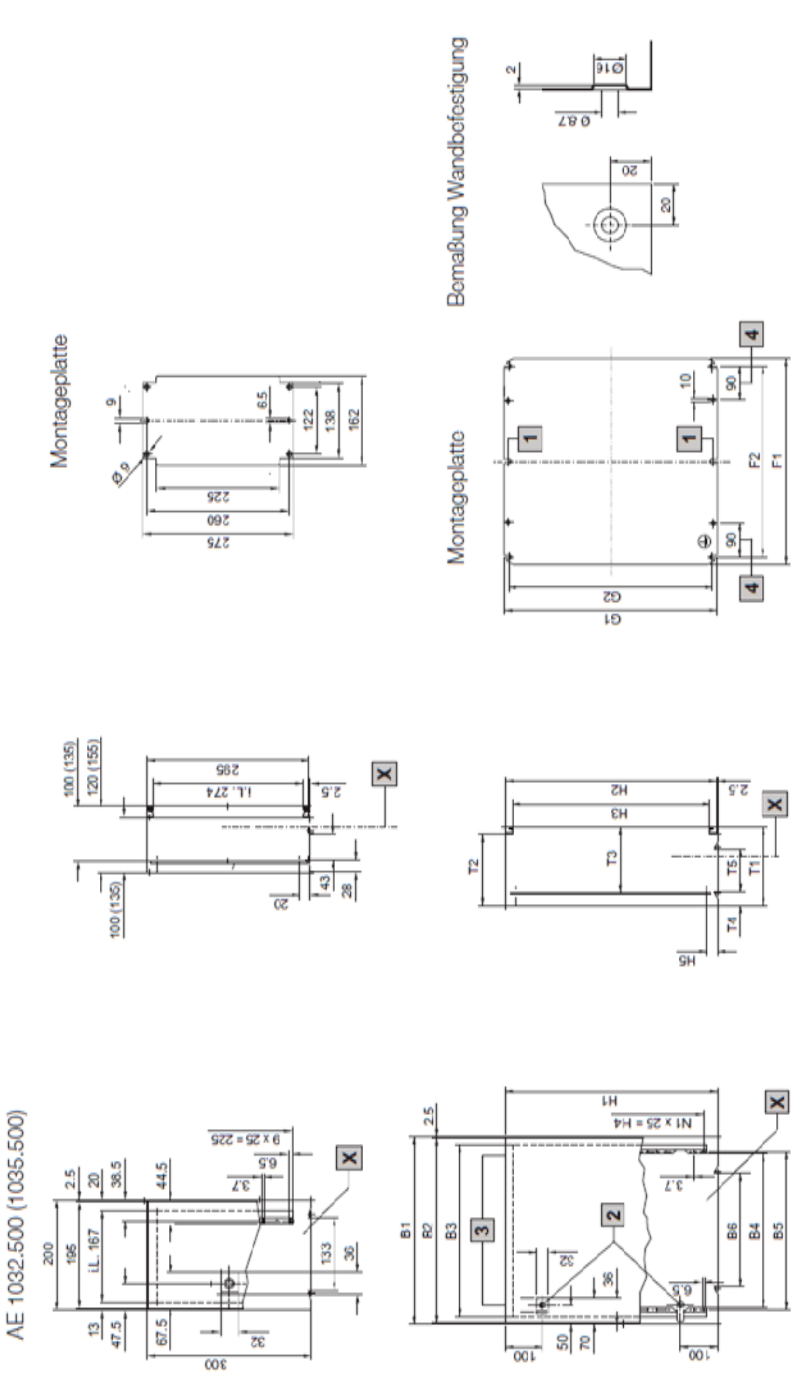
7.1.1. Anchoring the control unit

The wall mounting anchor points on the back of the installation housing must be used to install and/or anchor the control unit. Please refer to the attached sketch (yellow highlighting in Image 5) for the dimensions of the anchor holes. Size M8 high-tensile 8.8 machine screws should be used.

! WARNING! **Protecting the control unit from splashes of water is vital. You must ensure that the control unit is shielded from rainwater and/or spray from above. In addition, you should adhere to a minimum clearance of 40-50 cm from the floor/ground, to allow for the hydraulic and electrical connections fitted from below.**.

7.1.2. Mechanical construction

Screw the 4/3-way directional valve no. 3 (Image 4), using 4 Allen screws, securely onto connection plate no. 6 (Image 3). The installation cannot be changed since the 4 holes are not drilled centrally. Various fittings and tubes are manufactured for connecting the hydraulics to the transition point to the quick connectors. Terminal box no. 15 (Image 3) is connected by means of 2 fastening screws to the 2 angle supports manufactured for that purpose. Pressure switch no. 2 (Image 3) is installed on the Schott screw connections by means of a fitting.



Best.-Nr. AE	Breitenmaße mm						Höhenmaße mm					Tiefenmaße mm					Montageplatten mm		
Lackiert	B1	B2	B3	B4	B5	B6	H1	H2	H3	H4	H5	N1	T1	T2	T3	T4	T5	F1	F2	G1	G2
1036.500	300	295	260	211	223	233	300	295	260	225	27,5	9	155	132	113 – 129	47	45	254	215	275	250
1033.500	300	295	260	211	223	233	300	295	260	225	27,5	9	210	190	168 – 184	43	45	254	215	275	250
1034.500	300	295	260	211	223	233	400	395	360	325	27,5	13	210	190	168 – 184	43	45	254	215	375	350

Steel case construction

7.3. Electrical installation

Electrical connection must be carried out according to the plan of the electrical switches and by competent persons only. They must ensure that an adequately dimensioned (minimum 8 mm^2) PE cable is connected to the control unit.

Electrical connection by customers:

3 cable connections, S1, S2, and S3 are inserted beneath the control unit. A flexible oil-resistant cable size **G 3 x 1.5 mm^2** should be used. The S1 connection is intended for the pressure switch and is connected to the terminal panel at no. 3, as is fuse F3. The S2 connection is intended for solenoid B and is connected to the terminal panel at no. 2, as is fuse F2. The S3 connection is intended for solenoid A and is connected to the terminal panel at no. 3, as is fuse F1. The green/yellow PE conductor cable is connected to the PE terminals intended for this purpose. **To ensure perfect protection from explosions, you need to connect a protective conductor to the control unit. This can be fitted to a suitable place on the exterior of the installation housing.**

7.4. Dismantling

Dismantling by customers is not intended.

We recommend you have any repairs to the control unit done by service technicians from **Zeppelin Baumaschinen GmbH**.

8. Inspection and maintenance

! HAZARD !

The control unit is maintenance-free as a rule, and should only be opened if a fault occurs. Only open the installation housing once the hydraulic system has been switched off.
You risk danger of death if you do not meet this requirement.
To eliminate the risk posed by the hydraulic pressures, we advise you to remain a sufficiently safe distance away from the machine, otherwise you are at risk from random splashes of oil near the tubes and directional valve.

! HAZARD !

Warning of dangerous electrical voltage:
Electrical machines contain dangerous live parts and can cause very severe injury to people and severe damage to equipment if used improperly, operated incorrectly, inadequately maintained, and dismantled in an unauthorized manner.
You are only allowed to operate the control unit if a protective conductor is connected to it as required.
Any work on the electrical equipment must only be carried out once the power supply is switched off.
It is essential you disconnect the system from the power supply before you open the switch box.

8.1. Inspections and tests

Inspections and tests should be performed **1 x weekly**: this requires opening the switch box door and carrying out a visual inspection. You must localize and repair any leaks from the cables and valves, which you detect, immediately.

8.1.1. Tests before use

Testing the control unit before you use it is not absolutely compulsory provided there are no faults and the unit has been checked at regular intervals.

8.1.2. Routine tests

Routine tests are not intended.

Technical modification and conversion is not allowed.

8.1.3. Testing the electrical system

You should test the electrical system every **6 months,** and be on the alert for moisture in the terminal box. This requires opening the terminal box (no. 15 Image 3) by means of the 4 screws on the lid and performing a visual inspection. If moisture has built up inside the terminal box you must eliminate this and check for any damage to the seals and/or cable connections. If this is the case, you must replace any damaged seals and cable connections.

Important! Work on the electrical system or electrical equipment must only be carried out by experienced electricians or by persons especially trained for this, who are being supervised by electricians and are adhering to the relevant regulations concerning electro technology.

8.2. Cleaning

Clean the device with oil and maintenance products before beginning maintenance and/or repair. Do not use aggressive cleaning materials.

Inspection and maintenance work may only be carried out by qualified personnel or authorized dealers who have received instruction. When carrying out this work, they must observe the safety measures and maintenance intervals mentioned in this manual. Restrict pulling on tubes to a minimum.

9. Troubleshooting and fault correction

! HAZARD !

Warning of dangerous electrical voltage:
Electrical machines contain dangerous live parts and can cause very severe injury to people and severe damage to equipment if used improperly, operated incorrectly, inadequately maintained, and dismantled in an unauthorized manner.

! WARNING !

Any work on the electrical **equipment** must only be carried out once the power supply is switched off. It is essential you disconnect the system from the power supply before you open the switch box.

Possible errors:

- 1.) Valve solenoids A+B cannot be switched.
- 2.) Signal is not switched to C1.
- 3.) No hydraulic function although the solenoids are switched.
- 4.) Oil leaks from connections or valves.

Possible causes:

For 1.) Check connection fuse no. 16 and/or measure its resistance with an ohmmeter. Measure solenoids of valve no. 3 for short circuits. For this, measure terminal 1 and F1 solenoid A and terminal 2 and F2 solenoid B in the terminal box for short circuits.

For 2.) Check connection fuses no. 16. Check adjustment of pressure switch no. 2. For this, install a suitable pressure manometer into connection C1, use a multimeter to check the switch point on connection F3 in the terminal box and, if necessary, adjust the switch point on the knurled screw of the pressure switch: round to the left turns the switch point down, round to the right up.

For 3.) Check the pressure supply to the customer's hydraulic system.

For 4.) Are the swivel nuts loose or the washers under the directional valve faulty?

Fault correction:

For 1.) Replace faulty fuses: you have to turn the screws to unlock the fuses one by one from the top-hat rail, remove the cable on both sides and snap the new fuses into place on the rail, then connect the cable. If a solenoid has short circuited, the whole valve will need replacing.

For 2.) Replace the pressure switch if the fault cannot be corrected by adjustment on the knurled screw.

For 3.) Restart the pressure supply to the customer's hydraulic unit.

For 4.) Tighten the swivel nuts on the connections**.** Replace the washers beneath the valve.

10. Transport/Storage

10.1. Transport

The control unit is supplied fully installed and ready to connect, and can be transported on suitable pallets or in suitable boxes.

10.2. Storage

The following rules apply to storage:

- Store in as dry a place as possible.
- Store in as dust-free a place as possible.

10.3. Disposal

Control units that are no longer needed or have become unusable must be disposed of safely and in an environmentally sound manner.

Oil and grease must be correctly disposed of at the specified national disposal facilities.

11. Spare parts

11.1. Procedure

Quote the model and serial number of the machine or components when ordering spare parts. Confirm all telephone orders immediately, to prevent duplicate deliveries.

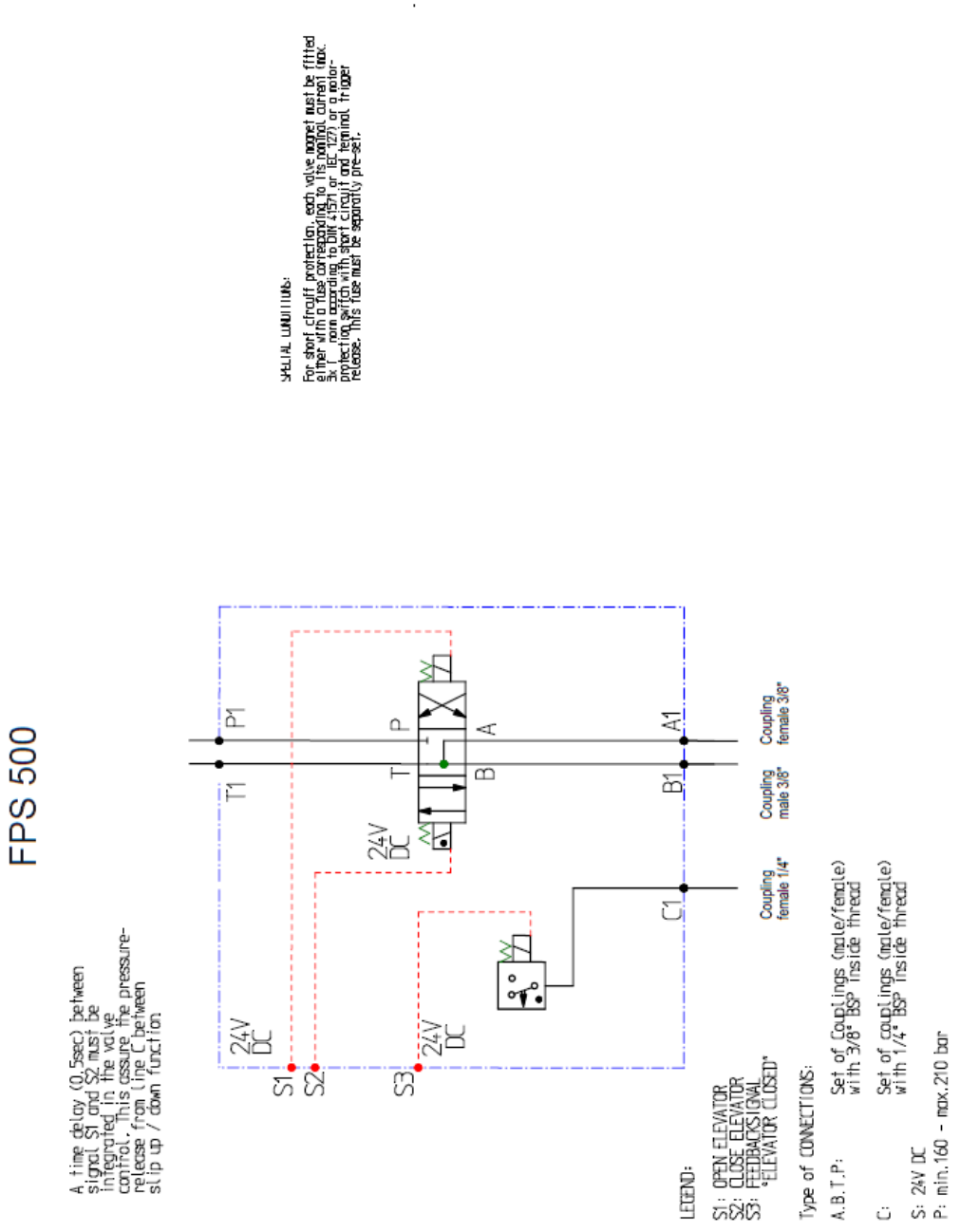
11.2. Original equipment

Any serial numbers that are quoted will only refer to parts that the machine was originally equipped with. If the equipment has been modified or parts added, their numbers may no longer be correct.

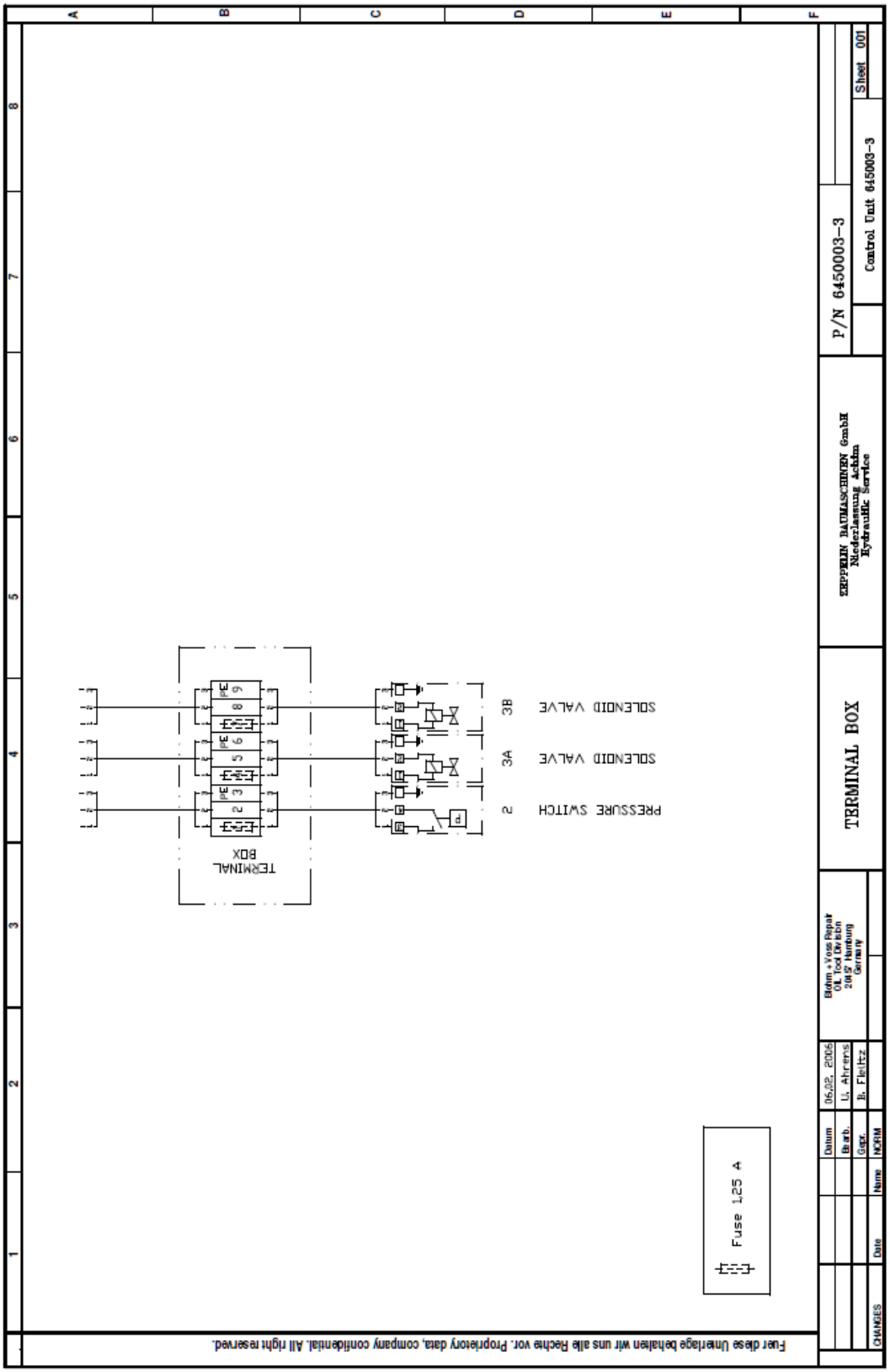
11.3. Spare parts catalog

Pos	Qty.	P/N	Description
1	1	645120	Cover w 300x400x210
2	1	675074	Pressure Switch
3	1	755743	4/3-W ay Solenoid Valve Ex
4	3	755197	Cable Glands
5	4	755370	Bulkhead coupling
6	1	754111	Mounting plate
7	1	754112	Shield set
8	1	745003-3	Type plate
9	1	612937	Coupling female flate face A1
10	4	755374	Male stud coupling
11	1	754113	Male stud coupling
12	1	87866	Bulkhead coupling
13	2	612936	Coupling male flate face P1+B1
14	1	612966	Coupling female flate face C1
15	1	645003-3	Terminal Box incl. Fuses
16	1	645834	Coupling female flate face T1

12. Appendix



Hydraulic switch plan



Electric switch plan

CESI CERTIFICATE

CESI
Centro Elettrotecnico Sperimentale Italiano Giacinto Motta SpA
Via R. Rubattino 54
20134 Milano - Italia
Telefono +39 022125 1
Fax +39 0221255440
www.cesi.it

Capitale sociale 8 550 000 € interamente versato
Codice fiscale e numero iscrizione CCIAA 00793580150
Registro Imprese di Milano
Sezione Ordinaria
N. R.E.A. 429222
P.I. IT00793580150

CESI-ATEX

Schema di certificazione

Il CESI è stato autorizzato dal governo italiano ad operare quale organismo di certificazione di apparecchi e sistemi destinati a essere utilizzati in atmosfere potenzialmente esplosiva con D.M. 1/3/1983, D.M. 19/8/1960, D.M. 20/7/1998 e D.M. 27/6/2000

[1] **EC-TYPE EXAMINATION CERTIFICATE**

[2] **Equipment or Protective System intended for use in potentially explosive atmospheres**
Directive 94/9/EC

[3] EC-Type Examination Certificate number:

CESI 02 ATEX 014

[4] Equipment: Explosion proof solenoid type OA-..; OZA-.-.; MZA-A-.

[5] Manufacturer: **ATOS S.p.A.**

[6] Address: Via alla Piana, 57 – 21018 Sesto Calende (VA) – Italy

[7] This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

[8] CESI, notified body n. 0722 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential report n. EX-A2/005935.

[9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 50014: 1997 + A1..A2 EN 50018: 2000

[10] If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.

[11] This EC-TYPE EXAMINATION CERTIFICATE relates only to the design, examination and tests of the specified equipment or protective system in accordance to the Directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

[12] The marking of the equipment or protective system shall include the following:

Ex II 2 G EEx d IIC T6, T4, T3

This certificate may only be reproduced in its entirety and without any change, schedule included.

Date 27 February 2002 – Translation issued the [SD1] 27 February 2002

Prepared	Verified	Approved
Enrico Radaelli	Damiano Cavanna	Ulisse Colombo

CESI
CENTRO ELETTROTECNICO SPERIMENTALE ITALIANO
Business Unit Certificazione
Il Responsabile

Page 1/4

ATEX certificate for Atos 4/3-way directional valve

Konformitätserklärung
Declaration of Conformity
Déclaration de Conformité

STAHL

R. STAHL Schaltgeräte GmbH • Am Bahnhof 30 • 74638 Waldenburg, Germany
erklärt in alleiniger Verantwortung, *declares in its sole responsibility, déclare sous sa seule responsabilité,*

dass das Produkt: *that the product:* *que le produit:*	**Leergehäuse** *Empty enclosure* *Boîtier vide*
Typ(en), *type(s), type(s):*	8146/-

mit den Anforderungen der folgenden Richtlinien und Normen übereinstimmt.
is in conformity with the requirements of the following directives and standards.
est conforme aux exigences des directives et des normes suivantes.

Richtlinie(n) *Directive(s)* *Directive(s)*		Norm(en) *Standard(s)* *Norme(s)*
94/9/EG: *94/9/EC:* *94/9/CE:*	**ATEX-Richtlinie** *ATEX Directive* *Directive ATEX*	EN 60079-0:2012 EN 60079-7:2007 EN 60079-31:2009
Kennzeichnung, *marking, marquage:*		Ⓔx II 2 G Ex e IIC Gb II 2 D Ex tb IIIC Db IP66 NB0158
EG-Baumusterprüfbescheinigung: *EC Type Examination Certificate:* *Attestation d'examen CE de type:*		PTB 01 ATEX 1015 U (Physikalisch-Technische Bundesanstalt, Bundesallee 100, 38116 Braunschweig, Germany, NB0102)
Produktnormen nach Niederspannungsrichtlinie: *Product standards according to Low Voltage Directive:* *Normes des produit pour la Directive Basse Tension:*		EN 62208:2011

Spezifische Merkmale und Bedingungen für den Einbau siehe Betriebsanleitung.
Specific characteristics and how to incorporate see operating instructions.
Caractéristiques et conditions spécifiques pour l'installation voir le mode d'emploi.

Waldenburg, 2014-07-21	i.V. [signature]	i.V. [signature]
Ort und Datum *Place and date* *Lieu et date*	Steffen Buhl Leiter Entwicklung Schaltgeräte *Director R&D Switchgear* *Directeur R&D Appareillage*	J.-P. Rückgauer Leiter Qualitätsmanagement *Director Quality Management* *Directeur Assurance de Qualité*

F-0174-801 01/2011 STV2   80145601020-02

Declaration of Conformity for Stahl terminal connection box

EC-Declaration of Conformity

Analogous the explosion protection rule 94/9/EG, attachment VI

for the

SUCO - pressure switch of the type 0165

Herewith we declare that the SUCO-pressure switch of the type 0165 complies with the requirement of the EC-rule 94/4/EG in the actual version in regarding of the attachment II.
The switch is developed, proofed and manufactured in regarding of the following standards.

The switch is suitable for using in the Ex-area of the zone 1 and 2 and must be installed by authorised, qualified personnel only. Observe the applicable safety regulations laid down by regulatory bodies in the country of use. The relevant safety-rules must be observed.

The switch is accredited with an EC-type-examination-certificate with PTB 02 ATEX 1103 X. The manufacturing will be observed from the PTB (Physikalisch-Technische-Bundesanstalt) with the notified body No. 0102.

Used standards:

- DIN EN 60079-0:2006
- DIN EN 60079-1:2007

EC – Examination Certificate see also at the attached sheets 1 + 2

SUCO-Robert Scheuffele GmbH & Co. KG
Keplerstraße 12 - 16
D-74321 Bietigheim-Bissingen

Bietigheim-Bissingen, 15th April 2010

i. V.
Roland Kübler, Quality Manager

i. V.
Guido Hering, Technical Manager

CERTIFICATE

issued by

Rittal GmbH & Co. KG

Auf dem Stützelberg
D-35745 Herborn

Quality Management

Herewith we confirm that the Rittal AE enclosure

1036.500	1033.500	1034.500	1030.500	1031.500
1380.500	1038.500	1338.500	1045.500	1037.500
1050.500	1350.500	1057.500	1039.500	1339.500
1060.500	1054.500	1360.500	1076.500	1376.500
1058.500	1090.500	1260.500	1077.500	1073.500
1055.500	1180.500	1280.500		

complies with the requirements of the hosedown test according to UL50 Type 4 (NEMA 4) and fulfil the protection category IP66 according to EN 60529 "Degrees of protection provided by enclosures" dated September 2000.

Herborn, 2014-02-03

Axel Remmert
Quality Management Laboratory

DAkkS Deutsche Akkreditierungsstelle D-PL-17086-01-01

Rittal's test laboratory is accredited with the German Accreditation Council (DAkkS) No. D-PL-17086-01-01 and Underwriters Laboratories Inc.

Rittal GmbH & Co. KG
Personally liable:
Rittal Management GmbH,
Schwende

Management:
Friedhelm Loh (President)
Karl Christoph Cassiltz
Dr. Guido Stennek
Dr. Thomas Steffen
Hermann Tetzner
Michael Welter

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www.rittal.de
HRA 6126 Wetzlar

ENCLOSURES · POWER DISTRIBUTION · CLIMATE CONTROL · IT INFRASTRUCTURE · SOFTWARE & SERVICES

RITTAL

THE RITTAL LOR GROUP

Certificate for Rittal switch and/or installation cabinets

Physikalisch-Technische Bundesanstalt

PTB

Braunschweig und Berlin

(1) EG-Baumusterprüfbescheinigung

(2) Geräte und Schutzsysteme zur bestimmungsgemäßen Verwendung in explosionsgefährdeten Bereichen - **Richtlinie 94/9/EG**

(3) EG-Baumusterprüfbescheinigungsnummer

PTB 99 ATEX 2158 U

(4) Komponente: Sicherung Typ 8560/..

(5) Hersteller: R.Stahl Schaltgeräte GmbH

(6) Anschrift: Bergstraße 2, D-74653 Künzelsau

(7) Die Bauart dieser Komponente sowie die verschiedenen zulässigen Ausführungen sind in der Anlage zu dieser Baumusterprüfbescheinigung festgelegt.

(8) Die Physikalisch-Technische Bundesanstalt bescheinigt als benannte Stelle Nr. 0102 nach Artikel 9 der Richtlinie des Rates der Europäischen Gemeinschaften vom 23. März 1994 (94/9/EG) die Erfüllung der grundlegenden Sicherheits- und Gesundheitsanforderungen für die Konzeption und den Bau von Geräten und Schutzsystemen zur bestimmungsgemäßen Verwendung in explosionsgefährdeten Bereichen gemäß Anhang II der Richtlinie.

Die Ergebnisse der Prüfung sind in dem vertraulichen Prüfbericht PTB Ex 99-29100 festgelegt.

(9) Die grundlegenden Sicherheits- und Gesundheitsanforderungen werden erfüllt durch Übereinstimmung mit

EN 50014:1997 **EN 50019:1994** **EN 50028:1987**

(10) Das Zeichen "U" hinter der Zertifikatsnummer gibt an, daß dieses Zertifikat nicht mit einem für ein Gerät oder Schutzsystem vorgesehenen Zertifikat verwechselt werden darf. Diese Teilbescheinigung darf nur als Basis für die Bescheinigung eines Gerätes oder Schutzsystems verwendet werden.

(11) Diese EG-Baumusterprüfbescheinigung bezieht sich nur auf Konzeption und Bau der festgelegten Komponente gemäß Richtlinie 94/9/EG. Weitere Anforderungen dieser Richtlinie gelten für die Herstellung und das Inverkehrbringen dieser Komponente.

(12) Die Kennzeichnung der Komponente muß die folgenden Angaben enthalten:

Ex II 2 G EEx me II und I M2 EEx me I

Zertifizierungsstelle Explosionsschutz
Im Auftrag

Braunschweig, 20. September 1999

Dr.-Ing. U. Johannsmeyer, z.Z. abwesend
Regierungsdirektor

i.A. [signature]

Seite 1/2

EG-Baumusterprüfbescheinigungen ohne Unterschrift und ohne Siegel haben keine Gültigkeit.
Diese EG-Baumusterprüfbescheinigung darf nur unverändert weiterverbreitet werden.
Auszüge oder Änderungen bedürfen der Genehmigung der Physikalisch-Technischen Bundesanstalt.

Physikalisch-Technische Bundesanstalt • Bundesallee 100 • D-38116 Braunschweig

Certificate for explosion-proof connection fuses

13. Works test certificate

ZEPPELIN CAT

Zeppelin Baumaschinen GmbH - Vertriebs- und Servicezentrum Bremen – Zeppelinstr. 2 - 28832 Achim
Telefon: +49 4202-516-0 Telefax: +49 4202-516-180

Pressure Test Certificate

Herwith we certificate a presure test:

Worke pressure: 210 bar
Test pressure : 325 bar

Blohm + Voss order no.: 645003-3

Description:	**Unit-Control**
Test type:	**static pressure test, about 15 min**
Tested companions:	**Seals, pipe, valve and conectors.**
Test results:	**The test was successful.**
Period of manufactory:	**2014 / 1 - 12**

i.A. Jens Rohlfing

ZEPPELIN BAUMASCHINEN GmbH
Vertriebs- und Servicezentrum Bremen