Operator manual

Portable Rotary Screw Compressor

MOBILAIR M250E / M255E SIGMA CONTROL SMART

No.: 902482_00 USE

Read this manual before using this product.

Failure to follow the instructions and safety precautions in this manual can result in serious injury or death.

Manufacturer:

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KAESER KOMPRESSOREN

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1 Regarding this Document

1.1 Using this document

The operating manual is a component of the product. It describes the machine as it was at the time of first delivery after manufacture.

- ➢ Keep the operating manual in a safe place throughout the life of the machine.
- ➢ Supply any successive owner or user with this operating manual.
- ➢ Please insert any amendment or revision of the operating manual sent to you.
- ➢ Enter details from the machine nameplate and individual items of equipment in the table in chapter 2.

1.2 Further documents

Further documents included with this operating manual are:

- Certificate of acceptance / operating instructions for the pressure vessel
- Declaration of Conformity in accordance with applicable directives

Missing documents can be requested from KAESER.

- ➢ Make sure all documents are complete and observe the instructions contained in them.
- ➢ Make sure you provide the data from the nameplate when ordering documents.

1.3 Copyright

1.4 Symbols and labels

- ➢ Please note the symbols and labels used in this document.

1.4.1 Warnings

Warning notices indicate risks potentially resulting in personal injury, if the measures specified are not taken.

Warning notices indicate three levels of danger identified by the corresponding signal word:

Signal word	Meaning	Consequences of ignoring the warning
DANGER	Warns of an imminent danger	Will very likely result in death or severe injury
WARNING	Warns of a potentially imminent danger	May result in death or severe injury
CAUTION	Warns of a potentially dangerous situation	May result in a moderate physical injury

Tab. 1 Danger levels and their definition (personal injury)

Some warning notes may precede a chapter. They apply to the entire chapter including all subsections.

Example:

⚠ DANGER

The type and source of the imminent danger is shown here!
The possible consequences of ignoring a warning are shown here.
The word "DANGER" indicates that death or severe injury can very likely result from ignoring the warning.

➢ *The measures required to protect yourself from danger are shown here.*

Warning notes referring to a subsection or the subsequent action are integrated into the procedure and numbered as an action.

Example:

1. **⚠ WARNING** *The type and source of the imminent danger is shown here!*
   The possible consequences of ignoring a warning are shown here.
   The word "WARNING" indicates that death or severe injury may result from ignoring the warning.
   ➢ *The measures required to protect yourself from danger are shown here.*
2. Always read and comply with warning instructions.

1.4.2 Potential damage warnings

Contrary to the warnings shown above, damage warnings do not indicate a potential personal injury.

Damage warnings have only one danger level, identified with this signal word:

Signal word	Meaning	Consequences of non-compliance
NOTE	Warns of a potentially dangerous situation	Damage to property is possible

Tab. 2 Danger levels and their definition (damage to property)

Example:

NOTICE

The type and source of the imminent danger is shown here!
Potential effects when ignoring the warning are indicated here.

➢ *The protective measures against the damages are shown here.*

➢ Carefully read and fully comply with warnings against damages.

1.4.3 Other alert notes and their symbols

This symbol indicates particular important information.

Material Here you will find details on special tools, operating materials or spare parts.

Precondition Here you will find conditional requirements necessary to carry out the task.
The conditions relevant to safety shown here will help you to avoid dangerous situations.

➢ This symbol is placed by lists of actions comprising one step of a task.

1. In process instructions with several steps ...
2. ... the sequence of steps is numbered.

Result — Shows the expected conclusion of the previous action.

Option da — ➢ Information relating to one option only is marked with an option code (e.g., "option da" means that this section is only valid for machines with the air treatment components "aftercooler and centrifugal separator"). Option codes used in this operating manual are explained in chapter 2.2.

Information referring to potential problems is identified by a question mark.

The cause is named in the help text ...

➢ ... and a remedy given.

This symbol refers to important information or measures concerning environmental protection.

Further information — Further topics are introduced here.

2 Technical Data

2.1 Nameplate

The machine's nameplate provides the type and important technical information.

The nameplate is located on the outside of the machine (see illustration in chapter 13.1).

➢ Enter here the nameplate data as a reference:

Feature	Value
Portable screw compressor	
Part No.	
Serial No.	
Actual total weight	
Lifting point load capacity	
Rated power	
Rated motor speed	
Max. working pressure	

Tab. 3 Nameplate

2.2 Options

A list of the options built into your machine helps to correlate the information in this Operating Manual.
Available options are listed on the options label (option: code letters).

This label can be found:

- On the outside of the machine.
- See chapter 13.1.

The following tables list all possible options.
Only the codes for those options fitted appear on the label!

Options fitted:

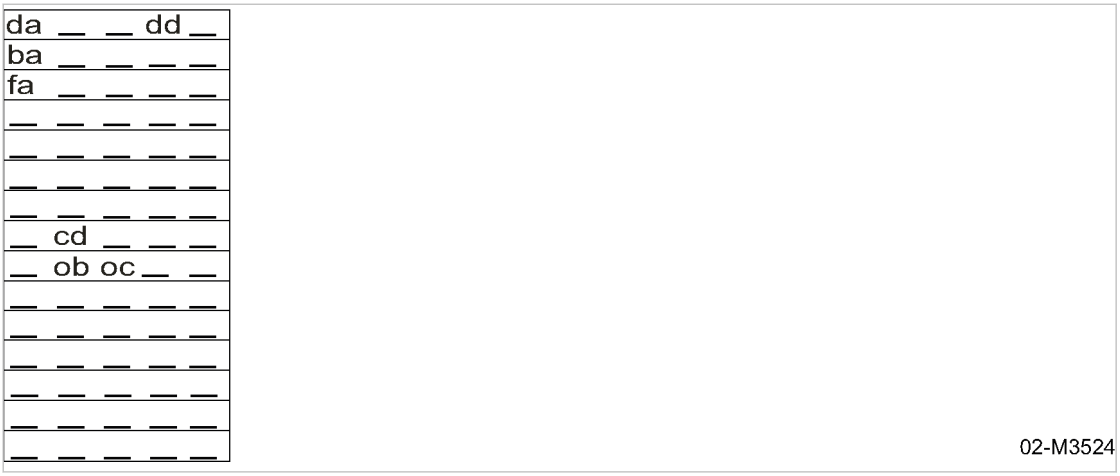


Fig. 1 Option label MOBILAIR M250E / M255E with options

➢ Take a list of available options from the options label and enter these options as reference in the overviews below.

2.2.1 Option fa
Compressed air distributor

Option	Option code	Available?
Non-separated compressed air distribution line	fa	

Tab. 4 Compressed air distributor option

2.2.2 Option dd
Air treatment

Option	Option code	Available?
Filter combination	dd	
–	–	

Tab. 5 Air treatment options

2.2.3 Option ba
Low temperature equipment

Option	Option code	Available?
Insulated control air lines	ba	
–	–	

Tab. 6 Low temperature equipment option

2.2.4 Option ob
Automatic start/stop

Option	Option code	Available?
Automatic start/stop	ob	

Tab. 7 Automatic start/stop

2.2.5 Option cd
DUAL Control

Option	Option code	Available?
DUAL control	cd	

Tab. 8 DUAL control

2.2.6 Option oc
GSM/GPS modem

Option	Option code	Available?
GSM/GPS modem	oc	

Tab. 9 GSM/GPS modem

2.3 Machine (without options)

2.3.1 Sound pressure level [dB(A)]

The sound pressure level conforms to the US EPA Standard.
Measuring distance: 23 ft

Sound Pressure Level	M250E / M255E
Sound pressure level [dB(A)]	76

Tab. 10 Guaranteed sound pressure level [dB(A)]

2.3.2 Tightening torque

2.3.2.1 Tightening torques for screws

Overview:
- Standard values for M4–M8 screws
  - Surface finish: zinc plated (bright)
- Standard values for M10–M24 screws
  - Surface finish: zinc flake coating (matte).

➢ Set the torque as appropriate for the surface finish and friction coefficient.

Standard values for M4–M8 screws with steel grade 8.8:

Thread	M4	M5	M6	M8
Torque [lbf-in]	26.6	52.2	88.5	216.8
Surface finish: zinc plated (bright) Standards based on VDI 2230.				

Tab. 11 Torques for M4–M8 screws

Standard values for M10–M24 screws with steel grade 8.8:

Thread	M10	M12	M14	M16	M20	M24
Torque [lbf-in]	354	620	929	1416	2832	4868
Surface finish: zinc flake coating (matte). Standards based on VDI 2230.						

Tab. 12 Torques for M10–M24 screws

2.3.2.2 Torque cover fixing screws oil separator tank

Recommended values for screws corresponding to the strength category:

Screws	Strength category	Thread	Torque [lbf in]
Hex-head screw	8.8	M20	1770

Tab. 13 Torque cover fixing screws oil separator tank

2.3.2.3 Torques for lifting eye

Recommended values for screws corresponding to the strength category:

Screws	Strength category	Thread	Torque [lbf in]
Hex-head bolt	8.8	M16	1770
Hex-head bolt	8.8	M20	3540

Tab. 14 Torques for lifting eye screws

2.3.3 Ambient conditions

Positioning	Limit value
Maximum altitude amsl* [ft]	3000
Minimum ambient temperature [°F]	14
Maximum ambient temperature [°F]	104
* Higher altitudes are permissible only after consultation with the manufacturer.	

Tab. 15 Ambient conditions

2.3.4 Additional specifications

Specifications according to the machine's operating license, such as:

- Dimensions,
- Footprint

can be found in the dimensional drawing, chapter 13.3.

The dimensional drawing also shows the position of the following inlets and outlets relevant to the machine's function:

- Cooling air inlet
- Cooling air outlet
- Compressed air outlet

2.4 Compressor

2.4.1 Gauge working pressure and flow rate

Definition of flow rate: Continuous delivery volume relative to intake conditions

460 V / 60 Hz

Type	M250E			
Maximum gauge working pressure [psig]	125	–	175	203
SIGMA airend	36.1	–	33.1	32.1
Flow rate [cfm]	885	–	705	565
Flow rate as per ISO 1217:2009. Annex C				

Tab. 16 Gauge working pressure and flow rate, M250E / 460 V / 60 Hz

Type	M255E			
Maximum gauge working pressure [psig]	125	145	–	203
SIGMA airend	37.1	36.1	–	33.1
Flow rate [cfm]	990	870	–	690
Flow rate as per ISO 1217:2009. Annex C				

Tab. 17 Gauge working pressure and flow rate, M255E / 460 V / 60 Hz

575 V / 60 Hz

Type	M250E			
Maximum gauge working pressure [psig]	125	–	175	203
SIGMA airend	36.1	–	33.1	32.1
Flow rate [cfm]	885	–	705	565
Flow rate as per ISO 1217:2009. Annex C				

Tab. 18 Gauge working pressure and flow rate, M250E / 575 V / 60 Hz

Type	M255E			
Maximum gauge working pressure [psig]	125	145	–	203
SIGMA airend	37.1	36.1	–	33.1
Flow rate [cfm]	990	870	–	690
Flow rate as per ISO 1217:2009. Annex C				

Tab. 19 Gauge working pressure and flow rate, M255E / 575 V / 60 Hz

2.4.2 Safety relief valve

Maximum working pressure: see machine nameplate

Maximum working pressure [psig]	125	145	175	203
Safety relief valve actuating pressure* [psig]	160	175	203	230
*The safety relief valve is fitted to the oil separator tank				

Tab. 20 Safety relief valve actuating pressure

2.4.3 Temperature

Overview:

- Typical airend discharge temperature during operation
- LOAD operation with required airend discharge temperature
- Safety shut-down at maximum discharge temperature

2.4.3.1 Typical airend discharge temperature during operation

A conventionally thermostatic valve regulates the compressor temperature accordingly.

Machine temperature	Value
Typical discharge temperature [°F] during operation	185 230

Tab. 21 Machine temperature

2.4.3.2 LOAD operation with required airend discharge temperature

Airend discharge temperature for LOAD mode	Value
Required airend discharge temperature [°F] for switching to LOAD mode	68

Tab. 22 Switching to LOAD mode

2.4.3.3 Safety shut-down at maximum airend discharge temperature

Machine temperature	Value
Maximum airend discharge temperature [°F] automatic safety shut-down	243

Tab. 23 Machine temperature

2.4.4 Compressor air filter maintenance switch

Maintenance switch	Value
Switching point at vacuum [psi]	0.8

Tab. 24 Maintenance switch switching point

2.4.5 Compressed air outlet

Type of butterfly valve	
Quantity	1
Nominal width DN [mm]	80
Number of holes, flange	8
Thread	M16
Actuation of butterfly valve	Hand wheel with gear

Tab. 25 Compressed air outlet butterfly valve

2.4.6 Compressed air quality

2.4.6.1 Ambient temperature

The quality of the treated compressed air depends on the ambient temperature.

Ambient temperature	Limit value
Minimum ambient temperature [°F]	14
Maximum ambient temperature [°F]	104

Tab. 26 Ambient temperature

2.4.6.2 Compressed air quality at the compressed air outlet

The compressed air outlet is marked with the identifiers of compressed air quality.

Interrelation between compressed air treatment and compressed air quality:

Compressed air treatment		Compressed air quality	
Standard design / option code	Components	Characteristics	Code
Standard design	■ Compressed air aftercooler ■ Centrifugal separator	Cool and condensate-free	A

Compressed air treatment		Compressed air quality	
Standard design / option code	Components	Characteristics	Code
Standard design + dd	■ Compressed air aftercooler ■ Centrifugal separator ■ Filter combination	Dry and technically oil-free	F

Tab. 27 Interrelation between compressed air treatment and compressed air quality

2.4.7 Cooling oil recommendation

A sticker showing the type of oil used is located near the oil separator tank filler.
Information on ordering cooling oil is found in chapter 11.

	SIGMA FLUID
	S-570
Description	Synthetic oil
Application	Special oil for ambient conditions with high temperatures and humidity. Standard oil for all applications except in connection with foodstuffs. Particularly suitable for machines with a high duty cycle.
Viscosity at 104°°F	0.08 in^2/s (ASTM D445)
Viscosity at 212 °F	0.01 in^2/s (ASTM D445)
Flash point	497°F (ASTM D92)
Density at 59 °F	54.2 lb/ft^3 (ASTM D1298)
Pour point:	–65°F (ASTM D97)

Tab. 28 Cooling oil recommendation

2.4.8 Cooling oil charge

Cooling oil	Fluid volume [qt]
Machine	69

Tab. 29 Cooling oil charge

2.4.9 Checking the filling volume of the condensate collection tank

Internal condensate collection tank	Value
Filling volume [gal]	6.6

Internal condensate collection tank	Value
–	–

Tab. 30 Filling volume of internal condensate collection tank

2.5 Drive motor

2.5.1 Make

Type	M250E	
Rated power [hp]	175	
Rated voltage [V]	460 / 3 ~	575 / 3 ~
Frequency [Hz]	60	60
Manufacturer	Siemens	Siemens
Model	1PC30053AB200MAO	1PC30053AB200MA2

Tab. 31 Drive motors by rated power 175 hp

Type	M255E	
Rated power [hp]	214.6	
Rated voltage [V]	460 / 3 ~	575 / 3 ~
Frequency [Hz]	60	60
Manufacturer	Siemens	Siemens
Model	1PC30053AB400MAO	1PC30053AB400MAO

Tab. 32 Drive motors by rated power 214.6 hp

2.5.2 Drive motor rated power

Type	M250E	
Rated power [hp]	175	
Rated voltage [V]	460 / 3 ~	575 / 3 ~
Frequency [Hz]	60	60
Rated voltage tolerance [%]	±10	±10
Rated speed [rpm]	1793	1793
Energy-efficiency class	IE4	IE4
Protection class	IP55	IP55

Tab. 33 Technical specifications for M250E drive motors

Type	M255E	
Rated power [hp]	214.6	
Rated voltage [V]	460 / 3 ~	575 / 3 ~
Frequency [Hz]	60	60
Rated voltage tolerance [%]	±10	±10
Rated speed [rpm]	1793	1793
Energy-efficiency class	IE4	IE4
Protection class	IP55	IP55

Tab. 34 Technical specifications for M255E drive motors

2.5.3 Maximum rated current

Type	M250E			
Rated power [hp]	175			
Rated voltage [V]	460 / 3 ~			
Frequency [Hz]	60			
Working pressure [psig]	125	–	175	203
Maximum rated current (I_N) [A]	235	–	238	232

Tab. 35 Maximum rated current M250E

Type	M255E			
Rated power [hp]	214.6			
Rated voltage [V]	460 / 3 ~			
Frequency [Hz]	60			
Working pressure [psig]	125	145	–	203
Maximum rated current (I_N) [A]	284	268	–	267

Tab. 36 Maximum rated current M255E

Type	M250E			
Rated power [hp]	175			
Rated voltage [V]	575 / 3 ~			
Frequency [Hz]	60			
Working pressure [psig]	125	–	175	203
Maximum rated current (I_N) [A]	189	–	191	187

Tab. 37 Maximum rated current M250E

Type	M255E			
Rated power [hp]	214.6			
Rated voltage [V]	575 / 3 ~			
Frequency [Hz]	60			
Working pressure [psig]	125	145	–	203
Maximum rated current (I_N) [A]	232	218	–	218

Tab. 38 Maximum rated current M255E

2.6 Electrical connection

2.6.1 Power Supply

Basic requirements

The machine is designed for an electrical supply according to National Electric Code (NEC), edition 2020, particularly article 670 and NFPA 79, edition 2018, particularly section 4.4. In the absence of any user-specified alternatives, the limits given in these standards must be adhered to. Consult manufacturer for any other specific power supply.

The incoming line within the control panel should be as short as possible. Observe the max. distance from the fuse disconnect switch to the bodywork from 6.6 ft.

If external sensors or communication lines are to be connected to the machine, use shielded cables and insert the same through EMC fittings into the control panel.

Three-phase

Do **NOT** operate package on any unsymmetrical power supply. Also do **NOT** operate package on power supplies such as a three-phase WYE system with the center point not solidly grounded or three-phase (open) delta.

The machine requires a symmetrical three-phase power supply transformer with a WYE configuration output as shown in Figure 2 and Figure 3. In a symmetrical three phase supply the phase angles and voltages are all the same.

Other power supplies are not suitable.

Fig. 2 Three-phase star (wye system); 4 wire; center point solidly grounded

Fig. 3 Three-phase star (wye system); 3 wire; grounded center point solidly grounded

Further information Please contact an authorized KAESER service representative for options.

The electrical diagram 13.4 contains further specifications for electrical connection.

2.6.2 Power supply specifications

The following multi-strand copper core wires are given according to 2020 NEC 310.14, 310.15, 310.16 and table 310.16 adjusted for 104 °F ambient temperature.

If other local conditions prevail, like for example high temperature, the cross section should be checked and adjusted according to 2020 NEC 110.14(C), 220.3, 310.14, 310.15, 310.16, table 310.15(B)(1), table 310.15(C)(1), 430.6, 430.22, 430.24, 670.4(A) and other local codes.

Dual element time delay fuses should be selected according to 2020 NEC 240.6, 430.52 and tables 430.52, 430.248 and 430.250.

It is recommended to use a ground conductor the same size as the current carrying conductors, if local codes allow. Neither the minimum ground wire size as pointed out in 2020 NEC table 250.122 nor using conduit as the sole ground connection is recommended.

Further information The electrical diagram in chapter 13.4 contains further specifications for electrical connection.

Type	M250E	
Rated voltage [V]	460 V	575 V
Supply per phase and ground (167°F)	2xAWG3/0	2xAWG2/0
Fuse protection [A] as per Class J	300	250
Max. voltage, backup fusing [V]	600	600

Tab. 39 Connection type for rated voltage 460V/575V/M250E

Type	M255E	
Rated voltage [V]	460 V	575 V
Supply per phase and ground (167°F)	2xAWG4/0	2xAWG3/0
Fuse protection [A] as per Class J	350	300
Max. voltage, backup fusing [V]	600	600

Tab. 40 SConnection type for rated voltage 460V/575V/M255E

2.7 Fan motor

2.7.1 Fan motor rated power

Rated voltage [V]	460 / 3 ~	575 / 3 ~
Rated power [hp]	8	8
Maximum speed [rpm]	1250	1250
Protection class	Type rating 3	Type rating 3

Tab. 41 Fan motor rated power 60 Hz

2.8 Options

2.8.1 Option ba Low-temperature equipment

2.8.1.1 Ambient conditions

Installation	Limit value
Maximum elevation ASL* [ft]	3000
Minimum ambient temperature [°F]	14
Maximum ambient temperature [°F]	104
* Higher altitudes are permissible only after consultation with the manufacturer	

Tab. 42 Ambient conditions, low-temperature equipment

2.8.1.2 Auxiliary heater

Standstill heater	Value
Number of radiators	3
Total power of the radiators [W]	1500
Switching point, thermostat [°F]	41
Protection rating	—

Tab. 43 Auxiliary heater power

2.8.2 Option cd Measuring point connection

Name	Value
Hose coupling [“]	G 1/4
Pressure transducer [psi / mA]	0–16 / 4–20

Tab. 44 Measuring point connection

3 Safety and Responsibility

3.1 Basic instructions

The machine is manufactured to the latest engineering standards and acknowledged safety regulations. Nevertheless, dangers can arise through its operation:

- Danger to life and limb of the operator or third parties,
- Impairments to the machine and other material assets.

⚠ Disregard of warning or safety instructions can cause serious injuries!

➢ Use this machine only if it is in a technically perfect condition and only for the purpose for which it is intended; observe all safety measures and the instructions in the service manual!

➢ Immediately rectify (have rectified) any faults that could be detrimental to safety!

3.2 Specified use

The machine is intended solely for generating compressed air for industrial use. Any other use is considered incorrect. The manufacturer is not liable for any damages that may result from incorrect use. The user alone is liable for any risks incurred.

➢ Comply with the specifications listed in this service manual.

➢ Operate the machine only within its performance limits and under the permitted ambient conditions.

➢ Do not use compressed air for breathing purposes unless it is specifically treated.

➢ Do not use compressed air for any application that will bring it into direct contact with food products unless it is specifically treated.

3.3 Incorrect Use

Improper usage can cause damage to property and/or (severe) injuries.

➢ Only use the machine as intended.

➢ Never direct compressed air at persons or animals.

➢ Do not use untreated compressed air for breathing purposes.

➢ Do not allow the machine to take in toxic, acidic, flammable, or explosive gases or vapors.

➢ Do not operate the machine in areas in which specific requirements with regard to explosion protection are in effect.

3.4 Operator responsibilities

3.4.1 Observe statutory and accepted rules and regulations

Examples of these include nationally implemented directives and/or applicable national legislation, safety and accident prevention regulations.

1. **⚠ DANGER** *Risk of fatal injury caused by contact with live components!*
   ➢ *Only certified electricians may work on the installation, maintenance and repair of the machine's electrical assemblies. This includes work on live components!*

2. Observe relevant statutory regulations and accepted technical rules during transport, operation, and maintenance of the machine.

3.4.2 Determining suitable personnel

Suitable personnel are experts who, by virtue of their training, knowledge and experience, as well as their knowledge of relevant regulations, can assess the work to be undertaken and recognize the possible dangers involved.

Authorized operating personnel possess the following qualifications:

- they are of legal age,
- are familiar with and adhere to the safety instructions and sections of the Operating Manual relevant to operation,
- they have received adequate training and authorization to operate electrical and compressed air devices,

Authorized maintenance personnel possess the following qualifications:

- they are of legal age,
- are familiar with and adhere to the safety instructions and sections of the Operating Manual relevant to maintenance,
- are fully familiar with the safety concepts and regulations of electrical and compressed air engineering,
- are able to recognize the possible dangers of electrical and compressed air devices and take appropriate measures to safeguard persons and property,
- have received adequate training in and authorization for the safe installation and maintenance of this machine.

Authorized transport personnel possess the following qualifications:

- they are of legal age,
- are familiar with and adhere to the safety instructions and sections of the Operating Manual relevant to transporting,
- are familiar with the safety regulations relating to handling transport goods,

➢ Ensure that personnel entrusted with transport, operation, and maintenance are qualified and authorized to carry out their tasks.

3.4.3 Complying with inspection schedules and accident prevention regulations

The machine is subject to local inspection schedules.

➢ Have the pre-commissioning inspection carried out according to the Ordinance on Industrial Safety and Health, §15.

➢ Carry out recurring inspections:
The user must ensure that the machine's safety devices are checked for function as required or at least annually.

➢ Carry out oil changes:
The user must ensure that the cooling oil is changed as required or at least annually and the oil change must be documented. Intervals may be varied if an analysis proves that the oil is still usable.

➢ Keep to inspection intervals in accordance with the Ordinance on Industrial Health and Safety with maximum intervals as laid down in §16:

Inspection	Inspection interval	Inspection authority
Equipment inspection	Before commissioning	Approved supervisory body.
Internal inspection	Every 5 years after commissioning or the last inspection	Contact an authorized KAESER service representative.
Strength test	Every 10 years after commissioning or the last inspection	Contact an authorized KAESER service representative.

Tab. 45 Inspection intervals according to Ordinance on Industrial Health and Safety

Checking the lifting point

The user is responsible for ensuring that the machine's lifting point and fixings are inspected according to national regulations for wear and damage.

➢ Have lifting point checked.

Lifting point is not in order: The machine must not be transported by crane. Have the machine repaired immediately.

3.5 Dangers

Basic instructions

The following describes the various forms of danger that can occur during machine operation.

Basic safety instructions are found in this service manual at the beginning of each chapter in the section entitled 'Safety'.

Warning instructions are found before a potentially dangerous task.

3.5.1 Safely dealing with sources of danger

The information provided here explains how to counter the various types of danger that can arise during machine operation.

Electricity

Touching voltage-carrying components can result in electric shocks, burns or even death.

➢ Allow only qualified and authorized electricians or trained personnel under the supervision of a qualified and authorized electrician to carry out work on electrical equipment according to electrical engineering regulations.

➢ Before commissioning or re-commissioning the machine, the user must ensure adequate protection against electric shock from direct or indirect contact.

➢ Before starting any work on electrical equipment:
Switch off and lock out / tag out the user's power supply disconnecting device and verify the absence of voltage.

➢ Switch off all other external power sources.
These could be connections to floating contacts for example.

➢ Use fuses corresponding to machine power.

➢ Regularly check that all electrical connections are tight and in perfect condition.

Fire and explosion

Spontaneous ignition and combustion of cooling oil can result in serious injury or death.

- ➢ Allow no open flames or sparks at the place of use.
- ➢ Make sure that the ambient temperature at the machine's place of use is within permissible limits.
- ➢ Never refill cooling oil when the machine is running.
- ➢ Wipe up spilled cooling oil immediately.
- ➢ Provide a fire extinguisher in the immediate vicinity.

Forces of compression

Escaping compressed air can cause serious injury. The following information concerns work on components that could be under pressure.

- ➢ Wait until the compressor has automatically vented (the pressure gauge must read 0 psig!).
- ➢ Then open an outlet valve carefully to ensure that the line between the minimum pressure / check valve and the compressed air outlet is vented.
- ➢ Do not carry out welding, heat treatment or mechanical modifications to pressurized components (e.g. pipes and vessels) as this influences the component's resistance to pressure. The safety of the machine is then no longer ensured.

Spring forces

Sudden release of springs under tension can cause serious injuries.

Minimum pressure / check valves, safety relief valves and inlet valves are powerfully spring-loaded.

- ➢ Do not open or dismantle any valves.

Compressed air quality

The composition of the compressed air must be suitable for the actual application in order to preclude health and life-threatening dangers.

- ➢ Use appropriate systems for air treatment before using the compressed air from this machine as breathing air and/or for the processing of foodstuffs.
- ➢ Use food grade cooling oil whenever compressed air is to come into contact with foodstuffs.

Rotating components

Touching the fan wheel, the coupling or the belt drive while the machine is running can result in serious injury.

- ➢ Operate the machine only with canopy, safety guards, access doors and panels closed.
- ➢ Shut down the machine before opening a door or canopy.
- ➢ Wear close-fitting clothes and a hair net if necessary.
- ➢ Properly install all safety devices and panels before restarting the machine.

Temperature

- ➢ Avoid contact with hot components.
  These include, for example, drive motor, compressor airend, oil and compressed air lines, coolers and oil separator tank.
- ➢ Wear protective clothing.

- ➢ Wear protective gloves when connecting or disconnecting compressed air hoses.
- ➢ Allow the machine to cool down before commencing any maintenance work.
- ➢ If welding is carried out on or near the machine, take adequate measures to prevent sparks or heat from igniting oil vapors or parts of the machine.

Noise

The enclosure absorbs the machine noise to a tolerable level. This function will be effective only if the body is closed.

- ➢ Operate the machine only with closed body.
- ➢ Check machines that are lined with sound proofing material for perfect condition of the sound proofing material.
- ➢ Wear hearing protection if necessary.
  Safety relief valve blow-off results in high noise emission.
- ➢ Never generate compressed air without consumers being connected.

Operating fluids/materials

The used operating fluids and materials can cause adverse health effects. Suitable safety measures must be taken in order to prevent injuries.

- ➢ Strictly forbid fire, open flame and smoking.
- ➢ Follow safety regulations when dealing with oils, lubricants and chemical substances.
- ➢ Avoid contact with skin and eyes.
- ➢ Do not inhale oil mist and oil vapors.
- ➢ Do not eat or drink while handling oil, cooling and lubricating fluids.
- ➢ Keep suitable fire extinguishing agents ready for use.
- ➢ Use only KAESER approved operating materials.

Unsuitable spare parts

Unsuitable spare parts compromise the safety of the machine.

- ➢ Use only spare parts approved by the manufacturer for use in this machine. Unsuitable spare parts compromise the safety of the machine.
- ➢ Use only genuine KAESER replacement parts on pressure bearing parts.

Conversion or modification of the machine

Modifications, additions or conversions to or of the machine can result in unpredictable hazards.

- ➢ Do not convert or modify the machine!
- ➢ Do not install any non-approved additional components.
- ➢ Do not make any changes to the machine that will increase its weight beyond the permissible limit and/or endanger its safe use or transportation. Any such changes invalidate the approval to use the machine or tow it on the road.
- ➢ Prior to any technical modification and expansions of the machine, obtain the written approval of the manufacturer.

3.5.2 Organizational Measures

- ➢ Designate personnel and their responsibilities.

➢ Give clear instructions on reporting faults and damage to the machine.
➢ Give instructions on fire reporting and fire-fighting measures.

3.5.3 Danger areas

The table gives information on areas dangerous to personnel.
Only authorized personnel may enter these areas.

Task	Danger area	Authorized personnel
Transport	Within a 10 ft radius of the machine.	Operating personnel to prepare for transport. No personnel during transport.
	Beneath the lifted machine.	No personnel!
Commissioning	Within the machine. Within a 3 ft radius of the machine.	Maintenance personnel
Operation	Within a 3 ft radius of the machine.	Operating personnel
Maintenance	Within the machine. Within a 3 ft radius of the machine.	Maintenance personnel

Tab. 46 Danger areas

3.6 Safety devices

Safety devices ensure safe working with the machine.
➢ Do not change, bypass or disable safety devices.
➢ Regularly check safety devices for their correct function.
➢ Do not remove or obliterate labels and notices.
➢ Ensure that labels and notices are clearly legible.

Further information More information on safety devices is contained in chapter 4.5.

3.7 Service life of safety functions

Pursuant to ISO 13849-1:2015, Category and Performance Level (PL) of the machine's safety functions have been analyzed and assessed:

Safety function	Category	Performance Level
Safety shut-down due to excessive airend discharge temperature	2	b
EMERGENCY STOP push button	1	c

Tab. 47 Category and Performance Level

The safety-relevant components of the safety functions are designed for a working life of 20 years. The working life starts with the commissioning, and is not extended by times during which the machine was not in use.

The following components are affected:

- Resistance thermometer (Pt100 sensor with signal transducer for measuring the discharge temperature)
- EMERGENCY STOP push button
- Main contactor

1. The components of the safety functions must be replaced by an authorized KAESER service representative after a working life of 20 years.
2. Have an authorized KAESER service representative check the reliability of the safety functions.

3.8 Safety signs

The graphics show the locations of the safety signs on the outside and inside of the machine. The table lists the various safety signs used and their meanings.

Safety signs outside

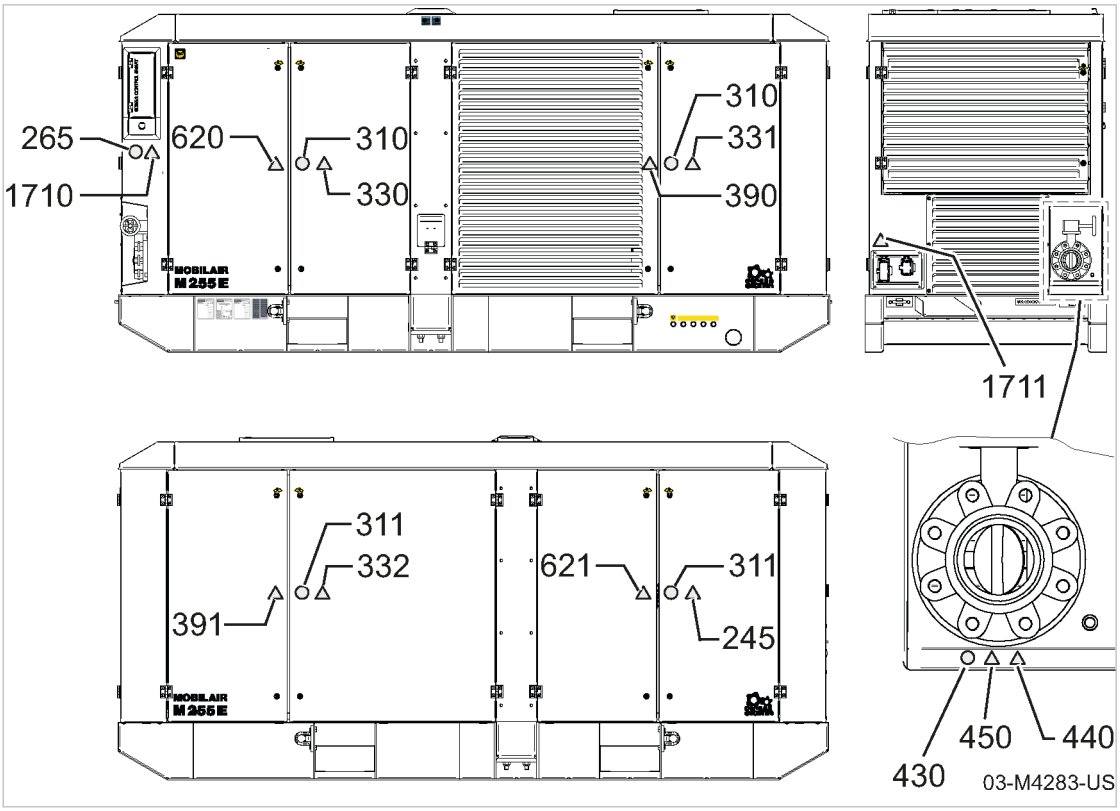


Fig. 4 Locations of safety signs on the outside of the machine

Location	Sign	Meaning
245		Electric voltage! Danger of fatal injury from contact with live electrical components. ➢ Switch off the power supply at all poles. ➢ Lock out / tag out to secure them against being switched on again. ➢ Verify the absence of all voltage.
265		Personal injury or damage to the machine due to incorrect operation! ➢ Read and understand the operating manual and all safety signs before switching on this machine.
310 311		Injury or damage from open machine! ➢ Operate the machine only when closed. ➢ Transport the machine only when closed.
330 331 332		Hot surface can cause burns! ➢ Let the machine cool down. ➢ Work carefully. ➢ Wear protective clothing and protective gloves. ➢ Do not inhale dangerous gases.
390 391		Warning! Rotating fan blades and V-belt drive! Severe injury could result from touching the fan blades and V-belt drive while it is rotating. ➢ Never switch the machine on without guard in place over the fan blade. ➢ Isolate completely from the power supply and ensure the supply cannot be switched on again.
430		Connect air hoses only in full compliance with OSHA standard 29 CFR 1926,302 (bX7)! The required safety devices should be tested in accordance with their manufacturer's recommendations to verify that they reduce pressure in case of hose failure and will not nuisance trip with the hose and tool combinations in use.
440		Compressed air quality! Injury and/or contamination can result from breathing compressed air. Contamination of food can result from using untreated compressed air for food processing. ➢ Never breathe untreated compressed air! ➢ Air from this compressor must meet OSHA 29 CFR1910.134 and FDA 21 CFR178.3570 standards, if used for breathing or food processing. Use proper compressed air treatment. ➢ Food grade coolant must be used for food processing.

Location	Sign	Meaning
450		Loud noise and compressed air blast! Damage to hearing and injury if ball valve is opened without a compressed air hose being connected. ➢ Connect a suitable compressed air hose. ➢ Open the ball valve.
620 621		Pinch point hazard! ➢ Keep hands clear when opening the canopy.
1710 1711		Risk of injury caused by an automatic machine start! ➢ Switch off and lock out / tag out the «load isolating switch» of the machine and secure against unintentional reactivation before opening any doors.

Tab. 48 Safety signs

Safety signs inside

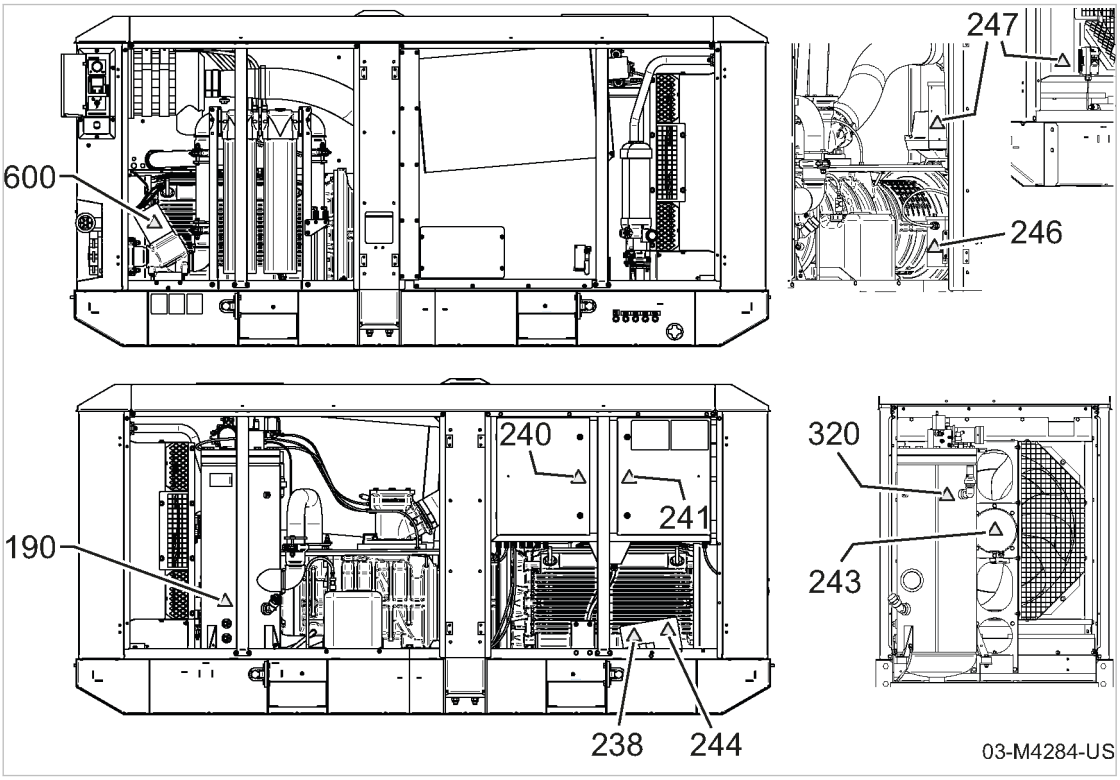


Fig. 5 Locations of safety signs on the inside of the machine

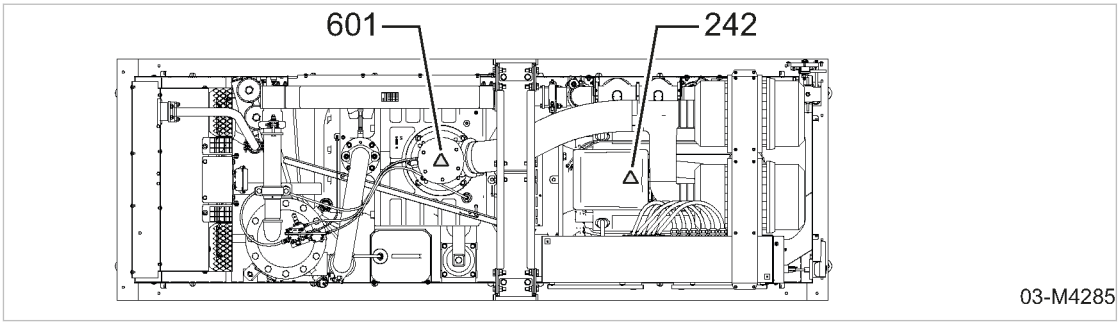


Fig. 6 Locations of safety signs on the inside of the machine (top view)

Location	Sign	Meaning
190		Wrong cooling oil level! Risk of machine defects or rising oil consumption (oil content for pure air). ➢ Check cooling-oil level. ➢ Run the machine only with proper cooling-oil level.
238		Electric arc! Risk of fatal injury when disconnecting network supply line under load. ➢ Switch off the machine. ➢ Wait until the drive motor stands still. ➢ Remove the plug connection.
240/241/242/243 244/245/246/247		Electric voltage! Danger of fatal injury from contact with live electrical components. ➢ Switch off the power supply at all poles. ➢ Lock out / tag out to secure them against being switched on again. ➢ Verify the absence of all voltage.
320		Loud noise and oil mist when the safety relief valve opens! Ear damage and burns can result. ➢ Wear ear protection and protective clothing. ➢ Close all maintenance doors and cover panels. ➢ Work carefully.
600 601		Pressure and spring force! Risk of fatal injury caused by loosening, opening, or dismantling valves or other components that are under pressure or heavy spring loading. ➢ Do not open or dismantle valves. ➢ Contact an authorized KAESER service representative in the event of a fault.

Tab. 49 Safety signs

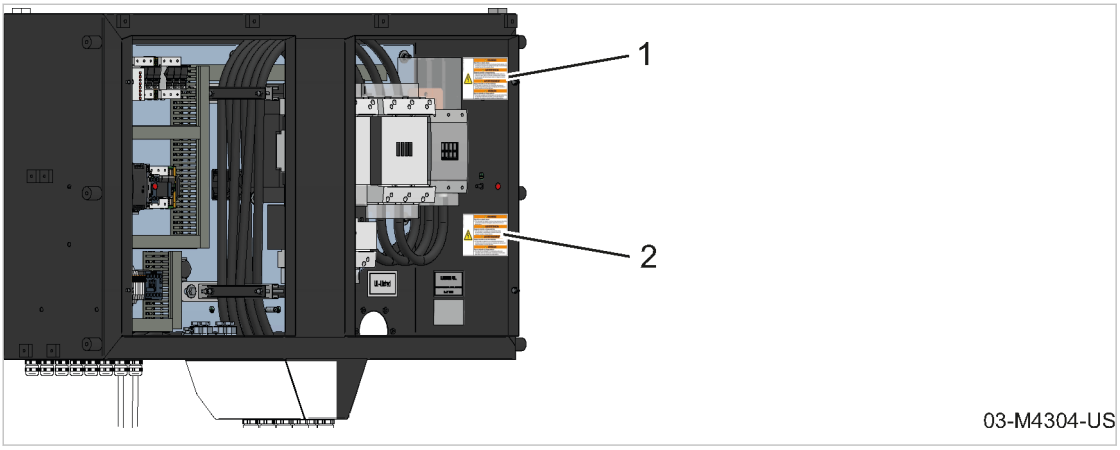


Fig. 7 Position of safety signs on the control cabinet

[1] Manufacturer's safety sign
[2] Manufacturer's safety sign

3.9 Noise control requirements

Tampering with the noise control system is prohibited!

Federal law prohibits the following acts or causing thereof:

- The removal or rendering inoperative by any persons, other than for purposes of maintenance, repair, or replacement, of any devices or element of design incorporated into any new compressor for the purpose of noise control prior to its sale or delivery to the ultimate purchaser or while it is in use; or
- the use of the compressor after such device or element of design has been removed or rendered inoperative by any person.

Among those acts included in the prohibition against tampering are the acts listed below:

- Removing any facing (doors, hood, service panels).
- Modifying the air inlet and outlet louvers.
- Modifying the air intake channels or hoses (if applicable).
- Modifying the air filter enclosure.
- Modifying the exhaust air silencer.
- Manipulating the machine's control and regulation system.

3.10 Emergencies

3.10.1 Correct actions in the event of a fire

Suitable measures

Calm and prudent action can save lives in the event of a fire.

➢ Keep calm.
➢ Give the alarm.
➢ Switch off the machine from the instrument panel if possible.

- ➢ Make machine volt-free (disconnect from main) if possible.
- ➢ Warn and move endangered persons to safety.
- ➢ Help incapacitated persons.
- ➢ Close doors and covers.
- ➢ When trained accordingly: Attempt to extinguish the fire.

Extinguishing media

- ➢ Suitable extinguishing media:
  Foam
  Carbon dioxide
  Sand or soil
- ➢ Avoid unsuitable extinguishing media:
  Strong jet of water

3.10.2 Treating injuries from handling operating fluids/materials

The following operating fluids/materials are in the machine:

- Cooling oil
- Lubricating oils
- Lubricating greases

Eye contact:

Oil, greases and other fluids/materials can cause irritation.

- ➢ Rinse open eyes thoroughly for a few minutes under running water.
- ➢ Seek immediate medical advice for persistent irritation.

Skin contact:

Oil, greases and other fluids/materials may irritate after prolonged contact.

- ➢ Wash thoroughly with skin cleanser, then with soap and water.
- ➢ Contaminated clothing should be intensively cleaned before reuse.

Inhalation:

Oil mist may make breathing difficult.

- ➢ Clear air passages of oil mist.
- ➢ Seek immediate medical help if difficulty with respiration continues.

Ingestion:

- ➢ Wash out the mouth immediately.
- ➢ Do not induce vomiting.
- ➢ Seek medical aid.

3.11 Warranty

This operator manual contains no independent warranty commitment. Our general terms and conditions of business apply with regard to warranty.

A condition of our warranty is that the machine is used for the purpose for which it is intended under the conditions specified.
Due to the multitude applications for which the machine is suitable the obligation lies with the user to determine its suitability for his specific application.

In addition, we accept no warranty obligation for:

- the use of unsuitable parts or operating materials,
- unauthorized modifications,
- incorrect maintenance,
- incorrect repair.

Correct maintenance and repair includes the use of original spare parts and operating materials.

➢ Obtain confirmation from KAESER that your specific operating conditions are suitable.

3.11.1 Noise emissions warranty

The manufacturer warrants to the ultimate purchaser and each subsequent purchaser that this air compressor was designed, built, and equipped to conform, at the time of sale to the first retail purchaser, with all applicable American EPA noise control regulations.

This warranty is not limited to any particular part, component, or system of the air compressor.

Defects in the design, assembly, or in any part, component, or system of the compressor which, at the time of sale to the first retail purchaser, caused noise emissions to exceed Federal standards are covered by this warranty for the life of the air compressor.

3.12 Identifying the effects of improper modifications

The machine and various assemblies are designed according to applicable regulations and are submitted for approval procedures by the relevant authorities (where applicable).

Concerned assemblies include:

- Drive motor
- Compressor
- Pressure-bearing components (e.g., valves, vessels, piping)

Remodelling or modifications can have the result that the interaction of the individual assemblies according to regulations is no longer ensured. Thus, the prerequisites required for approval by authorities may no longer be given.

Examples of directives and regulations that may be applicable:

- Machine Directive
- Pressure Equipment Directive
- EMC Directive
- Directive on Noise Emission

Remodelling or modifications restrict the service work that can be performed for you (examples):

- Warranty (if directly and originally affected by the remodelling or modification)
- Reduced spare part supply (scope, delivery times)
- SIGMA CONTROL SMART:
  Program changes result in a reduced capability of software updating.

3.13 Environmental protection

The operation of this machine may cause dangers for the environment.

➢ Do not allow operating materials/condensate to escape into the environment or into the sewage system!

➢ Store and dispose of all operating materials, condensate and replacement parts in accordance with applicable environmental regulations.
This applies particularly to cooling oil and parts contaminated with cooling oil or other fluids/ materials.

➢ Observe relevant national regulations.

4 Design and Function

4.1 Bodywork

Bodywork is understood to be the exterior machine enclosure above the line of the base frame / skids.

The bodywork has several functions when it is closed:

- Weather protection
- Sound insulation
- Protection against touching
- Cooling air flow

Safe and reliable operation is ensured only when the bodywork is closed.

⚠ CAUTION

Pinch hazard!
Risk of injuries to fingers when closing doors and covers.

➢ *Work with caution.*

➢ *Always wear protective gloves.*

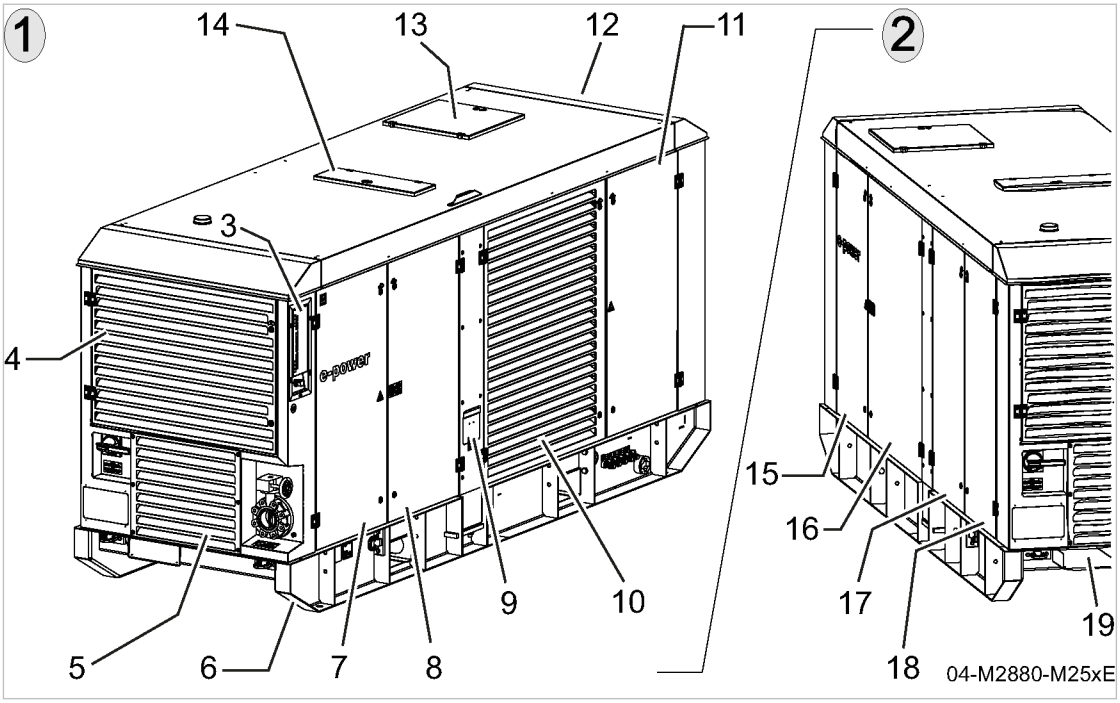


Fig. 8 Overview of bodywork

1 View of machine, left front side and front side
2 View of machine, left front side and rear
3 Control panel cover for SIGMA CONTROL SMART
4 Door / cooling air inlet
5 Grill / cooling air
6 Skid
7 Door
8 Door
9 Step
10 Door / cooling air inlet
11 Door
12 Door / cooling air outlet
13 Service cover
14 Crane lifting eye cover
15 Door
16 Door
17 Door
18 Door
19 Cable shaft

The door locks must be unlocked with the control cabinet key fixed to the inside of the step. After unlocking, the doors can be swung open.

The bodywork is absolutely not suitable for the following uses:

- Persons walking, standing or sitting on the machine.
- Use as a resting place or storage of any kind of load.

4.2 Machine layout

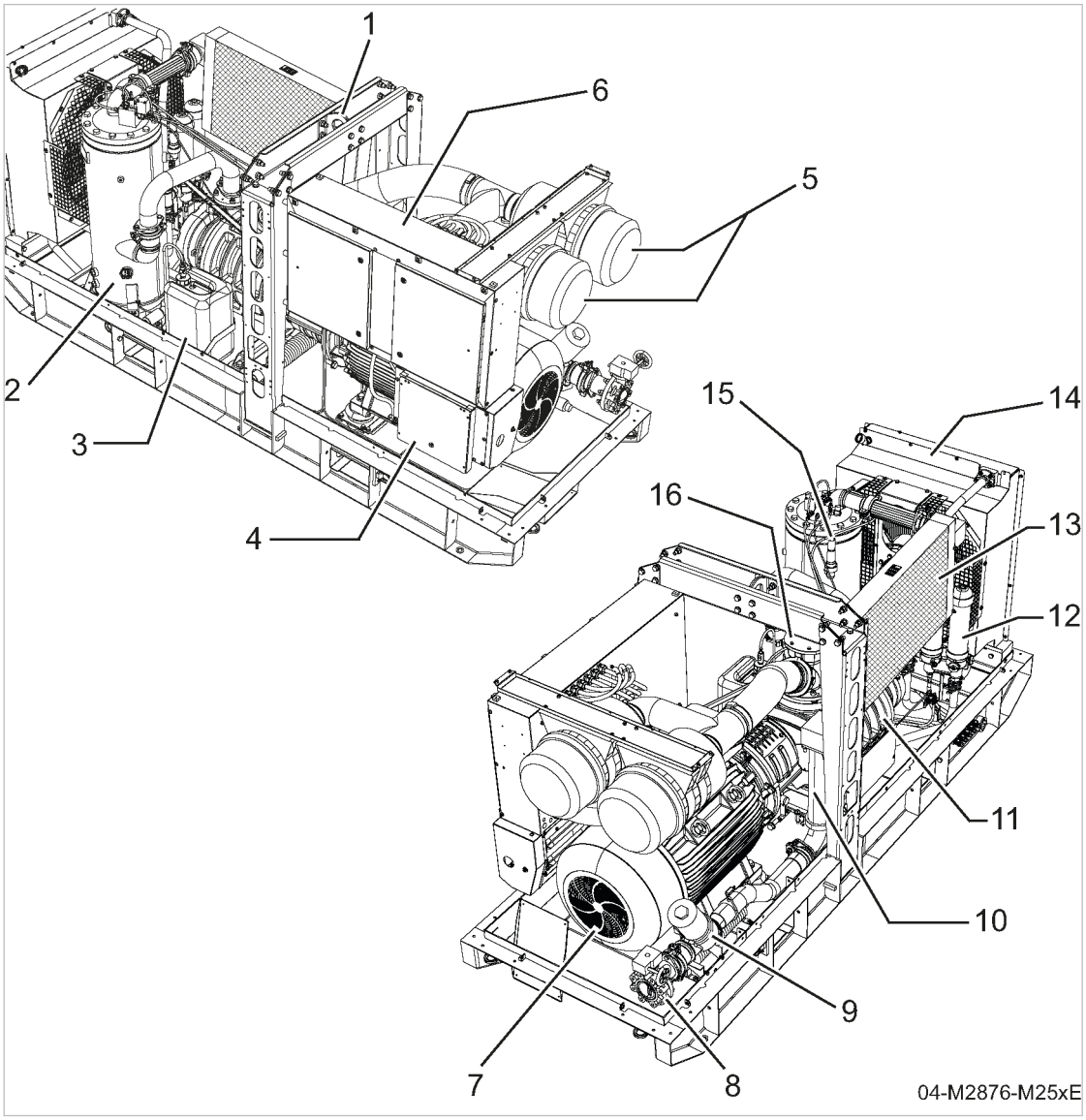


Fig. 9 Example M250E, 175 hp, 400V/50Hz, Sigma 37.1

[1]	Lifting eye	[9]	Minimum pressure check valve
[2]	Oil separator tank	[10]	Centrifugal separator
[3]	Internal condensate collection tank	[11]	Airend
[4]	Connector box	[12]	Oil filter
[5]	Air filter	[13]	Compressed air aftercooler
[6]	Control cabinet	[14]	Oil cooler
[7]	Drive motor	[15]	Safety relief valve
[8]	Compressed air outlet butterfly valve	[16]	Inlet valve

4.3 Machine function

Machine function (without options).

Item numbers correspond to the pipe and instrument flow diagram (P&I diagram) in chapter 13.2.

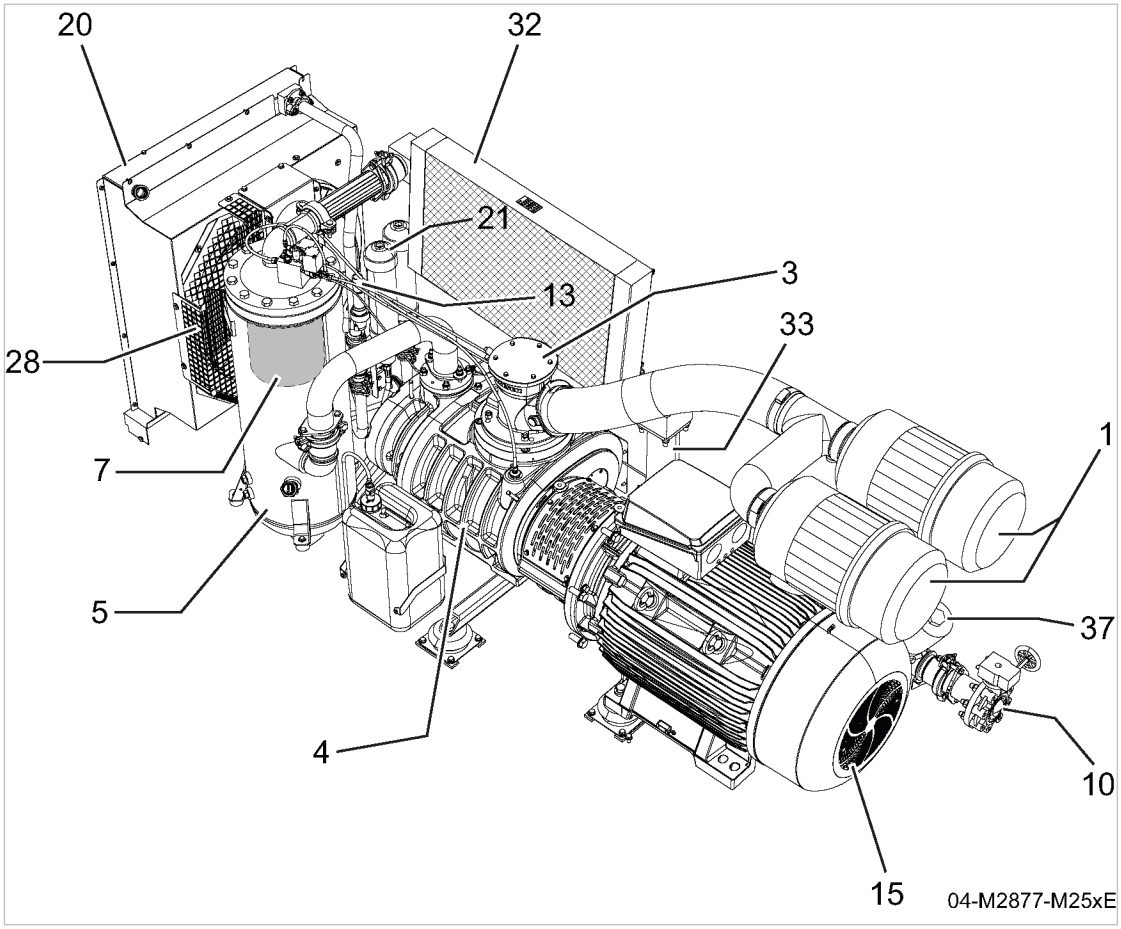


Fig. 10 Example M250E, 132 kW, 400V/50Hz, Sigma 37.1

[1]	Air filter	[15]	Drive motor
[3]	Inlet valve	[20]	Oil cooler
[4]	Airend	[21]	Oil filter
[5]	Oil separator tank	[32]	Compressed air aftercooler
[7]	Oil separator cartridge	[33]	Centrifugal separator
[10]	Compressed air outlet butterfly valve	[28]	Fan wheel
[13]	Safety relief valve	[37]	Minimum pressure check valve

Air is drawn in from the surroundings via the two air filters [1] and cleaned.

The air is then compressed in the airend [4].

The airend is driven by the electric drive motor [15].

Cooling oil is injected into the airend. It lubricates moving parts and forms a seal between the rotors and between the rotors and the housing. This direct cooling in the compression chamber ensures a very low airend discharge temperature.

Cooling oil separated from the compressed air in the oil separator tank [5] is cooled in the oil cooler [20]. The cooling oil then flows through the oil filter [21] and back to the point of injection. The internal machine pressure keeps the oil circulating. A separate pump is not necessary. A thermostatic valve [19] regulates and optimizes the cooling oil temperature.

The oil-free compressed air subsequently reaches the compressed air treatment. The compressed air treatment consists of one compressed air aftercooler and one centrifugal separator.

The compressed air is cooled in the compressed air aftercooler to approximately 9°F to 18°F above the ambient temperature. Most of the moisture carried in the air is removed in the after-cooler.

The centrifugal separator sets the compressed air that still contains moisture into centrifugal motion via a swirl vane. The compressed air loses a significant proportion of its residual moisture load as a result of these centrifugal forces. The accumulating condensate falls to the bottom of the centrifugal separator.

A dirt trap with a condensate hose line is installed beneath the centrifugal separator. While the condensate flows through the dirt trap, existing dirt particles are retained. Subsequently, the condensate flows into the condensate hose line which leads to the condensate collection tank.

The moisture-reduced compressed air passes through the minimum pressure check valve [37] to the butterfly valve of the compressed air outlet. The minimum pressure check valve ensures that there is always a minimum internal pressure sufficient to maintain cooling oil circulation within the machine.

A separate electric fan motor supplies the drive power for the fan wheel [28]. The flow direction of the fan wheel and arrangement of the cooling air inlet and outlet determine the cooling air flow of the machine within the enclosure. The cooling air continuously flows through the oil cooler. The heated cooling air returns through the cooling air outlet back into the surroundings.

4.4 Operating modes and control modes

4.4.1 Machine operating modes

The machine operates in the following modes:

- WARM-UP
  - Discharge temperature cold.
  - Switching the machine to LOAD mode blocked.
- IDLE
  - Discharge temperature warm.
  - Switching the machine to LOAD mode enabled.
- LOAD
  - The inlet valve is open.
  - The airend delivers compressed air.
- RUN-ON
  - Forced IDLE mode after switching off the motor from LOAD mode.
  - Run-on time is shown on the display of SIGMA CONTROL SMART.
- STANDSTILL
  - The inlet valve closes.
  - The venting valve opens to de-pressurize the machine.
  - The drive motor comes to a standstill.

4.4.2 PROPORTIONAL control mode

The control system regulates the volume of air generated to match the actual demand. The machine keeps the working pressure constant by continuously varying the volumetric flow rate within the machine's regulating range, independent of the air demand.

With the help of an electrical control valve (the proportional controller), the opening and closing of the inlet valve is continuously varied in response to the actual air demand. The airend provides compressed air for connected consumers.

This continuous delivery regulation minimizes the power consumption of the drive motor. The load and power consumption of the drive motor rise and fall with the air demand.

4.5 Safety devices

4.5.1 Monitoring functions with shut-down

SIGMA CONTROL SMART monitors important machine parameters. The machine is automatically shut down if an alarm occurs.

SIGMA CONTROL SMART saves the alarm message in the message memory.

Further information Further information on alarm messages at SIGMA CONTROL SMART is provided in chapter 9.2.1.

4.5.2 Further safety devices

The following safety devices are provided and may not be modified in any way.

- «EMERGENCY STOP» push button
  :«The EMERGENCY STOP» push button is used for immediate shutdown of the machine. The drive motor comes to an immediate stop. The pressure system is vented.
- Safety relief valves:
  Safety relief valves protect the system against unacceptable pressure rise. They are factory set.
- Enclosure and covers for moving parts and electrical connections:
  Protect against accidental contact.

4.6 SIGMA CONTROL SMART control panel

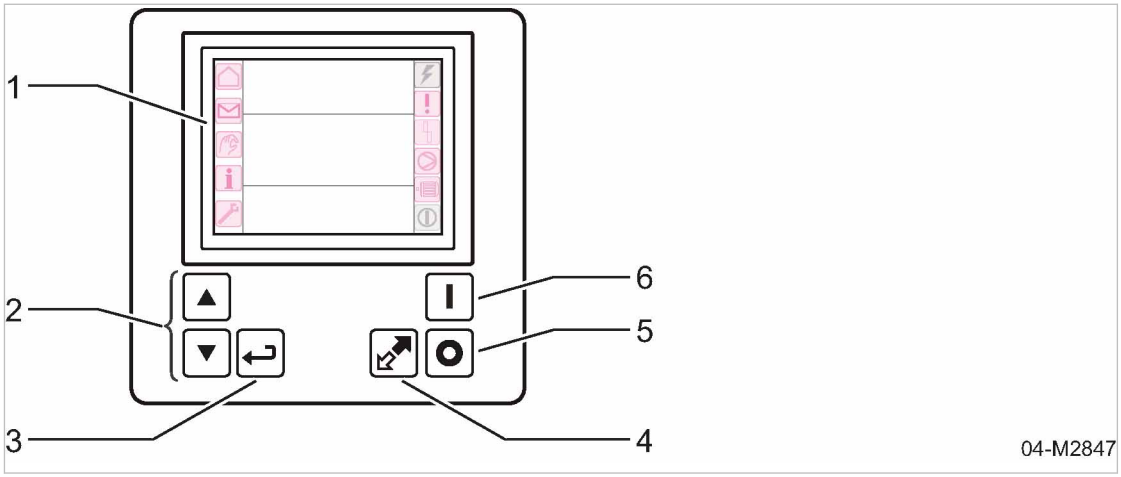
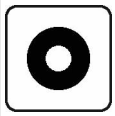


Fig. 11 Overview of SIGMA CONTROL SMART control panel

Item	Symbol	Designation	Function	Indicator
1	–	Indicator field or display	Graphic display.	–
2	▲ ▼	«Up» key and «Down» key	■ Scroll upwards or downwards through the menu options. ■ Enter settings. ■ Change values. ■ Switch between menu pages.	–

Item	Symbol	Designation	Function	Indicator
3		«Enter» key	■ Opens the selected submenu. ■ Finishes an entry. ■ Activates an input. ■ Acknowledges/resets maintenance tasks. ■ Returns to the superordinate menu item (press quickly) ■ Exits the menu (press for at least 2 seconds)	–
4		«LOAD/IDLE» key	Switches the compressor between LOAD and IDLE operating modes and vice versa.	Flashes when ready to switch to LOAD. Illuminates continuously when the machine is running in LOAD.
5		«STOP» key	■ Stops the machine. ■ Acknowledges/resets maintenance tasks.	
6		«START» key	Starts the machine.	Flashes when ready to start. Illuminates continuously when the drive motor is running.

Tab. 50 Control unit keys and indicators

Further information For more information about the functionality of the controller, please see the separate SIGMA CONTROL SMART operating manual.

4.7 Draining the cooling oil and condensate

A central drain device for cooling oil and condensate is attached to the front side of the machine. The drain device is easily accessible for service personnel.

All shut-off valves of the drain device are clearly arranged in one row:

- Condensate (external)
- Cooling oil of the machine

In addition, each shut-off valve is marked with a specific symbol, see Fig. 12.

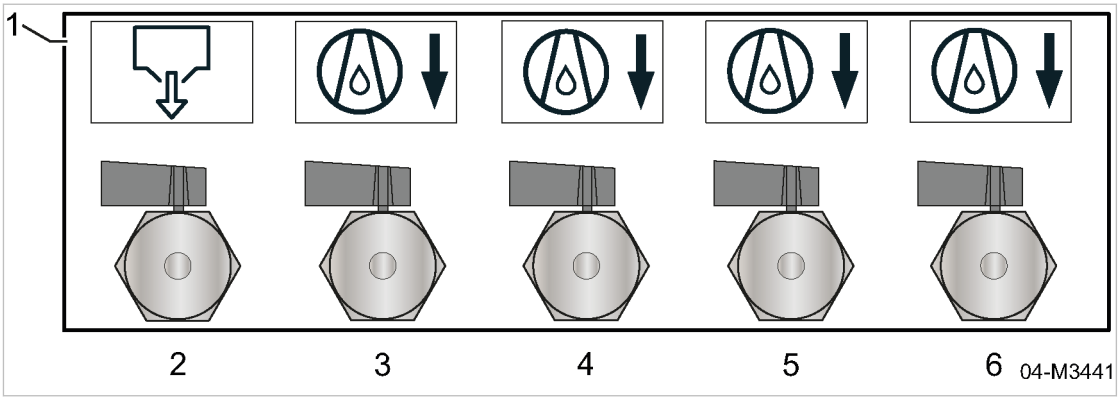


Fig. 12 Drain device - symbols and arrangement of shut-off valves

1 Drain device
2 Condensate (external)
3 Cooling oil
4 Cooling oil
5 Cooling oil
6 Cooling oil

4.8 Draining condensate according to operating conditions

When you operate the machine, especially if the ambient air is very humid, significant amounts of condensate will precipitate.

Depending on operating conditions, the accumulated condensate can be drained off in an environmentally compliant way by manually operating a directional control valve:

- Short-term operation
  - Using the internal condensate collection tank with small capacity
  - Lever of directional control valve set to *"I"*
- Continuous operation
  - Using the external condensate collection tank with large capacity
  - Lever of directional control valve set to *"II"*

Position *"I"* for short-term operation and position *"II"* for continuous operation, see chapter 7.7, Fig. 23.

A drain device for condensate (external drainage) and cooling oil is installed on the front side of the machine, see Fig. 12. All shut-off valves are marked with specific symbols.

Use the corresponding hose to connect to an external condensate collection tank with a large capacity.

Further information Install components for the external condensate drain device, see chapter 6.5.

4.9 Options

The options available for your machine are described below.

4.9.1 Air treatment

4.9.1.1 Option dd
Filter combination

To obtain oil-free compressed air, the dried compressed air passes through a pre-filter and micro-filter combination and emerges oil-free and free from solid particles.

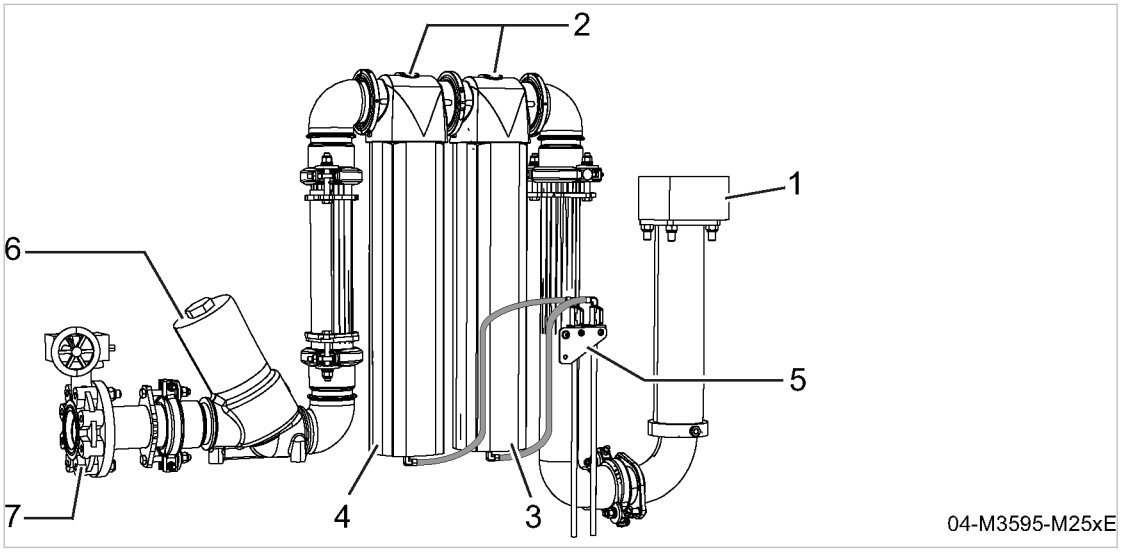


Fig. 13 Filter combination

1. Centrifugal separator
2. Filter combination
3. Prefilter
4. Fine filter
5. Condensate drain shut-off valves
6. Minimum pressure check valve
7. Compressed air outlet butterfly valve

4.9.2 Option ba
Auxiliary heater

An electric auxiliary heater is installed in the machine to prevent damages to the airend when the machine is started at low ambient temperatures. The electric auxiliary heater preheats the interior of the machine while the drive motor is in standstill mode. The auxiliary heater consists of several radiators that are switched on and off by means of thermostats.

Application cases for the auxiliary heater:

- Pre-heating the machine's interior during start-up.
- Continuous temperature set-point value in the machine's interior during automatic operating modes, e.g. automatic start/stop.

The machine's interior is continuously kept at a temperature set-point value, see Table 51.

Machine interior	Value
Temperature set-point value [°F]	41

Tab. 51 Temperature set-point value

NOTICE

Damage to the airend caused by cold start of machine

- ➢ *Pre-heat the machine's interior by means of the auxiliary heater in times of low ambient temperatures.*
- ➢ *Only start the machine when the machine's interior has sufficiently pre-heated.*

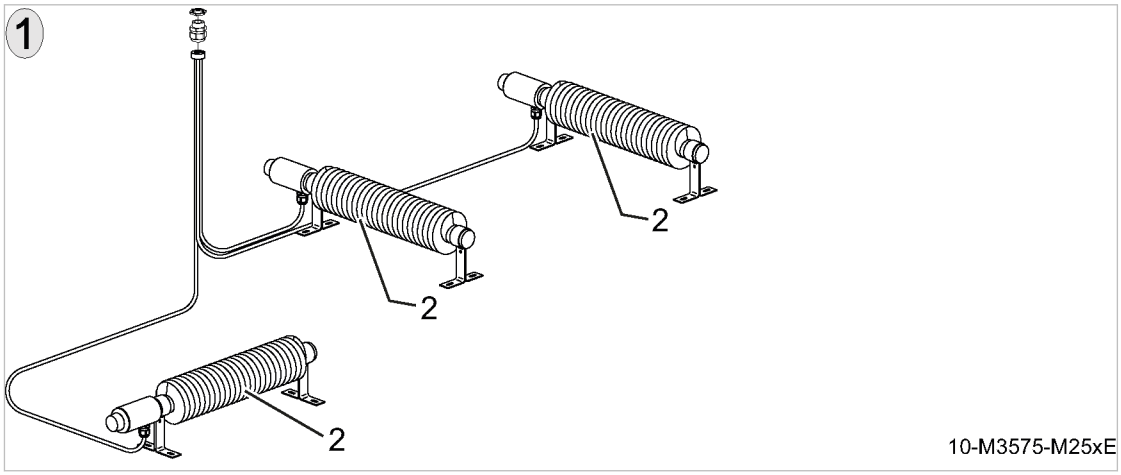


Fig. 14 Electric auxiliary heater

1 Auxiliary heater
2 Radiator

4.9.3 Automatic operating modes

Overview:

- Automatic start/stop option
  - Floating contacts
- DUAL control option
  - Measuring point connection

4.9.3.1 Option ob Start/stop control

The start/stop control is an automatic operating mode in which a master control system with remote contact demands compressed air from the machine controller.

After the start signal from the master controller has been received, the machine starts automatically. The machine runs through the warm-up phase and automatically switches to LOAD operation.

Further information For setting the start/stop control at the machine controller, see the SIGMA CONTROL SMART operating manual.

Option ob Floating contacts

Floating contacts are provided for the transfer of signals/messages. Information on location, loading capacity and type of message or signal can be found in the wiring diagram.

4.9.3.2 Option cd DUAL Control

DUAL control is a control mode that automatically starts the machine and controls the flow rate. When no consumer demands air, the machine is automatically shut down.

When DUAL control is activated and the pressure falls below the cut-in pressure, the SIGMA CONTROL SMART starts the machine. As soon as the specified airend discharge pressure is attained, SIGMA CONTROL SMART switches the machine to LOAD.

SIGMA CONTROL SMART starts the run-on time when the specified cut-out pressure is reached. In run-on time, the machine continues to run in LOAD mode to level the compressed air demand for the application.

Upon expiration of the run-on time, SIGMA CONTROL SMART switches the machine to IDLE. The machine cools down during unloaded IDLE operation. If, during this time, the compressed air pressure lies above the cut-in pressure, SIGMA CONTROL SMART switches the machine to READY (the drive motor stands still).

As soon as the internal machine pressure is reduced and the time set for the restart inhibitor is expired (in consideration of the maximum starting frequency of the drive motor), SIGMA CONTROL SMART again allows restarting. If, after allowing a restart, the compressed air pressure drops below the cut-in pressure, the machine immediately switches to LOAD.

Further information — For setting the DUAL control at the machine controller, see the SIGMA CONTROL SMART operating manual.

Option cd — Measuring point connection

An additional hose coupling has been installed at the machine enabling measurement of the network pressure of the external compressed air system. This hose coupling is fitted with a directional control valve and a pressure transducer at the machine end.

The hose coupling is located on the right next to the butterfly valve of the compressed air outlet, see Fig. 15.

An information sign (2) indicates the meaning of the two different positions of the directional control valve.

Selecting the measuring point using the directional control valve:

Measurement point	Machine pressure at compressed air outlet	Network pressure
Directional control valve	Position p5	Position pN

Tab. 52 Set the measuring point using the directional control valve

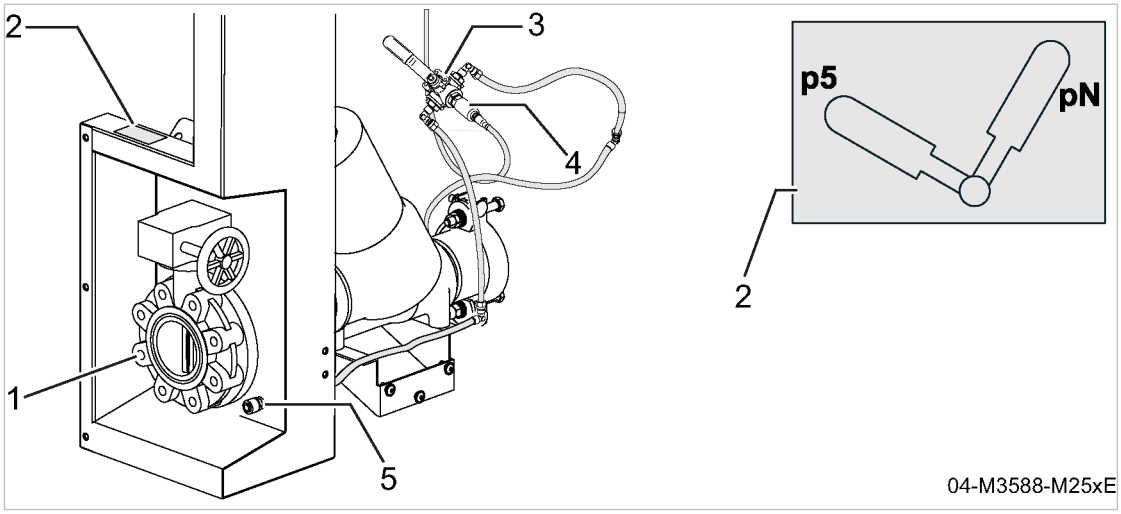


Fig. 15 Measuring point connection

[1] Compressed air outlet butterfly valve
[2] Directional control valve information sign
[3] Directional control valve
[4] Pressure transducer
[5] Hose coupling

4.9.4 Option oc GSM/GPS unit

The machine is equipped with a GSM/GPS unit. This can be equipped with a SIM card and serves for connection to the MOBILAIR fleet management system.

The GSM/GPS unit has only indicating functions.

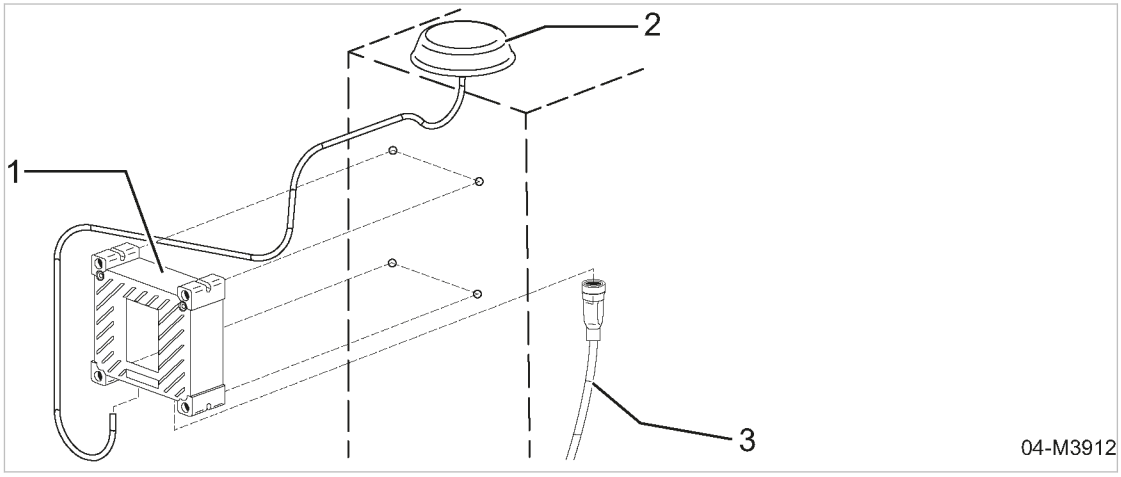


Fig. 16 Location of the GSM/GPS unit inside the machine

[1] Modem
[2] Antenna
[3] Signal cable

4.9.5 Document bag

The document bag is used to store important accompanying documents for the machine safely (and to keep them clean) within the machine. This ensures that operating personnel always, and at any location, has access to the accompanying documents of the portable machine.

The document bag is not part of the standard equipment. It can be optionally selected!

Example for accompanying documents of machine:

- Machine's Operating Manual.
- User Manual of SIGMA CONTROL SMART.

Position the document bag inside the machine, see the below figure.

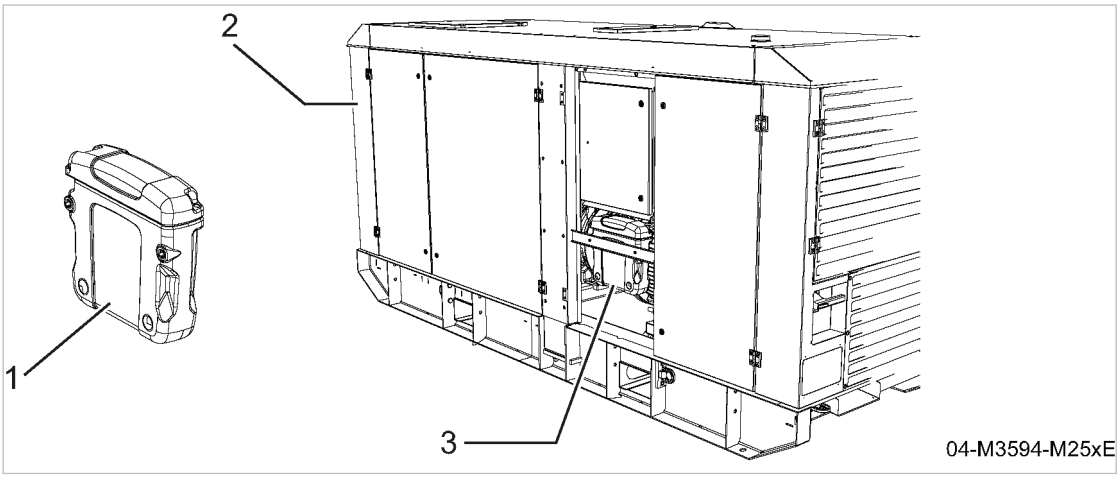


Fig. 17 Document bag option

1 Document bag
2 Rear of the machine
3 Location of document bag within the machine

5 Installation and Operating Conditions

5.1 Ensuring safety

The conditions in which the machine is installed and operated effect the safety of personnel and surroundings.

Warning instructions are located directly at a potentially dangerous task.

⚠ Disregard of warning instructions can cause serious injuries!

Compliance with safety instructions

Ignoring safety warnings can cause unforeseeable dangers!

- ➢ Strictly forbid fire, open flame and smoking.
- ➢ If welding is carried out on or near the machine, take adequate measures to prevent sparks or heat from igniting oil vapors or parts of the machine.
- ➢ Do not store flammable material in the vicinity of the machine.
- ➢ The machine is not explosion-proof:
  Do not operate in areas in which specific requirements with regard to explosion protection are in force.
- ➢ Keep suitable fire extinguishing agents on hand and ready for use.
- ➢ Ensure that required ambient conditions are maintained.

Required ambient conditions may be:

- Ambient temperature
- Air composition at the installation site:
  - clean with no damaging contaminants (e.g., dust, fibers, fine sand)
  - free of explosive or chemically unstable gases or vapors
  - free of acid/alkaline forming substances, particularly ammonia, chlorine or hydrogen sulfide

5.2 Installation conditions

Comply with the corresponding installation conditions at each installation location to ensure safe operation of the machine.

ⓘ This machine is designed for a stationary installation.

⚠ CAUTION

Fire hazard because of heat build-up!
Insufficient distance to walls may well cause heat build-up that could damage the machine.

- ➢ *Do not position the machine directly against a wall.*
- ➢ *Check that there sufficient space around the machine for inlet and exhaust air.*

- ➢ Comply with all instructions!

5.2.1 Note the conditions for stationary installation

Overview:

- Installation location and condition of floor
- Preconditions for sufficient flow of cooling air
- Comply with the minimum distance to other machines

Installation location and condition of floor

Precondition A level surface must be available at the installation location

The ground must be firm and capable of bearing the corresponding weight of the machine.

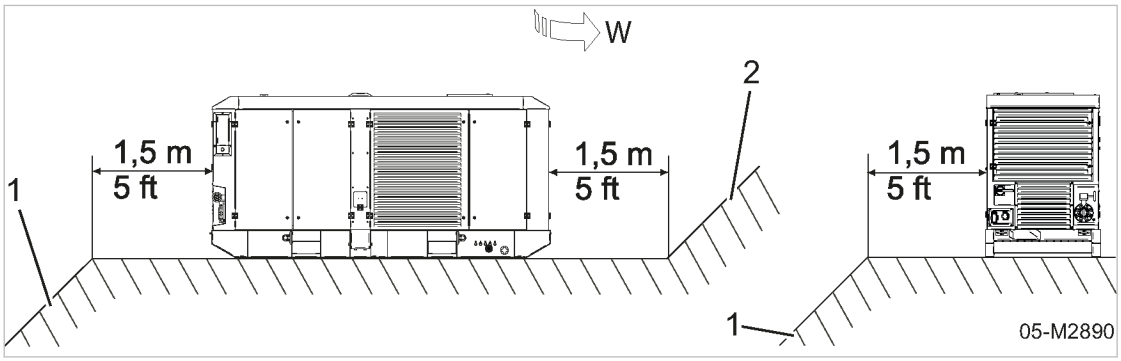


Fig. 18 Minimum distances from excavations/slopes/walls

[1] Excavations
[2] Slope

1. Keep sufficient distance (at least 5 feet) from the edges of excavations and slopes, see Fig. 18.
2. Ensure that the machine is as level as possible.

Temporarily, the machine may also be operated in an inclined position, see table 53.

Setting up the machine	Value
Maximum inclined position [degree]	15

Tab. 53 Maximum inclined position

3. Ensure accessibility so that all work on the machine can be carried out without danger or hindrance.

Preconditions for sufficient flow of cooling air

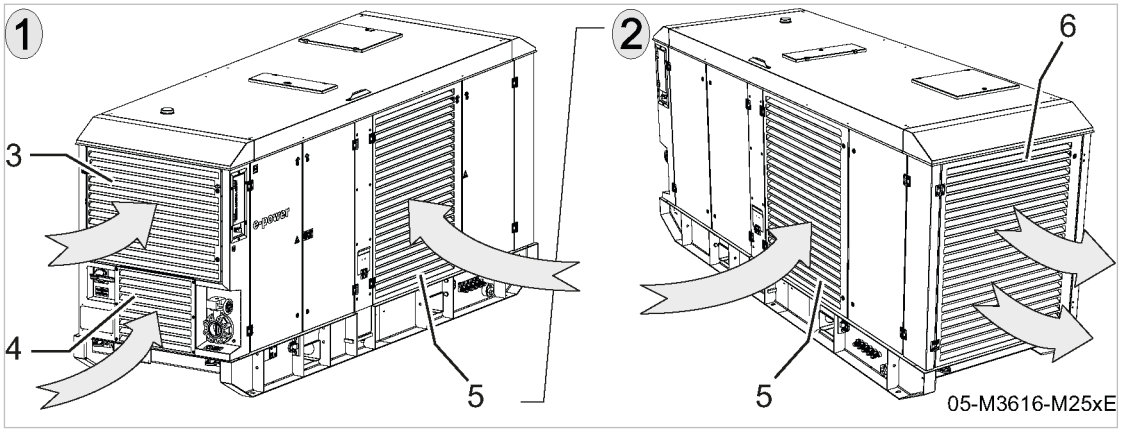


Fig. 19 Flow of cooling air inside the machine

[1] View of machine; left front side / front side
[2] View of machine; right front side / front side
[3] Cooling air inlet door
[4] Cooling air grill
[5] Cooling air inlet door
[6] Cooling air outlet door

1. Keep cooling air inlet and outlet openings free of obstructions so that the cooling air can flow freely through the machine.
2. Keep sufficient distance (at least 5 ft) from the walls.
3. Do not allow wind to blow into the cooling air outlet.
4. Heated cooling air must not be drawn into the machine.

Comply with the minimum distance to other machines

When you set up several machines it is particularly important to ensure that heated cooling air from one machine is not drawn in to another machine. The cooling air outlet of one machine must never be positioned in front of the cooling air inlet opening of another machine.

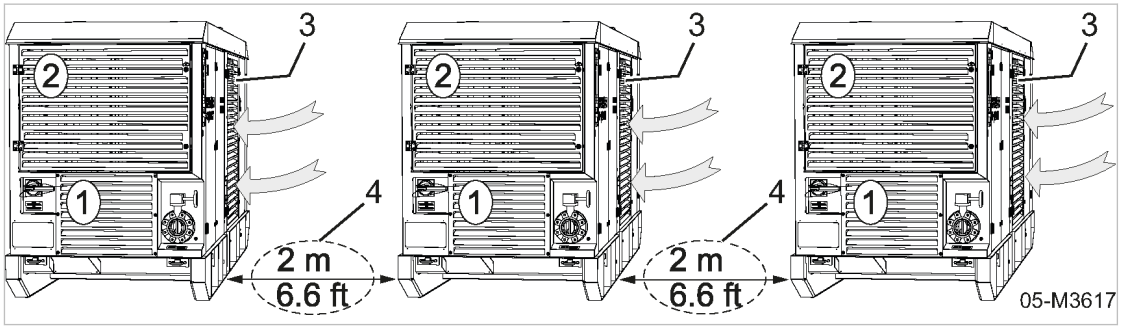


Fig. 20 Minimum distance if several machines are set up

[1] Cooling air grill
[2] Cooling air inlet door
[3] Cooling air inlet door
[4] Minimum distance

1. Align the rear of the machine to be set up parallel to the front side of the machine that has already been set up.

2. Keep the minimum distance to the machine that has already been set up, see Figure 20.

   The fan wheel of the machine can draw in sufficient quantities of cool ambient air through all cooling air inlet openings.

   The fan wheel of the machine can blow out the heated cooling air from the machine's interior through the cooling air outlet without any obstructions.

5.2.2 Comply with the specified ambient temperature

1. **NOTICE** *Ambient temperature too low!*
   Frozen condensate and highly viscous compressor oil can cause damage when starting the machine.
   ➢ *Use low viscosity compressor oil.*
2. At ambient temperatures below 32 °F, follow the instructions in chapter 7.8.

6 Installation

6.1 Ensuring safety

Here you will find instructions for a safe installation of the machine.
Warning instructions are located directly at a potentially dangerous task.

Disregard of warning instructions can cause serious injuries!

Compliance with safety warnings

Ignoring safety warnings can cause unforeseeable dangers!

- ➢ Follow the instructions in chapter 3 'Safety and Responsibility'.
- ➢ Installation work may only be carried out by authorized personnel.

When working on live components

Touching voltage carrying components can result in electric shocks, burns or death.

- ➢ Installation work on electrical equipment may be carried out by authorized electricians only.
- ➢ Switch off and lock out / tag out the power supply disconnecting device.
- ➢ Verify the absence of any voltage.
- ➢ Check that the floating relay contacts are voltage-free.

Further information

Details of authorized personnel are found in chapter 3.4.2.
Details of dangers and their avoidance are found in chapter 3.5.

6.2 Reporting Transport Damage

1. Check the machine for visible and hidden transport damage.
2. Inform the carrier and the manufacturer in writing of any damage found.

6.3 Securing the parked machine

Bolt-down machine feet and rubber pads are **not** part of the standard equipment. These items can be optionally selected!

For safe footing, the machine can be secured with bolt-down machine feet.

Material
Bolt-down machine feet (anti-vibration elements)
Fastening screws
Wrench

Precondition
The machine is switched off.
«Load isolating switch» of the machine set to position *OFF*,
«Load isolating switch» is locked off,
«Controller ON/OFF» switch set to position *OFF*,
Absence of voltage has been verified.
The machine is installed on level ground,
the machine has cooled down.
The butterfly valve at the compressed air outlet is open,
the machine is fully vented, pressure gauge reads 0 psig!

6.3.1 Fitting the machine feet

The support frame of the machine is provided with holes for fitting bolt-down machine feet (see dimensional drawing in chapter 13.3 for the location of these holes).

You may use rubber pads instead of the machine feet if the machine is placed on or bolted to surfaces not subject to acceleration.

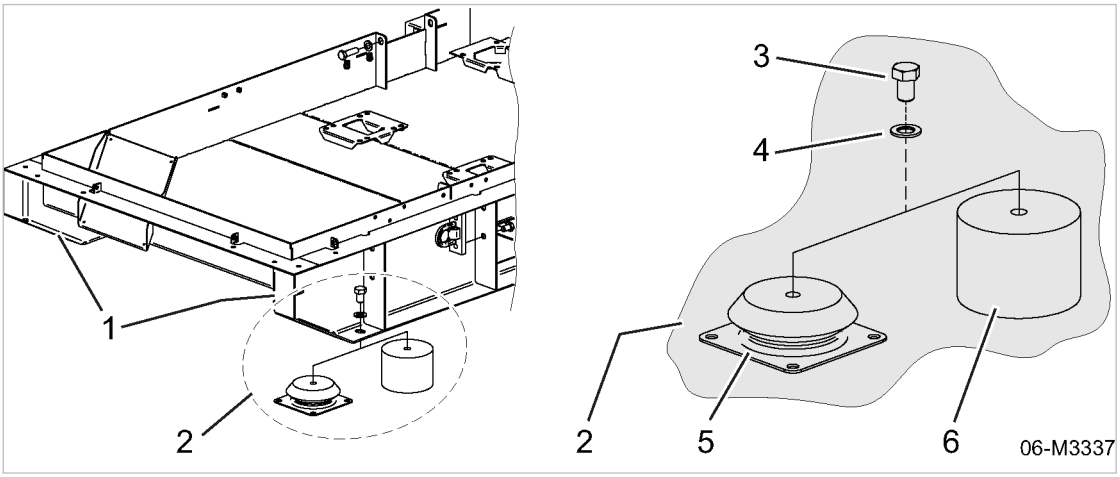


Fig. 21 Mounting machine foot/rubber pad

[1] Machine's support frame (skid)
[2] Machine foot/rubber pad installation detail
[3] Hexagon bolt
[4] Washer
[5] Bolt-down machine foot (anti-vibration element)
[6] Rubber pad (for static installation only)

1. Position the bolt-down machine feet underneath the corresponding drilled hole of the skid.
2. Fit the washer to the hexagon bolt.
3. Insert the hexagon bolt through the drilled hole of the longitudinal support.
4. Install the hexagon bolt in the thread of the machine foot.
5. Tighten the hexagon bolt.
6. Install and tighten the other machine feet analogously.

6.4 Electrical connection

6.4.1 Network Conditions

This machine is designed for the operation in an industrial environment with proprietary power supply network separated from the public supply by a transformer or generator. The operator must ensure that this machine is connected only to a power supply network that meets these conditions.

➢ Ensure that the power supply network meets these requirements.

6.4.2 Power supply disconnecting device

The power supply disconnecting device and its correct on-site installation is not part of the delivery scope of the machine. Accordingly the manufacturer of the machine is not responsible for the correct installation of a suitable power supply disconnecting device; rather, it is the responsibility of the machine operator.

1. Determine technical data for the design of an on-site power supply disconnecting device according to applicable country-specific regulations and guidelines.

Scope of application	Country-specific regulations and guidelines
Europe	EN60204–1: 2018. 5.3
USA/Canada	NFPA 79

Tab. 54 On-site power supply disconnecting device

2. The suitable on-site power supply disconnecting device must be installed by authorized installation personnel or authorized certified electricians only.

Further information An authorized KAESER service representative can provide you with detailed information concerning the design or installation of a suitable power supply disconnecting device for your machine.

6.5 Using the external condensate collection tank

To avoid interruptions during operation it is recommended to use an external condensate collection tank with a large capacity when running the machine in continuous operation.

The machine is already prepared with a condensate drain device:

- Directional control valve inside the machine.
- The shut-off valve for condensate on the drain device is installed on the front of the machine.

The following components must be provided by the customer:

- External condensate collection tank with large capacity
- Male hose coupling with suitable hose

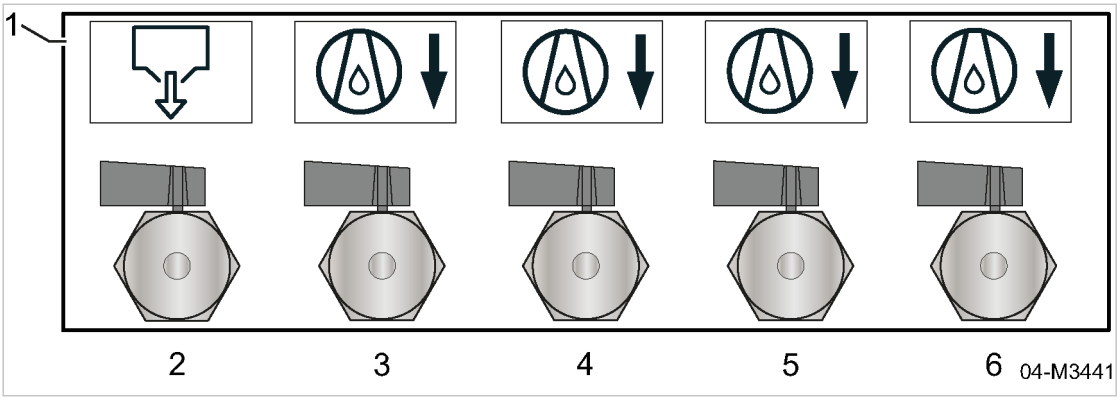


Fig. 22 Drain device - symbols and arrangement of shut-off valves

1. Position external condensate collection tank next to the machine.
2. Loosen and remove the screw plug [2].
3. Install the male hose coupling with a suitable hose on the shut-off valve [2] on the drain device.
4. Route the open end of the hose into the external condensate collection tank and secure it in place.

Result The machine is prepared for continuous operation with an external condensate collection tank.

Further information Set the directional control valve and shut-off valve of the drain device, see chapter 7.7.

7 Initial Start-up

7.1 Ensuring safety

Here you will find instructions for safe commissioning of the machine.
Warning instructions are given prior to a potentially dangerous task.

Disregard of warning instructions can result in life-threatening injuries!

Observing safety warnings

Ignoring safety warnings can cause unforeseeable dangers.

- ➢ Follow the instructions in chapter 3 "Safety and Responsibility".
- ➢ Commissioning tasks may only be carried out by authorized installation personnel!
- ➢ Make sure that no one is working on the machine.
- ➢ Ensure that the enclosure and all panels are closed.

When working on live components

Touching voltage carrying components can result in electric shocks, burns or death.

- ➢ Work on electrical equipment may only be carried out by authorized certified electricians.
- ➢ Switch off and lock out / tag out the on-site / customer's power supply disconnecting device and verify the absence of voltage.
- ➢ Check that there is no voltage on floating contacts.

Working on the pressure system (the machine provides compressed air for connected consumers)

Compressed air is contained energy. Uncontrolled release of this energy can cause serious injury or death. The following safety instructions relate to any work on components that could be under pressure.

- ➢ Close shut-off valves or otherwise isolate the machine from the compressed air network to ensure that no compressed air can flow back into the machine.
- ➢ Disconnect the compressed air consumers.
- ➢ Fully vent all pressurized components and enclosures.
- ➢ Check that individual components are in vented state.
- ➢ Do not open or dismantle any valves.

Working on the pressure system (the machine provides compressed in the compressed air system)

Compressed air is contained energy. Uncontrolled release of this energy can cause serious injury or death. The following safety instructions relate to any work on components that could be under pressure.

- ➢ Close shut-off valves or otherwise isolate the machine from the compressed air network to ensure that no compressed air can flow back into the machine.
- ➢ Fully vent all pressurized components and enclosures.
- ➢ Check that individual components are in vented state.
- ➢ Do not open or dismantle any valves.

When working on the drive system

Touching voltage carrying components can result in electric shocks, burns or death.
Touching the fan wheel, the coupling or the belt drive while the machine is switched on can result in serious injury.

- ➢ Switch off and lock out / tag out the on-site / customer's power supply disconnecting device and verify the absence of voltage.
- ➢ Do not open the enclosure while the machine is switched on.

Further information

Information regarding authorized personnel can be found in chapter 3.4.2.

Information regarding dangers and their avoidance can be found in chapter 3.5.

7.2 Before initial start-up (or recommissioning)

Incorrect or improper commissioning can cause injury to persons and damage to the machine.

7.2.1 Instructions to be observed before commissioning or recommissioning

The initial start-up of every machine takes place at the factory. Every machine is also given a trial run and passes a careful check.

- ➢ Commissioning may only be carried out by authorized installation and service personnel who have been trained on this machine.
- ➢ Remove all packing materials on and in the machine.
- ➢ Observe the machine during the first few hours of operation to ensure that it is operating correctly.

7.3 After storing the machine for a long period

- ➢ Carry out the following before every re-commissioning after a long period of storage.

Storage period longer than:	Action
5 months	➢ Remove the desiccant from the openings in the air intake filters. ➢ Check the air and oil filters. ➢ Drain the preserving oil from the separator tank. ➢ Fill with cooling oil. ➢ Check all compressor oil lines for leaks, loose connections, wear and damage. ➢ Clean the bodywork with a grease and dirt dissolving agent.
12 months	➢ Change motor bearings. ➢ Change the bearing grease.
36 months	➢ Have the overall technical condition checked by an authorized KAESER service representative.

Tab. 55 Measures for re-commissioning the compressor after a long period of storage

7.4 Setting the overload relay

See Wiring Diagram, chapter 13.4 for information on set points for the overload relay.

During the system operation, the phase current is fed via the overload relay. This phase current is 0.58-times the rated drive motor current in the delta configuration.

To prevent the overload relay being triggered by voltage fluctuations, temperature influences or component tolerances, the setting can be higher than the arithmetical phase current.

➢ Check the settings of the overload relay.

The overload relay shuts the machine down despite being correctly set?

➢ Contact an authorized KAESER service representative.

7.5 Setting the motor overload protection switch

See Electrical Diagram, Chapter 13.4 for information on setting values for the motor overload protection switch.

To prevent the motor overload protection switch from being triggered by voltage fluctuations, temperature influences or component tolerances, the setting can be higher than the rated motor current.

➢ Check the motor overload protection switch setting.

The overload protection switch shuts the machine down despite being correctly set?

➢ Contact an authorized KAESER service representative.

7.6 Setting the voltage measuring relay

See Wiring Diagram, chapter 13.4 for information on set points for the voltage measuring relay.

The voltage measuring relay monitors a three-phase network for the following faults:

- Low voltage
- High voltage
- Phase loss
- Phase sequence

In the event of one or several of these faults, SIGMA CONTROL SMARTcreates a fault message.

➢ If necessary, have a certified electrician check the connection on site.

The voltage measuring relay shuts the machine down despite being correctly set?

➢ Contact an authorized KAESER service representative.

7.7 Draining condensate according to operating conditions

Prior to starting the machine, the directional control valve of the condensate drain must be set according to operating conditions.

Overview:

- Short-term operation
  - Lever of directional control valve set to *"I"*
  - Shut-off valve in the area of the drain device is closed
  - The condensate drains into the internal condensate collection tank
- Continuous operation
  - External hose connection is installed
  - Lever of directional control valve set to *"II"*
  - Shut-off valve in the area of the drain device is open
  - The condensate drains into the external condensate collection tank

⚠ The following figure shows the machine without the side door at the cooling air inlet.

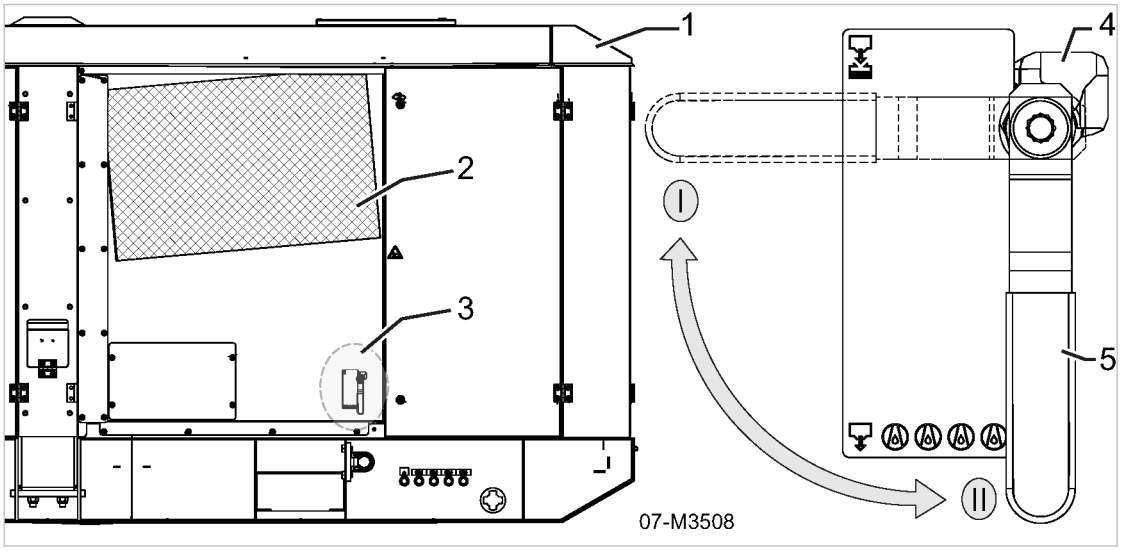


Fig. 23 Draining condensate internally/externally

1 Machine
2 Compressed air aftercooler
3 Directional control valve position
4 Directional control valve
5 Lever
I Position for draining condensate internally
II Position for draining condensate externally

➢ Make decision according to operating conditions!

Draining condensate internally	Draining condensate externally
1. Open the door.	1. Open the door.
2. Set lever of directional control valve set to *"I"*.	2. Set lever of directional control valve set to *"II"*.
3. Check to ensure that the shut-off valve in the area of the drain device is closed.	3. Check to ensure that the shut-off valve in the area of the drain device is open.
4. If required, close the shut-off valve in the area of the drain device.	4. If required, open the shut-off valve in the area of the drain device.
5. Close the door.	5. Close the door.

7.8 Low-temperature operation (winter)

During times of low ambient temperatures, low viscosity compressor oil facilitates the machine start. Short compressed air hoses reduce the risk of freezing of air tools.

1. Use low viscosity compressor oil.
2. Use short compressed air hoses.

7.8.1 Option ba
Following the pre-heating time of the auxiliary heater

To reach a suitable temperature set-point value in the machine's interior when the ambient temperature is low, the machine requires a certain time to pre-heat.

Examples for the minimum pre-heat times of the electrical auxiliary heater:

Ambient temperature [°F]	Temperature set-point value Airend [°F]	Minimum pre-heat time temperature [h]
−13	14	2.5
	23	4.5

Tab. 56 Example of pre-heat time for the electrical auxiliary heater

NOTICE

Damage to the airend caused by cold start of machine

- ➢ *Pre-heat the machine's interior by means of the auxiliary heater in times of low ambient temperatures.*
- ➢ *Only start the machine when the machine's interior has sufficiently pre-heated.*

Pre-heating the machine's interior

1. Switch on the «load isolating switch».
   The auxiliary heater is switched on if the «load isolating switch» is switched on.
2. Do **not** start the machine.
3. Mark the machine clearly with the following information sign:

Machine is energized.
The «load isolating device» is switched on.
The machine's interior is pre-heated by means of the auxiliary heater.
Do **not** start the machine.

Tab. 57 "Do not start the machine" information sign

4. The auxiliary heater is switched on by complying with the minimum pre-heat time.

Initiating the starting procedure

Precondition The minimum pre-heat time has been reached,
The machine's interior is sufficiently pre-heated.

1. Remove the information sign “Do not start machine” after the minimum pre-heat time has been reached.
2. Initiate the starting procedure, see chapter 8.3.

7.9 Note the automatic operating modes

Overview:

- Start/stop/automatic option
- DUAL control option

➢ Follow all instructions.

7.9.1 Option ob
Note the automatic start/stop

If your machine is connected to a master control system and is equipped with the automatic start/stop option, this machine can be operated in the start/stop automatic operation mode.

A safety sign on the machine points out the automatic starting of the machine, see illustration in Table 58. Position of the safety sign on the machine, see Chapter 3.8.

Option	Safety sign
Start/stop automatic	
—	—

Tab. 58 Safety sign for automatic starting

1. Check whether there is a safety sign for automatic starting on the machine.
2. Inform operators regarding automatic starting of machine.

Further information Observe start procedure for machine with automatic start/stop option, see Chapter 8.11.1.

Operate machine with automatic start/stop or in manual mode, see operating manual for SIGMA CONTROL SMART.

7.9.2 Option cd
Note the DUAL control

If your machine is equipped with the DUAL control option, you can operate this machine in automatic DUAL control mode.

A safety sign on the machine points out the automatic starting of the machine, see illustration in Table 59. Position of the safety sign on the machine, see Chapter 3.8.

Option	Safety sign
DUAL control	
—	—

Tab. 59 Safety sign for automatic starting

1. Check whether there is a safety sign for automatic starting on the machine.
2. Inform operators regarding automatic starting of machine.

Further information

Observe the start procedure for a machine with DUAL option, see Chapter 8.11.1.

Operate the machine with DUAL control or in manual mode, see the SIGMA CONTROL SMART operating manual.

8 Operation

8.1 Ensuring safety

Follow the instructions below for safe operation.
Warning instructions are located before a potentially dangerous task.

Disregard of warning instructions can cause serious injuries!

Complying with safety warnings

Disregard of safety warnings can cause unforeseeable dangers!

- ➢ Follow the instructions in chapter 3 “Safety and Responsibility”.
- ➢ Make sure that no one is working on the machine.
- ➢ Ensure that all service doors and panels are closed and secured.

Preventing accidental contact

Intensely heated, rotating, or electrically-live components can cause severe injuries.

- ➢ Ensure that all doors, canopy and panels are closed.
- ➢ Do not carry out any checks or settings while the machine is running.
- ➢ Shut down the machine before opening any doors/canopy.

When working on live components

Touching voltage-carrying components can result in electric shocks, burns or death.

- ➢ Work on electrical equipment may only be carried out by authorized electricians.

Safe working with compressed air tools and hoses

Open pressurized compressed air hoses move erratically and can cause serious injury to people.

- ➢ Pressurize compressed air hoses only after the tool has been connected.
- ➢ Do not pressurize open compressed air hoses.
- ➢ Detach compressed air hoses only after the hose has been purged of compressed air.
- ➢ At working pressures >100 psig, compressed air hoses should be secured by a cable to their respective outlet valves.

Condensate formation in compressed air hoses

Use the shortest possible compressed air hoses to minimize the temperature difference between the machine's compressed air outlet and the air tool. The hose length represents a cooling section. With increasing cooling, the compressed air gives off moisture capable of damaging the air tool.

- ➢ Use short compressed air hoses.

Condensate formation in compressed air receivers

Compressed air stored in a containers will cool down. The compressed air precipitates moisture that collects at the container's bottom. Corrosion may damage the container.

➢ Regularly drain the condensate.

Further information Details of authorized personnel are found in chapter 3.4.2.

Details of dangers and their avoidance are found in chapter 3.5.

8.2 Observing environmental impacts

To ensure safety on the building site, the following environmental impacts must be observed separately:

- Thunderstorms
- Low ambient temperatures

➢ Comply with all instructions!

8.2.1 Environmental impact: thunderstorm

Due to its metallic design, the machine is particularly at risk for lightning strike during a thunderstorm. It is absolutely necessary that any persons avoid the immediate danger area around the machine when a thunderstorm is imminent.

Appropriate protection is provided by vehicles with a roof (Faraday cage).

1. **⚠ WARNING** *Lightning strike during thunderstorm*
   - ➢ *Avoid the danger area around the machine.*
   - ➢ *Get into suitable vehicles.*
2. Enter buildings with lightning conductor.

8.2.2 Environmental impact: low temperature

Overview:

- Remove snow and/or ice from the machine.
- Check the function of the «EMERGENCY STOP» push button.

Considerable snow or ice may build up on the machine under low temperature conditions.

➢ Remove any snow and ice from the machine before operating.

The mechanical function of the «EMERGENCY STOP» push button may be impaired under low temperatures.

1. **⚠ WARNING** *«EMERGENCY STOP» push button jammed!*
   The machine cannot be stopped quickly in an emergency.
   - ➢ *Check the function of the «EMERGENCY STOP» push button.*
   - ➢ *Do not operate the machine if the «EMERGENCY STOP» push button does not work.*
2. Push the «EMERGENCY STOP» push button.
   The «EMERGENCY STOP» push button cannot be pressed or does not engage.
   The «EMERGENCY STOP» push button is frozen.
3. Defrost the «EMERGENCY STOP» push button.

4. Disengage «EMERGENCY STOP» key.

The «EMERGENCY STOP» push button still does not function after defrosting.

➢ Have an authorized KAESER service representative replace the «EMERGENCY STOP» push button.

8.3 Switching on the machine

Overview:

- Connect the power supply cable
- Overview of fittings:
  - SIGMA CONTROL SMART operating unit
  - Compressed air outlet pressure gauge
  - «EMERGENCY STOP» push button
- Prepare the machine to start
- Switch on the drive motor
- Allow the machine to warm up
- Switch the machine to LOAD operation

➢ Follow all instructions carefully.

8.3.1 Connecting the power supply cable

There are two plug-in connections in the same color variant for each phase and GRD. Always connect both plug-in connections of the same color variant for each phase and GRD.

Precondition

Local power supply is available.

On-site CAM-LOK plug-in connection system is professionally designed and installed, see chapter 13.6.

On-site power supply disconnecting device is professionally installed.

The electrical connection has been inspected (clockwise rotation), see Commissioning.

The «Load isolating switch» of the on-site power supply disconnecting device is switched off at all poles.

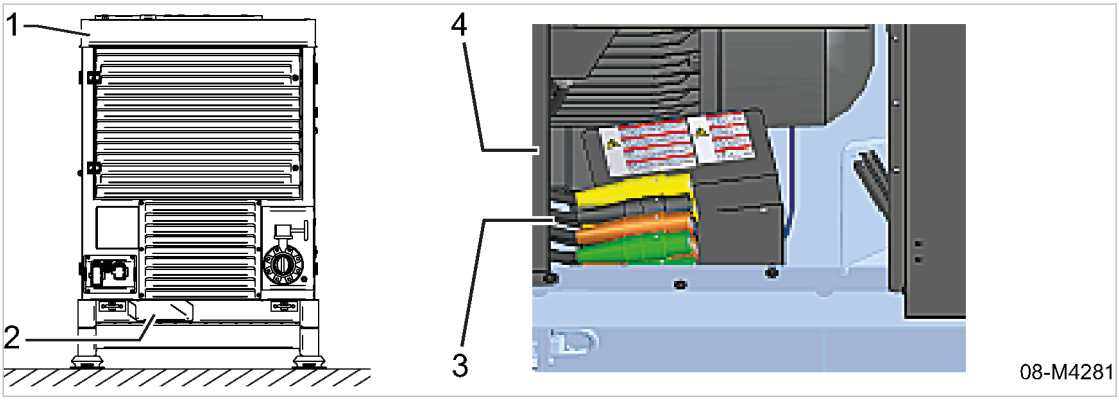


Fig. 24 Machine cable shaft

1 Left end side of machine
2 Cable shaft
3 CAM-LOK plug-in connection system
4 Rear side of machine

1. Insert power supply cable through the cable shaft.
2. Open the door/s.
3. Pull the power supply cable into the machine's interior.

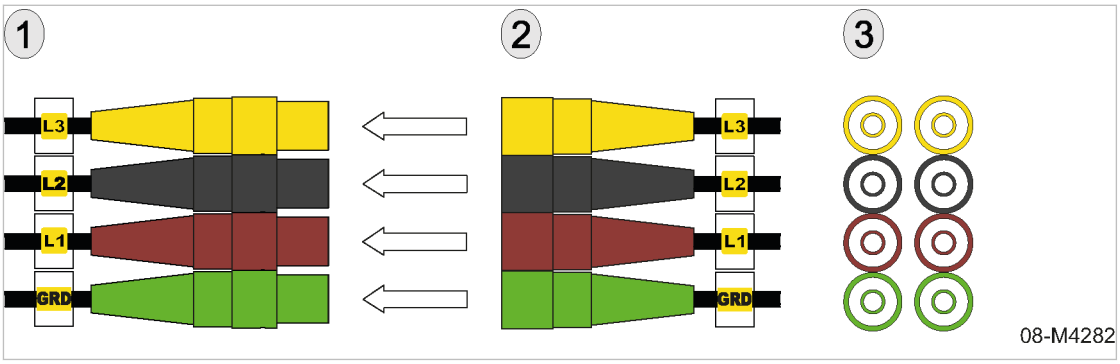


Fig. 25 Connecting the plug-in connection system

[1] CAM-LOK plug-in connection system inside the machine
[2] Compatible customer-provided plug-in connection system
[3] Dual implementation for each phase and GRD

1. Connect all customer-provided plugs to the CAM-LOK plug-in connection system inside the machine.

Color coding	
Color	Phase/GRD
Yellow	L3
Black	L2
Brown	L1
Green	GRD

Tab. 60 Color coding L1, L2, L3, GRD

2. Close the door/s.

8.3.2 Overview of fittings

Compressed air outlet pressure gauge, SIGMA CONTROL SMART operating unit and «Controller ON/OFF» switch are located behind the control panel cover.

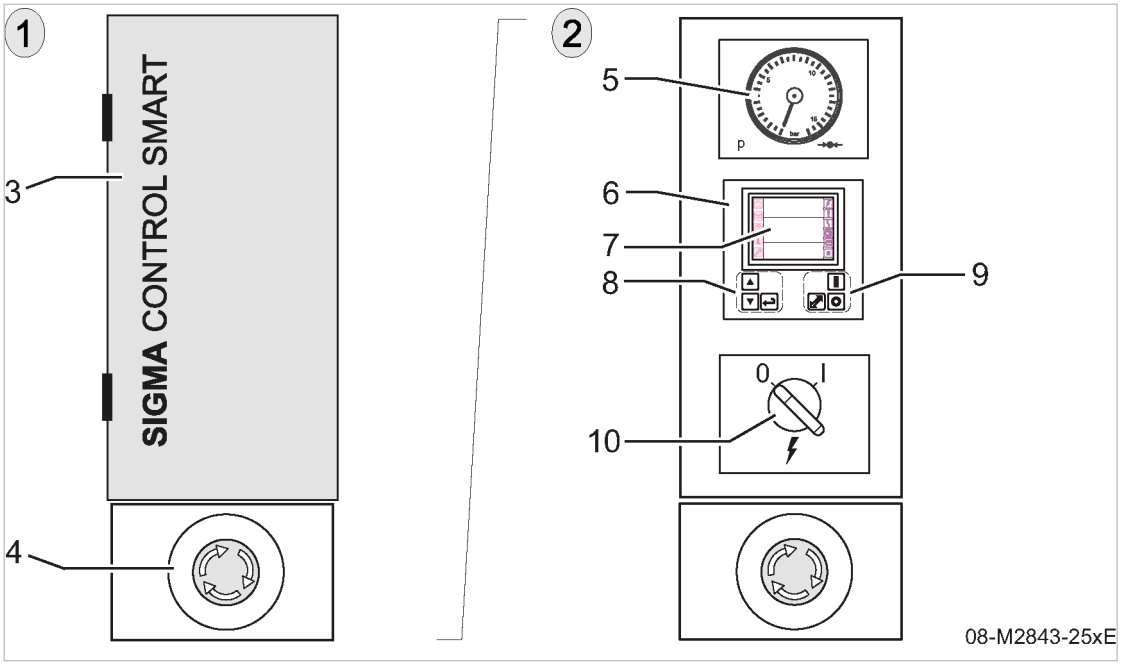


Fig. 26 Arrangement of SIGMA CONTROL SMART operating unit and fittings

1 Control panel cover closed
2 Control panel cover open
3 SIGMA CONTROL SMART control panel cover
4 «EMERGENCY STOP» push button
5 Compressed air outlet pressure gauge
6 SIGMA CONTROL SMART operating unit
7 SIGMA CONTROL SMART display
8 «Menu bar navigation» keys
9 «Operating mode» keys
10 «Controller ON/OFF» switch

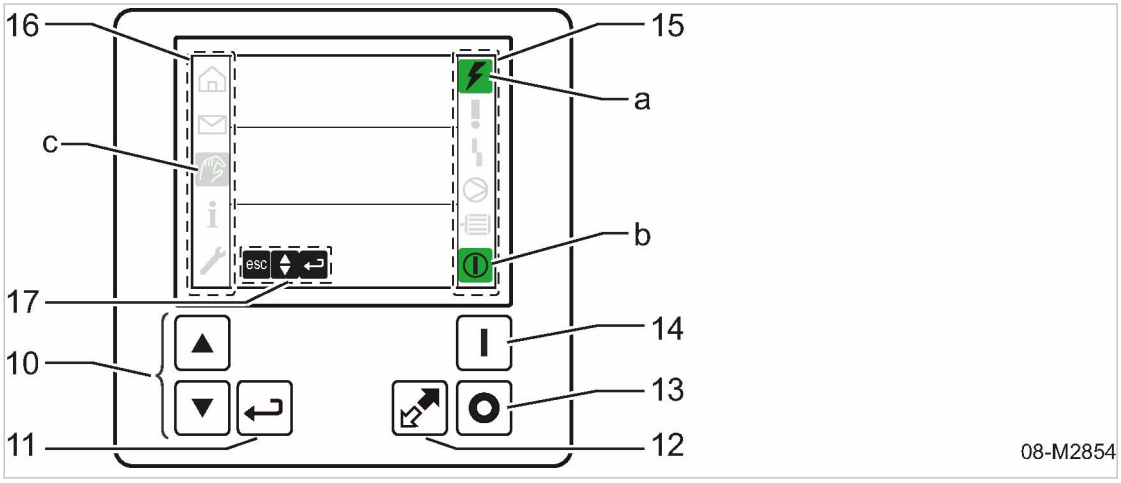


Fig. 27 SIGMA CONTROL SMART operating unit keys and displays

10 «Up» and «Down» keys
11 «Enter» key
12 «LOAD/IDLE» key
13 «OFF» key
14 «START» key
15 Status bar
a *Controller voltage ON* indicator
b *READY* indicator (flashes)
16 Menu bar
c *Settings menu* indicator
17 *Navigation menu* indicator

➢ Memorise this information.

8.3.3 Preparing the machine to start

1. Switch on the «Load isolating switch» on the on-site power supply disconnecting device (all poles).
2. Open the control panel cover of the SIGMA CONTROL SMART.
3. Turn the «Controller ON/OFF» switch to the “ON” position.

   The controller voltage for the SIGMA CONTROL SMART is switched on.

   If there is no error message, the following operating data/states are indicated on the SIGMA CONTROL SMART display:

   - Operating data
     - Airend discharge temperature
     - Operating hours
   - Operating states
     - Drive motor *Ready* symbol
     - The *READY* indicator flashes green.

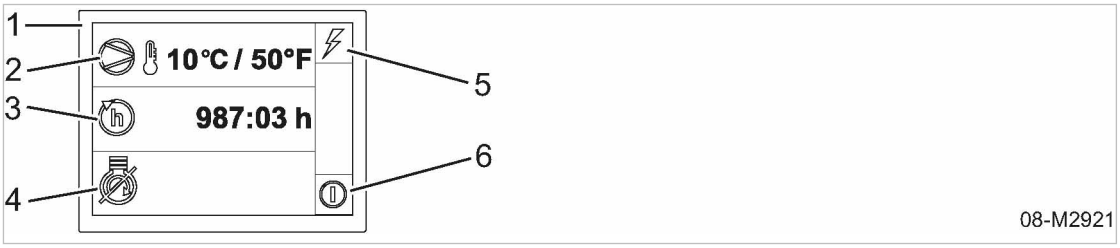


Fig. 28 Ready indicator display

1	SIGMA CONTROL SMART display	4	Ready symbol
2	Airend discharge temperature	5	Controller voltage ON status
3	Operating hours	6	READY status (flashes green)

4. Check if the status *Ready* is indicated on the status bar of the SIGMA CONTROL SMART.

   The machine is ready to start.

The machine is not ready to start / error messages are indicated on the SIGMA CONTROL SMART display.

➢ Read error messages.

➢ Rectify cause while observing operational safety.

8.3.4 Switching on the drive motor

Precondition Nobody is working on the machine

All doors/covers are closed

➢ Press «START» key on the SIGMA CONTROL SMART operating panel.

The machine's drive motor starts up.

The *READY* indicator on the SIGMA CONTROL SMART display (status bar) illuminates continuously in green.

8.3.5 Running up the machine to operating temperature

After the drive motor has started, the machine initially runs through the WARM-UP PHASE.
In the WARM-UP PHASE, the machine is brought to the working temperature in an unloaded state.

1. Allow the machine to run in the WARM-UP PHASE.
   The machine warms up unloaded.
2. Wait until the setpoint for the airend discharge temperature has been reached.

Result The machine switches to IDLE operation.

Result The machine has warmed up unloaded and is ready to switch to LOAD operation.

8.3.6 Switching the machine to LOAD operation

Precondition A compressed air hose is connected to the butterfly valve on the compressed air outlet.

1. Press the «LOAD/IDLE» key on the operating panel of the SIGMA CONTROL SMART.
   The machine switches to LOAD operation.
2. Open the butterfly valve on the compressed air outlet.

Result The machine delivers compressed air.

8.4 Setting the compressed air discharge pressure

The compressed air discharge pressure can be modified only when this option is activated in the machine controller.
(See also the separate user manual for SIGMA CONTROL SMART.)

The compressed air discharge pressure (nominal pressure) can be set when the drive motor is in standstill (SIGMA CONTROL SMART switched on) or during operation (with the machine running).

- The pressure can only be set lower than the nominal working pressure of the machine.
- You can adjust the settings in increments of 0.1 bar or 1 psi.
- The adjustment is displayed.

⚠ CAUTION

Danger from incorrectly set pressure!
Danger from malfunctioning or not functioning compressed air tools when the machine's discharge pressure is set incorrectly.

- ➢ *Use connected compressed air tools only with the pressure appropriate for its purpose (tool working pressure).*
- ➢ *Comply with the information and notes provided in the compressed air tool's operating instruction.*

The Settings menu for the compressed air discharge pressure can be reached in two ways:

- Quick access from the main menu
- Access via menu structure

Precondition Controller (SIGMA CONTROL SMART) is switched on
The pressure adjustment option is enabled

➢ Select the access type.

Quick access from the main menu:

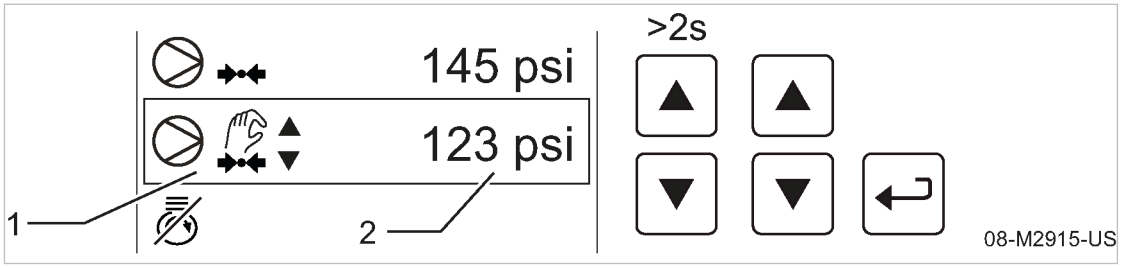


Fig. 29 Quick access adjustment compressed air output pressure

1 Compressed air discharge pressure setting symbol
2 Setting value

1. Press «UP» or «DOWN» key for more than two seconds and release.
   The display immediately jumps to the line for "Setting the compressed air discharge pressure".
   The Settings menu has a flashing frame.
2. Press the «UP» and/or «DOWN» keys to select the required pressure.
   The set value for the compressed air discharge pressure is immediately active and remains saved.
3. Press «Enter».
   The frame disappears.
4. Press «Enter».
   Jump back to the menu bar, the "Main menu" symbol receives a black background.

Access via menu structure:

Precondition The Settings menu (hand symbol) is selected.

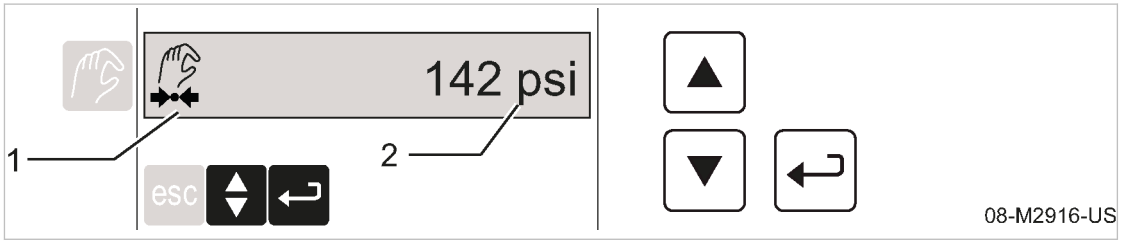


Fig. 30 Setting the compressed air discharge pressure

1 Adjustment compressed air discharge pressure
2 Setting value

1. Press «down» for a short time.
   The "Setting compressed air discharge pressure" line is framed.
2. Press «Enter».
   The frame flashes and thus signals that input is possible.
   You can set the required compressed air discharge pressure.
3. Press the «UP» and/or «DOWN» keys to select the required pressure.
   The set value for the compressed air discharge pressure is immediately active and remains saved.

4. Press «Enter».
   The frame stops flashing.
5. Press «Enter» for at least two seconds.
   Jump back to the menu bar, the "Settings menu" symbol receives a black background.

or:

1. Press «UP» or «DOWN» until all lines of the Settings menu no longer have a frame.
2. Press «Enter» for just a moment.
   Jump back to the menu bar, the "Settings menu" symbol receives a black background.

The modification of the pressure setting at the display can be blocked upon the entry of the Customer password (password level 1). The last setting of the compressed air discharge pressure is retained.

8.5 Switching off

Overview:

- Switching the machine off
  - Switching the machine to the run-on phase
  - Switching the machine off after the cool-down phase
- Switch off the controller voltage for the SIGMA CONTROL SMART
- Switch off the on-site power supply disconnecting device
- Disconnect the plug-in connection system

➢ Follow all instructions carefully.

8.5.1 Switching off

The machine may only be switched off via the operating panel of the SIGMA CONTROL SMART

⚠ DANGER

Death or serious injury can result from pulling out the plug-in connection during operation

➢ *Only switch the machine off via the operating panel of the SIGMA CONTROL SMART.*

Switch the machine to the run-on phase	Switching the machine off after the cool-down phase
1. Open the control panel cover. 2. Press the «LOAD/IDLE» key. The drive motor runs in IDLE operation. The oil separator tank is vented. The inlet valve closes. ⌛ 0.5 - 3 minutes (drive motor can be switched off). 3. Press and hold the «STOP» key for more than 1 second. The drive motor shuts down.	1. Wait for the cool-down phase. 2. Press and hold the «OFF» key for more than one second. The machine switches to *unloaded run-on*. The drive motor runs in IDLE operation. The oil separator tank is vented. The inlet valve closes. The drive motor switches off, controlled by a timer.

8.5.2 Observing the back pressure indicator

- The SIGMA CONTROL SMART display indicates *back pressure* if the pressure in the oil separator tank (OST) remains > 14.5 psig.
- When the machine is fully vented, the indicator changes from *back pressure* to *READY*.
- If the OST is fully vented after shutdown, the “restart inhibitor” is activated and indicated by a timer counting down on the display.

➢ Follow all instructions

8.5.3 Switching off the controller voltage

To switch off the SIGMA CONTROL SMART, the «Controller ON/OFF» switch must be set to the *OFF* position.

Precondition The oil separator tank has been fully vented,
the *back pressure* symbol is no longer illuminated.
The *READY* symbol is indicated.

➢ Turn the «Controller ON/OFF» switch to the *OFF* position.
All the SIGMA CONTROL SMART indicators switch off.

8.5.4 Switching off the on-site power supply disconnecting device

1. Switch off the on-site «Load isolating switch» on the power supply disconnecting device.
2. Secure the on-site «Load isolating switch» on the power supply disconnecting device against switching on again.

8.5.5 Disconnecting the CAM-LOK plug-in connection system

1. Open the door/s.
2. Disconnect all customer-provided plugs to the CAM-LOK plug-in connection system inside the machine.
3. Remove the power supply cable.
4. Close the door/s.

8.6 Shutting down machine in the event of an emergency

The «EMERGENCY STOP» push button may be used only in case of an **emergency** in order to shut down the machine.

The «EMERGENCY STOP» push button is located beneath the control panel cover of SIGMA CONTROL SMART, see Fig. 31.

In the event of an emergency around or relating to the machine, it must be shut down immediately.

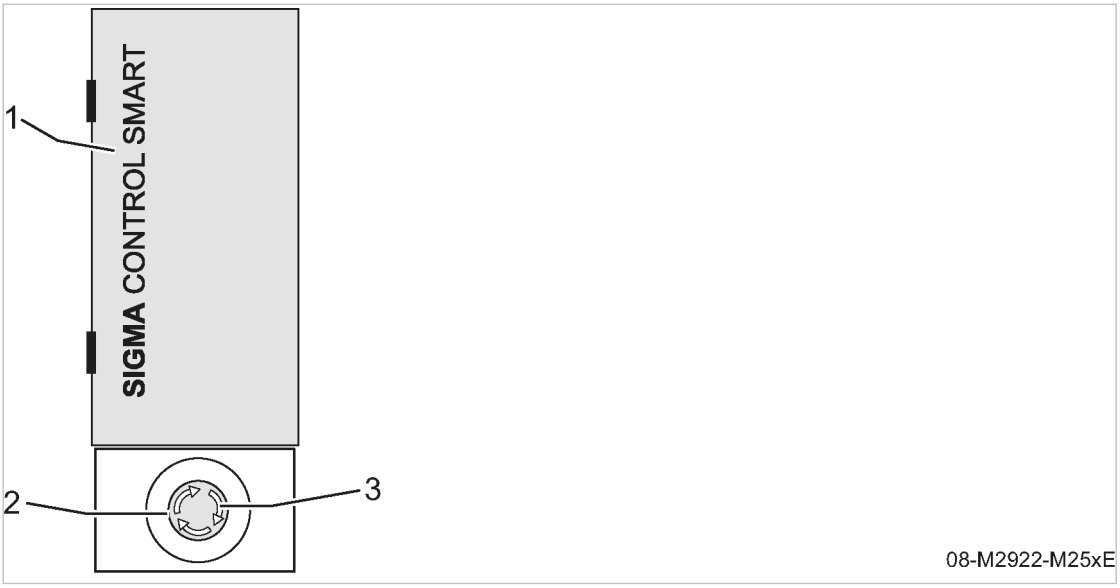


Fig. 31 Switching off in an emergency

[1] Control panel cover of SIGMA CONTROL SMART (closed)
[2] «EMERGENCY STOP» push button
[3] Direction of arrow

Shut down machine in the event of an emergency

➢ Press the «EMERGENCY STOP» push button.

Result Drive motor switches off, the machine stands still.
«EMERGENCY STOP» push button is locked.
Pressure system is vented.
Machine is secured against an automatic restart.

Remove the fault on the machine

Precondition Operational safety at the machine and its environment is ensured.

1. Determine the cause of the fault.
2. Rectify the fault.

Unlocking the «EMERGENCY STOP» push button

The «EMERGENCY STOP» push button remains locked after shutting down in the event of an emergency.
The «EMERGENCY STOP» push button must be unlocked manually.

➢ Turn the «EMERGENCY STOP» push button in the direction of the arrow until it automatically unlocks.

Putting the machine back into operation

When the fault has been cleared, the machine must be unlocked.

Precondition «EMERGENCY STOP» push button is unlocked.

1. Press the «Enter» key on the SIGMA CONTROL SMART control panel to confirm the fault message.
2. Turn the «Controller ON/OFF» switch to the *OFF* position.
3. Turn the «Controller ON/OFF» switch to the *ON* position.

Result The machine is ready to start again.

8.7 Checking the ambient temperature

➢ Check to ensure that the ambient temperature for air treatment is within the required limit values.

The moisture content of the transported air is too high.

The ambient temperature has fallen below or exceeds the permissible limit value.

➢ Shut down the machine.

Further information See chapter 2.4.6 for air treatment limit values.

8.8 Confirming alarm and warning messages

- The information evaluated by SIGMA CONTROL SMART is stored in the event memory.
- The warning and alarm messages are shown on the display of SIGMA CONTROL SMART.
- The message is stored in the event memory of SIGMA CONTROL SMART at the same time.

8.8.1 Confirming and acknowledging alarm messages

An alarm message is displayed and

- The machine is shut down and cannot be restarted.
- The associated signal indicator illuminates red.

Precondition Fault rectified.

1. Press «Enter» to accept the alarm message.
   The alarm indicator is extinguished.
   The alarm symbol in the status bar remains active.
2. Restart SIGMA CONTROL SMART in order to acknowledge the alarm message.

8.8.2 Confirming and acknowledging warning messages

Before an alarm, the system displays a warning and the following happens at the same time:

- The assigned signal indicator illuminates orange.

Precondition The cause of the warning is rectified

1. Press «Enter» to confirm the warning message.
   The warning message is extinguished.
   The warning symbol in the status bar remains active.

2. Restart SIGMA CONTROL SMART in order to acknowledge the warning message.

Further information See separate operating manual for SIGMA CONTROL SMART for further information on the event memory.

8.9 Checking the level of the condensate collection tank

- Check the level of the internal condensate collection tank
- Check the level of the external condensate collection tank.

Precondition The machine is switched off and has cooled down.

«Load isolating switch» of the machine set to position *OFF*,
«Load isolating switch» is locked off,
«Controller ON/OFF» switch set to position *OFF*,
Absence of voltage has been verified.

The butterfly valve at the compressed air outlet is open,
the machine is fully vented, pressure gauge reads 0 psig!

➢ Comply with all instructions!

8.9.1 Checking the internal condensate collection tank

Check the level of the internal condensate collection tank each time after operating the machine for a short time.

1. Visually inspect the filler level.
2. If necessary, empty the internal condensate collection tank, see chapter 10.7.

8.9.2 Checking the external condensate collection tank

Depending on the design size, check the level of the external condensate collection tank.

1. Visually inspect the filler level.
2. If necessary, empty the external condensate collection tank, see chapter 10.7.

8.10 Cleaning the machine after operation

Proper technical condition of the machine also includes cleanliness. The interior of the machine in particular must not be heavily contaminated with oil.

- Clean the exterior of the machine by using a high-pressure washer.
- Clean the interior of the machine by using compressed air.

➢ The machine must be cleaned by authorized and trained personnel only!

Cleaning by using dry-ice blasting is strictly forbidden! This can result in unforeseen damage.

Material
Eye protection (protective glasses)
Cleaning cloth
Cleaning agents
High-pressure washer
Compressed air

Precondition
The machine has been set down in a cleaning area equipped with an oil separator.
The machine is on level ground and has cooled down.
The machine is isolated from any voltage,
the absence of voltage has been verified.
The machine is completely de-pressurized,
the pressure gauge reads 0 psig!

⚠ WARNING
Stirred up dirt particles and hazardous materials!
Injuries to eyes.
➢ *Wear safety glasses.*

NOTICE
Hose water can cause machine damage!
Direct hose water may damage or destroy electrical components.
➢ *Do not use hose water to clean the machine interior.*
➢ *Do not use hose water to clean sensitive indicating instruments.*

➢ Follow all instructions carefully.

8.10.1 Cleaning the exterior of the machine

Open closed floor pan

In order to prevent liquid accumulation inside the machine the closed floor pan must be opened.

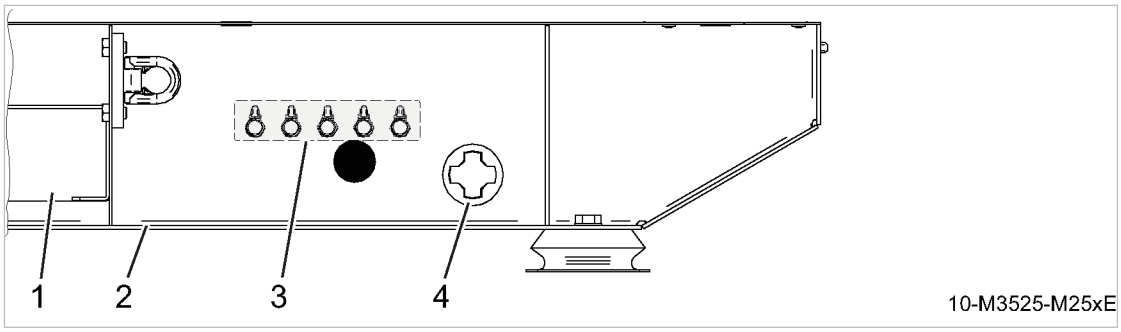


Fig. 32 Closed floor pan bung

[1] Front side of machine
[2] Skid
[3] Central drain device
[4] Plug

1. Remove plug.
2. Clean plug.

Close the control panel cover

➢ Close control panel cover of SIGMA CONTROL SMART.
Sensitive indicating instruments are protected against direct hose water.

Cleaning the machine from the outside

Maintain the following minimum distances to the object to be cleaned in order to prevent damages to the object when cleaning with the high-pressure washer:
- Rotary jet nozzles: approximately 28 inches
- Fan jet nozzles: approximately 12 inches
- Dirt blasters: approximately 12 inches

➢ Clean the machine from the outside with a high-pressure washer.

Result Exterior cleaning via high-pressure washer is complete.

Cleaning indicating instruments:

1. Open the control panel cover of SIGMA CONTROL SMART.
2. Manually clean sensitive indicating instruments with a cleaning cloth.

Sealing the floor pan:

Precondition Liquid inside the machine has completely drained.

➢ Install plug.

8.10.2 Cleaning the interior of the machine

Overview:
- Clean the interior of the machine by using suitable compressed air, see Table 61.
- Manually clean sensitive components.

Suitable compressed air range for cleaning	Value
Working pressure [psi]	≤ 30

Tab. 61 Suitable compressed air range for cleaning

Cleaning the interior of the machine:

Precondition Compressed air generator is available.
Suitable compressed air range is set.

➢ Clean the interior of the machine by using compressed air.

Manually cleaning sensitive components:

In the event of excessive contamination of the drive motor or the control cabinet, you can also use a gentle degreasing cleaning agent. The cleaning agent must not alter the surfaces of the drive motor or the control cabinet.

➢ Manually clean the following components with a cleaning cloth:
- Electric drive motor cooling fins
- Electric drive motor connector box
- Control cabinet

Dispose of dirty cleaning cloths in accordance with environmental protection regulations.

8.11 Operating the options

➢ Comply with all instructions.

8.11.1 Note the automatic operating modes

Overview:
- Note the automatic start/stop
- Note the DUAL control mode

⚠ WARNING

Risk of injury caused by an automatic machine start!

➢ *Close and lock all doors of the machine already before switching on the controller voltage for SIGMA CONTROL SMART.*

Option ob Note the automatic start/stop

The ready-to-start state of the machine in the automatic operating mode “automatic start/stop” is ensured when the following conditions are met:
- The controller voltage for SIGMA CONTROL SMART is switched on.
- All required settings have been made in the *<Settings menu>* of SIGMA CONTROL SMART.
- The «START» key on the control panel of SIGMA CONTROL SMART has been pressed once.

1. Check to ensure that all the doors of the machine are closed and locked.
2. Switch on the SIGMA CONTROL SMART controller voltage.
3. Make all required settings in the *<Settings menu>* of SIGMA CONTROL SMART.
4. Press the «START» key on the control panel of SIGMA CONTROL SMART once only.

Result After the start signal from the master controller has been received, the machine starts automatically. The machine runs through the warm-up phase and automatically switches to LOAD operation.

Option cd Note the DUAL control mode

The ready-to-start state of the automatically-operated machine in DUAL control mode is ensured when the following conditions are met:
- The compressed air hose (network pressure) has been connected to the measuring point.
- The controller voltage for SIGMA CONTROL SMART is switched on.
- All required settings have been made in the *<Settings menu>* of SIGMA CONTROL SMART.
- The «START» key on the control panel of SIGMA CONTROL SMART has been pressed once.

1. Connect the compressed air hose (network pressure) to the measuring point.

Fig. 33 Measuring point information sign

2. Adjusting the lever of the directional control valve.
3. Close and lock all doors of the machine.
4. Switch on the SIGMA CONTROL SMART controller voltage.
5. Make all required settings in the *<Settings menu>* of SIGMA CONTROL SMART.
6. Press the «START» key on the control panel of SIGMA CONTROL SMART once only.

Result The machine starts automatically, if the compressed air pressure in the compressed air network is lower than the cut-in pressure of the pressure switch. The machine runs through the warm-up phase and automatically switches to LOAD operation.

9 Fault Recognition and Rectification

9.1 Basic instructions

The following tables are intended to assist in fault finding and rectification.

1. Do not attempt fault rectification measures other than those given in this manual!
2. In all other cases:
   Have the fault rectified by an authorized KAESER service representative.

Further information

Observe the instructions in chapter 3 "Safety and Responsibility" and prevailing local safety regulations when rectifying faults and malfunctions.
Comply with local applicable safety provisions!

9.2 Analyzing SIGMA CONTROL SMART messages

There are three types of message:

- Fault messages, see chapter 9.2.1.
- Warning messages, see chapter 9.2.2.
- Maintenance messages, see chapter 10.2

The messages applicable to your machine are dependent on the controller factory settings and individual equipment with which the machine is provided.

9.2.1 Alarm message on the controller (machine off)

Alarm with automatic shutdown of the machine.

After correcting the alarm, carry out the following measures to restart the machine.

- Acknowledge the alarm message
- Restart the controller

Further information

Further information on acknowledging alarm messages can be found in chapter 8.8.

Error code, range 1100 – 1199 “Drive motor faults”:

Code	Meaning	Measure	See chapter	Where can I get help?	
				SW	KS
1166	Fault - drive motor overload	Have it checked.	–	–	X
1167	Fault - drive motor direction of rotation	Have it checked.	–	–	X
1170	Fault - automatic mode start fault	Have it checked.	–	–	X

SW = Specialized workshop; KS = KAESER SERVICE

Tab. 62 Alarm messages and troubleshooting concerning the drive motor

Error codes, range 1200 – 1299 “Compressor faults”:

Code	Meaning	Measure	See chapter	Where can I get help?	
				SW	KS
1200	Fault - ADT high.	Check installation conditions.	5.2	–	–
		Check/clean the cooling air inlet		–	–
		Checking fan function.		–	–
		Clean the cooler.	10.6	–	–
		Check the cooling oil level.	10.5.1	–	–
		Wait until the airend discharge temperature has dropped below the value of the safety shut-down.	2	–	–
1201	Fault - OST pressure high.	Have it checked.	–	–	X

SW = Specialized workshop; KS = KAESER SERVICE

ADT = Airend discharge temperature; OST - Oil separator cartridge

Tab. 63 Alarm messages and troubleshooting concerning “compressor fault”

Error codes, range 1300 – 1399 “Controller faults”:

Code	Meaning	Measure	See chapter	Where can I get help?	
				SW	KS
1300	Fault – PLC memory error.	Have it checked.	–	–	X
1302	Fault - PLC / HMI communication.	Have it checked.	–	–	X
1303	Fault - PLC temperature high.	Check installation conditions. Allow the machine to cool down.	5.2	–	–
1304	Fault – PLC power supply.	Have it checked.	–	–	X
1310	Fault – Watchdog fault.	Have it checked.	–	–	X

SW = Specialized workshop; KS = KAESER SERVICE

PLC = Programmable logic controller; HMI = Human-machine interface; Watchdog = Function monitoring

Tab. 64 Alarm messages and troubleshooting concerning “controller fault”

Error codes, range 1400 – 1499 “General faults”:

Code	Meaning	Measure	See chapter	Where can I get help?	
				SW	KS
1400	Fault – EMERGENCY STOP	Disengage «EMERGENCY STOP» push button.	8.6	–	–
		Have it checked.	–	–	X
1410	Fault - OST pressure sensor open circuit	Have it checked/repaired.	–	–	X
1412	Fault – inlet valve pressure transducer open circuit	Have it checked/repaired.	–	–	X
1414	Fault - ADT sensor	Have it checked.	–	–	X
1420	Fault – venting valve open circuit	Have it checked/repaired.	–	–	X
1424	Fault - inlet valve	Have it checked.	–	–	X
1429	Fault - fan motor	Have it checked/repaired.	–	–	X
1440	Fault – power supply voltage monitoring	Have it checked.	–	–	X
1441	Fault - main contactor malfunction	Have it checked/repaired.	–	–	X
1475	Fault - sensor B13 / pN				

SW = Specialized workshop; KS = KAESER SERVICE

OST = Oil separator tank

ADT = Airend discharge temperature

Tab. 65 Alarm messages and troubleshooting concerning "General faults"

9.2.2 Warning message on the controller

The machine will not be shut down.

- In the case of an overheating warning, the machine switches automatically to IDLE mode to cool down.
- You must acknowledge the warning message upon correction of the fault.

Further information Further information on the acknowledgement of warning messages can be found in chapter 8.8.

Message codes, range 3200 – 3299 “Compressor unit warnings”:

Code	Meaning	Remedy	See chapter	Where can I get help?	
				SW	KS
3200	Warning – ADT high.	Check operating conditions. Allow the machine to cool down.	5.2	–	–
		Check the cooling oil level.	10.5.2	–	–
		Clean the cooler.	10.6	–	–
3201	Warning – OST pressure high.	Have checked.	–	–	X

SW = specialized workshop; KS = KAESER SERVICE

ADT = Airend discharge temperature; OST - Oil separator tank

Tab. 66 Warning messages and measures relating to the compressor

Message codes, range 3300 – 3399 “Controller warnings”:

Code	Meaning	Remedy	See chapter	Where can I get help?	
				SW	KS
3303	Warning - PLC temperature high.	Check operating conditions. Allow the machine to cool down.	5.2	–	–
3313	Warning - HMI temperature high.	Check operating conditions. Allow the machine to cool down.	5.2	–	–

SW = Specialized workshop; KS = KAESER SERVICE

PLC - Programmable logic controller; HMI = Human-machine interface

Tab. 67 General warning messages and measures

9.3 Drive motor faults and alarms

9.3.1 Drive motor refuses to start or stops

Possible cause	Measure	Where can I get help?	
		SW	KS
Voltage too high or too low.	Check the electrical connection.	X	–
High current cut-out is set incorrectly or defective.	Adjust or replace.	X	X
Control switch defective.	Replace.	X	X

SW = Specialized workshop; KS = KAESER SERVICE

Possible cause	Measure	Where can I get help?	
		SW	KS
Defective coupling relay and/or relay.	Replace.	X	X
Drive motor must start against pressure.	Wait until the machine has vented.	–	–
Drive motor defective, bearing damage, winding short-circuit.	Have the drive motor replaced.	–	X
Incorrect phase sequence of the electric supply (direct connection).	Correct the electrical connection.	X	–
Defective ADT sensor giving no enable signal.	Replace.	–	X
Electrical connections and/or cables loose or broken.	Tighten connection or replace cables.	X	–
Airend defective.	Replace.	–	X
SW = Specialized workshop; KS = KAESER SERVICE			

Tab. 68 Fault: "Drive motor refuses to start or stops"

9.4 Compressor faults and alarms

9.4.1 Working pressure too high

Possible cause	Remedy	Where can I get help?	
		SW	KS
Proportional controller maladjusted or defective.	Check the diaphragm and clean the nozzle or replace proportional controller if necessary.	–	X
Inlet valve does not close.	Check the controller, the control air line and the inlet valve and replace if necessary.	–	X
Pressure gauge indicating false pressure.	Replace.	–	X
Venting valve does not blow off.	Check the connections and function and repair or replace as necessary.	–	X
SW = Specialized workshop; KS = KAESER SERVICE			

Tab. 69 Fault: working pressure too high

9.4.2 Working pressure too low.

Possible cause	Remedy	Where can I get help?	
		SW	KS
Proportional controller maladjusted or defective.	Check the diaphragm and clean the nozzle or replace proportional controller if necessary.	–	X
Inlet valve not opening or only opening partially.	Repair or replace if necessary.	–	X
Pressure gauge indicating false pressure.	Replace.	–	X
Pressure relief valve maladjusted and/or leaking.	Replace if necessary.	–	X
Venting valve does not close.	Check the connections and function and repair or replace as necessary.	–	X
Compressor air filter clogged.	Clean or replace, see chapter 10.5.7.	–	–
Oil separator cartridge heavily clogged.	Change, see chapter 10.5.6.	–	–
SW = Specialized workshop; KS = KAESER SERVICE			

Tab. 70 Fault: working pressure too low

9.4.3 Safety relief valve blowing off

Possible cause	Remedy	Where can I get help?	
		SW	KS
Oil separator cartridge heavily clogged.	Change, see chapter 10.5.6.	–	–
Inlet valve does not close.	Check the controller, the control air line and the inlet valve and replace if necessary.	–	X
Safety relief valve maladjusted and/or leaking.	Replace if necessary.	–	X
SW = Specialized workshop; KS = KAESER SERVICE			

Tab. 71 Fault: safety relief valve blowing off

9.4.4 Machine overheating

Possible cause	Remedy	Where can I get help?	
		SW	KS
Defective cooling fan.	Replace blades or the complete fan wheel.	–	X
SW = Specialized workshop; KS = KAESER SERVICE			

Possible cause	Remedy	Where can I get help?	
		SW	KS
Oil cooler surface clogged.	Clean surface, see chapter 10.6.	–	–
The working element of the thermostatic valve not working.	Replace.	–	X
Working pressure too high (proportional controller maladjusted).	Reset to the permissible value or replace.	–	X
Oil separator cartridge heavily clogged.	Change oil separator cartridge, see chapter 10.5.6.	–	X
Compressor oil filter cartridge clogged.	Change, see chapter 10.5.4.	–	–
Compressor oil level too low.	Top up, see chapter 10.5.2.	–	–
Oil pipes leaking.	Seal leaks or change pipes.	X	X
Defective cooling fan of the drive motor.	Repair.	X	X
Ambient temperature too high.	See conditions given in chapter 5.2.	–	–
SW = Specialized workshop; KS = KAESER SERVICE			

Tab. 72 Fault: machine overheating

9.4.5 Too much oil residue in the compressed air

Possible cause	Remedy	Where can I get help?	
		SW	KS
Oil separator cartridge scavenge line clogged.	Clean the strainer in the separator cartridge dirt trap or change if necessary (see chapter 10.5.6).	–	X
Fractured oil separator cartridge.	Change, see chapter 10.5.6.	–	–
Compressor oil level too high.	Reduce to maximum level, see chapters 10.5.1 and 10.5.3.	–	–
SW = Specialized workshop; KS = KAESER SERVICE			

Tab. 73 Alarm: "Too much oil residue in the compressed air"

9.4.6 Oil flows from the compressor air filter after shutdown

Possible cause	Remedy	Where can I get help?	
		SW	KS
Defective non-return function of the inlet valve.	Repair or replace if necessary.	–	X
SW = Specialized workshop; KS = KAESER SERVICE			

Tab. 74 Alarm: "Oil flows from the compressor air filter after shutdown"

10 Maintenance

10.1 Ensuring safety

Follow the instructions below to ensure safe machine maintenance.
Warning instructions are located before a potentially dangerous task.

Disregard of warning instructions can cause serious injuries!

Compliance with safety warnings

Ignoring safety warnings can cause unforeseeable dangers!

- ➢ Follow the instructions in chapter 3 'Safety and Responsibility'.
- ➢ Allow maintenance work to be carried out only by authorized personnel.
- ➢ Use one of the safety signs below to advise others that the machine is currently being serviced:

Sign	Meaning
	Don't activate the machine.
	Warning: The machine is being serviced.

Tab. 75 Advise others that the machine is being serviced.

- ➢ Before switching on, make sure that:

- ■ no personnel are working on the machine,
- ■ all protective guards and cover panels are attached,
- ■ all doors, canopy, and panels are closed,
- ■ all tools have been removed from the machine.

- ➢ Do not perform any checks or maintenance while the machine is running.

When working on live components

Touching voltage carrying components can result in electric shocks, burns or death.

- ➢ Work on electrical equipment may only be carried out by authorized electricians.
- ➢ Switch off and lock out / tag out the power supply disconnecting device.
- ➢ Verify the absence of any voltage.
- ➢ Check that the floating relay contacts are voltage-free.
- ➢ If necessary, remove electrical connections.

When working on the compressed air system

Compressed air is contained energy. Uncontrolled release of this energy can cause serious injury or death. The following safety instructions relate to any work on components that could be under pressure.

➢ Disconnect the air consumers.
➢ De-pressurize all pressurized components and enclosures. Verify the vented state.

- Wait until the machine has automatically vented.
- Carefully open all compressed air outlet valves.
- Check: The pressure gauge must read 0 psig!

➢ Do not open or dismantle any valves.
➢ When operating the machine on a compressed air system, close shut-off valves or otherwise isolate the machine from the compressed air system to ensure that no compressed air can flow back into the machine.

When working on the drive system

Touching voltage carrying components can result in electric shocks, burns or death.
Touching rotating or very hot components can cause severe injuries.

➢ Switch off and lock out / tag out the power supply disconnecting device.
➢ Verify the absence of any voltage.
➢ If necessary, remove electrical connections.
➢ Ensure that the machine has cooled down.
➢ Do not open the enclosure and/or panels while the machine is switched on.

Further information Details of authorized personnel are found in chapter 3.4.2.

Details of dangers and their avoidance are found in chapter 3.5.

10.2 Adhere to the maintenance messages on the controller

SIGMA CONTROL SMART displays selected maintenance intervals of the machine. Display begins 25 hours before the interval will expire.

Upon switching on SIGMA CONTROL SMART, the symbols for the component to be serviced are prominently displayed at SIGMA CONTROL SMART.

The operating hours of the maintenance to be performed and message code of the service task are displayed below.

After the maintenance, the maintenance interval counter must be reset.

➢ Message code is shown on the display of SIGMA CONTROL SMART.

10.2.1 Evaluating the maintenance message

➢ Determine any due maintenance tasks using the table below and perform the maintenance according to the maintenance schedule shown in chapter 10.3.2.1.

Code	Meaning	Measure	See chapter
Message codes, range 2100 – 2199 “Drive motor maintenance”:			
2103	Maintenance - drive motor grease bearings	Grease motor bearings.	10.4.1
h - operating hours			

Code	Meaning	Measure	See chapter
Message codes, range 2200 – 2299 “compressor unit maintenance”:			
2200	Maintenance - oil filter.	Change the compressor oil filter.	10.5.4
2201	Maintenance - air filter.	Clean/replace the air filter.	10.5.7
2202	Maintenance – change cooling oil.	Change the cooling oil.	10.5.3
Message codes, range 2400 – 2499 “General maintenance”:			
2400	Maintenance -main contactor	Have the main contactor replaced.	3.7 and 10.3.2.1
h - operating hours			

Tab. 76 Maintenance messages and required measures

10.2.2 Completing the maintenance

Resetting the maintenance timer:

Precondition Maintenance carried out

➢ Reset the maintenance timer as described in the separate User Manual of SIGMA CONTROL SMART, chapter “Reset maintenance timer”.

10.3 Following the maintenance plans

10.3.1 Logging maintenance work

The maintenance intervals given are those recommended for KAESER original components with average operating conditions.

➢ In adverse conditions (e.g. oil and filter changes), perform maintenance work at shorter intervals.

Adverse conditions are, e.g.:

- high/low temperatures
- a lot of dust
- frequent use

➢ Adjust the maintenance intervals with regard to local installation and operating conditions.

➢ Logging all maintenance work.

This enables you to determine the frequency of individual maintenance tasks and deviations from our recommendations.

Further information A list is available in chapter 10.15.

10.3.2 Regular maintenance tasks

The following table lists the various maintenance intervals.

Maintenance interval	Short description
Daily	–
Every 250 h, at least annually.	A250
Every 500 h, at least annually.	A500
Every 1000 h, at least annually.	A1000
Every 1500 h, at least annually.	A1500
Every 2000 h, at least every two years.	A2000
Every 3000 operating hours	A3000
Every 20000 operating hours	A20000
Every 36000 h, at least every six years.	A36000
Every 120000 h; at least every 20 years	A120000

Tab. 77 Maintenance intervals and regular maintenance tasks

The table below lists regular maintenance tasks.

➢ Carry out maintenance tasks punctually taking ambient and operating conditions into consideration.

10.3.2.1 Machine maintenance schedule

➢ Carry out maintenance tasks on time in accordance with the table below:

Assembly: Task	Hourly	Daily	A250	A500	A1000	A1500	A2000	A3000	A36000	A120000	See chapter	Note
Drive motor:												
SIGMA CONTROL SMART display: Have the bearing of drive motor lubricated/checked.					X							KS, FW
Compressor:												
SIGMA CONTROL SMART display: Change compressor air filter.					X						10.5.7	
Check cooling oil level.		X									10.5.1	
SIGMA CONTROL SMART display: Change cooling oil.					X						10.5.3	
SIGMA CONTROL SMART display: Change compressor oil filter.					X						10.5.4	
Clean compressor oil cooler.			X								10.6	
Check/clean the control valve dirt trap.				X							10.5.5	
Change the oil separator cartridge.							X				10.5.6	
Have the safety relief valve(s) checked.				X							10.5.10	KS, FW
Safety functions:												
Check the functions of the safety shut-down due to excessive airend discharge temperature.				X							10.5.11	
Check the «EMERGENCY STOP» push-button.		X									10.5.12	
Compressed air aftercooler:												
Cleaning the cooler			X								10.5.8	
Centrifugal separator:												
Clean/check the dirt trap.				X							10.5.9	
Condensate collection tank:												
KS ≙ contact KAESER SERVICE, FW ≙ contact specialized workshop												

Assembly: Task	Hourly	Daily	A250	A500	A1000	A1500	A2000	A3000	A36000	A120000	See chapter	Note
Check/empty the level of the internal condensate collection tank.	X										10.7	
Condensate hose line:												
Check to ensure that the condensate hose line has been properly fastened.		X									10.7	
Closed floor pan:												
Check the interior of the machine for accumulated fluids.		X									10.12	
Doors:												
Maintain rubber sealing strips.				X							10.10.1	
Check function of closed doors.				X							10.10.2	
Check connection elements.			X								10.10.3	
Body:												
Check sound insulation material.				X							10.9	
Arrange for crane suspension to be checked.				X								KS, FW
Hose lines:												
Check all hose lines of the machine for proper seating, leaks and wear; have them replaced if necessary.				X							10.11	KS, FW
Arrange for the compressor pressure hoses to be replaced.									X		10.11.1	KS, FW
Other maintenance tasks:												
Check all accessible screw fittings, lines and clamps for wear and tightness.				X							10.8	KS, FW
Check that all electrical connections are tight.				X								KS, FW
Replace safety-relevant components of the safety functions:												
Have resistance thermometer (Pt100 sensor) replaced.										X	3.7	KS, FW
Have EMERGENCY STOP push button replaced.										X	3.7	KS, FW
KS ≙ contact KAESER SERVICE, FW ≙ contact specialized workshop												

Assembly: Task	Hourly	Daily	A250	A500	A1000	A1500	A2000	A3000	A36000	A120000	See chapter	Note
SIGMA CONTROL SMART display: Have the main contactor replaced.										X	3.7 10.13	KS, FW
KS ≙ contact KAESER SERVICE, FW ≙ contact specialized workshop												

Tab. 78 Regular machine maintenance tasks

10.3.2.2 Maintenance schedule options

➢ Carry out maintenance tasks according to the following schedule:

Option: Task	Daily	A250	A500	A1000	A1500	A2000	A20000	See chapter	Note
Option dd – Filter combination:									
Draining condensate	X							10.14.1	
Changing filter elements			X					10.14.1	
Replacing seal of filter element			X					10.14.1	
Option ba – Low-temperature equipment:									
Clean the radiator of the auxiliary heater.		X							
KS ≙ Contact KAESER SERVICE, FW ≙ Contact specialized workshop, EF ≙ Contact certified electrician									

Tab. 79 Regular maintenance task options

10.4 Motor maintenance

➢ Perform maintenance tasks according to the schedule in chapter 10.3.2.1.

10.4.1 Servicing the motor bearings on the drive motor

Only use UNIREX N3 high-temperature grease for relubricating the motor bearings. Further information regarding the grease and the correct grease quantity is provided on the machine nameplate. For the position of the nameplate, see Figure 35. Damage to the bearings caused by the use of alternative brands of grease is excluded from the warranty.

Service the motor bearings should any of the following occur:

- Warning message with specific message code (see Table 80) on the display of the SIGMA CONTROL SMART.
- Maintenance interval as per the maintenance schedule has expired.

Message code	Action
2103	Lubricate the motor bearings

Tab. 80 Specific message code for “Service motor bearings”

Material
UNIREX N3 bearing grease
Amount of bearing grease per bearing [g] = 40
Grease gun
Cleaning cloth

Precondition
Maintenance personnel are wearing suitable tight-fitting protective clothing.
Maintenance personnel are wearing eye protection and protective gloves.
Maintenance personnel are using ear protection.

Clean the cooling fins and central lubrication device

For the position of the central lubrication device for the motor bearings, see Figure 34.

Precondition
The machine is switched off and has cooled down,
the «Controller ON/OFF» switch is set to the *OFF* position,
the «Load isolating switch» on the on-site power supply disconnecting device is switched off at all poles,
the «Load isolating switch» is secured against being switched on again,
the absence of all voltage has been verified.

The butterfly valve on the compressed air outlet is open,
the machine is fully vented, the pressure gauge reads 0 psig!

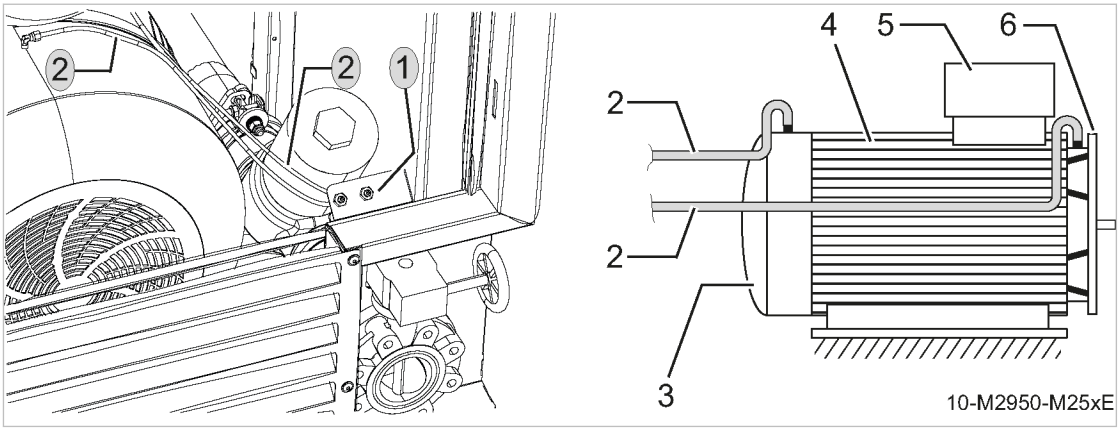


Fig. 34 Positions of the grease nipples

1 Central lubrication device
2 Grease line
3 Drive motor
4 Cooling fins
5 Motor terminal box
6 Flange side of drive motor

1. Open the door of the cooling air inlet.
2. Clean the cooling fins.
3. If required, clean the central lubrication device.
4. Close the door of the cooling air inlet.

Lubricate the motor bearings

The maintenance task “Lubricating the motor bearings” must be carried out while the machine is running!

A central lubrication device inside the machine facilitates lubrication of the two motor bearings.

- ➢ Comply with all measures relating to protective clothing, protective gloves, eye and ear protection!
- ➢ Only open the door/s of the machine briefly to carry out relubrication of the motor bearings.
- ➢ Maintain a safe distance from rotating parts and hot surfaces.
- ➢ Proceed with caution.

Precondition Cooling fins and grease fittings have been cleaned.

Grease gun has been filled with suitable high-temperature grease.

The «Load isolating switch» on the on-site power supply disconnecting device is switched on at all poles.

The «Controller ON/OFF» switch is turned to the *ON* position.

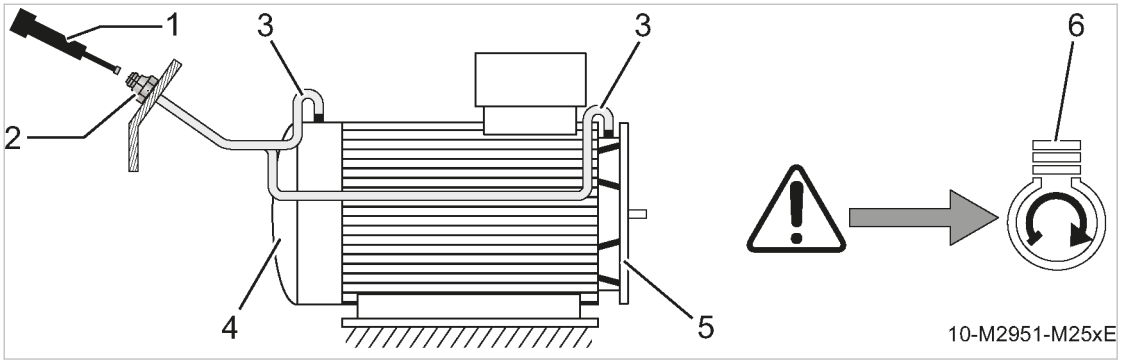


Fig. 35 Lubricating the drive motor bearings

[1]	Grease gun	[4]	Drive motor
[2]	Central lubrication device	[5]	Flange side of drive motor
[3]	Grease line	[6]	*Drive motor running* symbol

1. Press the «START» key on the SIGMA CONTROL SMART operating panel.
2. Allow the machine to run in IDLE operation.
3. Open the door of the cooling air inlet.
4. Press the grease gun onto the two grease fittings of the central lubrication device for the motor bearings, one after the other.
5. Apply the grease gun until both motor bearings have been lubricated with the required quantity of grease.
6. Switch the drive motor off via the «OFF» key on the SIGMA CONTROL SMART operating panel.

Reset the maintenance timer

➢ Reset the maintenance timer as described in the separate operating manual for the SIGMA CONTROL SMART, chapter “Resetting the maintenance timer”.

Switch off the load isolating switch

1. Turn the «Controller ON/OFF» switch to position *OFF*.
2. Switch off the «Load isolating switch» on the on-site power supply disconnecting device at all poles.
3. Secure the «Load isolating switch» against being switched on again.
4. Close the door/s.

10.4.2 Fan motor maintenance

The following components are cooled by electric fans:

- Oil cooler
- Control cabinet

➢ Have the corresponding fan motors checked by an authorized KAESER service representative during the course of a maintenance visit.

10.5 Compressor Maintenance

➢ Perform maintenance tasks according to the schedule in chapter 10.3.2.1.

10.5.1 Checking the cooling oil level

Two oil sight glasses at the bottom of the oil separator tank indicate the cooling oil level.

The correct cooling oil level is in the following range:

- Center of the upper oil sight glass
- Bottom edge of lower oil sight glass

The cooling oil level must at least be visible in the lower oil level sight glass.

Material
Long-sleeved protective clothing
Protective gloves
Eye protection
Cleaning cloth

Precondition
The machine is switched off.
The machine is standing level and has cooled down.
The «Load isolating switch» on the on-site power supply disconnecting device is switched off at all poles,
the «Load isolating switch» is secured against being switched on again,
the absence of all voltage has been verified,
the «Controller ON/OFF» switch is set to the *OFF* position.
The butterfly valve on the compressed air outlet is open,
the machine is fully vented, the pressure gauge reads 0 psig!
The door/s is/are open.

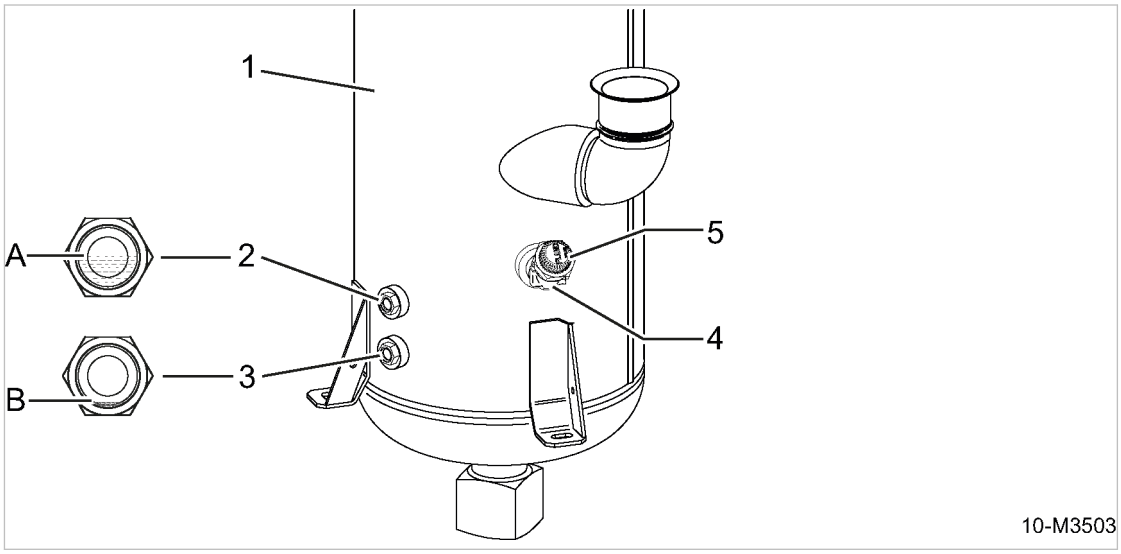


Fig. 36 Checking the cooling oil level

[1] Oil separator tank
[2] Upper oil sight glass
[3] Lower oil sight glass
[4] Oil filler port
[5] Screw plug
[A] *Maximum* cooling oil level
[B] *Minimum* cooling oil level

1. If necessary, clean both oil sight glasses.
2. Check the cooling oil level in both oil sight glasses.
   When the level reaches *minimum cooling oil level*: Replenish the cooling oil.
3. Close the door/s.

10.5.2 Filling and replenishing with cooling oil

Material
Long-sleeved protective clothing
Protective gloves
Eye protection
New cooling oil
Funnel
Cleaning cloth
Wrench

Precondition
The machine is switched off.
The machine is standing level and has cooled down.
The «Load isolating switch» on the on-site power supply disconnecting device is switched off at all poles,
the «Load isolating switch» is secured against being switched on again,
the absence of all voltage has been verified,
the «Controller ON/OFF» switch is set to the *OFF* position.
The butterfly valve on the compressed air outlet is open,
the machine is fully vented, the pressure gauge reads 0 psig!
The door/s is/are open.

⚠ CAUTION

Danger of burning from hot components and escaping cooling oil!

➢ *Wear long-sleeved protective clothing, protective gloves and eye protection.*

NOTICE

Incompatible types of cooling oil will damage the machine

➢ *Never mix different types of cooling oil.*

➢ *Never replenish with a type of cooling oil that differs from the one already used in the machine.*

Fill with cooling oil:

A sticker on the oil separator tank specifies the type of cooling oil used.

1. Loosen the screw plug on the oil filler port.
2. Slowly open and remove the screw plug.
3. Replenish the cooling oil to the maximum level Ⓐ by means of a funnel.
4. Check the cooling oil level.
5. Check the screw plug seal for damage.
   If the seal is damaged: Replace the seal.
6. Refasten the screw plug on the filler port.
7. Close the door/s.

Prepare for operation:

1. Switch on the «Load isolating switch» on the on-site power supply disconnecting device (all poles).
2. Turn the «Controller ON/OFF» switch to the *ON* position.

Start the machine and perform a test run:

1. Switch the machine on via the «START» key on the operating panel of the SIGMA CONTROL SMART.
2. Warm up the machine by allowing it to run in IDLE.
   Warm-up has been achieved when the required airend discharge temperature is reached.
3. Press and hold down the «OFF» key on the SIGMA CONTROL SMART operating panel for longer than 1 second.
   The machine is switched off.
4. Wait until the machine has vented automatically.
   The pressure gauge reads 0 psig!
5. Open the butterfly valve on the compressed air outlet.
6. Open the door/s.
7. Check the cooling oil level after about 5 minutes.

Cooling oil level too low.

➢ Replenish the cooling oil again.

8. Visually inspect for leaks.
9. Close the door/s.

10.5.3 Changing the cooling oil

Drain the oil completely from the following components:

- Airend
- Oil separator tank
- Oil filter
- Oil cooler
- Oil lines

➢ Always change the oil filter when changing the cooling oil.

Change the cooling oil when any of the following events occur:

- Warning message with specific message code (see Table 81) on the display of the SIGMA CONTROL SMART.
- Maintenance interval as per the maintenance schedule has expired.

Message code	Action
2202	Changing the cooling oil

Tab. 81 Specific message code for “Change cooling oil”

Material
Long-sleeved protective clothing
Protective gloves
Eye protection
See chapter 2.4.8 for compressor oil fill volumes.
Receptacle
Male hose coupling (supplied loose with the machine)
Funnel
Cleaning cloth

Precondition
The machine is switched off.
The machine is standing on level ground and is at operating temperature.
The «Controller ON/OFF» switch is set to the *OFF* position,
the «Load isolating switch» on the on-site power supply disconnecting device is switched off at all poles,
the «Load isolating switch» is secured against being switched on again,
the absence of all voltage has been verified.
The butterfly valve on the compressed air outlet is open,
the machine is fully vented, the pressure gauge reads 0 psig!
The door/s is/are open.

⚠ CAUTION
Danger of burning from hot components and escaping cooling oil!
➢ *Wear long-sleeved protective clothing, protective gloves and eye protection.*

➢ Follow all instructions carefully.

10.5.3.1 Draining the cooling oil

A drain device is installed on the front side of the machine that allows you to drain the entire cooling oil in a user-friendly manner.

Preparatory work on the machine

1. Loosen and remove the screw plug from the oil filler port of the oil separator tank.
2. Remove the gasket at the oil filler port.
3. Dispose of the old gasket.

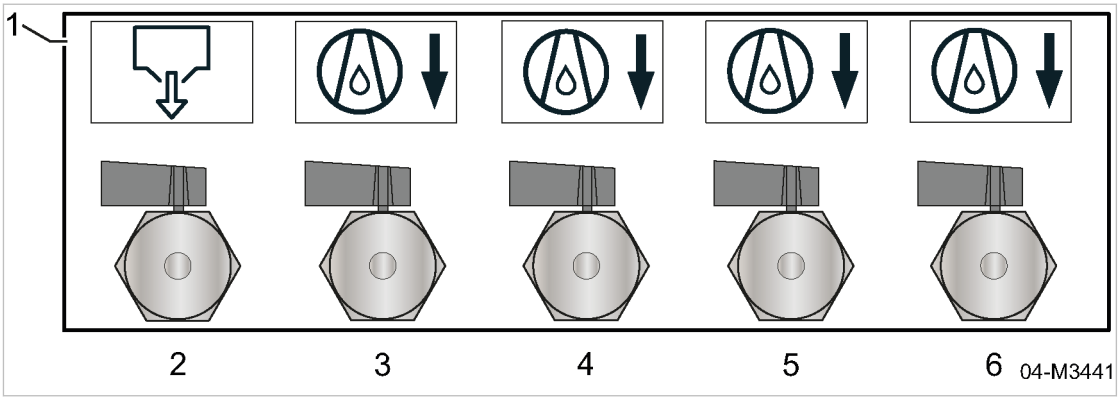


Fig. 37 Drain device - symbols and arrangement of shut-off valves

[3] Cooling oil shut-off valve
[4] Cooling oil shut-off valve
[5] Cooling oil shut-off valve
[6] Cooling oil shut-off valve

4. Loosen and remove all screw plugs of the corresponding shut-off valves.
5. Install male hose couplings on the corresponding shut-off valves.

Positioning the receptacle

➢ Position the receptacle underneath the central grouping of shut-off valves.

Open the shut-off valves

1. Open all shut-off valves for the operating fluid cooling oil.
2. Drain the all of the cooling oil from the machine at operating temperature.

Result Cooling oil drains out.

Servicing the oil filter component

➢ See chapter 10.5.4 for information on replacing the two oil filters.

Close the shut-off valves

1. Close all shut-off valves for the operating fluid cooling oil.
2. Loosen and remove the male hose coupling.
3. If necessary, clean the shut-off valves.
4. Install all screw plugs with new gaskets.
5. Tighten all screw plugs.

Filling in cooling oil

1. Fill new cooling oil into the oil filler port of the oil separator tank.
2. Install the screw plug with a new gasket into the oil filler port of the oil separator tank.
3. Tighten the screw plug.

Further information See chapter 10.5.2 for information on filling in new cooling oil and checking the cooling oil level.

Performing final work steps

➢ Close door/doors.

Dispose of used oil and oil-contaminated working materials according to applicable environmental protection regulations.

10.5.4 Replacing the compressor oil filter

The filter unit consists of two oil filters that are arranged on a filter base.

The filter housing for each oil filter can be removed in order to replace the filter elements when required. When installing, the two covers must be tightened with a specific torque. The two covers are labeled with the specific torque.

Service the oil filter should any of the following occur:

- Warning message with specific message code (see Table 82) on the display of the SIGMA CONTROL SMART.
- Maintenance interval as per the maintenance schedule has expired.

Message code	Action
2200	Replace oil filter

Tab. 82 Specific message code for “Replace oil filter”

Material
Long-sleeved protective clothing
Protective gloves
Eye protection
Spare parts
Tool
Receptacle
Cleaning cloth

Precondition
The machine is switched off.
The machine is standing on level ground,
the machine is at operating temperature.
The «Load isolating switch» on the on-site power supply disconnecting device is switched off at all poles,
the «Load isolating switch» is secured against being switched on again,
the absence of all voltage has been verified,
the «Controller ON/OFF» switch is set to the *OFF* position.
The butterfly valve on the compressed air outlet is open,
the machine is fully vented, the pressure gauge reads 0 psig!
The door is open.

⚠ CAUTION

Danger of burning from hot components and escaping cooling oil!

➢ *Wear long-sleeved protective clothing, protective gloves and eye protection.*

NOTICE

Do not overstrain components!
Leaking cooling oil circuit.

- ➢ *Refit both covers by force of hand.*
- ➢ *Tighten both covers with the specified torque.*

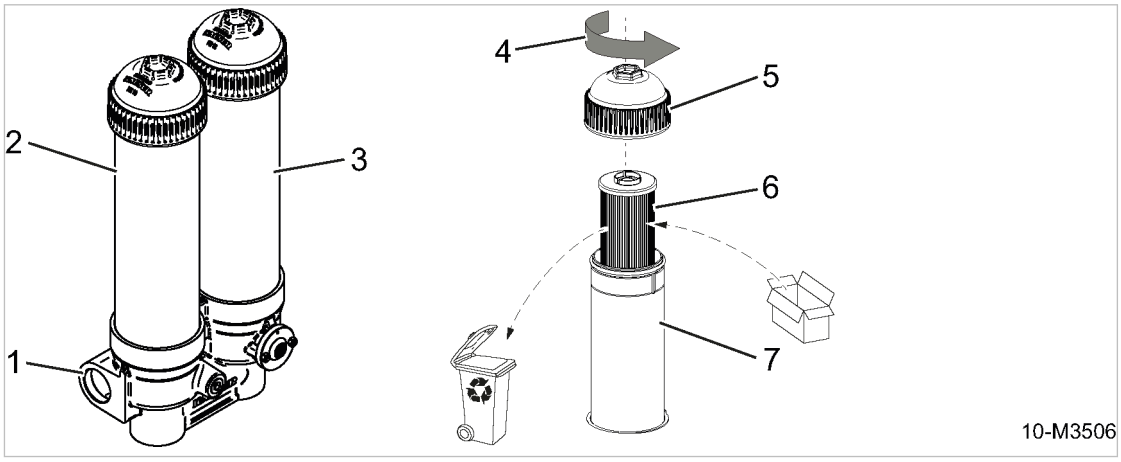


Fig. 38 Replacing the oil filter

1. Oil filter base
2. Oil filter
3. Oil filter
4. Direction of arrow “Loosen cover”
5. Cover
6. Filter element
7. Filter housing

Remove the cover of the filter housing:

1. In order to loosen the two covers of the two filter housings, turn both covers in the direction of the arrow 4.
2. Remove both covers.
3. Remove both old filter elements.
4. Carefully clean sealing surfaces using a lint-free cloth.

Insert new filter elements:

1. Insert new filter elements in both filter housings.
2. Refit both covers on the filter housing by force of hand.

Correctly tighten both covers

1. Note label on both covers indicating specific torque.
2. Set a torque wrench to the specific torque.
3. Tighten both covers with the specific torque.

Check the cooling oil level:

1. Check the cooling oil level in the oil separator tank.

?

Cooling oil level too low.

- ➢ Replenish the cooling oil.

2. Close the door.

Prepare for operation:

1. Switch on the «Load isolating switch» on the on-site power supply disconnecting device (all poles).
2. Turn the «Controller ON/OFF» switch to the *ON* position.

Start the machine and perform a test run:

1. Switch the machine on via the «START» key on the operating panel of the SIGMA CONTROL SMART.
2. Warm up the machine by allowing it to run in IDLE.
   Warm-up has been achieved when the required airend discharge temperature is reached.
3. Press and hold down the «OFF» key on the SIGMA CONTROL SMART operating panel for longer than 1 second.
   The machine is switched off.
4. Wait until the machine has vented automatically.
   The pressure gauge reads 0 psig!
5. Open the butterfly valve on the compressed air outlet.
6. Open the door.
7. After approximately 5 minutes: Check the cooling oil level.

Cooling oil level too low.

➢ Replenish the cooling oil again.

8. Visually inspect for leaks.
9. Close the door.

Dispose of old cooling oil and any materials or parts contaminated with oil in accordance with the applicable environmental protection regulations.

Reset the maintenance timer

➢ Reset the maintenance timer as described in the separate operating manual for the SIGMA CONTROL SMART, chapter “Resetting the maintenance timer”.

10.5.5 Servicing the control valve dirt trap

The control valve is mounted on the oil separator tank cover.

The control valve features two different dirt traps:

- Dirt trap, oil return line
- Dirt trap, proportional controller

The two dirt traps must be cleaned at least once every year.

A special service cover inside the bodywork above the oil separator tank ensures access for this maintenance work. To open the service cover, it must first be unlocked in the machine’s interior.

Material
Cleaning cloth
Wrench
Small screwdriver
Control valve maintenance kit
Cleaning solvent or spirit

Precondition
The machine is switched off.
The machine is standing on level ground,
the machine has cooled down.
The «Load isolating switch» on the on-site power supply disconnecting device is switched off at all poles,
the «Load isolating switch» is secured against being switched on again,
the absence of all voltage has been verified,
the «Controller ON/OFF» switch is set to the *OFF* position.
The butterfly valve on the compressed air outlet is open,
the machine is fully vented, the pressure gauge reads 0 psig!

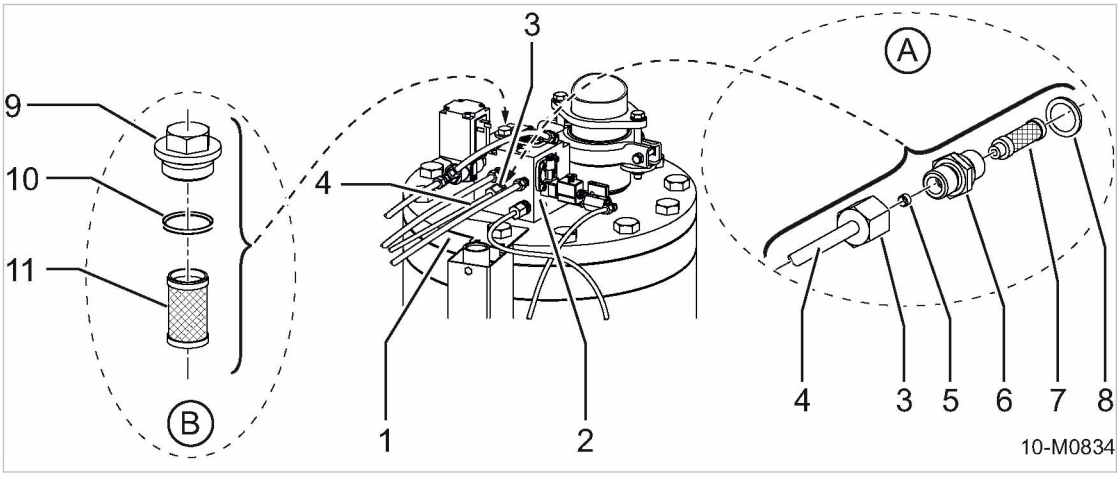


Fig. 39 Servicing the dirt trap on the oil separator tank

[1] Oil separator tank cover
[2] Control valve
[3] Clamping nut
[4] Oil return line
[A] Detail: Dirt trap, oil return line
[5] Nozzle
[6] Screw-in connector
[7] Strainer
[8] Sealing ring
[B] Detail: Dirt trap, proportional controller
[9] Screw plug
[10] O-ring
[11] Strainer

1. Open the door.
2. Unlock the service cover of the oil separator tank inside the machine and fold it upwards.

10.5.5.1 Servicing the dirt trap on the oil return line

See Fig. 39; Detail: A.

1. Loosen and remove the clamping nut [3], bend the oil return line [4] to one side.
2. Remove the screw-in connector [6].
3. Remove the strainer [7] from the screw-in connector.
4. Use a screwdriver to remove the nozzle [5] from the screw-in connector.

5. Clean the screw-in connector, strainer, nozzle and sealing ring [8] with cleaning solvent or spirit.
6. Check the nozzle, strainer and sealing ring for wear.
   If severely worn: Replace the necessary components.
7. Install the nozzle and strainer in/on the screw-in connector.
8. Install the screw-in connector, ensuring that the sealing ring sits in the correct position.
9. Refit the oil return line.

10.5.5.2 Servicing the dirt trap on the proportional controller

See Fig. 39; Detail: B.

1. Loosen the screw plug [9] and remove the strainer [11].
2. Clean the screw plug, strainer and O-ring [10] with cleaning solvent or spirit.
3. Check the strainer and O-ring for wear.
   If severely worn: Replace the necessary components.
4. Place the screw plug on the strainer.
5. Install the screw plug, ensuring that the O-ring sits in the correct position.

Prepare for operation:

1. Close and lock the service cover.
2. Close the corresponding door.
3. Switch on the «Load isolating switch» on the on-site power supply disconnecting device (all poles).
4. Turn the «Controller ON/OFF» switch to the *ON* position.

Dispose of old parts and contaminated materials in accordance with environmental regulations.

Start the machine and perform a test run:

1. Switch the machine on and run it in IDLE operation for approx. 5 minutes.
2. Switch the machine off.
3. Wait until the machine has vented automatically.
   The pressure gauge reads 0 psig!
4. Open the butterfly valve on the compressed air outlet.
5. Open the door/service cover.
6. Visually inspect for leaks.
7. Close and lock the service cover.
8. Close the door/service cover.

10.5.6 Changing the oil separator cartridge

The two dirt traps for the control valve must be cleaned/replaced whenever the oil separator cartridge is changed.
See chapter 10.5.5 for instructions on servicing the two dirt traps.

A special service cover inside the bodywork above the oil separator tank ensures access for this maintenance work. To open the service cover, it must first be unlocked in the machine's interior.

The oil separator cartridge cannot be cleaned.

The service life of the oil separator cartridge is influenced by:

- Contamination in the intake air,
- Adherence to the replacement intervals for the:
  - Cooling oil
  - Oil filter
  - Air filter

Material
Spare part
Cleaning cloth
Wrench

Precondition
The machine is switched off.
The machine is standing on level ground,
the machine has cooled down.
The «Load isolating switch» on the on-site power supply disconnecting device is switched off at all poles,
the «Load isolating switch» is secured against being switched on again,
the absence of all voltage has been verified,
the «Controller ON/OFF» switch is set to the *OFF* position.
The butterfly valve on the compressed air outlet is open,
the machine is fully vented, the pressure gauge reads 0 psig!
The door is open,
the service cover is unlocked and open.

NOTICE

Incorrect installation during maintenance
Damage to delicate components

➢ *Proceed with caution.*

➢ Follow all instructions carefully.

10.5.6.1 Changing the oil separator cartridge

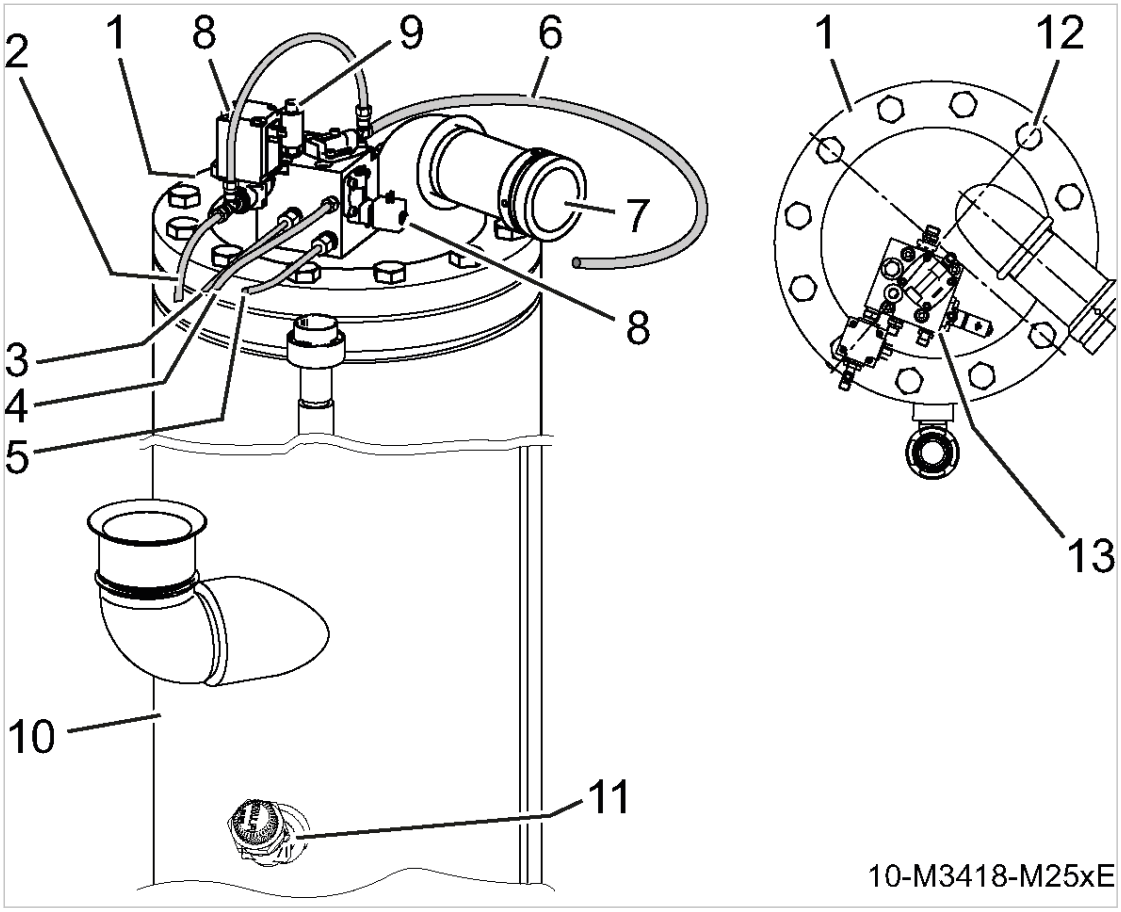


Fig. 40 Changing the oil separator cartridge

[1]	Oil separator tank cover	[8]	Solenoid valve
[2]	Output from electric proportional controller	[9]	Sensor
[3]	Oil return line	[10]	Oil separator tank
[4]	Venting line	[11]	Oil filler port
[5]	Control air line pressure gauge	[12]	Fixing screw
[6]	Input for recirculation valve	[13]	Control valve
[7]	Compressed air pipe		

Remove components

1. Loosen and remove the clamping nuts on the oil return line, venting line and control air line.
2. Loosen the clamp on the compressed air hose and move the seal.
3. Loosen and remove the compressed air hose.
4. Loosen and remove the connectors from the two solenoid valves.
5. Loosen and remove the sensor connector.

Loosen the oil separator tank cover

1. Loosen all fixing screws on the oil separator tank cover.
2. Remove all fixing screws.

Lift off the oil separator tank cover

The pipe for the oil return line is screwed to the control valve.

1. Lift the cover off carefully.
2. Lift the cover until the pipe for the oil return line protrudes completely from the oil separator tank.
3. Carefully place down the cover so as not to damage the pipe.

Remove wearing parts

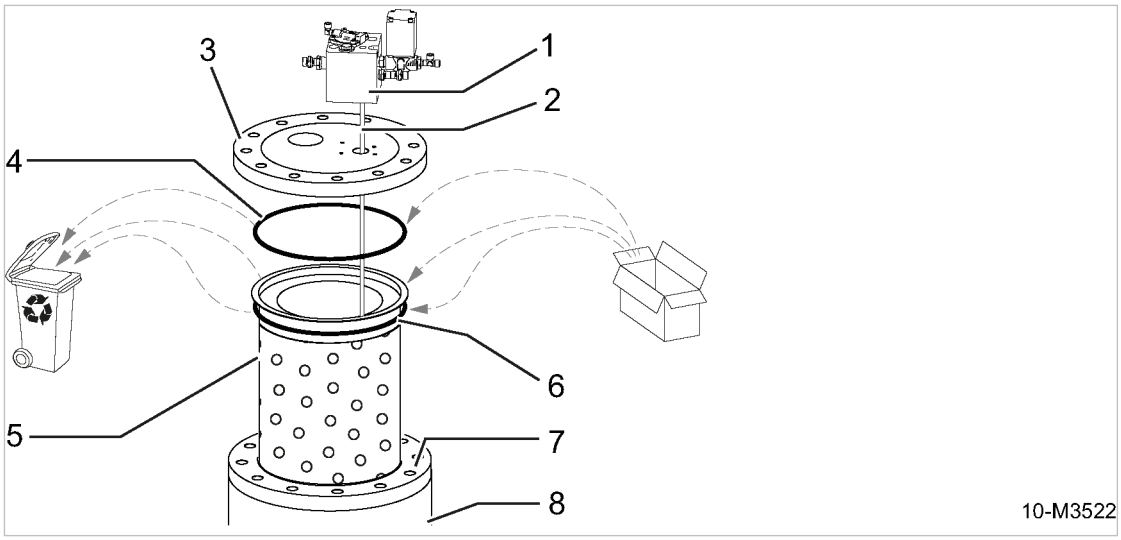


Fig. 41 Removing wearing parts

1	Control valve	5	Oil separator cartridge
2	Pipe, oil return line	6	O-ring
3	Cover	7	Oil separator tank supporting ring
4	O-ring	8	Oil separator tank

1. Remove the upper O-ring.
2. Remove the old oil separator cartridge from the oil separator tank.
3. Remove the lower O-ring.

Clean the supporting ring/cover

1. Clean the supporting ring for the oil separator tank.
2. Ensure that no foreign articles (dirt particles) fall into the oil separator tank.
3. Clean the cover.

Install spare parts

The two new O-rings must be correctly inserted into the corresponding grooves.

- Groove for oil separator tank supporting ring
- Groove for oil separator tank cover

1. Position the first O-ring.
2. Insert a new oil separator cartridge into the oil separator tank.
3. Position the second O-ring.

4. Carefully place the cover with the control valve and pipe for the oil return line onto the second seal.
5. Align the cover with the drilled holes on the oil separator tank.

Secure the oil separator tank cover

1. Position all fixing screws.
2. Tighten all fixing screws by hand.
3. Tighten all fixing screws on the oil separator tank with the specific torque (see chapter 2).

Install components

1. Position and tighten the clamping nuts on the oil return line, venting line and control air line.
2. Position the compressed air hose and seal.
3. Fit the clamp.
4. Attach the connectors to the two solenoid valves.
5. Attach the sensor connectors.

Check the cooling oil level

1. Check the cooling oil level in the oil separator tank.
   Cooling oil level too low.
2. Replenish the cooling oil.

Prepare for operation:

1. Close and lock the service cover.
2. Close the door.
3. Switch on the «Load isolating switch» on the on-site power supply disconnecting device (all poles).
4. Turn the «Controller ON/OFF» switch to the *ON* position.

Dispose of old parts and contaminated materials in accordance with environmental regulations.

Start the machine and perform a test run:

1. Switch the machine on via the «START» key on the operating panel of the SIGMA CONTROL SMART.
2. Allow the machine to warm up in IDLE operation.
   Warm-up has been successful when the required airend discharge temperature (ADT) has been reached.
3. Press and hold down the «OFF» key on the SIGMA CONTROL SMART operating panel for longer than 1 second.
   The machine is switched off.
4. Wait until the machine has vented automatically.
   The pressure gauge reads 0 psig!
5. Open the butterfly valve on the compressed air outlet.
6. Open door/doors/service cover.

7. After approximately 5 minutes: Check the cooling oil level.
   Cooling oil level too low: Replenish the cooling oil.
8. Visually inspect for leaks.
9. Close and lock the service cover.
10. Close the door/s.

Dispose of old parts and contaminated materials in accordance with environmental regulations.

10.5.7 Servicing the compressor air filter

- Operating the machine without filter elements fitted is not permitted!
- Do not use filter elements with damaged surface or seals.
- Reuse cleaned filter elements only as an exception.
- The use of unsuitable or damaged filter elements can allow dirt to enter the pressure system and cause premature wear and damage to the machine.

Service the compressor air filter should any of the following occur:

- Maintenance switch reaches switching point in the event of vacuum, for the value see Table 24.
- Warning message with specific message code (see Table 83) on the display of the SIGMA CONTROL SMART.
- Maintenance interval as per the maintenance schedule has expired.

Message code	Action
2201	Replace / clean the compressor air filter

Tab. 83 Specific message code for “Service air filter”

Material Spare parts
Cleaning cloth

Precondition The machine is switched off.
The machine is standing on level ground,
the machine has cooled down.
The «Load isolating switch» on the on-site power supply disconnecting device is switched off at all poles,
the «Load isolating switch» is secured against being switched on again,
the absence of all voltage has been verified,
the «Controller ON/OFF» switch is set to the *OFF* position.
The butterfly valve on the compressed air outlet is open,
the machine is fully vented, the pressure gauge reads 0 psig!
The door/s is/are open.

NOTICE

Air filter elements are clogged
Reduced machine performance

➢ *Replace both filter elements immediately.*

➢ Follow all instructions carefully.

Replace the filter elements:

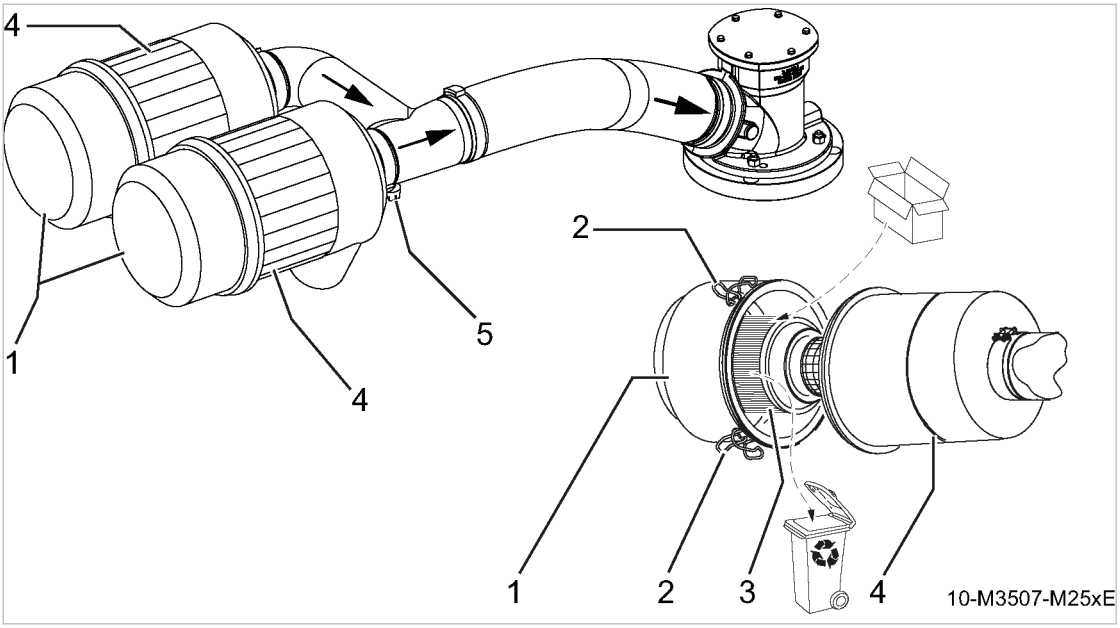


Fig. 42 Servicing the compressor air filter

1. Filter cap
2. Retaining clip
3. Filter element
4. Filter housing
5. Maintenance switch

1. Loosen both retaining clips.
2. Remove the filter cap.
3. Pull out the old filter element.
4. Carefully clean the filter housing, sealing surfaces and cap with a damp cloth.
5. Insert a new filter element in the housing, ensuring that the filter element is correctly in place and the seals can function properly.
6. Position the filter cap.
7. Secure the filter cap with the two retaining clips.
8. Check to ensure the filter cap is properly attached.

Reset the maintenance timer:

➢ Reset the maintenance timer as described in the separate operating manual for the SIGMA CONTROL SMART, chapter “Resetting the maintenance timer”.

Clean the filter elements

Reuse cleaned filter elements only as an exception.
Always use new filter elements if possible.

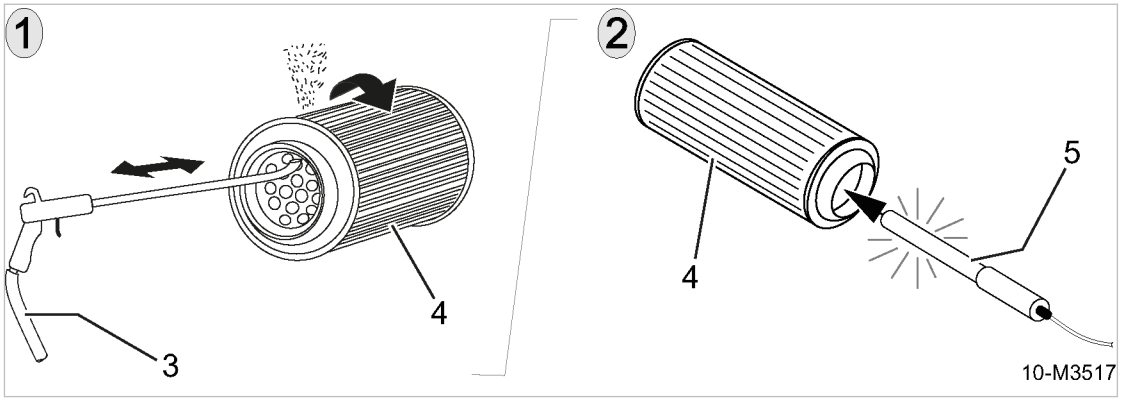


Fig. 43 Cleaning the filter element

1 Cleaning the filter element
2 Checking the filter element
3 Compressed air gun with blast pipe (bent to approx. 90° at the end)
4 Filter element
5 Flashlight

1. Use dry compressed air (<30 psig!) to blow dirt out of the filter element at an angle from the inside to the outside.
2. Blow out the filter element until no further dust appears.
3. In a darkened room, use a suitable flashlight to shine through the cleaned filter element.
   The cleaned filter element does not display any cracks or holes.
   The cleaned filter element is in a proper condition.
4. Insert the cleaned and checked filter element into the filter housing.
5. Position the filter cap.
6. Secure the filter cap with the two retaining clips.
7. Check to ensure the filter cap is properly attached.

10.5.8 Cleaning the compressed air aftercooler

The compressed air aftercooler is installed separately from the compressed air treatment components. The required cleaning frequency depends heavily on the local operating conditions.

Check the compressed air aftercooler regularly for contamination.

Arrange for heavy contamination to be removed by an authorized KAESER service representative.

Material Compressed air,
breathing mask (if required)

Precondition The machine is switched off.

The machine has been placed in a cleaning area with an oil separator,
the machine is standing on level ground,
the machine has cooled down.

The «Load isolating switch» on the on-site power supply disconnecting device is switched off at all poles,
the «Load isolating switch» is secured against being switched on again,
the absence of all voltage has been verified,
the «Controller ON/OFF» switch is set to the *OFF* position.

The butterfly valve on the compressed air outlet is open,
the machine is fully vented, the pressure gauge reads 0 psig.

The door/s is/are open.

⚠ CAUTION

Swirling dust due to cleaning with compressed air!
Risk of respiratory illness

➢ *Wear a breathing mask.*

NOTICE

Water jets can damage the machine!
Direct water jets can damage or destroy electrical components.

➢ *Do not use water jets to clean the interior of the machine.*

NOTICE

Improper cleaning with hard objects!
Damage to the compressed air aftercooler.

➢ *Do not use hard objects to clean the oil cooler.*

➢ Follow all instructions carefully.

10.5.8.1 Cleaning the compressed air aftercooler

Clean the compressed air aftercooler by using suitable compressed air, see Table 84.

The cleaning direction of the compressed air must always be in the opposite direction to the cooling air flow.

Suitable compressed air range for cleaning	Value
Working pressure [psig]	≤ 30

Tab. 84 Suitable compressed air range for cleaning

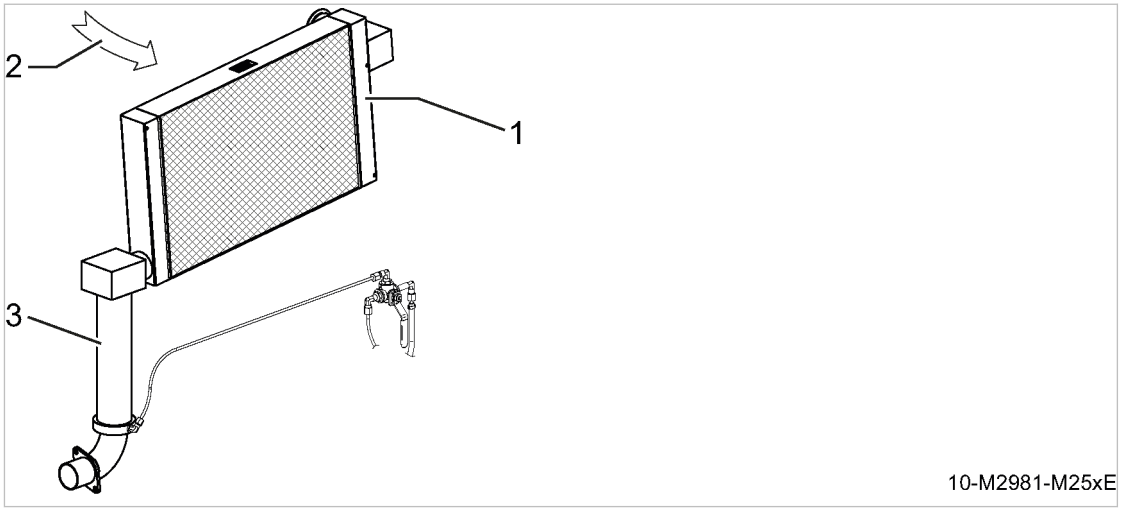


Fig. 44 Cleaning the compressed air aftercooler

[1] Compressed air aftercooler
[2] Compressed air cleaning direction
[3] Centrifugal separator

Cover the intake openings on both air filters:

1. Cover the intake openings on both air filters.
2. Close the door/s.

Clean the compressed air aftercooler

➢ Clean the cooler fins with compressed air in the opposite direction to the cooling air flow.

Uncover the intake openings on both air filters:

1. Open the door/s.
2. Remove the protective covering from the intake openings on both air filters.
3. Close the door/s.

Prepare for operation:

1. Switch on the «Load isolating switch» on the on-site power supply disconnecting device (all poles).
2. Turn the «Controller ON/OFF» switch to the *ON* position.

Start the machine:

1. Switch the machine on via the «START» key on the operating panel of the SIGMA CONTROL SMART.
2. Warm up the machine by allowing it to run in IDLE.

   Warm-up has been achieved when the required airend discharge temperature is reached.
3. Press and hold down the «OFF» key on the operating panel of the SIGMA CONTROL SMART for longer than 1 second.

   The machine is switched off.

4. Wait until the machine has vented automatically.
   The pressure gauge reads 0 psig!
5. Open the discharge valves.

Check the compressed air aftercooler for leaks:

1. Open the door/s.
2. Visually inspect for leaks: Is condensate escaping?

Is the compressed air aftercooler leaking?

➢ Arrange for the defective compressed air aftercooler to be repaired/replaced immediately by an authorized KAESER service representative.

Only clean the cooling fins at cleaning areas equipped with an oil separator!

10.5.9 Servicing the dirt trap on the centrifugal separator

Clean the dirt trap on the centrifugal separator if the moisture content in the compressed air is too high. The dirt trap [3] is mounted at the bottom of the centrifugal separator [2].

Material
Cleaning cloth
Wrench
Small screwdriver
Dirt trap maintenance kit
Cleaning solvent or spirit

Precondition
The machine is switched off.
The machine is standing on level ground,
the machine has cooled down.
The «Load isolating switch» on the on-site power supply disconnecting device is switched off at all poles,
the «Load isolating switch» is secured against being switched on again,
the absence of all voltage has been verified,
the «Controller ON/OFF» switch is set to the *OFF* position.
The butterfly valve on the compressed air outlet is open,
the machine is fully vented, the pressure gauge reads 0 psig!
The door/s is/are open.

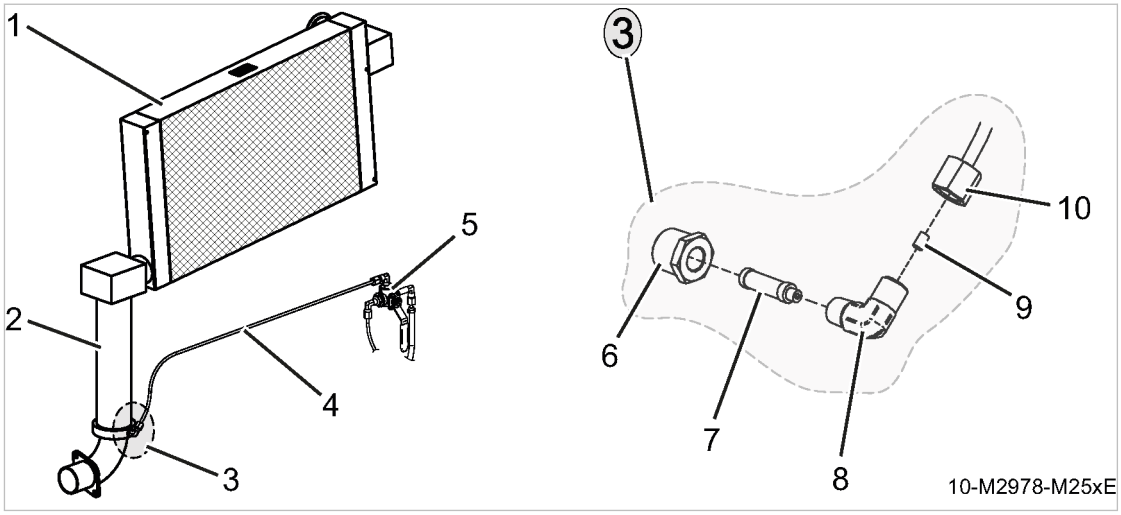


Fig. 45 Cleaning the dirt trap

[1]	Compressed air aftercooler	[6]	Reducer
[2]	Centrifugal separator	[7]	Strainer
[3]	Dirt trap	[8]	Screw-in connection
[4]	Condensate hose line	[9]	Nozzle
[5]	2-way directional control valve	[10]	Clamping nut

➢ Follow all instructions carefully.

Clean the dirt trap:

1. Loosen and remove the clamping nut [10].
2. Remove the nozzle [9].
3. Loosen and remove the screw-in connection [8].
4. Remove the strainer.
5. Clean the nozzle and strainer with cleaning solvent or spirit.
6. Check the nozzle and strainer for wear.

Components are damaged or show signs of wear.

➢ Replace the components.

7. Clean the screw-in connection, reducer and clamping nut with cleaning solvent or spirit
8. Correctly reinstall all individual parts.
9. Properly tighten all individual parts.
10. Close the door/s.

Prepare for operation:

1. Switch on the «Load isolating switch» on the on-site power supply disconnecting device (all poles).
2. Turn the «Controller ON/OFF» switch to the *ON* position.

Start the machine and perform a test run:

1. Switch the machine on via the «START» key on the operating panel of the SIGMA CONTROL SMART.

2. Warm up the machine by allowing it to run in IDLE.
   Warm-up has been achieved when the required airend discharge temperature is reached.
3. Press and hold down the «OFF» key on the operating panel of the SIGMA CONTROL SMART for longer than 1 second.
   The machine is switched off.
4. Wait until the machine has vented automatically.
   The pressure gauge reads 0 psig!

Check the dirt trap and condensate hose line for leaks:

1. Open the door/s.
2. Visually inspect the dirt trap for leaks.
3. Visually inspect the condensate hose line for leaks.

10.5.10 Checking safety relief valves

➢ Have safety relief valves checked by an authorized KAESER service representative in accordance with the maintenance schedule.

10.5.11 Checking the excessive temperature shut-down function

The machine should shut down if the discharge temperature reaches a maximum of $T_{max.}$ [°F]. $T_{max.}$ [°F] see table 85.

Machine temperature	Value
Maximum airend discharge temperature [°F]	243

Tab. 85 Shut-down at excessive temperature

➢ Check the excessive temperature shut-down function as described in the SIGMA CONTROL SMART operating manual.

The machine does not shut down?

The excessive temperature shut-down function is no longer ensured.

➢ Shut down the machine immediately and contact an authorized KAESER service representative.

10.5.12 Check the EMERGENCY STOP push button

In order to shut down the machine in the event of an emergency, the machine is equipped with an EMERGENCY STOP push button.
The EMERGENCY STOP push button must only be used in the event of an emergency.

To enable shutdown of the machine in the event of an emergency, the EMERGENCY STOP push button must be fully functional at all times.

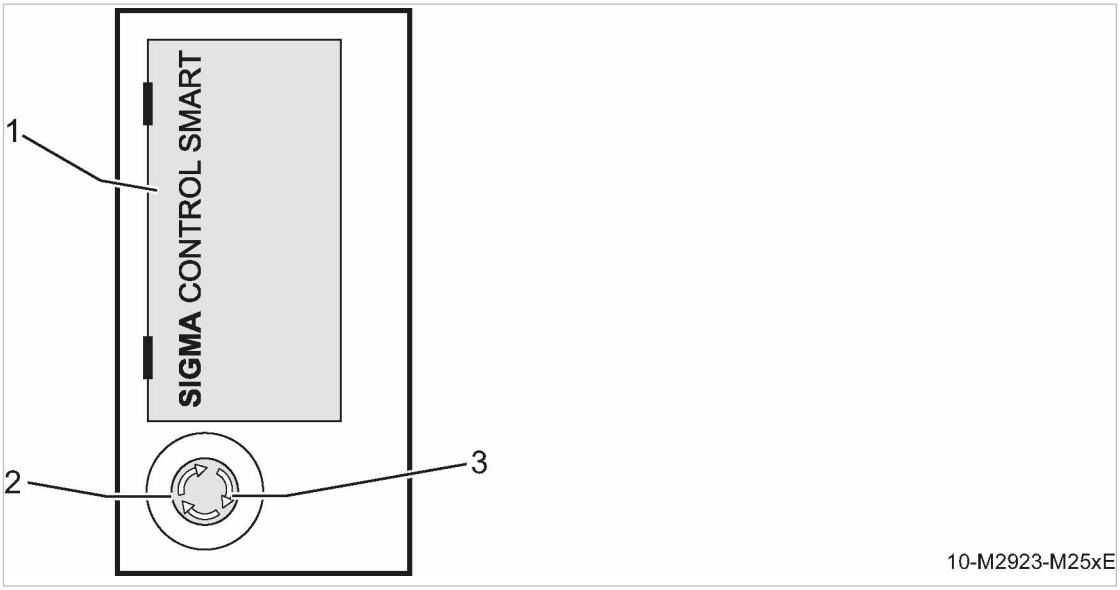


Fig. 46 Check the EMERGENCY STOP push button

[1] Control panel cover
[3] «EMERGENCY STOP» push button
[4] Direction of arrow

Check «EMERGENCY STOP» push button with the machine switched off

Precondition The machine is switched off.

The drive motor stands still.

1. Press the «EMERGENCY STOP» push button.
2. Check to ensure the «EMERGENCY STOP» push button locks properly and remains locked.
3. Check to ensure the «EMERGENCY STOP» push button unlocks properly by turning it in the direction of the arrow.

Proper functioning of the «EMERGENCY STOP» push button is no longer ensured?

➢ Shut down the machine immediately and contact an authorized KAESER service representative.

10.6 Cleaning the oil cooler

The required cleaning frequency depends heavily on the local operating conditions.

Heavy contamination of the oil cooler causes excessive temperatures and thus overheating of the machine.

Check the oil cooler regularly for contamination.

Arrange for heavy contamination to be removed by an authorized KAESER service representative.

Material Compressed air,
breathing mask (if required)

Precondition The machine is switched off.

The machine has been placed in a cleaning area with an oil separator,
the machine is standing on level ground,
the machine has cooled down.

⚠ CAUTION

Swirling dust due to cleaning with compressed air!
Risk of respiratory illness.

➢ *Wear a breathing mask.*

NOTICE

Water jets can damage the machine!
Direct water jets can damage or destroy electrical components.

➢ *Do not use water jets to clean the interior of the machine.*

NOTICE

Improper cleaning with hard objects!
Damage to oil cooler.

➢ *Do not use hard objects to clean the oil cooler.*

➢ Follow all instructions carefully.

10.6.1 Cleaning the oil cooler

Clean the oil cooler using suitable compressed air, see Table 86.

The cleaning direction of the compressed air must always be in the opposite direction to the cooling air flow.

Suitable compressed air range for cleaning	Value
Working pressure [psig]	≤ 30

Tab. 86 Suitable compressed air range for cleaning

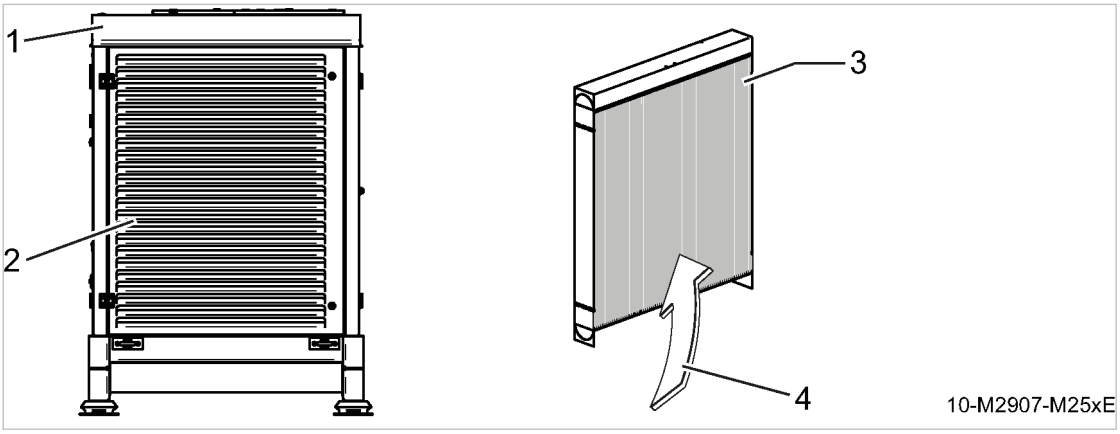


Fig. 47 Cleaning the oil cooler

[1] Right front side of machine (cooling air outlet)
[2] Door
[3] Oil cooler
[4] Direction of cleaning with compressed air (from outside to inside)

Cover the intake openings of both air filters:

1. Open the door on the left front side of machine.

2. Cover the intake openings of both air filters.
3. Close the door.

Clean the oil cooler

1. Open the door on the right front side of the machine (cooling air outlet).
2. Clean the cooler fins with compressed air in the opposite direction to the cooling air flow (from outside to inside).

Uncover the intake openings on both air filters:

1. Open the door on the left end side of machine.
2. Remove the protective coverings from the two air filters.
3. Close the door.

Prepare for operation:

1. Connect the on-site main supply and the machine using a power supply cable.
2. Switch on the «Load isolating switch» on the on-site power supply disconnecting device (all poles).
3. Turn the «Controller ON/OFF» switch to the *ON* position.

Start the machine:

1. Switch the machine on via the «START» key on the operating panel of the SIGMA CONTROL SMART.
2. Warm up the machine by allowing it to run in IDLE.
   Warm-up has been achieved when the required airend discharge temperature is reached.
3. Press and hold down the «OFF» key on the SIGMA CONTROL SMART operating panel for longer than 1 second.
   The machine is switched off.
4. Wait until the machine has vented automatically.
   The pressure gauge reads 0 psig!

Check the oil cooler for leaks:

1. Open the door.
2. Visually inspect for leaks: Is any oil escaping?

Is the oil cooler leaking?

➢ Arrange for the defective oil cooler to be repaired/replaced immediately by an authorized KAESER service representative.

➢ Close the door.

Only clean the cooler fins at cleaning areas equipped with an oil separator!

10.7 Checking/emptying the condensate collection tank

Overview:

- Emptying the condensate collection tank
- Checking the condensate drain line

Material: Cleaning cloth
Tank

Precondition: The machine is switched off.

The machine is standing level and has cooled down.

The «Load isolating switch» on the on-site power supply disconnecting device is switched off at all poles,
the «Load isolating switch» is secured against being switched on again,
the absence of all voltage has been verified.
The «Controller ON/OFF» switch is set to the *OFF* position.

The butterfly valve on the compressed air outlet is open,
the machine is fully vented, the pressure gauge reads 0 psig!

The door/s is/are open.

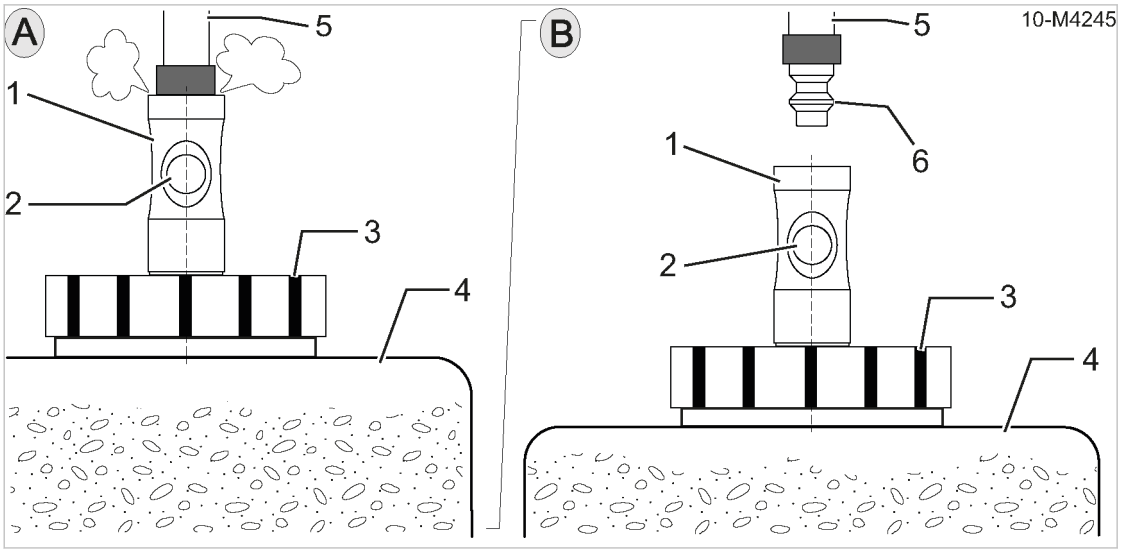


Fig. 48 Unlocking the venting coupling

[A] Venting the condensate collection tank
[B] Unlocking the plug-in fitting
[1] Venting coupling
[2] Push button
[3] Lid
[4] Condensate collection tank
[5] Condensate drain line
[6] Plug-in fitting

➢ Follow all instructions carefully.

Condensate contains pollutants and is harmful to the environment!
Therefore, proceed as follows in accordance with applicable environmental protection regulations:

➢ Store condensate in special containers.
➢ Dispose of the container contents regularly and properly.
➢ Check to see if the condensate is drained internally or externally.

10.7.1 Emptying the condensate collection tank

Emptying the internal condensate collection tank	Emptying the external condensate collection tank
1. Press the venting coupling push button. The condensate collection tank is vented. 2. Press the venting coupling push button once again. The condensate drain line plug-in fitting is unlocked. 3. Pull the plug-in fitting out of the venting coupling. The venting coupling seals on one side. 4. Remove the condensate collection tank from the support inside the machine. 5. Loosen and remove the lid from the internal condensate collection tank. 6. Fill the condensate into an external container. 7. Properly close the condensate collection tank with the lid. 8. Place the condensate collection tank in the support inside the machine. 9. Insert the plug-in fitting of the condensate drain line into the venting coupling as far as it will go. 10. Check that the plug-in fitting of the condensate drain line is correctly locked.	1. Close the shut-off valve on the draining device outside the machine. 2. Loosen and remove the open hose end from the external condensate collection tank. 3. Fill the condensate from the external condensate collection tank into an external container. 4. Route the open end of the hose into the external condensate collection tank and secure it in place. 5. Open the shut-off valve on the draining device outside the machine.

10.7.2 Checking the condensate drain line

Checking the internal condensate drain line	Checking the external condensate drain line
The internal condensate drain line must always be properly fastened onto the lid of the internal condensate collection tank. 1. Check to ensure that the internal condensate drain line has been properly fastened. 2. Check to ensure that the lid of the condensate collection tank is properly closed. 3. Check to ensure that the venting coupling is inserted and locked. 4. Visually check for leaks inside the machine. Leakages of condensate are visible. ➢ Check the condensate drain line for leaks. ➢ If necessary, replace/arrange for the internal condensate drain line to be replaced.	In order for all of the accumulated condensate to reach the external condensate collection tank, the external condensate drain line must always be properly fastened to the shut-off valve on the front side of the machine and the external condensate collection tank. 1. Check to ensure that the external condensate drain line has been properly fastened. 2. Visually check for leaks inside and outside the machine. Leakages of condensate are visible. ➢ Check the condensate drain line for leaks. ➢ If necessary, replace/arrange for the applicable condensate drain line to be replaced.

10.8 Checking the screw connections

Overview:

- Guideline values for tightening torques.
  - General guideline values for tightening torques.
  - Specific guideline values for tightening torques.
- Sealed screw connections.

➢ Follow all instructions carefully.

10.8.1 General guideline values for tightening torques

Guideline values for the required tightening torques are dependent upon the size of the screw connection, the strength class of the screw material and the friction coefficient.

NOTICE

Damage to the machine from insufficient clamping force at screw connections

➢ *Tighten all screw connections with the defined tightening torque.*

1. Determine the thread size for the screw connection.
2. For determining the defined torque, see chapter 2.3.2.
3. Tighten all screw connections with the defined torque.

10.8.2 Specific guideline values for tightening torques

Screw connections for components that are either safety-related or under particular stress must be tightened with specific tightening torques.

Examples:

- For details of specific tightening torques, see chapter 2.3.2.
  - E.g. Screw connections on lifting eyes.
  - E.g. Cover screws on the oil separator tank.
- Values for further specific tightening torques are provided in the section covering the relevant maintenance task.

NOTICE

Damage to the machine from insufficient clamping force at screw connections

➢ *Screw connections for components that are either safety-related or under particular stress must be tightened exclusively with the correct specific tightening torque.*

1. Determine the correct specific tightening torque.
2. Tighten the screw connections with the specific tightening torque.

10.8.3 Sealed screw connections

Screw connections which must not be adjusted are sealed with a colored locking varnish.

NOTICE

Damage to the machine caused by adjusting the settings

➢ *Leave sealed screw connections in their original condition.*

➢ Do not loosen or adjust sealed screw connections.

Failure to comply with these instructions will invalidate all warranty claims.

10.9 Check sound insulation material

Sound insulation material reduces machine noise emissions to a minimum.

Check your machine's sound insulation material according to the maintenance schedule.

Dismantle the cooling air inlet and outlet grills to properly inspect the sound insulation material.

Have damaged sound insulation material replaced immediately.

Sound insulation material is installed, for example, in the following positions within the machine:

- Cooling air inlet and outlet
- Enclosure, gull-wing doors and swing doors
- Bulkheads

1. Dismantle cooling air inlet and outlet grills.
2. Check the sound insulation material in the cooling air inlet and outlet.
3. Check all sound insulation material inside the machine.
4. Check sound insulation material for condition, attachment and dirt.

The sound insulating material is porous, cracked, no longer exists or is severely contaminated with oil or cleaning agent.

➢ Have an authorized KAESER service representative replace the sound insulation material that can no longer be used.

10.10 Checking the doors

Closing the doors of the machine during operation fulfills the following functions: Protection against contact, cooling air flow, sound insulation and weather protection.

In order to ensure these functions at all times, the doors and their connection elements must always be in proper condition.

Overview:

- Service the rubber seals
- Check the closed doors
- Check the connection elements

Precondition The machine is switched off.

The machine is standing level and has cooled down.

The «Load isolating switch» on the on-site power supply disconnecting device is switched off at all poles,
the «Load isolating switch» is secured against being switched on again,
the absence of all voltage has been verified,
the «Controller ON/OFF» switch is set to the *OFF* position.

The butterfly valve on the compressed air outlet is open,
the machine is fully vented, the pressure gauge reads 0 psig!

➢ Follow all instructions carefully.

10.10.1 Service rubber sealing strips

Material Cleaning cloth

Silicone oil or Vaseline

The rubber sealing strips of the doors seal against rain water and additionally reduce noise emissions. Care of the rubber sealing strips is especially necessary in winter to prevent the strips from sticking and tearing when the access panels are opened.

1. Open all doors.
2. Carefully clean all rubber sealing strips using a lint-free cloth.
3. Check the rubber sealing strips for cracks, holes and other damage.
4. Grease all rubber sealing strips.

Rubber sealing strips are damaged.

➢ Have an authorized KAESER service representative replace the damaged rubber sealing strips.

10.10.2 Checking function of closed doors

1. Close all doors.
2. Lock all snap fasteners.

One or several doors do not properly rest on the body or cannot be locked.

➢ Contact an authorized KAESER service representative.

10.10.3 Checking connection elements of doors

Material Acid-free oil

The connection elements of the doors may include:

- Screw connections
- Hinges
- Sash fastener

1. Check all connection elements of the doors for damages, wear and firm seat.
2. If necessary, grease the hinges.

10.11 Checking/replacing hose lines

The machine's hose lines comprise the pressure hoses of the compressor.

The hose lines are subject to natural aging regardless of proper storage or permitted utilization during machine operation. This aging changes the material and compound properties and reduces the performance capability of the hose lines. As a result, the period of use for hose lines is limited.

The operator must ensure that all hose lines are checked at reasonable intervals and are replaced if required, see maintenance schedule 10.3.2.1

➢ Comply with all instructions!

10.11.1 Replace the pressure hoses of the compressor

Overview of all pressure hoses on the compressor:

- Cooling oil
- Compressed air
- Control air
- Condensate

➢ Have an authorized KAESER service representative replace the pressure hoses of the compressor.

10.12 Draining accumulated liquid inside the machine

The so-called "closed floor pan" contributes to protection of the environment by preventing ground contamination in the event of operating fluid leaks.
Accumulated liquid inside the machine's bodywork can also cause corrosion or electrical problems. Accumulated liquid must be removed as quickly as possible in order to avoid potential machine faults.
For draining the accumulated liquid, the machine is provided with a service opening in the area of the central condensate and cooling oil draining device, which is sealed with a plug.

Due to the restricted ground clearance, it is recommended to use a lifting ramp or vehicle pit for machines with a stationary frame structure.

It is prohibited to lift the machine by crane and allow it to hang from the hoist for inspection or maintenance purposes!

Material
Receptacle
Cleaning cloth
Seal

Precondition
The machine is switched off.
The machine is standing on level ground,
the machine has cooled down.
The «Load isolating switch» on the on-site power supply disconnecting device is switched off at all poles,
the «Load isolating switch» is secured against being switched on again,
the absence of all voltage has been verified.
The «Controller ON/OFF» switch is set to the *OFF* position.
The butterfly valve on the compressed air outlet is open,
the machine is fully vented, the pressure gauge reads 0 psig!

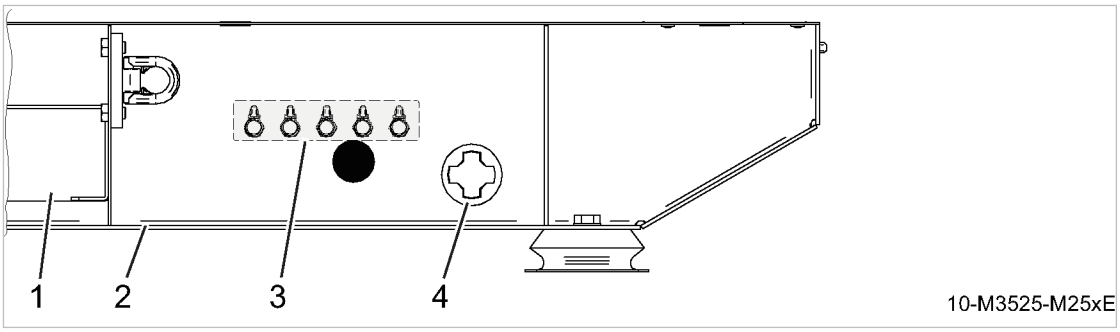


Fig. 49 Closed floor pan plug

[1] Front side of machine
[2] Skid
[3] Central draining device
[4] Plug

1. Place a receptacle beneath the maintenance opening.
2. Loosen and remove the plug.
3. Allow the liquid to drain out.
4. Clean the plug and maintenance opening.
5. Check the seal on the plug.
6. If necessary, replace the plug seal.
7. Insert the plug.
   The floor pan is sealed.
8. Open all doors.
9. Using a cleaning cloth, remove any contamination inside the machine.
10. Close all doors.

Dispose of collected liquid and contaminated working materials in accordance with applicable environmental protection regulations.

10.13 Have the main contactor replaced

Service the main contactor when any of the following events occur:

- Warning message indicated with specific message code (see table 87) on the display of SIGMA CONTROL SMART.
- The maximum working life has elapsed.

Message code	Measure
2400	Have the main contactor replaced

Tab. 87 Specific message code for “Service main contactor”

➢ Have the main contactor replaced by an authorized KAESER service representative.

10.14 Maintenance for Optional Items

➢ Perform maintenance tasks according to the schedule in chapter 10.3.2.2.

10.14.1 Servicing the filter combination

Overview:

- Draining the condensate
- Changing the filter elements

⚠ WARNING

Danger of injury from escaping compressed air!
The filter combination is pressurized during operation. Serious injury can result from loosening or opening components under pressure.

➢ *Wait until the machine is completely vented (check: pressure gauge reads 0 psig).*

➢ *Vent the filter combination.*

Option dd

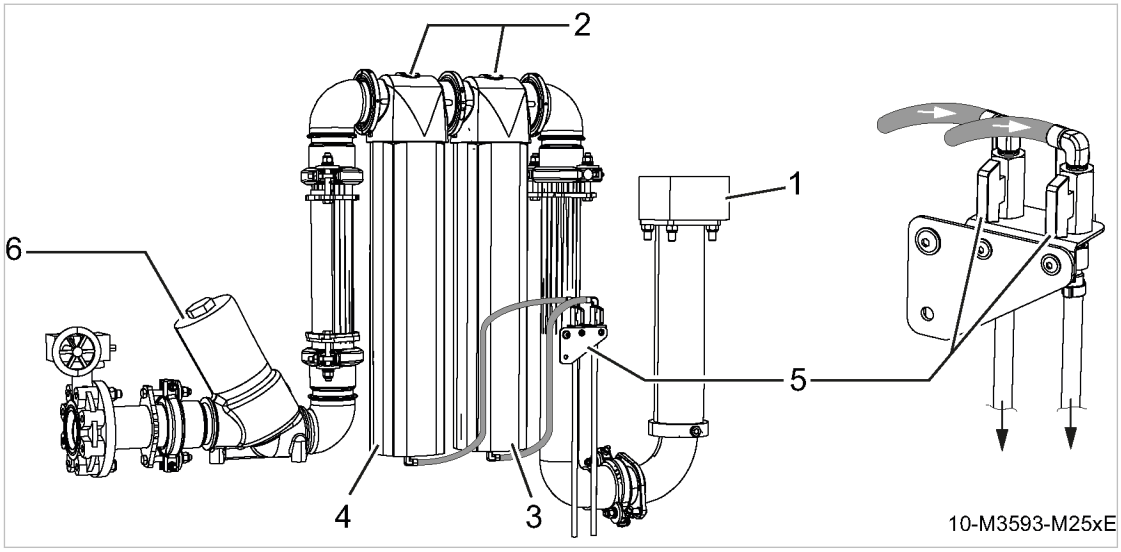


Fig. 50 Compressed air filter combination

[1] Centrifugal separator
[2] Filter combination
[3] Prefilter
[4] Fine filter
[5] Condensate drain shut-off valves
[6] Minimum pressure check valve

➢ Open the door/s.

10.14.1.1 Draining the condensate

To blow out the condensate that has been discharged into the filter combination housings, the machine must be run with the condensate drain shut-off valves open for a short period of time.

Material Receptacle
Cleaning cloth

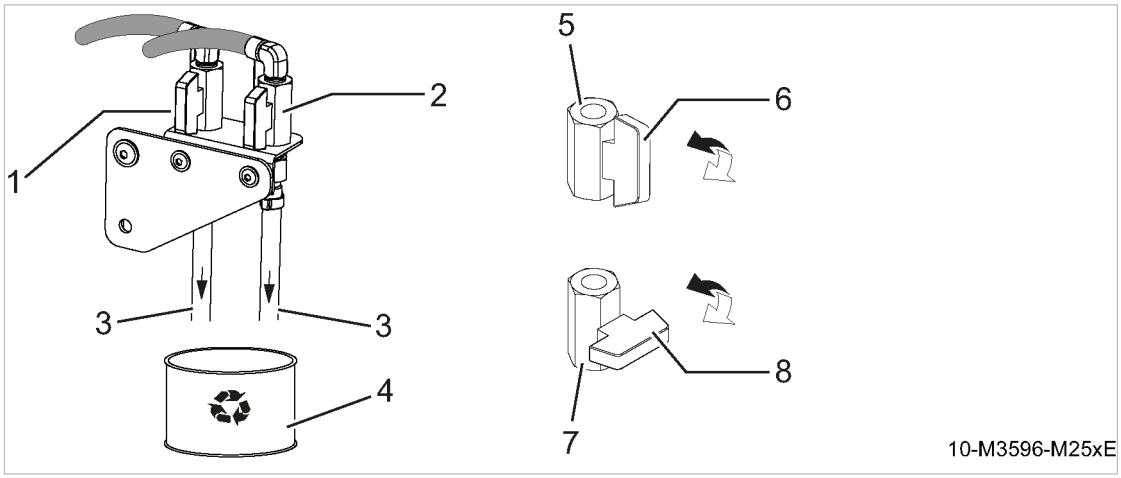


Fig. 51 Draining the condensate

[1] Condensate drain shut-off valve
[2] Condensate drain shut-off valve
[3] Hose line
[4] Receptacle
[5] Shut-off valve open
[6] Lever positioned in direction of flow
[7] Shut-off valve closed
[8] Lever positioned across direction of flow

Position the receptacle

Precondition The machine is switched off.

The machine is standing level.

The «Load isolating switch» on the on-site power supply disconnecting device is switched off at all poles,
the «Load isolating switch» is secured against being switched on again,
the absence of all voltage has been verified,
the «Controller ON/OFF» switch is set to the *OFF* position.

The butterfly valve on the compressed air outlet is open,
the machine is fully vented, the pressure gauge reads 0 psig.

1. Open the door/s.
2. Place the receptacle beneath the filter combination hose lines.
3. Open both condensate drain shut-off valves.
4. Close the door/s.

Start the machine

1. The «Load isolating switch» on the on-site power supply disconnecting device is switched on at all poles.
2. Turn the «Controller ON/OFF» switch to the *ON* position.
3. Switch the machine on via the «START» key on the operating panel of the SIGMA CONTROL SMART.
4. Allow the machine to run in IDLE operation.

   The condensate discharged into the filter combination housings is blown out.
5. Wait until only compressed air is emitted.
6. Press and hold down the «OFF» key on the SIGMA CONTROL SMART operating panel for longer than 1 second.

   The machine is switched off.
7. Wait until the machine has vented automatically.

   The pressure gauge reads 0 psig.
8. Switch off the «Load isolating switch» (all poles).
9. Turn the «Controller ON/OFF» switch to position *OFF*.
10. Open the door/s.
11. Close both condensate drain shut-off valves.
12. Remove the receptacle from the machine.
13. Close the door/s.

Condensate must be stored in suitable containers and disposed of in accordance with applicable environmental protection regulations.

10.14.1.2 Replacing the filter elements

The prefilter and microfilter both contain two different filter elements, which must be changed in pairs. Note positioning!

Operating the filter combination without filter elements installed is not permitted!

Only handle new filter elements when wearing clean fabric gloves. Do not touch the new filter elements with bare fingers – contamination risk!

Material
Spare parts
Filter wrench
Wrench
Cleaning cloth
Clean fabric gloves

Precondition
The machine is switched off.
The machine is standing on level ground,
the machine has cooled down.
The «Load isolating switch» on the on-site power supply disconnecting device is switched off at all poles,
the «Load isolating switch» is secured against being switched on again,
the absence of all voltage has been verified,
the «Controller ON/OFF» switch is set to the *OFF* position.
The butterfly valve on the compressed air outlet is open,
the machine is fully vented, the pressure gauge reads 0 psig.
The door/s is/are open.

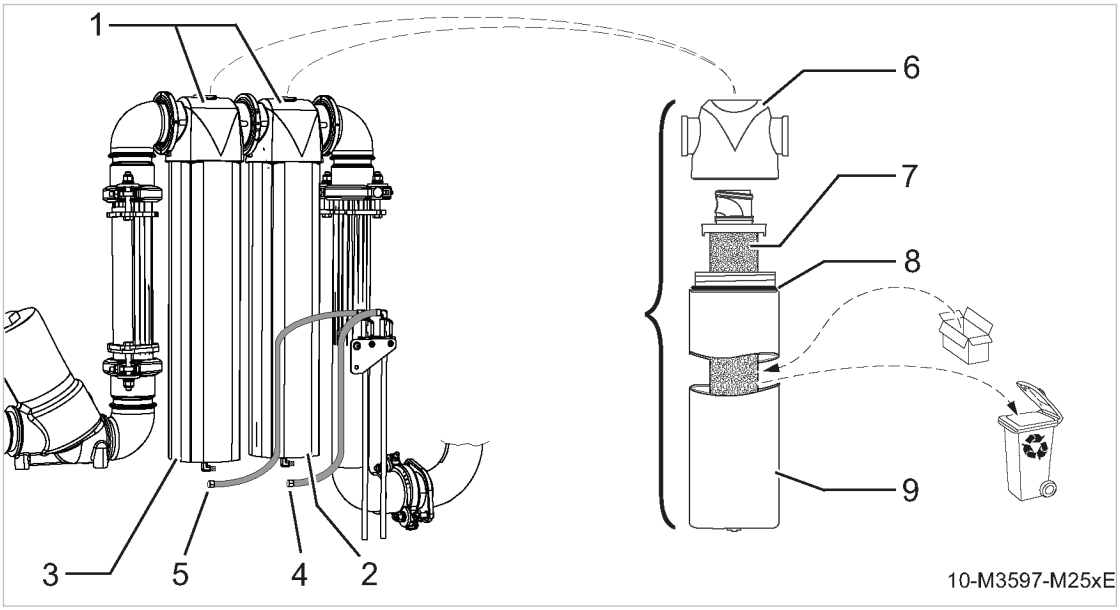


Fig. 52 Changing the filter elements

[1] Filter combination
[2] Prefilter
[3] Fine filter (microfilter)
[4] Hose line clamping nut
[5] Hose line clamping nut
[6] Filter head
[7] Filter element
[8] Housing seal
[9] Filter housing

Ensure that the filter combination is not under pressure:

➢ Slowly open the shut-off valves on the prefilter and fine filter condensate drain.
Any remaining pressure is released.

Gain access to the filter housing:

To remove the housing from the prefilter and fine filter, the clamping nuts on the hose lines must first be removed.

1. Loosen both clamping nuts on the hose lines for the condensate drain.
2. Remove both hose lines from the prefilter and fine filter.

Replace both filter elements on the filter combination:

➢ Follow all instructions carefully.

Replace the filter element on the prefilter	Replace the filter element on the fine filter
➢ Remove the filter housing in an counterclockwise direction	➢ Remove the filter housing in an counterclockwise direction
➢ Pull off the filter element in a downwards direction.	➢ Pull off the filter element in a downwards direction.
➢ Clean the filter head and housing with a lint-free cloth.	➢ Clean the filter head and housing with a lint-free cloth.
➢ Clean all sealing surfaces with a lint-free cloth.	➢ Clean all sealing surfaces with a lint-free cloth.
➢ Check the housing seal, replace with new if required.	➢ Check the housing seal, replace with new if required.
➢ Wear gloves.	➢ Wear gloves.
➢ Insert a new filter element.	➢ Insert a new filter element.
➢ Refit the filter housing by turning clockwise.	➢ Refit the filter housing by turning clockwise.

Tab. 88 Replacing the filter elements

Prepare for operation:

1. Fit both clamping nuts on the hose lines for the condensate drain to the screw connections on the prefilter and fine filter.
2. Close the condensate drain shut-off valves.
3. Tighten all screw connections on the compressed air filter combination.
4. Close the door/s.

Dispose of old parts and contaminated materials in accordance with environmental regulations.

Further information Further information on replacing filter elements can be found in the “Filter Operating Instructions” in chapter 13.5.

Start the machine and perform a test run:

1. Switch on the Load isolating switch on the on-site power supply disconnecting device (all poles).
2. Switch the machine on via the «START» key on the operating panel of the SIGMA CONTROL SMART.

3. Warm up the machine by allowing it to run in IDLE.
   Warm-up has been achieved when the required airend discharge temperature is reached.
4. Press and hold down the «OFF» key on the operating panel of the SIGMA CONTROL SMART for longer than 1 second.
   The machine is switched off.
5. Wait until the machine has vented automatically.
   The pressure gauge reads 0 psig!

Check the filter combination for leaks:

1. Open the door/s.
2. Visually inspect the filter combination for leaks.
3. Visually inspect the condensate hose lines for leaks.
4. Close the door/s.

10.15 Documenting maintenance and service work

Machine model/part number:

➢ Enter maintenance and service work carried out in this list.

Date	Maintenance task carried out	Operating hours	Signature

Tab. 89 Maintenance log

11 Spares, Operating Materials, Service

11.1 Note the nameplate

The nameplate contains all information to identify your machine. This information is essential to us in order to provide you with optimal service.

➢ Please give the information from the nameplate with every inquiry and order for spares.

11.2 Ordering spare parts and operating fluids/materials

KAESER spare parts and operating fluids/materials are original products. They are specifically selected for use in our machines and ensure a machine's trouble-free operation.

Unsuitable or poor quality spare parts and operating fluids/materials may result in damage to the machine or significantly impair its proper function.

Personal injury may result from damage.

⚠ WARNING

There is risk of personal injury or damage to the machine resulting from the use of unsuitable spare parts or operating fluids/materials!

➢ *Use only original parts and operating fluids/materials.*

➢ *Do not use alternative spare parts and operating fluids/materials.*

Compressor

Name	Number/quantity	Number
Filter element, air filter	1	1260
Filter element, oil filter	2	1210
Oil separator cartridge set	1	1450
Cooling oil	1	1600

Tab. 90 Compressor spare parts

Drive motor

Name	Number/quantity	Number
Bearing grease (100 g)	1	9.0915.0
Bearing grease (400 g)	1	6.3234.0

Tab. 91 Drive motor spare parts

11.3 KAESER AIR SERVICE

KAESER AIR SERVICE offers:

- Authorized service technicians with KAESER factory training.
- Increased operational reliability ensured by preventive maintenance.
- Energy savings achieved by avoidance of pressure losses.

- The security of genuine KAESER spare parts.
- Increased legal certainty as all regulations are kept to.

➢ Why not sign a KAESER AIR SERVICE maintenance agreement.
The advantages:
Lower costs and higher compressed air availability.

11.4 Replacement parts for service and repair

Use these parts lists to plan your material requirement according to operating conditions and to order the required spare parts.

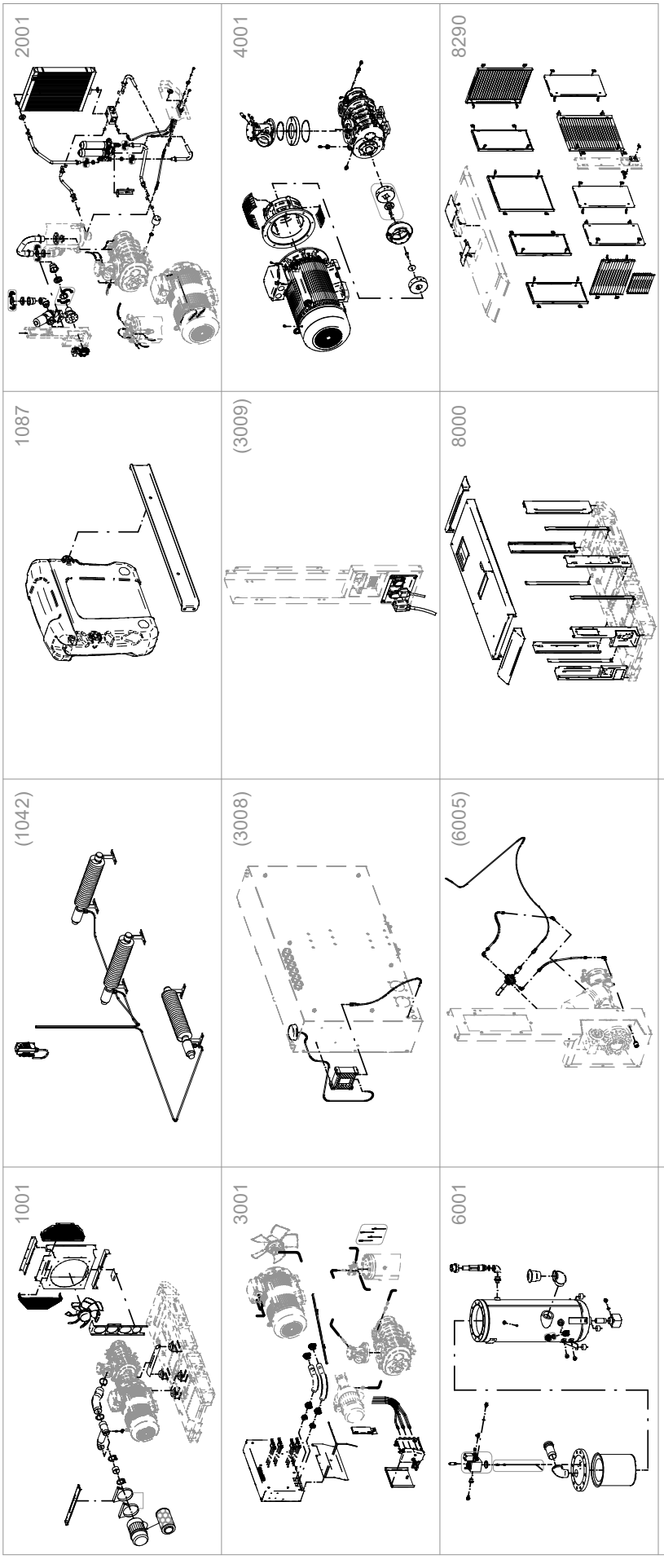
⚠ WARNING

Personal injury or machine damage due to incorrect working on the machine!
Incorrect inspection, service or repair can damage the machine or severely impair its function. Personal injury may result from damage.

- ➢ *Inspections, preventive maintenance or repair tasks not described in this Operating Manual must not be carried out by unqualified personnel.*
- ➢ *Have further tasks, not described in this operating manual, carried out by specialist workshops or by an authorized KAESER service representative.*

11.4.1 Spare parts overview

Validity: M250E / M255E



KAESER KOMPRESSOREN

Baugruppe				Datum	Name
Overview / Übersicht			Original		Erstellt mit
Zeichnungstyp	Dokument-Nr.		A4	Gez. 11.03.2020	PUFF1 Solid Edge
Service spare part drawing / Service Ersatzteil Zeichnung				Freigab 07.08.2020	PUFF1 Blatt
SEG-Nummer	Service-Kit (Option)	Subassembly / Untergruppe		Status F R E I G E G E B E N	1 von 1
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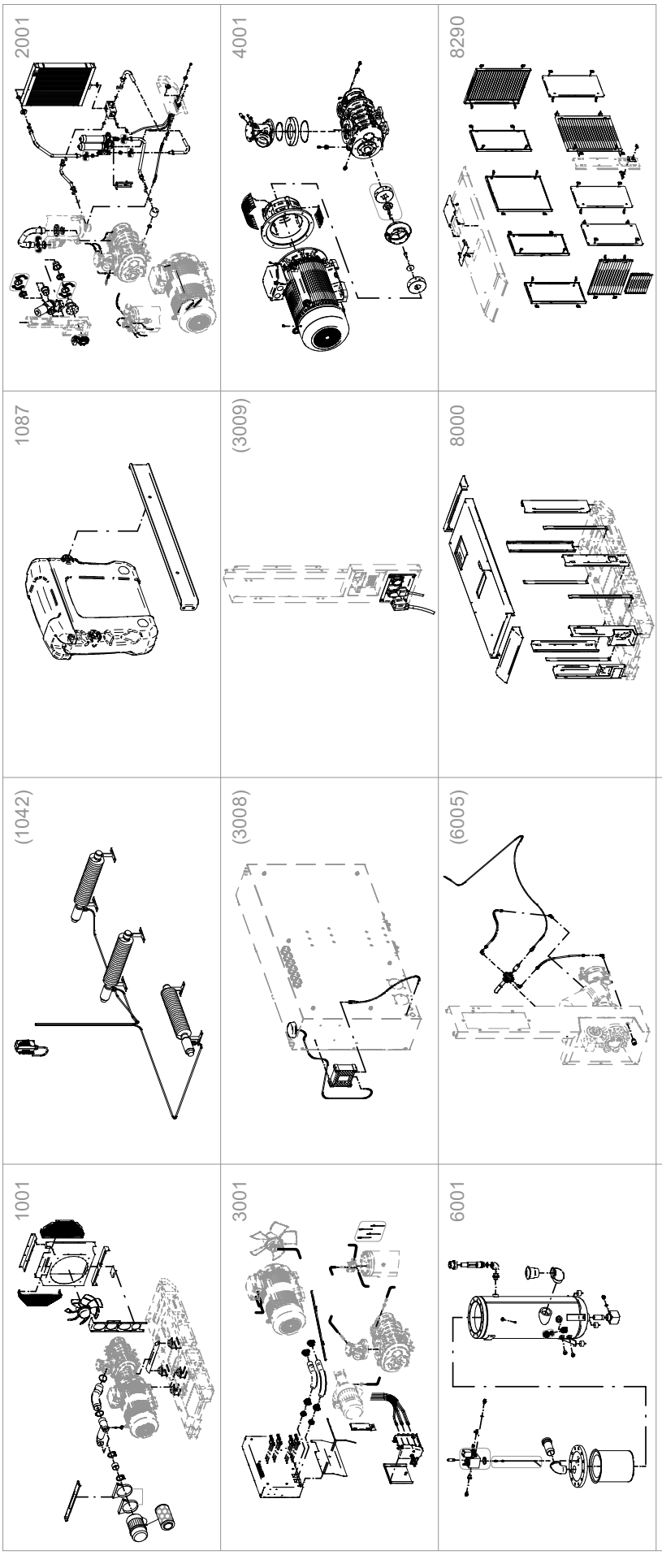

KAESER KOMPRESSOREN

Baugruppe
Overview / Übersicht

Zeichnungstyp				Datum	Name
Service spare part drawing / Service Ersatzteil Zeichnung	Dokument-Nr.	Original	Gez.	11.03.2020	PLIFF1
		A4	Ind.-Nr.	07.08.2020	PLIFF1
SEG-Nummer	Service-Kit (Option)	Subassembly / Untergruppe	Status	F R E I G E G E B E N	
SEG-11277					

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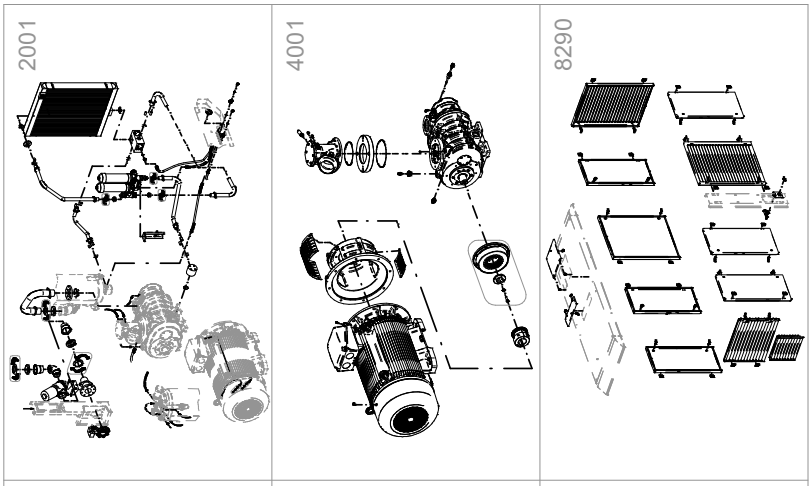

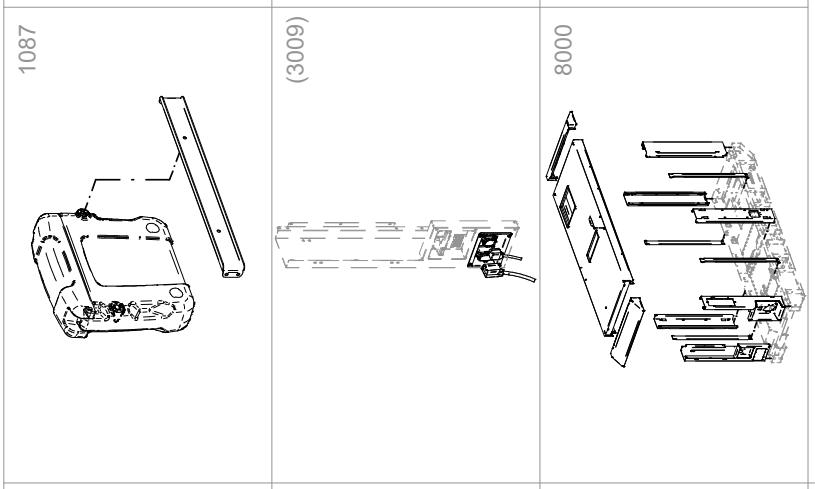

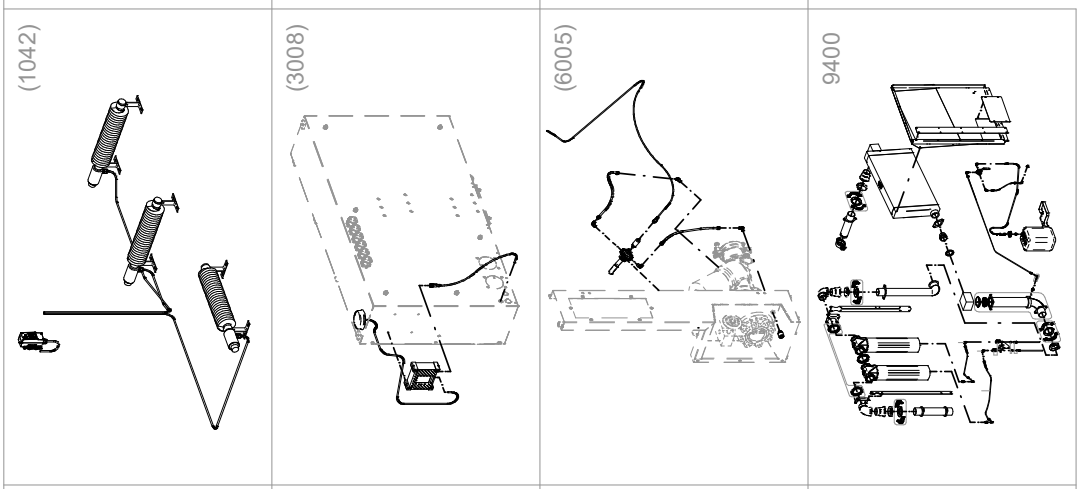

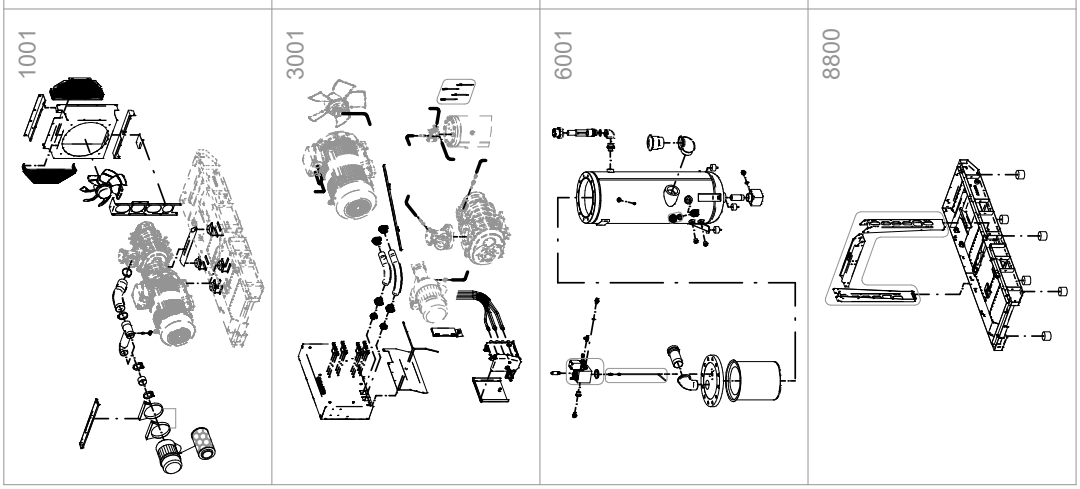

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Baugruppe				Datum	Name
Overview / Übersicht					Erstellt mit
Zeichnungstyp	Dokument-Nr.		Original	Gez. 11.03.2020	PUFF1
Service spare part drawing / Service Ersatzteil Zeichnung			A4		Solid Edge
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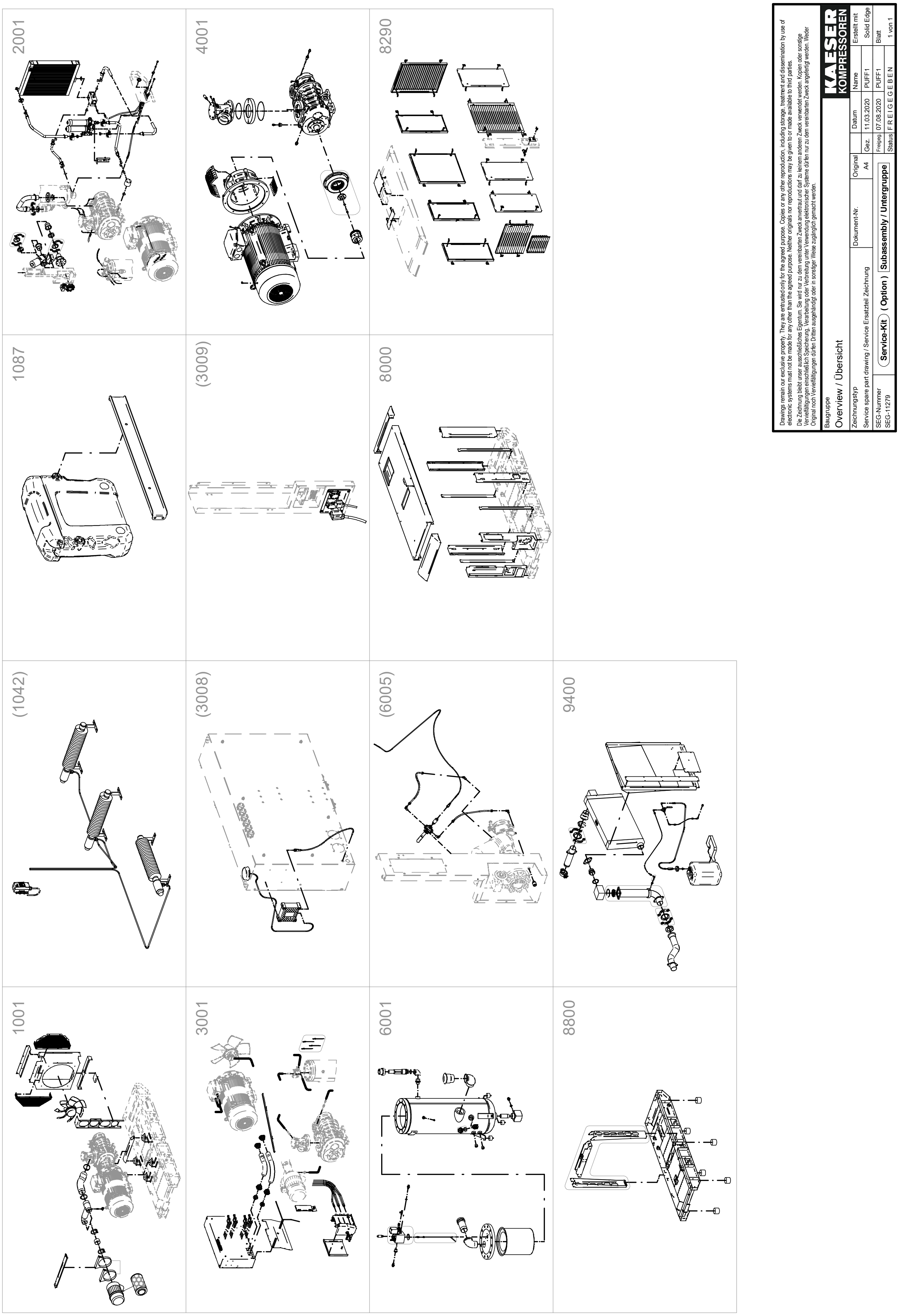
SEG-11278				Status F R E I G E G E B E N	Blatt 1 von 1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KAESER KOMPRESSOREN
Overview / Übersicht
Service spare part drawing / Service Ersatzteil Zeichnung
SEG-11279
Service-Kit
(Option)
Subassembly / Untergruppe
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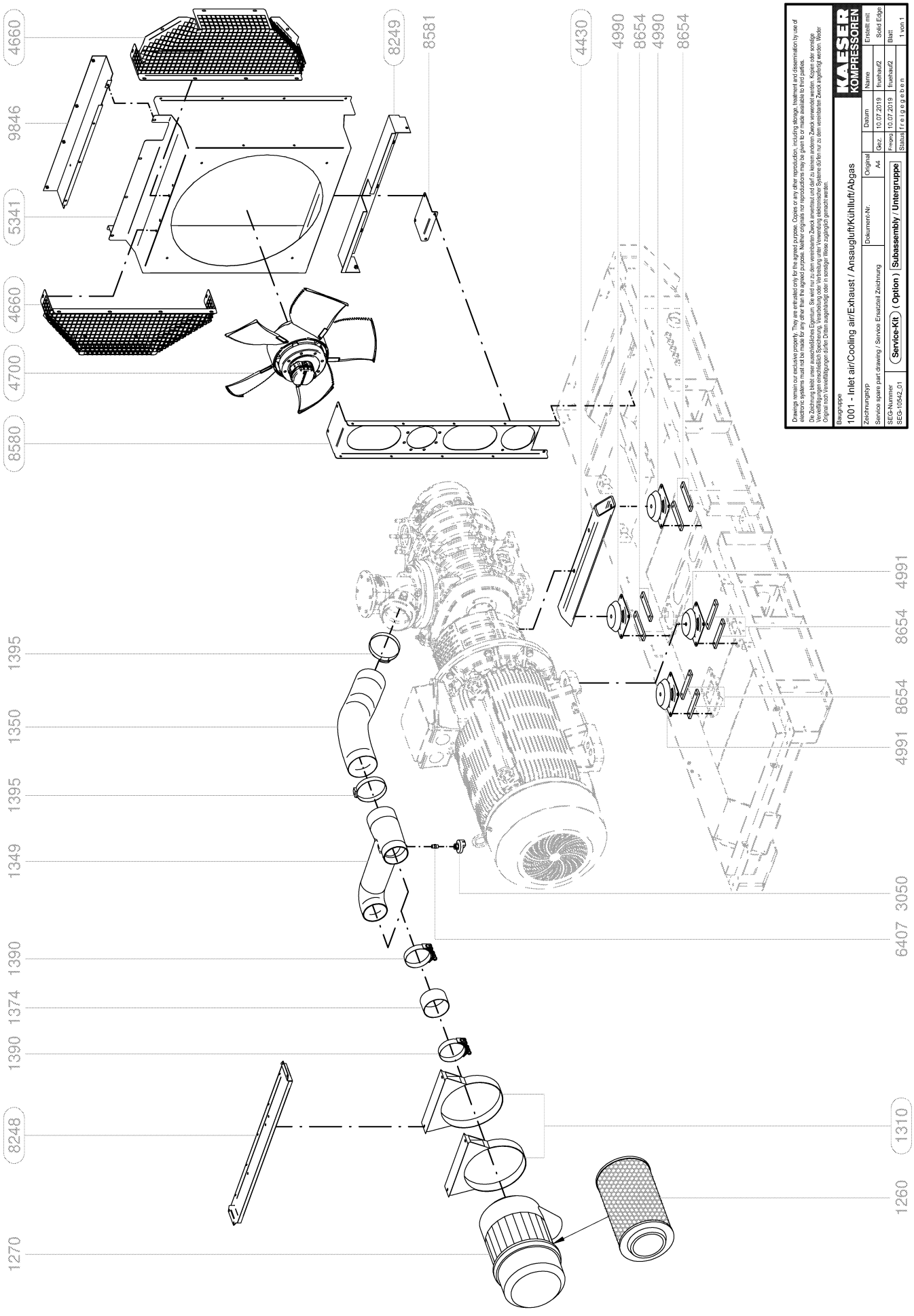
Solid Edge
1 von 1
F R E I G E G E B E N


4660
9846
5341
4660
4700
8580
8249
8581
4430
4990
8654
4990
8654
1395
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1349
1390
1374
1390
8248
1270
4991
8654
4991
8654
6407
3050
1310
1260
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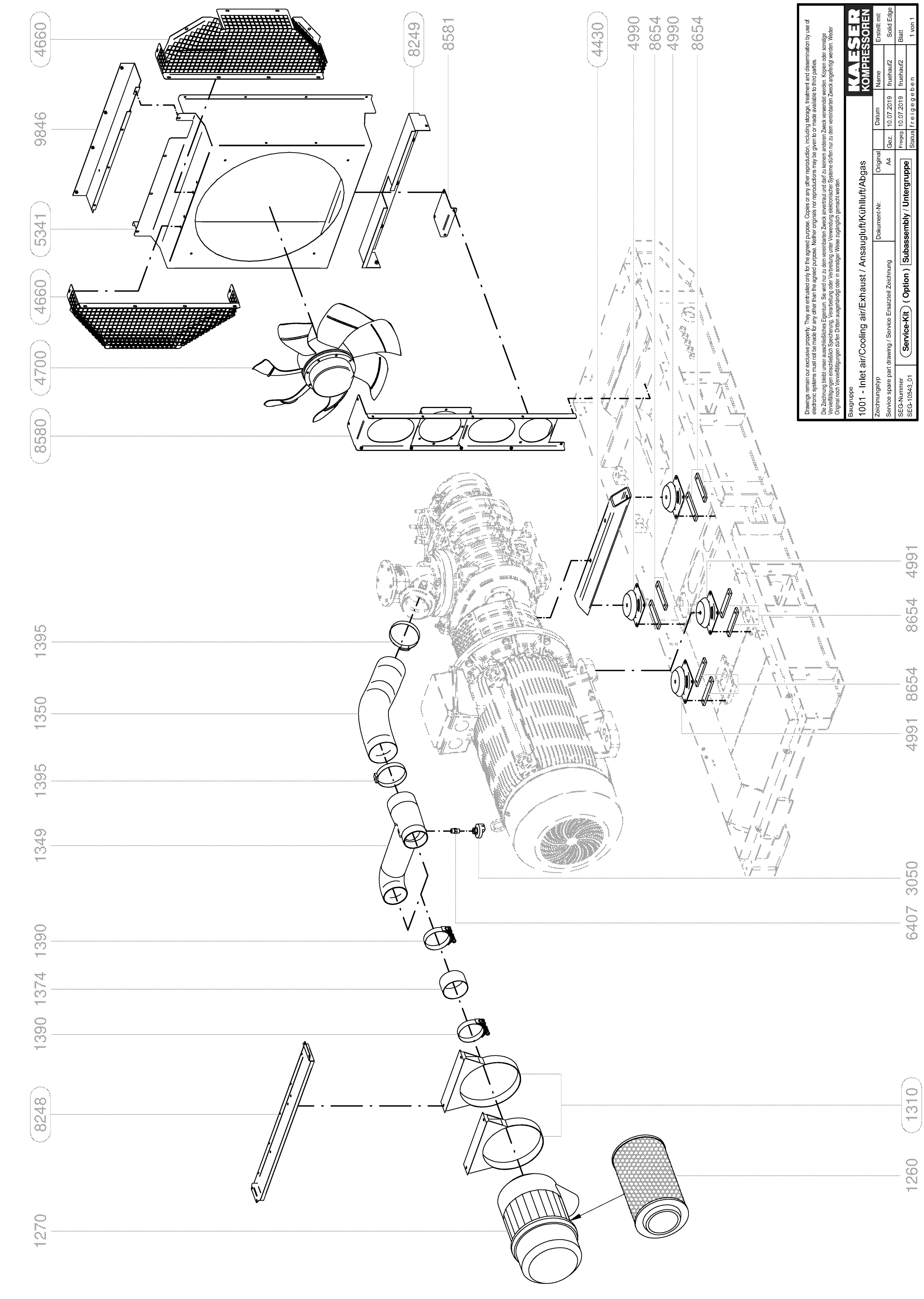
KAESER KOMPRESSOREN
Baugruppe
1001 - Inlet air/Cooling air/Exhaust / Ansaugluft/Kühlluft/Abgas
Zeichnungstyp
Service spare part drawing / Service Ersatzteil Zeichnung
Dokument-Nr.
Original
A4
Datum
Name
Gez. 10.07.2019 fruehauf2
Freigb. 10.07.2019 fruehauf2
Erstellt mit
Solid Edge
Blatt
1 von 1
SEG-Nummer
SEG-10542_01
Service-Kit (Option) Subassembly / Untergruppe
Status freigegeben


4660
9846
5341
4660
4700
8580
8249
8581
4430
4990
8654
4990
8654
4991
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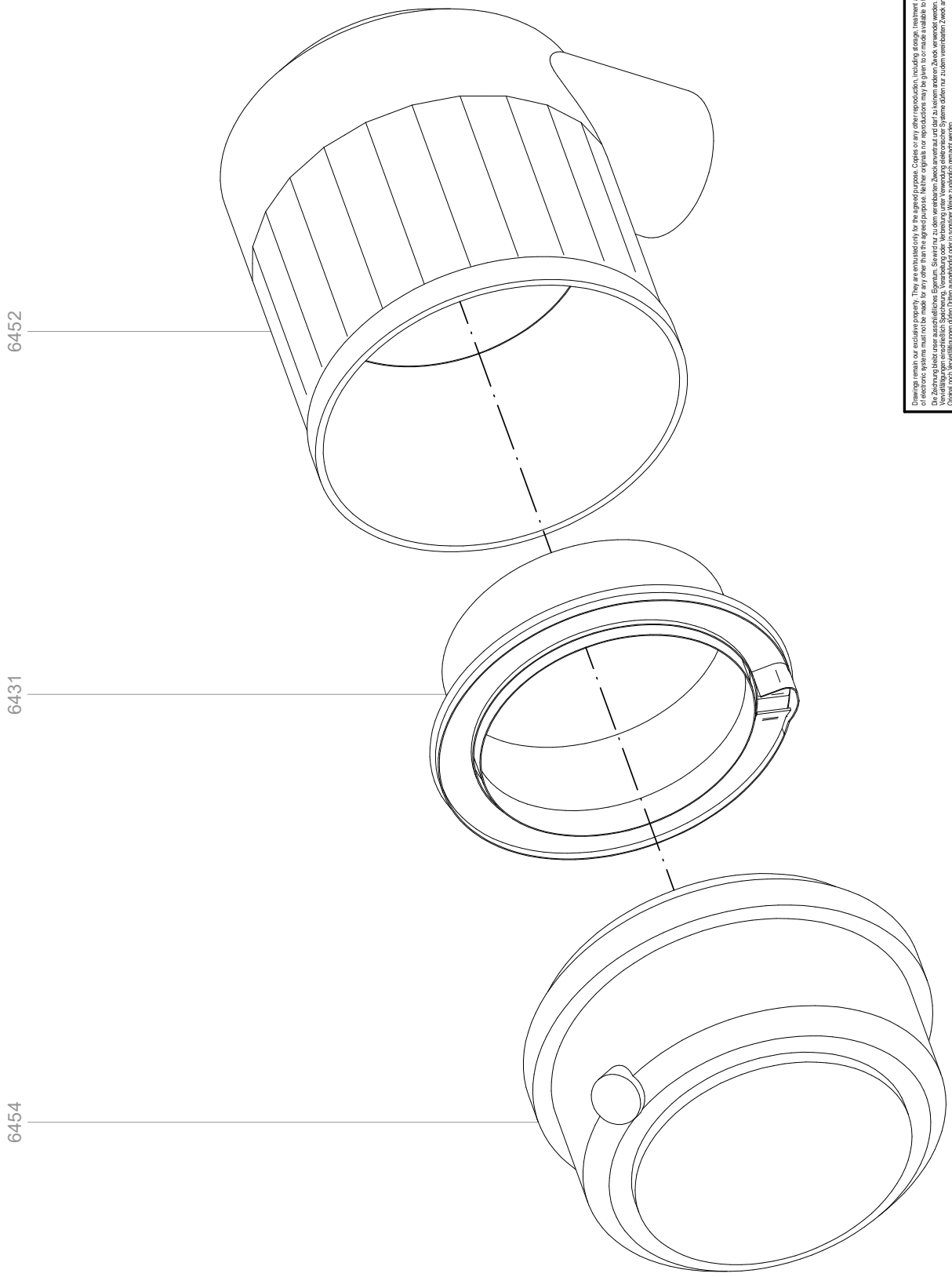
8654
4991
1395
1350
1395
1349
3050
6407
1390
1374
1390
8248
1310
1260
1270
1001 - Inlet air/Cooling air/Exhaust / Ansaugluft/Kühlluft/Abgas
Service spare part drawing / Service Ersatzteil Zeichnung
SEG-10543_01
Service-Kit
(Option)
Subassembly / Untergruppe
10.07.2019
fruehauf2
Solid Edge
1 von 1

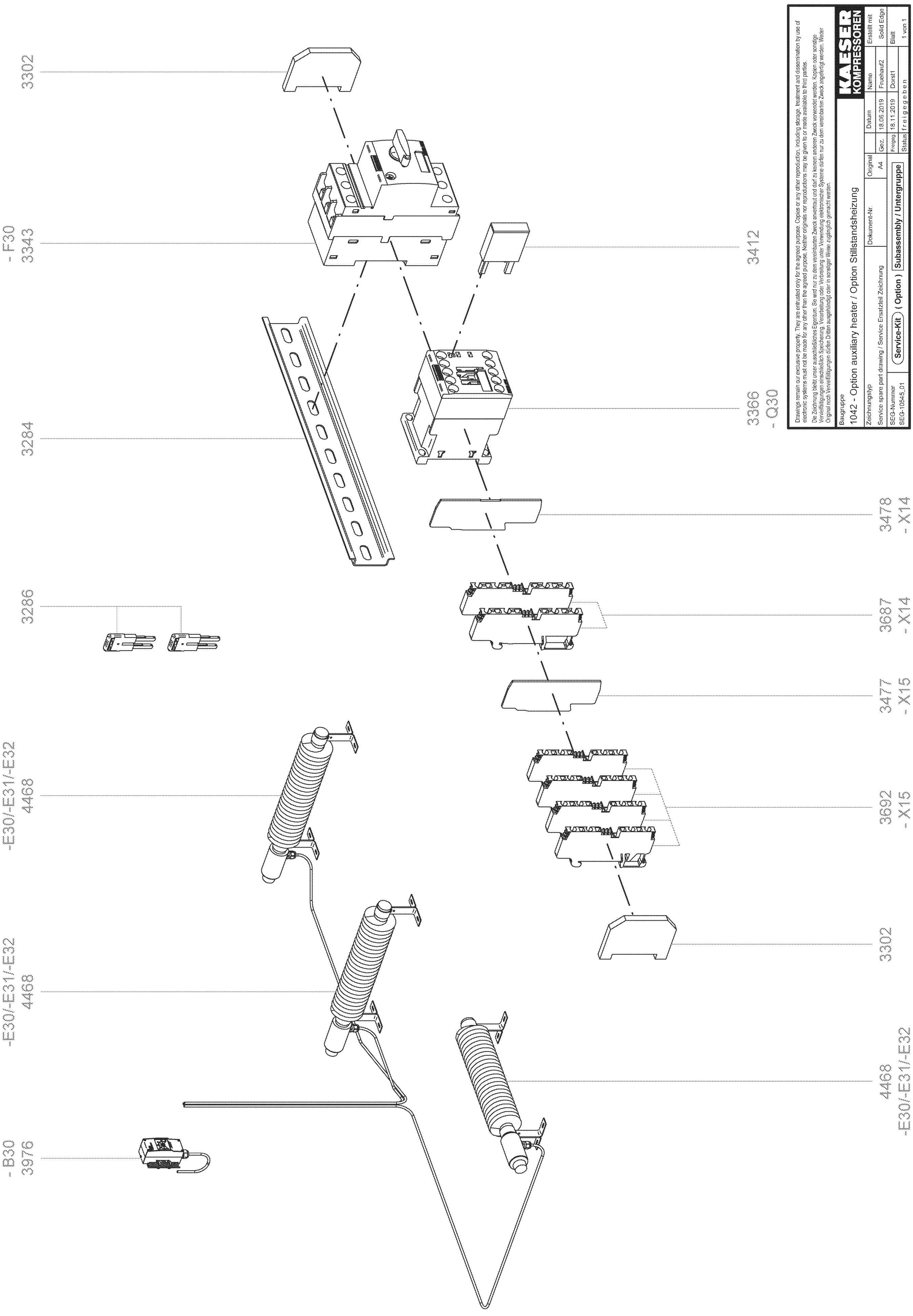


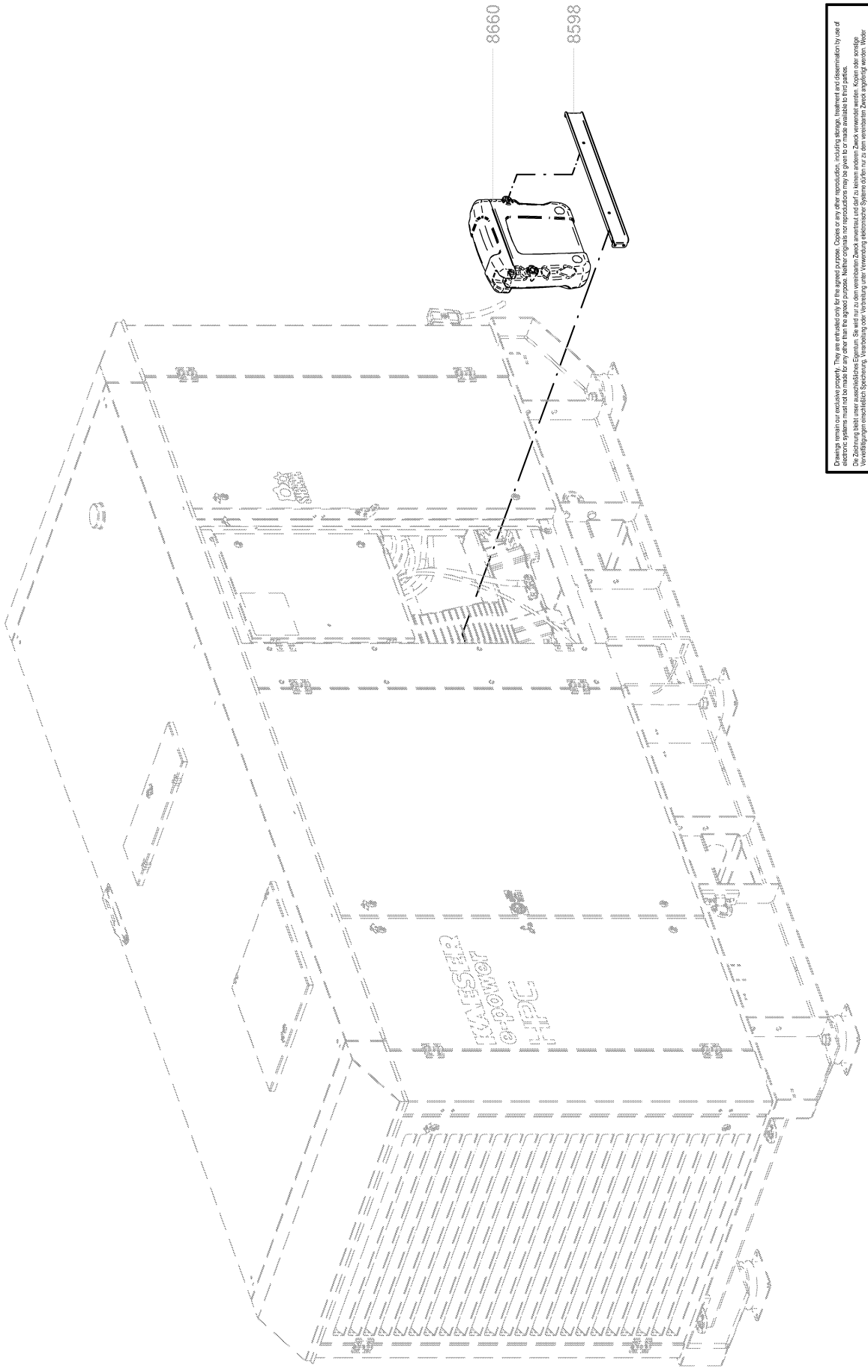
KAESER KOMPRESSOREN

Baugruppe
1270 - Compressor air filt. w.housing / Kompressorluftfilter mit Geh.

Zeichnungstyp		Dokument-Nr.	Original	Datum	Name
Service spare part drawing / Service Ersatzteil Zeichnung			A4	Gez. 11.02.2022	PUFF1
SEG-Nummer	Service-Kit (Option)	Subassembly / Untergruppe		Fr-geg. 11.02.2022	PUFF1
SEG-13693				Status F R E I G E G E B E N	

Erstellt mit Solid Edge
Blatt 1 von 1

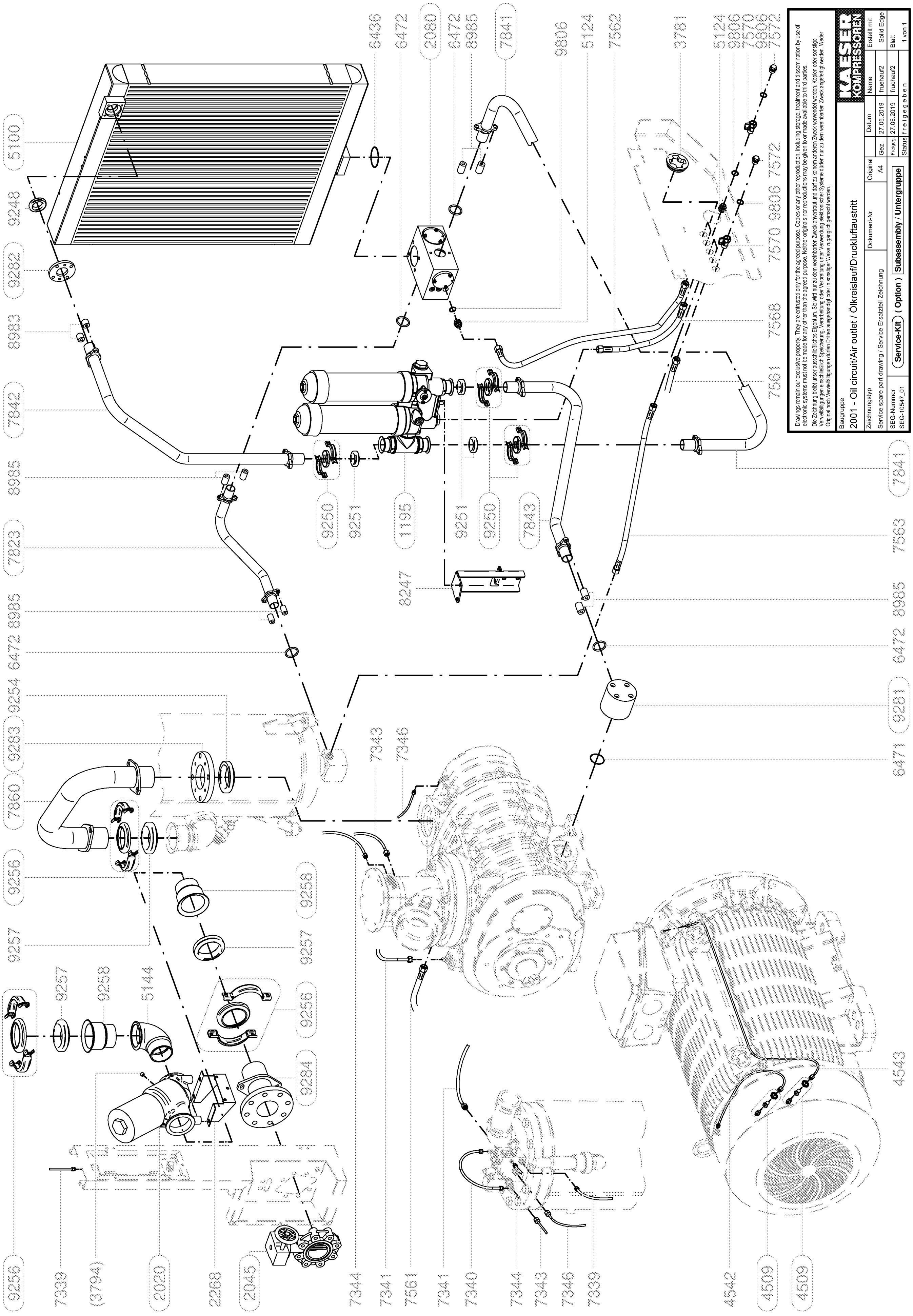

3302
- F30 3343
3412
3366 - Q30
3284
3478 - X14
3286
3687 - X14
3477 - X15
-E30/-E31/-E32 4468
3692 - X15
-E30/-E31/-E32 4468
3302
4468 -E30/-E31/-E32
- B30 3976
1042 - Option auxiliary heater / Option Stillstandsheizung
Service spare part drawing / Service Ersatzteil Zeichnung
SEG-10545_01

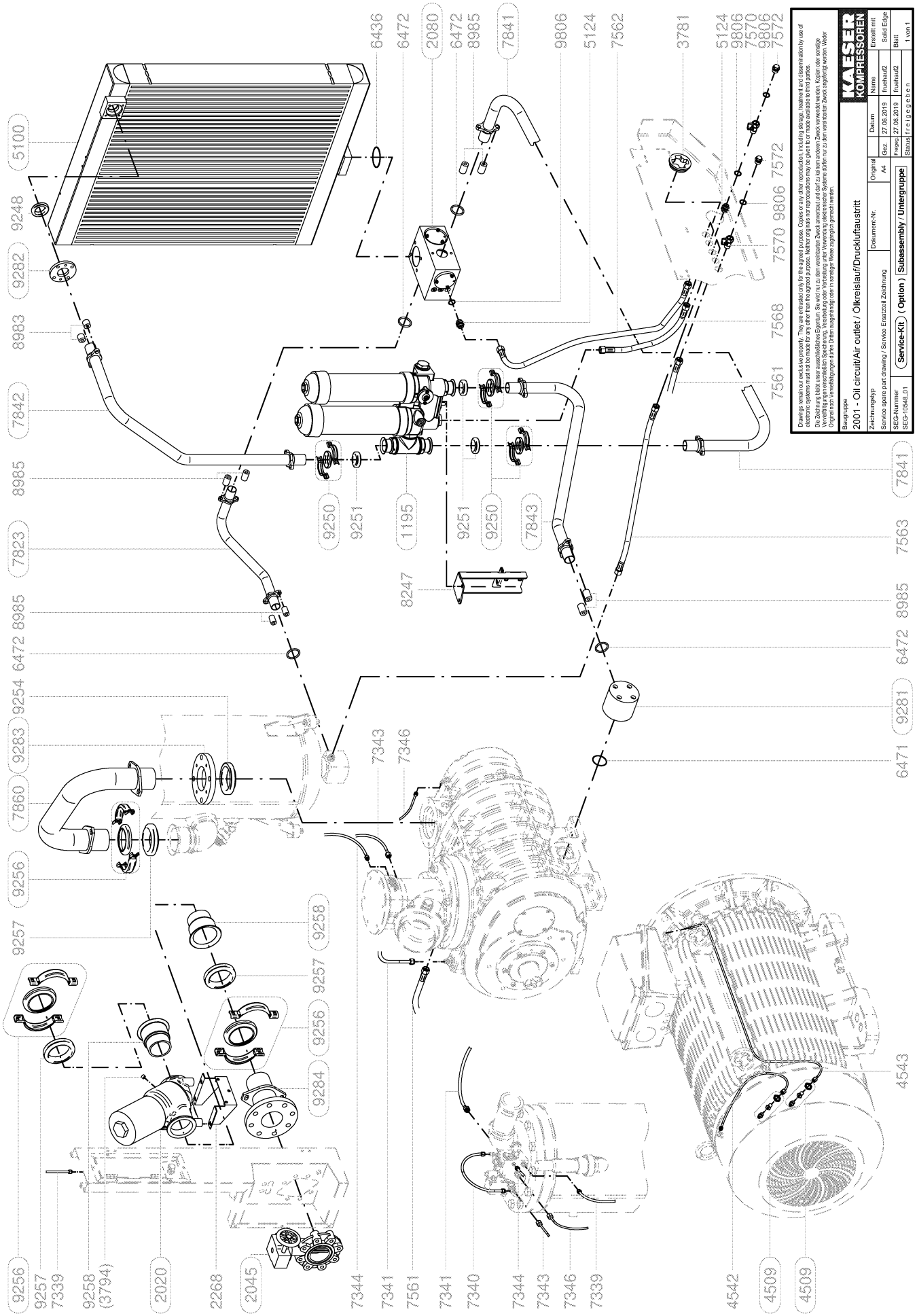


KAESER KOMPRESSOREN

Baugruppe
1087 - Set document-box / Satz Dokumententasche

Zeichnungstyp	Dokument-Nr.	Original		Datum	Name	Erstellt mit
Service spare part drawing / Service Ersatzteil Zeichnung		A4	Gez.	17.06.2019	fruehauf2	Solid Edge
SEG-Nummer			Freigab	17.06.2019	fruehauf2	Blatt
SEG-10546_01	Service-Kit (Option) Subassembly / Untergruppe		Status	f r e i g e g e b e n		1 von 1


2001 - Oil circuit/Air outlet / Ölkreislauf/Druckluftaustritt
SEG-10547_01
Service-Kit (Option) Subassembly / Untergruppe
27.06.2019
fruehauf2
Solid Edge
1 von 1
5100
9248
9282
8983
7842
8985
7823
8985
6472
9254
9283
7860
9256
9257
9256
7339
(3794)
2020
2268
2045
9257
9258
5144
9258
9257
9256
9284
7344
7341
7561
7341
7340
7344
7343
7346
7339
4542
4509
4509
4543
9250
9251
1195
9251
9250
7843
8247
7343
7346
6436
6472
2080
6472
8985
7841
9806
5124
7562
3781
5124
9806
7570
9806
7572
7572
9806
7570
7568
7561
7841
7563
8985
6472
9281
6471


6436 6472 2080 6472 8985 7841 9806 5124 7562 3781 5124 9806 7570 9806 7572
5100 9248 9282 8983 7842 8985 7823 8985 6472 9254 9283 7860 9256 9257
7570 9806 7572 7568 7561 7841 7563 8985 6472 9281 6471 4543
9250 9251 1195 9251 9250 7843 8247
7343 7346
9258 9257 9256 9284
9256 9257 7339 9258 (3794) 2020 2268 2045 7344 7341 7561 7341 7340 7344 7343 7346 7339 4542 4509 4509
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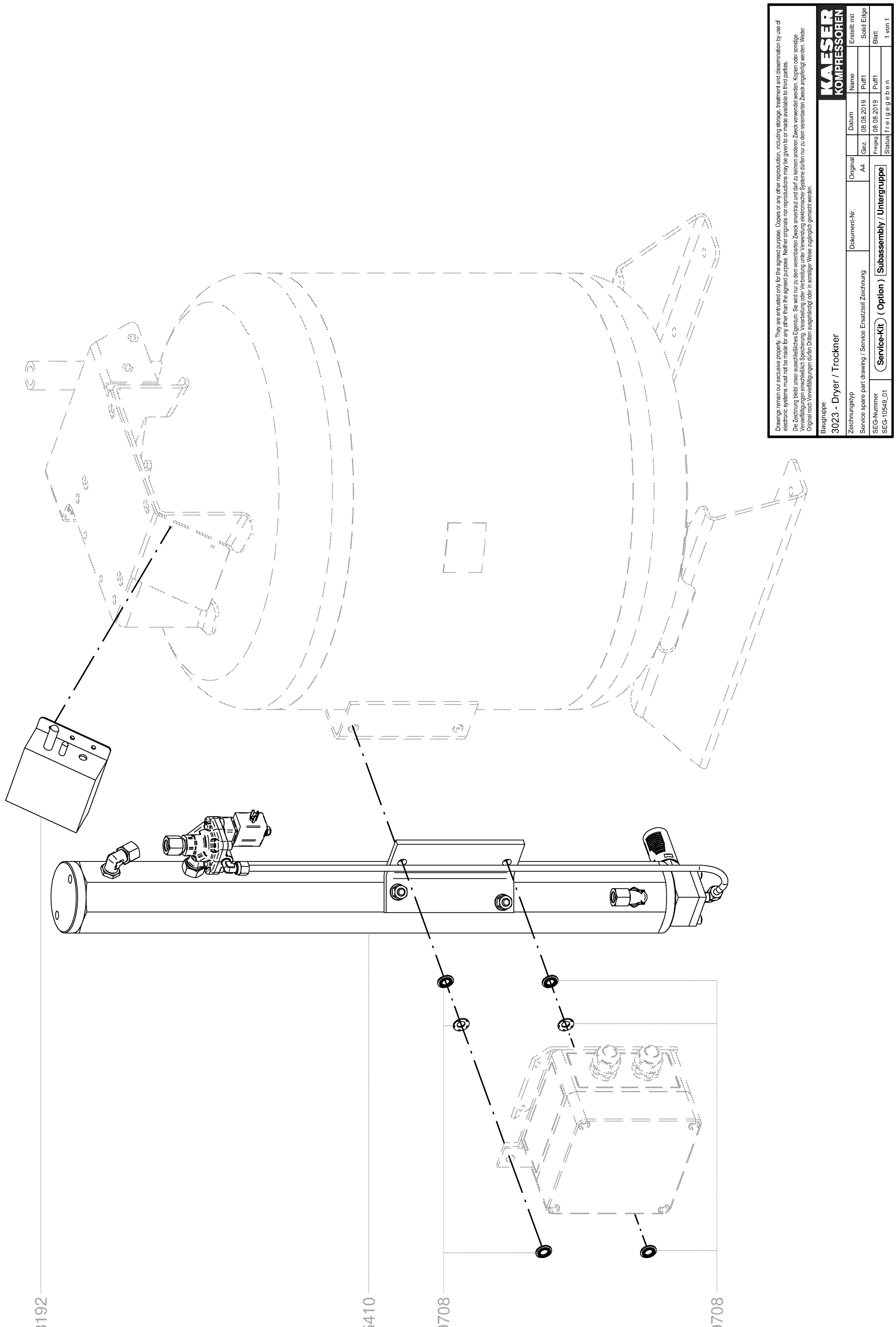
KAESER KOMPRESSOREN
Baugruppe
2001 - Oil circuit/Air outlet / Ölkreislauf/Druckluftaustritt
Zeichnungstyp
Service spare part drawing / Service Ersatzteil Zeichnung
Dokument-Nr.
Original
A4
Datum
Gez. 27.06.2019
Name
Ersetzt mit
fruehauf2
Solid Edge
Freigab 27.06.2019
fruehauf2
Blatt
1 von 1
SEG-Nummer
SEG-10548_01
Service-Kit (Option) Subassembly / Untergruppe
Status freigegeben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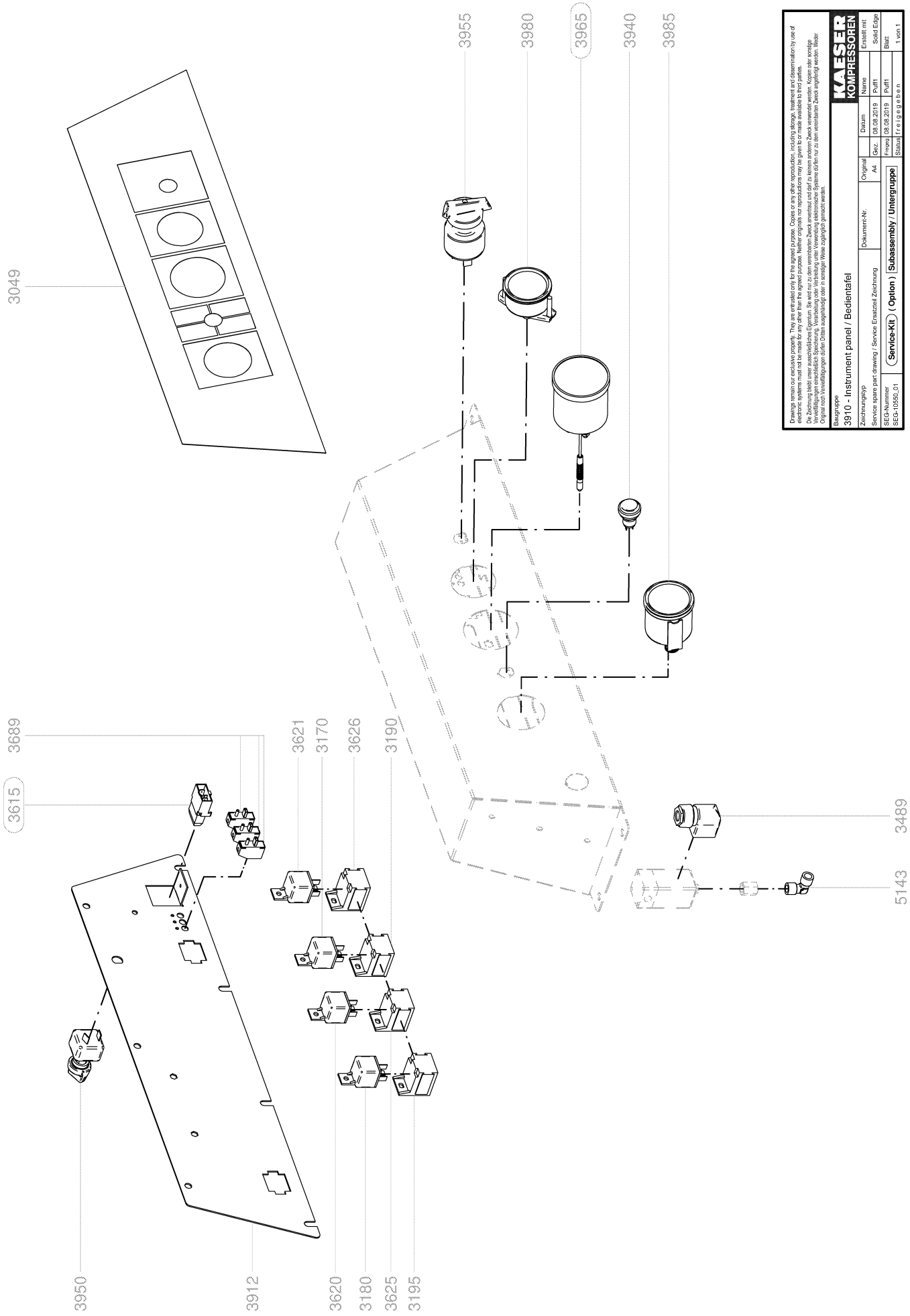
Baugruppe
3023 - Dryer / Trockner
KAESER KOMPRESSOREN
Zeichnungstyp
Service spare part drawing / Service Ersatzteil Zeichnung
Dokument-Nr.
Original
A4
Datum
Name
Erstellt mit
Gez.
08.08.2019
Puff1
Solid Edge
SEG-Nummer
SEG-10549_01
Service-Kit
(Option)
Subassembly / Untergruppe
Freigeg.
08.08.2019
Puff1
Blatt
Status
f r e i g e g e b e n
1 von 1
3192
5410
9708
9708



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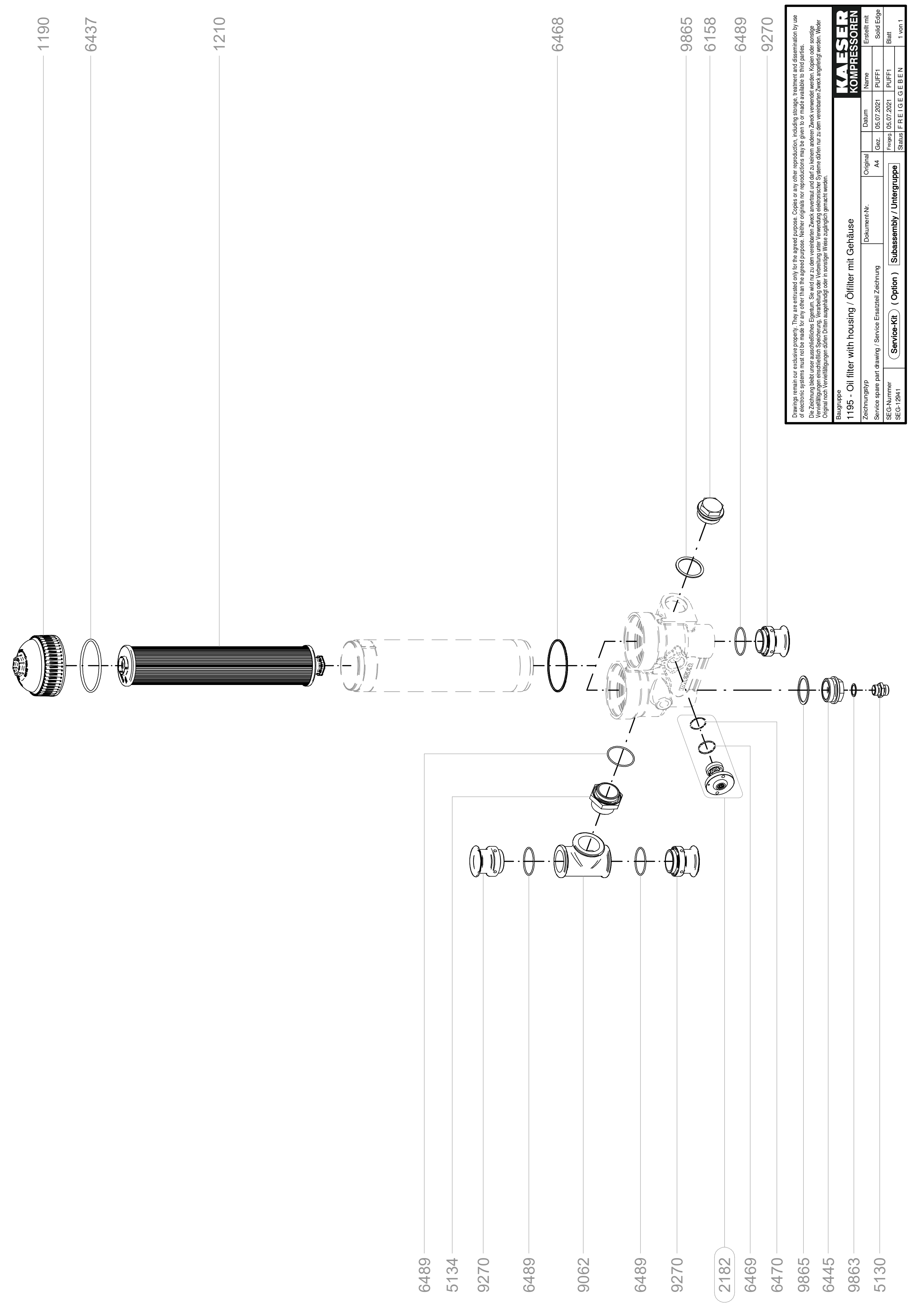
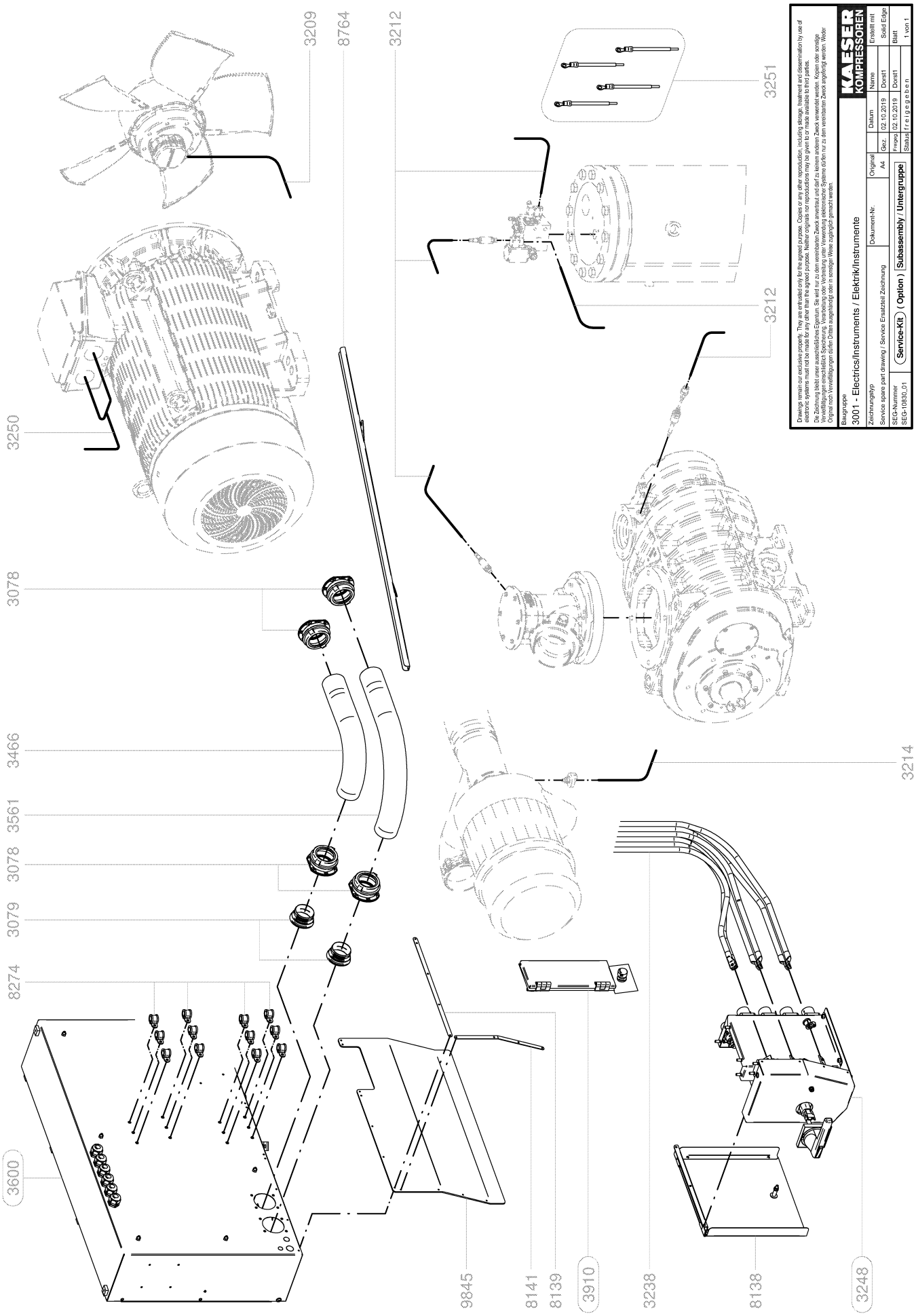
Baugruppe
3910 - Instrument panel / Bedientafel

Zeichnungstyp	Dokument-Nr.	Original		Datum	Name	Erstellt mit
Service spare part drawing / Service Ersatzteil Zeichnung		A4	Gez.	08.08.2019	Puff	Solid Edge
SEG-Nummer			Freigabe	08.08.2019	Puff	Blatt
SEG-10550_01	Service-Kit (Option) Subassembly / Untergruppe		Status	freigegeben		1 von 1


1190
6437
1210
6468
9865
6158
6489
9270
1195 - Oil filter with housing / Ölfilter mit Gehäuse
Service spare part drawing / Service Ersatzteil Zeichnung
Service-Kit
(Option)
Subassembly / Untergruppe
SEG-12941
05.07.2021
PUFF1
F R E I G E G E B E N
6489
5134
9270
6489
9062
6489
9270
2182
6469
6470
9865
6445
9863
5130


3209
8764
3212
3251
3212
3250
3078
3466
3561
3078
3079
8274
3214
3600
9845
8141
8139
3910
3238
8138
3248
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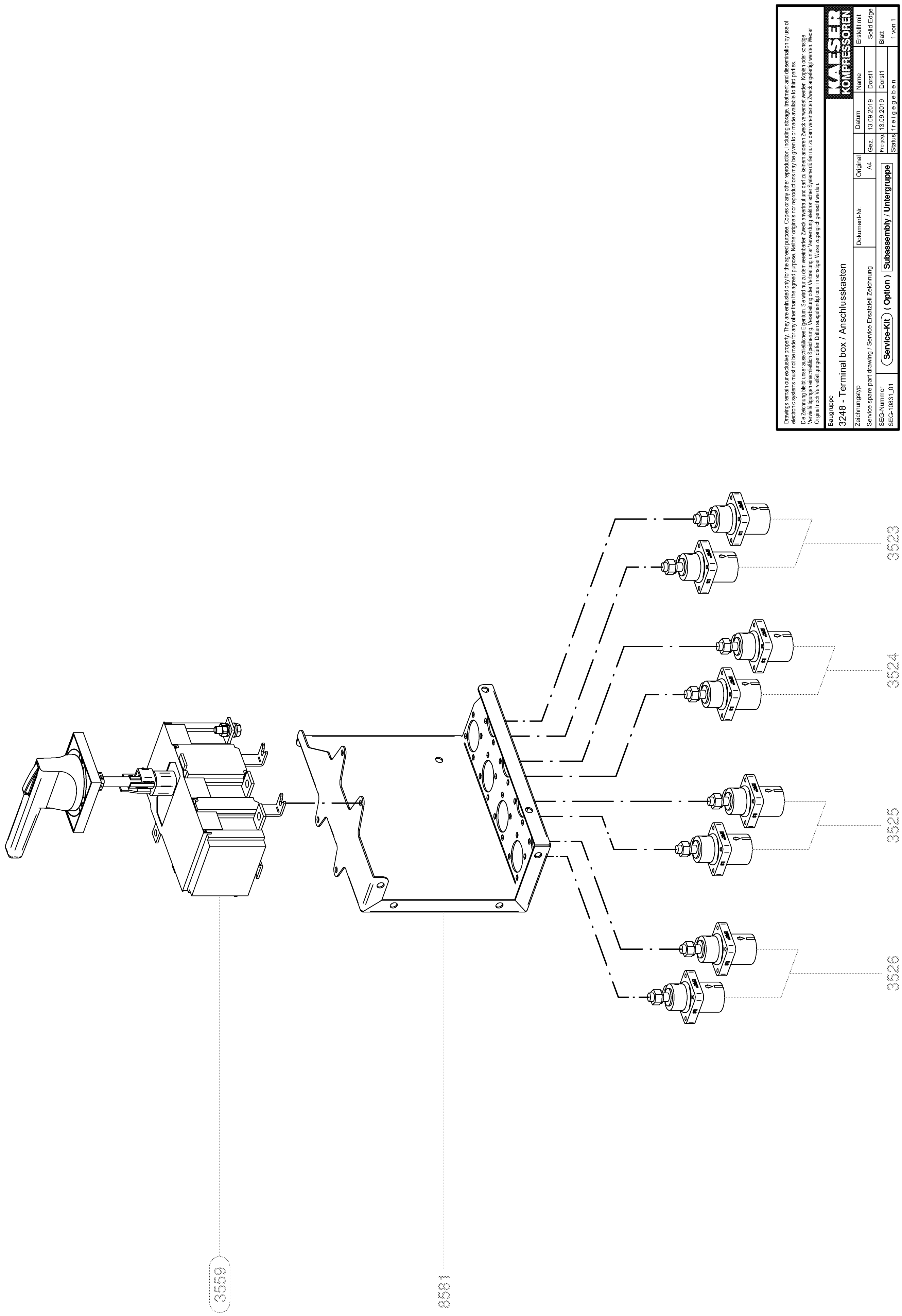
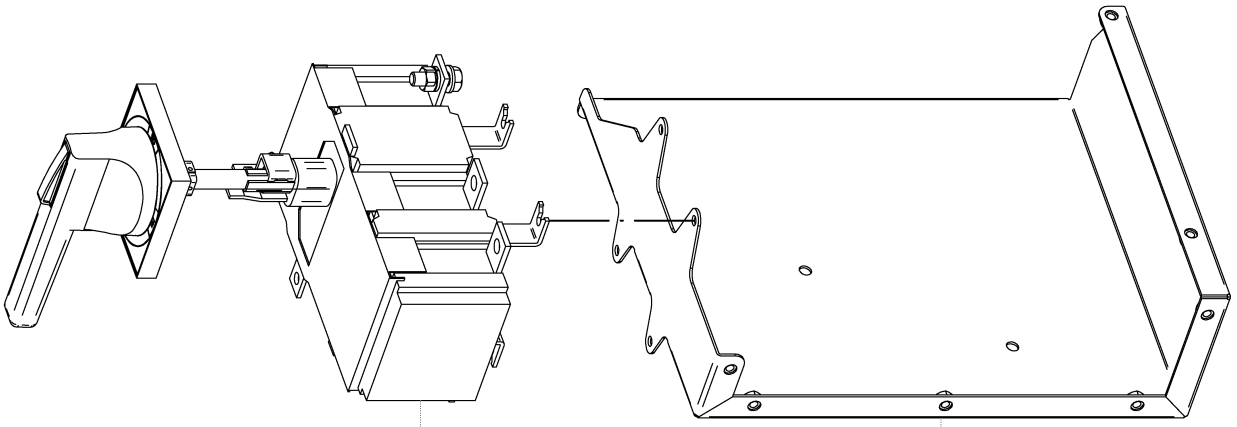
Baugruppe
3001 - Electrics/Instruments / Elektrik/Instrumente
Zeichnungstyp
Service spare part drawing / Service Ersatzteil Zeichnung
Dokument-Nr.
Original
A4
Datum
Name
Gez. 02.10.2019 Dorst1
Freigabe 02.10.2019 Dorst1
Status freigegeben
Erstellt mit
Solid Edge
Blatt
1 von 1
SEG-Nummer
SEG-10830_01
Service-Kit (Option) Subassembly / Untergruppe

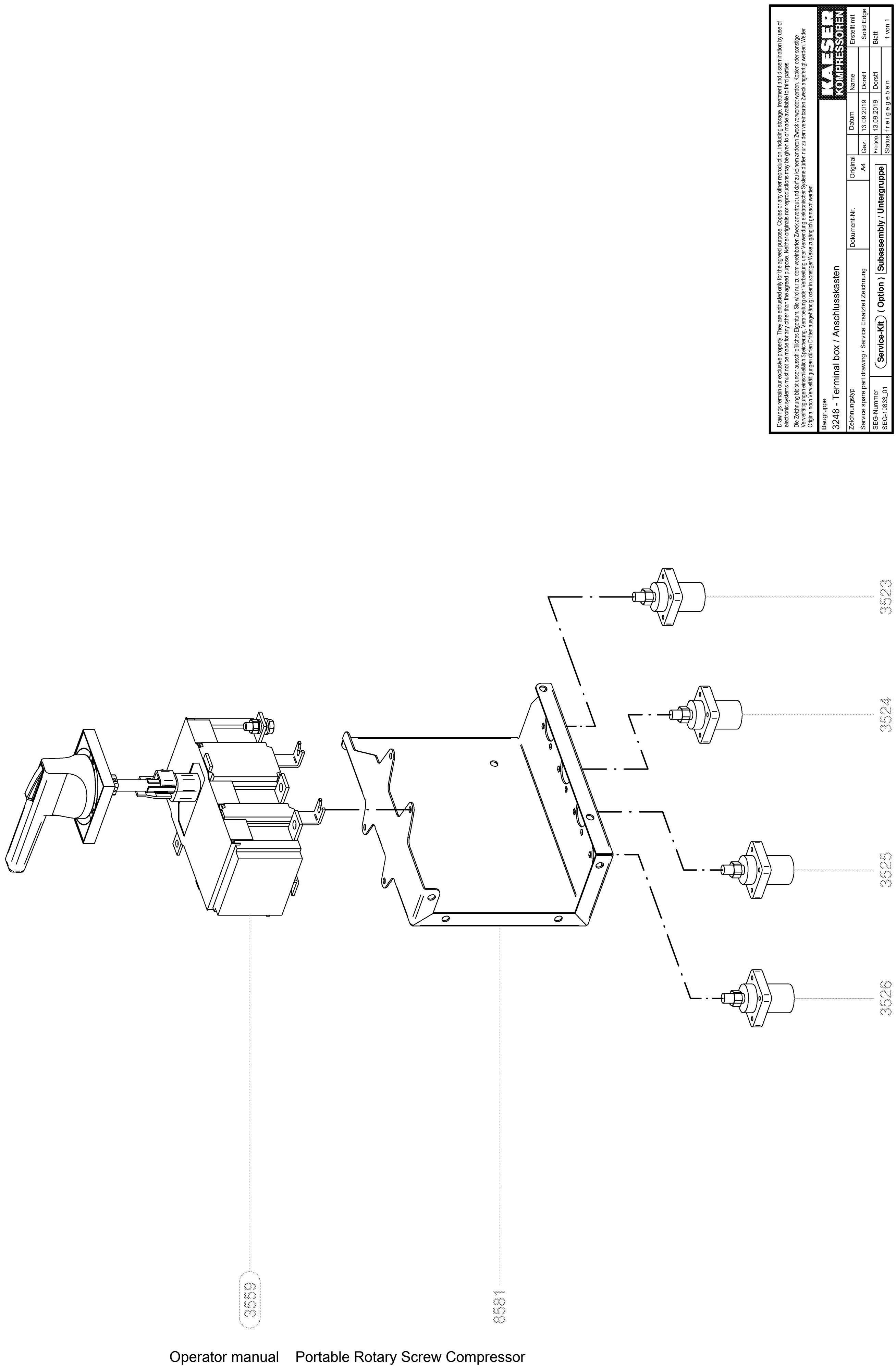

Baugruppe
3248 - Terminal box / Anschlusskasten
Zeichnungstyp
Service spare part drawing / Service Ersatzteil Zeichnung
SEG-Nummer
SEG-10831_01
Service-Kit (Option) Subassembly / Untergruppe
Datum
13.09.2019
Name
Dorst1
Erstellt mit
Solid Edge
Blatt
1 von 1
Status freigegeben
3523
3524
3525
3526
3559
8581

KAESER KOMPRESSOREN

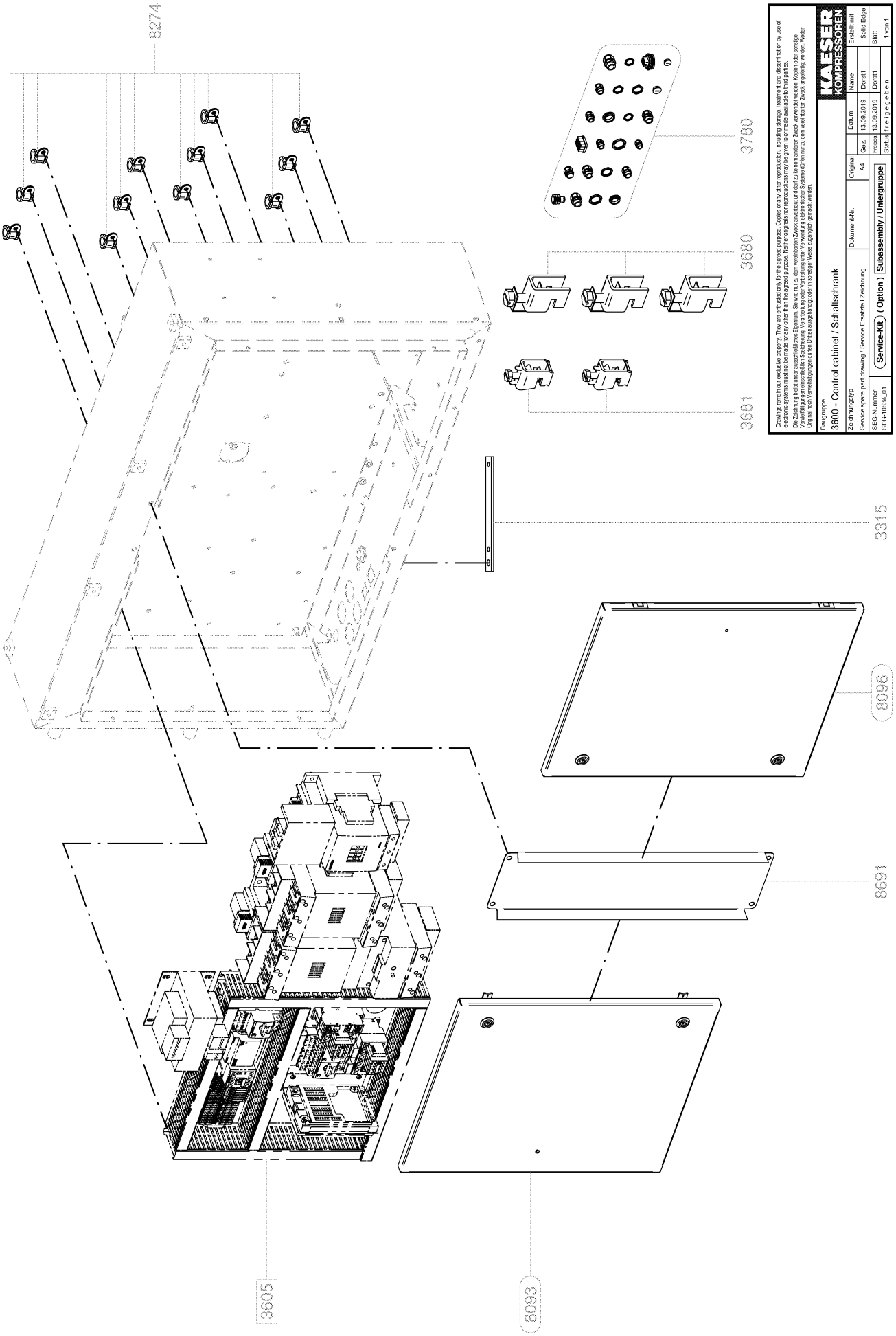
Baugruppe
3248 - Terminal box / Anschlusskasten

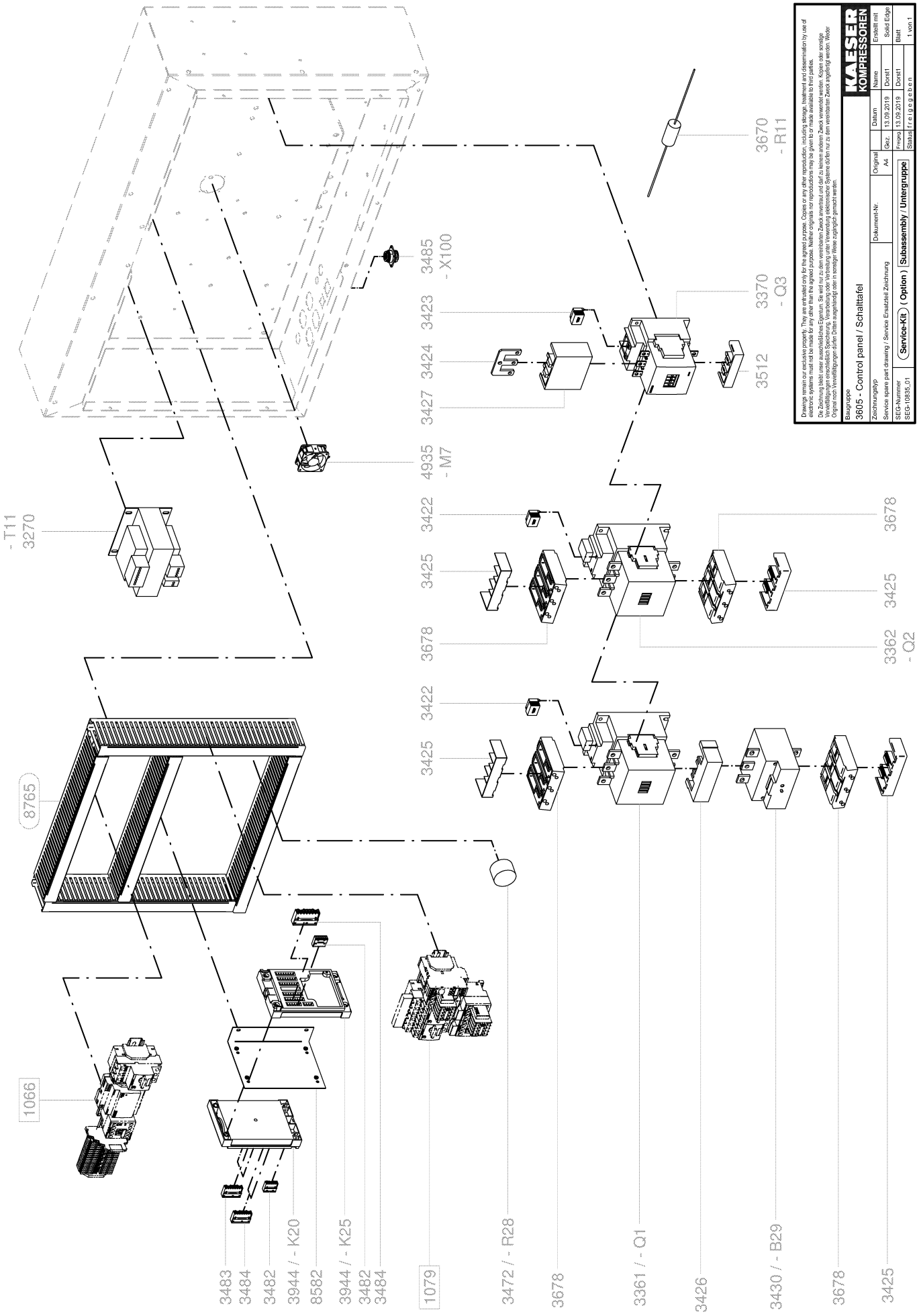
Zeichnungstyp	Dokument-Nr.	Original		Datum	Name	Erstellt mit
Service spare part drawing / Service Ersatzteil Zeichnung		A4	Gez.	13.09.2019	Dorst1	Solid Edge
SEG-Nummer			Freigab	13.09.2019	Dorst1	Blatt
SEG-10832_01	(Service-Kit) (Option) Subassembly / Untergruppe		Status	f r e i g e g e b e n		1 von 1

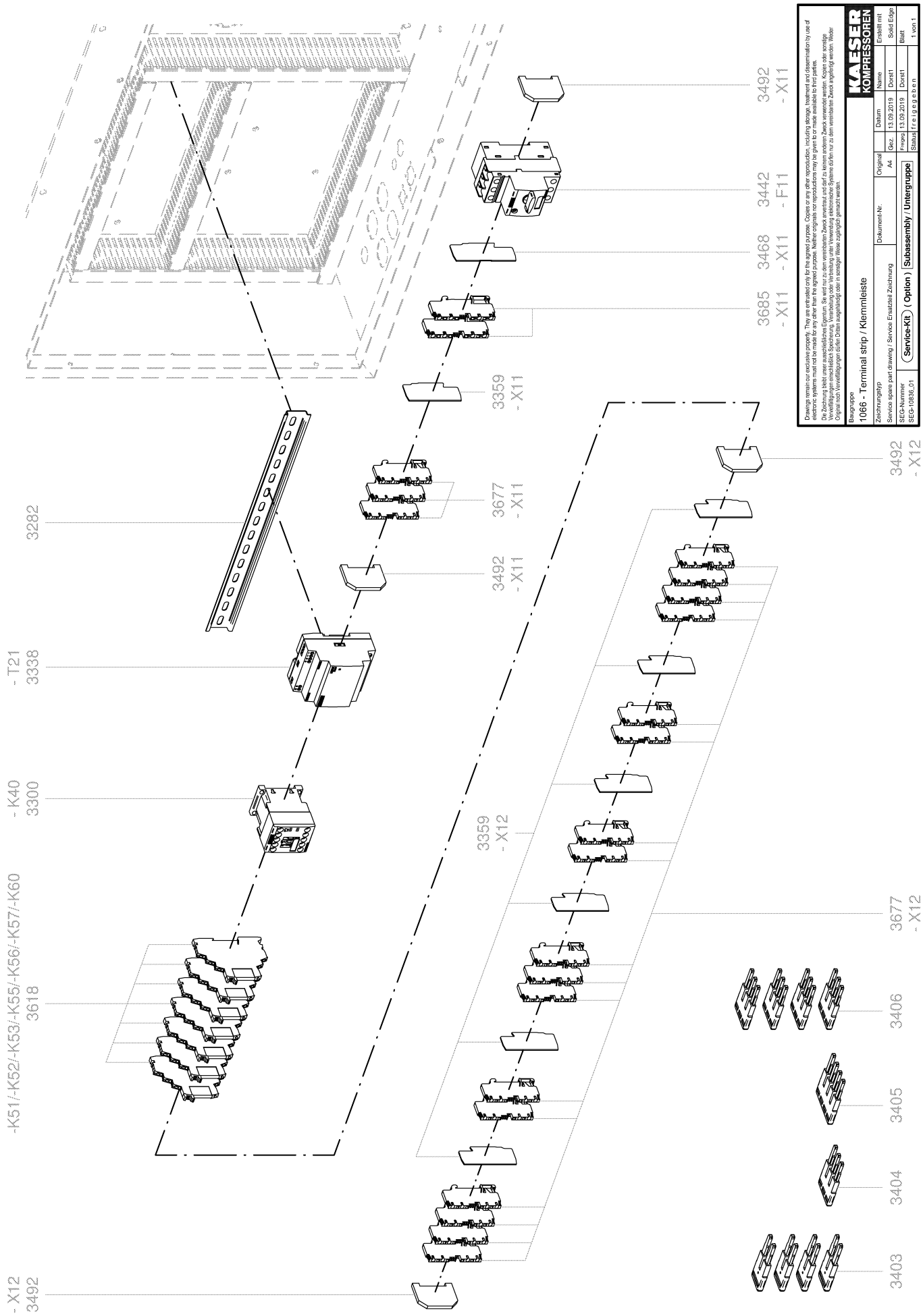


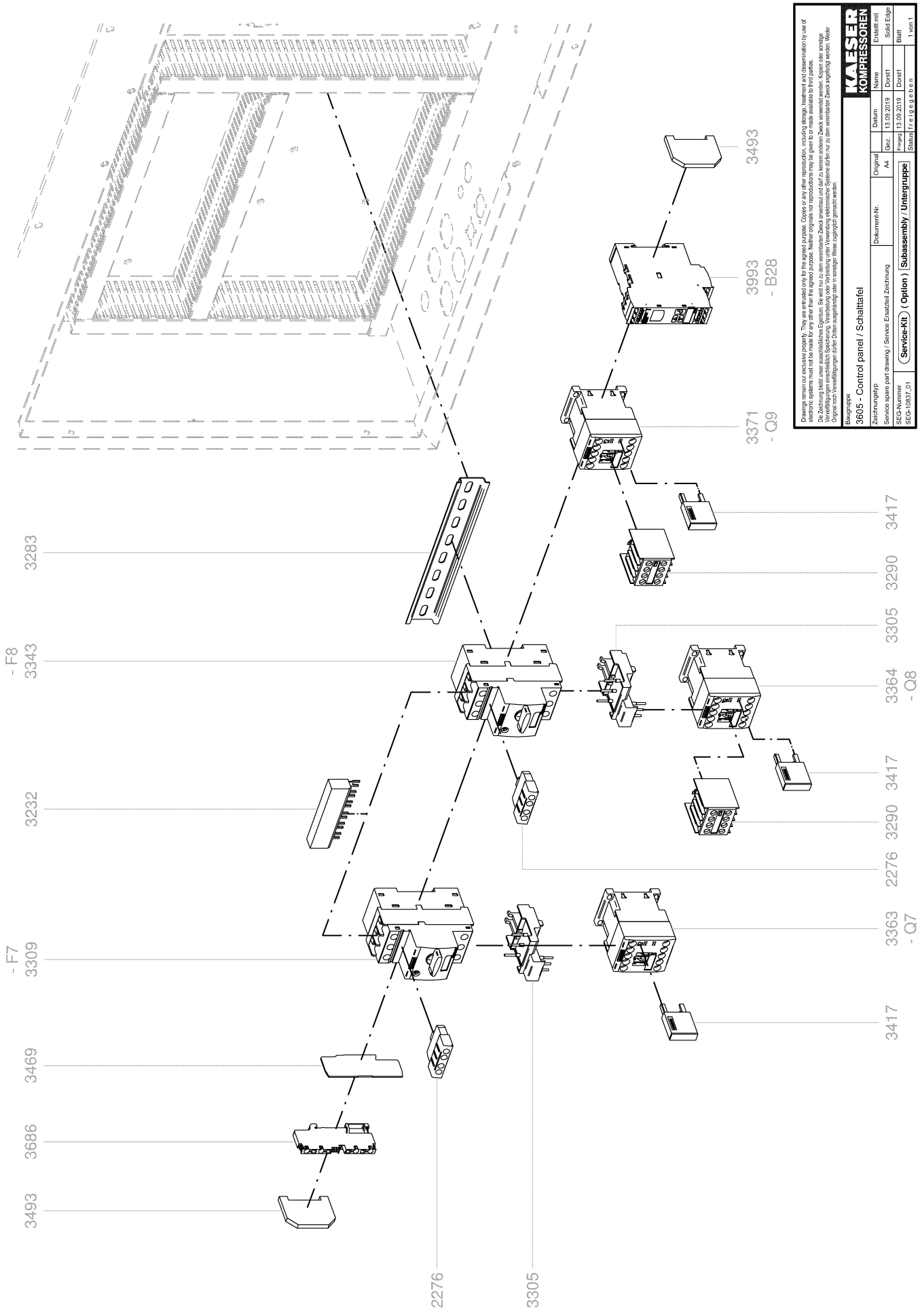


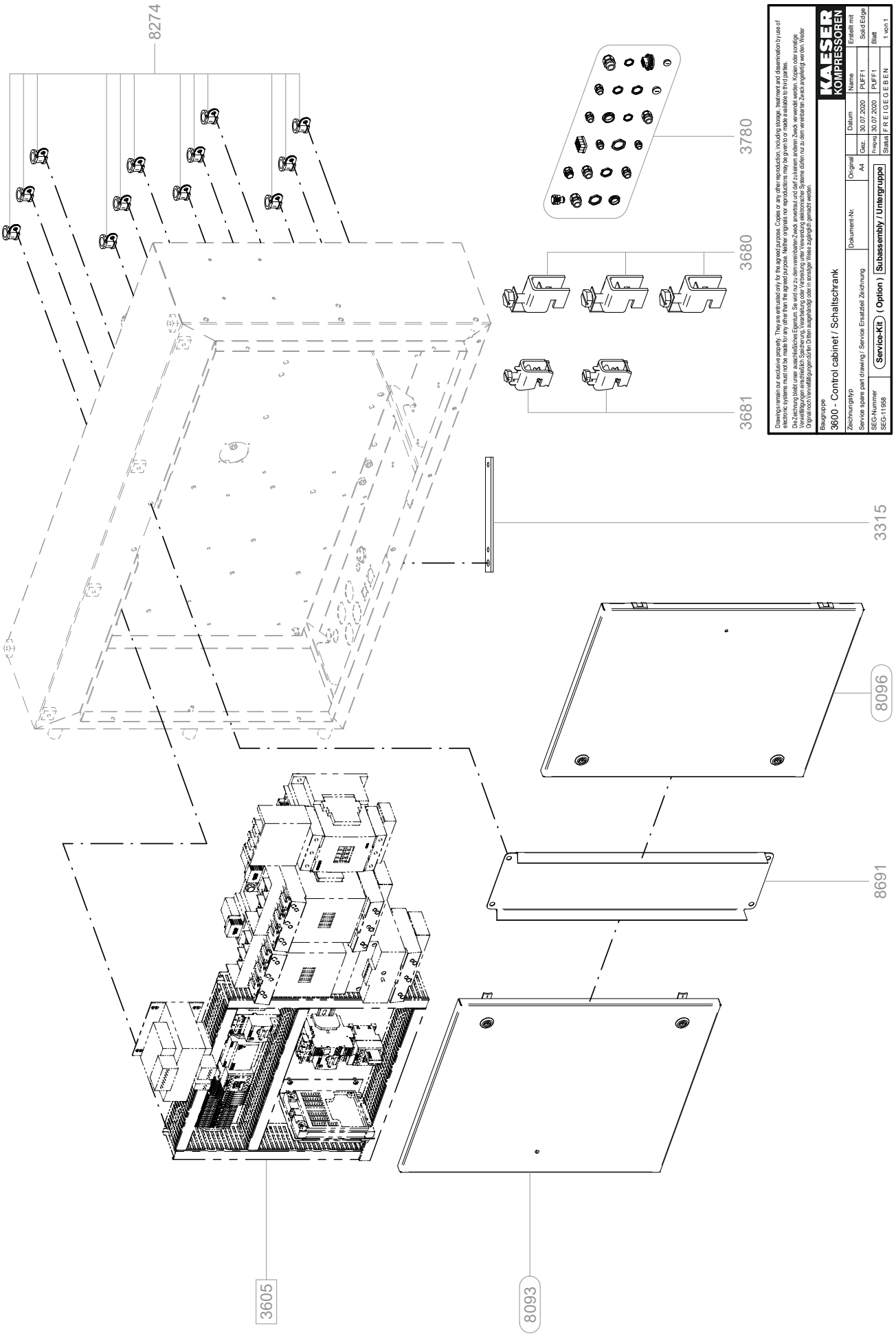
Baugruppe
3248 - Terminal box / Anschlusskasten
Zeichnungstyp
Service spare part drawing / Service Ersatzteil Zeichnung
SEG-Nummer
SEG-10833_01
Service-Kit
(Option)
Subassembly / Untergruppe
13.09.2019
Dorst1
Solid Edge
1 von 1
3523
3524
3525
3526
3559
8581


8274
3780
3680
3681
3315
8096
8691
3605
8093
Baugruppe
3600 - Control cabinet / Schaltschrank
Zeichnungstyp
Service spare part drawing / Service Ersatzteil Zeichnung
SEG-Nummer
SEG-10834_01
Service-Kit (Option) Subassembly / Untergruppe
Dokument-Nr.
Original
A4
Datum
Name
Gez. 13.09.2019 Dorst1
Freigg. 13.09.2019 Dorst1
Status freigegeben
Erstellt mit
Solid Edge
Blatt
1 von 1
KAESER KOMPRESSOREN


3670
- R11
3485
- X100
3370
- Q3
3512
3423
3424
3427
4935
- M7
- T11
3270
3422
3425
3678
3362
- Q2
8765
1066
3483
3484
3482
3944 / - K20
8582
3944 / - K25
3482
3484
1079
3472 / - R28
3678
3361 / - Q1
3426
3430 / - B29
3678
3425
Baugruppe
3605 - Control panel / Schalttafel
Zeichnungstyp
Service spare part drawing / Service Ersatzteil Zeichnung
Dokument-Nr.
Original
A4
Datum
Name
Erstellt mit
Skiz.
13.09.2019
Dorst1
Solid Edge
SEG-Nummer
SEG-108435_01
Service-Kit (Option) Subassembly / Untergruppe
Freigg.
13.09.2019
Dorst1
Blatt
Status
freigegeben
1 von 1
KAESER KOMPRESSOREN




3493
3993
- B28
3371
- Q9
3417
3283
3290
3305
- F8
3343
3364
- Q8
3232
3417
3290
2276
3363
- Q7
- F7
3309
3417
3469
3686
3493
2276
3305
Baugruppe
3605 - Control panel / Schalttafel
Zeichnungstyp
Service spare part drawing / Service Ersatzteil Zeichnung
Dokument-Nr.
Original
A4
Datum
Name
Erstellt mit
Solid Edge
SEG-Nummer
SEG-108307_01
Service-Kit (Option) Subassembly / Untergruppe
Freigegeben
Status
Blatt
1 von 1


8274
3780
3680
3681
3315
8096
8691
3605
8093
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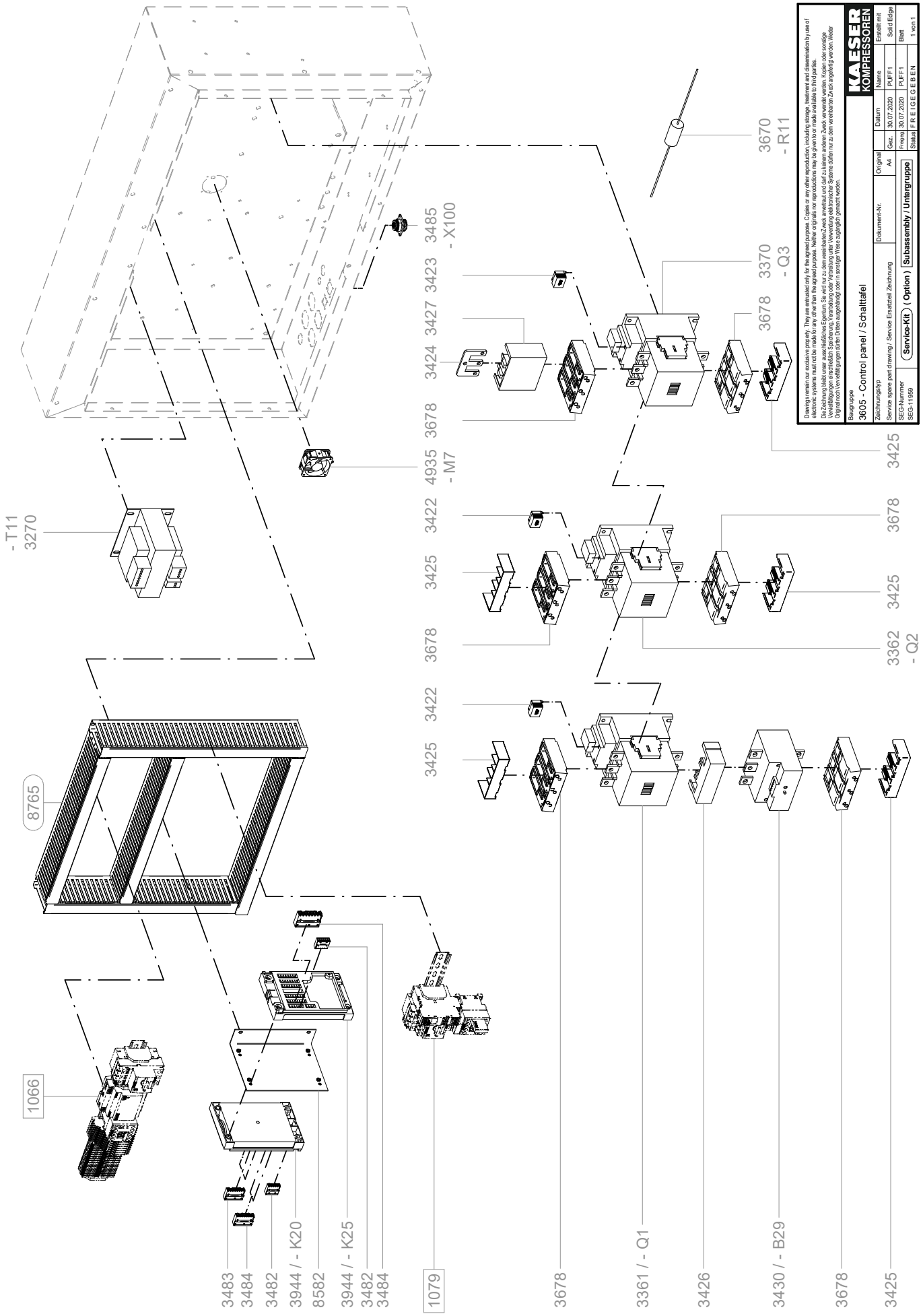
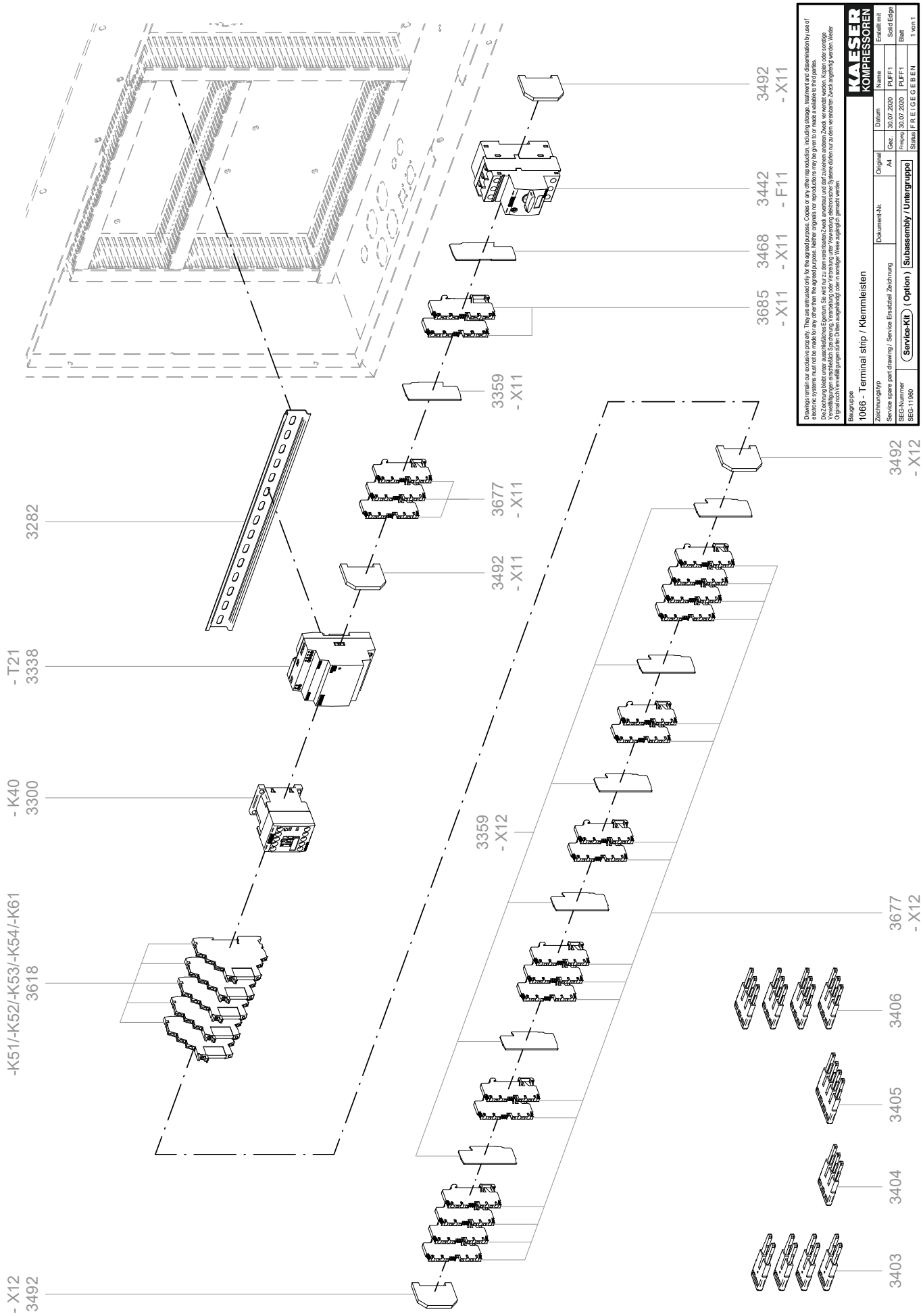
Baugruppe
3600 - Control cabinet / Schaltschrank
Zeichnungstyp
Service spare part drawing / Service Ersatzteil Zeichnung
SEG-Nummer
SEG-11958
Service-Kit (Option) Subassembly / Untergruppe
Dokument-Nr.
Original
A4
Datum
Name
Erstellt mit
Solid Edge
Gez. 30.07.2020 PUFF1
Freigab 30.07.2020 PUFF1
Blatt
1 von 1
Status F R E I G E G E B E N



KAESER KOMPRESSOREN

Baugruppe: 3605 - Control panel / Schalttafel	Dokument-Nr.	Original	Datum	Name	Erstellt mit
Zeichnungstyp: Service spare part drawing / Service Ersatzteil Zeichnung		A4	Gez. 30.07.2020	PLIFF1	SolidEdge
SEG-Nummer: Service-Kit (Option) Subassembly / Untergruppe			Freigabe 30.07.2020	PLIFF1	Blatt 1 von 1
SEG-11959			Status FREIGEGEBEN		


3492 - X11
3442 - F11
3468 - X11
3685 - X11
3359 - X11
3677 - X11
3492 - X11
3282
- T21 3338
- K40 3300
-K51/-K52/-K53/-K54/-K61 3618
- X12 3492
3359 - X12
3492 - X12
3677 - X12
3406
3405
3404
3403
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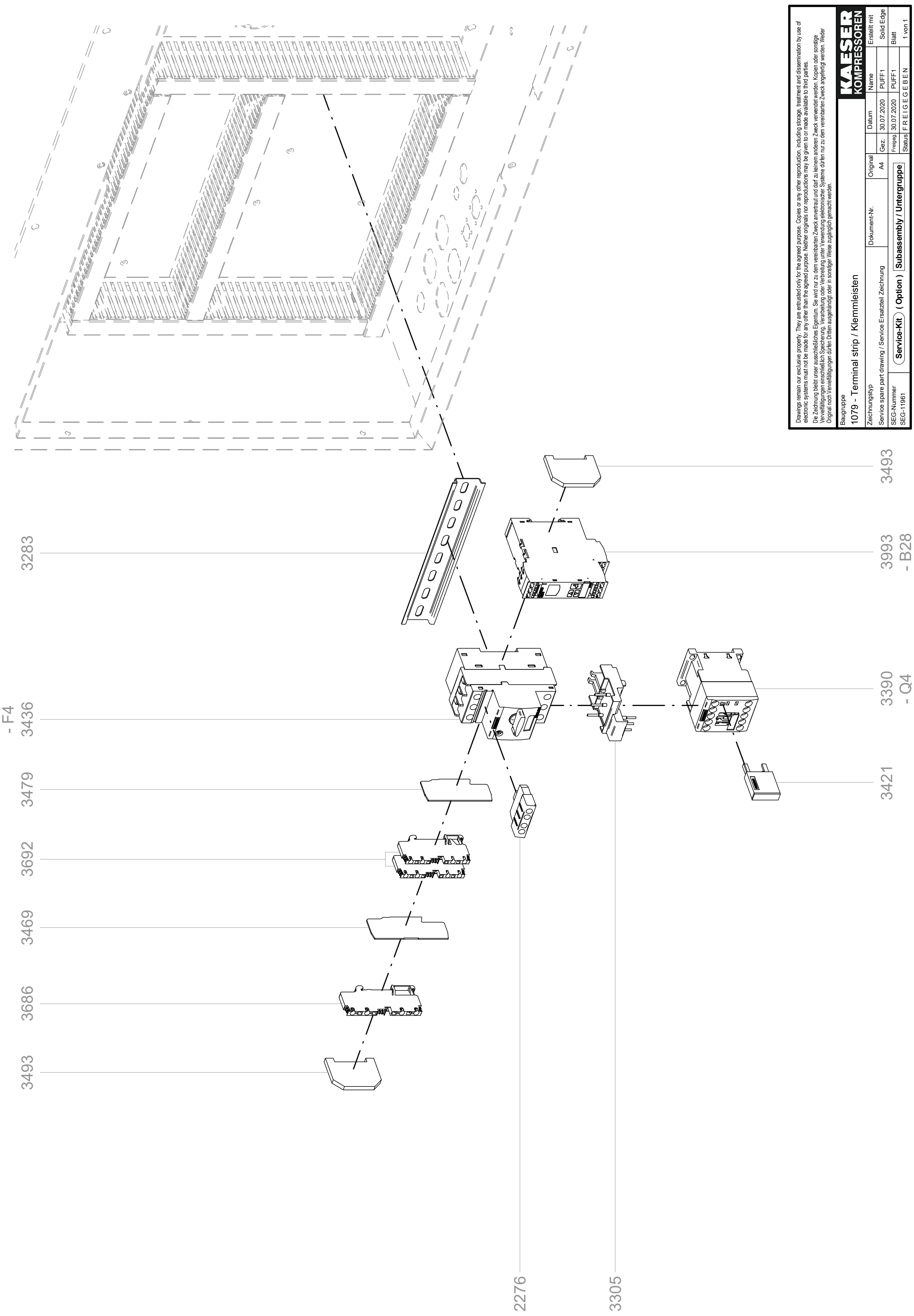
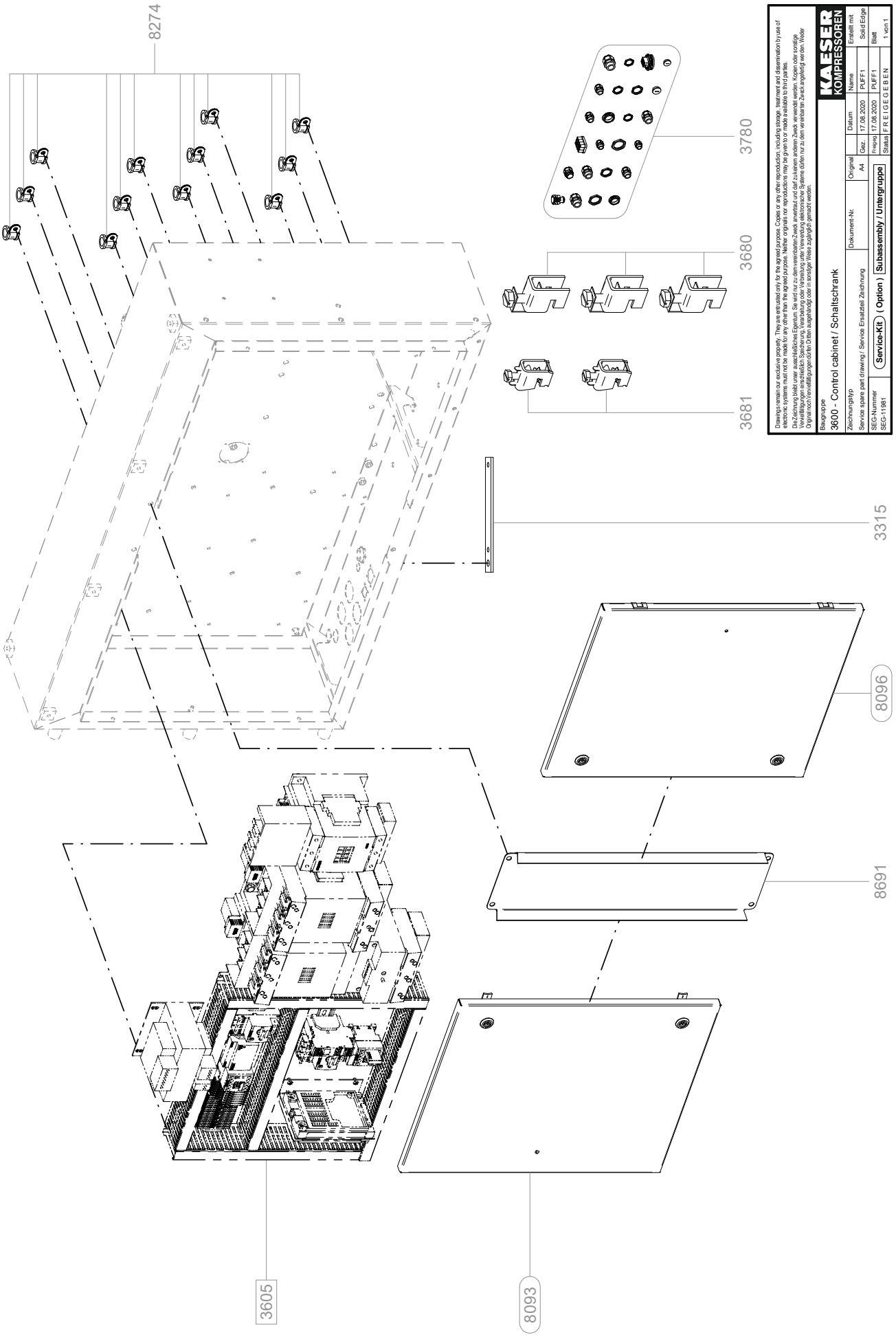
KAESER KOMPRESSOREN
Baugruppe
1066 - Terminal strip / Klemmleisten
Zeichnungstyp
Service spare part drawing / Service Ersatzteil Zeichnung
Dokument-Nr.
Original
A4
Datum
Name
Gez. 30.07.2020 PUFF1
Freigg. 30.07.2020 PUFF1
Erstellt mit Solid Edge
Blatt 1 von 1
SEG-Nummer SEG-11960
Service-Kit (Option)
Subassembly / Untergruppe
Status F R E I G E G E B E N


3493
3283
3993
- B28
- F4
3436
3390
- Q4
3479
3421
3692
3469
3686
3493
2276
3305
Baugruppe
1079 - Terminal strip / Klemmleisten
Zeichnungstyp
Service spare part drawing / Service Ersatzteil Zeichnung
SEG-Nummer
SEG-11961
Service-Kit
(Option)
Subassembly / Untergruppe
Dokument-Nr.
Original
A4
Datum
Name
Gez.
30.07.2020
PUFF1
Freigeg.
30.07.2020
PUFF1
Erstellt mit
Solid Edge
Blatt
1 von 1
Status
F R E I G E G E B E N


8274
3780
3680
3681
3315
8096
8691
3605
8093
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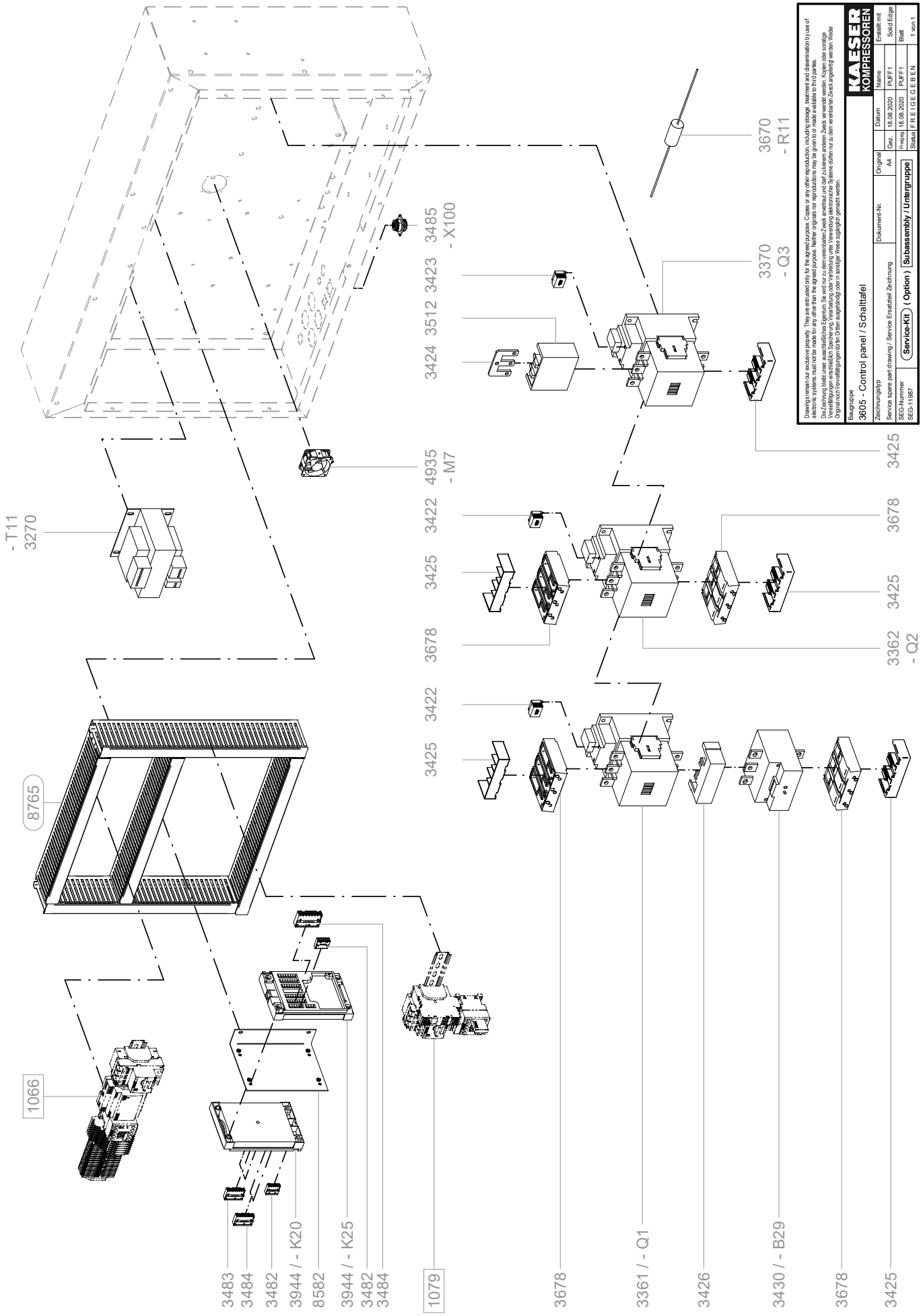
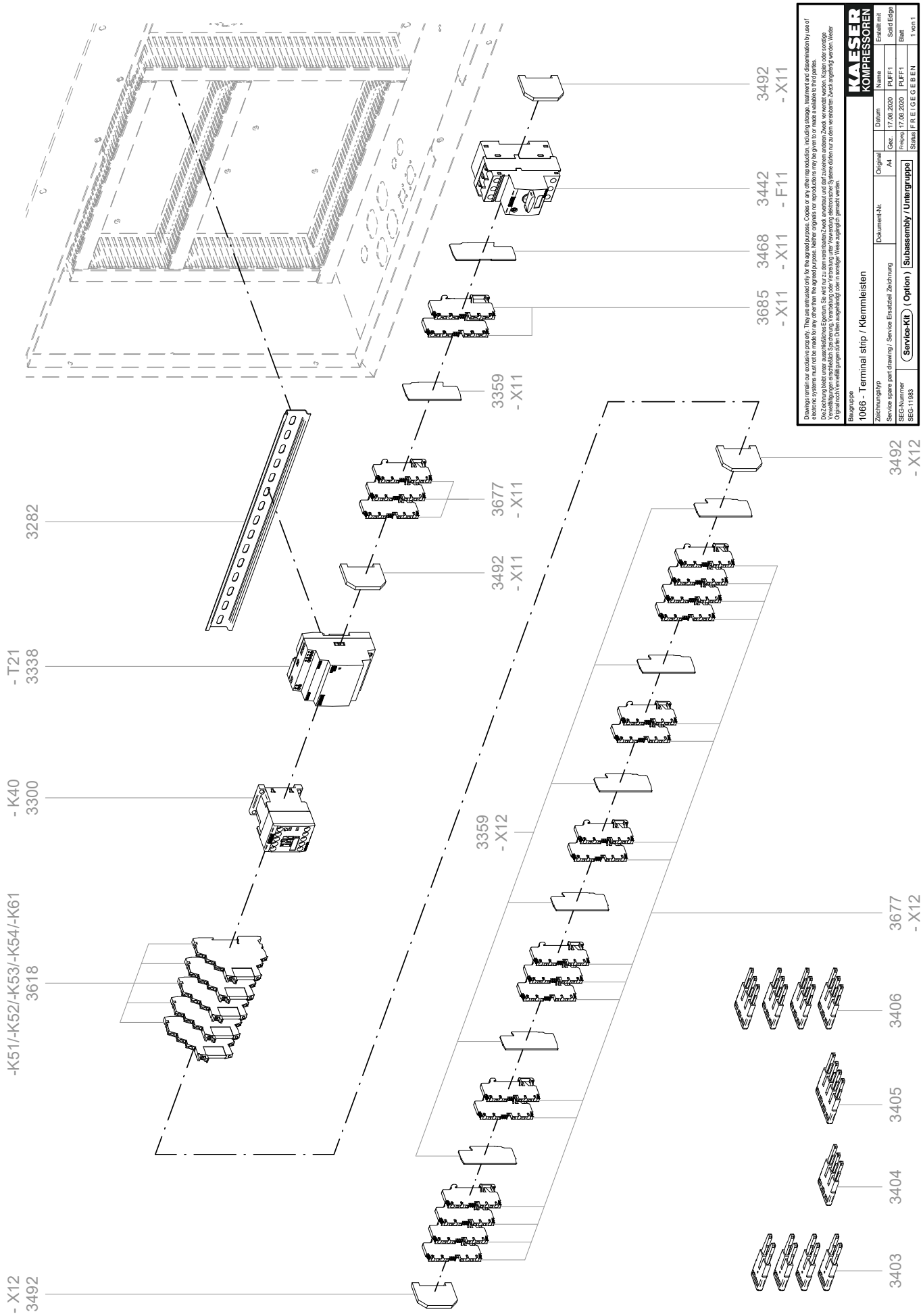
KAESER KOMPRESSOREN
Baugruppe
3600 - Control cabinet / Schaltschrank
Zeichnungstyp
Service spare part drawing / Service Ersatzteil Zeichnung
SEG-Nummer
SEG-11981
Service-Kit (Option)
Dokument-Nr.
Subassembly / Untergruppe
Original
A4
Datum
Name
Erstellt mit
Solid Edge
Ges. 17.08.2020 PUFF1
Freigab 17.08.2020 PUFF1
Blatt
1 von 1
Status F R E I G E G E B E N


3670 - R11
3485 - X100
3370 - Q3
3423
3512
3424
3425
4935 - M7
3422
3425
3678
- T11 3270
3425
3678
3362 - Q2
3422
3425
8765
1066
3483
3484
3482
3944 / - K20
8582
3944 / - K25
3482
3484
1079
3678
3361 / - Q1
3426
3430 / - B29
3678
3425
Baugruppe
3605 - Control panel / Schalttafel
Zeichnungstyp
Service spare part drawing / Service Ersatzteil Zeichnung
Dokument-Nr.
Original
A4
Datum
18.08.2020
18.08.2020
Name
PLIFF1
PLIFF1
Erstellt mit
SolidEdge
Blatt
1 von 1
SEG-Nummer
SEG-I 1987
Service-Kit (Option)
Subassembly / Untergruppe
Status FREIGEGEBEN


3492 - X11
3442 - F11
3468 - X11
3685 - X11
3359 - X11
3677 - X11
3492 - X11
3282
- T21 3338
- K40 3300
-K51/-K52/-K53/-K54/-K61 3618
- X12 3492
3359 - X12
3492 - X12
3677 - X12
3406
3405
3404
3403
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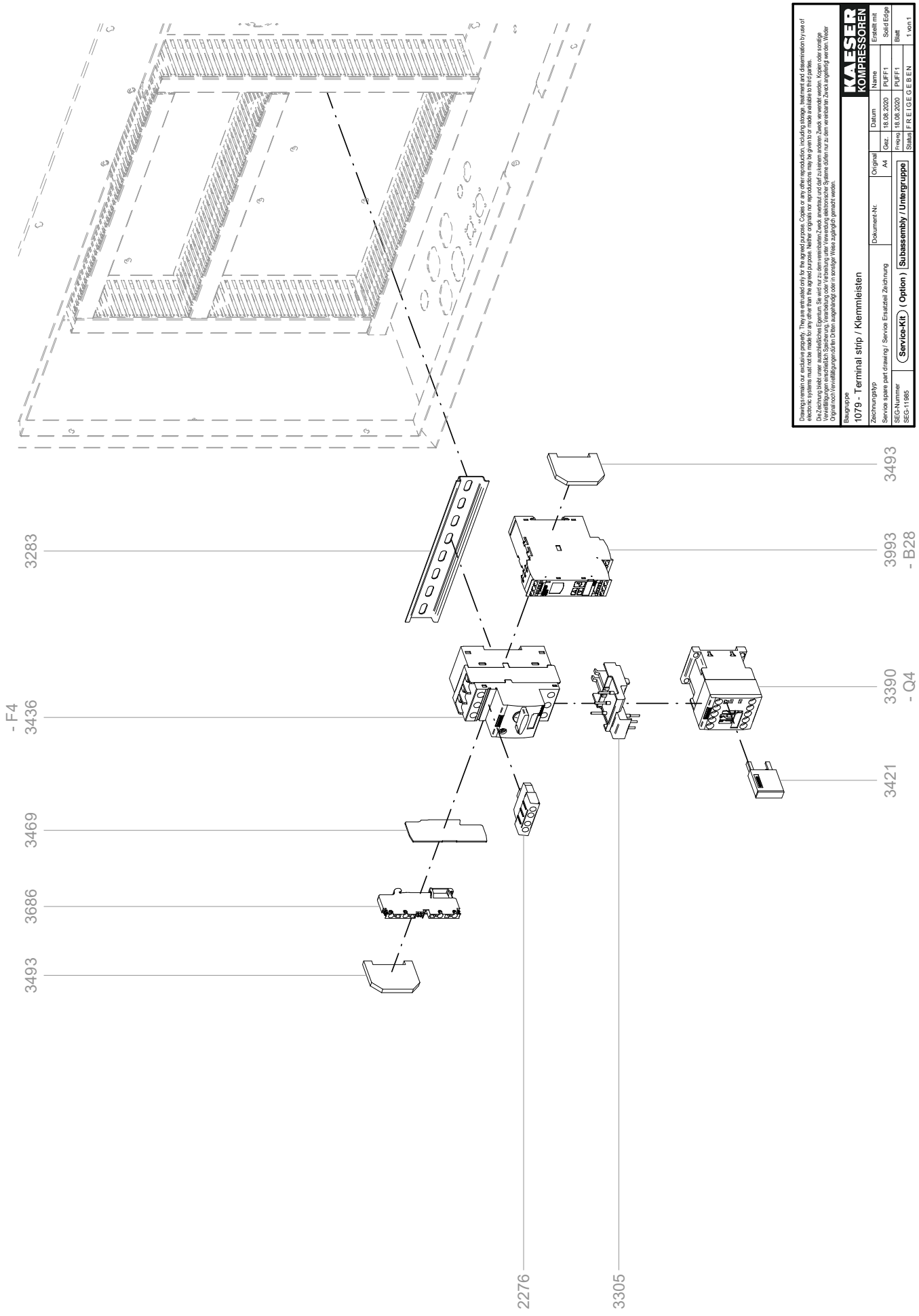
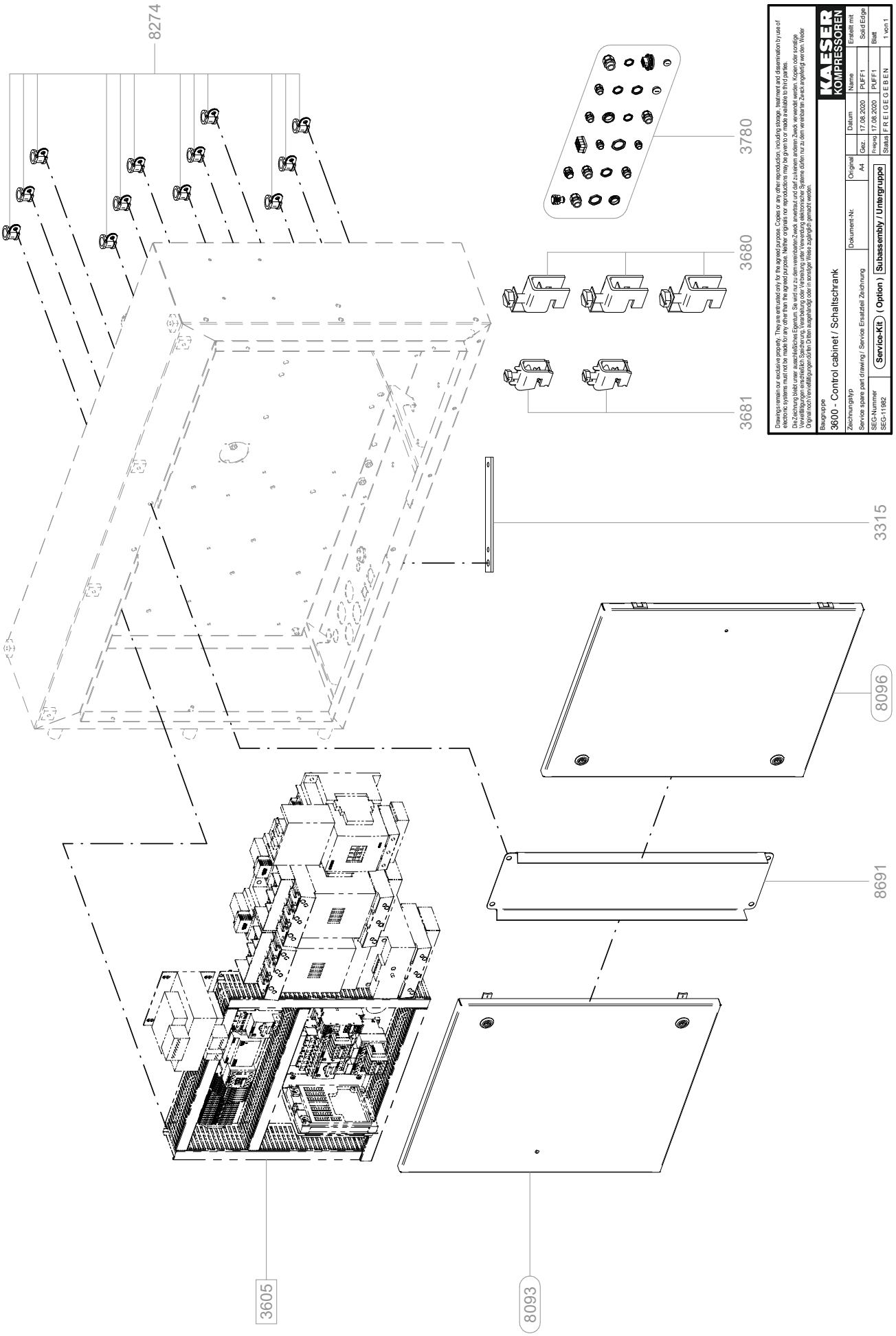
KAESER KOMPRESSOREN
Baugruppe
1066 - Terminal strip / Klemmleisten
Zeichnungstyp
Service spare part drawing / Service Ersatzteil Zeichnung
Dokument-Nr.
Original
A4
Datum
Name
Erstellt mit
Solid Edge
Gez. 17.08.2020 PUFF1
Freigg. 17.08.2020 PUFF1
Blatt 1 von 1
SEG-Nummer SEG-11983
Service-Kit (Option) Subassembly / Untergruppe
Status F R E I G E G E B E N



KAESER KOMPRESSOREN

Baugruppe
1079 - Terminal strip / Klemmleisten

Zeichnungstyp	Dokument-Nr.	Original	Datum	Name	Erstellt mit
Service spare part drawing / Service Ersatzteil Zeichnung		A4	Gez. 18.08.2020	PLIFF1	SolidEdge
SEG-Nummer SEG-I 1985	Service-Kit (Option)	Subassembly / Untergruppe	Freigabe 18.08.2020	PLIFF1	Blatt 1 von 1
			Status FREIGEGEBEN		


8274
3780
3680
3681
3315
8096
8691
3605
8093
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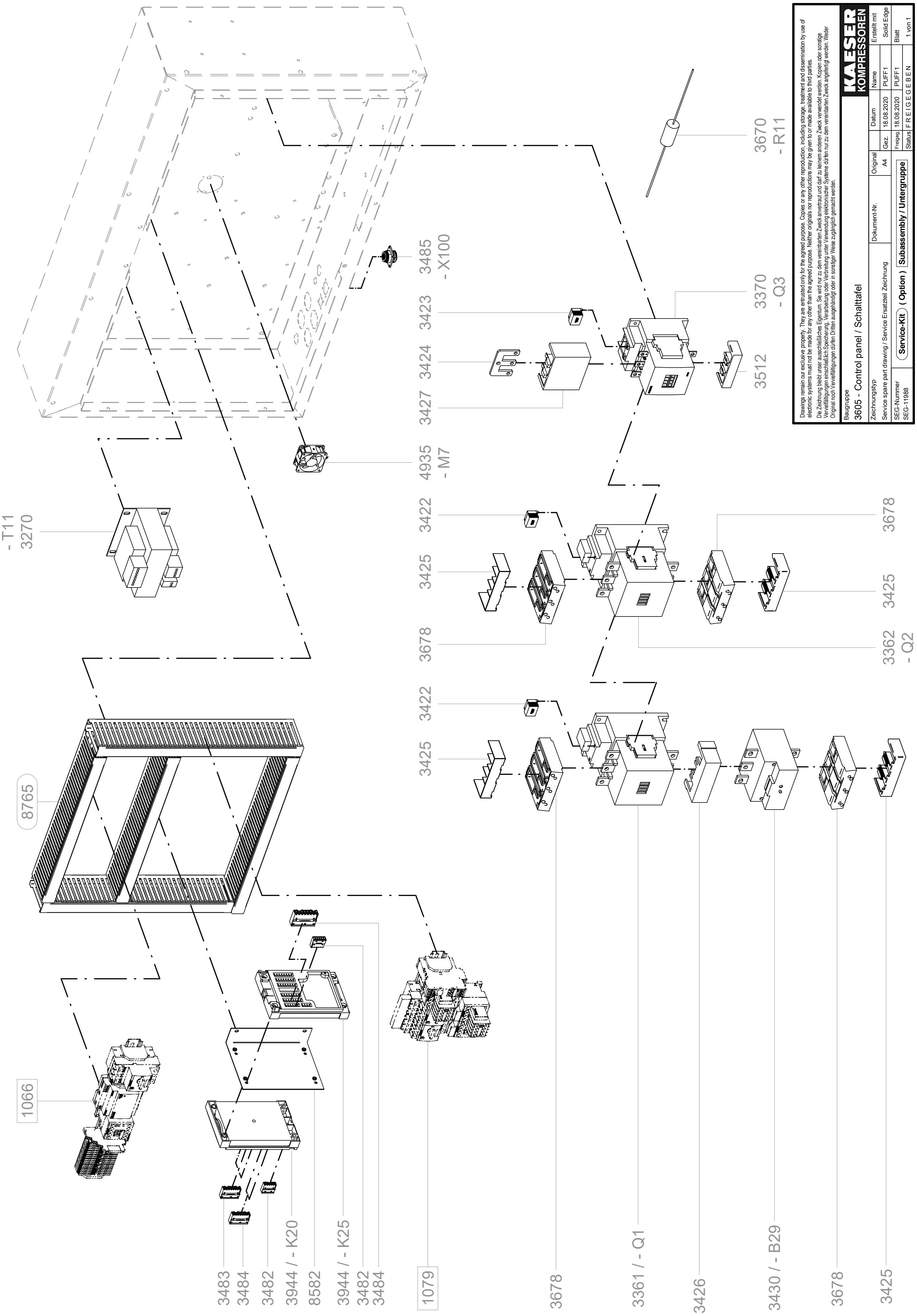
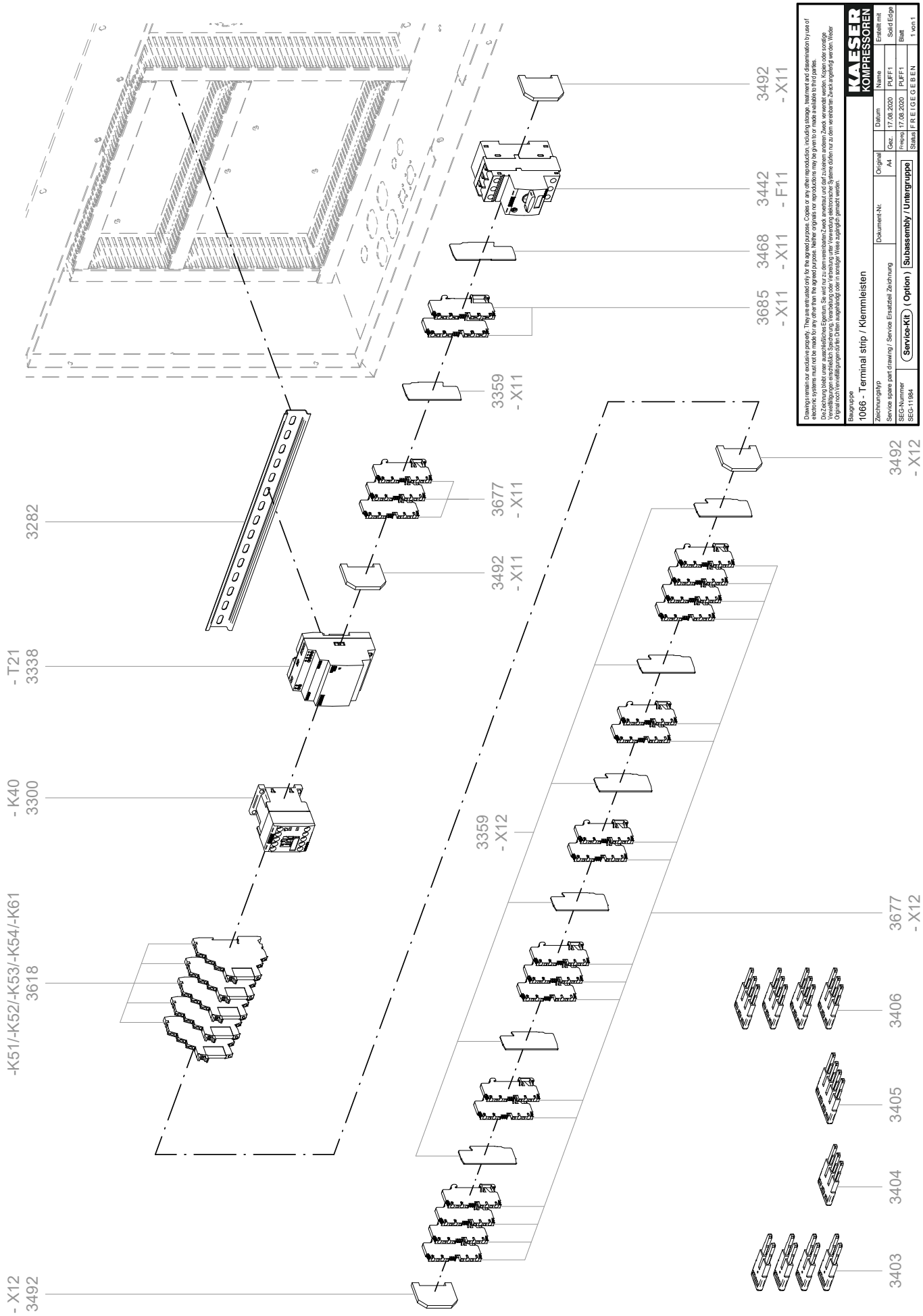
KAESER KOMPRESSOREN
Baugruppe
3600 - Control cabinet / Schaltschrank
Zeichnungstyp
Service spare part drawing / Service Ersatzteil Zeichnung
SEG-Nummer
SEG-11982
Service-Kit (Option)
Subassembly / Untergruppe
Dokument-Nr.
Original
A4
Datum
Name
Erstellt
17.08.2020
PUFF1
Geprüft
17.08.2020
PUFF1
Status
Ersetzt mit
Solid Edge
Blatt
1 von 1
F R E I G E G E B E N


3670
- R11
3370
- Q3
3512
3485
- X100
3423
3424
3427
4935
- M7
- T11
3270
3422
3425
3678
3678
3425
3362
- Q2
3422
3425
8765
1066
3483
3484
3482
3944 / - K20
8582
3944 / - K25
3482
3484
1079
3678
3361 / - Q1
3426
3430 / - B29
3678
3425
KAESER KOMPRESSOREN
Baugruppe
3605 - Control panel / Schalttafel
Zeichnungstyp
Service spare part drawing / Service Ersatzteil Zeichnung
SEG-Nummer
SEG-11988
Dokument-Nr.
Original
A4
Datum
Gez. 18.08.2020
Freigeg. 18.08.2020
Name
PUFF1
PUFF1
Erstellt mit
Solid Edge
Blatt
1 von 1
Status
F R E I G E G E B E N
Service-Kit
(Option)
Subassembly / Untergruppe


3492 - X11
3442 - F11
3468 - X11
3685 - X11
3359 - X11
3677 - X11
3492 - X11
3282
- T21 3338
- K40 3300
-K51/-K52/-K53/-K54/-K61 3618
- X12 3492
3359 - X12
3492 - X12
3677 - X12
3406
3405
3404
3403
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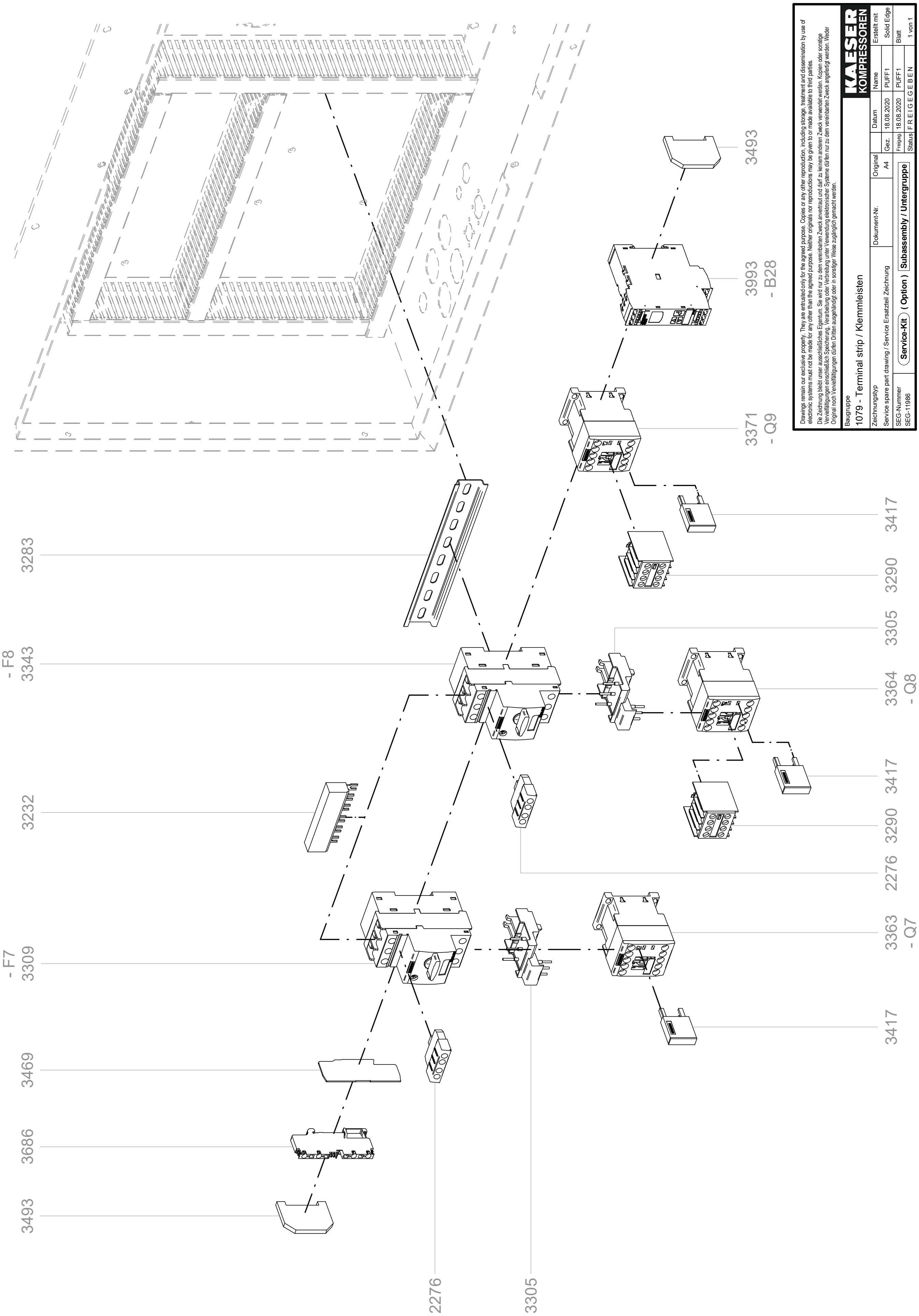
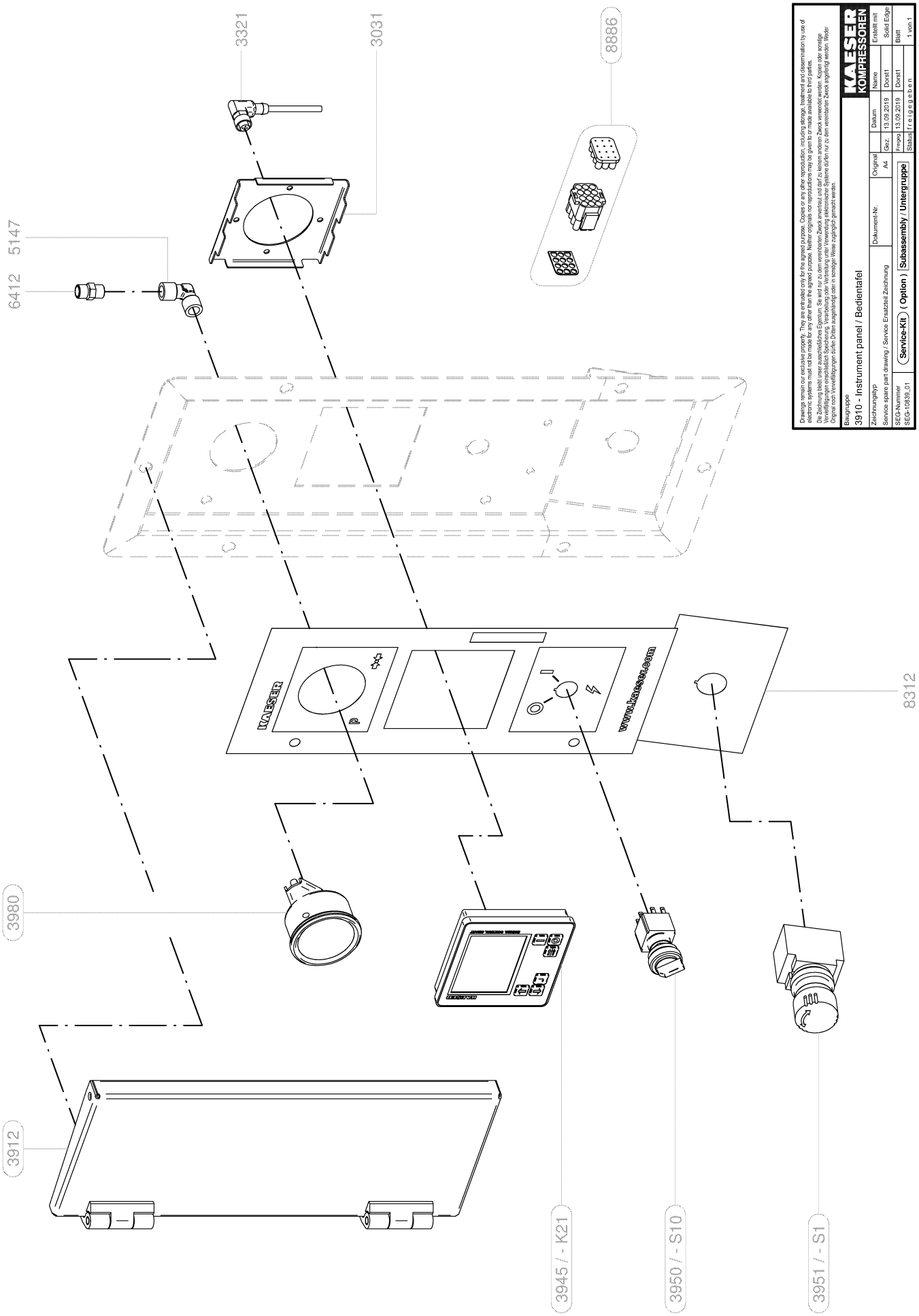
KAESER KOMPRESSOREN
Baugruppe
1066 - Terminal strip / Klemmleisten
Zeichnungstyp
Service spare part drawing / Service Ersatzteil Zeichnung
Dokument-Nr.
Original
A4
Datum
Name
Gez. 17.08.2020 PUFF1
Freigg. 17.08.2020 PUFF1
Erstellt mit
Solid Edge
Blatt
1 von 1
SEG-Nummer
SEG-11984
Service-Kit (Option)
Subassembly / Untergruppe
Status F R E I G E G E B E N


3493
3993
- B28
3371
- Q9
3417
3290
3305
3364
- Q8
3417
3290
2276
3363
- Q7
3417
3283
- F8
3343
3232
- F7
3309
3469
3686
3493
2276
3305
KAESER KOMPRESSOREN
Baugruppe
1079 - Terminal strip / Klemmleisten
Zeichnungstyp
Service spare part drawing / Service Ersatzteil Zeichnung
Dokument-Nr.
Original
A4
Datum
Gez.
18.08.2020
Freigeg.
18.08.2020
Name
PUFF1
PUFF1
Erstellt mit
Solid Edge
Blatt
1 von 1
SEG-Nummer
SEG-11986
Status
F R E I G E G E B E N
Service-Kit
(Option)
Subassembly / Untergruppe



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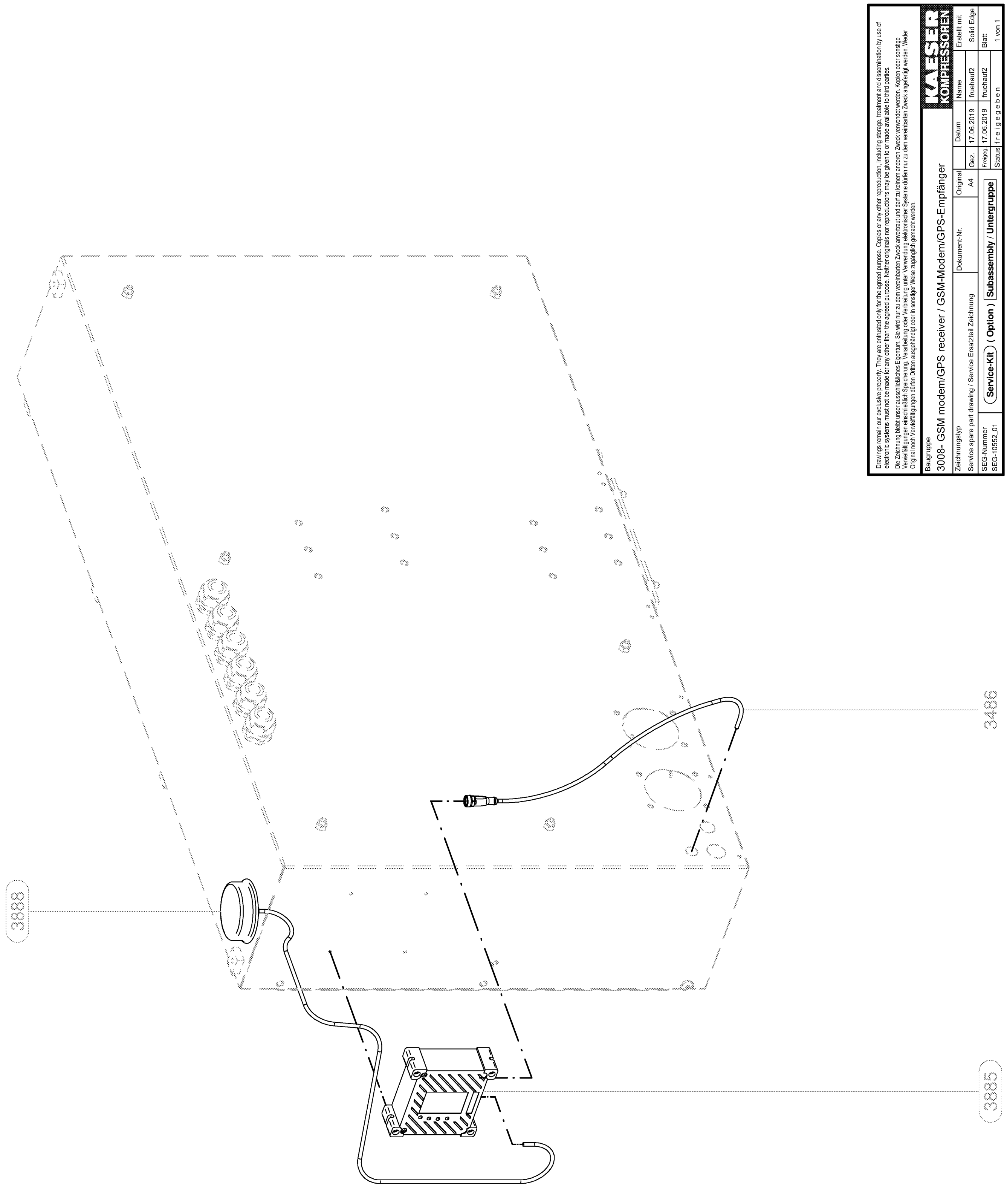
KAESER KOMPRESSOREN

Baugruppe
3910 - Instrument panel / Bedientafel

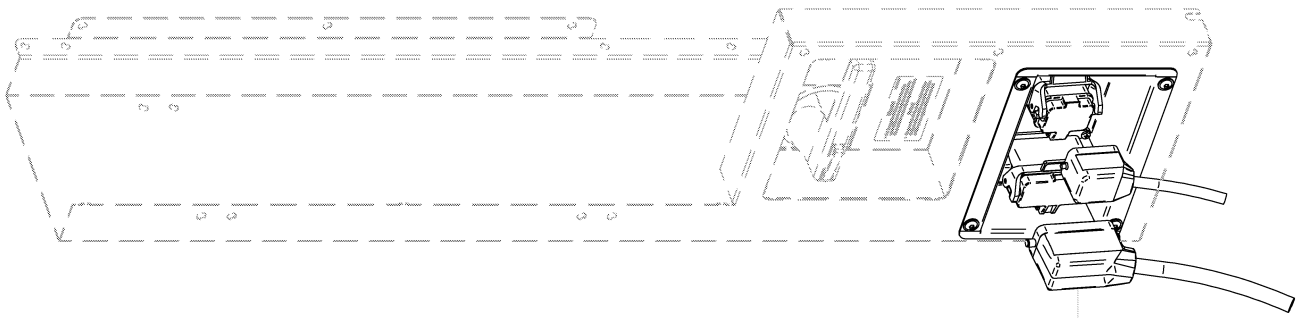
Zeichnungstyp	Dokument-Nr.	Original		Datum	Name	Erstellt mit
Service spare part drawing / Service Ersatzteil Zeichnung		A4	Gez.	13.09.2019	Dorst1	Solid Edge
SEG-Nummer	Service-Kit (Option)	Subassembly / Untergruppe	Freigab	13.09.2019	Dorst1	Blatt
SEG-10839_01			Status	f r e i g e g e b e n		1 von 1


3008- GSM modem/GPS receiver / GSM-Modem/GPS-Empfänger
Service spare part drawing / Service Ersatzteil Zeichnung
SEG-10552_01
Service-Kit
(Option)
Subassembly / Untergruppe
KAESER KOMPRESSOREN
17.06.2019
fruehauf2
Solid Edge
1 von 1
3486
3888
3885

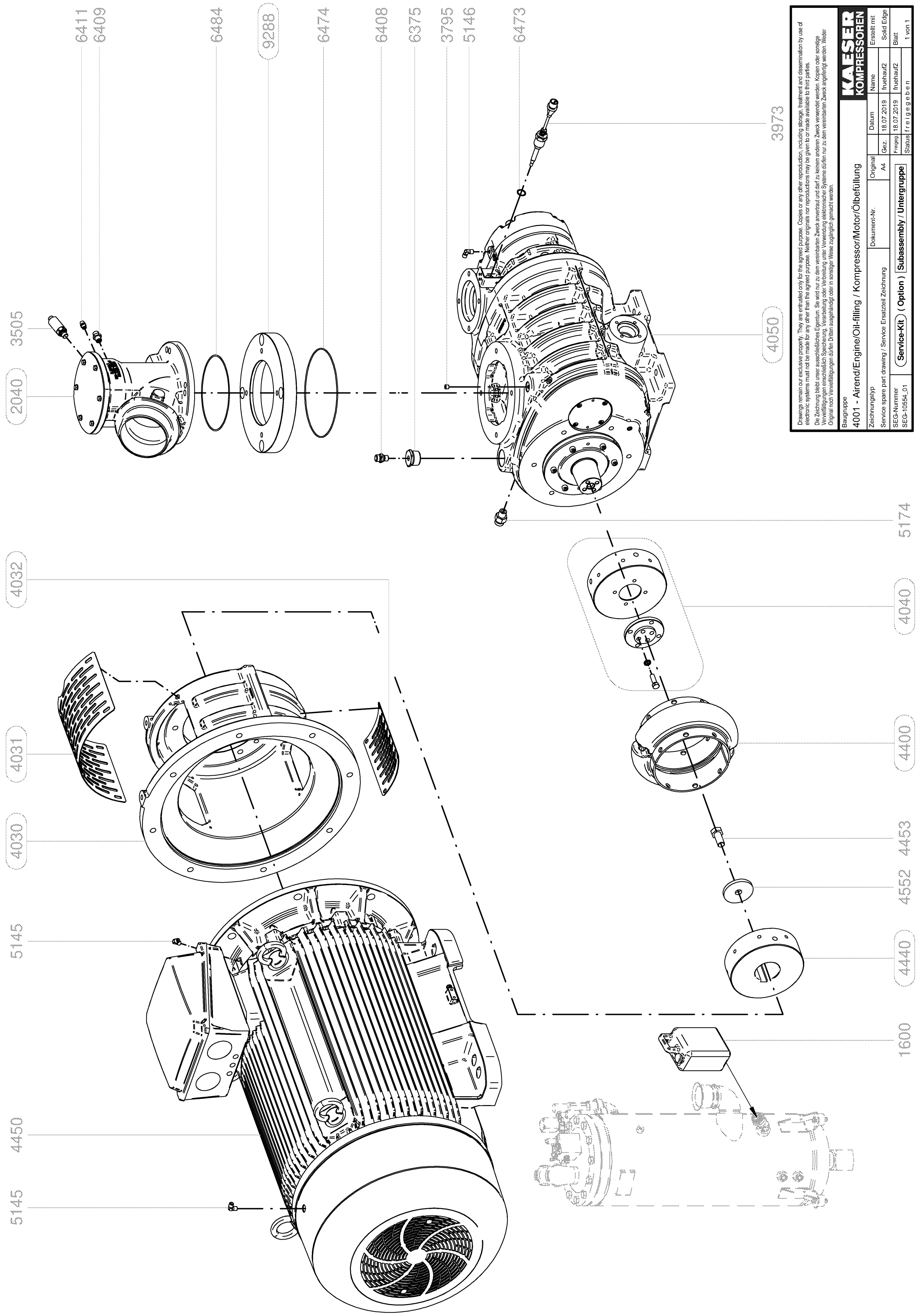
KAESER KOMPRESSOREN

Baugruppe
3009 - Autom. start-stop assembly / Baugruppe Start Stopp

Zeichnungstyp	Dokument-Nr.	Original		Datum	Name	Erstellt mit
Service spare part drawing / Service Ersatzteil Zeichnung		A4	Gez.	17.06.2019	fruehauf2	Solid Edge
SEG-Nummer	Service-Kit (Option) Subassembly / Untergruppe		Freigab	17.06.2019	fruehauf2	Blatt
SEG-10553_01			Status	f r e i g e g e b e n		1 von 1



3264


6411
6409
6484
9288
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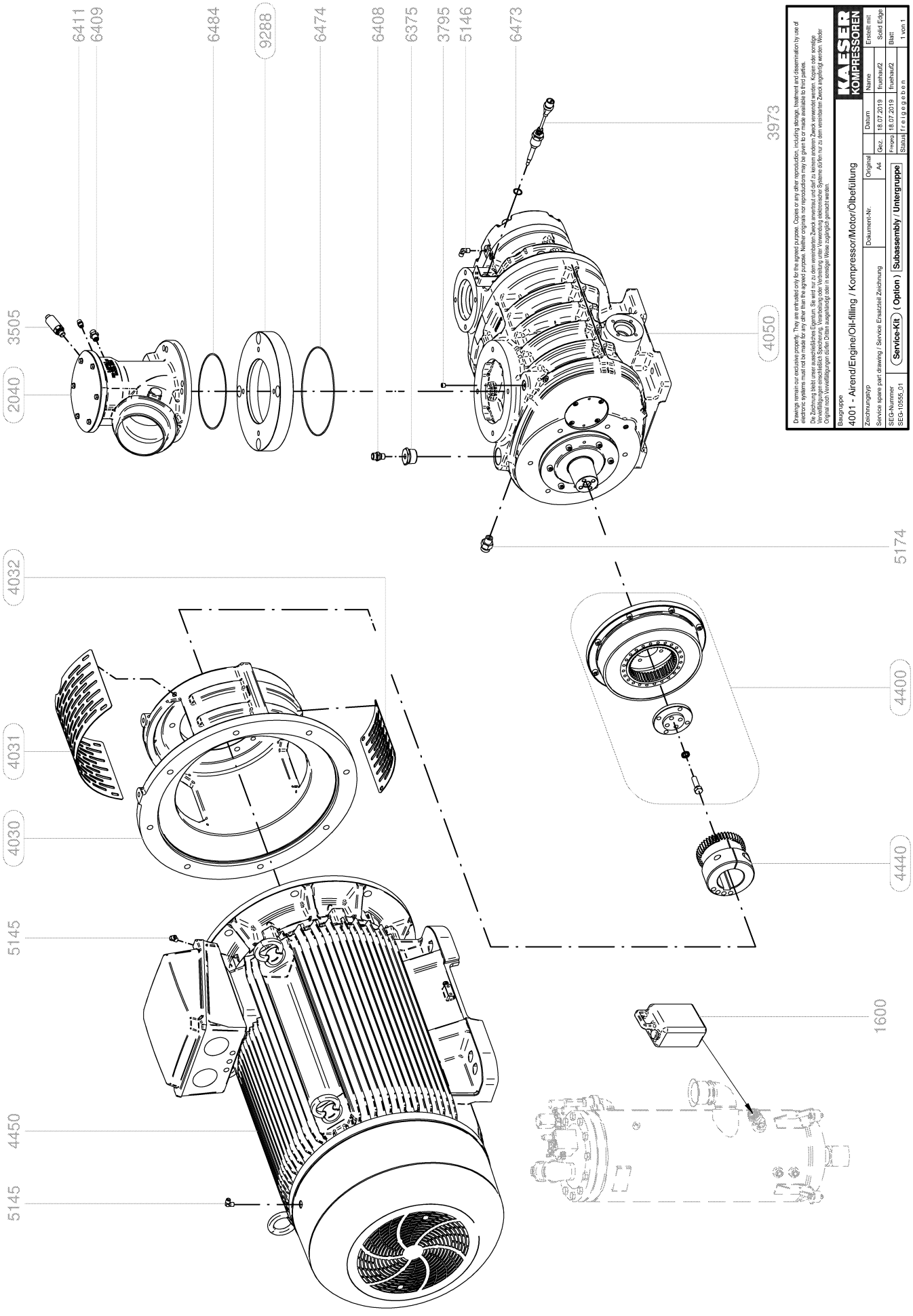
6375
3795
5146
6473
3973
3505
2040
4050
5174
4032
4040
4031
4400
4030
4453
4552
5145
4440
1600
4450
5145
KAESER KOMPRESSOREN
Baugruppe
4001 - Airend/Engine/Oil-filling / Kompressor/Motor/Ölbefüllung
Zeichnungstyp
Service spare part drawing / Service Ersatzteil Zeichnung
SEG-Nummer
SEG-10554_01
Service-Kit
(Option)
Subassembly / Untergruppe
Dokument-Nr.
Original
A4
Datum
Name
Erstellt mit
Solid Edge
Gez.
18.07.2019
fruehauf2
Freigeg.
18.07.2019
fruehauf2
Blatt
1 von 1
Status
f r e i g e g e b e n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2040
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5174
4032
4031
4030
4400
4440
5145
1600
4450
5145
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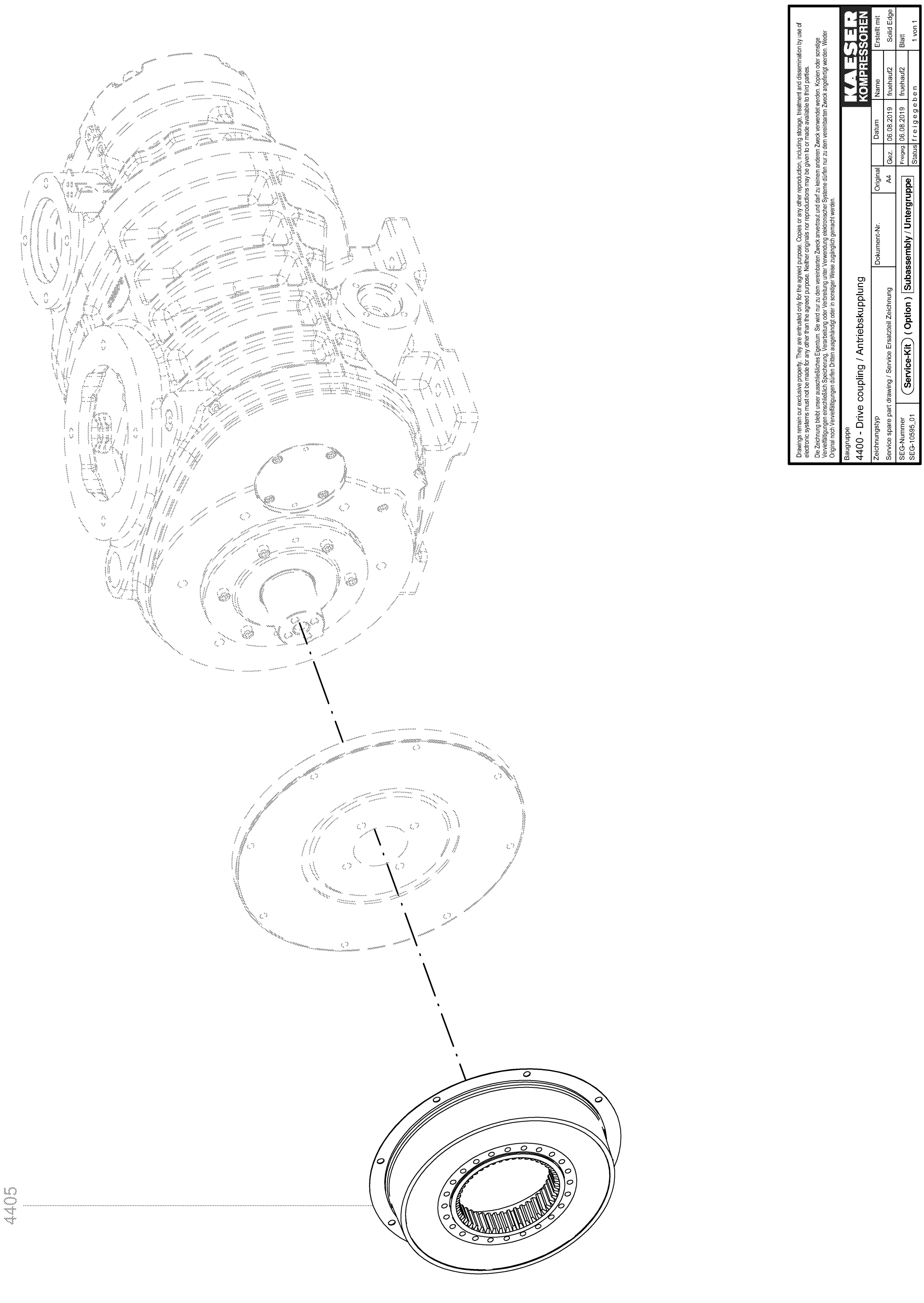
KAESER KOMPRESSOREN
Baugruppe
4001 - Airend/Engine/Oil-filling / Kompressor/Motor/Ölbefüllung
Zeichnungstyp
Service spare part drawing / Service Ersatzteil Zeichnung
Dokument-Nr.
Original
Datum
Name
Erstellt mit
A4
Gez.
18.07.2019
fruehauf2
Solid Edge
SEG-Nummer
SEG-10555_01
Service-Kit (Option) Subassembly / Untergruppe
Freigabe
18.07.2019
fruehauf2
Blatt
Status
freigegeben
1 von 1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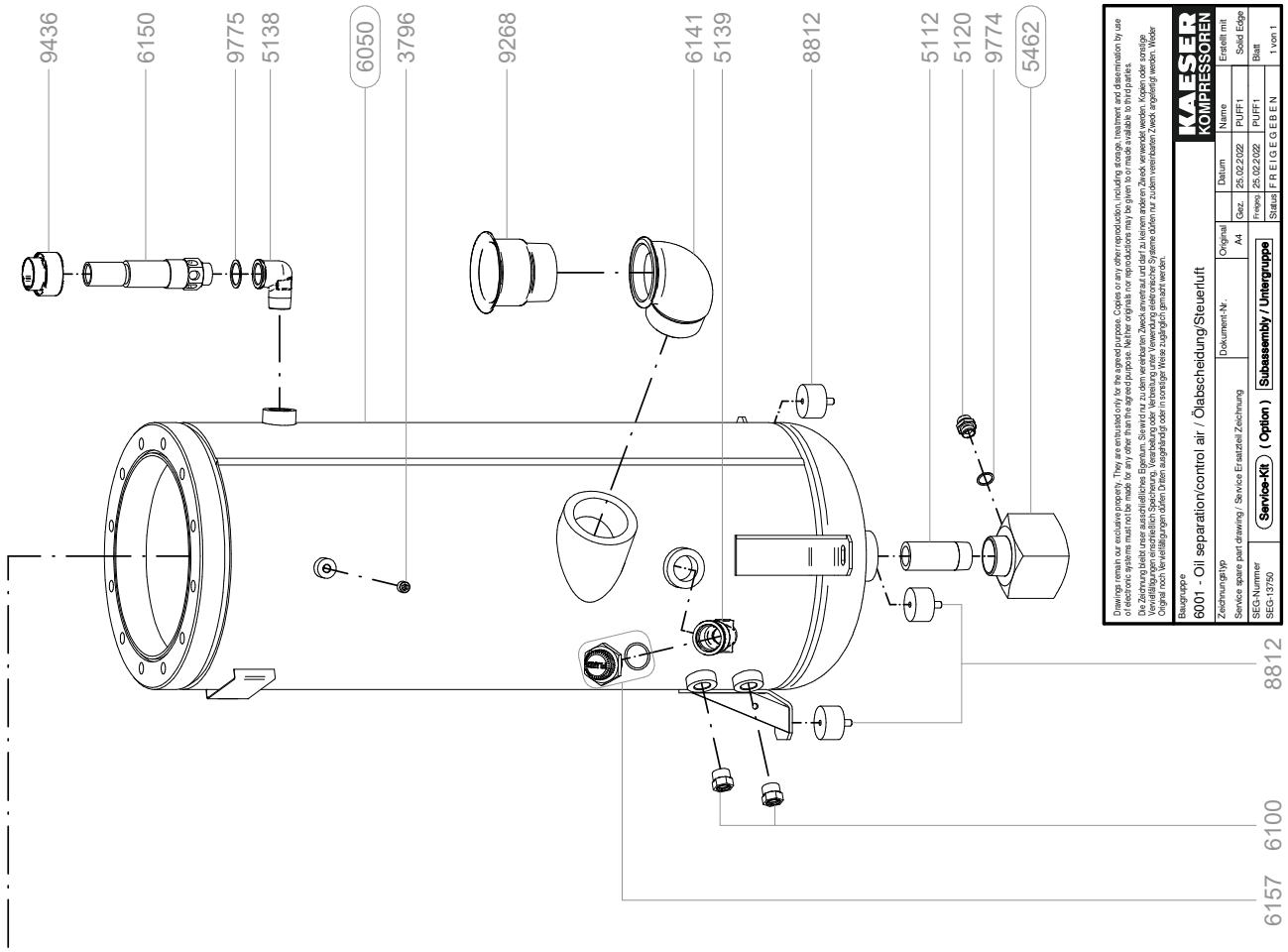
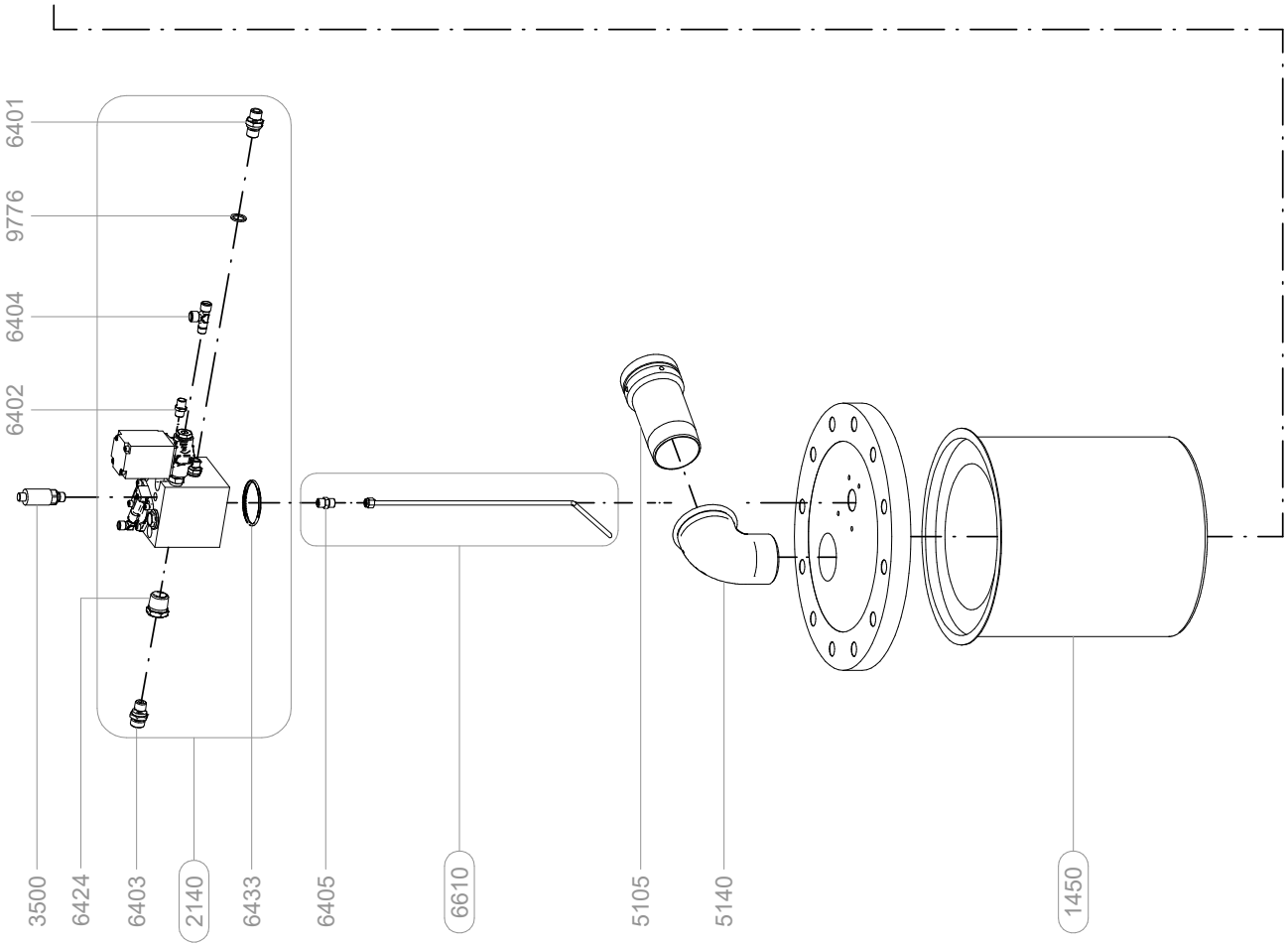
Baugruppe
4400 - Drive coupling / Antriebskupplung
Zeichnungstyp
Service spare part drawing / Service Ersatzteil Zeichnung
Dokument-Nr.
Original
A4
Datum
Name
Erstellt mit
Gez.
06.08.2019
fruehauf2
Solid Edge
Freigeg.
06.08.2019
fruehauf2
Blatt
Status
f r e i g e g e b e n
1 von 1
SEG-Nummer
SEG-10595_01
Service-Kit
(Option)
Subassembly / Untergruppe
4405





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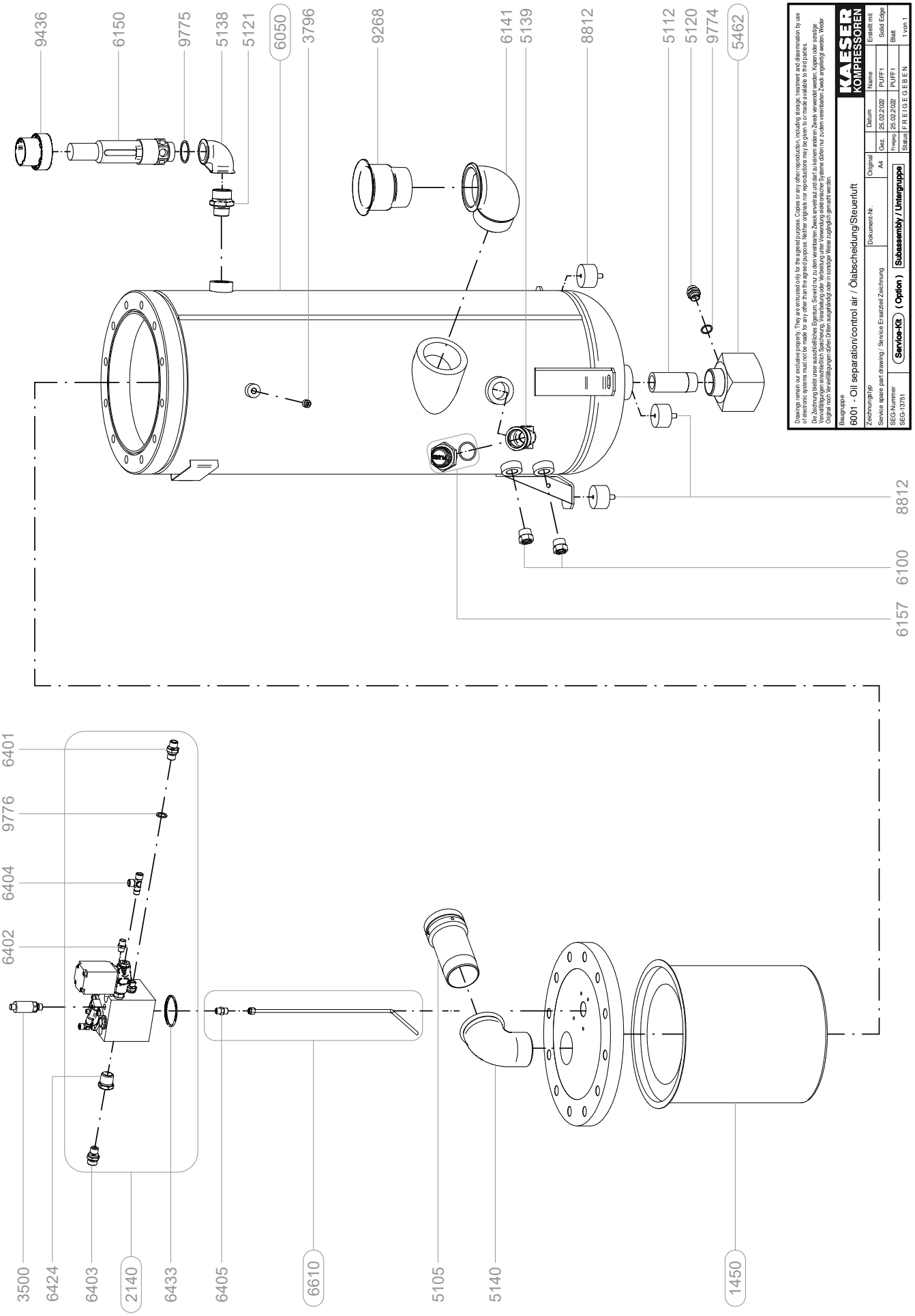
KAESER KOMPRESSOREN

Baugruppe			Datum	Erstellt mit
6001 - Oil separation/control air / Ölabscheidung/Steuerluft		Original	Name	Solid Edge
Zeichnungstyp	Dokument-Nr.	A4	Gez. 25.02.2022	PUFF1
Service spare part drawing / Service Ersatzteil Zeichnung			Freigg. 25.02.2022	PUFF1
SEG-Nummer	Service-Kit (Option)	Subassembly / Untergruppe	Blatt	1 von 1
SEG-13750			Status F R E I G E G E B E N	


9436
6150
9775
5138
5121
6050
3796
9268
6141
5139
8812
5112
5120
9774
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6100
6157
6401
9776
6404
6402
3500
6424
6403
2140
6433
6405
6610
5105
5140
1450
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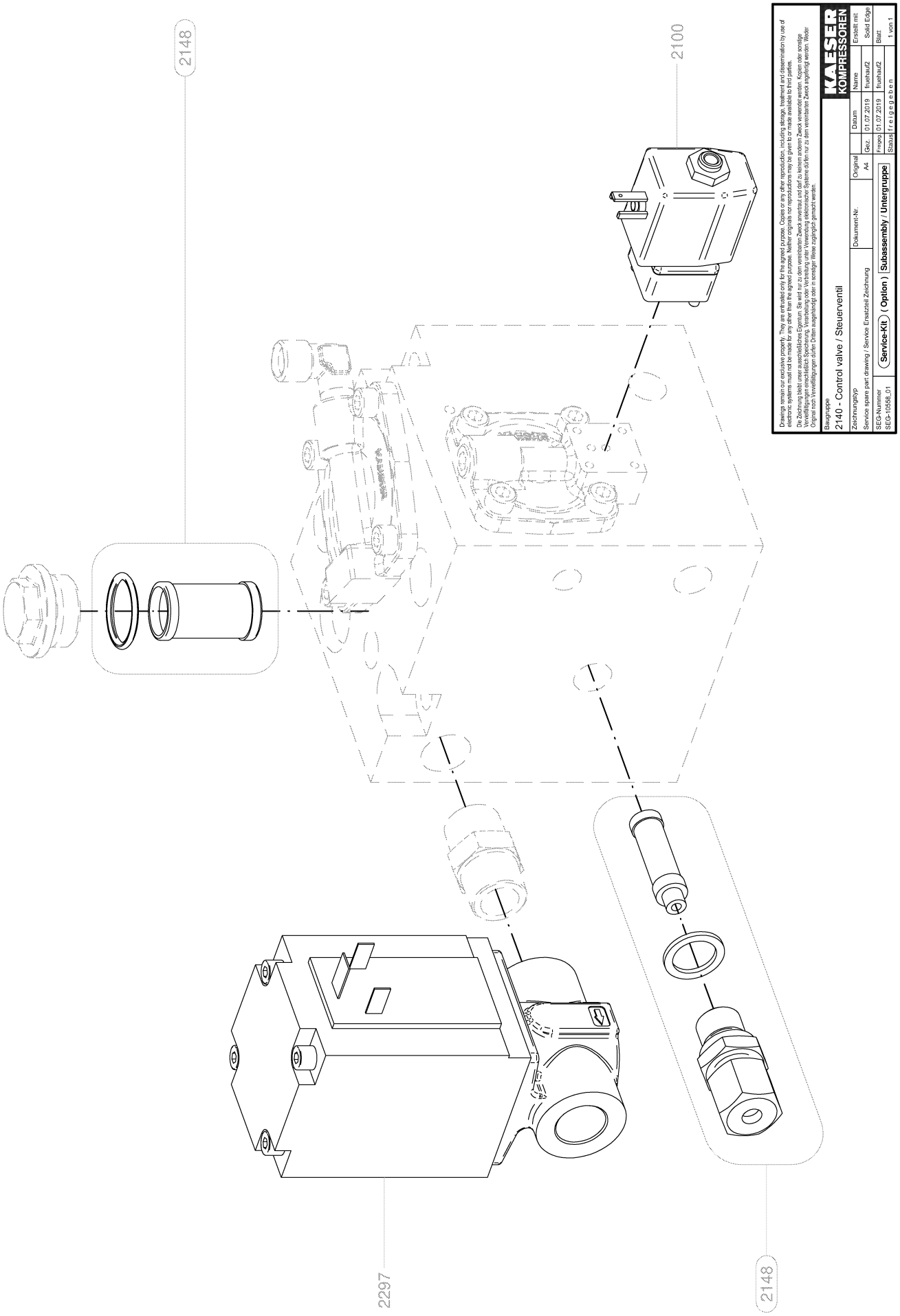
KAESER KOMPRESSOREN
Baugruppe
6001 - Oil separation/control air / Ölabscheidung/Steuerluft
Zeichnungstyp
Service spare part drawing / Service Ersatzteil Zeichnung
Dokument-Nr.
Original
A4
Erstellt mit
Name
Datum
Gez.
25.02.2022
PLIFF1
Solid Edge
Freigegeben
25.02.2022
PLIFF1
Blatt
1 von 1
SEG-Nummer
SEG-13751
Service-Kit
(Option)
Subassembly / Untergruppe
Status FREIGEGEBEN


2148
2100
2297
2148
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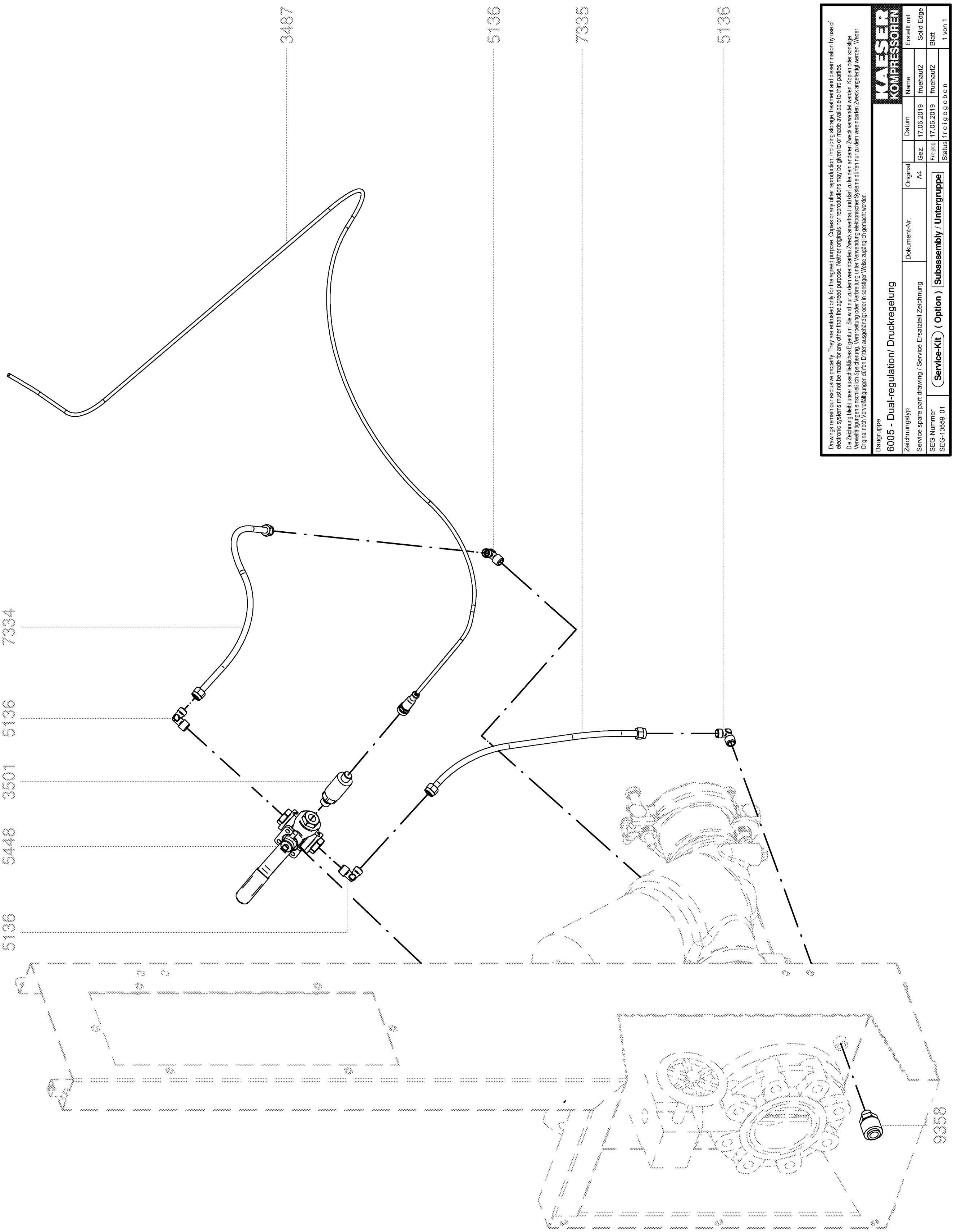
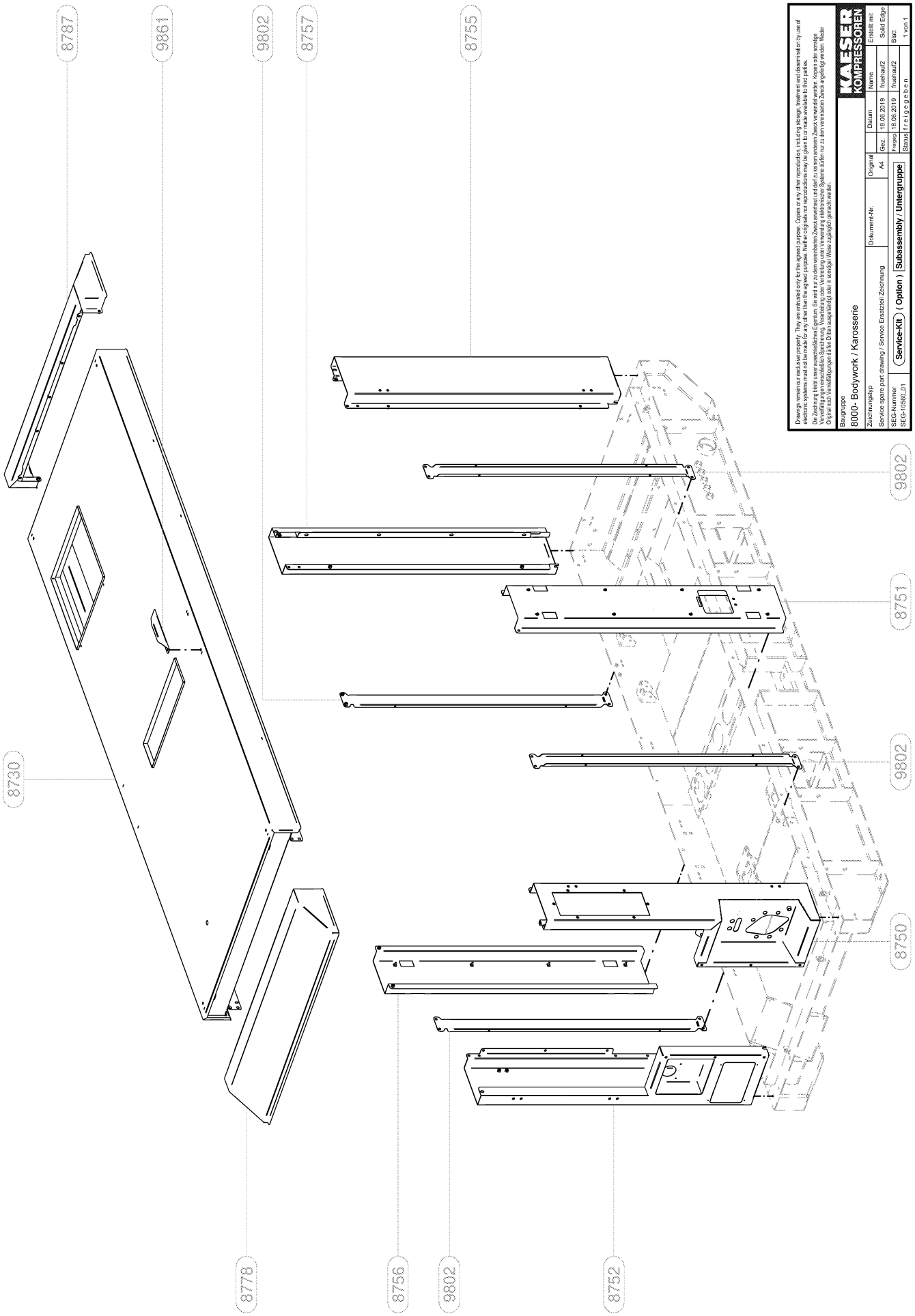
KAESER KOMPRESSOREN
Baugruppe
2140 - Control valve / Steuerventil
Zeichnungstyp
Service spare part drawing / Service Ersatzteil Zeichnung
SEG-Nummer
SEG-10558_01
Service-Kit (Option) Subassembly / Untergruppe
Dokument-Nr.
Original
A4
Datum
Name
Gez. 01.07.2019 fruehauf2
Freigab 01.07.2019 fruehauf2
Status f r e i g e g e b e n
Erstellt mit
Solid Edge
Blatt
1 von 1


3487
5136
7335
5136
7334
5136
3501
5448
5136
9358
Baugruppe
6005 - Dual-regulation/ Druckregelung
Zeichnungstyp
Service spare part drawing / Service Ersatzteil Zeichnung
Dokument-Nr.
Original
A4
Datum
Name
Erstellt mit
Solid Edge
Gez.
17.06.2019
fruehaufz
Freigeg.
17.06.2019
fruehaufz
Blatt
1 von 1
SEG-Nummer
SEG-10559_01
Service-Kit (Option) Subassembly / Untergruppe
Status f r e i g e g e b e n
KAESER KOMPRESSOREN


8787
9861
9802
8757
8755
9802
8751
9802
8730
8750
8778
8756
9802
8752
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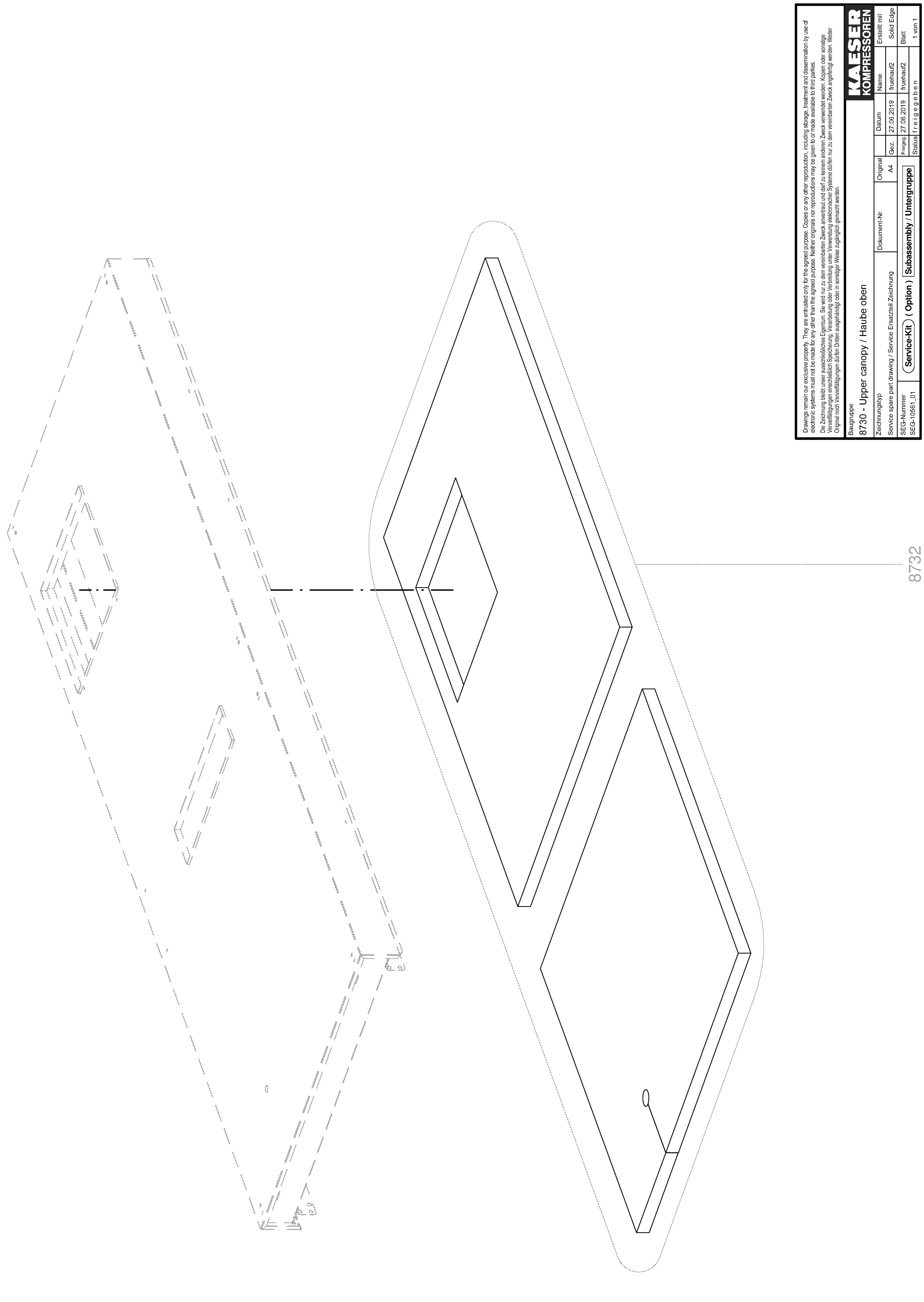
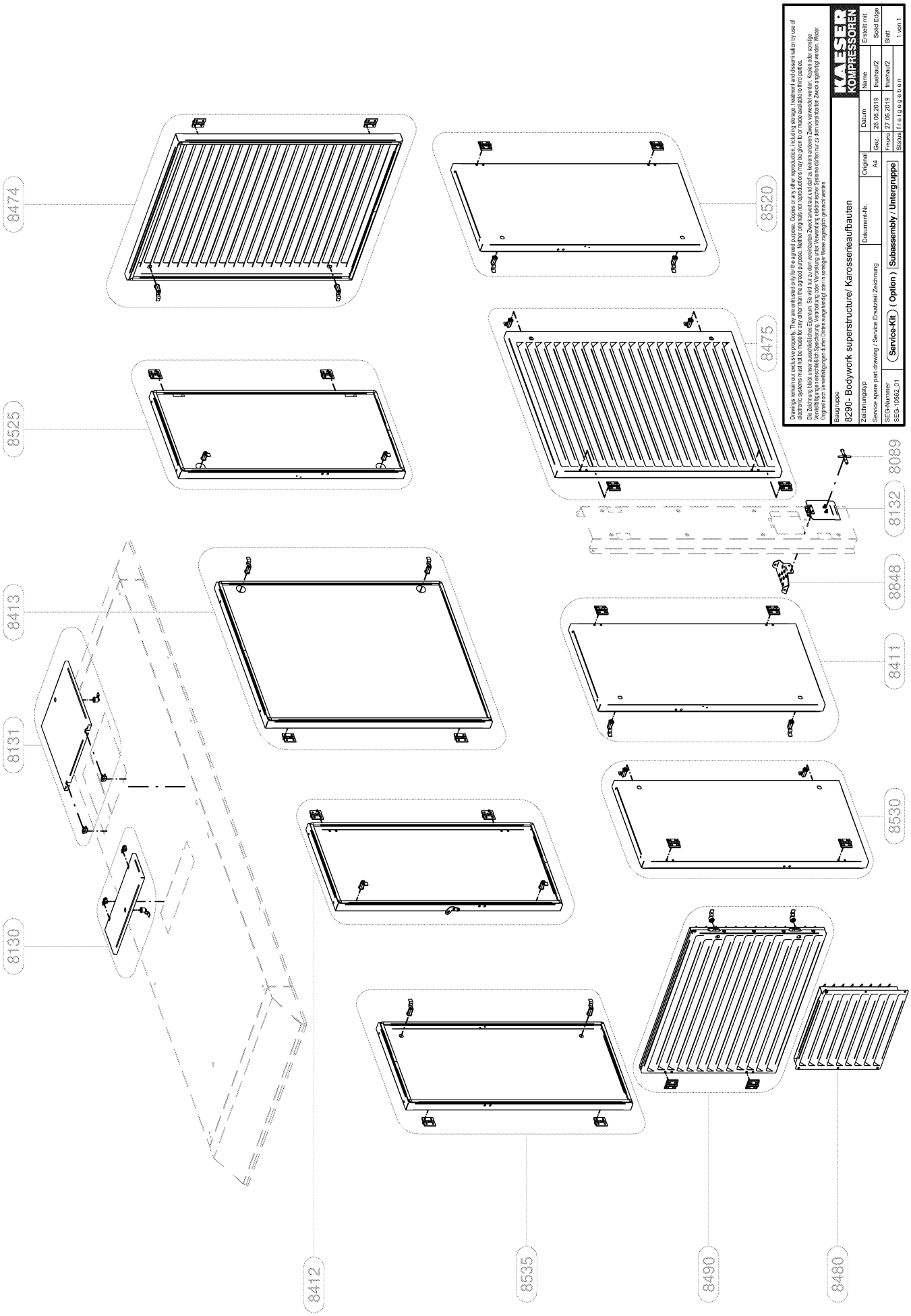
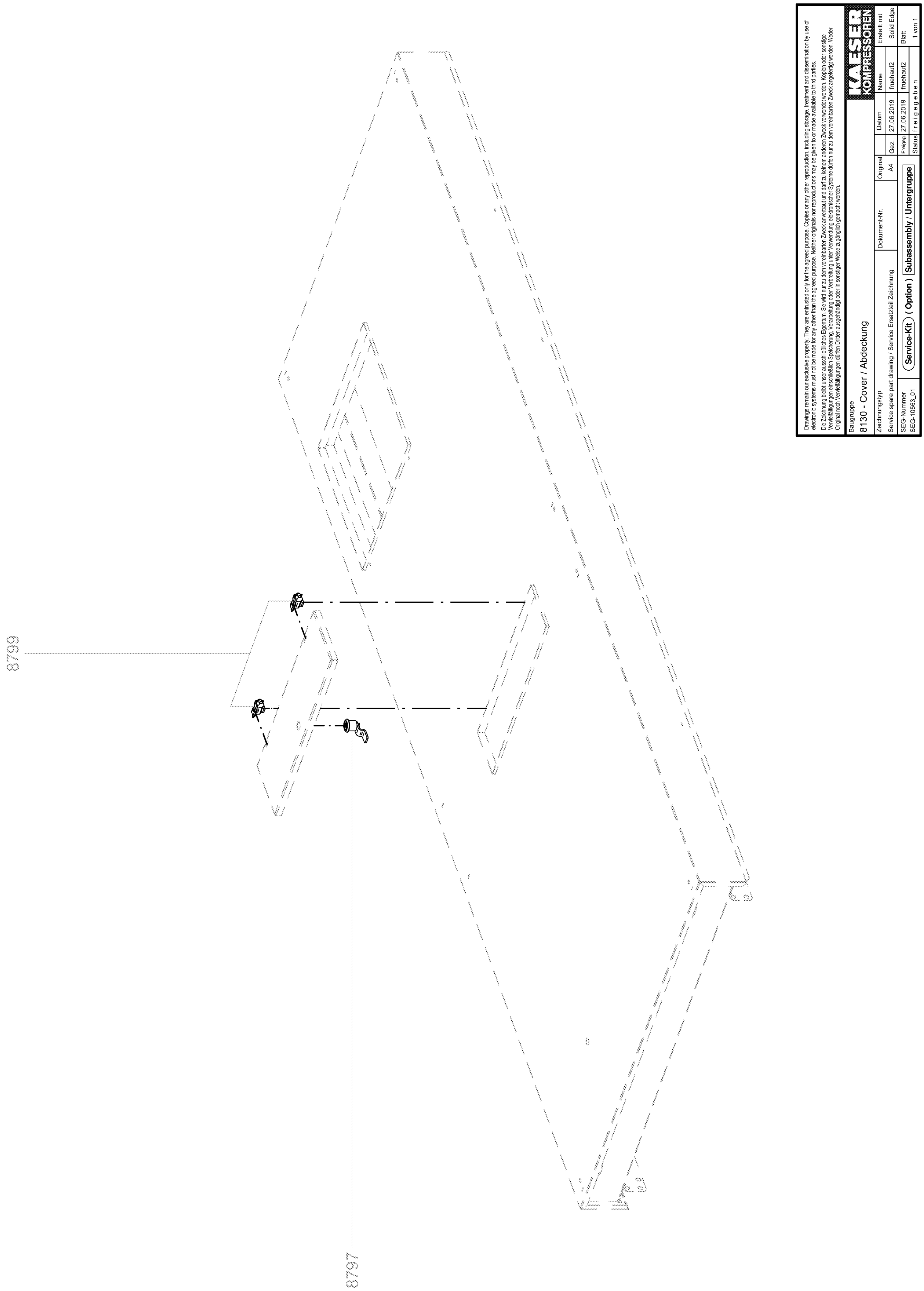
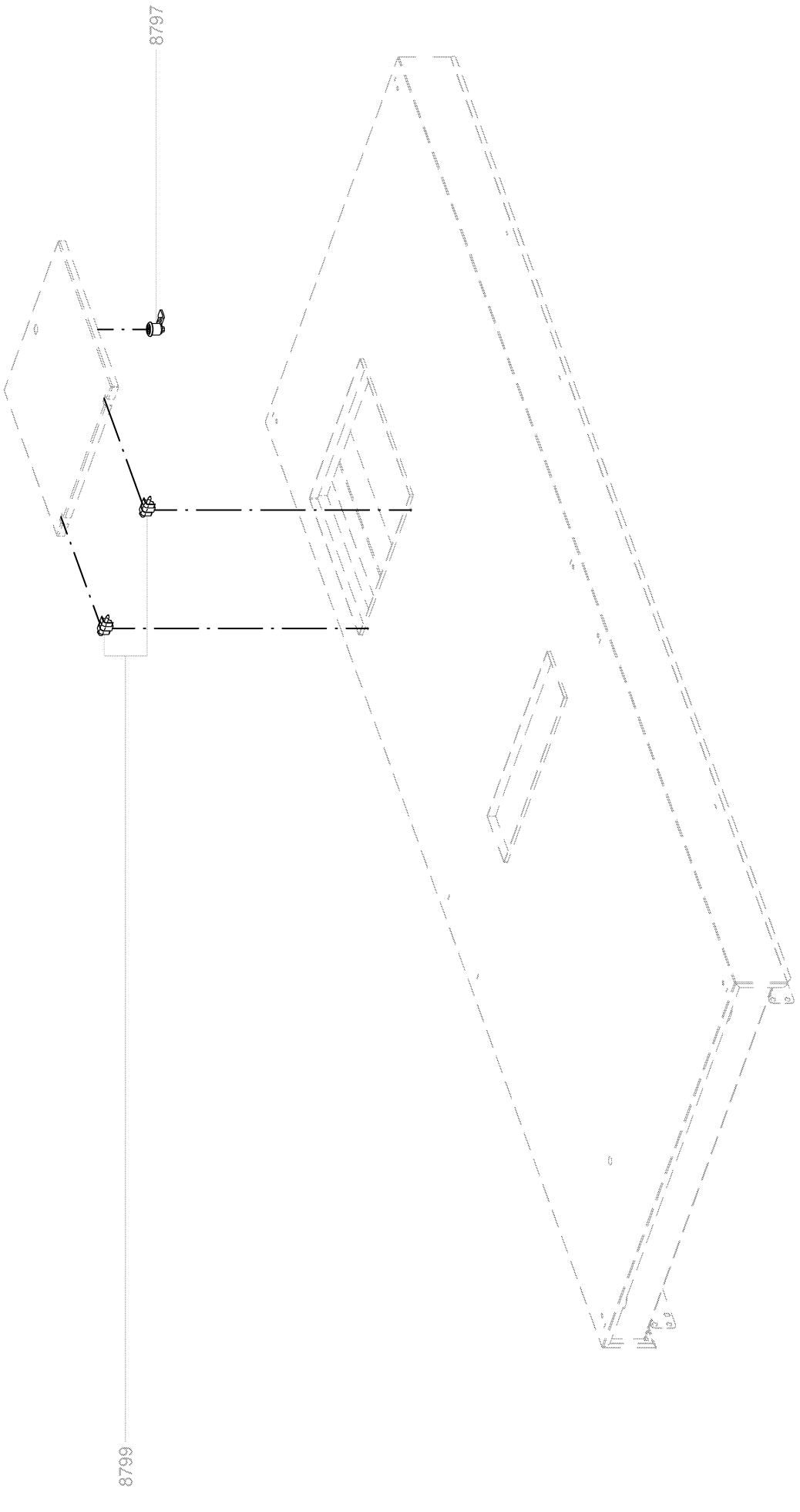
KAESER KOMPRESSOREN
Baugruppe
8000- Bodywork / Karosserie
Zeichnungstyp
Service spare part drawing / Service Ersatzteil Zeichnung
SEG-Nummer
SEG-10560_01
Service-Kit (Option) Subassembly / Untergruppe
Dokument-Nr.
Original
A4
Datum
Name
Erstellt mit
Gez. 18.06.2019 fruehauf2 Solid Edge
Freigab 18.06.2019 fruehauf2 Blatt
Status freigegeben 1 von 1


8732
Baugruppe
8730 - Upper canopy / Haube oben
Zeichnungstyp
Service spare part drawing / Service Ersatzteil Zeichnung
SEG-Nummer
SEG-10561_01
Service-Kit
(Option)
Subassembly / Untergruppe
KAESER KOMPRESSOREN
27.06.2019
fruehauf2
Solid Edge
1 von 1
f r e i g e g e b e n


8474
8520
8475
8525
8089
8132
8848
8413
8411
8131
8530
8130
8412
8535
8490
8480
KAESER KOMPRESSOREN
Baugruppe
8290- Bodywork superstructure/ Karosserieaufbauten
Zeichnungstyp
Service spare part drawing / Service Ersatzteil Zeichnung
Dokument-Nr.
Original
A4
Datum
Name
Gez. 26.06.2019 fruehauf2
Freigab 27.06.2019 fruehauf2
Status freigegeben
Erstellt mit
Solid Edge
Blatt
1 von 1
SEG-Nummer
SEG-10562_01
Service-Kit (Option) Subassembly / Untergruppe



8799
8797
8130 - Cover / Abdeckung
Service spare part drawing / Service Ersatzteil Zeichnung
Service-Kit
(Option)
Subassembly / Untergruppe
SEG-10563_01
27.06.2019
fruehauf2
Solid Edge
1 von 1

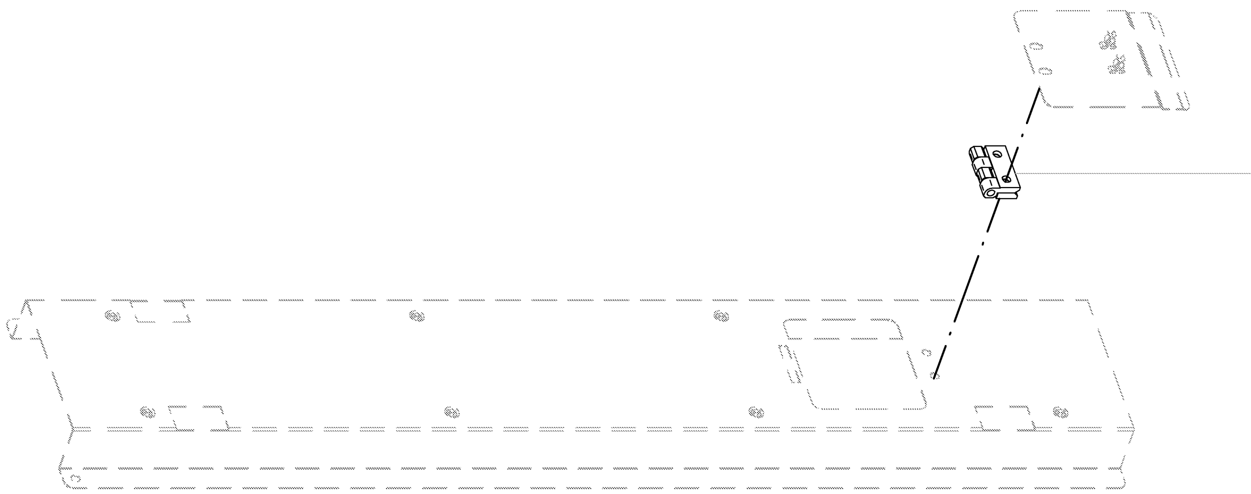


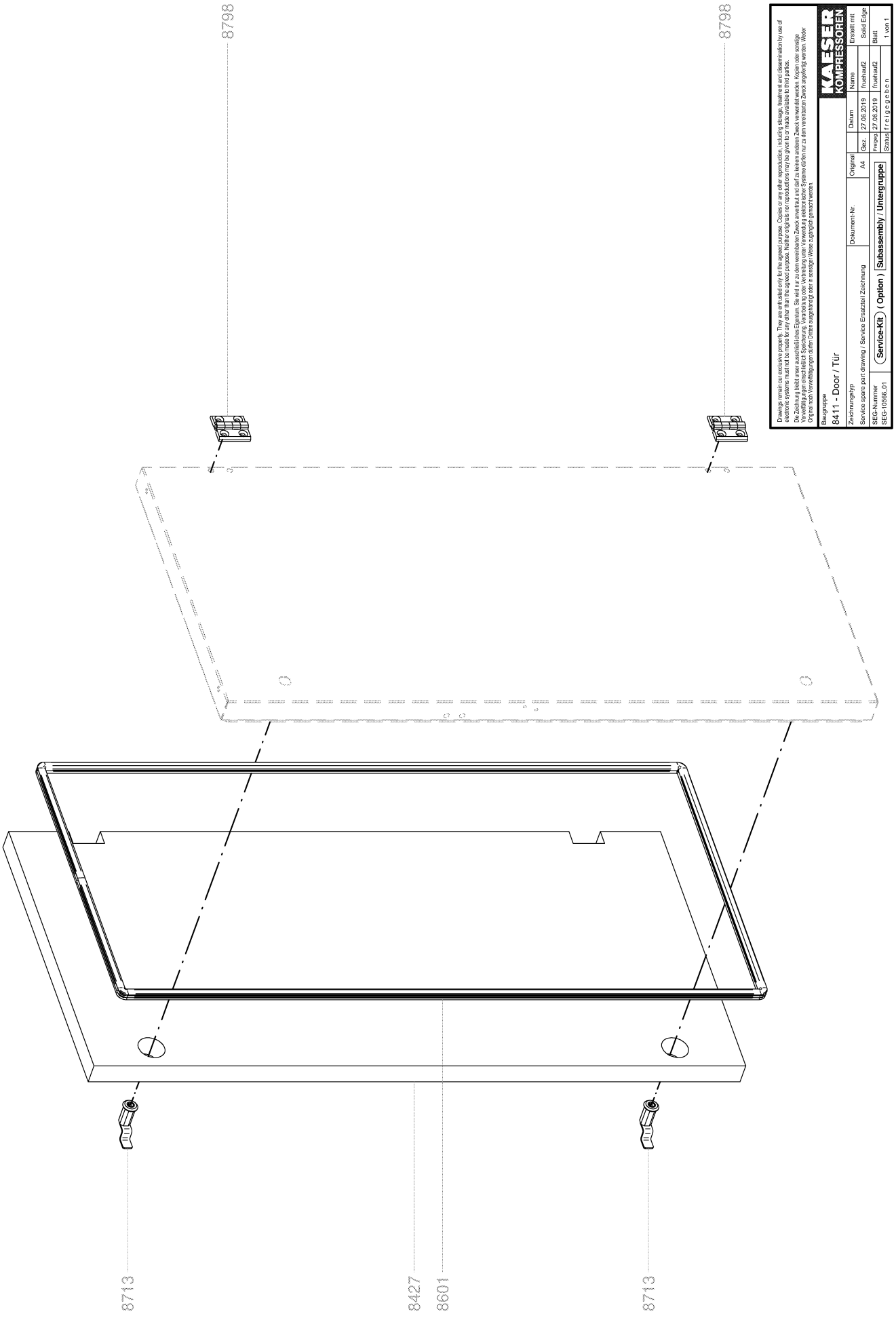
KAESER KOMPRESSOREN

Baugruppe
8131 - Cover / Abdeckung

Zeichnungstyp	Dokument-Nr.	Original		Datum	Name	Erstellt mit
Service spare part drawing / Service Ersatzteil Zeichnung		A4	Gez.	27.06.2019	fruehauf2	Solid Edge
SEG-Nummer	Service-Kit (Option)	Subassembly / Untergruppe	Freigab	27.06.2019	fruehauf2	Blatt
SEG-10564_01			Status	f r e i g e g e b e n		1 von 1

Baugruppe						KAESER KOMPRESSOREN
8132 - Cover / Abdeckung						
Zeichnungstyp	Dokument-Nr.	Original		Datum	Name	Erstellt mit
Service spare part drawing / Service Ersatzteil Zeichnung		A4	Gez.	27.06.2019	fruehauf2	Solid Edge
SEG-Nummer	Service-Kit (Option) Subassembly / Untergruppe		Freigeg	27.06.2019	fruehauf2	Blatt
SEG-10565_01			Status	f r e i g e g e b e n		1 von 1





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KAESER KOMPRESSOREN

Baugruppe
8411 - Door / Tür

Zeichnungstyp	Dokument-Nr.	Original		Datum	Name	Erstellt mit
Service spare part drawing / Service Ersatzteil Zeichnung		A4	Gez.	27.06.2019	fruehauf2	Solid Edge
SEG-Nummer	Service-Kit (Option) Subassembly / Untergruppe		Freigb.	27.06.2019	fruehauf2	Blatt
SEG-10566_01			Status	f r e i g e g e b e n		1 von 1

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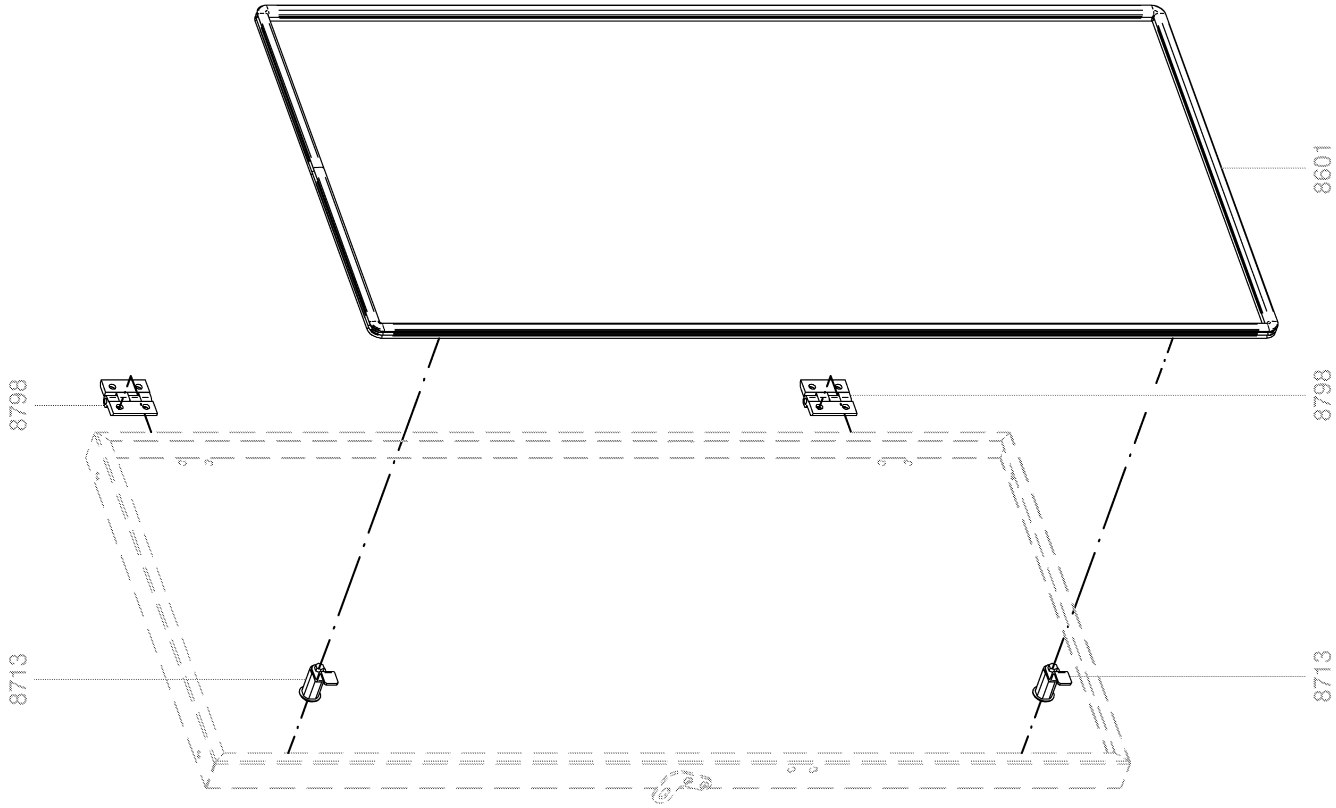
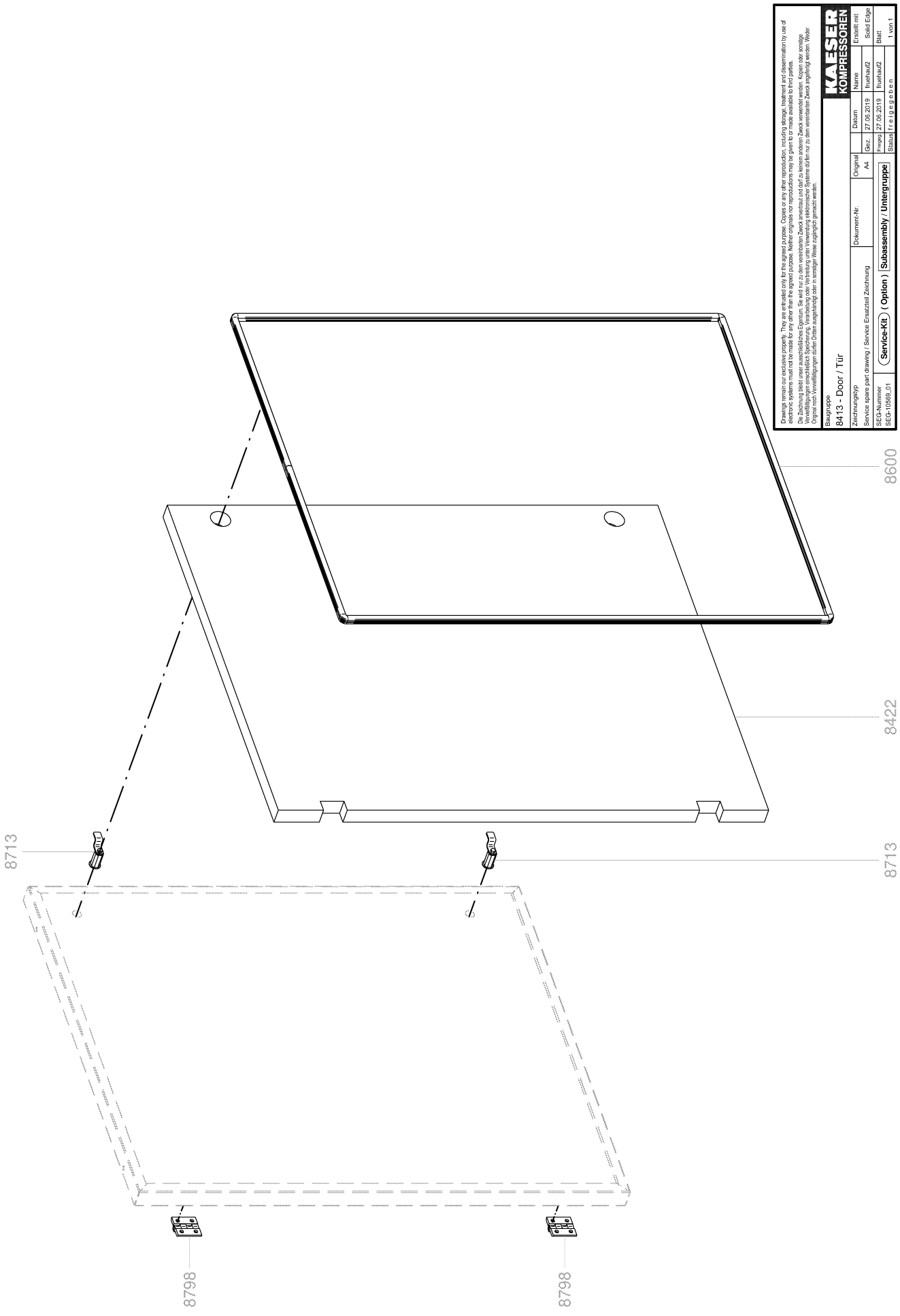
Baugruppe 8412 - Door / Tür			KAESER KOMPRESSOREN		
Zeichnungstyp Service spare part drawing / Service Ersatzteil Zeichnung	Dokument-Nr.	Original A4	Datum	Name	Erstellt mit
			Gez. 27.06.2019	fruehauf2	Solid Edge
SEG-Nummer SEG-10567_01	Service-Kit (Option) Subassembly / Untergruppe		Freigeg. 27.06.2019	fruehauf2	Blatt
			Status f r e i g e g e b e n		1 von 1

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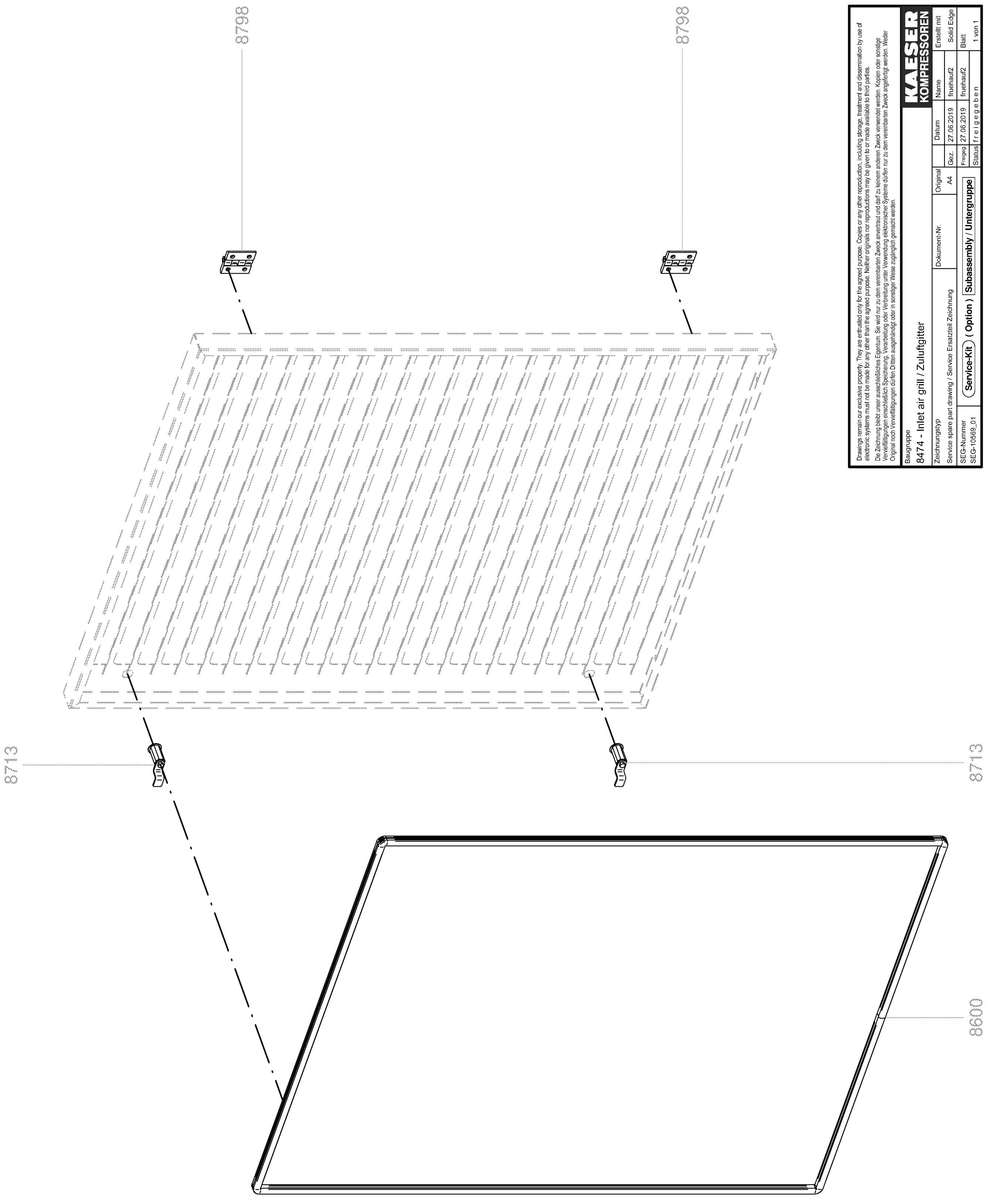
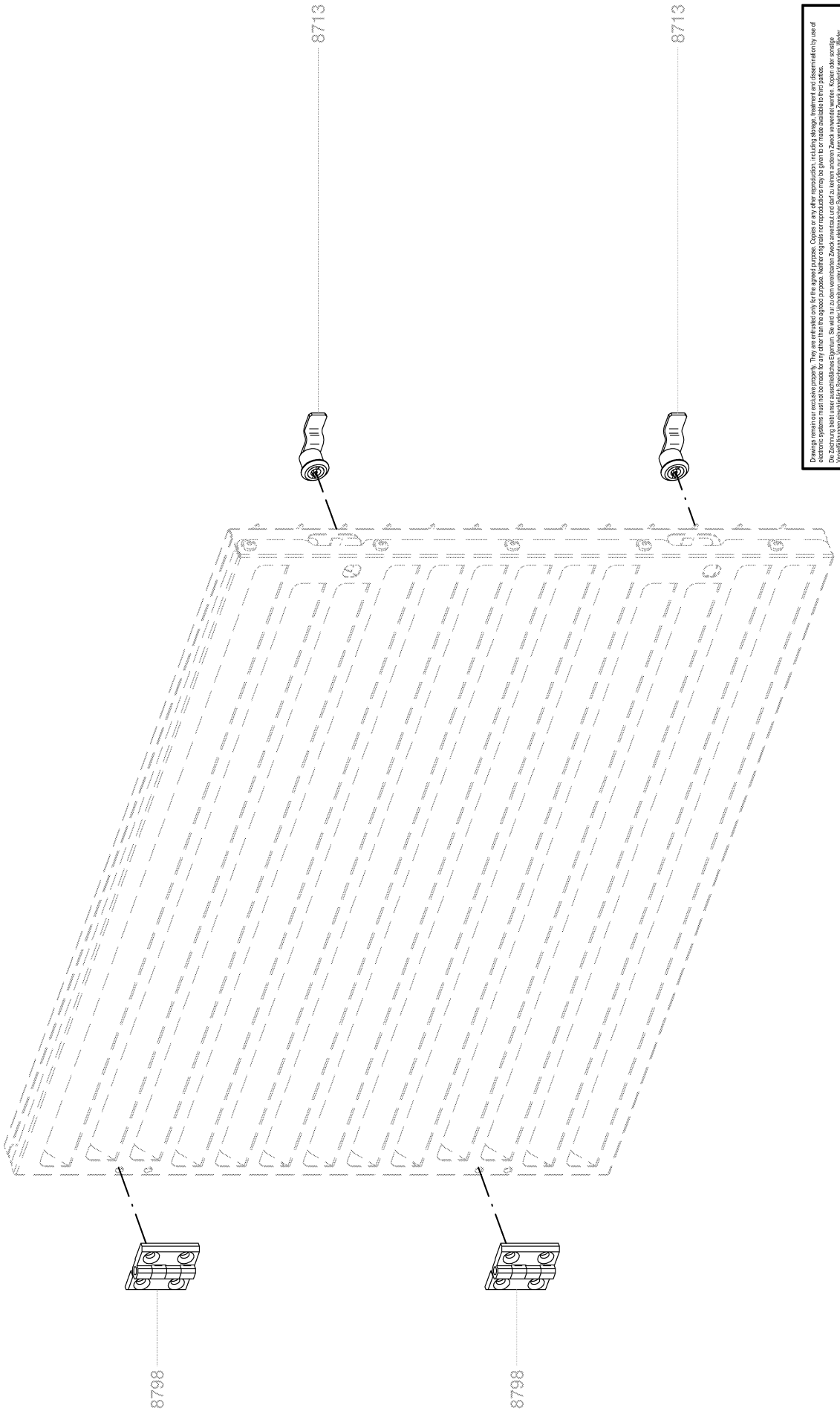
KAESER KOMPRESSOREN
Baugruppe
8413 - Door / Tür
Dokument-Nr.
Original
Datum
Name
Erstellt mit
Zeichnungstyp
A4
Gez. 27.06.2019 fruehauf2
Solid Edge
Service spare part drawing / Service Ersatzteil Zeichnung
Freigab 27.06.2019 fruehauf2
Blatt 1 von 1
SEG-Nummer
SEG-10569_01
Service-Kit (Option) Subassembly / Untergruppe
Status freigegeben
8600
8422
8713
8713
8798
8798


8798
8798
8713
8713
8600
Baugruppe
8474 - Inlet air grill / Zuluftgitter
Zeichnungstyp
Service spare part drawing / Service Ersatzteil Zeichnung
Dokument-Nr.
Original
A4
Datum
Name
Erstellt mit
Gez. 27.06.2019 fruehauf2
Solid Edge
Freigabe 27.06.2019 fruehauf2
Blatt
Status f r e i g e g e b e n
1 von 1
SEG-Nummer
SEG-10569_01
Service-Kit
(Option)
Subassembly / Untergruppe

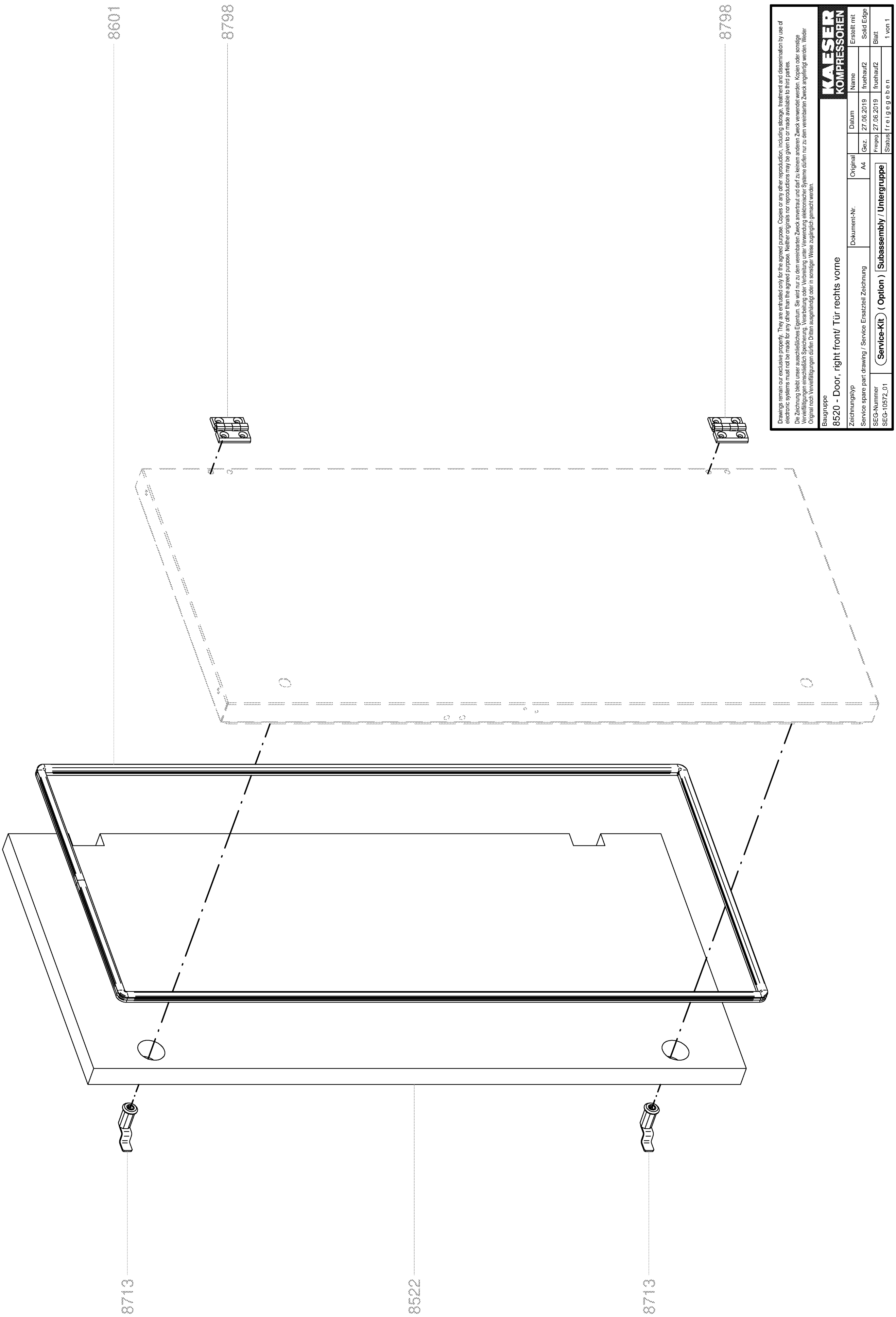


KAESER KOMPRESSOREN

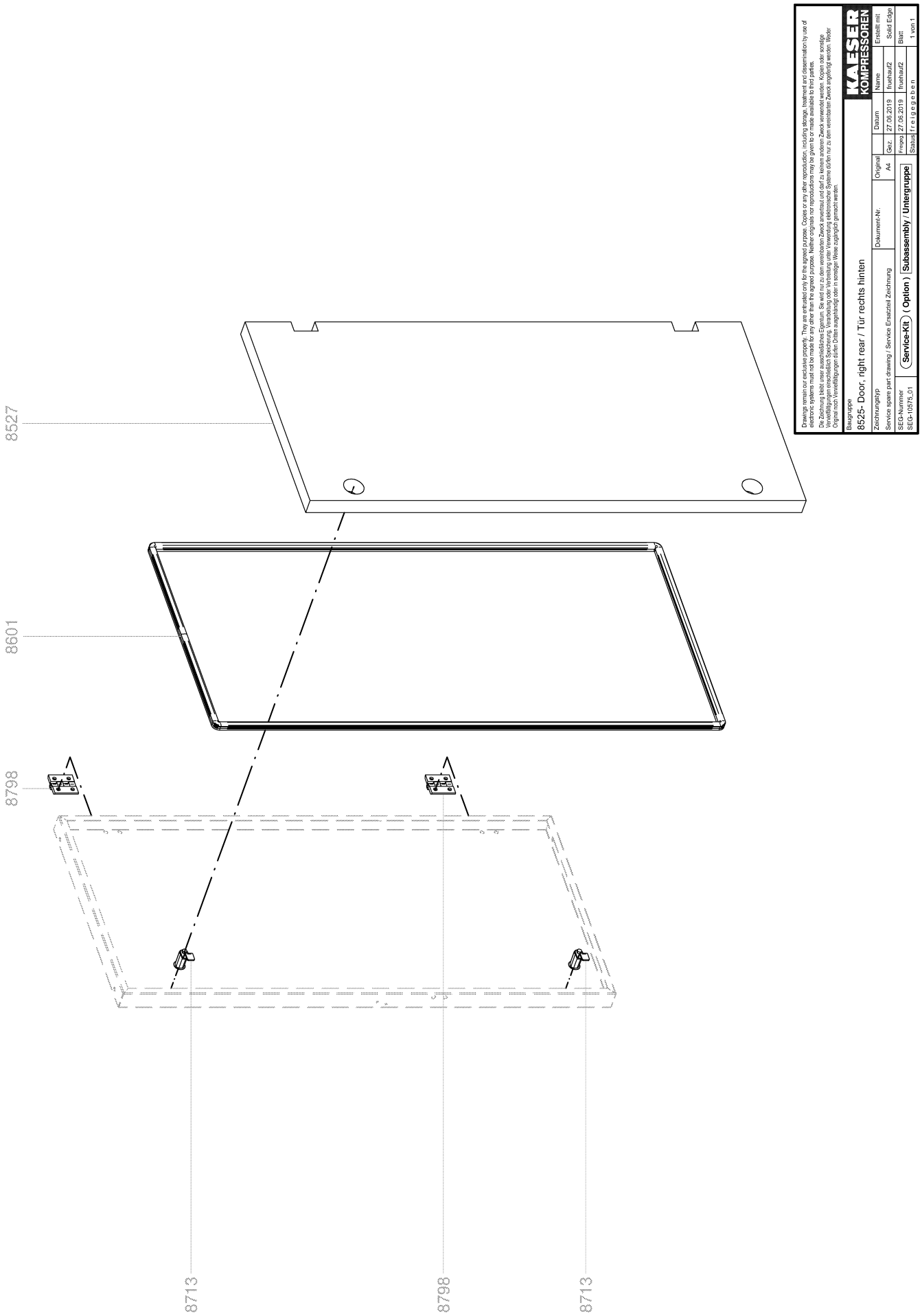
Baugruppe
8490 - Upper inlet air grill / Zuluftgitter oben

Zeichnungstyp	Dokument-Nr.		Original	Datum	Name
Service spare part drawing / Service Ersatzteil Zeichnung			A4	Gez. 27.06.2019	fruehauf2
SEG-Nummer	Service-Kit (Option)	Subassembly / Untergruppe		Freigabe 27.06.2019	fruehauf2
SEG-10571_01				Status freigegeben	

Erstellt mit: Solid Edge
Blatt: 1 von 1



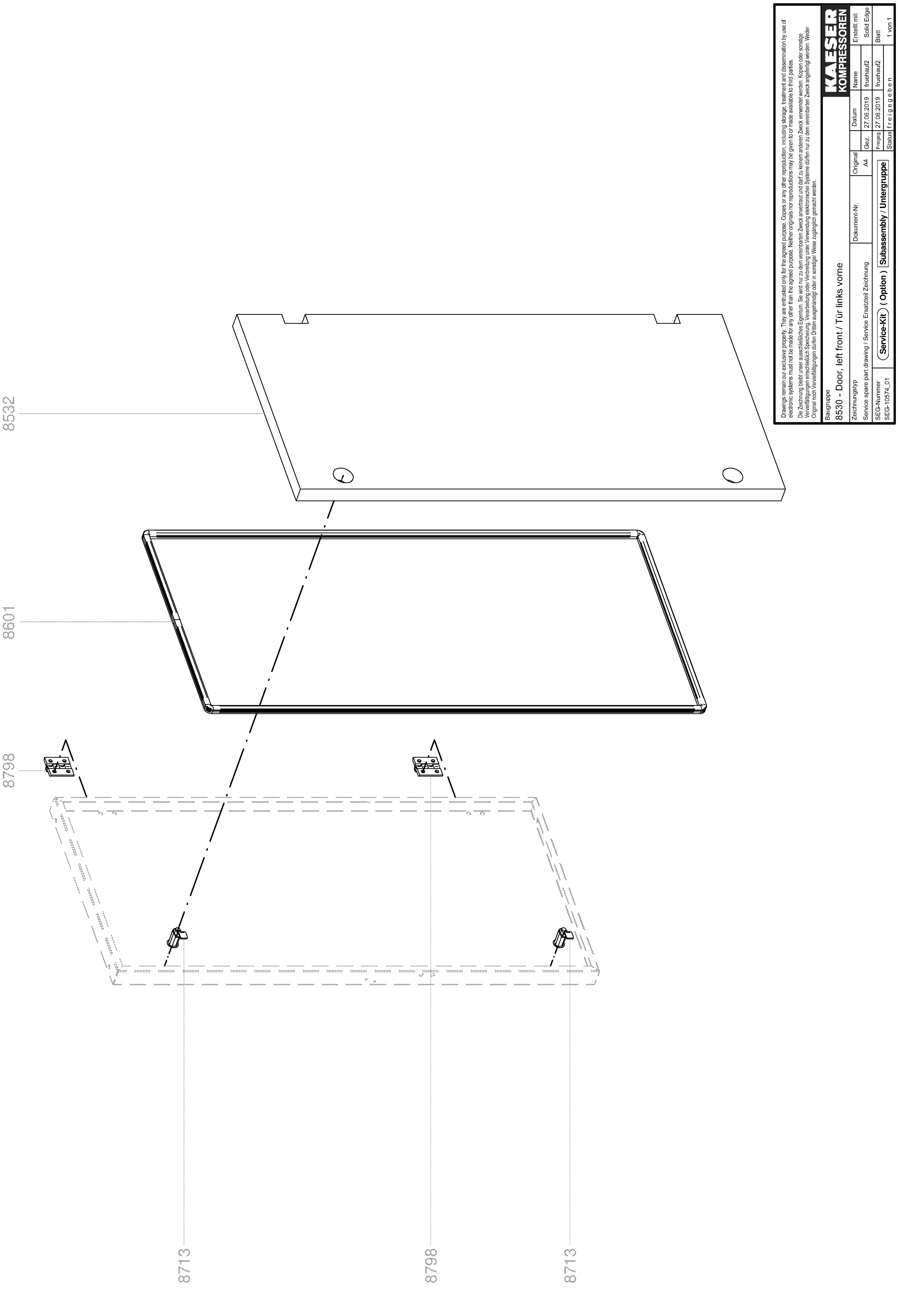
8601
8798
8798
8713
8522
8713
8520 - Door, right front/ Tür rechts vorne
Service spare part drawing / Service Ersatzteil Zeichnung
Service-Kit
(Option)
Subassembly / Untergruppe
SEG-10572_01
27.06.2019
fruehauf2
Solid Edge
1 von 1



KAESER KOMPRESSOREN

Baugruppe
8525- Door, right rear / Tür rechts hinten

Zeichnungstyp		Original		Name	Erstellt mit
Service spare part drawing / Service Ersatzteil Zeichnung	Dokument-Nr.	A4	Gez. 27.06.2019	fruehauf2	Solid Edge
SEG-Nummer SEG-110575_01	Service-Kit (Option) Subassembly / Untergruppe		Freigabe 27.06.2019	fruehauf2	Blatt 1 von 1
			Status freigegeben		

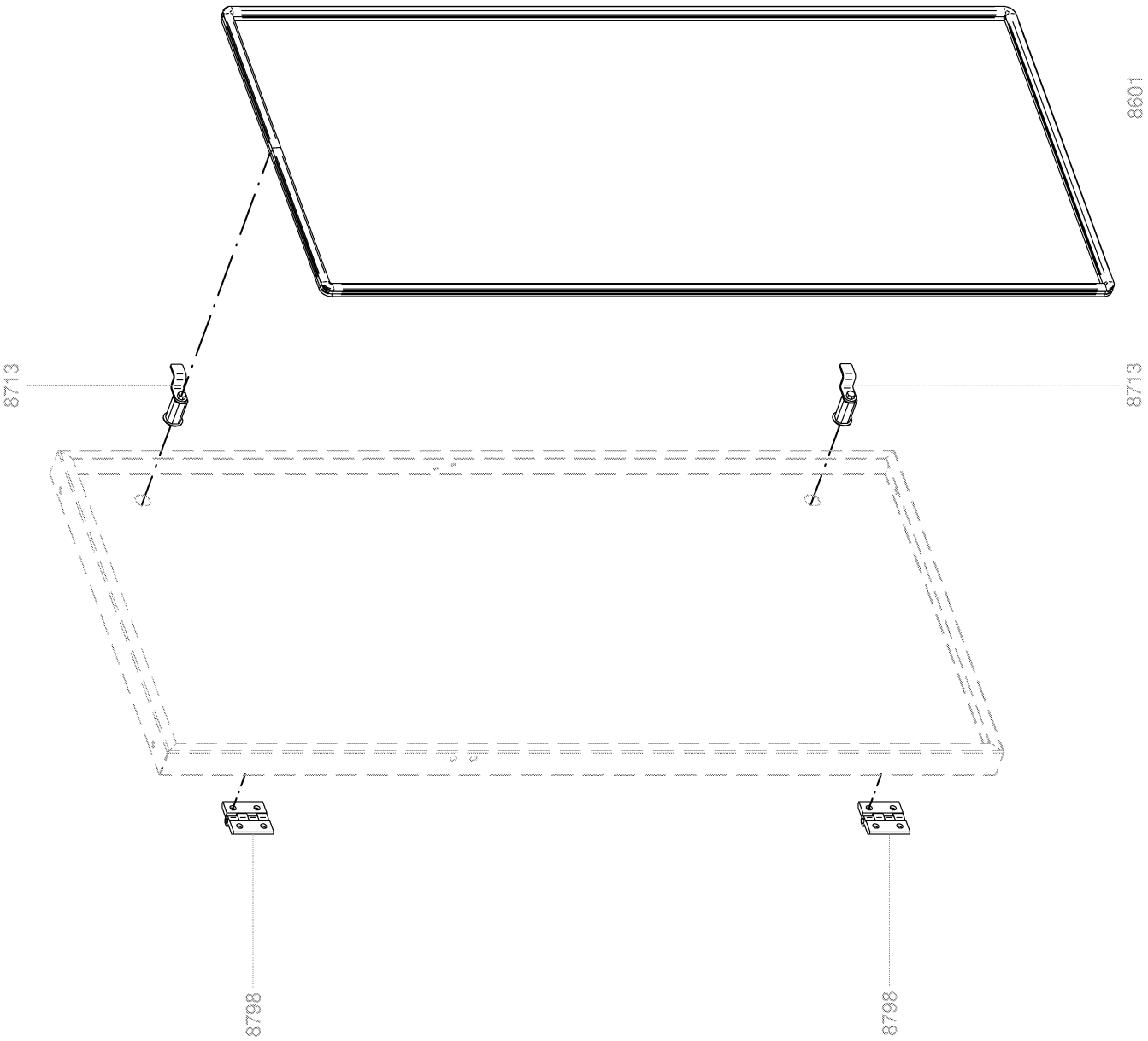


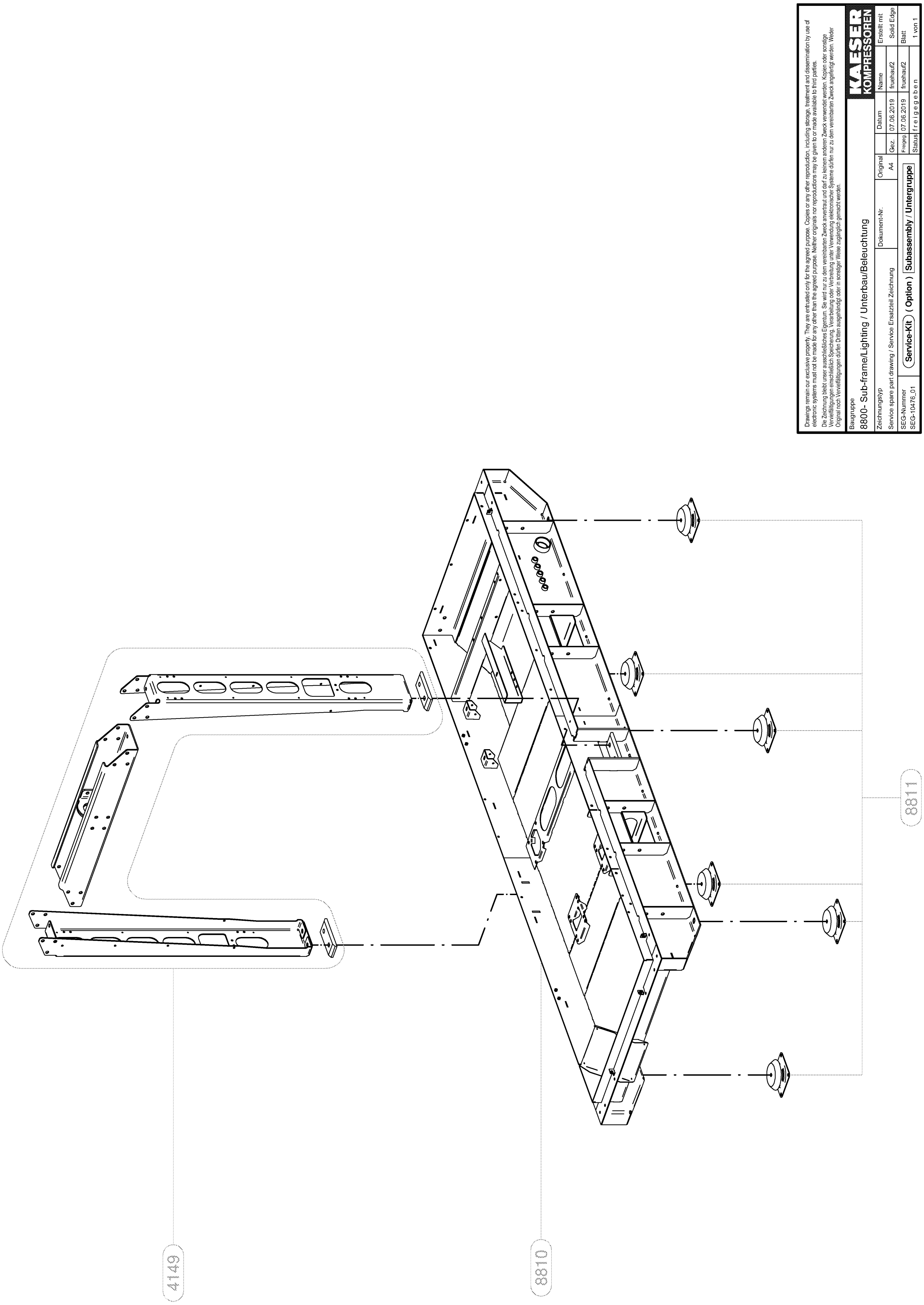
8530 - Door, left front / Tür links vorne
Service spare part drawing / Service Ersatzteil Zeichnung
SEG-10574_01
Service-Kit (Option) Subassembly / Untergruppe
8532
8601
8798
8713
8798
8713

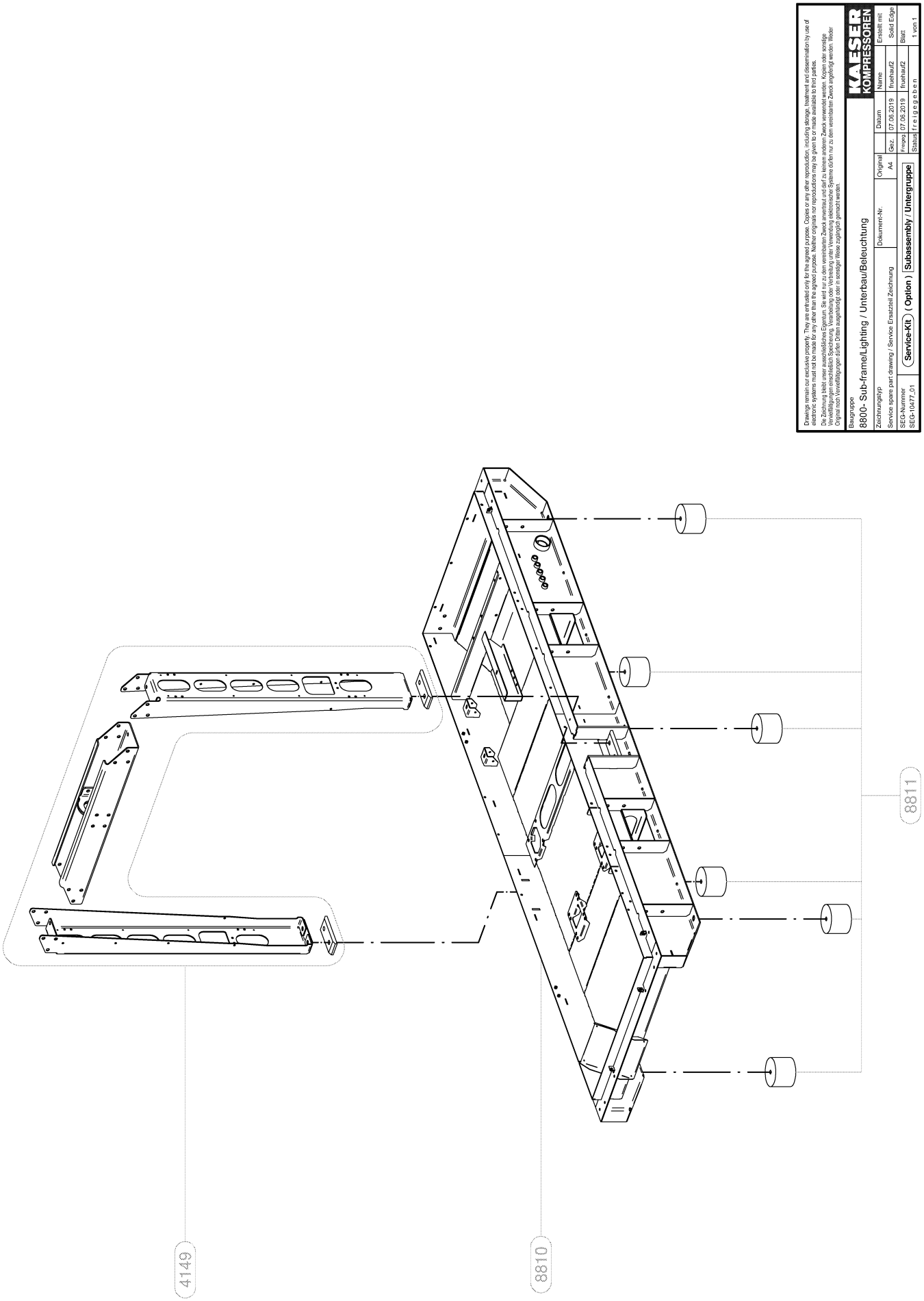
KAESER KOMPRESSOREN

Baugruppe
8535 - Door, left rear / Tür links hinten

Zeichnungstyp	Dokument-Nr.	Original		Datum	Name	Erstellt mit
Service spare part drawing / Service Ersatzteil Zeichnung		A4	Gez.	27.06.2019	fruehauf2	Solid Edge
SEG-Nummer	Service-Kit (Option)	Subassembly / Untergruppe	Freigab	27.06.2019	fruehauf2	Blatt
SEG-110575_01			Status	f r e i g e g e b e n		1 von 1




KAESER KOMPRESSOREN
Baugruppe
8800- Sub-frame/Lighting / Unterbau/Beleuchtung
Zeichnungstyp
Service spare part drawing / Service Ersatzteil Zeichnung
Dokument-Nr.
Original
A4
Datum
Name
Erstellt mit
Gez.
07.06.2019
fruehauf2
Solid Edge
Freigeg.
07.06.2019
fruehauf2
Blatt
1 von 1
Status
f r e i g e g e b e n
SEG-Nummer
SEG-10476_01
Service-Kit
(Option)
Subassembly / Untergruppe
8811
4149
8810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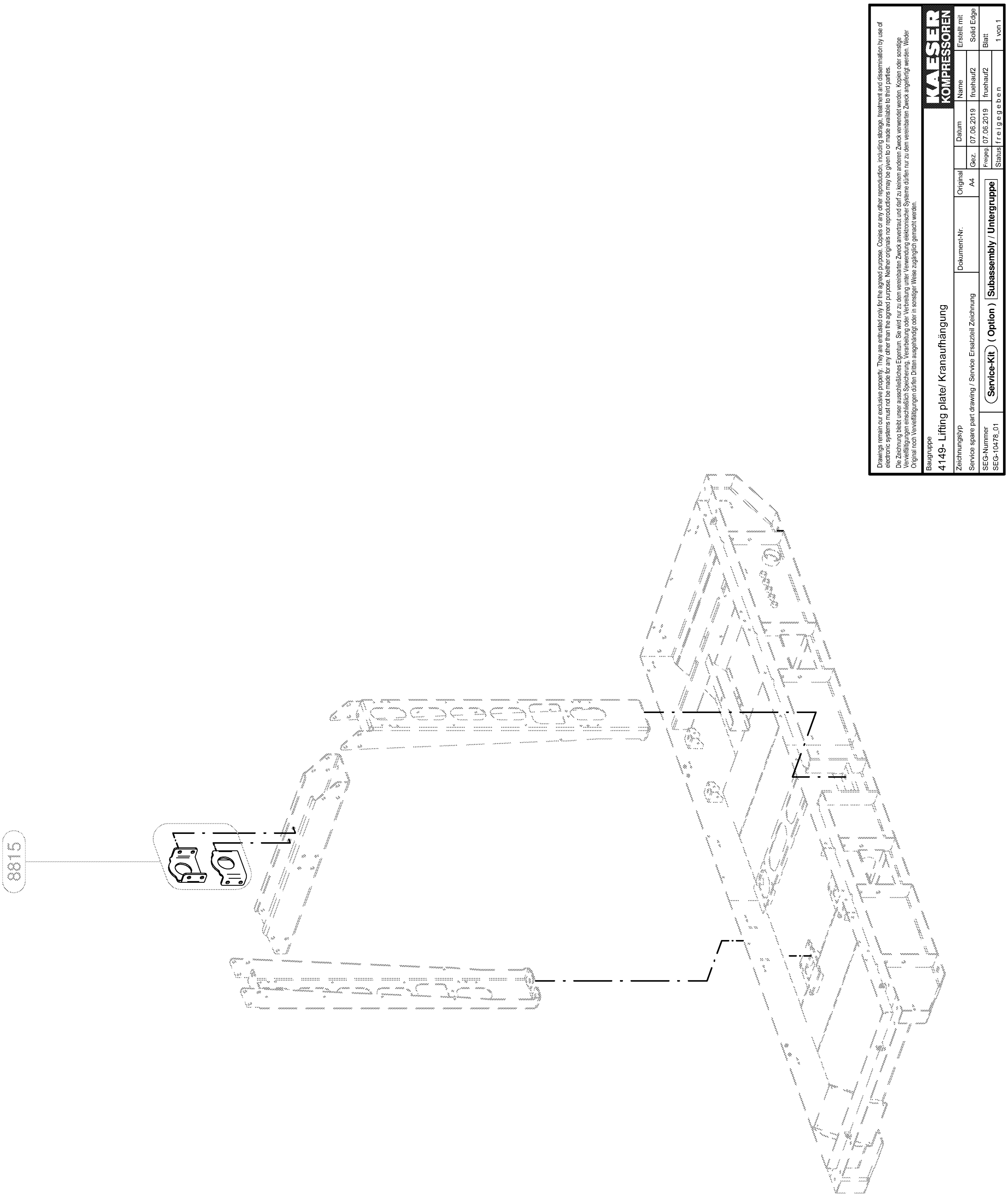
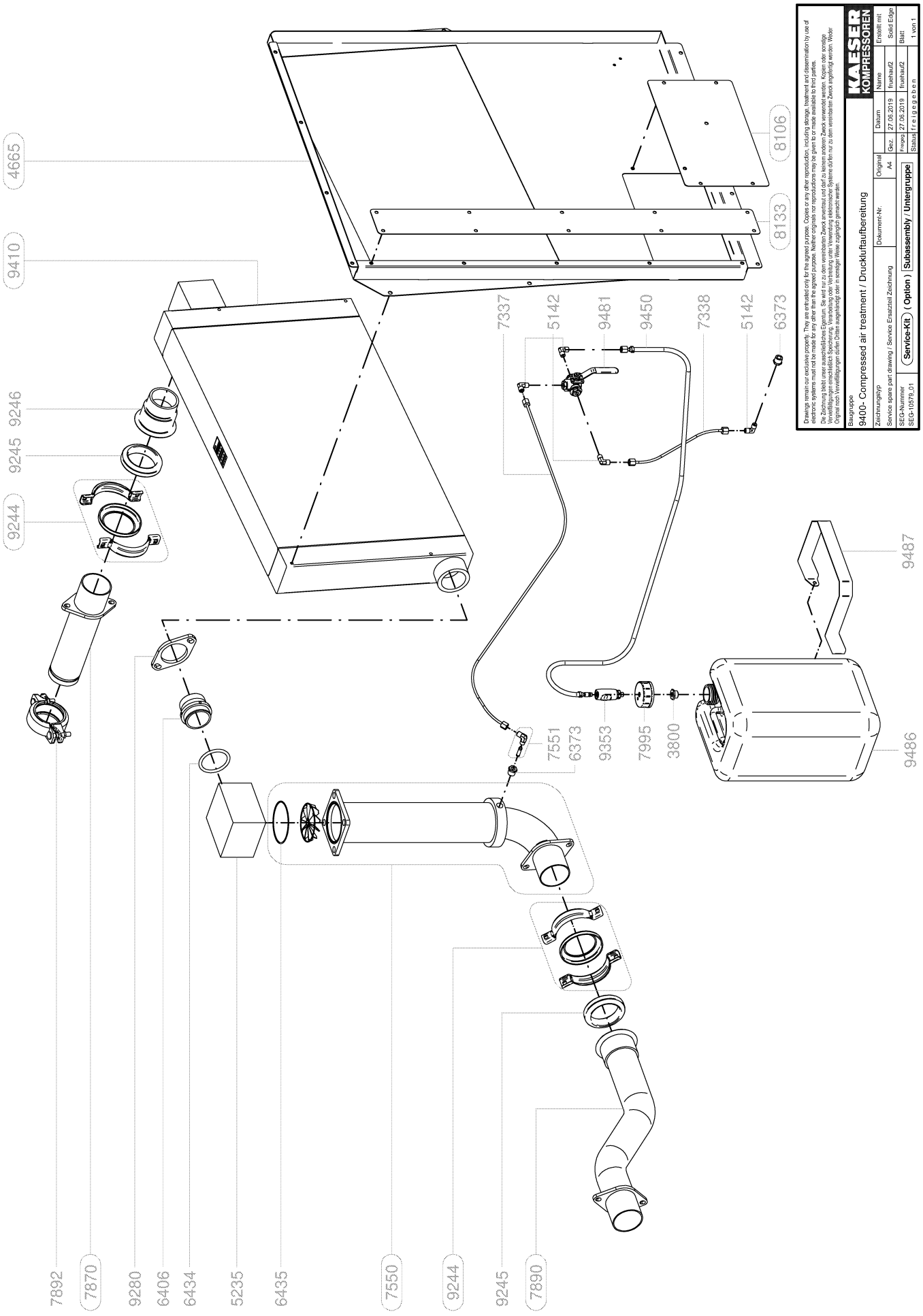
KAESER KOMPRESSOREN
Baugruppe
8800- Sub-frame/Lighting / Unterbau/Beleuchtung
Original
Datum
Name
Erstellt mit
Zeichnungstyp
Dokument-Nr.
A4
Gez. 07.06.2019 fruehauf2
Solid Edge
Service spare part drawing / Service Ersatzteil Zeichnung
Freigabe 07.06.2019 fruehauf2
Blatt
SEG-Nummer
SEG-10477_01
Service-Kit (Option) Subassembly / Untergruppe
Status f r e i g e g e b e n
1 von 1
8811
4149
8810


KAESER KOMPRESSOREN
Baugruppe
4149- Lifting plate/ Kranaufhängung
Zeichnungstyp
Service spare part drawing / Service Ersatzteil Zeichnung
SEG-Nummer
SEG-10478_01
Service-Kit (Option) Subassembly / Untergruppe
Gez. 07.06.2019 fruehauf2
Freigeg. 07.06.2019 fruehauf2
Status f r e i g e g e b e n
Solid Edge
1 von 1
8815


4665
9410
9245 9246
9244
8106
8133
7337
5142
9481
9450
7338
5142
6373
9487
9486
7551
6373
9353
7995
3800
7892
7870
9280
6406
6434
5235
6435
7550
9244
9245
7890
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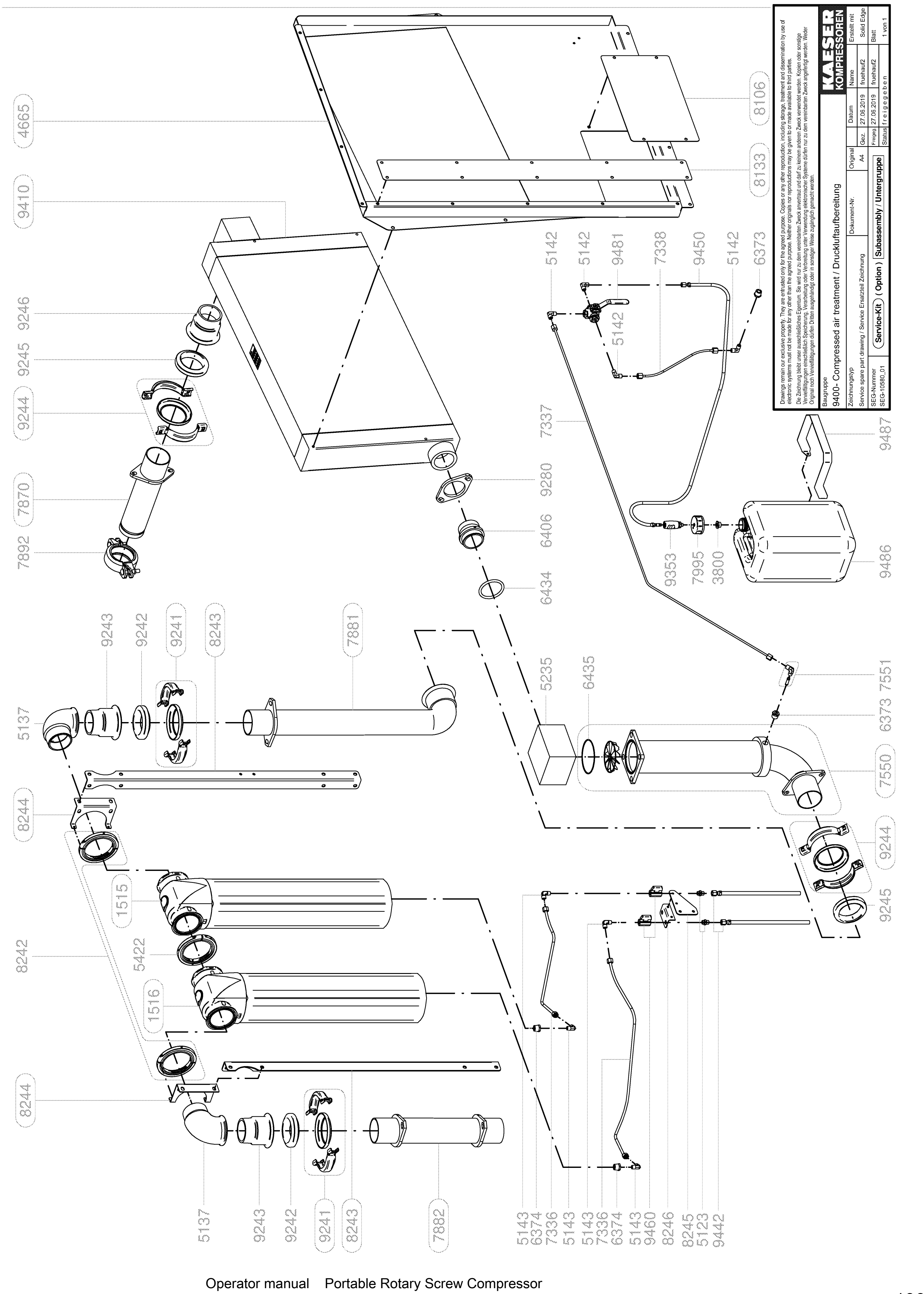
KAESER KOMPRESSOREN
Baugruppe
9400- Compressed air treatment / Druckluftaufbereitung
Zeichnungstyp
Service spare part drawing / Service Ersatzteil Zeichnung
Dokument-Nr.
Original
A4
Datum
Name
Gez. 27.06.2019 fruehauf2
Freigegeben 27.06.2019 fruehauf2
Status freigegeben
Erstellt mit
Solid Edge
Blatt
1 von 1
SEG-Nummer
SEG-10579_01
Service-Kit (Option) Subassembly / Untergruppe


9400- Compressed air treatment / Druckluftaufbereitung
SEG-10580_01
Service-Kit (Option) Subassembly / Untergruppe
4665
9410
9246
9245
9244
7870
7892
8106
8133
5142
5142
9481
7338
9450
5142
6373
5142
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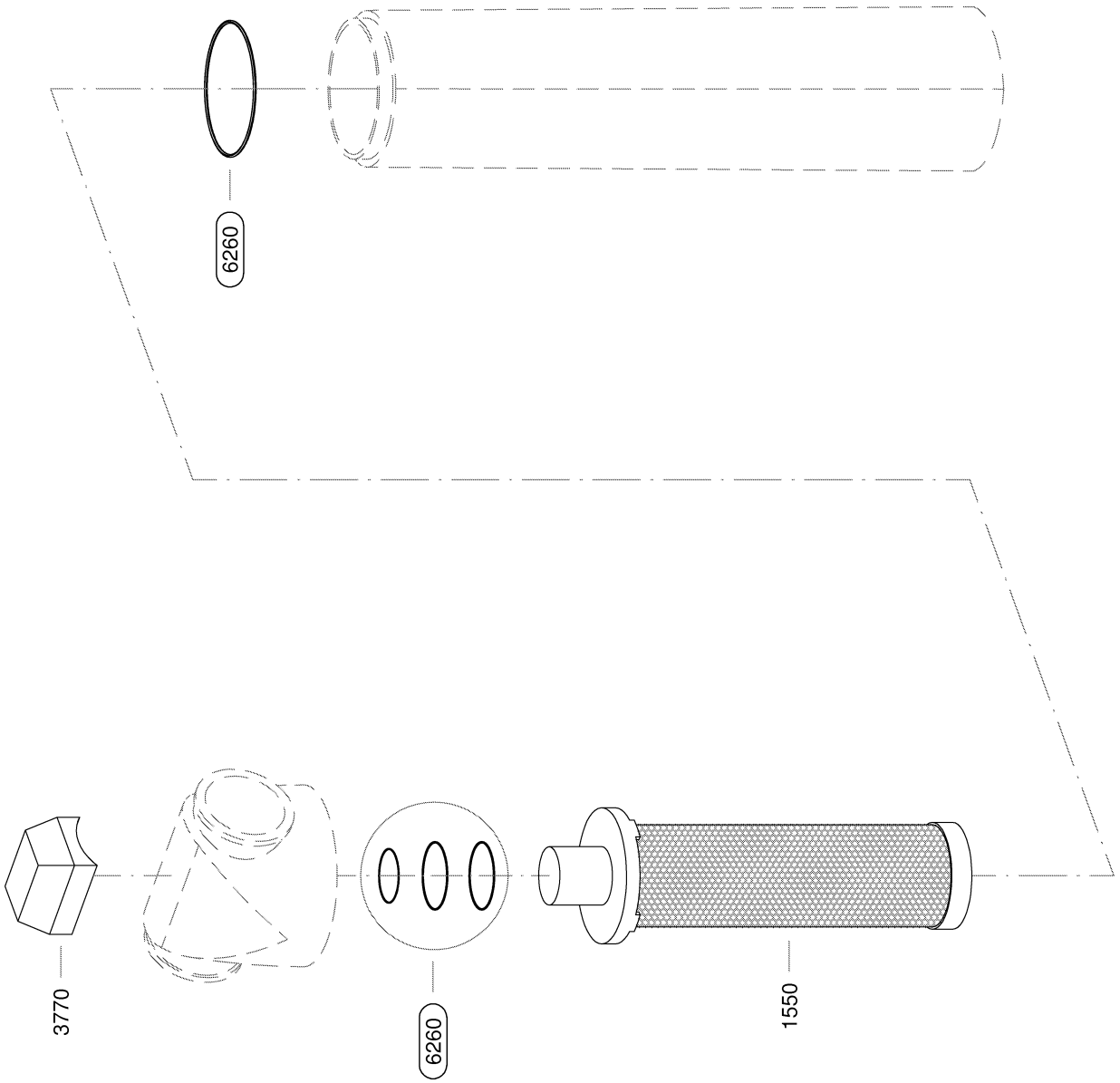
Service-Kit (Option)

Druckluft-Vorfilter / Compressed air pre-filter 1515

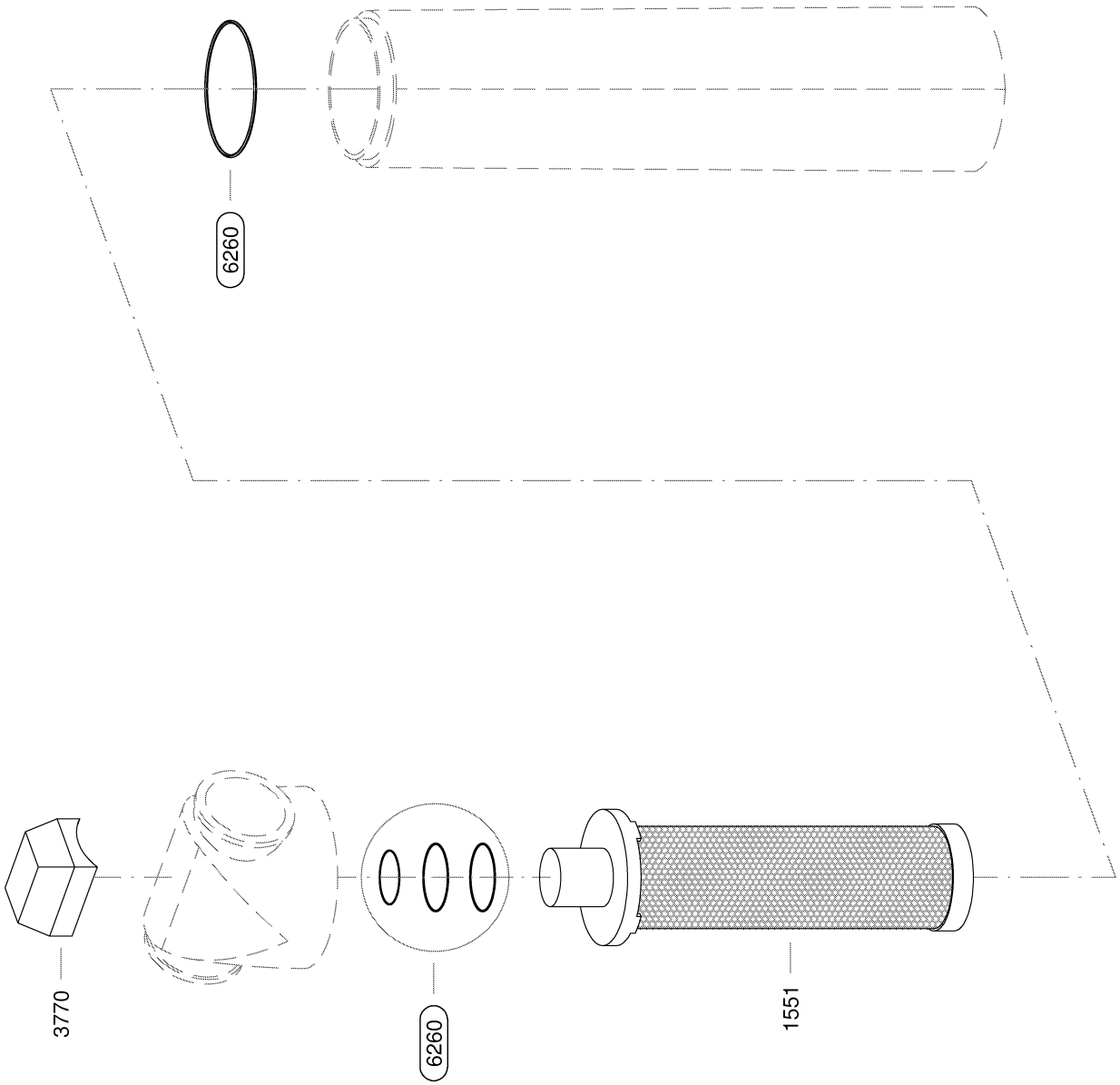
SEG-4228_01

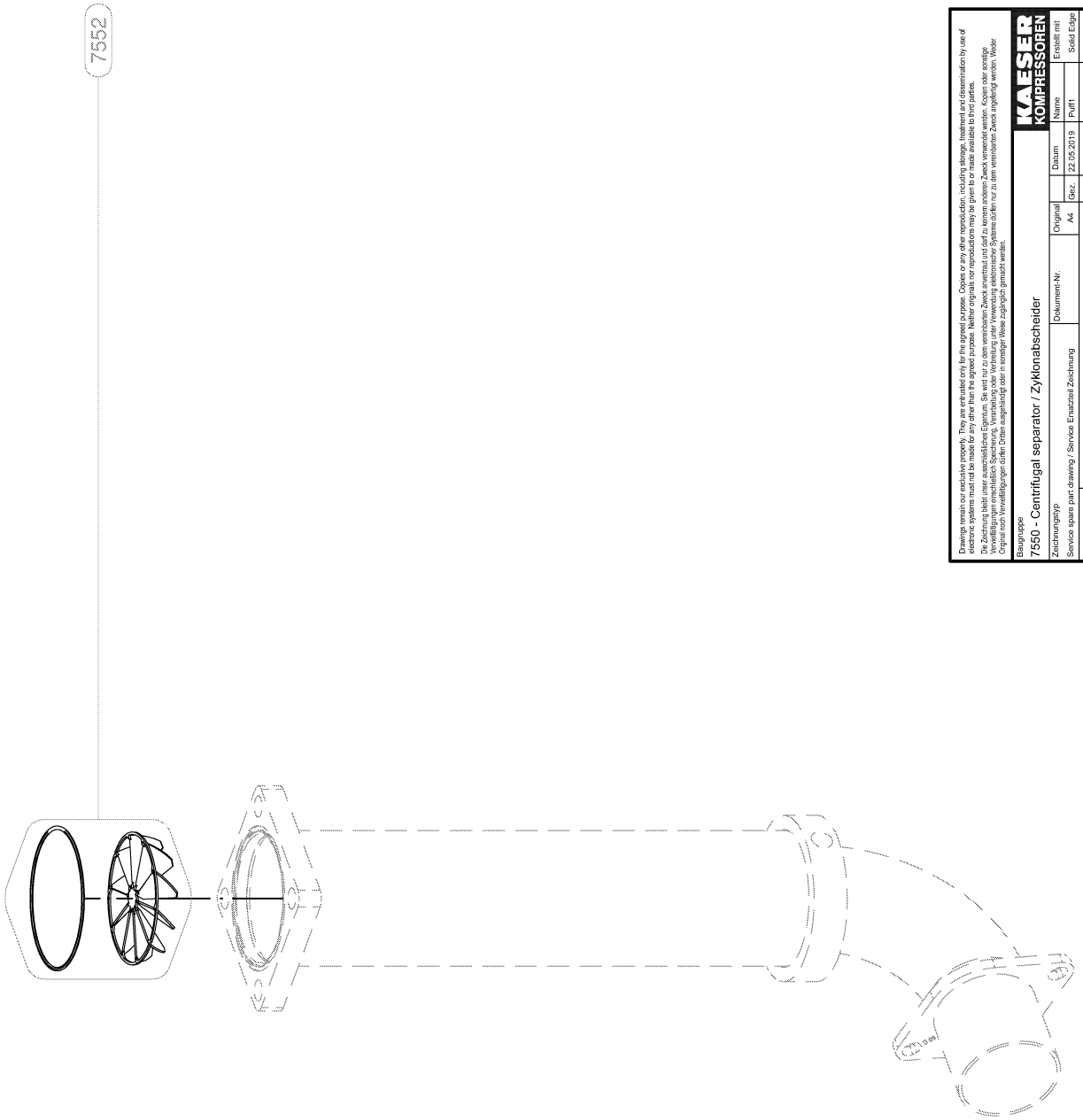


Service-Kit (Option)

Druckluft-Feinfilter / Compressed air fine filterr 1516

SEG-4229_01




7552
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KAESER KOMPRESSOREN
Baugruppe
7550 - Centrifugal separator / Zyklonabscheider
Zeichnungstyp
Service spare part drawing / Service Ersatzteil Zeichnung
Dokument-Nr.
SEG-Nummer
SEG-10136_01
Service-Kit (Option) Subassembly / Untergruppe
Original
A4
Datum
Name
Gez. 22.05.2019 Pufft
Freigegeben 22.05.2019 Pufft
Status freigegeben
Erstellt mit
Solid Edge
Blatt
1 von 1

12 Decommissioning, Storage and Transport

12.1 Decommissioning

Decommissioning is necessary, for example, under the following circumstances:

- The machine is temporarily not needed
- The machine will not be needed for a considerable time.
- The machine is to be scrapped.

Precondition The machine is shut down.
Machine dry and cool.

1. Carry out the following decommissioning procedures.
2. Place a notice on the instrument panel describing the decommissioning procedures carried out.

12.1.1 Temporary decommissioning

Decommissioning for about 4 months.

Material Plastic sheeting
Moisture-resistant adhesive tape

1. Close the air inlet opening with plastic foil and moisture-resistant adhesive tape.
2. Attach the following notice on the instrument panel showing the decommissioning measures taken.

Attention!
1. The machine is temporarily decommissioned.
2. The air inlet opening of the compressor has been closed.
3. Recommission according to service manual.
Date / signature:

Tab. 92 "Temporarily decommissioned" information notice

12.1.2 Long-term decommissioning

Long-term decommissioning:	Interval / designation
Decommissioning	> 5 months
Final decommissioning	Shutdown

Tab. 93 Definition of long-term decommissioning

Material Receptacle
Preserving oil
Preservative
Desiccant
Plastic sheeting
Moisture-resistant adhesive tape

➢ The following measures must be taken for long-term decommissioning:

Long-term decommissioning tasks	See chapter	Confirmed?
➢ Drain all cooling oil from the machine.	10.5.3	
➢ Fill the oil separator tank with preserving oil.	10.5.2	
➢ Run the machine for about 10 minutes to coat all parts with a protective oil film.	–	
➢ Empty the internal condensate collection tank.	10.7	
➢ Drain liquid accumulation within the machine.	10.12	
➢ Close the butterfly valve of the compressed air outlet.	–	
➢ Cover the following openings with plastic foil and moisture-proof duct tape: – Compressor air inlet	–	
➢ Clean the bodywork and treat with preservative.	–	

Tab. 94 Long-term decommissioning checklist

➢ Attach the following information sign on the control panel cover of SIGMA CONTROL SMART regarding the decommissioning measures taken:

Attention!

1. The machine is decommissioned.
2. It is filled with preserving oil.
3. For recommissioning:

- Take measures for recommissioning after a long period of storage.
- Recommission according to the Operating Manual.

Date / signature:

Tab. 95 “Long-term decommissioning” information sign

➢ Store machine in a dry place at a constant temperature.

12.2 Transport

To locally move the machine or to transport the machine as load, you can select one of these transport options:

- Transport by crane.
  - Transport by crane is permitted for all machines with crane lifting eye.
- Transport using a forklift truck.
  - Transport by forklift truck is allowed only for stationary machines with the frame designed as skid.
- Pull the machine along the ground.
  - Machines with skid-type frames may be pulled along the ground.
- Transporting the machine as load.

Precondition The machine is switched off.

The machine has cooled down.

«Load isolating switch» of the machine set to position *OFF*,
«Load isolating switch» is locked off,
«Controller ON/OFF» switch set to position *OFF*.
The absence of voltage has been verified,
the power supply cable has been removed.

The butterfly valve at the compressed air outlet is open,
the machine is fully vented, pressure gauge reads 0 psig!

All connecting cables of the shut-down machine are disconnected and removed,
any loose or movable parts that may fall when transporting the machine are removed or secured.

➢ Comply with all instructions!

12.2.1 Safety

Allow transport only by personnel trained in safely dealing with motor vehicles and the transport of goods.

1. **⚠ WARNING** *Risk of being run over or crushed by an overturning vehicle!*
   Death or severe injury from the machine falling off.
   ➢ *Persons are forbidden to ride on, or be in the direct vicinity of, the machine during transportation.*
2. Make sure the danger area is clear of personnel.

12.2.2 Transporting the machine by crane

Additional precautions for conditions of snow and ice:

Considerable snow and/or ice may build up on the machine under low temperature conditions.
This may adversely effect the machine's center of gravity (tilting).
The permissible load on the crane or lifting eye may be exceeded.

➢ Additional measures should be taken under conditions of snow or ice:
- Remove any snow and/or ice from the machine before lifting by crane.
- Make sure the lifting eye cover plate is freely accessible and can be opened.

Carry out the following tasks before lifting the machine by crane:

A lifting eye is provided for transporting with a crane. The lifting eye is located beneath a lift-up cover in the centre of the enclosure. The crane lifting eye is identified with an information sign.

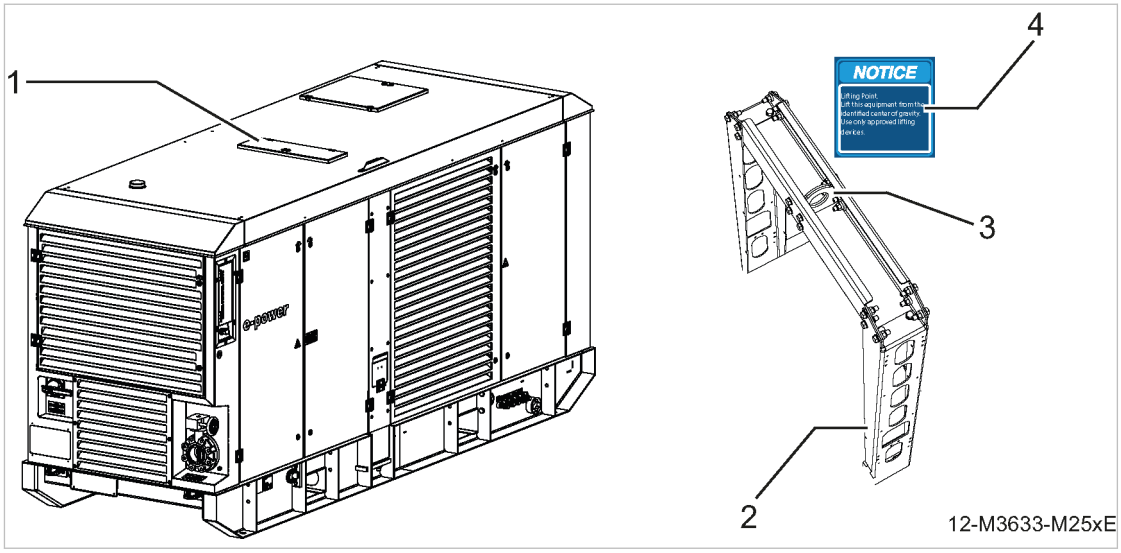


Fig. 53 Crane lifting eye information sign

1	Crane lifting eye cover	3	Crane lifting eye
2	Crane suspension	4	Machine lifting point information sign

1. **NOTICE** *The machine can be damaged by jerky lifting!*
   Components may break.
   ➢ *Lift the machine carefully.*
2. Unlock the lifting eye cover from inside and lift up.
3. Position the crane hook vertically over the lifting eye.
4. Engage the hook in the eye.
5. Close and lock all doors.
6. Lift up the machine slowly and carefully.
7. Transport the machine slowly and carefully.

Keep in mind when setting down the machine:

1. **NOTICE** *Incorrect setting down can damage the machine!*
   Machine components, particularly the skids, can be damaged by incorrectly setting the machine down.
   ➢ *Set the machine down carefully.*
   ➢ *Do not set down unevenly.*
2. Set the machine down slowly and carefully.

12.2.3 Transporting the machine with a forklift truck

Stationary machines with skid frame are fitted with lifting lugs into which forks can be driven. Only stationary machines with skid-type frames may be lifted and locally transported with a forklift truck.

Precondition The machine's weight is available (nameplate)
A suitable forklift truck (designed for the machine's weight) is available
The machine is switched off.
All connecting lines and hoses have been disconnected and removed.

➢ Comply with all instructions!

12.2.3.1 Preparing for transport

When using a forklift truck to transport a stationary machine with skid-type frame, you must first drive the forks into the lifting lugs. Each lifting lug is marked with an information sign.

NOTICE

Incorrect fork placement can damage the machine!

➢ *Insert the lifting forks only into the lifting lugs marked with information signs.*

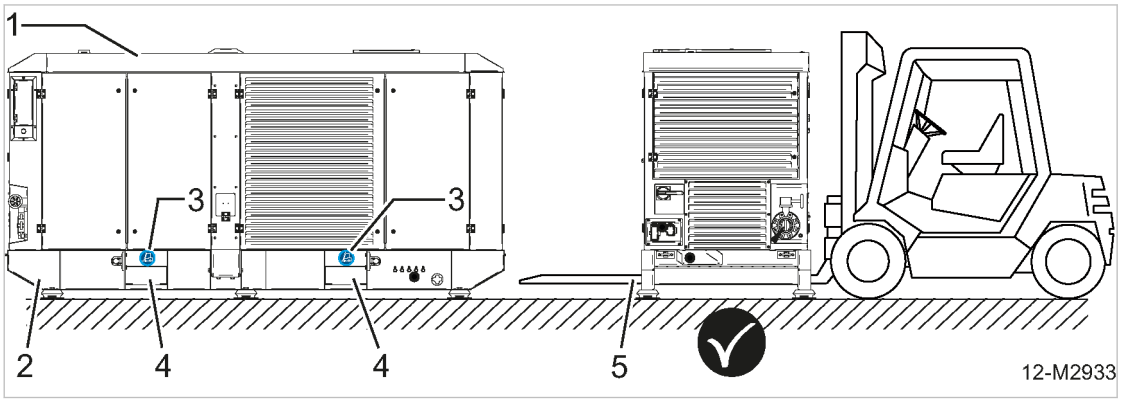


Fig. 54 Prepare for transport using a forklift truck

1 Front side of machine
2 Skid-type frame design
3 Location of lifting lug information sign
4 Lifting lug
5 Forks pushed through lifting lugs

Precondition The machine is parked on even ground.

1. Close and lock the doors.
2. Position the forklift truck in front of the front side of the machine with the forks opposite to the lifting lugs.
3. Align the forks with the machine's lifting lugs.
4. Carefully drive the full length of the forks through the lifting lugs.

Result Full length of forks driven through the lifting lugs.

12.2.3.2 Lifting the machine with a forklift truck

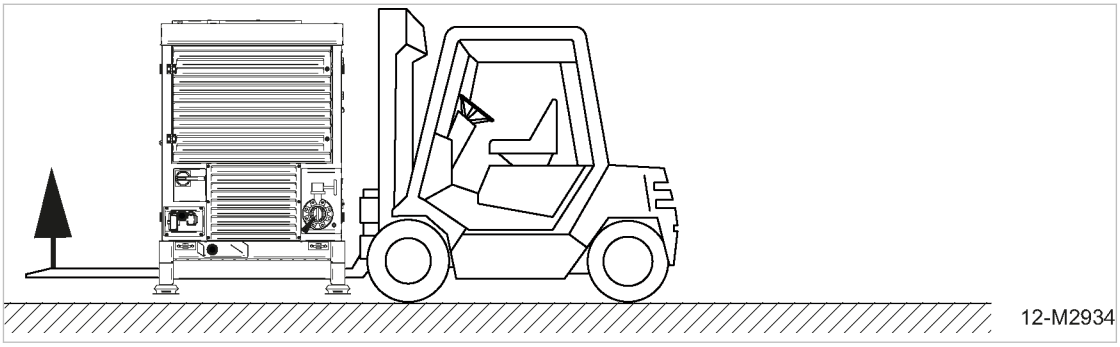


Fig. 55 Lifting the machine with a forklift truck

Precondition The machine is parked on even ground.

➢ Lift the machine carefully.

Result The machine rests fully on the lifting forks.

Proper transport position and transport elevation (minimum clearance to ground) for horizontal transport are given.

12.2.3.3 Transporting the machine with a forklift truck

Example: The machine is unloaded from the loading bay/lorry loading platform and transported from A to B.

Following the unloading from a loading bay or lorry loading platform, always lower the elevated forks as a prerequisite for horizontal transport.

Precondition The machine is unloaded and rests on the forks.

The forks are elevated, see Fig. 56.

NOTICE

The machine falls off the elevated forks during transport
Heavy machine damage

➢ *After unloading from the loading bay/lorry load platform, lower the forks immediately.*

Option rw

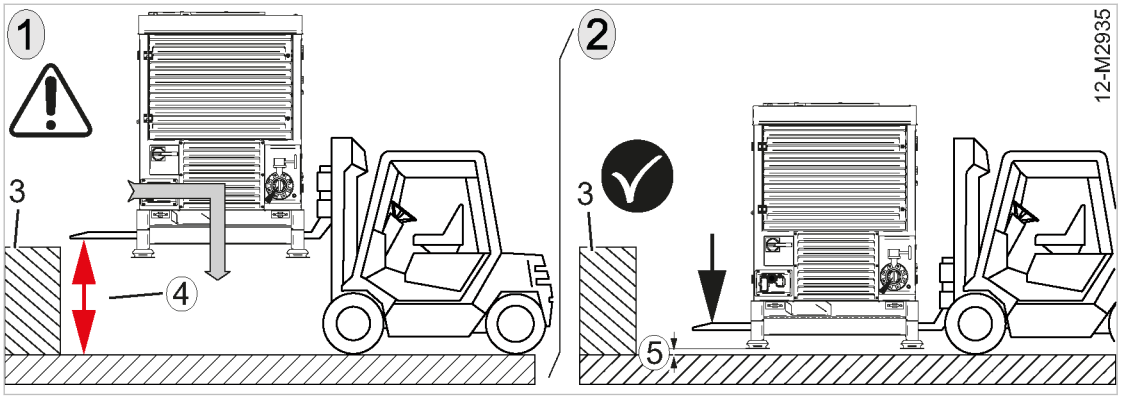


Fig. 56 Transporting the machine with a forklift truck

1 Lift the machine from loading bay or lorry load platform
2 Lower the machine for horizontal transport
3 Loading bay/lorry load platform
4 Improper transport elevation
5 Proper transport elevation

1. Carefully reverse the forklift truck with the machine from the loading bay or lorry load platform.
2. Reverse the forklift truck until you have sufficient clear space to lower the forks.
3. Lower the forks immediately.
4. Lower the forks until the proper transport elevation (minimum clearance to the ground) is reached.
5. Transport the machine on the lowered forks from A to B.

12.2.4 Transporting the machine locally on site

The support frame of the machine is in a skid design.

In order to transport a machine that has already been set down at the building site to the installation location without using lifting machines, the machine can be pulled along the ground with corresponding hoisting ropes. This type of transport is only suitable for small distances.

The machine is fitted with two lashing eyes on each side where the hoisting ropes can be attached, see dimensional drawing in chapter 13.3.

Lashing eye	Value
Maximum load force [lbf]	3000

Tab. 96 Maximum load force of lashing eye

Precondition Level ground at installation location

Ground at installation is capable of bearing the machine weight

1. **⚠ WARNING** *Taut hoisting ropes*
   Danger of injury torn hoisting ropes
   ➢ *Do not enter the danger area between the towing vehicle and the machine.*
2. Attach hoisting ropes to both lashing eyes of the machine.
3. Attach hoisting ropes to lashing eyes of towing vehicle.
4. Carefully pull the machine along the ground.

12.2.5 Transporting the machine as load

The transporting method will determine the type of packing and load securing.
Packing and securing methods must be such that, assuming proper handling, the goods arrive in proper condition at the destination.

Additional measures must be taken for the transport of machines by sea or air. Please contact an authorized KAESER service representative for more information.

- National directives and regulations for securing loads during transport must always be complied with.
- Load securing is taken to mean that, by full braking or sudden turning, the load will not slide, fall, roll or cause unnecessary noise. Generally accepted technical regulations should be observed.
- The driver, the vehicle keeper and the carrier are responsible for properly secured loads.

Material Tie down straps

NOTICE

Damage to the body!
Movement during transportation damages the bodywork.

➢ *Do not use tie down straps across the bodywork.*

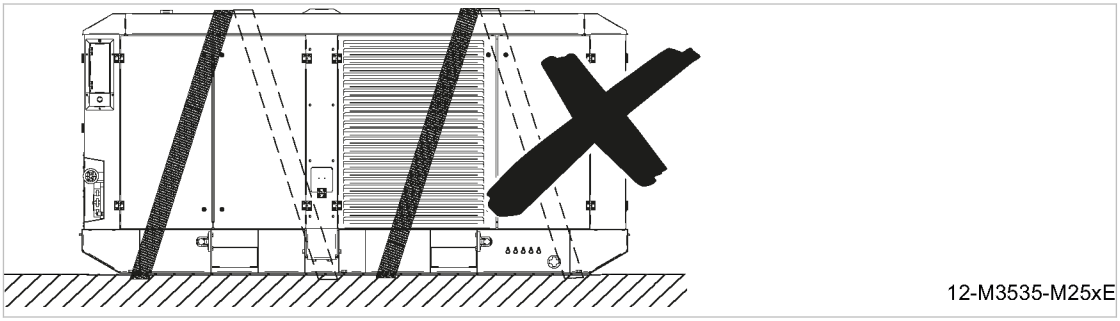


Fig. 57 Improperly lashed down across bodywork

Securely lash down the load:

- Comply with any safety and accident prevention regulations for transport and applicable guidelines for load safety.
- The load must be secured against rolling, tipping, slipping and falling.

Each side of the machine's support frame is equipped with two lashing points, see dimensional drawing in chapter 13.3. At each lashing point you will find one lashing eye.

Lashing eye	Value
Maximum load force [lbf]	3000

Tab. 97 Maximum load force of lashing eye

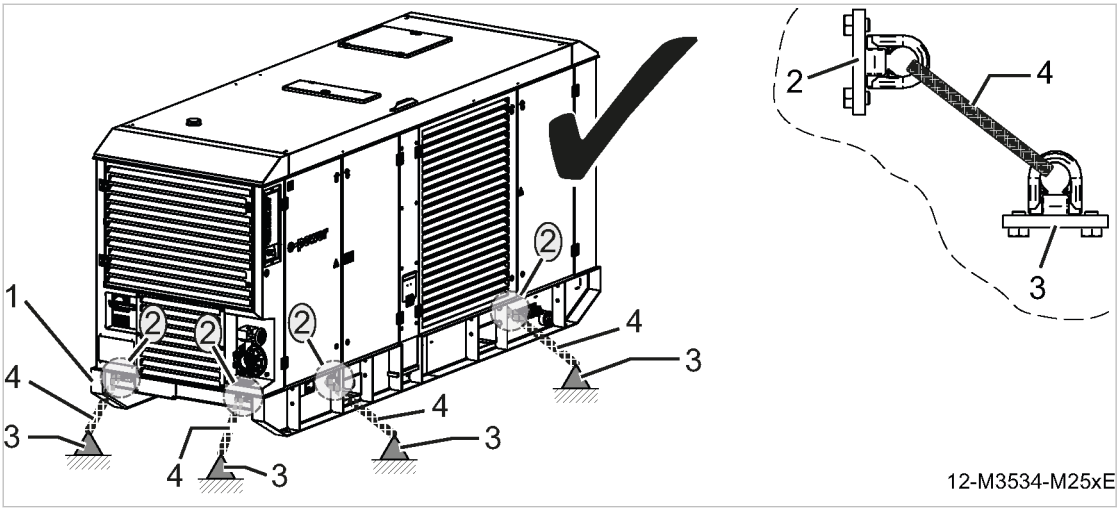


Fig. 58 Properly lashed down using lashing points on support frame

1	Machine's support frame	3	Lashing eye on load bed
2	Lashing eye on support frame	4	Tie down strap

1. Select tie down straps suitable for the load force.
2. Check that all the tie down straps are in a proper condition.
3. Connect the corresponding lashing eyes of the machine and load bed using tie down straps.
4. Tighten the tie down straps using the ratchet.

   The machine is lashed down on the load bed.

Contact KAESER SERVICE with any questions regarding transporting or load securing.

KAESER accepts no liability and provides no guarantee for damage arising from incorrect transport or insufficient or incorrect load securing provisions.

For hire, rental and trade show machines, any transport safety devices used for the delivery must also be used for the return transport.

Before shipment as air freight:

The machine is designated as hazardous goods for air freight purposes; any disregard can result in a heavy fine!

1. **⚠ WARNING** *Danger of fire or explosion from operating fluids/materials!*
   The machine is fitted with an airend.
   - ➢ *Any dangerous fluids/materials contained within the machine must be removed before transport by air.*
2. Remove all dangerous fluids/materials.
   - Compressor lubricating oil

12.3 Storage

Moisture can lead to corrosion, particularly in the airend and oil separator tank.

Frozen moisture can damage components, valve diaphragms and gaskets.

The following measures also apply to machines not yet commissioned.

Please consult with an authorized KAESER service representative if you have questions to the appropriate storage and commissioning.

NOTICE

Moisture and frost can damage the machine!

- ➢ *Prevent ingress of moisture and formation of condensation.*
- ➢ *Maintain a storage temperature of >32°F.*

➢ Store the machine in a dry place, free from frost if possible.

12.4 Disposal

To dispose of the machine in accordance with environmental regulations, all environmentally harmful substances must be removed from it. Substances that are harmful to living things and the environment can be separated and disposed of efficiently or reprocessed.

All operating fluids in the machine must be drained and disposed of in accordance with environmental regulations. All components contaminated with operating fluids must be removed and disposed of in accordance with environmental regulations.

Any residual quantities of condensate must be drained and disposed of in accordance with environmental regulations.

Once these conditions have been fulfilled, deliver the machine to an authorized disposal agent.

Overview:

- Drain all operating fluids.
- Drain the condensate.
- Remove used filters/filter elements.
- Deliver the machine to an authorized disposal agent.

➢ Follow all instructions carefully.

12.4.1 Draining operating fluids

Material Receptacle
Cleaning cloth

➢ Drain and collect the following operating fluids from your machine.

Designation	Compressor
Fluid	Cooling oil
	—

Tab. 98 Machine fluids

Dispose of operating fluids and working materials and components contaminated with them in accordance with applicable environmental protection regulations.

12.4.2 Draining the condensate

Material Receptacle
Cleaning cloth

➢ Empty the condensate collection tank.

Dispose of any residual quantities of condensate and contaminated working materials in accordance with applicable environmental protection regulations.

12.4.3 Removing filters/filter elements

Material Cleaning cloth
Receptacle

1. Remove all filters/filter elements from the machine.

Designation	Compressor
Filters/filter elements	Oil filter
	Oil separator cartridge
	—

Tab. 99 Machine filters/filter elements

2. Remove all filters/filter elements from the options specified on the machine.

Designation	Filter combination option
Filters/filter elements	Prefilter
	Fine filter

Tab. 100 Machine option filters/filter elements

Dispose of working materials and components contaminated with operating fluids in accordance with applicable environmental protection regulations.

12.4.4 Disposing of the machine

Precondition All operating fluids have been drained and disposed of in accordance with applicable environmental regulations.
Any residual quantities of condensate have been drained and disposed of in accordance with applicable environmental regulations.
All used filters/filter elements have been removed and disposed of in accordance with applicable environmental regulations.

➢ Deliver the machine to an authorized disposal agent.

13 Annex

13.1 Labeling

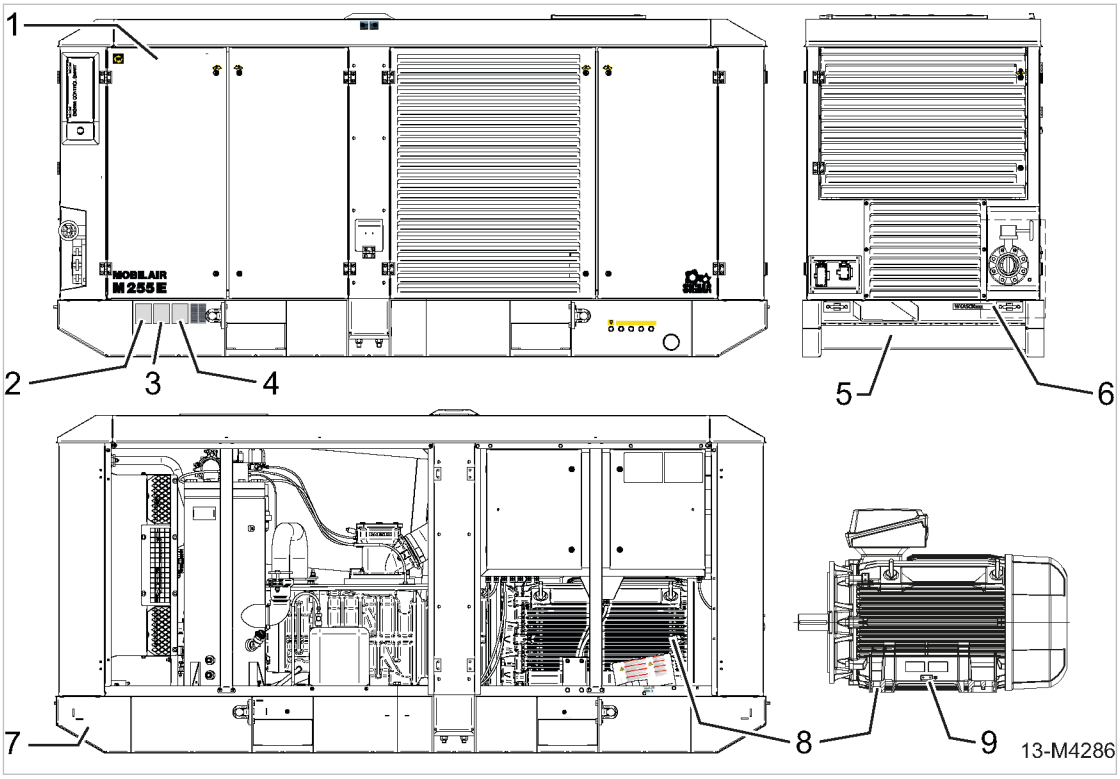
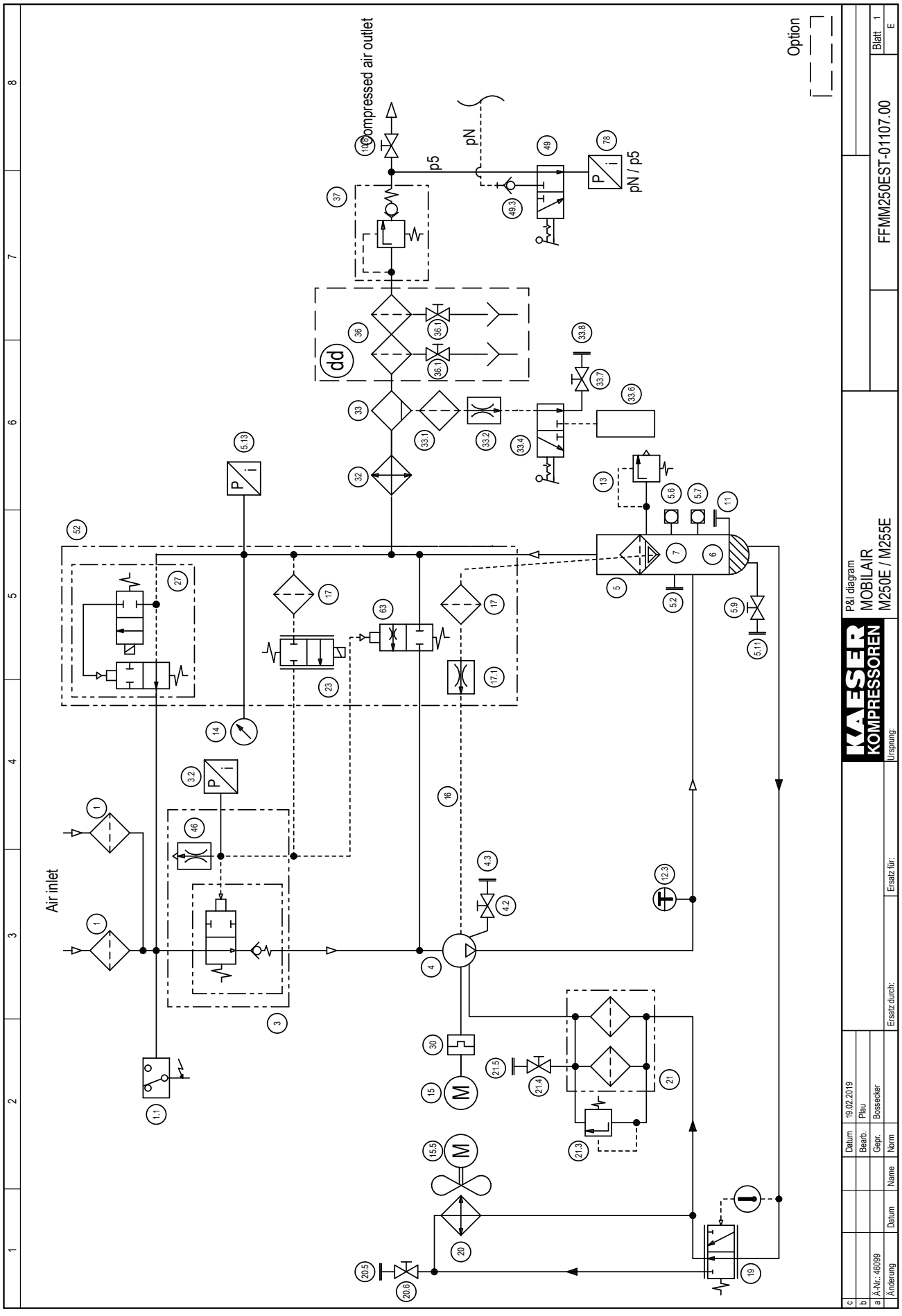


Fig. 59 Labeling M250E/M255E/60Hz

1. Front side of machine
2. Nameplate US/CA
3. Nameplate CE
4. Options label
5. Left end side of machine
6. VIN *) * Vehicle identification number
7. Rear side of machine
8. Position of drive motor inside machine
9. Drive motor nameplate, with drive motor serial number

13.2 Pipeline and instrument diagram (P&I diagram)


Compressed air outlet
Air inlet
Option
p5
pN
pN / p5
dd
M
P / i
P&I diagram
MOBILAIR
M250E / M255E
FFMM250EST-01107.00
KAESER KOMPRESSOREN
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E
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Bearb.
Gepr.
Norm
19.02.2019
Plau
Bossecker
Name
Datum
Änderung
Ersatz durch:
Ersatz für:
Ursprung:
a Ä-Nr.: 46099

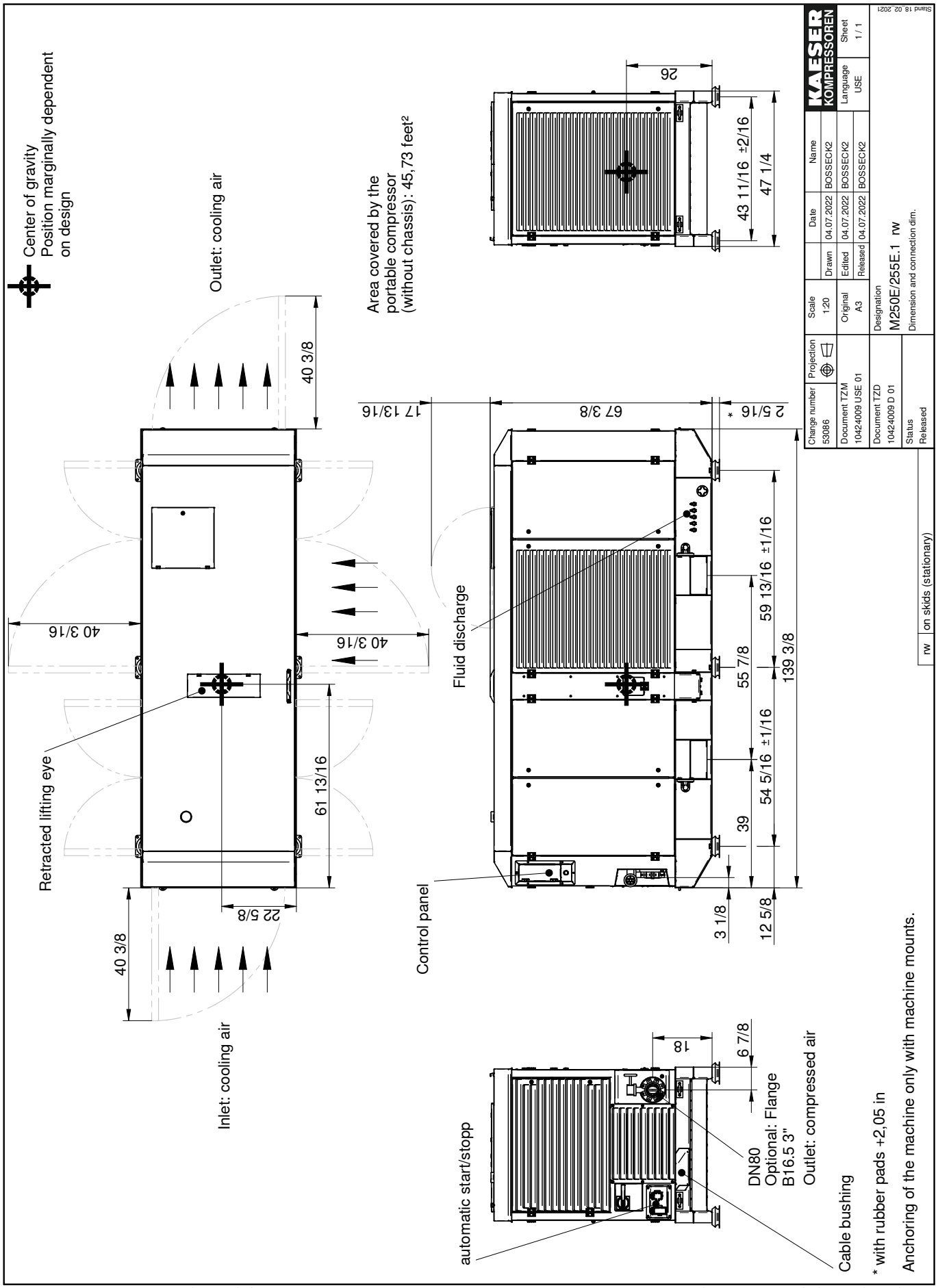
1	Compressor - Air filter
1.1	Vacuum switch
3	Inlet valve
3.2	Pressure transducer - Control pressure
4	Rotary screw airend
4.2	Shut-off valve - Oil drain device
4.3	Screw plug - Oil drain device
5	Oil separator tank
5.2	Screw plug
5.6	Oil sight glass: oil level maximum
5.7	Oil sight glass: oil level minimum
5.9	Shut-off valve - Oil drain device
5.11	Screw plug - Oil drain device
5.13	Pressure transducer - Internal pressure
6	Oil reserve
7	Oil separator cartridge
10.8	Shut-off valve
11	Oil filler port with plug
13	Safety relief valve
14	Pressure gauge - Control panel
15	Drive motor
15.5	Fan motor
16	Oil return line
17	Dirt trap
17.1	Nozzle
19	Thermostatic valve
20	Oil cooler
20.5	Screw plug - Oil drain device
20.6	Shut-off valve - Oil drain device
21	Oil filter
21.3	Overflow valve
21.4	Shut-off valve - Oil drain device
21.5	Screw plug - Oil drain device
23	Electric proportional controller
27	Venting valve
30	Coupling
32	Compressed air aftercooler
33	Centrifugal separator
33.1	Dirt trap
33.2	Nozzle
33.4	Directional control valve
33.6	Condensate collection tank
33.7	Shut-off valve - Condensate drainage device
33.8	Screw plug - Condensate drainage device
36	Filter combination
36.1	Condensate drain shut-off valve
37	Minimum pressure check valve
46	Nozzle (Secondary side Proportional controller)
49	Directional control valve
49.3	Hose coupling
52	Control valve
63	Regulating valve (Recirculation valve)
78	Pressure transducer
	pN - Network pressure
	p5 - Air pressure at the machine outlet

Option

dd	Filter combination

c				Datum	19.02.2019		KAESER KOMPRESSOREN	P&I diagram legend MOBILAIR M250E / M255E	
b				Bearb.	Plau				
a				Gepr.	Bossecker				
	Änderung	Datum	Name	Norm		Ersatz durch:	Ersatz für:	Ursprung:	FFMM250EST-01107.00	Blatt 2 / E

13.3 Dimensional Drawing



13.4 Electrical Diagram

Wiring Diagram

MOBILAIR M250E/M255E

SIGMA CONTROL SMART

460V±10% 60Hz

575V±10% 60Hz

Power supply:
WYE system with center point solidly grounded

ATTENTION !!!
The document gives collective information on
power supply voltages and frequencies for all machines.
The voltage and frequency and local conditions under
which any particular machine may be used
are given on the nameplate of the machine
and in the accompanying service manual.

manufacturer: KAESER KOMPRESSOREN SE
Postfach 2143
96410 Coburg

c				Date	13.06.2022 USE	KAESER KOMPRESSOREN	cover page		=	
b				Drawn	Taubmann		MOBILAIR M250E/M255E		+	
a				Released	Schröder			DFA250255E-U3032.00	page 1	
A	Change	Date	Name						1 Sht.	

Lfd. Nr. No.	Benennung Name		Zeichnungsnummer (Kunde) Drawing No. (customer)	Zeichnungsnummer (Hersteller) Drawing No. (manufacturer)	Blatt Page	Anlagenkennzeichen Unit designation
1	cover page			DFA250255E-U3032.00	1	
2	list of contents			ZFA250255E-U3032.00	1	
3	general instructions			UFA250255E-U3032.00	1	
4	electrical equipment identification			UFA250255E-U3032.00	2	
5	electrical component parts list			UFA250255E-U3032.00	3	
6	electrical component parts list			UFA250255E-U3032.00	4	
7	electrical component parts list			UFA250255E-U3032.00	5	
8	wiring diagram	power supply/power unit		SFA250255E-U3032.00	1	
9	wiring diagram	power unit compressor unit ventilator / Power supply monitoring		SFA250255E-U3032.00	2	
10	wiring diagram	power unit compressor unit ventilator / Power supply monitoring		SFA250255E-U3032.00	3	
11	wiring diagram	low temperature equipment - option ba		SFA250255E-U3032.00	4	
12	wiring diagram	control voltage tapping		SFA250255E-U3032.00	5	
13	wiring diagram			SFA250255E-U3032.00	6	
14	wiring diagram			SFA250255E-U3032.00	7	
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18	wiring diagram			SFA250255E-U3032.00	11	
19	wiring diagram			SFA250255E-U3032.00	12	
20	wiring diagram			SFA250255E-U3032.00	13	
21	wiring diagram			SFA250255E-U3032.00	14	
22	wiring diagram			SFA250255E-U3032.00	15	
23	wiring diagram			SFA250255E-U3032.00	16	
24	wiring diagram	GSM/GPS Modem - option oc		SFA250255E-U3032.00	17	
25	wiring diagram	volt-free contacts - option ob		SFA250255E-U3032.00	18	
26	terminal connection	terminal strip -X0,-X11		KFA250255E-U3032.00	1	
27	terminal connection	terminal strip -X12		KFA250255E-U3032.00	2	
28	terminal connection	terminal strip -X14, -X15		KFA250255E-U3032.00	3	
29	lay-out	Switchboard / control cabinet bottom / instrument panel		AFA250255E-U3032.00	1	

c				Date	13.06.2022	KAESER KOMPRESSOREN	list of contents	=	
b				Drawn	Taubmann		MOBILAIR M250E/M255E	+	
a				Released	Schröder			ZFA250255E-U3032.00	page 1
B	Change	Date	Name						1 Sht.

general instructions

ATTENTION !!!
Install supplies, grounding and shock protection
to local safety regulations.
Do not make or break
live plug-in connectors.

control cabinet wiring for non-designated conductors
with multi-standard stranded conductors

primary circuits:	black
primary circuits grounded:	grey
control voltage AC ungrounded:	red 1mm² H05V-K, 18AWG UL-Style 1015, CSA-TEW
control voltage AC grounded:	white 1mm² H05V-K, 18AWG UL-Style 1015, CSA-TEW
control voltage DC ungrounded:	blue 1mm² H05V-K, 18AWG UL-Style 1015, CSA-TEW
control voltage DC grounded:	white/blue 1mm² H05V-K, 18AWG UL-Style 1015, CSA-TEW
external voltage:	orange 1,5mm² H07V-K, 16AWG UL-Style 1015, CSA-TEW
measuring circuits:	violet 1mm² H05V-K, 18AWG UL-Style 1015, CSA-TEW
ground conductor:	green/yellow H07V-K, UL-Style 1015, CSA-TEW

option ba = low temperature equipment

option cd = DUAL control mode

option ob = Automatic-start-stop

option oc = GSM/GPS Modem

c				Date	13.06.2022	KAESER KOMPRESSOREN	general instructions	=	
b				Drawn	Taubmann		MOBILAIR M250E/M255E	+	
a				Released	Schröder				
C	Change	Date	Name				UFA250255E-U3032.00	page 1	5 Sht.

electrical equipment identification

general components

-B28	Monitoring relay (direction of rotation, voltage)
-B29	overload relay, compressor motor
-K20	Control board SIGMA CONTROL SMART
-K21	Operating unit SIGMA CONTROL SMART
-K25	Control board SIGMA CONTROL SMART
-K40	control relay EMERGENCY STOP
-K51	coupling relay main contactor
-K52	coupling relay delta contactor
-K53	coupling relay wye contactor
-K54	coupling relay vent motor
-M1	compressor motor
-M4	vent motor
-M7	controller ventilator
-Q1	main contactor
-Q2	delta contactor
-Q3	wye contactor
-Q4	starter vent motor
-R11,-R12	Resistor
-S1	EMERGENCY STOP pushbutton
-S10	switch control ON/OFF
-T11	control transformer
-T21	power unit

-1FU, -2FU, -3FU	fuses
-10FU, -11FU	primary control fuse
-12FU	secondary control fuse
-T40	converter airend discharge temperature

sensors/actuators

-B5	air filter flow compressor
-B10	pressure transducer, package internal pressure
-B11	pressure transducer, Control pressure inlet solenoid
-B40	temperature probe airend discharge temperature
-K1	control valve
-K7	drain solenoid

terminal strips, plug connection

-X0	terminal strip, ground
-X1	plug, power supply
-X11	terminal strip, control 230VAC
-X12	terminal strip, control 24VDC
-X100	Diagnostic socket KAESER

model-dependent components

-B13	pressure transducer, Network pressure external, pN
-B30	thermostat heating
-E30,-E31,-E32	heating
-43FU, -44FU, -45FU	fuses vent motor
-K27	GSM/GPS Modem
-K61	coupling relay control ON
-Q30	contactor heating
-T4	transformer vent motor
-T27	GSM/GPS antenna
-X13	GSM/GPS Modem interface
-X14,-X15	terminal strip heating
-X50,-X51	Adaptor connector SSA
-30FU, -31FU, -32FU	fuses auxiliary heating
-T30	transformer auxiliary heating
-K64	coupling relay compressor motor running
-K65	coupling relay compressor motor Under load

c				Date	13.06.2022	KAESER KOMPRESSOREN	electrical equipment identification	=	
b				Drawn	Taubmann		MOBILAIR M250E/M255E	+	
a				Released	Schröder				
C	Change	Date	Name					UFA250255E-U3032.00	page 2 / 5 Sht.

electrical component parts list

model	M250E	M255E	M250E	M255E
machine power supply	**460 V ±10 %, 60 Hz UL**	**460 V ±10 %, 60 Hz UL**	**575 V ±10 %, 60 Hz UL**	**575 V ±10 %, 60 Hz UL**
motor -M1	132 kW / 175 HP	160 kW / 215 HP	132 kW/ 175 HP	160 kW / 215 HP
motor -M4	3 ~ 380-480 V / 6 kW/ 8 HP	3 ~ 380-480 V / 6 kW/ 8 HP	3 ~ 380-480 V / 6 kW/ 8 HP	3 ~ 380-480 V / 6 kW/ 8 HP
CAM-LOK-Connector housing -X1	GRD 7.9256.00200/E-Z200074-64 L1 7.9256.00210/E-Z200074-67 L2 7.9256.00240/E-Z200074-60 L3 7.9256.00230/E-Z200074-61 7.9257.00010/A200639-1 Contact only	GRD 7.9256.00200/E-Z200074-64 L1 7.9256.00210/E-Z200074-67 L2 7.9256.00240/E-Z200074-60 L3 7.9256.00230/E-Z200074-61 7.9257.00010/A200639-1 Contact only	GRD 7.9256.00200/E-Z200074-64 L1 7.9256.00210/E-Z200074-67 L2 7.9256.00240/E-Z200074-60 L3 7.9256.00230/E-Z200074-61 7.9257.00010/A200639-1 Contact only	GRD 7.9256.00200/E-Z200074-64 L1 7.9256.00210/E-Z200074-67 L2 7.9256.00240/E-Z200074-60 L3 7.9256.00230/E-Z200074-61 7.9257.00010/A200639-1 Contact only
contactor -Q1/-Q2	7.3140.02170 3RT1064-6AF36	7.3140.02170 3RT1064-6AF36	7.3140.02170 3RT1064-6AF36	7.3140.02170 3RT1064-6AF36
interference suppressor Siemens	7.3140.02020 3RT1956-1CC00	7.3140.02020 3RT1956-1CC00	7.3140.02020 3RT1956-1CC00	7.3140.02020 3RT1956-1CC00
contactor -Q3	7.3140.02140 3RT1054-1AF36	7.3140.02140 3RT1054-1AF36	7.3140.02140 3RT1054-1AF36	7.3140.02140 3RT1054-1AF36
interference suppressor Siemens	7.3140.02020 3RT1956-1CC00	7.3140.02020 3RT1956-1CC00	7.3140.02020 3RT1956-1CC00	7.3140.02020 3RT1956-1CC00
contactor -Q4	7.8740.00310 3RT2016-1AK61	7.8740.00310 3RT2016-1AK61	7.8740.00310 3RT2016-1AK61	7.8740.00310 3RT2016-1AK61
interference suppressor Siemens	7.8740.05130 3RT2916-1CC00	7.8740.05130 3RT2916-1CC00	7.8740.05130 3RT2916-1CC00	7.8740.05130 3RT2916-1CC00
control relay -K40 Siemens	7.8740.04200 3RH2140-1JB40	7.8740.04200 3RH2140-1JB40	7.8740.04200 3RH2140-1JB40	7.8740.04200 3RH2140-1JB40
coupling relay -K51..K54, Phoenix	7.3172.00310 RIF-0-RPT-24DC/21	7.3172.00310 RIF-0-RPT-24DC/21	7.3172.00310 RIF-0-RPT-24DC/21	7.3172.00310 RIF-0-RPT-24DC/21
Monitoring relay -B28 Siemens	7.9225.0 3UG4617-2CR20	7.9225.0 3UG4617-2CR20	7.9225.0 3UG4617-2CR20	7.9225.0 3UG4617-2CR20
overload relay -B29	7.6873.00250 3RB2066 55-250 A setting: 143 A 8,6 bar setting: 145 A 12,0 bar setting: 141 A 14,0 bar	7.6873.00250 3RB2066 55-250 A setting: 174 A 8,6 bar setting: 164 A 10,0 bar setting: 164 A 14,0 bar	7.6873.00250 3RB2066 55-250 A setting: 115 A 8,6 bar setting: 117 A 12,0 bar setting: 114 A 14,0 bar	7.6873.00250 3RB2066 55-250 A setting: 142 A 8,6 bar setting: 134 A 10,0 bar setting: 134 A 14,0 bar
main fuses -1FU -2FU -3FU	7.3161.00460 fuse UL Class CC ATQR 12 A	7.3161.00460 fuse UL Class CC ATQR 12 A	7.3161.00460 fuse UL Class CC ATQR 12 A	7.3161.00460 fuse UL Class CC ATQR 12 A
fuse socket Wöhner	7.3320.00060 31297	7.3320.00060 31297	7.3320.00060 31297	7.3320.00060 31297
fuses vent motor -43FU -44FU -45FU	-	-	7.3161.00440 fuse UL Class CC ATDR 8 A	7.3161.00440 fuse UL Class CC ATDR 8 A
fuse socket Wöhner	-	-	7.3320.00060 31297	7.3320.00060 31297
fuses auxiliary heating -30FU (option ba)	7.3164.0 fuse UL Class CC ATDR 5 A	7.3164.0 fuse UL Class CC ATDR 5 A	7.3164.0 fuse UL Class CC ATDR 5 A	7.3164.0 fuse UL Class CC ATDR 5 A
-31FU (option ba)	7.3164.0 fuse UL Class CC ATDR 5 A	7.3164.0 fuse UL Class CC ATDR 5 A	7.3164.0 fuse UL Class CC ATDR 5 A	7.3164.0 fuse UL Class CC ATDR 5 A
-32FU (option ba)	7.3161.00300 fuse UL Class CC ATDR 10 A	7.3161.00300 fuse UL Class CC ATDR 10 A	7.3161.00300 fuse UL Class CC ATDR 10 A	7.3161.00300 fuse UL Class CC ATDR 10 A
fuse socket (option ba) Wöhner	7.3320.00060 31297	7.3320.00060 31297	7.3320.00060 31297	7.3320.00060 31297
control fuse -10FU -11FU -12FU	7.3161.00170 fuse UL Class CC ATQR 6 A	7.3161.00170 fuse UL Class CC ATQR 6 A	7.3161.00170 fuse UL Class CC ATQR 6 A	7.3161.00170 fuse UL Class CC ATQR 6 A
fuse socket Wöhner	7.3320.00060 31297	7.3320.00060 31297	7.3320.00060 31297	7.3320.00060 31297
transformer -T4 Hammond	-	-	7.9707.0 Trafo IP 3Ph 6kVA, 480/600/380/480V	7.9707.0 Trafo IP 3Ph 6kVA, 480/600/380/480V
transformer -T11 Block	7.2238.10060 USTE 208-600 V/2x 115 V, 630 VA	7.2238.10060 USTE 208-600 V/2x 115 V, 630 VA	7.2238.10060 USTE 208-600 V/2x 115 V, 630 VA	7.2238.10060 USTE 208-600 V/2x 115 V, 630 VA
power supply -T21 Wieland	7.9665.1 power unit 115 VAC/24 V DC 2,5 A	7.9665.1 power unit 115 VAC/24 V DC 2,5 A	7.9665.1 power unit 115 VAC/24 V DC 2,5 A	7.9665.1 power unit 115 VAC/24 V DC 2,5 A
transformer -T30 (option ba) ACME	7.9713.0 Trafo IP 1Ph 2kVA, 240/480/120/240V	7.9713.0 Trafo IP 1Ph 2kVA, 240/480/120/240V	7.9708.0 Trafo IP 1Ph 2kVA, 600/120/240V	7.9708.0 Trafo IP 1Ph 2kVA, 600/120/240V

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electrical component parts list
MOBILAIR M250E/M255E
KAESER KOMPRESSOREN
Date 13.06.2022
Drawn Taubmann
Released Schröder
Date Name
C Change

model	electrical component parts list M250E	M255E	M250E	M255E
machine power supply	**460 V ±10 %, 60 Hz UL**	**460 V ±10 %, 60 Hz UL**	**575 V ±10 %, 60 Hz UL**	**575 V ±10 %, 60 Hz UL**
connection **-W11.1/.2/.4**	H07V-K 3x95 mm², 3/0 AWG black 600 V, 90°C UL MTW	H07V-K 3x120 mm², 4/0 AWG black 600 V, 90°C UL MTW	H07V-K 3x95 mm², 3/0 AWG black 600 V, 90°C UL MTW	H07V-K 3x95 mm², 3/0 AWG black 600 V, 90°C UL MTW
connection **-W14**	H07V-K 3x95 mm², 3/0 AWG black 600 V, 90°C UL MTW	H07V-K 3x120 mm², 4/0 AWG black 600 V, 90°C UL MTW	H07V-K 3x95 mm², 3/0 AWG black 600 V, 90°C UL MTW	H07V-K 3x95 mm², 3/0 AWG black 600 V, 90°C UL MTW
connection **-W19.1/.2**	H07V-K 3x95 mm², 3/0 AWG black 600 V, 90°C UL MTW	H07V-K 3x120 mm², 4/0 AWG black 600 V, 90°C UL MTW	H07V-K 3x95 mm², 3/0 AWG black 600 V, 90°C UL MTW	H07V-K 3x95 mm², 3/0 AWG black 600 V, 90°C UL MTW
connection **-W11.3**	H07V-K 3x6 mm², 10 AWG black 600 V, 90°C UL MTW	H07V-K 3x6 mm², 10 AWG black 600 V, 90°C UL MTW	H07V-K 3x6 mm², 10 AWG black 600 V, 90°C UL MTW	H07V-K 3x6 mm², 10 AWG black 600 V, 90°C UL MTW
connection **-W4.0/.1/.2**	5G2,5 mm², 14 AWG 600 V, 90°C UL	5G2,5 mm², 14 AWG 600 V, 90°C UL	5G2,5 mm², 14 AWG 600 V, 90°C UL	5G2,5 mm², 14 AWG 600 V, 90°C UL
connection **-W30.1/W30.2**	3G2,5 mm², 14 AWG 600 V, 90°C UL	3G2,5 mm², 14 AWG 600 V, 90°C UL	3G2,5 mm², 14 AWG 600 V, 90°C UL	3G2,5 mm², 14 AWG 600 V, 90°C UL
connection **-W61/W62/W63**	3G2,5 mm², 14 AWG 600 V, 90°C UL	3G2,5 mm², 14 AWG 600 V, 90°C UL	3G2,5 mm², 14 AWG 600 V, 90°C UL	3G2,5 mm², 14 AWG 600 V, 90°C UL
connection **-W12**	7G1 mm², 18 AWG 600 V, 90°C UL	7G1 mm², 18 AWG 600 V, 90°C UL	7G1 mm², 18 AWG 600 V, 90°C UL	7G1 mm², 18 AWG 600 V, 90°C UL
connection **-W31/W37**	3G1,5 mm², 16 AWG 600 V, 90°C UL	3G1,5 mm², 16 AWG 600 V, 90°C UL	3G1,5 mm², 16 AWG 600 V, 90°C UL	3G1,5 mm², 16 AWG 600 V, 90°C UL
connection **-W50 (option ob)**	12G1,5 mm², 16 AWG 600 V, 90°C UL	12G1,5 mm², 16 AWG 600 V, 90°C UL	12G1,5 mm², 16 AWG 600 V, 90°C UL	12G1,5 mm², 16 AWG 600 V, 90°C UL
connection **-W51 (option ob)**	7G1 mm², 18 AWG 600 V, 90°C UL	7G1 mm², 18 AWG 600 V, 90°C UL	7G1 mm², 18 AWG 600 V, 90°C UL	7G1 mm², 18 AWG 600 V, 90°C UL
Operating unit **-K21** SIGMA CONTROL SMART **IFM**	7.9200.11010 CR9047	7.9200.11010 CR9047	7.9200.11010 CR9047	7.9200.11010 CR9047
EMERGENCY STOP pushbutton **-S1** auxiliary contact **Schlegel**	7.3217.0 / QRUV 7.3218.0 / MTHOO	7.3217.0 / QRUV 7.3218.0 / MTHOO	7.3217.0 / QRUV 7.3218.0 / MTHOO	7.3217.0 / QRUV 7.3218.0 / MTHOO
control switch **-S10** auxiliary contact **Schlegel**	7.9027.10050 / RKWA 7.9027.10030 / BTL5	7.9027.10050 / RKWA 7.9027.10030 / BTL5	7.9027.10050 / RKWA 7.9027.10030 / BTL5	7.9027.10050 / RKWA 7.9027.10030 / BTL5
Control board **-K20/-K25** **IFM**	7.9200.11000 CR9052	7.9200.11000 CR9052	7.9200.11000 CR9052	7.9200.11000 CR9052
Control board **-K20N1/-K25N1** plug connection **AMP**	7.9200.01310 928343-6	7.9200.01310 928343-6	7.9200.01310 928343-6	7.9200.01310 928343-6
Control board **-K20 A/-K20B/-K20C** plug connection **AMP**	7.9200.01320 3-928343-8	7.9200.01320 3-928343-8	7.9200.01320 3-928343-8	7.9200.01320 3-928343-8
Control board **-K20E/-K20F/-K25F** plug connection **AMP**	7.9200.01330 928343-8	7.9200.01330 928343-8	7.9200.01330 928343-8	7.9200.01330 928343-8

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electrical component parts list
MOBILAIR M250E/M255E
KAESER KOMPRESSOREN

	Date	Name
Drawn	13.06.2022	Taubmann
Released		Schröder
C Change	Date	Name

electrical component parts list

model	M250E	M255E	M250E	M255E
machine power supply	460 V ±10 %, 60 Hz UL	460 V ±10 %, 60 Hz UL	575 V ±10 %, 60 Hz UL	575 V ±10 %, 60 Hz UL
control valve **-K1**	7.7089.1	7.7089.1	7.7089.1	7.7089.1
Bürkert	solenoid valve 24 V DC G3/8 2/2-W	solenoid valve 24 V DC G3/8 2/2-W	solenoid valve 24 V DC G3/8 2/2-W	solenoid valve 24 V DC G3/8 2/2-W
drain solenoid **-K7**	7.5453.10030	7.5453.10030	7.5453.10030	7.5453.10030
Bürkert	solenoid valve 24 V DC 3/2-W	solenoid valve 24 V DC 3/2-W	solenoid valve 24 V DC 3/2-W	solenoid valve 24 V DC 3/2-W
air filter flow compressor **-B5**	7.5429.00030	7.5429.00030	7.5429.00030	7.5429.00030
	55 mbar	55 mbar	55 mbar	55 mbar
pressure transducer **-B10**	7.9204.0	7.9204.0	7.9204.0	7.9204.0
system pressure **Hubacontrol**	511.931603542	511.931603542	511.931603542	511.931603542
pressure transducer **-B11**	7.9203.0	7.9203.0	7.9203.0	7.9203.0
Control pressure inlet solenoid **Hubacontrol**	511.917603542W	511.917603542W	511.917603542W	511.917603542W
temperature probe **-B40**	7.8291.0	7.8291.0	7.8291.0	7.8291.0
block discharge temperature **Wika**	TF35	TF35	TF35	TF35
converter **-T40**	7.2887.00063	7.2887.00063	7.2887.00063	7.2887.00063
block discharge temperature	Signalwandler Pt100 > U	Signalwandler Pt100 > U	Signalwandler Pt100 > U	Signalwandler Pt100 > U
Resistor **-R11**	7.5392.00030	7.5392.00030	7.5392.00030	7.5392.00030
Conrad	120R 0,5W + -5 %	120R 0,5W + -5 %	120R 0,5W + -5 %	120R 0,5W + -5 %
controller ventilator **-M7**	7.9660.0	7.9660.0	7.9660.0	7.9660.0
ebm-papst	614 NGML-283	614 NGML-283	614 NGML-283	614 NGML-283
terminal strip **-X11**	7.3149.02080; 7.3149.01850	7.3149.02080; 7.3149.01850	7.3149.02080; 7.3149.01850	7.3149.02080; 7.3149.01850
Wieland	WKFN 2,5D2/2/35; WKFN 4D2/2/SL/35	WKFN 2,5D2/2/35; WKFN 4D2/2/SL/35	WKFN 2,5D2/2/35; WKFN 4D2/2/SL/35	WKFN 2,5D2/2/35; WKFN 4D2/2/SL/35
terminal strip **-X12**	7.3149.00860; 7.3149.01850	25x 7.3149.00860; 2x7.3149.01850	25x 7.3149.00860; 2x7.3149.01850	25x 7.3149.00860; 2x7.3149.01850
Wieland	WKF 1,5E/35; WKFN 4D2/2/SL/35	WKFN 2,5D2/2/35; WKFN 4D2/2/SL/35	WKFN 2,5D2/2/35; WKFN 4D2/2/SL/35	WKFN 2,5D2/2/35; WKFN 4D2/2/SL/35
Diagnostic socket **-X100**	7.6589.12000	7.6589.12000	7.6589.12000	7.6589.12000
AMP	206043-4	206043-4	206043-4	206043-4
pressure transducer **-B13 (option cd)**	7.9204.0	7.9204.0	7.9204.0	7.9204.0
Network pressure external **Hubacontrol**	511.931603542	511.931603542	511.931603542	511.931603542
thermostat **-B30 (option ba)**	7.2000.32000	7.2000.32000	7.2000.32000	7.2000.32000
Jumo	thermostat -10 - + 40 °C	thermostat -10 - + 40 °C	thermostat -10 - + 40 °C	thermostat -10 - + 40 °C
heating **-E30/-E31/-E32 (Op. ba)**	7.9714.0	7.9714.0	7.9714.0	7.9714.0
Helios	Rippenrohrheizkörper 500W	Rippenrohrheizkörper 500W	Rippenrohrheizkörper 500W	Rippenrohrheizkörper 500W
contactor **-Q30 (option ba)**	7.8740.00310	7.8740.00310	7.8740.00310	7.8740.00310
	3RT2016-1AK61	3RT2016-1AK61	3RT2016-1AK61	3RT2016-1AK61
interference suppressor	7.8740.05130	7.8740.05130	7.8740.05130	7.8740.05130
Siemens	3RT2916-1CC00	3RT2916-1CC00	3RT2916-1CC00	3RT2916-1CC00
terminal strip **-X14, X15 (option ba)**	7.3149.02080; 7.3149.01850	7.3149.02080; 7.3149.01850	7.3149.02080; 7.3149.01850	7.3149.02080; 7.3149.01850
Wieland	WKFN 2,5D2/2/35; WKFN 4D2/2/SL/35	WKFN 2,5D2/2/35; WKFN 4D2/2/SL/35	WKFN 2,5D2/2/35; WKFN 4D2/2/SL/35	WKFN 2,5D2/2/35; WKFN 4D2/2/SL/35
coupling relay **-K61,K64,K65 (option ob)**	7.3172.00310	7.3172.00310	7.3172.00310	7.3172.00310
Phoenix	RIF-0-RPT-24DC/21	RIF-0-RPT-24DC/21	RIF-0-RPT-24DC/21	RIF-0-RPT-24DC/21
Adaptor connector SSA **-X50 (option ob)**	7.3704.00170/16B	7.3704.00170/16B	7.3704.00170/16B	7.3704.00170/16B
	7.3704.00200/16E	7.3704.00200/16E	7.3704.00200/16E	7.3704.00200/16E
	7.3704.00180/16B/M25	7.3704.00180/16B/M25	7.3704.00180/16B/M25	7.3704.00180/16B/M25
Harting	7.3704.00190/16E	7.3704.00190/16E	7.3704.00190/16E	7.3704.00190/16E
Adaptor connector SSA **-X51 (option ob)**	7.3704.00210/6B	7.3704.00210/6B	7.3704.00210/6B	7.3704.00210/6B
	7.3704.00240/6E	7.3704.00240/6E	7.3704.00240/6E	7.3704.00240/6E
	7.3704.00220/6B/M20	7.3704.00220/6B/M20	7.3704.00220/6B/M20	7.3704.00220/6B/M20
Harting	7.3704.00230/6E	7.3704.00230/6E	7.3704.00230/6E	7.3704.00230/6E
GSM/GPS Modem **-K27 (option oc)**	7.9208.04000	7.9208.04000	7.9208.04000	7.9208.04000
Proemion	model 3651	model 3651	model 3651	model 3651
GSM/GPS antenna **-T27 (option oc)**	7.9208.03010	7.9208.03010	7.9208.03010	7.9208.03010
Proemion	GPS antenna	GPS antenna	GPS antenna	GPS antenna
GSM/GPS Modem **-X13/W130 (option oc)**	7.9208.01020	7.9208.01020	7.9208.01020	7.9208.01020
interface **IFM**	Paar-Tronic-CY 3x2x0,5 mm²	Paar-Tronic-CY 3x2x0,5 mm²	Paar-Tronic-CY 3x2x0,5 mm²	Paar-Tronic-CY 3x2x0,5 mm²

= +

page 5
5 Sht.

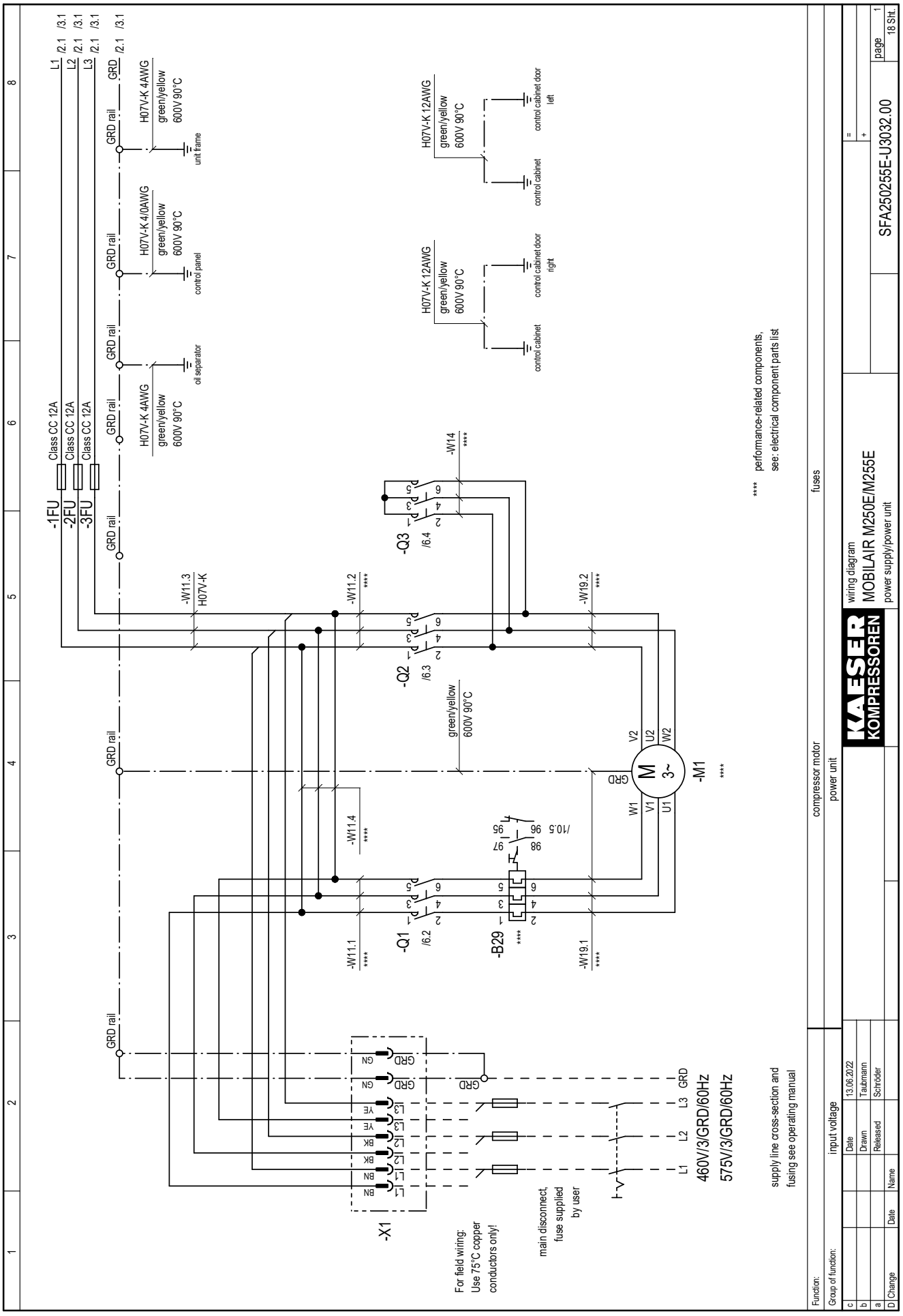
UFA250255E-U3032.00

electrical component parts list
MOBILAIR M250E/M255E

KAESER KOMPRESSOREN

	Date	Name
Drawn	13.06.2022	Taubmann
Released		Schröder

C	Change	Date	Name
a			
b			
c			


L1 /2.1 /3.1
L2 /2.1 /3.1
L3 /2.1 /3.1
GRD /2.1 /3.1
-1FU Class CC 12A
-2FU Class CC 12A
-3FU Class CC 12A
GRD rail
H07V-K 4AWG green/yellow 600V 90°C
unit frame
H07V-K 4/0AWG green/yellow 600V 90°C
control panel
oil separator
H07V-K 12AWG green/yellow 600V 90°C
control cabinet door left
control cabinet door right
control cabinet
-W11.3 H07V-K
-W11.2 ****
-W19.2 ****
-W14 ****
-Q3 /6.4
-Q2 /6.3
-Q1 /6.2
-B29 ****
/10.5
-W11.4 ****
-W11.1 ****
-W19.1 ****
green/yellow 600V 90°C
-M1 ****
V2 U2 W2
W1 V1 U1
GRD
M 3~
-X1
GN GRD
YE L3
BK L2
BN L1
460V/3/GRD/60Hz
575V/3/GRD/60Hz
main disconnect, fuse supplied by user
For field wiring: Use 75°C copper conductors only!
supply line cross-section and fusing see operating manual
*** performance-related components, see: electrical component parts list
Function: compressor motor
Group of function: power unit
input voltage
fuses
KAESER KOMPRESSOREN
wiring diagram
MOBILAIR M250E/M255E
power supply/power unit
SFA250255E-U3032.00
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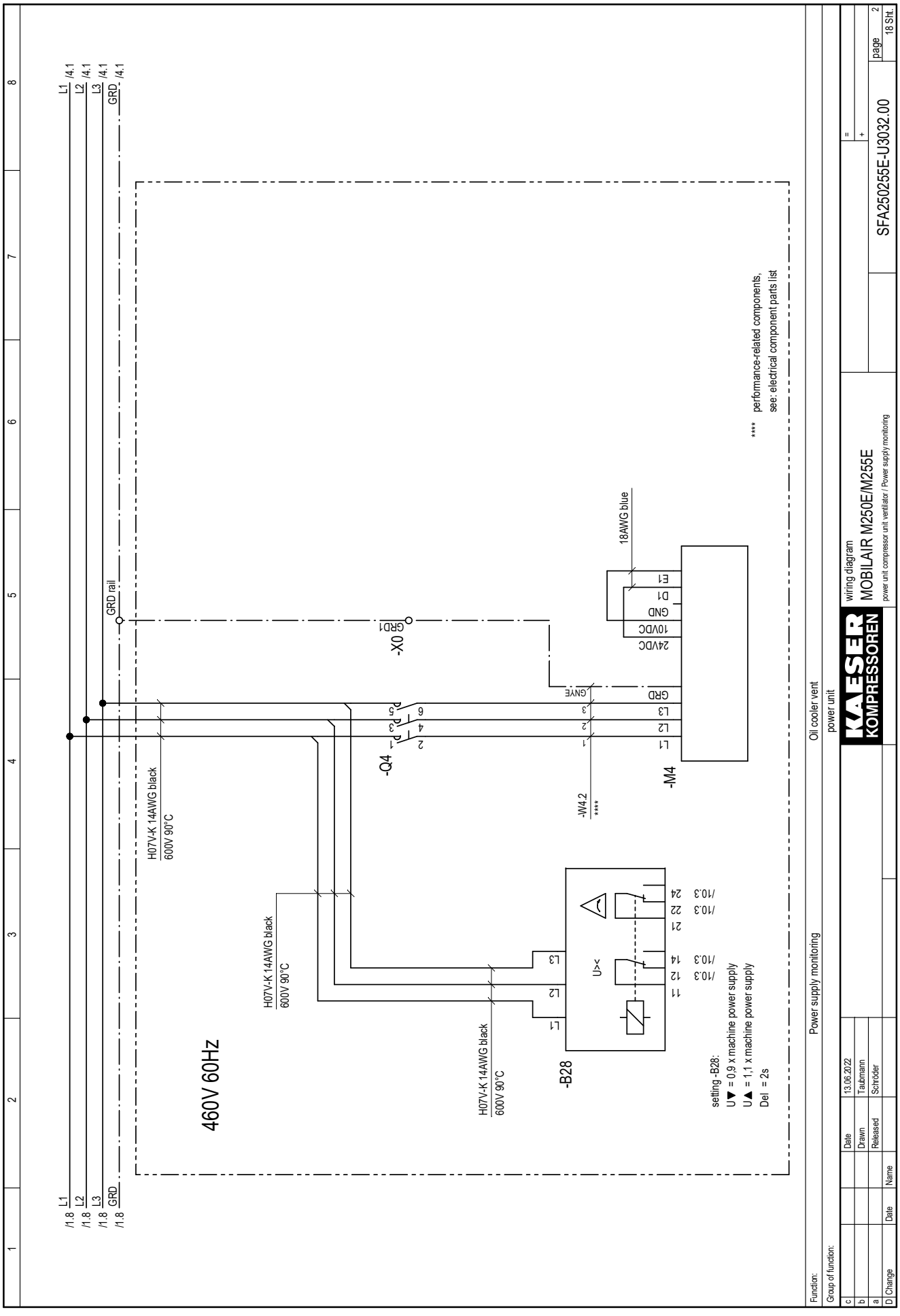
Released Schröder
Name
Change


L1 /4.1
L2 /4.1
L3 /4.1
GRD /4.1
GRD rail
-X0
GRD1
24VDC
10VDC
GND
D1
E1
18AWG blue
GRD
L3
L2
L1
-M4
GNYE
-Q4
-W4.2
****
H07V-K 14AWG black
600V 90°C
H07V-K 14AWG black
600V 90°C
H07V-K 14AWG black
600V 90°C
-B28
U<
/10.3 24
/10.3 22
21
/10.3 14
/10.3 12
11
setting -B28:
U▼ = 0,9 x machine power supply
U▲ = 1,1 x machine power supply
Del = 2s
460V 60Hz
**** performance-related components, see: electrical component parts list
L1 /1.8
L2 /1.8
L3 /1.8
GRD /1.8
Function: Power supply monitoring
Group of function: Oil cooler vent
power unit
KAESER KOMPRESSOREN
wiring diagram
MOBILAIR M250E/M255E
power unit compressor unit ventilator / Power supply monitoring
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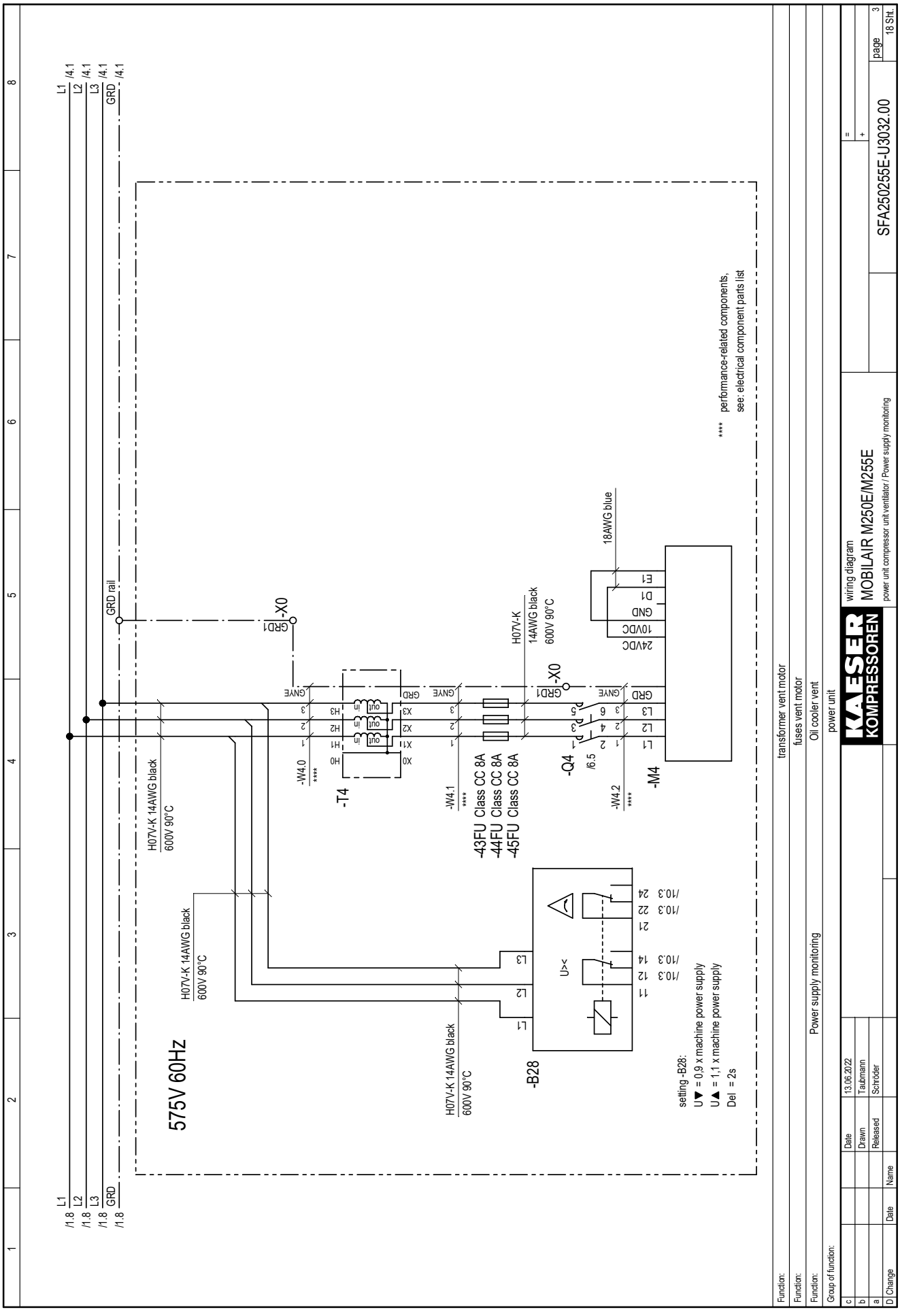
Released Schröder
Name
Date
D Change
a
b
c


575V 60Hz
L1 /1.8
L2 /1.8
L3 /1.8
GRD /1.8
L1 /4.1
L2 /4.1
L3 /4.1
GRD /4.1
GRD rail
-X0
GRD1
H07V-K 14AWG black
600V 90°C
H07V-K 14AWG black
600V 90°C
H07V-K 14AWG black
600V 90°C
H07V-K
14AWG black
600V 90°C
18AWG blue
-W4.0
-W4.1
-W4.2
-T4
-43FU Class CC 8A
-44FU Class CC 8A
-45FU Class CC 8A
-Q4
/6.5
-M4
-B28
24VDC
10VDC
GND
D1
E1
L1
L2
L3
GRD
GNYE
U>
/10.3 24
/10.3 22
21
/10.3 14
/10.3 12
11
setting -B28:
U▼ = 0,9 x machine power supply
U▲ = 1,1 x machine power supply
Del = 2s
**** performance-related components,
see: electrical component parts list
Function: transformer vent motor
Function: fuses vent motor
Function: Oil cooler vent
Group of function: Power supply monitoring
power unit
KAESER KOMPRESSOREN
wiring diagram
MOBILAIR M250E/M255E
power unit compressor unit ventilator / Power supply monitoring
SFA250255E-U3032.00
page 3
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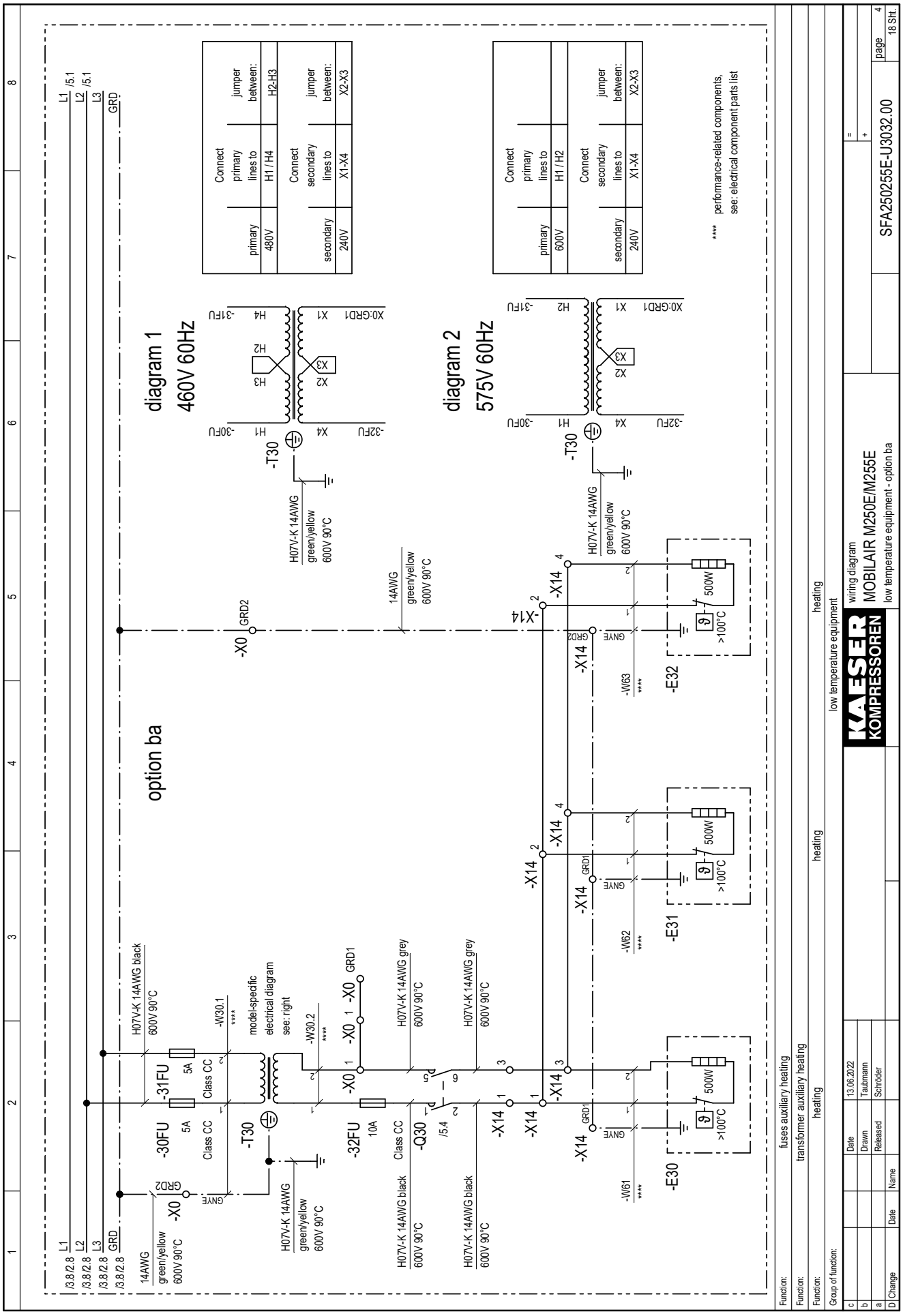
Drawn Taubmann
Released Schröder
Name
Date
D Change
a
b
c
=
+


option ba
diagram 1
460V 60Hz
diagram 2
575V 60Hz
primary
secondary
Connect primary lines to
Connect secondary lines to
jumper between:
480V
240V
H1 / H4
X1-X4
H2-H3
X2-X3
600V
H1 / H2
**** performance-related components, see: electrical component parts list
-T30
-31FU
-30FU
-32FU
-X0
-X14
-Q30
-W30.1
-W30.2
-W61
-W62
-W63
-E30
-E31
-E32
H07V-K 14AWG black 600V 90°C
H07V-K 14AWG grey 600V 90°C
H07V-K 14AWG green/yellow 600V 90°C
14AWG green/yellow 600V 90°C
5A Class CC
10A Class CC
500W
>100°C
model-specific electrical diagram see: right
fuses auxiliary heating
transformer auxiliary heating
heating
low temperature equipment
wiring diagram
MOBILAIR M250E/M255E
low temperature equipment - option ba
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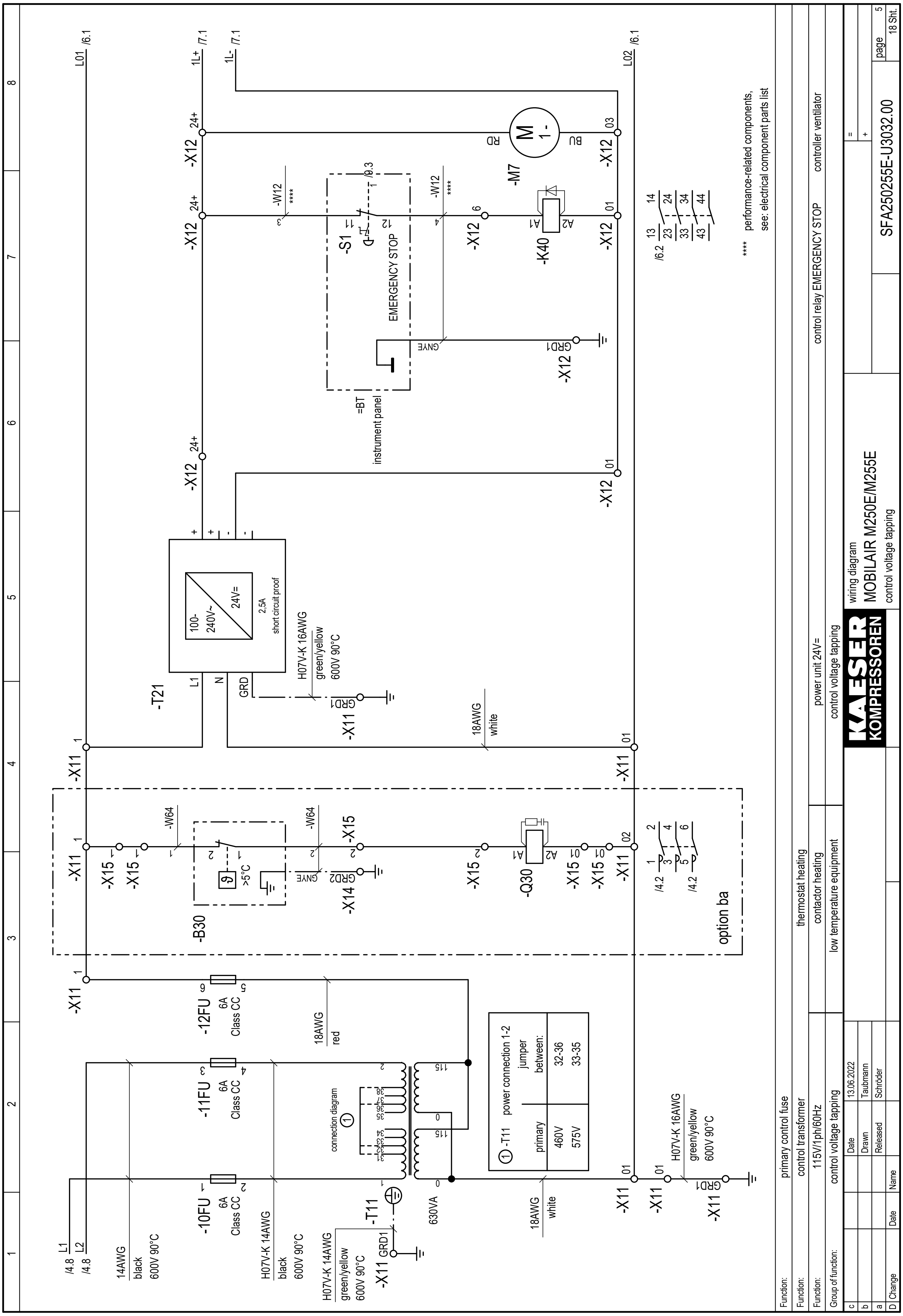
wiring diagram
MOBILAIR M250E/M255E
control voltage tapping
SFA250255E-U3032.00
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Date 13.06.2022
Drawn Taubmann
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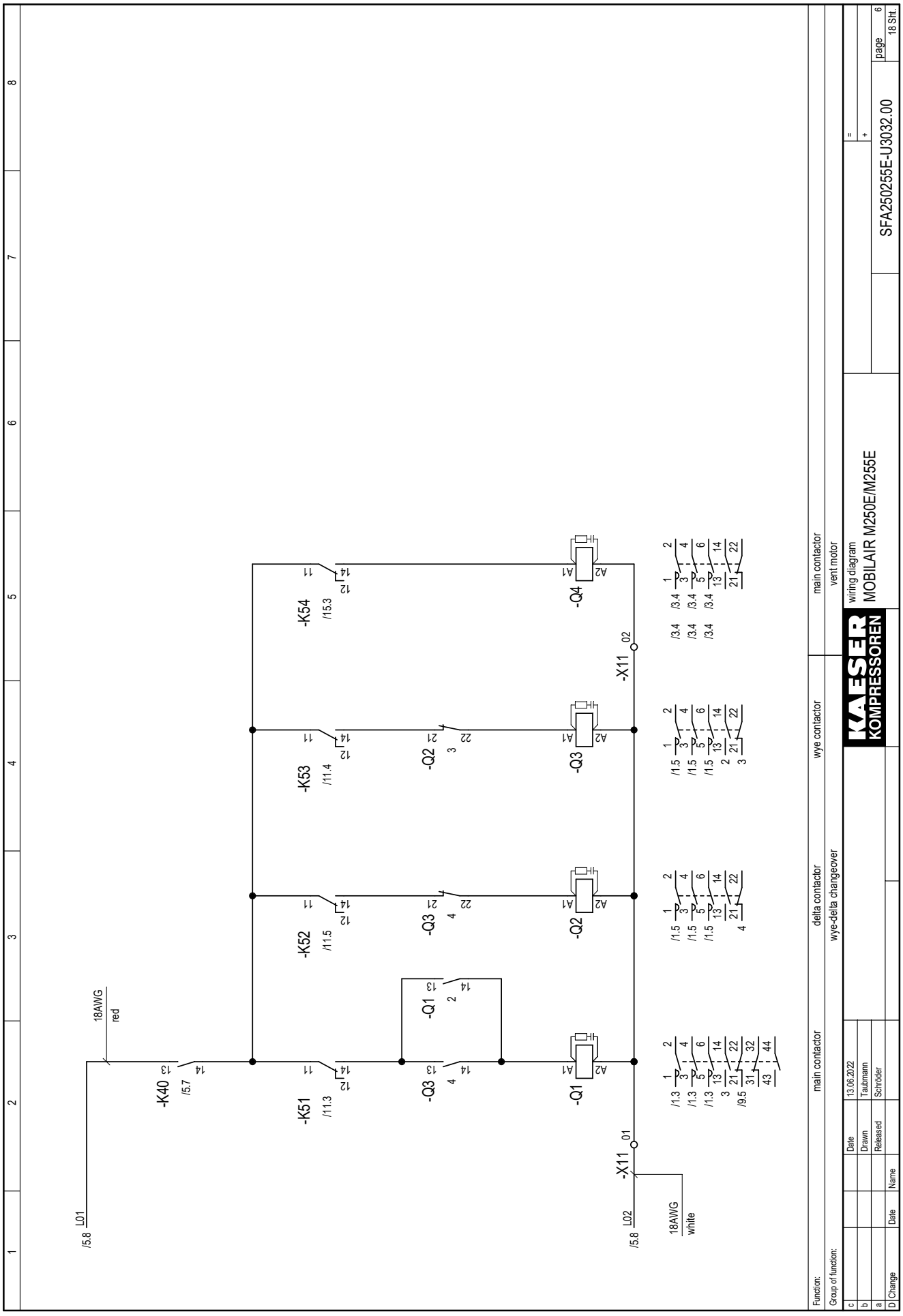
primary control fuse
control transformer
115V/1ph/60Hz
control voltage tapping
thermostat heating
contactor heating
low temperature equipment
power unit 24V=
control voltage tapping
control relay EMERGENCY STOP
controller ventilator
**** performance-related components, see: electrical component parts list
-10FU 6A Class CC
-11FU 6A Class CC
-12FU 6A Class CC
-T11 630VA
-T11 power connection 1-2
primary 460V 575V
jumper between: 32-36 33-35
connection diagram
-T21
100-240V~
24V=
2,5A short circuit proof
-B30
-Q30
option ba
-S1 EMERGENCY STOP
=BT instrument panel
-K40
-M7
14AWG black 600V 90°C
H07V-K 14AWG black 600V 90°C
H07V-K 14AWG green/yellow 600V 90°C
H07V-K 16AWG green/yellow 600V 90°C
18AWG red
18AWG white


SFA250255E-U3032.00
MOBILAIR M250E/M255E
wiring diagram
page 6
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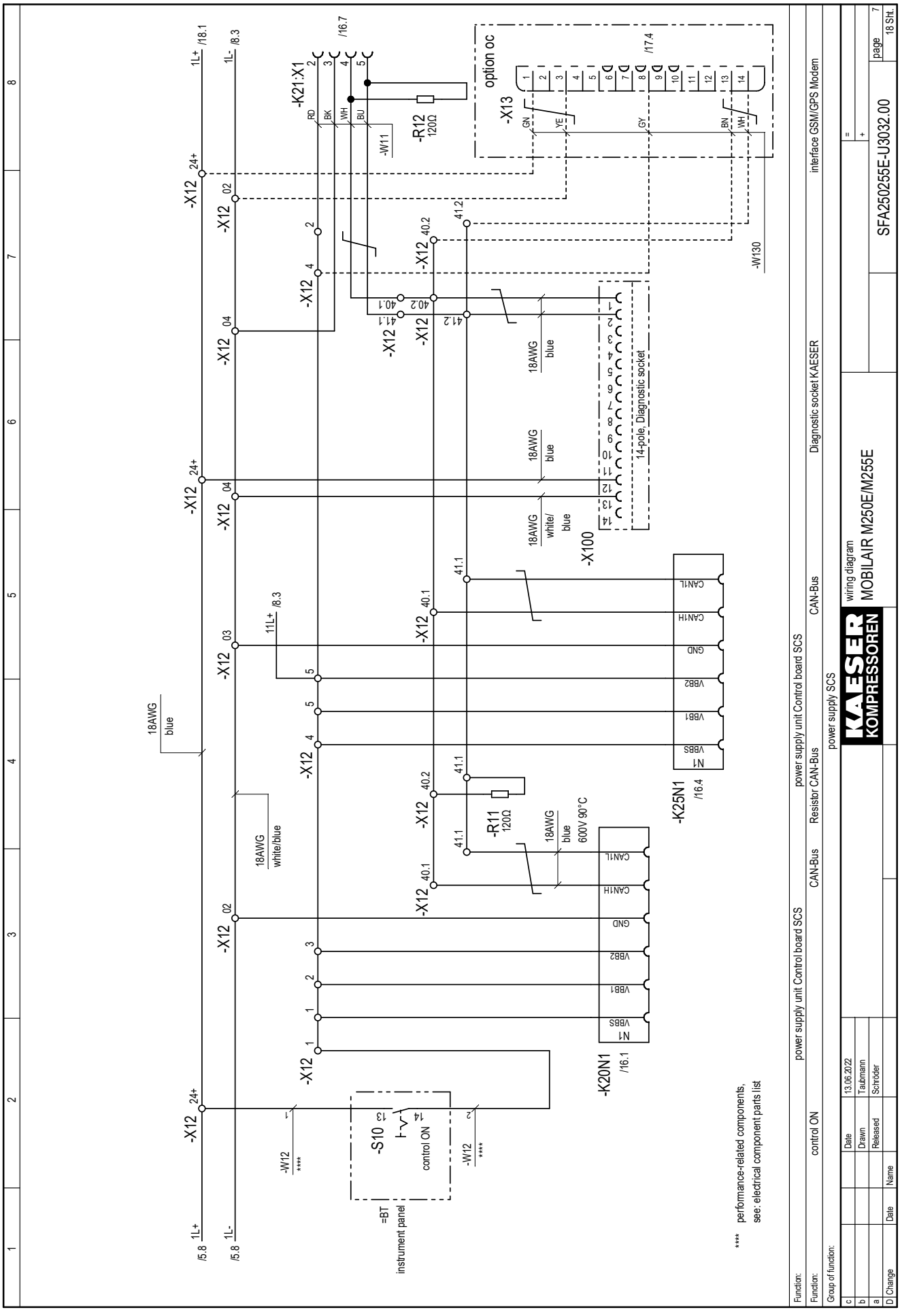
main contactor
vent motor
delta contactor
wye contactor
wye-delta changeover
-K40
-K51
-K52
-K53
-K54
-Q1
-Q2
-Q3
-Q4
-X11
18AWG
red
18AWG
white
L01
L02
13.06.2022
Taubmann
Schröder


option oc
-X13
-K21:X1
-R12 120Ω
-W11
-W130
-X12
-X100
14-pole, Diagnostic socket
-R11 120Ω
-K25N1
-K20N1
-S10
control ON
=BT
instrument panel
-W12
18AWG blue
18AWG white/blue
18AWG white/ blue
18AWG blue 600V 90°C
CAN1L
CAN1H
GND
VBB2
VBB1
VBBS
N1
1L+
1L-
24+
02
03
04
40.1
40.2
41.1
41.2
**** performance-related components, see: electrical component parts list
Function: power supply unit Control board SCS
Function: control ON CAN-Bus Resistor CAN-Bus power supply SCS CAN-Bus Diagnostic socket KAESER interface GSM/GPS Modem
Group of function:
KAESER KOMPRESSOREN
wiring diagram
MOBILAIR M250E/M255E
SFA250255E-U3032.00
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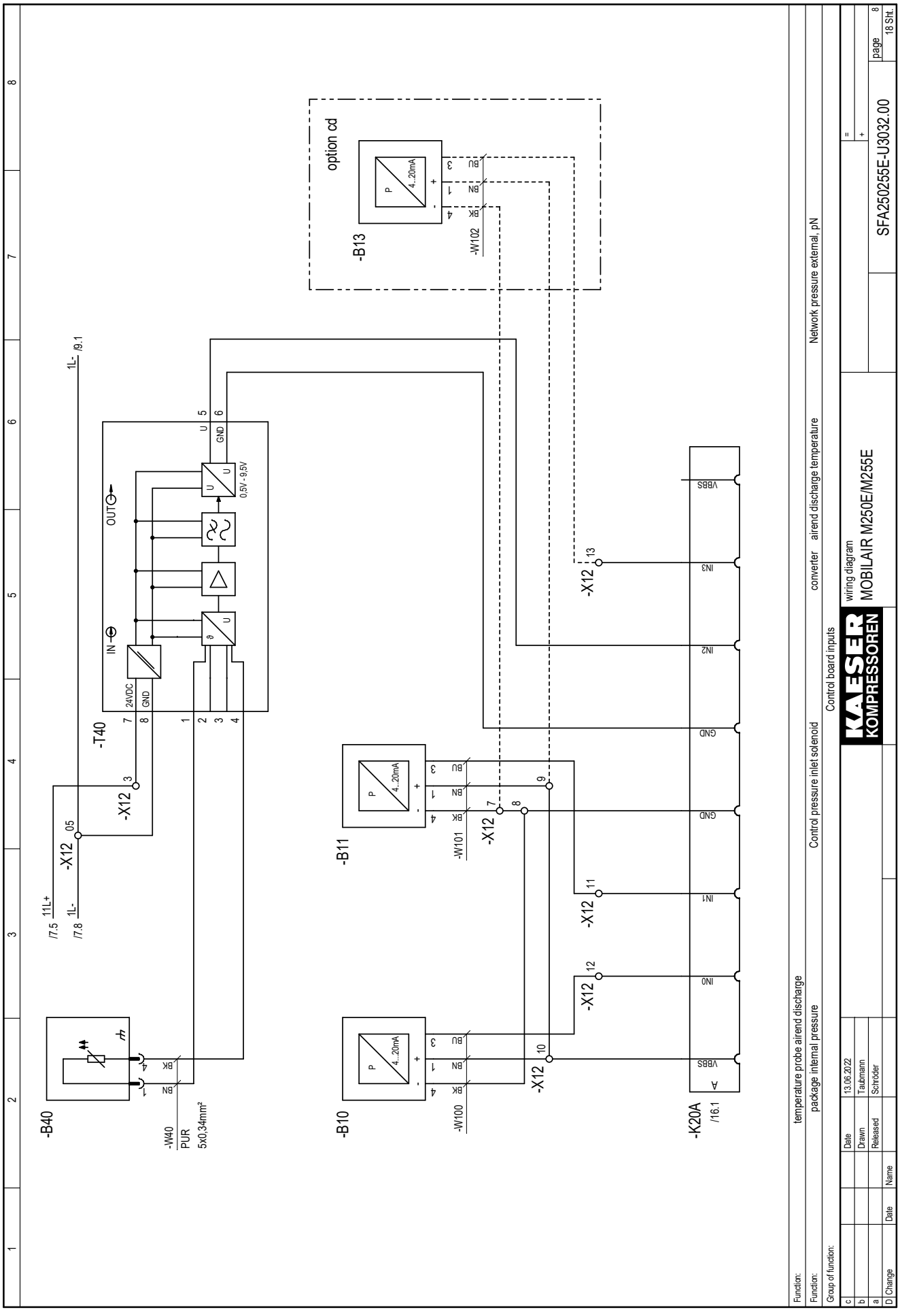
Date 13.06.2022
Drawn Taubmann
Released Schröder
Name
Change


option cd
-B13
-W102
-B40
-W40
PUR
5x0,34mm²
-B10
-W100
-B11
-W101
-T40
-X12
-K20A
/16.1
/9.1
/7.5
/7.8
11L+
1L-
24VDC
GND
IN
OUT
0,5V - 9,5V
temperature probe airend discharge
package internal pressure
Control pressure inlet solenoid
converter airend discharge temperature
Network pressure external, pN
Control board inputs
wiring diagram
MOBILAIR M250E/M255E
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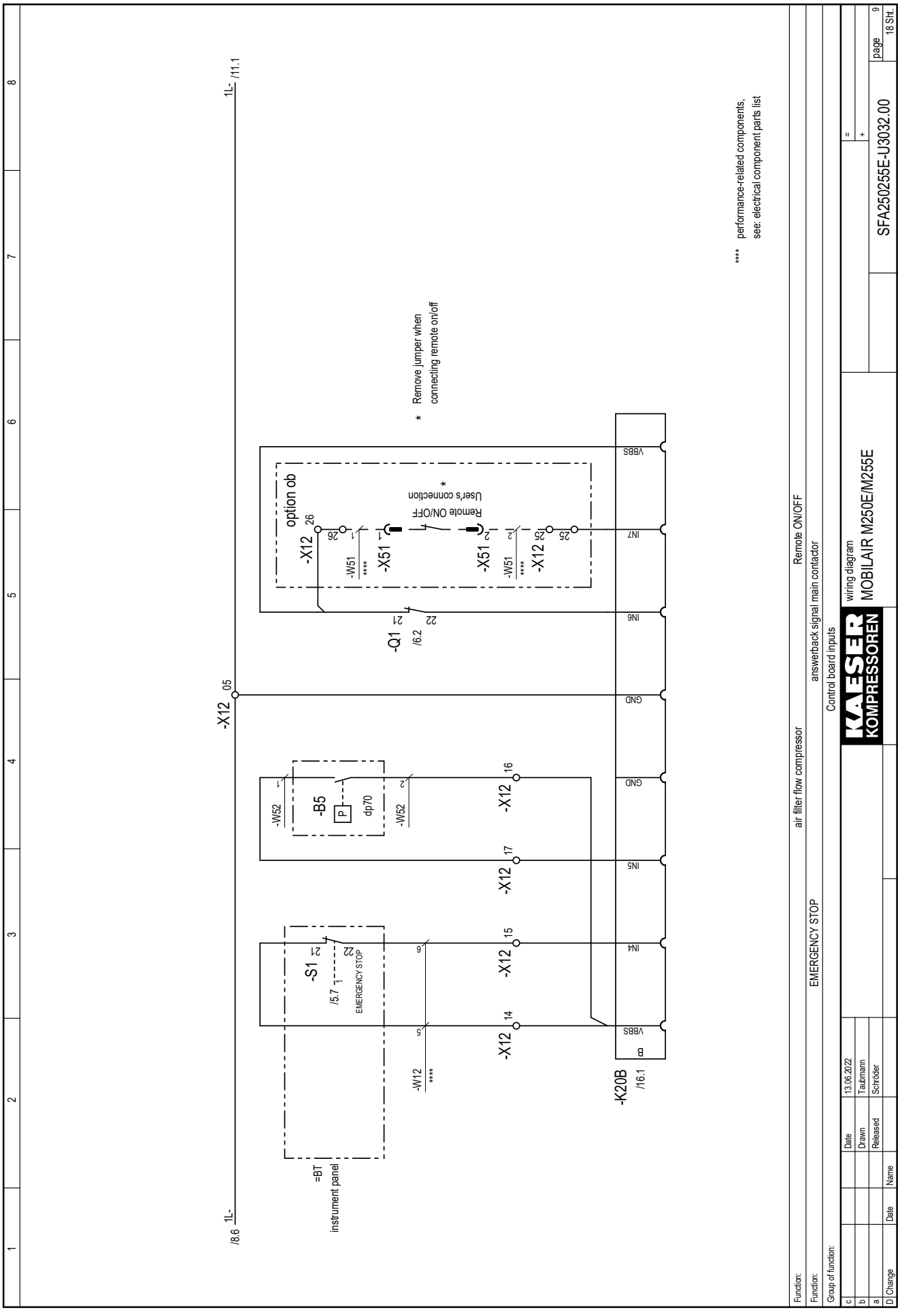
1L- /11.1
-X12 05
option ob
-X12 26
-W51 ***
-X51
Remote ON/OFF
User's connection
-X51
-W51 ***
-X12 25
* Remove jumper when connecting remote on/off
-Q1 /6.2
21 22
-W52
-B5
dp70
-W52
-X12 16
-X12 17
-S1 /5.7
EMERGENCY STOP
-W12 ***
-X12 15
-X12 14
-K20B /16.1
=BT instrument panel
1L- /8.6
VBBS
IN7
IN6
GND
GND
IN5
IN4
VBBS
B
**** performance-related components, see: electrical component parts list
Function: air filter flow compressor Remote ON/OFF
Function: EMERGENCY STOP answerback signal main contactor
Group of function: Control board inputs
KAESER KOMPRESSOREN
wiring diagram
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Date Name
Drawn 13.06.2022 Taubmann
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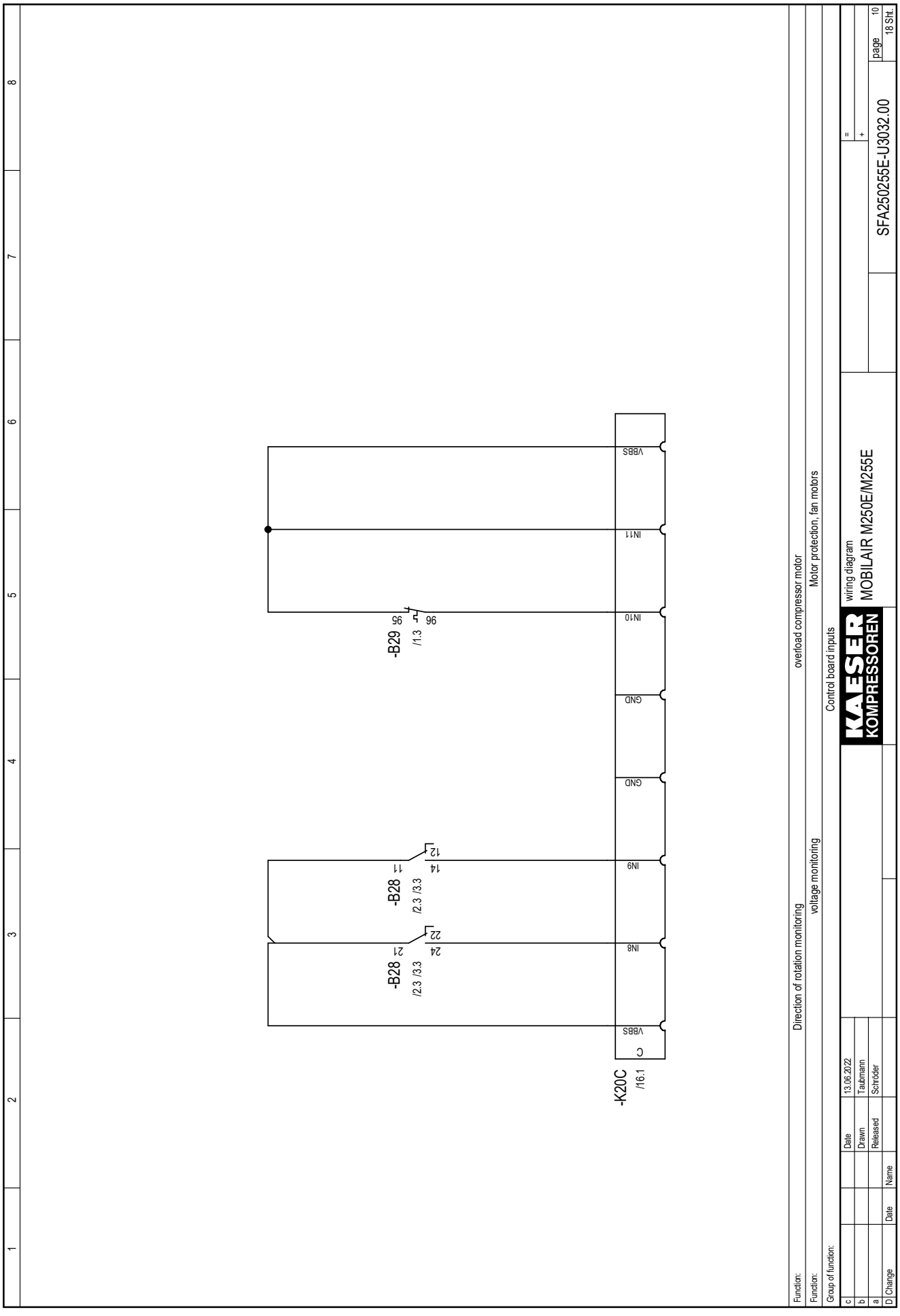
D Change


-K20C
/16.1
VBBS
IN11
IN10
GND
GND
IN9
IN8
VBBS
C
-B28
/2.3 /3.3
21
24
22
-B28
/2.3 /3.3
11
14
12
-B29
/1.3
95
96
Direction of rotation monitoring
overload compressor motor
Function:
voltage monitoring
Motor protection, fan motors
Function:
Control board inputs
Group of function:
KAESER KOMPRESSOREN
wiring diagram
MOBILAIR M250E/M255E
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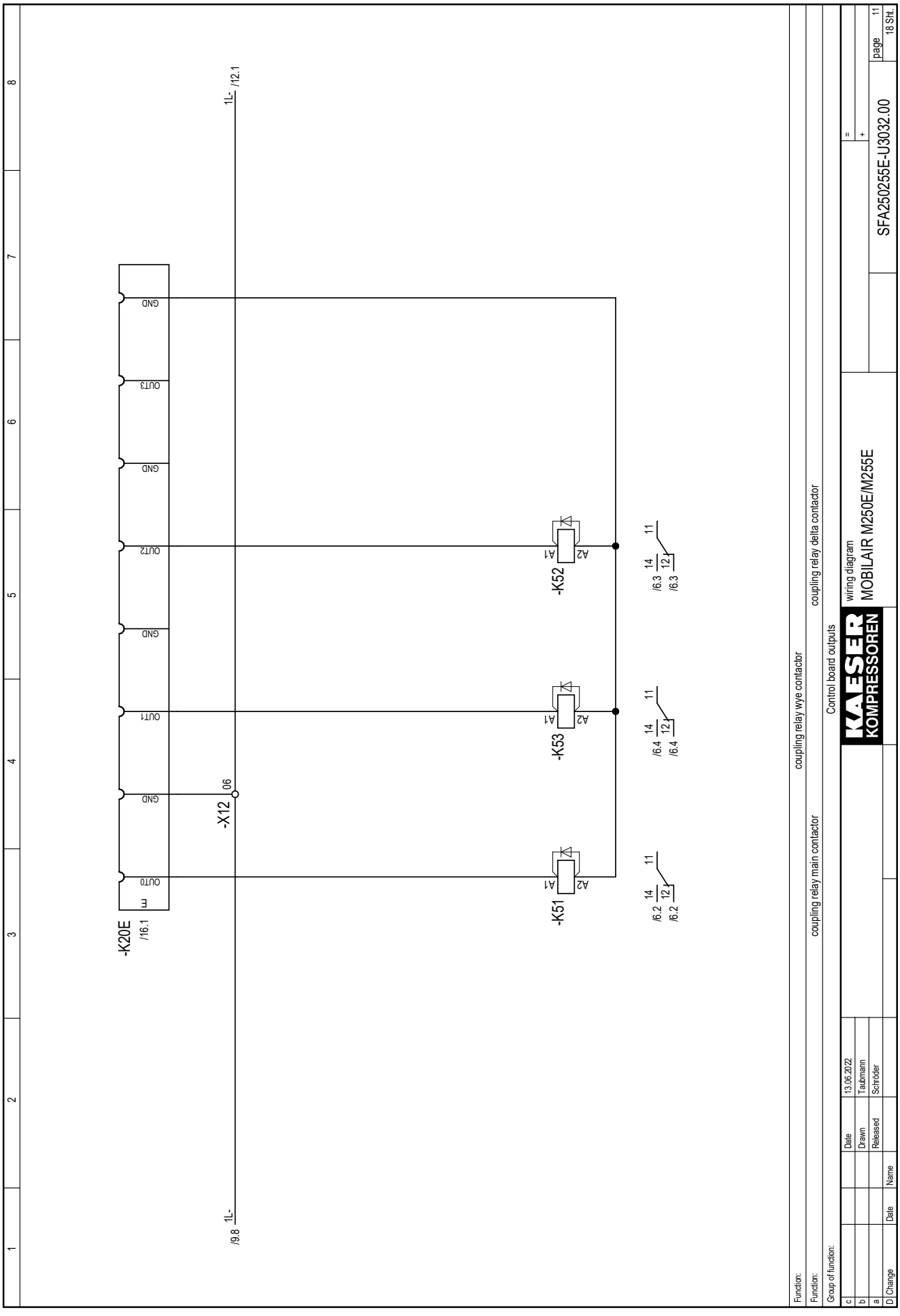
Taubmann
Schröder
Name
Date
D Change
c
b
a


1L- /12.1
-K20E /16.1
GND
OUT3
GND
OUT2
GND
OUT1
GND
OUT0
-X12 06
1L- /9.8
-K52
-K53
-K51
A1
A2
/6.3 14 11 /6.3 12
/6.4 14 11 /6.4 12
/6.2 14 11 /6.2 12
Function: coupling relay wye contactor
Function: coupling relay delta contactor
Group of function: coupling relay main contactor
Control board outputs
KAESER KOMPRESSOREN
wiring diagram
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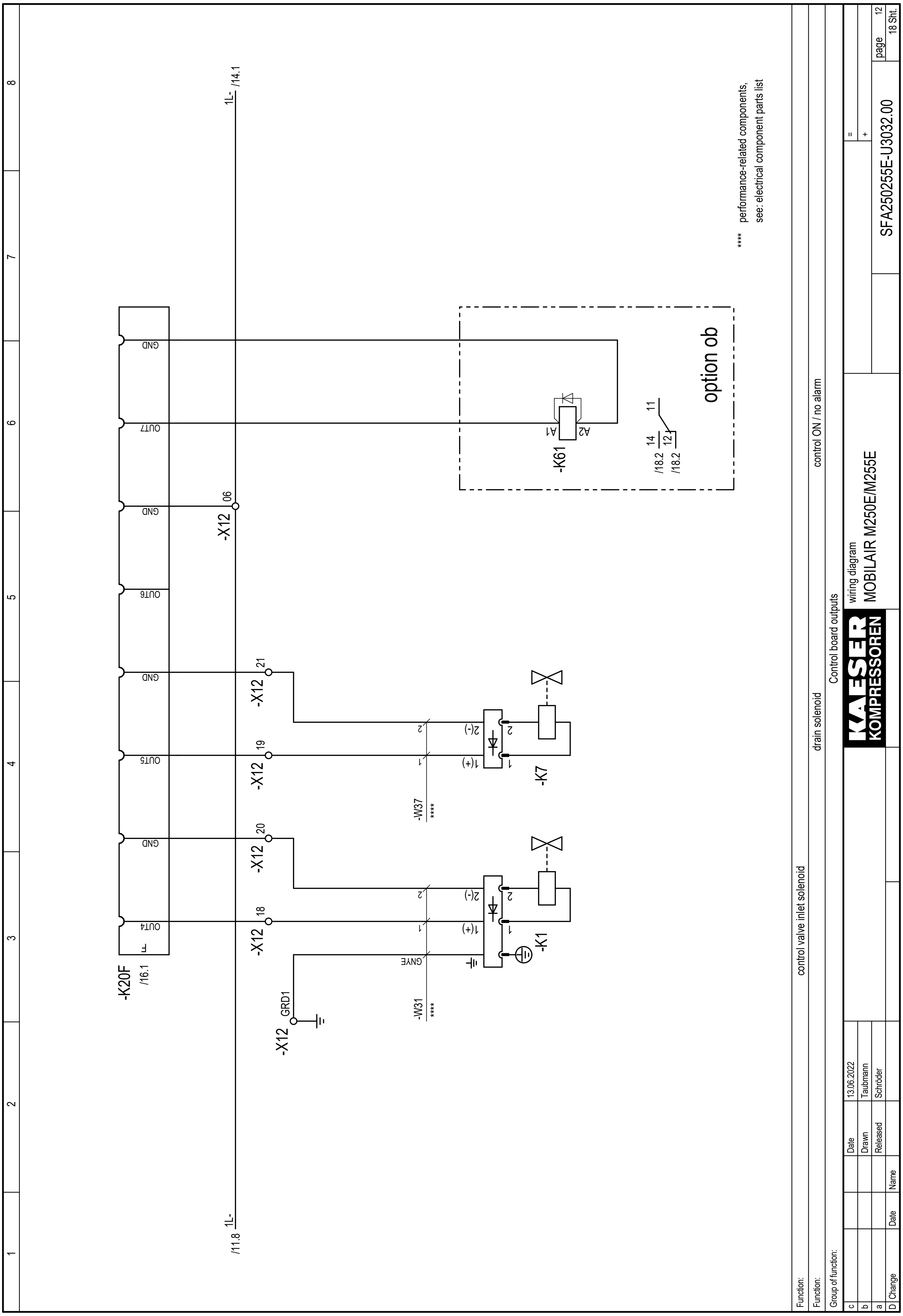
Date
D Change


1L- /14.1
1L- /11.8
-K20F /16.1
F
OUT4
GND
OUT5
GND
OUT6
GND
OUT7
GND
-X12 18
-X12 20
-X12 19
-X12 21
-X12 06
-X12 GRD1
-W31 ****
-W37 ****
GNYE
-K1
-K7
-K61
A1
A2
14
11
12
/18.2
/18.2
option ob
**** performance-related components, see: electrical component parts list
control valve inlet solenoid
drain solenoid
control ON / no alarm
Control board outputs
Function:
Function:
Group of function:
wiring diagram
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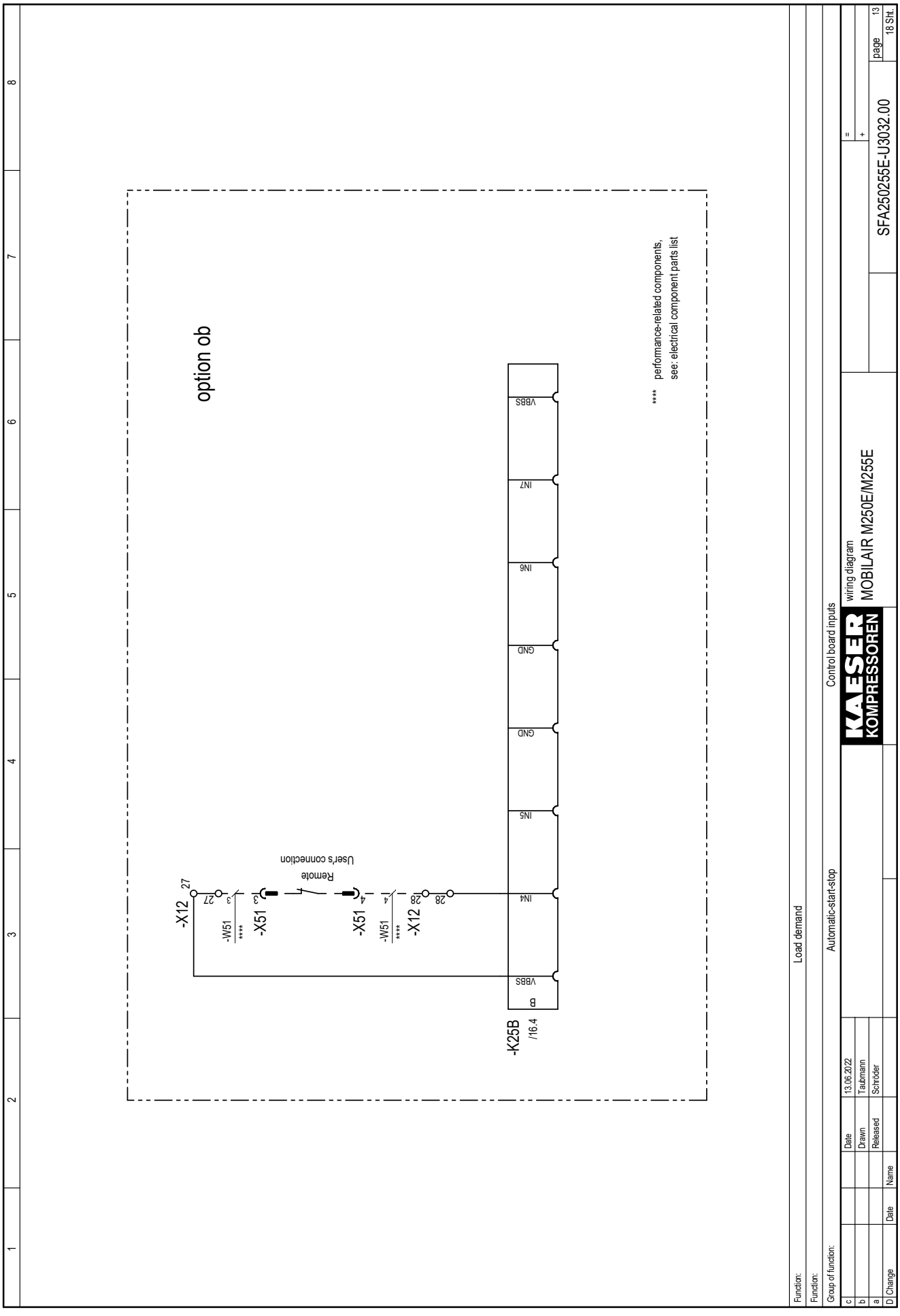
Change Date Name


option ob
**** performance-related components, see: electrical component parts list
-K25B /16.4
VBBS
B
IN4
IN5
GND
GND
IN6
IN7
VBBS
-X12 27
27
-W51 ****
3
3
-X51
Remote
User's connection
4
-X51
4
-W51 ****
28
-X12
28
Load demand
Automatic-start-stop
Control board inputs
KAESER KOMPRESSOREN
wiring diagram
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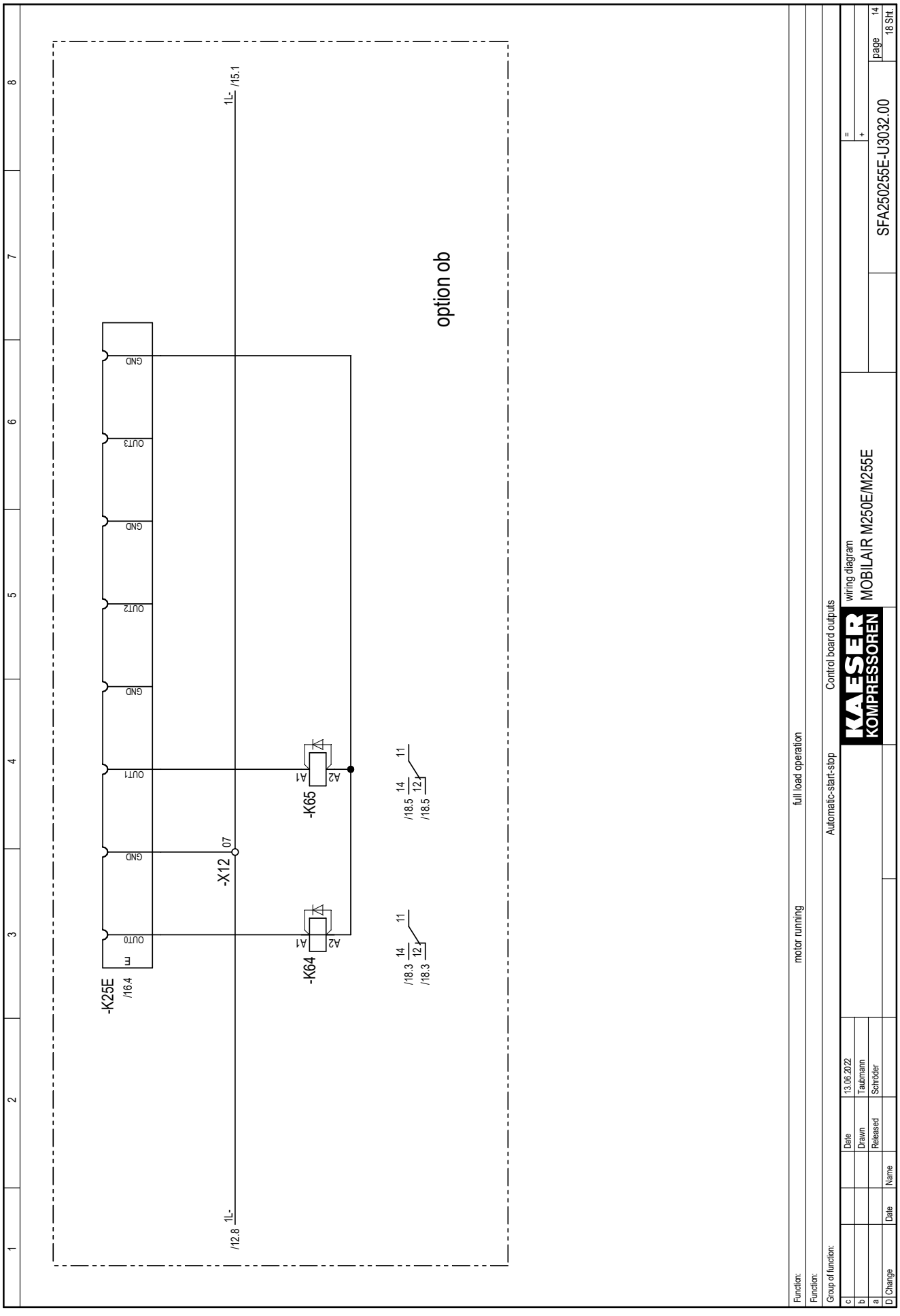
option ob
1L- /15.1
1L- /12.8
-K25E /16.4
E
GND
OUT0
GND
OUT1
GND
OUT2
GND
OUT3
-X12 07
-K64
-K65
A1
A2
/18.3 14 12 11
/18.5 14 12 11
Function: motor running
Function: full load operation
Group of function: Automatic-start-stop
Control board outputs
KAESER KOMPRESSOREN
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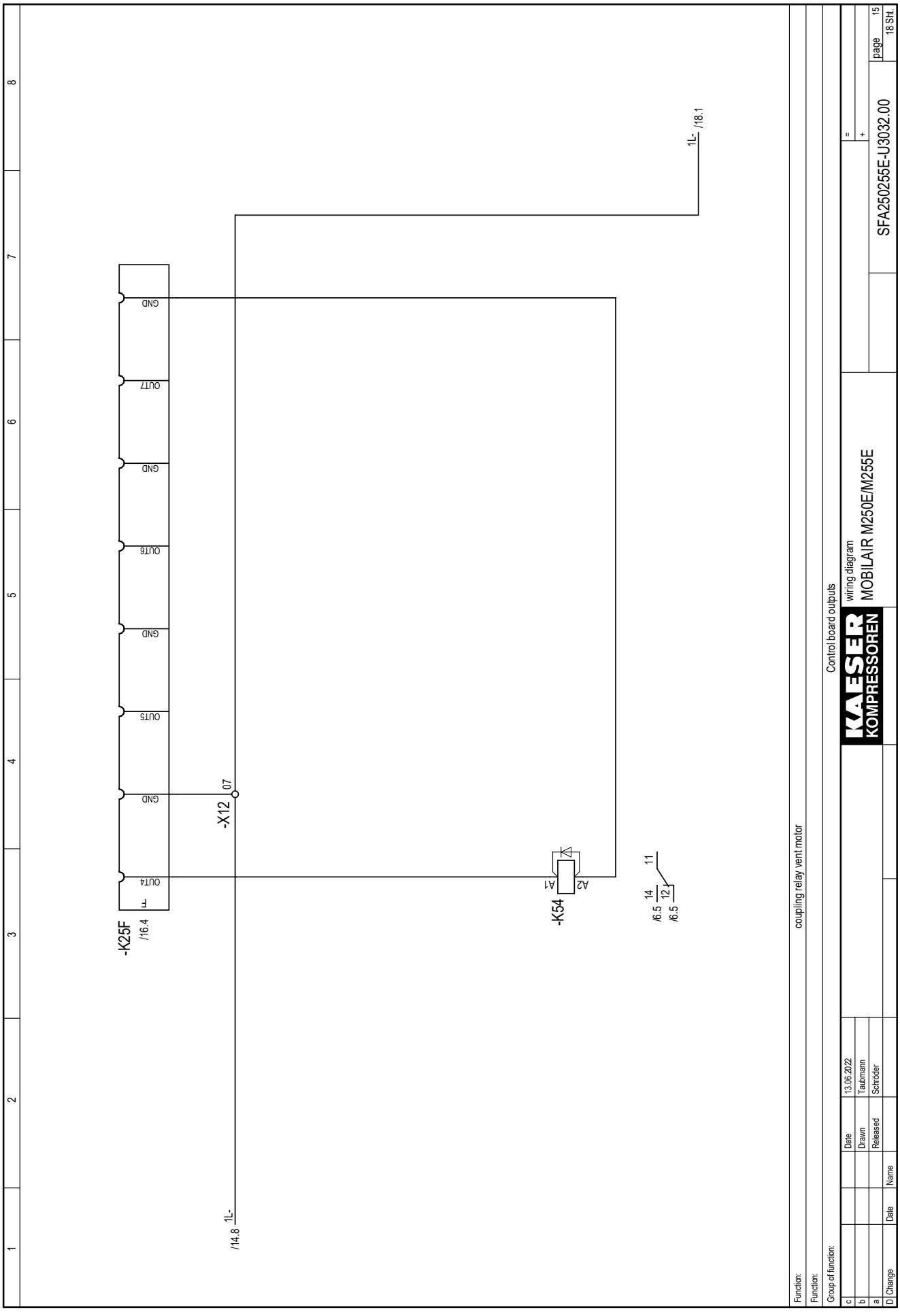
Date
D Change


1L- /18.1
GND
OUT7
GND
OUT6
GND
OUT5
GND
OUT4
F
-K25F
/16.4
-X12 07
-K54
A1
A2
14
/6.5
12
/6.5
11
1L-
/14.8
coupling relay vent motor
Control board outputs
KAESER KOMPRESSOREN
wiring diagram
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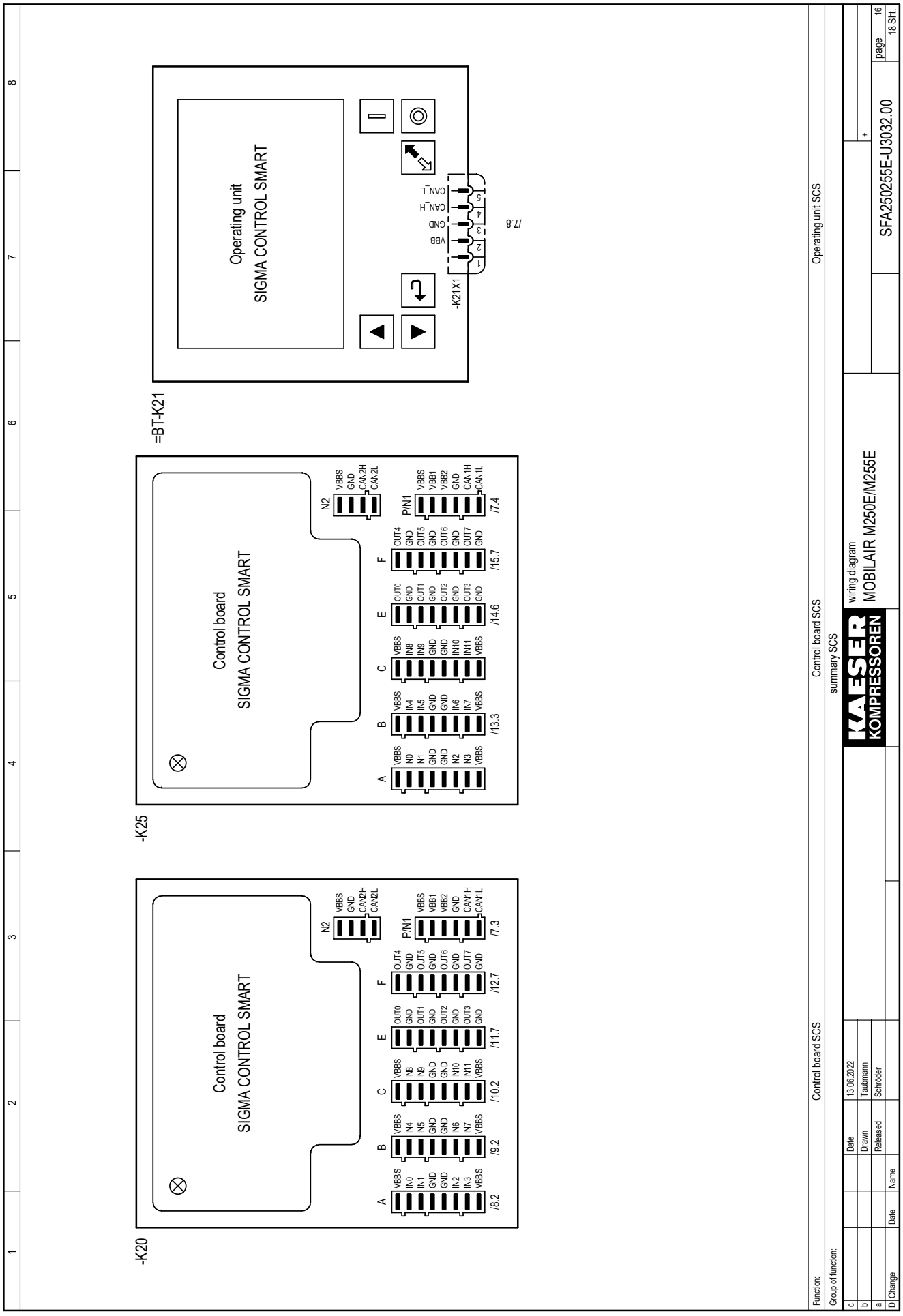
Operating unit
SIGMA CONTROL SMART
=BT-K21
-K21X1
VBB
GND
CAN_H
CAN_L
/7.8
Control board
SIGMA CONTROL SMART
-K25
-K20
N2
P/N1
/7.4
/13.3
/14.6
/15.7
/7.3
/12.7
/11.7
/10.2
/9.2
/8.2
Function:
Control board SCS
Operating unit SCS
Group of function:
summary SCS
Date
Drawn
Released
13.06.2022
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Schröder
Name
Change
wiring diagram
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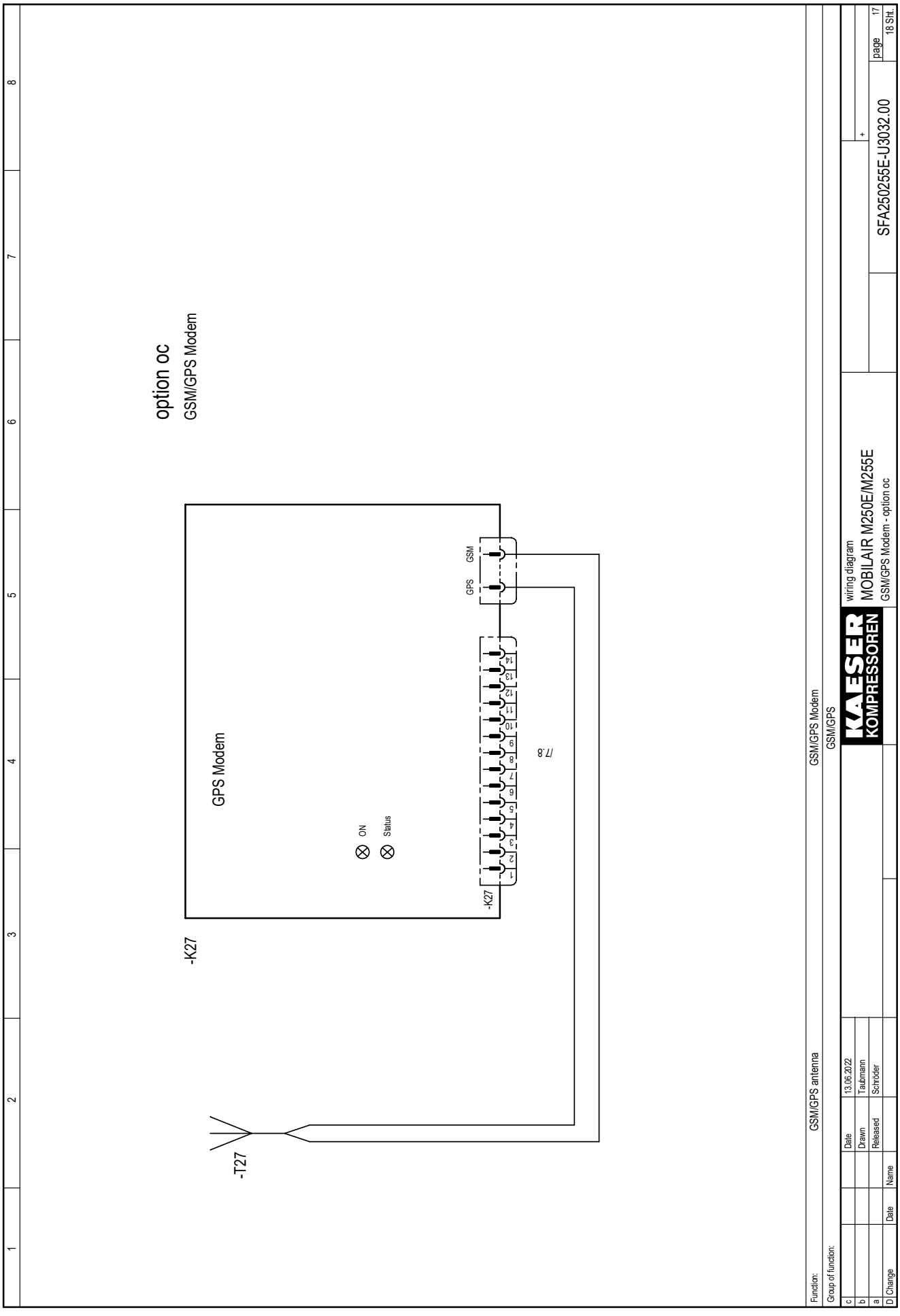
option oc
GSM/GPS Modem
-K27
GPS Modem
ON
Status
GPS
GSM
-K27
17.8
-T27
Function:
GSM/GPS antenna
GSM/GPS Modem
Group of function:
GSM/GPS
KAESER KOMPRESSOREN
wiring diagram
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GSM/GPS Modem - option oc
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Taubmann
Schröder
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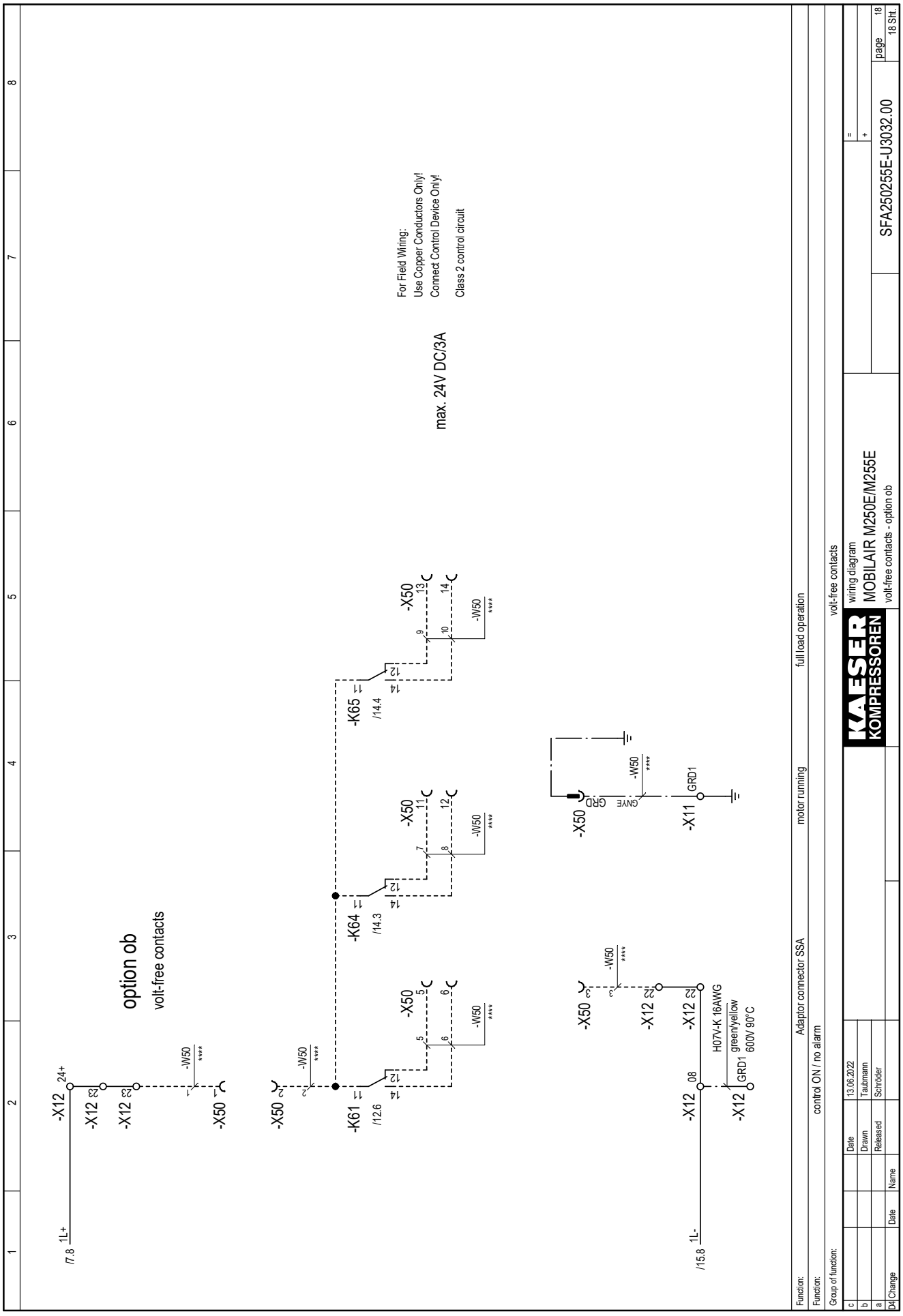
option ob
volt-free contacts
max. 24V DC/3A
For Field Wiring:
Use Copper Conductors Only!
Connect Control Device Only!
Class 2 control circuit
-X12 24+
-X12 23
-X12 33
-W50 ****
-X50 1
-X50 2
-K61 /12.6
-K64 /14.3
-K65 /14.4
-X50 5
-X50 6
-X50 11
-X50 12
-X50 13
-X50 14
-X50 3
-X12 22
-X12 08
-X12
-X11 GRD1
GRD
GNYE
1L+ /7.8
1L- /15.8
H07V-K 16AWG
green/yellow
600V 90°C
Function: Adaptor connector SSA
motor running
full load operation
Function: control ON / no alarm
Group of function:
volt-free contacts
KAESER KOMPRESSOREN
wiring diagram
MOBILAIR M250E/M255E
volt-free contacts - option ob
SFA250255E-U3032.00
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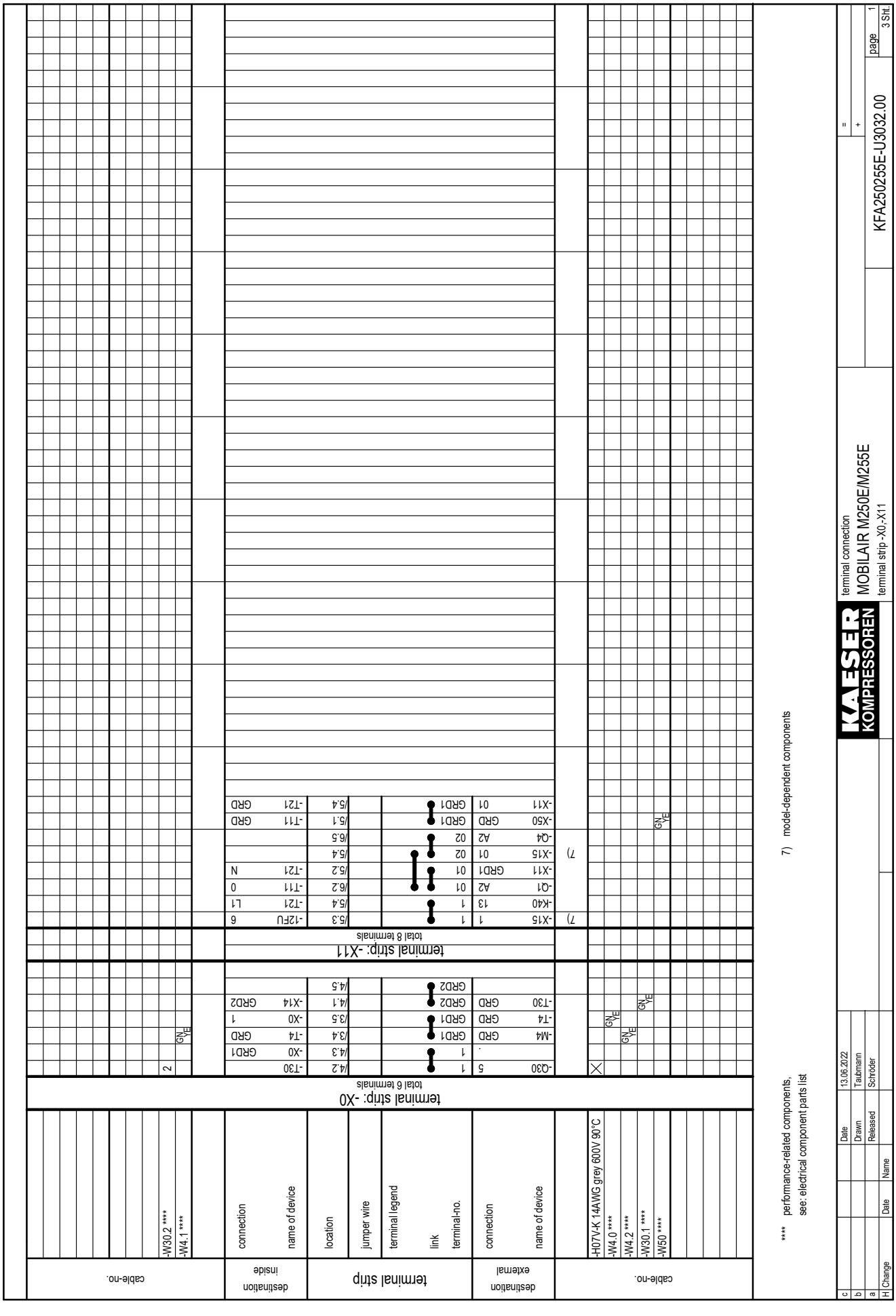
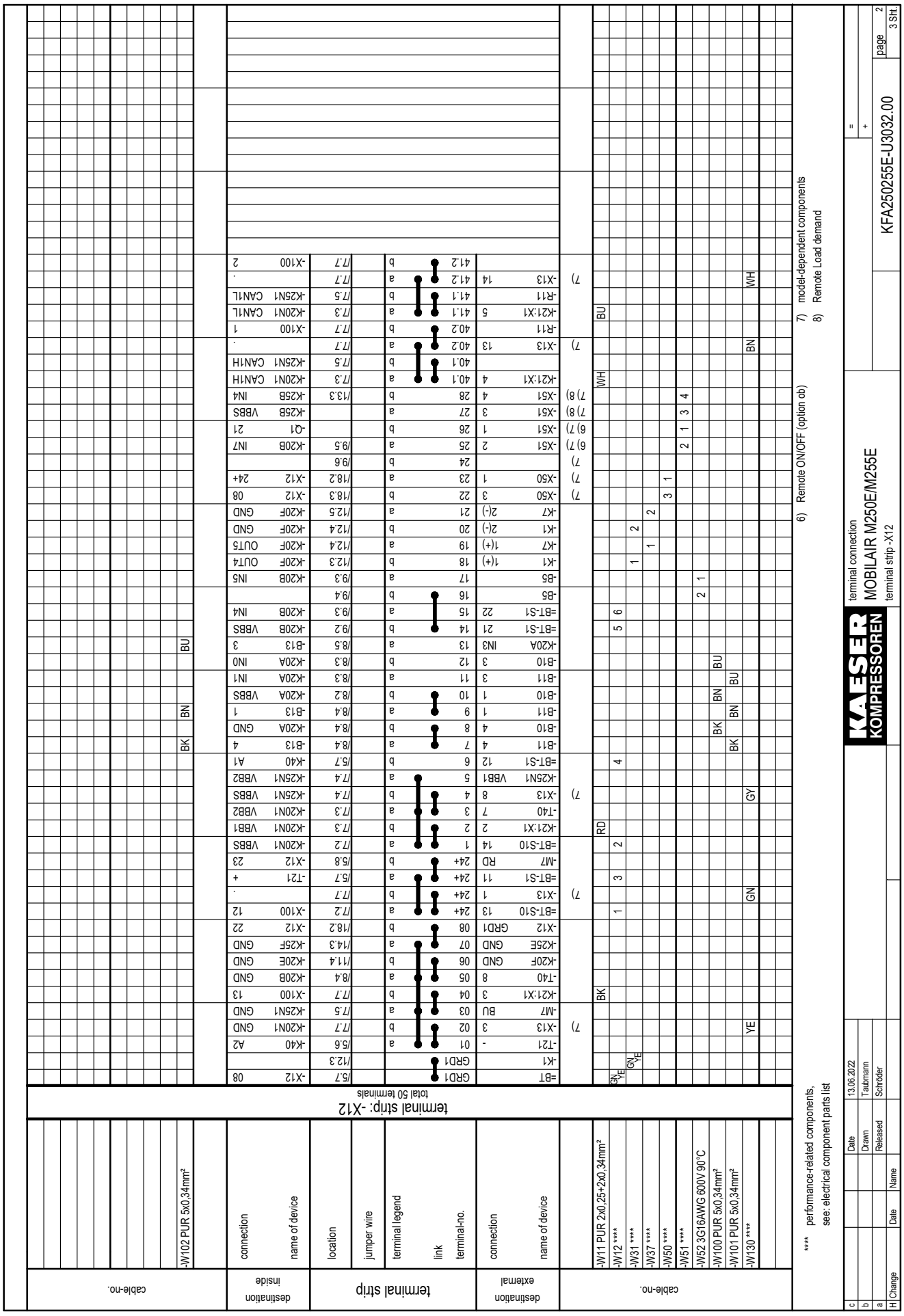
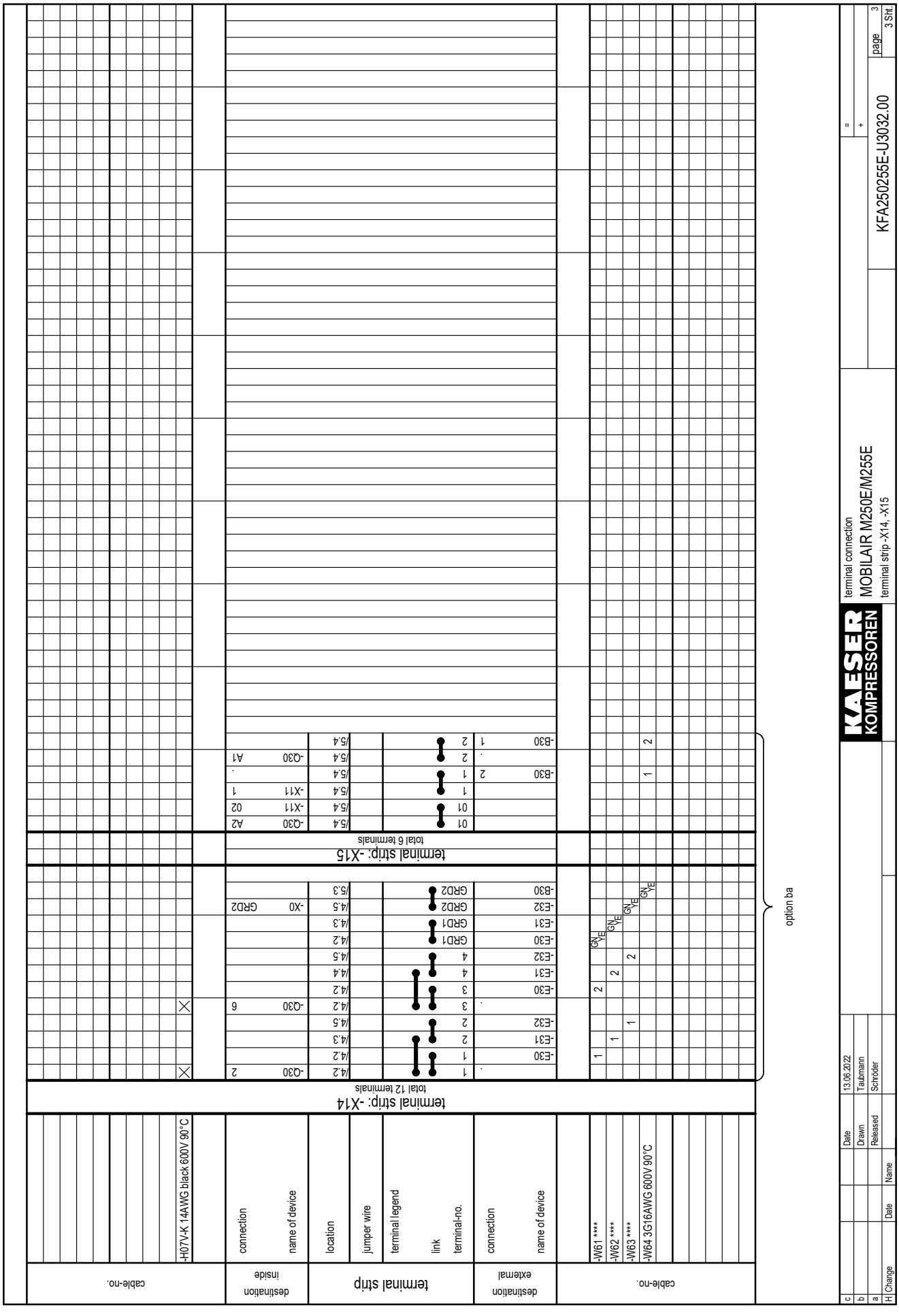
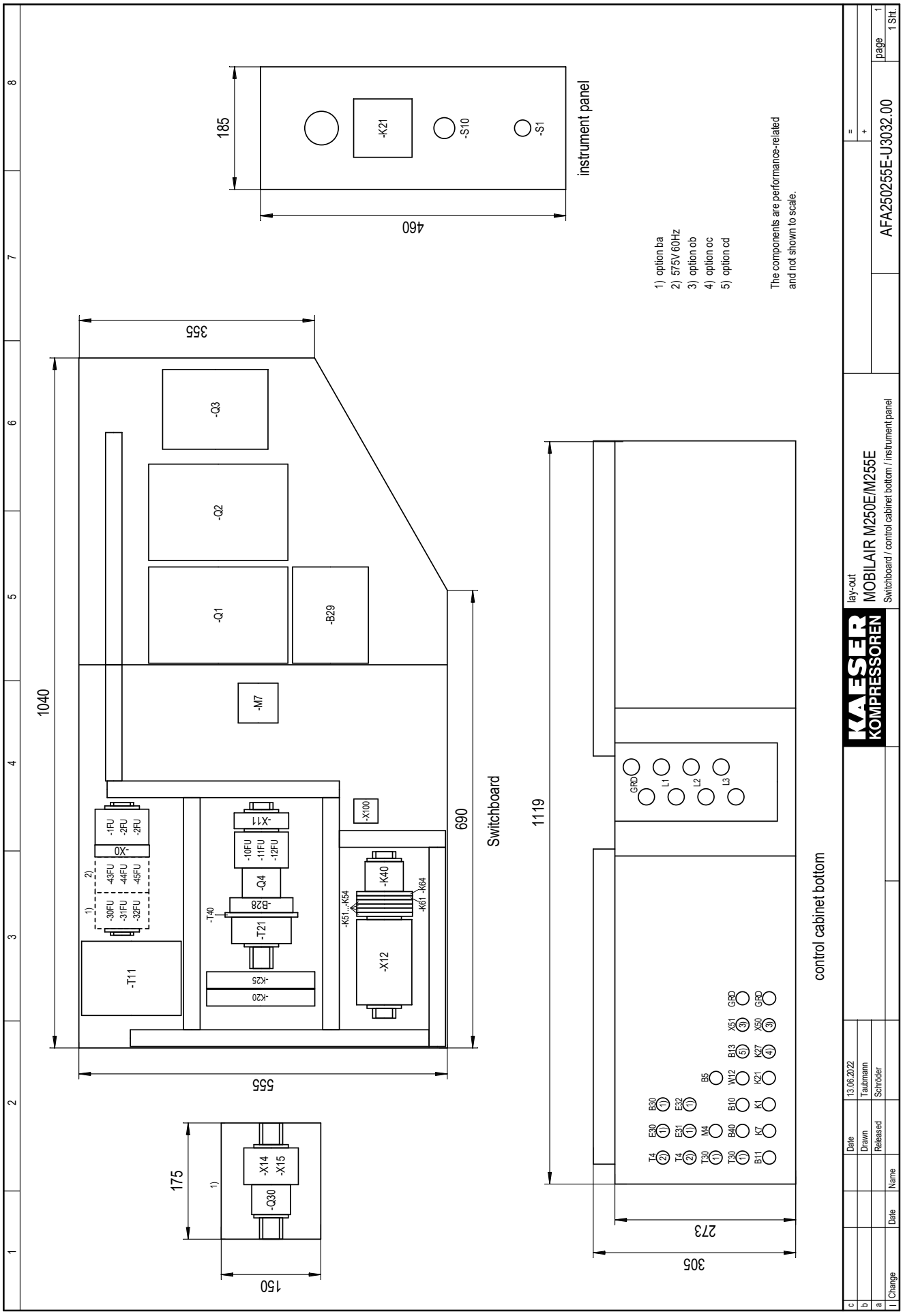
Change

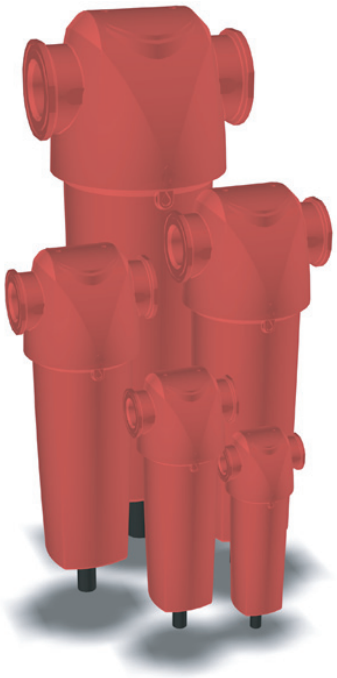

cable-no.
destination inside
terminal strip
destination external
cable-no.
-W30.2 ****
-W4.1 ****
connection
name of device
location
jumper wire
terminal legend
link
terminal-no.
connection
name of device
-H07V-K 14AWG grey 600V 90°C
-W4.0 ****
-W4.2 ****
-W30.1 ****
-W50 ****
terminal strip: -X0
total 6 terminals
terminal strip: -X11
total 8 terminals
-Q30 5
-M4 GRD
-T4 GRD
-T30 GRD
-X15 1
-K40 13
-Q1 A2
-X15 01
-Q4 A2
-X11 GRD1
-X50 GRD
-X11 01
-12FU 6
-T21 L1
-T11 0
-T21 N
-T11 GRD
-T21 GRD
-X0 GRD1
-X0 1
-X14 GRD2
7)
**** performance-related components,
see: electrical component parts list
7) model-dependent components
KAESER KOMPRESSOREN
terminal connection
MOBILAIR M250E/M255E
terminal strip -X0,-X11
KFA250255E-U3032.00
page 1
3 Sht.
Date 13.06.2022
Drawn Taubmann
Released Schröder
Name
Date
H Change


terminal strip: -X12
total 50 terminals
KAESER KOMPRESSOREN
terminal connection
MOBILAIR M250E/M255E
terminal strip -X12
KFA250255E-U3032.00
page 2
3 Sht.
13.06.2022
Taubmann
Schröder
6) Remote ON/OFF (option ob)
7) model-dependent components
8) Remote Load demand
**** performance-related components, see: electrical component parts list
cable-no.
destination external
terminal strip
destination inside
-W11 PUR 2x0,25+2x0,34mm²
-W12 ****
-W31 ****
-W37 ****
-W50 ****
-W51 ****
-W52 3G16AWG 600V 90°C
-W100 PUR 5x0,34mm²
-W101 PUR 5x0,34mm²
-W130 ****
-W102 PUR 5x0,34mm²
name of device
connection
terminal-no.
link
terminal legend
jumper wire
location


terminal connection
MOBILAIR M250E/M255E
terminal strip -X14, -X15
KFA250255E-U3032.00
page 3
3 Sht.
Date
Drawn
Released
Name
13.06.2022
Taubmann
Schröder
Change
cable-no.
destination inside
terminal strip
destination external
cable-no.
-H07V-K 14AWG black 600V 90°C
connection
name of device
location
jumper wire
terminal legend
link
terminal-no.
connection
name of device
-W61 ****
-W62 ****
-W63 ****
-W64 3G16AWG 600V 90°C
terminal strip: -X14
total 12 terminals
terminal strip: -X15
total 6 terminals
option ba


instrument panel
185
460
-K21
-S10
-S1
355
1040
690
555
Switchboard
-Q3
-Q2
-Q1
-B29
-M7
-X0
-1FU
-2FU
-2FU
-30FU
-31FU
-32FU
-43FU
-44FU
-45FU
-X11
-10FU
-11FU
-12FU
-Q4
-B28
-T40
-T21
-T11
-K25
-K20
-X100
-K40
-K51...-K54
-K61 -K64
-X12
1119
GRD
L1
L2
L3
control cabinet bottom
273
305
175
150
-X14
-X15
-Q30
1) option ba
2) 575V 60Hz
3) option ob
4) option oc
5) option cd
The components are performance-related and not shown to scale.
AFA250255E-U3032.00
page 1
1 Sht.
KAESER KOMPRESSOREN
lay-out
MOBILAIR M250E/M255E
Switchboard / control cabinet bottom / instrument panel
Date 13.06.2022
Drawn Taubmann
Released Schröder
Name
Change

13.5 Operator manual for compressed air filter combination



Filters for Compressed Air

005-055 (AO, AA, ACS, AR, AAR)

EN Original Language

NL DE FR FI SV NO DA EL ES PT IT PL

SK CS ET HU LV LT RU SL TR MT RO

aerospace
climate control
electromechanical
filtration
fluid & gas handling
hydraulics
pneumatics
process control
sealing & shielding

Parker

dh domnick hunter

ENGINEERING YOUR SUCCESS.

FILTER DH-OIL-X EVO AO AA 01-

FILTER DH-OIL-X EVO AO AA 01-

Warning

- Highlights actions or procedures, which if not performed correctly, may lead to personal injury or death.
- Benadrukt de acties of procedures die, indien niet juist uitgevoerd, lichamelijk letsel of de dood kunnen veroorzaken.
- Weist auf Aktionen oder Verfahren hin, die bei fehlerhafter Durchführung zu Verletzungen und tödlichen Unfällen führen können.
- Met en relief les actions ou procédures qui, si elles ne sont pas exécutées correctement, peuvent entraîner des dommages corporels ou la mort.
- Osoittaa toimenpiteitä tai menettelytapoja, jotka väärin suoritettuina saattavat aiheuttaa henkilövahingon tai kuoleman.
- Anger åtgärder och metoder som kan orsaka personskador eller dödsfall om de inte utförs korrekt.
- Fremhever handlinger eller prosedyrer som kan føre til personskade eller dødsfall hvis de ikke utføres på korrekt måte.
- Fremhæver handlinger eller fremgangsmåder, som kan medføre personskade eller dødsfald, hvis de ikke udføres korrekt.
- Επισημαίνει τις ενέργειες ή τις διαδικασίες, οι οποίες αν δεν πραγματοποιηθούν σωστά, μπορεί να οδηγήσουν σε τραυματισμό προσωπικού ή σε θάνατο
- Destaca acciones o procedimientos que, de no realizarse correctamente, pueden ocasionar daños personales o la muerte.
- Realça as acções ou procedimentos que, se não forem executados correctamente, poderão provocar danos pessoais ou morte.
- Segnala azioni o procedure che, se non eseguite correttamente, comportano il rischio di infortuni o morte.
- Wskazuje działania i procedury, które w razie niewłaściwego wykonania mogą prowadzić do obrażeń ciała lub śmierci.
- Zvýrazňuje činnosti alebo postupy, ktoré môžu v prípade nesprávneho vykonania viesť zraneniu alebo usmrteniu.
- Upozornění na činnosti nebo postupy, jejichž nesprávné provádění může vést ke zranění nebo usmrcení osob.
- Tõstab esile toimingud või protseduurid, mis väära teostamise korral võivad põhjustada kehavigastusi või surma.
- Olyan műveleteket vagy eljárásokat jelöl, amelyek nem megfelelő módon történő végrehajtása súlyos vagy végzetes személyi sérülést okozhat.
- Uzsver darbības vai procedūras, kuru rezultātā, ja tās neveic pareizi, var izraisīt ievainojumus vai nāvi.
- Žymi veiksmus ar procedūras, kuriuos atlikus neteisingai, galima susižeisti ar mirti.
- Указывает на действия, ненадлежащее выполнение которых может привести к нанесению вреда здоровью или смерти
- Označuje dejanja ali postopke, ki lahko ob nepravilnem izvajanju poškodujejo človeka ali povzročijo smrt.
- Doğru bir şekilde yerine getirilmediği takdirde bu ürüne hasar verebilecek işlem ve süreçleri vurgular.
- Tissottolinea l-azzjonijiet jew il-proċeduri, li jekk ma jsirux kif suppost, jista' jkun hemm korriment jew mewt
- Evidențiază acțiuni sau proceduri care, dacă nu sunt corect efectuate, pot duce la leziuni personale sau la deces.

Caution

- Highlights actions or procedures, which if not performed correctly, may lead to damage to this product.
- Benadrukt de acties of procedures die, indien niet juist uitgevoerd, schade kunnen berokkenen aan dit product.
- Weist auf Aktionen oder Verfahren hin, die bei fehlerhafter Durchführung zu Schäden am Gerät führen können.
- Met en relief les actions ou procédures qui, si elles ne sont pas exécutées correctement, peuvent endommager ce produit.
- Osoittaa toimenpiteitä tai menettelytapoja, jotka väärin suoritettuina saattavat vaurioittaa tätä laitetta.
- Anger åtgärder och metoder som kan orsaka skador på den här produkten om de inte utförs korrekt.
- Fremhever handlinger eller prosedyrer som kan føre til skade på produktet hvis de ikke utføres på korrekt måte.
- Fremhæver handlinger eller fremgangsmåder, som kan medføre beskadigelse af dette produkt, hvis de ikke udføres korrekt.
- Επισημαίνει τις ενέργειες ή τις διαδικασίες, οι οποίες αν δεν πραγματοποιηθούν σωστά, μπορεί να προκαλέσουν ζημιά στο προϊόν αυτό
- Destaca acciones o procedimientos que, de no realizarse correctamente, pueden ocasionar el deterioro del producto.
- Realça as acções ou procedimentos que, se não forem executados correctamente, poderão danificar este produto.
- Segnala azioni o procedure che, se non eseguite correttamente, comportano il rischio di danneggiare il prodotto.
- Wskazuje działania i procedury, które w razie niewłaściwego wykonania mogą powodować uszkodzenie produktu.
- Zvýrazňuje činnosti alebo postupy, ktoré v prípade nesprávneho vykonania môžu viesť k poškodeniu tohto výrobku.
- Upozornění na činnosti nebo postupy, jejichž nesprávné provádění může vést k poškození tohoto výrobku.
- Tõstab esile toimingud või protseduurid, mis väära teostamise korral võivad käesolevat toodet kahjustada.
- Olyan műveleteket vagy eljárásokat jelöl, amelyek nem megfelelő módon történő végrehajtása a termék károsodásához vezethet.
- Uzsver darbības vai procedūras, kuru rezultātā, ja tās neveic pareizi, var sabojāt šo izstrādājumu.
- Žymi veiksmus ar procedūras, kuriuos atlikus neteisingai, galima sugadinti šį gaminį.
- Указывает на действия, ненадлежащее выполнение которых может привести к повреждениям данного изделия
- Označuje dejanja ali postopke, ki lahko ob nepravilnem izvajanju poškodujejo izdelek.
- Doğru bir şekilde yerine getirilmediği takdirde yaralanma ya da ölüme yol açabilecek işlem ve süreçleri vurgular
- Tissottolinea l-azzjonijiet jew il-proċeduri, li jekk ma jsirux kif suppost, tista' ssir ħsara lil dan il prodott
- Evidențiază acțiuni sau proceduri care, dacă nu sunt corect efectuate, pot duce la deteriorarea acestui produs.

- Suitable gloves must be worn.
- Geeignete Schutzhandschuhe tragen.
- Käytettävä asianmukaisia käsineitä.
- Bruk egnede hansker.
- Απαιτείται να φοράτε κατάλληλα γάντια
- Devem ser utilizadas luvas adequadas.
- Należy zakładać odpowiednie rękawice
- Kohustuslik kanda sobivaid kaitsekindaid
- Jāvalkā piemēroti cimdi.
- Работы должны проводиться в соответствующих перчатках
- Uygun eldiven giyilmelidir
- Este necesară purtarea unor mănuşi adecvate.
- Altijd geschikte handschoenen dragen.
- Le port de gants adaptés est obligatoire.
- Använd lämpliga handskar.
- Der skal anvendes egnede handsker.
- Se deben llevar puestos guantes apropiados.
- Indossare guanti di protezione.
- Je nutné použít vhodné rukavice.
- Viseljen megfelelő védőkesztyűt.
- Reikia mūvėti tinkamas pirštines.
- Uporabiti je treba ustrezne rokavice.
- Għandhom jintlibsu ingwanti adatti

- Highlights the requirements for disposing of used parts and waste.
- Benadrukt de vereisten voor het weggooien van gebruikte onderdelen en afval.
- Weist auf die Anforderungen zur Entsorgung gebrauchter Teile und Abfall hin.
- Met en relief les consignes de mise au rebut des pièces usagées et des déchets.
- Osoittaa käytettyjen osien ja jätteen hävittämistä koskevia vaatimuksia.
- Anger de krav som ställs på bortskaffande av gamla delar och avfall.
- Fremhever kravene for avhending av brukte deler og avfall.
- Fremhæver kravene til bortskaffelse af udtjente dele og affald.
- Επισημαίνει τις απαιτήσεις απόρριψης των χρησιμοποιημένων εξαρτημάτων και των απορριμμάτων
- Destaca los requisitos para desechar las piezas usadas y los residuos.
- Realça os requisitos para eliminar as peças utilizadas e os desperdícios.
- Segnala i criteri per lo smaltimento di componenti usati e rifiuti.
- Wskazuje wymagania dotyczące usuwania zużytych części i odpadów.
- Zvýrazňuje požiadavky pre zneškodňovanie použitých dielov a odpadu.
- Upozornění na požadavky týkající se likvidace použitých dílů a odpadu.
- Tõstab esile kasutatud osade ja jäätkide utiliseerimisele esitatavad nõuded
- A használt alkatrészek és a hulladék megfelelő módon történő elhelyezésére hívja fel a figyelmet.
- Uzsver prasības tam, kā atbrīvoties no lietotajām detaļām un atkritumiem.
- Žymi panaudotų dalių ir atliekų išmetimo reikalavimus.
- Указывает на требования по уничтожению использованных деталей и отходов
- Označuje zahteve za odlaganje rabljenih delov in odpadkov.
- Kullanılmış parçaların ve atıkların atılmasına ilişkin gereklilikleri vurgular
- Tissottolinea l-kundizzjonijiet biex wieħed jarmi l-partijiet użati u l-iskart
- Evidențiază cerințele pentru depunerea la deșeuri a pieselor uzate și a reziduurilor.

- Pressure.
- Paine.
- Πίεση
- Ciśnienie
- Nyomás alatt.
- Tlak
- Druk
- Tryck
- Presión.
- Tlak..
- Spiediens.
- Basınç
- Druck.
- Trykk
- Pressão.
- Tlak.
- Slėgis.
- Pressjoni
- Pression.
- Tryk
- Pressione.
- Surve.
- Давление
- Presiune.

- Release Pressure.
- Évacuation de pression.
- Avlast trykk
- Despresurizar.
- Ciśnienie spustowe
- Surve väljalase
- Išleiskite slėgį.
- Basıncı Kaldırın
- Druk aflaten.
- Vapauta paine.
- Aflast tryk
- Liberta Pressão.
- Uvoľnite tlak.
- Engedje ki a nyomást.
- Стравить давление
- Neħħi l-pressjoni
- Druck ablassen.
- Tryckutsläpp.
- Εκτόνωση πίεσης
- Scaricare la pressione.
- Uvolnění tlaku.
- Pazeminiet spiedienu.
- Sprostitev tlaka.
- Depresurizare.

- Replace every year
- Remplacer tous les ans.
- Skift ut hvert år
- Sustituir anualmente
- Należy wymieniać raz w roku
- Asendage igal aastal
- Keiskite kartą per metus
- Her yıl değiştirin
- Elk jaar vervangen
- Vaihda vuosittain.
- Udskift en gang om året
- Substituir todos os anos
- Každý rok vymieňajte
- Évente cserélje
- Заменять каждый год.
- Ibdel kull sena
- Jährlich austauschen
- Byt varje år
- Αντικατάσταση κάθε χρόνο
- Sostituire ogni anno
- Nutná výměna každý rok.
- Nomainiet reizi gadā
- Zamenjajte vsako leto.
- Înlocuire anuală

- Filter housing / Model
- Logement du filtre/modèle.
- Filterhus/-modell
- Caja de filtro/modelo.
- Obudowa filtra / model.
- Filtri korpus/mudel
- Filtro korpusas / modelis
- Filtre muhafazası / Model
- Filterhuis / Model
- Suodatinkotelo/-malli
- Filterhus/modell
- Caixa / Modelo do filtro
- Kryt filtra / Model
- Szűrőház / típus
- Корпус фильтра / модель
- Kontenitur tal-filtru - Mudell
- Filtergehäuse / Modell
- Filterhus/modell
- Υποδοχή/μοντέλο φίλτρου
- Corpo del filtro / Modello
- Kryt filtru / Model
- Filtra korpuss / modelis
- Ohišje filtra / Model
- Carcasă filtru / Model

- High efficiency filter element
- Hochleistungsfilterelement
- Tehokas suodatinelementti
- Høyeffektivt filterelement
- Φίλτρο υψηλής απόδοσης
- Elemento do filtro de elevado rendimento
- Wysokowydajny wkład filtra
- Vysoce účinný filtrační prvek
- Nagy hatékonyságú szűrőelem
- Labai efektyvus filtravimo elementas
- Visoko učinkovit filtrirni element
- Element tal-filtru b'effiċjenza kbira
- Zeer efficiënt filterelement
- Cartouche filtrante haute efficacité.
- Högeffektivt filterelement
- Högeffektivt filterelement
- Elemento filtrante de gran eficiencia.
- Elemento filtrante ad alta efficienza
- Vysoko účinný filtračný článok
- Kõrgtootlik filterelement
- Augstas produktivitātes filtra elements
- Высокоэффективный фильтрующий элемент
- Yüksek etkinlikli filtre öğesi
- Element filtrant cu eficienţă ridicată

- Ensure correct tool is used
- Zorg dat het juiste gereedschap wordt gebruik
- Vérifier que les outils adéquats sont utilisés.
- Se till att rätt verktyg används.
- Sørg for at benytte korrekt værktøj
- Asegúrese de que se utiliza la herramienta adecuada
- Assicurarsi di utilizzare l'utensile corretto
- Uistite sa, že používate správny nástroj
- Tagage õige tööriista kasutamine
- Izmantojiet tikai atbilstošus darbarīkus
- Убедитесь, что используется правильный инструмент
- Doğru alet kullanılmasını sağlayın
- Stellen Sie sicher, dass Sie das richtige Werkzeug verwenden.
- Käytettävä oikeaa työkalua
- Pass på at korrekt verktøy brukes
- Βεβαιωθείτε ότι χρησιμοποιείται το σωστό εργαλείο
- Certifique-se de que é utilizada a ferramenta correcta
- Należy używać odpowiedniego narzędzia.
- Zkontrolujte použití správného nástroje
- Mindig a célnak megfelelő szerszámot használja
- Įsitikinkite, kad naudojamas reikiamas įrankis
- Poskrbite, da boste uporabili ustrezno orodje
- Kun żgur li tintuża l-għodda t-tajba
- Asigurați-vă că este utilizată scula corectă

- Next service date (month/year)
- Nächster Wartungstermin (Monat/Jahr)
- Seuraava huollon päivämäärä (kuukausi/vuosi)
- Neste servicedato (måned/år)
- Επόμενη ημερομηνία σέρβις (μήνας / έτος)
- Data da próxima intervenção técnica (mês / ano)
- Data następnego serwisu (miesiąc/rok)
- Datum příští prohlídky (měsíc / rok)
- Következő szerviz dátuma (hó / év)
- Kitos techninės priežiūros data (ménuo / metai)
- Datum naslednjega servisa (mesec / leto)
- Id-data tas-servis li jmiss (xahar / sena)
- Volgende onderhoudsdatum (maand / jaar)
- Date de la prochaine révision (mois/année)
- Nästa servicedatum (månad/år)
- Næste servicedato (måned/år)
- Fecha de siguiente revisión (mes/año)
- Prossimo intervento di assistenza (mese / anno)
- Dátum nasledujúcej opravy (mesiac/rok)
- Järgmise hoolduse kuupäev (kuu / aasta)
- Nākamais apkopes datums (mēnesis / gads)
- Дата следующего обслуживания (месяц/год)
- Bir sonraki servis tarihi (ay / yıl)
- Data următoarei vizite de service (lună/an

Warning!
This product must be installed and maintained by competent and authorised personnel only, under strict observance of these operating instructions, any relevant standards and legal requirements where appropriate.

Retain this user guide for future reference

Waarschuwing!
Dit product mag alleen geïnstalleerd en onderhouden worden door deskundig en bevoegd personeel met strikte inachtneming van deze bedieningsinstructies en de betreffende normen en wettelijke vereisten indien van toepassing.

Bewaar deze handleiding als naslag.

Warnung!
Das Produkt darf ausschließlich von autorisiertem Fachpersonal unter strikter Befolgung dieser Betriebsanleitung, ggf. relevanter Normen sowie gesetzlicher Vorschriften installiert und gewartet werden.

Bewahren Sie die Bedienungsanleitung zu Referenzzwecken auf.

Attention !
Ce produit doit être installé et entretenu exclusivement par un personnel compétent et autorisé, dans le respect le plus strict de ce mode d'emploi et des normes applicables et exigences légales éventuelles.

Conserver ce guide de l'utilisateur à titre de référence future

Varoitus!
Tämän tuotteen saa asentaa ja huoltaa vain pätevä ja valtuutettu henkilöstö, noudattaen tarkasti näitä käyttöohjeita, kaikkia asiaankuuluvia normeja ja tarpeen vaatiessa lain asettamia vaatimuksia.

Säilytä tämä käyttöohje tulevaa tarvetta varten.

Varning!
Produkten får endast installeras och underhållas av utbildad och behörig personal, som följer denna bruksanvisning och eventuella tillämpliga normer och lagföreskrifter noga i förekommande fall.

Behåll denna användarhandbok som referens

Advarsel!
Dette produktet må bare installeres og vedlikeholdes av kompetent og autorisert personale, i streng overholdelse av disse betjeningsanvisningene, alle relevante standarder og rettslige krav der det passer.

Ta vare på denne brukerveiledningen for senere bruk

Advarsel!
Dette produkt må kun installeres og vedligeholdes af autoriseret personale, under nøje overholdelse af disse driftsinstruktioner, relevante standarder og lovgivningsmæssige krav, hvor dette er aktuelt.

Gem denne vejledning til senere reference.

Προειδοποίηση!
Η εγκατάσταση και συντήρηση αυτού του προϊόντος πρέπει να γίνεται μόνο από κατάλληλα εκπαιδευμένο και εξουσιοδοτημένο προσωπικό, με αυστηρή τήρηση των οδηγιών χειρισμού, των εφαρμοζόμενων προτύπων και των νομικών απαιτήσεων όπου απαιτείται.

Φυλάξτε αυτό το εγχειρίδιο χρήσης για μελλοντική αναφορά

Advertencia
La instalación y mantenimiento de este producto debe ser efectuada únicamente por personal competente y autorizado, respetándose de forma estricta estas instrucciones de funcionamiento, así como cualquier norma y requerimiento legal que sean aplicables.

Conserve esta guía del usuario para poder consultarla en el futuro.

Advertência!
A instalação e a manutenção deste produto só deve ser realizada por pessoal autorizado e competente, sob estrita observância destas instruções de utilização e de quaisquer normas e requisitos legais relevantes, quando adequado.

Conserve este guia do utilizador para referência futura

Attenzione
L'installazione e la manutenzione del prodotto devono essere affidate a personale competente e autorizzato, nel rigoroso rispetto delle presenti istruzioni di funzionamento, degli standard applicabili e delle normative in vigore, qualora appropriato.

Conservare questa guida utente per consultarla in seguito

Ostrzeżenie!
Instalacja i konserwacja urządzenia muszą być prowadzone przez wykwalifikowany personel, w zgodzie z poniższymi instrukcjami, obowiązującymi standardami i wymogami prawa.

Niniejszą instrukcję należy zachować do późniejszego wykorzystania.

Pozor!
Tento výrobok musí byť nainštalovaný a udržiavaný iba kompetentnou a autorizovanou osobou, pri prísnom dodržiavaní tohto návodu na použitie, príslušných štandardov a zákonných požiadaviek v prípade potreby.

Uschovajte túto užívateľskú príručku pre budúce použitie

Upozornění!
Tento produkt smí instalovat a údržbu smí provádět pouze kompetentní a autorizovaný personál, a to za přísného dodržování tohoto návodu k obsluze, veškerých relevantních norem a zákonných požadavků tam, kde je to nutné.

Tuto uživatelskou příručku uschovejte pro pozdější potřebu.

Hoiatus!
Toote paigaldamine ja hooldamine on lubatud ainult pädeval, vastavate volitustega töötajal, kes tegutseb kasutusjuhendi nõudeid, asjakohaseid standardeid ja kehtivaid eeskirju järgides

Hoidke käesolev kasutusjuhend alal edaspidiseks kasutamiseks

Figyelem!
A terméket csak szakképzett és felhatalmazott személy helyezheti üzembe és tarthatja karban, a kezelési utasítások, a vonatkozó szabványok és jogi előírások szigorú betartása mellett, ahol azok alkalmazhatóak.

A leírást tartsa mindig elérhető helyen

Brīdinājums!
Iekārtas uzstādīšanu un apkopi drīkst veikt tikai kompetents un pilnvarots personāls, stingri ievērojot lietošanas instrukciju un citus saistītus standartus un likumdošanā noteiktās prasības, kad nepieciešams.

Saglabājiet šo lietotāja rokasgrāmatu turpmākām uzziņām

Įspėjimas!
Montuoti ir prižiūrėti šį gaminį gali tik kompetentingi ir įgalioti darbuotojai, griežtai laikydamiesi šių naudojimo instrukcijų, visų atitinkamų standartų bei teisinių reikalavimų, jei tai yra taikytina.

Pasilikite šį vartotojo vadovą, jame esančios informacijos gali prireikti vėliau

Предупреждение!
Установку и техническое обслуживание данного оборудования разрешается выполнять только специалисту, имеющему допуск к выполнению таких работ, при строгом соблюдении данной инструкции по эксплуатации, соответствующих стандартов и применимых нормативных актов.

Сохраните это руководство пользователя, чтобы обращаться к нему в дальнейшем

Opozorilo!
Izdelek lahko namestijo in vzdržujejo le usposobljeni in pooblaščeni delavci, ki morajo pri tem strogo upoštevati navodila za uporabo, vse standarde in zakonske zahteve, ki veljajo za posamezno situacijo.

Shranite ta navodila za uporabo za v prihodnje

Dikkat!
Bu ürün yalnızca yetkili ve kalifiye personel tarafından monte edilmeli ve bakımı yapılmalıdır. Kullanım talimatına, ilgili standartlara ve yasal şartlara harfiyen uyulmalıdır.

Bu kullanım kılavuzunu ileride başvurmak için saklayın.

Twissija!
Dan il-prodott għandu jiġi installat u jingħata l-manutenzjoni minn personal kompetenti u awtorizzat biss, taħt sorveljanza stretta ta' dawn l-istruzzjonijiet tat-tħaddim, u kwalunkwe standards u ħtiġijiet legali rilevanti fejn hu xieraq.

Erfa' din il-gwida biex tikkonsultaha fil-futur.

Vertizare!
Acest produs trebuie instalat și întreținut numai de către personal competent și autorizat, cu respectarea strictă a acestor instrucțiuni de utilizare, a tuturor standardelor relevante și a cerințelor legale, unde este cazul.

Păstrați acest ghid al utilizatorului pentru consultări ulterioare

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	Model	BSPT/NPT Port Size	Flow Rate	Dimensions	Weight	Operating Parameters	Filter Grade	Filter Models	Max Operating Pressure	Max Operating Temperature	Min Operating Temperature
EN	Model	BSPT/NPT Port Size	Flow Rate	Dimensions	Weight	Operating Parameters	Filter Grade	Filter Models	Max Operating Pressure	Max Operating Temperature	Min Operating Temperature
NL	Model	BSPT/NPT poortafmeting	Stroom snelheid	Afmetingen	Gewicht	Bedrijfs parameters	Filter kwaliteitsgraad	Filter modellen	Maximale bedrijfs druk	Maximale bedrijfs temperatuur	Minimale bedrijfs temperatuur
DE	Modell	BSPT/NPT Anschlussgröße	Durchfluss-rate	Abmessungen	Gewicht	Betriebsparameter	Filterklasse	Filtermodell	Max. Betriebs-druck	Max. Betriebstemperatur	Min. Betriebstem peratur
FR	Modèle	Taille du port BSPT/NPT	Débit	Dimensions	Poids	Paramètres de fonctionnement	Grade de filtres	Modèles de filtres	Pression de fonctionnement max.	Température de fonctionnement max.	Température de fonctionnement min.
F	Malli	BSPT NPT-portin koko	Virtaus-nopeus	Mitat	Paino	Käyttö-parametrit	Suodatin-luokka	Suodatin-mallit	Suurin käyttö-paine	Suurin käyttö-lämpötila	Pienin käyttö-lämpötila
SV	Modell	BSPT NPT-öppningsstorlek	Flödes-hastighet	Mått	Vikt	Drifts-parametrar	Filter-klass	Filter-modeller	Högsta drifts-tryck	Högsta drifts-temperatur	Lägsta drifts-temperatur
NO	Modell	BSPT NPT-Portstørrelse	Strømnings-hastighet	Mål	Vekt	Drifts-parametere	Filter-type	Filter-modeller:	Maks. drifts-trykk	Maks. drifts-temperatur	Min.drifts-temperatur
DA	Model	BSPT NPT-portstørrelse	Flow-hastighed	Mål	Vægt	Drifts-parametre	Filter-kvalitet	Filter-modeller	Maks. drifts-tryk	Maks. drifts-temperatur	Min.drifts-temperatur
EL	Μοντέλο	Μέγεθος θύρας BSPT/NPT	Ρυθμός παροχής	Διαστάσεις	Βάρος	Παράμετροι λειτουργίας	Κατηγορία φίλτρου	Μοντέλα φίλτρων	Μέγ. πίεση λειτουργίας	Μέγ. θερμοκρασία λειτουργίας	Ελάχ. θερμοκρασία λειτουργίας
ES	Modelo	Tamaño de puerto BSPT/NPT	Caudal	Dimensiones	Peso	Parámetros de funcionamiento	Grado del filtro	Modelos de filtros	Presión de funcionamiento máxima	Temperatura de funcionamiento máxima	Temperatura de funcionamiento mínima
PT	Modelo	Tamanho da Porta BSPT NPT	Taxa de Fluxo	Dimensões	Peso	Parâmetros de Funcionamento	Grau do Filtro	Modelos do Filtro	Pressão Máx. de Funcionamento	Temperatura Máxima de Funcionamento	Temperatura Mínima de Funcionamento
T	Modello	Dimensioni collega-mento BSPT/NPT	Portata	Dimensioni	Peso	Parametri di esercizio	Grado di filtrazione	Filtri	Pressione di esercizio massima	Temperatura di esercizio massima	Temperatura di esercizio minima
PL	Model	Wielkość otworu BSPT/NPT	Prędkość przepływu	Wymiary	Ciężar	Parametry pracy	Klasa filtra	Typy filtrów	Maks. ciśnienie robocze	Maks. temperatura pracy	Min. temperatura pracy
SK	Model	BSPT/NPT Veľkosť portu	Prietoková rýchlosť Rate	Rozmery	Hmotnosť	Prevádzkové parametre	Trieda filtra	Typy filtrov	Max. prevádzkový tlak	Max. prevádzková teplota	Min. prevádzková teplota
CS	Model	Velikost závitu BSPT/NPT	Rychlost průtoku	Rozměry	Hmotnost	Provozní parametry	Klasifikace filtru	Modely filtru	Maximální provozní tlak	Maximální provozní teplota	Minimální provozní teplota
ET	Mudel	BSPT/NPT pordi suurus	Voolukulu	Mõõtmed	Kaal	Talitlusparameetrid	Filtratsiooniaste	Filtri mudelid	Maksimaalne töösurve	Maksimaalne töötemperatuur	Minimaalne töötemperatuur
HU	Típus	BSPT/NPT Csőcsonk mérete	Áramlási sebesség	Méretek	Tömeg	Üzemi paraméterek	Szűrő fokozat	Szűrő típusa	Max. üzemi nyomás	Max. Üzemi hőmérséklet	Min. Üzemi hőmérséklet
LV	Modelis	BSPT/NPT porta lielums	Plūsmas ātrums	Izmēri	Svars	Darbības parametri	Filtru kategorija	Filtru modeli	Maks. darbības spiediens	Maks. darbības temperatūra	Min. darbības temperatūra
LT	Modelis	BSPT/NPT Prievado dydis	Srauto tėkmgreitisės	Matmenys	Svoris	Darbiniai parametrai	Filtro klasė	Filtro modeliai	Maks. darbinis slėgis	Maks. darbinė temperatūra	Min. darbinė temperatūra
RU	Модель	Диаметр отверстия BSPT/NPT	Скорпотока	Габариты	Вес	Рабочие параметры	Качество фильтра	Модели фильтров	Макс. рабочее давление	Макс. рабочая температура	Мин. рабочая температура
SL	Model	Velikost vrat BSPT/NPT	Hitrost pretoka	Mere	Teža	Delovni parametri	Razred filtra	Modeli filtrov	Maks. delovni tlak	Maks. delovna temperatura	Min. delovna temperatura
TR	Model	BSPT/NPT Port Boyu	Akım Hızı	Boyutlar	Ağırlık	İşletim Parametreleri	Filtre Derecesi	Filtre Modelleri	Azami İşletme Basıncı	Azami İşletme Isısı	Asgari İşletme Isısı
MT	Mudell	Daqs tal-Port BSPT/NPT	Rata tal-Fluss	Dimensjonijiet	Piż	Parametri ta l-Operar	Grad tal-Filtru	Mudelli tal-Filtru	Pressjoni Massima ta' l-Operar	Temperatura Massima ta' l-Operar	Temperatura Minima ta' l-Operar
RO	Mode	Dimensiune port BSPT/NP	Debi	Dimensiun	Greutat	Parametri de funcţionar	Gradul filtrului	Modele de filtr	Presiune maxim„ de funcţionar	Temperatur„ maxim„ de funcţionar	Temperatur„ minim„ de funcţionar

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Model	Pipe Size	L/s	m³/min	m³/hr	cfm
005A	¼"	6	0.4	22	13
005B	⅜"	6	0.4	22	13
005C	½"	6	0.4	22	13
010A	¼"	10	0.6	36	21
010B	⅜"	10	0.6	36	21
010C	½"	10	0.6	36	21
015B	⅜"	20	1.2	72	42
015C	½"	20	1.2	72	42
020C	½"	30	1.8	108	64
020D	¾"	30	1.8	108	64
020E	1"	30	1.8	108	64
025D	¾"	60	3.6	216	127
025E	1"	60	3.6	216	127
030E	1"	110	6.6	396	233
030F	1¼"	110	6.6	396	233
030G	1½"	110	6.6	396	233
035F	1¼"	160	9.6	576	339
035G	1½"	160	9.6	576	339
040G	1½"	220	13.2	792	466
040H	2"	220	13.2	792	466
045H	2"	330	19.8	1188	699
050I	2½"	430	25.9	1548	911
050J	3"	430	25.9	1548	911
055I	2½"	620	37.3	2232	1314
055J	3"	620	37.3	2232	1314

BSPT / NPT

AA005A □ FX

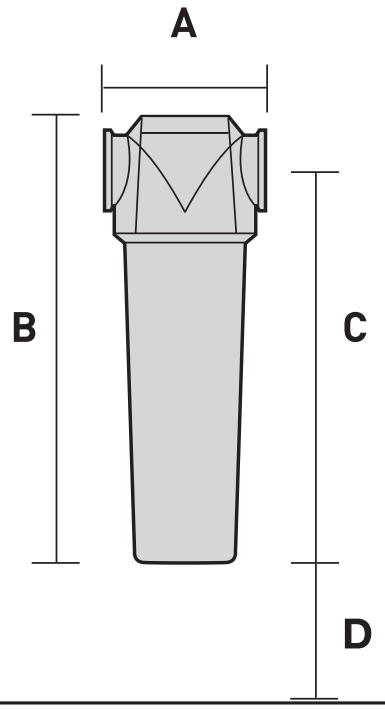
- B = BSPT
- N = NPT

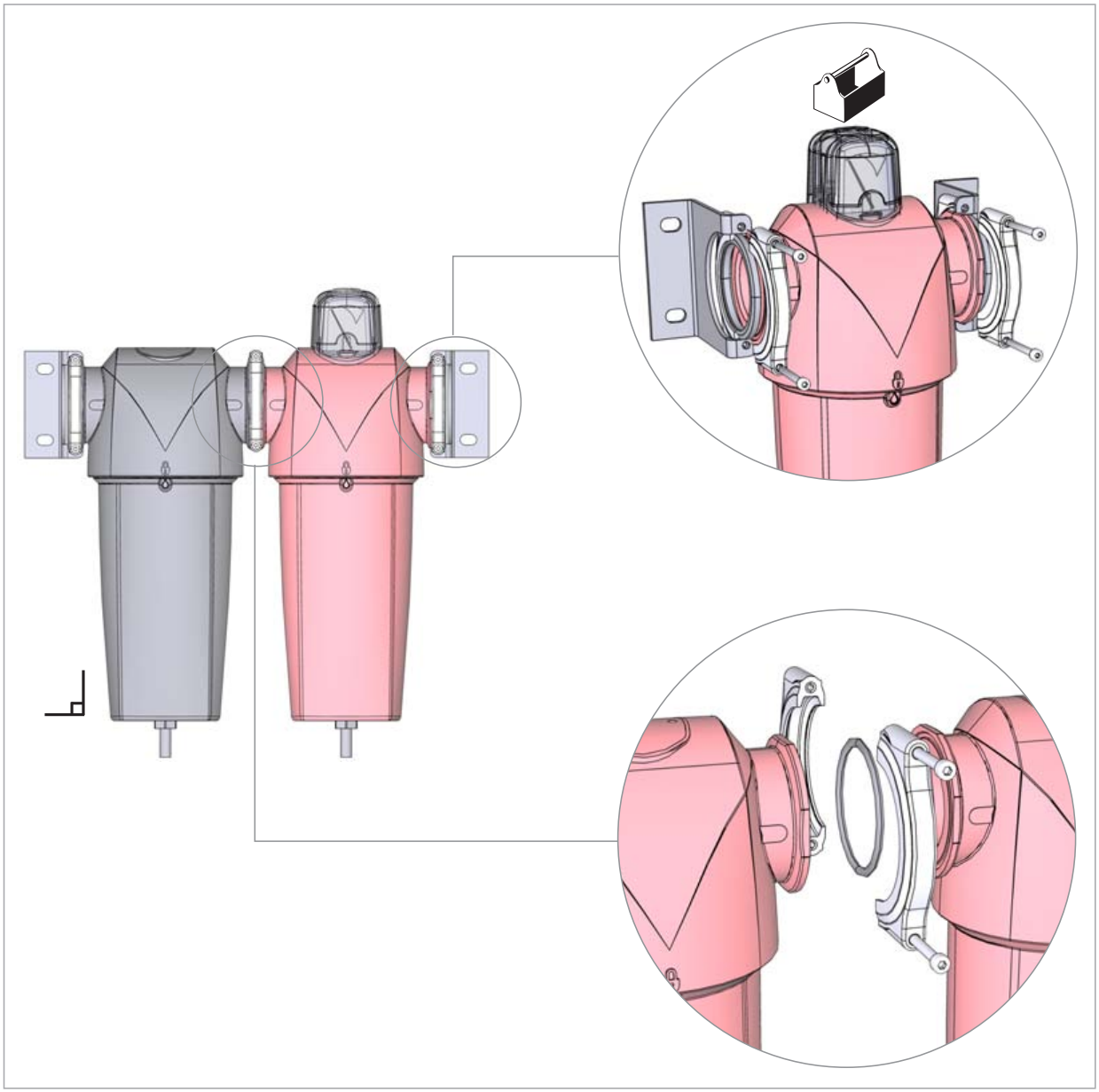
Filter Grade	Models	Max Operating Pressure		Max Recommended Operating Temperature		Min Recommended Operating Temperature	
		bar g	psi g				
AO	005□□F□-055□□F□	16	232	80ºC	176ºF	1.5ºC	35ºF
AO	005□□M□-055□□M□	20	290	100ºC	212ºF	1.5ºC	35ºF
AA	005□□F□-055□□F□	16	232	80ºC	176ºF	1.5ºC	35ºF
AA	005□□M□-055□□M□	20	290	100ºC	212ºF	1.5ºC	35ºF
AR	005□□M□-055□□M□	20	290	100ºC	212ºF	1.5ºC	35ºF
AAR	005□□M□-055□□M□	20	290	100ºC	212ºF	1.5ºC	35ºF
ACS	005□□M□-055□□M□	20	290	50ºC	122ºF	1.5ºC	35ºF

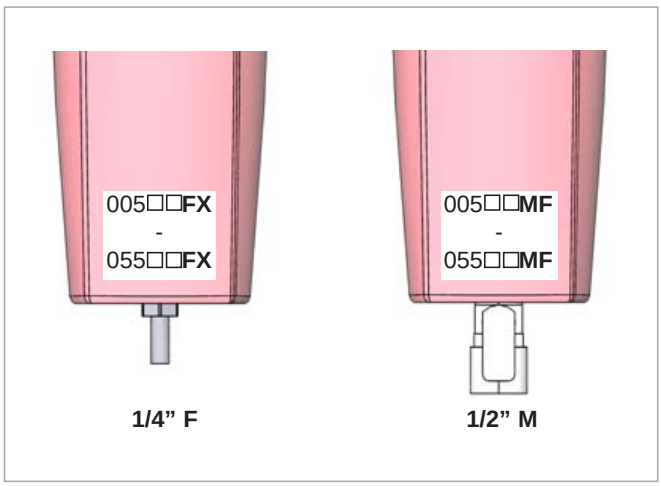
Weights and Dimensions

• Gewichten en afmetingen • Gewicht und Abmessungen • Poids et dimensions • Painot ja mitat • Vikter och mått • Vekt og dimensjone • Vægt og mål • VΨgt og m¨l • Pesos y dimensiones • Pesos e Dimensões • Pesi e dimensioni • Ciężary i wymiary • Hmotnosti a rozmery • Hmotnost arozměry • Kaalud ja mõõtmed • Tömeg és méretek • Svars un izmēri • Svoris ir matmenys • Вес игабариты • Teže in mere • Ağırlıklar ve Boyutlar • Piżijiet u Dimensjonijiet • **Greutăți și dimensiuni**

Model	Pipe Size	A		B		C		D		Weight	
		mm	ins	mm	ins	mm	ins	mm	ins	kg	lbs
005A	¼"	76	3	154.5	6.1	126.5	5	40	1.58	0.5	1.1
005B	⅜"	76	3	154.5	6.1	126.5	5	40	1.58	0.5	1.1
005C	½"	76	3	154.5	6.1	126.5	5	40	1.58	0.5	1.1
010A	¼"	76	3	181.5	7.2	153	6	40	1.58	0.6	1.3
010B	⅜"	76	3	181.5	7.2	153	6	40	1.58	0.6	1.3
010C	½"	76	3	181.5	7.2	153	6	40	1.58	0.6	1.3
015B	⅜"	97.5	3.8	235	9.3	201	7.9	50	1.97	1.1	2.4
015C	½"	97.5	3.8	235	9.3	201	7.9	50	1.97	1.1	2.4
020C	½"	97.5	3.8	235	9.3	201	7.9	50	1.97	1.1	2.4
020D	¾"	97.5	3.8	235	9.3	201	7.9	50	1.97	1.1	2.4
020E	1"	97.5	3.8	235	9.3	201	7.9	50	1.97	1.1	2.4
025D	¾"	129	5.1	275	10.8	232.5	9.2	70	2.76	2.2	2.5
025E	1"	129	5.1	275	10.8	232.5	9.2	70	2.76	2.2	2.5
030E	1"	129	5.1	364.5	14.3	322	12.7	70	2.76	2.7	2.9
030F	1¼"	129	5.1	364.5	14.3	322	12.7	70	2.76	2.7	2.9
030G	1½"	129	5.1	364.5	14.3	322	12.7	70	2.76	2.7	2.9
035F	1¼"	170	6.7	432.5	17	382.5	15.1	100	3.94	5.1	11.2
035G	1½"	170	6.7	432.5	17	382.5	15.1	100	3.94	5.1	11.2
040G	1½"	170	6.7	524.5	20.6	474.5	18.7	100	3.94	7	12.5
040H	2"	170	6.7	524.5	20.6	474.5	18.7	100	3.94	7	12.5
045H	2"	170	6.7	524.5	20.6	474.5	18.7	100	3.94	7	12.5
050I	2½"	205	8.1	641.5	25.3	581.5	22.9	120	4.72	11.1	24.4
050J	3"	205	8.1	641.5	25.3	581.5	22.9	120	4.72	11.1	24.4
055I	2½"	205	8.1	832	32.8	772	30.4	120	4.72	13.9	30.6
055J	3"	205	8.1	832	32.8	772	30.4	120	4.72	13.9	30.6

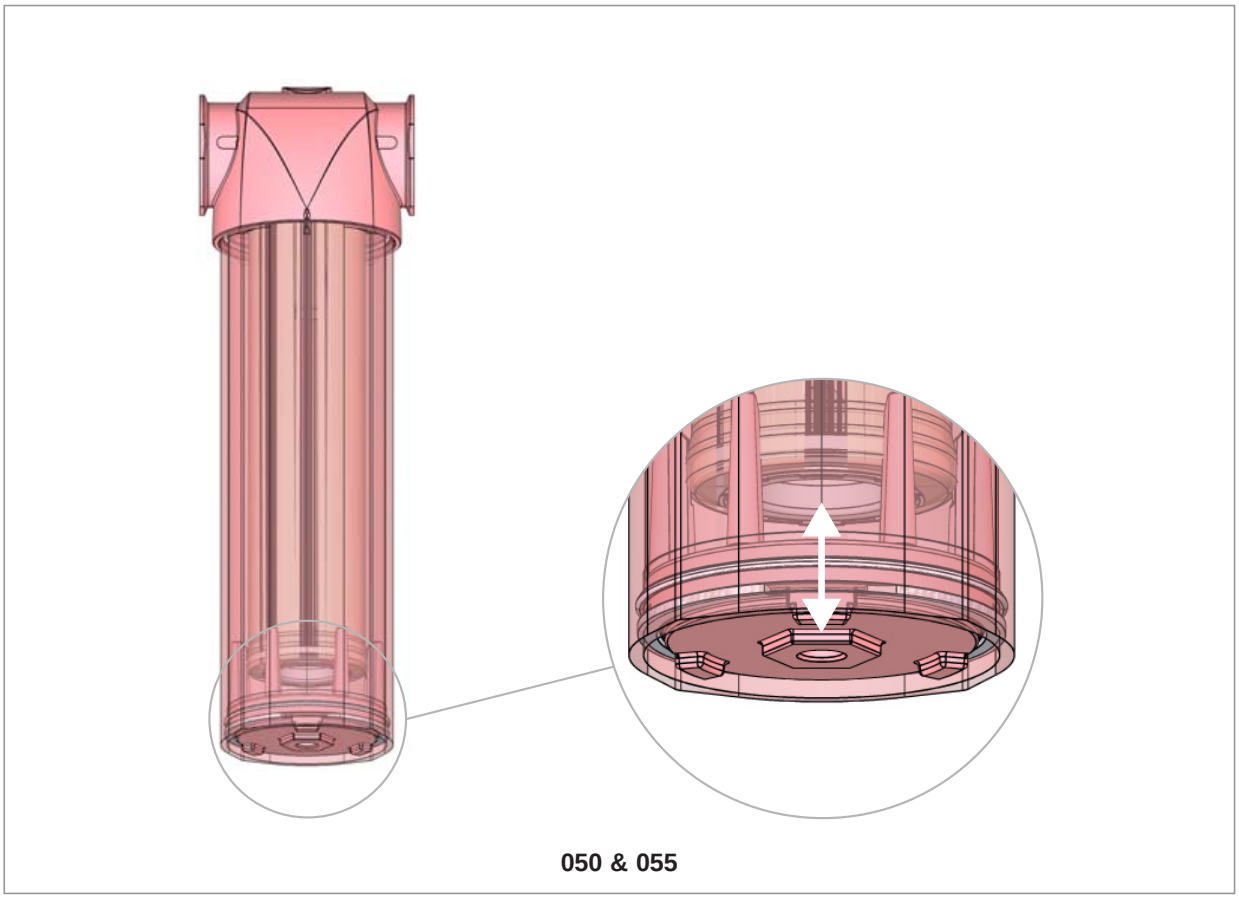






21

FILTER DH-OIL-X EVO AO AA 01-



050 & 055

EN The lower closure plate may move when the filter is not pressurised.

NL Het onderste sluitplaatje zou kunnen bewegen wanneer het filter niet onder druk staat.

DE Die untere Verschlussplatte kann sich bewegen, wenn der Filter nicht mit Druck beaufschlagt ist.

FR La plaque d'obturation la plus basse peut bouger si le filtre n'est pas pressurisé.

FI Alempi sulkulevy saattaa liikkua, kun suodatin ei ole paineistettu.

SV Den lägre slutningsplattan kan rubbas när filtret inte är trycksatt.

NO Den nedre trykkplaten kan bevege seg når filteret ikke er trykksatt.

DA Den nedre lukkeplade kan bevæge sig, når filtret ikke sættes under tryk.

EL Η κάτω πλάκα κλεισίματος μπορεί να μετακινηθεί εάν το φίλτρο δεν βρίσκεται υπό πίεση.

ES La placa inferior de cierre puede moverse si el filtro no está presurizado.

PT A placa de isolamento inferior pode deslocar-se se o filtro não estiver pressurizado.

IT Quando il filtro non è sotto pressione, la piastra di chiusura inferiore potrebbe spostarsi.

PL Pokrywa dolna może się przesuwać, gdy filtr nie będzie pod ciśnieniem.

SK Ak filter nie je natlakovaný, spodná uzatváracia platňa sa môže posunúť.

CS Spodní uzavírací deska se může pohybovat, pokud je filtr pod tlakem.

ET Alumine sulgurplaat võib liikuda, kui filter ei ole rõhu all.

HU Az alsó zárólemez elmozdulhat, ha a szűrő nincs nyomás alatt.

LV Apakšējā noslēgplāksne var kustēties, ja filtrs nav zem spiediena.

LT Jeigu filtre nėra slėgio, apatinė uždaromoji plokštė gali judėti.

RU Если фильтр не загерметизирован, возможно смещение нижней замыкающей пластины.

SL Spodnja plošča za zapiranje se lahko premika, ko filter ni pod pritiskom.

TR Filtreye basınç uygulanmadığında alt kapama levhası hareket edebilir.

MT L-aċċessorji għandhom ikunu mqabbdin ma’ l-ert - art

RO Placa inferioară de acoperire se poate deplasa atunci când filtrul nu este presurizat

3. Startup and Operation

• **Starten en bediening** • Start und Betrieb • **Démarrage et exploitation** • Käynnistys ja toiminta • **Start och drift** • Oppstart og betjening • **Start og drift** • Έναρξη λειτουργίας και χειρισμός • **Puesta en marcha y funcionamiento** • Arranque e Operação • **Avvio e funzionamento** • Uruchomienie i eksploatacja • Spustenie a prevádzka • Spuštění a provoz • Käikulaskmine ja töötamine • Beindítás és üzemeltetés • Darbības uzsākšana un darbība • Paleidimas ir naudojimas • Запуск и эксплуатация • Zagon in uporaba • **Çalıştırma ve İşletme** • Kif Tixghel u Kif Thaddem

EN

1. Open inlet valve slowly to gradually pressurise the unit.

2. Open outlet valve slowly to re-pressurise the downstream piping

Do not open inlet or outlet valves rapidly or subject unit to excessive pressure differential or damage may occur.

NL

1. Doe de inlaatklep langzaam open om het toestel geleidelijk onder druk te zetten.

2. Doe de uitlaatklep langzaam open om de leidingen verderop in het systeem opnieuw onder druk te zetten.

De inlaat- en uitlaatkleppen niet snel openen en het toestel niet aan een te groot drukdifferentieel blootstellen om schade te voorkomen.

DE

1. Einlassventil langsam öffnen, damit Einheit allmählich mit Druck beaufschlagt wird.

2. Auslassventil langsam öffnen, damit nachgeschaltete Rohrleitungen erneut mit Druck beaufschlagt werden.

Einlass- und Auslassventil nicht schnell öffnen. Einheit nicht extremen Druckunterschieden aussetzen. Gefahr von Schäden.

FR

1. Ouvrez lentement la soupape d'admission pour mettre progressivement l'unité sous pression.

2. Ouvrez lentement la soupape de refoulement pour faire remonter la pression des conduits en aval.

Évitez d'ouvrir la soupape d'admission ou la soupape de refoulement trop rapidement ou de soumettre l'unité à une pression différentielle trop importante au risque d'entraîner des dommages.

FI

1. Paineista yksikkö asteittain avaamalla tuloventtiili.

2. Paineista laskuputkisto uudelleen avaamalla lähtöventtiili hitaasti

Älä avaa tulo- tai lähtöventtiiliä nopeasti tai altista yksikköä liialliselle paine-erolle, sillä yksikkö voi vaurioitua.

SV

1. Öppna inloppsventilen långsamt så att enheten trycksätts gradvis.

2. Öppna utloppsventilen långsamt för att trycksätta rören nedströms på nytt.

Öppna inte inlopps- eller utloppsventilerna snabbt och utsätt inte enheten för överdrivet differentialtryck, eftersom det kan orsaka skador.

NO

1. Åpne inntaksventilen langsomt for å sette enheten gradvis under trykk.

2. Åpne uttaksventilen langsomt for å sette nedstrømsrørene under trykk igjen.

Ikke åpne inntaks- eller uttaksventilene rast eller utsett enheten for høyt differensialtrykk, da dette kan føre til skade.

DA

1. Åbn langsomt indgangsventilen for gradvist at sætte enheden under tryk.

2. Åbn langsomt udløbsventilen for at sætte rørene længere fremme under tryk igen.

Åbn ikke indgangs- eller udgangsventiler hurtigt, og udsæt ikke enheden for store trykforskelle, da det kan medføre skader.

EL

1. Ανοίξτε αργά τη βαλβίδα εισαγωγής για να ανέβει σταδιακά η πίεση της μονάδας.

2. Ανοίξτε αργά τη βαλβίδα εξαγωγής για να ανέβει η πίεση της σωλήνωσης κατάντι

Μην ανοίγετε γρήγορα τις βαλβίδες εισαγωγής ή εξαγωγής και μην υποβάλλετε τη μονάδα σε υπερβολική διαφορική πίεση, διότι μπορεί να προκύψει βλάβη.

ES

1. Abra lentamente la válvula de admisión para presurizar progresivamente la unidad.

2. Abra lentamente la válvula de descarga para volver a presurizar las tuberías aguas abajo.

Para evitar daños, no abra bruscamente las válvulas de admisión o de descarga ni someta la unidad a una diferencia de presiones excesiva.

PT

1. Abra lentamente a válvula de entrada para pressurizar gradualmente a unidade.

2. Abra lentamente a válvula de saída para pressurizar novamente a tubagem a jusante

Não abra rapidamente as válvulas de entrada ou saída nem sujeite a unidade a uma pressão diferencial excessiva, caso contrário poderão ocorrer danos.

IT

1. Aprire lentamente la valvola di mandata per aumentare gradualmente la pressione nell'unità.

2. Aprire lentamente la valvola di scarico per pressurizzare i tubi a valle

Non aprire rapidamente le valvole di mandata o scarico o sottoporre l'unità a una differenza di pressione eccessiva; rischio di danni.

PL

1. Powoli otwórz zawór wlotowy, aby stopniowo zwiększyć ciśnienie w urządzeniu.

2. Powoli otwórz zawór wylotowy, aby zwiększyć ciśnienie w rurach w dół przepływu.

Nie wolno szybko otwierać zaworów wlotowych ani wylotowych, ponieważ może to doprowadzić do zbyt dużej różnicy ciśnień w urządzeniu i do jego uszkodzenia.

SK

1. Pre postupné natlakovanie jednotky pomaly otvorte prívodný ventil.

2. Pre opätovné natlakovanie potrubia v smere toku pomaly otvorte vývodný ventil.

Neotvárajte prívodný alebo vývodný ventil rýchlo ani nevystavujte jednotku nadmernému rozdielu tlaku, lebo môže dôjsť k poškodeniu.

CS

1. Pomalým otevřením přívodního ventilu jednotku pozvolna natlakujte.

2. Pomalým otevřením výstupního ventilu znovu natlakujte potrubí ve směru rozvodu.

Přívodní ani výstupní ventily neotvírejte rychle, ani jednotku nevystavujte nadměrným rozdílům tlaku, v opačném případě může dojít k poškození.

ET

1. Üksuse järkjärguliseks survestamiseks avage sisselaskeventiil aeglaselt.

2. Surve taastamiseks väljavoolutorustikus avage väljalaskeventiil aeglaselt.

Sisselaske- ja väljalaskeventiile ei tohi avada kiiresti ega põhjustada üksuses liiga suurt survelangu, mis võib tekitada sellele kahjustusi.

HU

1. Az egység fokozatosan történő nyomás alá helyezéséhez a bemenő szelepet lassan nyissa meg.

2. Az elmenő csővezeték nyomásának visszaállításához lassan nyissa meg az elmenő szelepet

A berendezés károsodásának elkerülése érdekében ne nyissa meg túl gyorsan a bemenő vagy az elmenő szelepet, és ne tegye ki az egységet nagy nyomáskülönbségnek.

LV

1. Lēnām atveriet ieplūdes vārstu, lai iekārtā pamazām paaugstinātu spiedienu.
2. Lēnām atveriet izplūdes vārstu, lai caurulēs plūsmas virzienā samazinātu spiedienu

Neatveriet ieplūdes un izplūdes vārstus strauji, pretējā gadījumā attiecīgajā iekārtā var rasties pārmērīgi liels spiediens vai tā var sabojāties.

LT

1. Lėtai atidarydami įleidimo vožtuvą, palaipsniui sudarykite slėgį įrenginyje.
2. Lėtai atidarydami išleidimo vožtuvą, iš naujo sudarykite slėgį pasroviui esančiame vamzdyne

Negalima staigiai atidaryti įleidimo ar išleidimo vožtuvų, nei paveikti įrenginio pernelyg dideliu diferencialiniu slėgiu, nes galima sugadinti įrangą.

RU

1. Впускной клапан следует открывать плавно, чтобы постепенно создать давление в устройстве.
2. Плавно откройте впускной клапан, чтобы создать давление в системе трубопровода

Запрещено резко открывать впускной или выпускной клапаны, а также используемое устройство, так как это может привести к перепаду давления и повреждениям.

SL

1. Za počasno dajanje pod pritisk počasi odprite dovodni ventil.
2. Počasi odprite dovodni ventil za ponovno dajanje spodnjih cevi pod pritisk.

Dovodne ali odvodne ventile odpirajte počasi in enote ne izpostavljajte prevelikim nihanjem tlaka, saj lahko to povzroči škodo.

TR

1. Giriş valfini yavaşça açıp üniteye yavaş yavaş basınç uygulayın.
2. Mensap tarafındaki borulara yeniden basınç uygulamak için çıkış valfini yavaşça açın

Giriş ve çıkış valflerini hızla açmayın ve üniteyi aşırı basınç farklarına maruz bırakmayın; aksi halde hasar görebilir.

MT

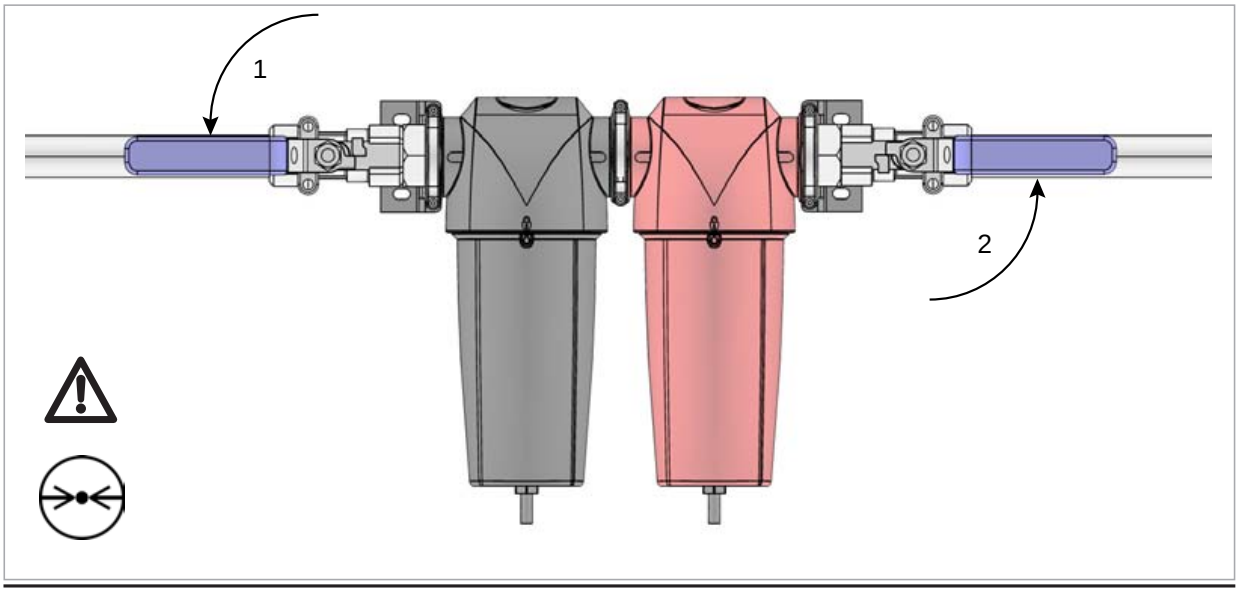
1. Iftaħ il-valv tad-dħul bil-mod, biex bil-mod tiżdied il-pressjoni fit-tagħmir.
2. Iftaħ il-valv tal-ħruġ bil-mod biex terġa' tibni l-pressjoni fil-pajps li jwasslu 'l isfel

Ara li ma tiftaħx il-valvs tad-dħul jew tal-ħruġ f'daqqa jew b'xi mod tikkawża differenza eċċessiva fil-pressjoni tat-tagħmir għax tista' tagħmel il-ħsara.

RO

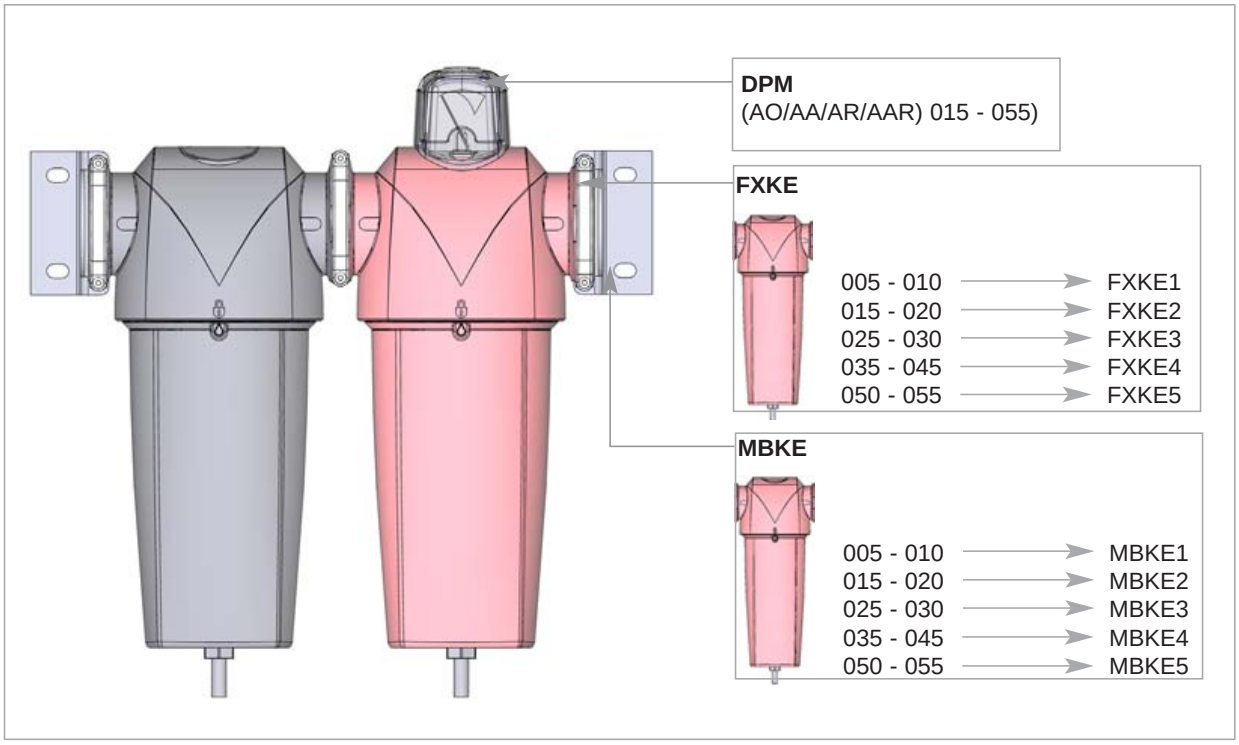
1. Deschide¸i lent supapa de admisie, pentru a presuriza gradat aparatul.
2. Deschide¸i lent supapa de evacuare pentru a represuriza sistemul de conducte din aval

Nu deschide¸i rapid supapele de admisie sau de evacuare ſi nu supune¸i aparatul la o diferen¸„ excesiv„ de presiune; Ón caz contrar, aparatul poate suferi deterior„ri



4. Accessories

• **Toebehoren** • Zubehör • **Accessoires** • Lisävarusteet • **Tillbehör** • Tilbehør • **Tilbehør** • Εξαρτήματα • **Accesorios** • Acessórios • **Accessori** • Wyposażenie • Príslušenstvo • Příslušenství • Tarvikud • Tartozékok • Piederumi • Priedai • Принадлежности • Dodatna oprema • **Aksesuarlar** • Аċċessorji • **Accesorii**



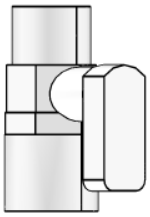
AO, AA, ACS, AR, AAR 005 - 055

5. Spare Parts (Service Kits)

• **Reserve-onderdelen (servicekits)** • Ersatzteile (Service-Kits) • **Pièces de rechange (nécessaires d'entretien)** • Varaosat (Huoltopakkaukset) • **Reservdelar (servicesatser)** • Reservedeler (service-sett) • **Reservedele (Servicekit)** • Ανταλλακτικά (Πακέτα τεχνικής υποστήριξης) • **Piezas de repuesto (kits de mantenimiento)** • Peças Sobressalentes (Kit de Reparação) • **Ricambi (kit per l'assistenza)** • Części zamienne (zestawy serwisowe) • Náhradné diely (Servisná súprava) • Náhradní díly (Sady pro údržbu) • Varuosad (hooldekomplektid) • Pótalkatrészek (szervizkészletek) • Rezerves daļas (apkopes komplekti) • Atsarginės dalys (priežiros detalių komplektai) • Запасные части (ЗИП) • Nadomestni deli (servisni kompleti) • **Yedek parça (Servis kitleri)** • Partijiet Ghat-Tibdil (Kitts tas-Servizz) • **Piese de schimb (Truse de service)**

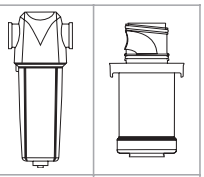
EF1

- **AUTOMATIC DRAIN**
- **AUTOMATISCHER ABLAUF**
- **VIDANGE AUTOMATIQUE**
- **AUTOMISCHAFTAPPEN**
- **DRENAJE AUTOMATICO**
- **SCARIO AUTOMATICO**
- **AUTOMATISK AFLØB**
- **DRENO AUTOMÁTICO**
- ΑΥΤΟΜΑΤΗ ΑΠΟΣΤΡΑΓΓΙΣΗ
- **AUTOMATDRÄNERING**
- **AUTOMAATTINEN**
- **TYHJENNYSKAPPALE**
- DREN AUTOMATYCZNY
- AUTOMATICKÉ VYSUŠENIE
- AUTOMATICKÉ VYPOUŠTĚNÍ
- AUTOMAATNE VÄLJALASE
- AUTOMATIKUS LEERESZTÉS
- AUTOMĀTISKA IZTECINĀŠANA
- AUTOMATINIS IŠLEIDIMAS
- АВТОМАТИЧЕСКИЙ ДРЕНАЖ
- SAMODEJNI ODTOK
- **OTOMATİK SÜZDÜRÜCÜ**
- **DREJN AWTOMATIKU**
- **EVACUARE AUTOMAT√**

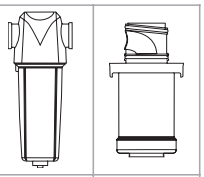


EM1

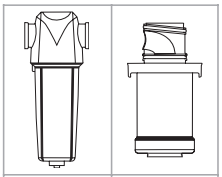
- **MANUAL DRAIN**
- **MANUELLER ABLAUF**
- **VIDANGE MANUELLE**
- **MANUEEL AFTAPPEN**
- **DRENAJE MANUAL**
- **SCARIO MANUALE**
- **MANUELT AFLØB**
- **DRENO MANUAL**
- ΧΕΙΡΟΚΙΝΗΤΗ ΑΠΟΣΤΡΑΓΓΙΣΗ
- **MANUELL DRÄNERING**
- **KÄSIKÄYTTÖINEN**
- **TYHJENNYSKAPPALE**
- DREN RĘCZNY
- RUČNÉ VYSUŠENIE
- RUČNÍ VYPOUŠTĚNÍ
- KÄSITSI VÄLJALASE
- KÉZI LEERESZTÉS
- MANUĀLA IZTECINĀŠANA
- RANKINIS IŠLEIDIMAS
- ДРЕНАЖ ВРУЧНУЮ
- ROČNI ODTOK
- **ELLE KULLANILACAK SÜZDÜRÜCÜ**
- **DREJN MANWALI**
- **EVACUARE MANUAL√**



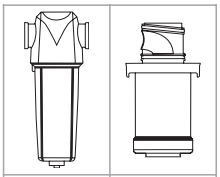
AO005A	005AO
AO005B	005AO
AO005C	005AO
AO010A	010AO
AO010B	010AO
AO010C	010AO
AO015B	015AO
AO015C	015AO
AO020C	020AO
AO020D	020AO
AO020E	020AO
AO025D	025AO
AO025E	025AO
AO030E	030AO
AO030F	030AO
AO030G	030AO
AO040G	040AO
AO040H	040AO
AO045H	045AO
AO050I	050AO
AO050J	050AO
AO055I	055AO
AO055J	055AO



AA005A	005AA
AA005B	005AA
AA005C	005AA
AA010A	010AA
AA010B	010AA
AA010C	010AA
AA015B	015AA
AA015C	015AA
AA020C	020AA
AA020D	020AA
AA020E	020AA
AA025D	025AA
AA025E	025AA
AA030E	030AA
AA030F	030AA
AA030G	030AA
AA040G	040AA
AA040H	040AA
AA045H	045AA
AA050I	050AA
AA050J	050AA
AA055I	055AA
AA055J	055AA



ACS005A	005ACS
ACS005B	005ACS
ACS005C	005ACS
ACS010A	010ACS
ACS010B	010ACS
ACS010C	010ACS
ACS015B	015ACS
ACS015C	015ACS
ACS020C	020ACS
ACS020D	020ACS
ACS020E	020ACS
ACS025D	025ACS
ACS025E	025ACS
ACS030E	030ACS
ACS030F	030ACS
ACS030G	030ACS
ACS040G	040ACS
ACS040H	040ACS
ACS045H	045ACS
ACS050I	050ACS
ACS050J	050ACS
ACS055I	055ACS
ACS055J	055ACS



AR005A	005AR
AR005B	005AR
AR005C	005AR
AR010A	010AR
AR010B	010AR
AR010C	010AR
AR015B	015AR
AR015C	015AR
AR020C	020AR
AR020D	020AR
AR020E	020AR
AR025D	025AR
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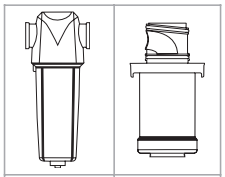
AR050J	050AR
AR055I	055AR
AR055J	055AR



AAR005A	005AAR
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AAR005C	005AAR
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AAR020E	020AAR
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AAR025E	025AAR
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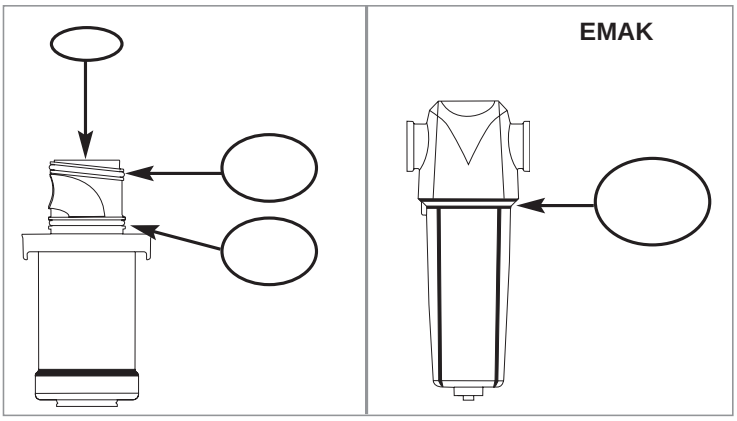
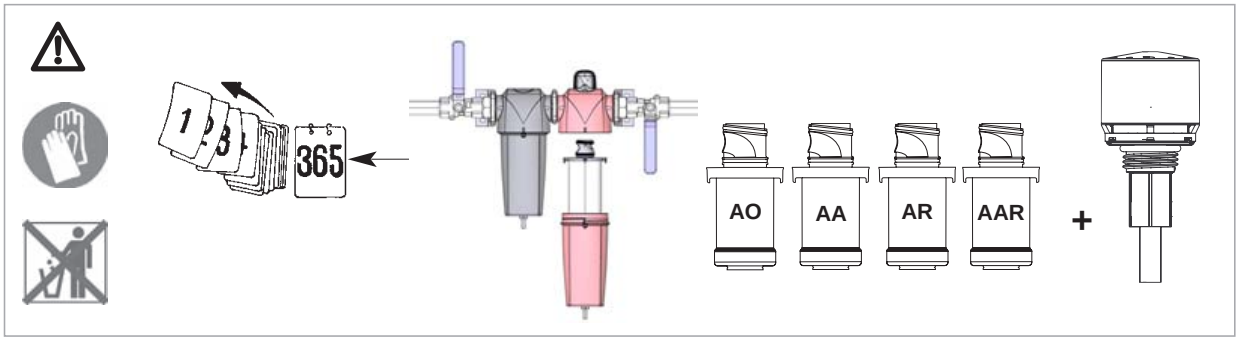
AAR030F	030AAR
AAR030G	030AAR
AAR040G	040AAR
AAR040H	040AAR
AAR045H	045AAR
AAR050I	050AAR
AAR050J	050AAR
AAR055I	055AAR
AAR055J	055AAR

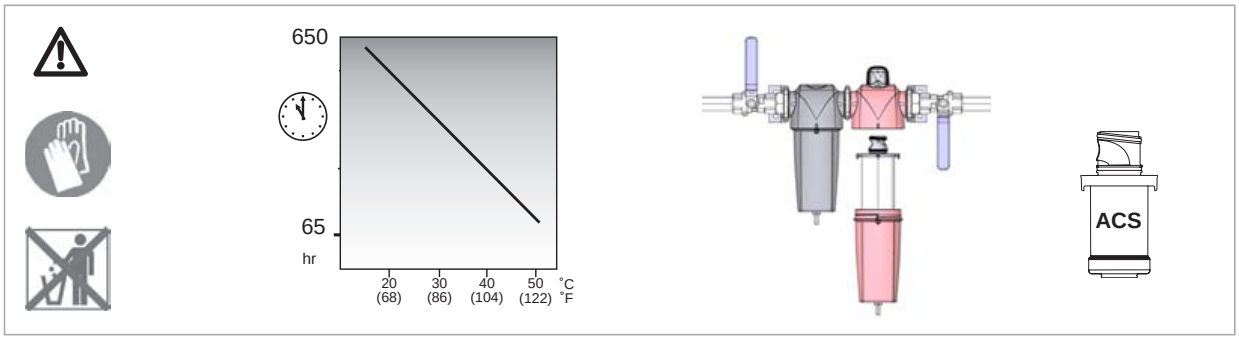
EMAK1	005 - 010
EMAK2	015 - 020
EMAK3	025 - 030
EMAK4	035 - 045
EMAK5	050 - 055



6. Maintenance

• **Onderhoud** • Wartung • **Entretien** • Kunnossapito • **Underhåll** • Vedlikehold • **Vedligeholdelse** • Συντήρηση • **Mantenimiento** • Manutenção • **Manutenzione** • Konserwacja • Údržba • Údržba • Hooldus • Karbantartás • Tehniskā apkope • Techninė priežiūra • Обслуживание • Vzdrževanja • **Bakım** • Manutenzjoni • **Întreținere**





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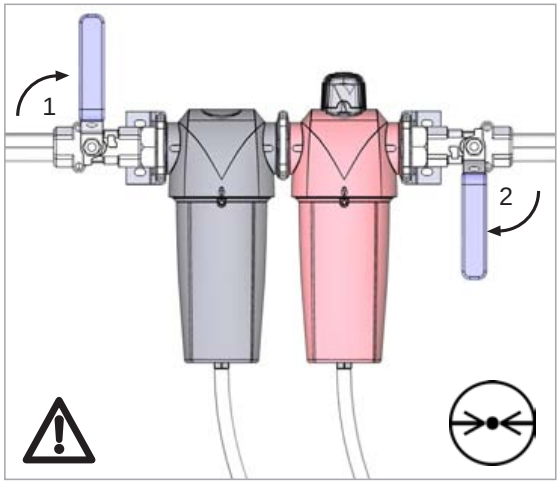

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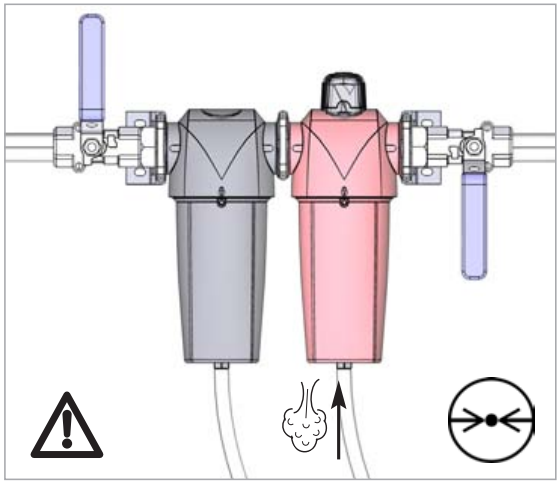

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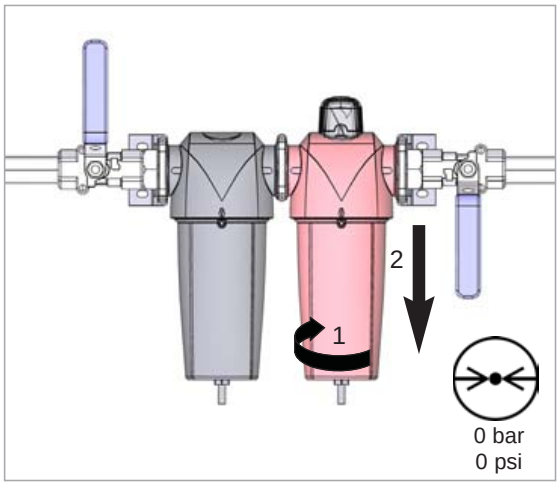

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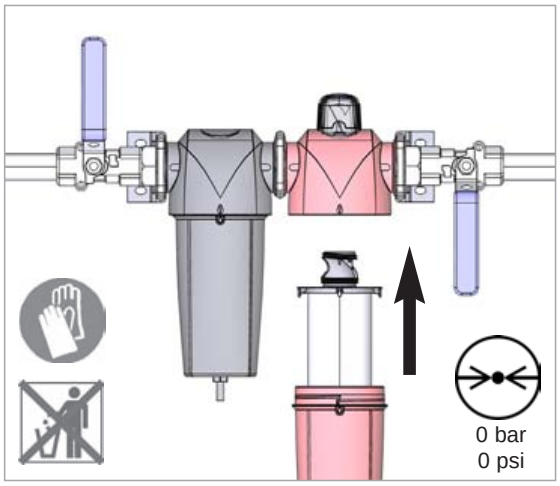

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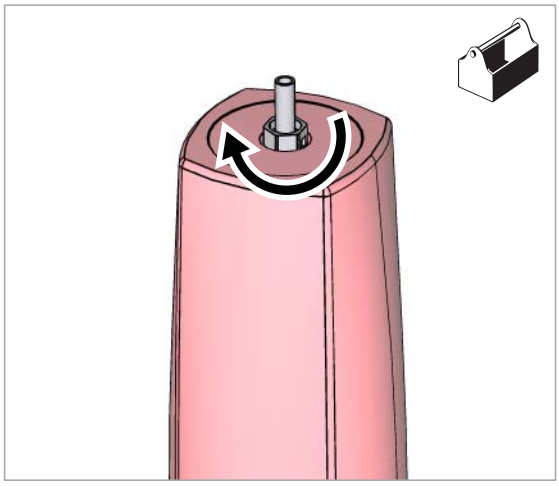

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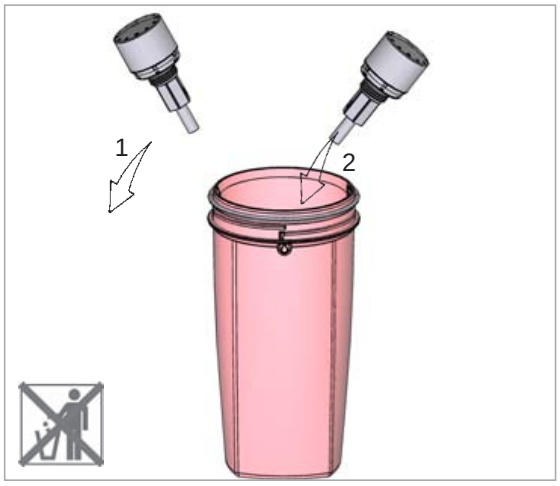

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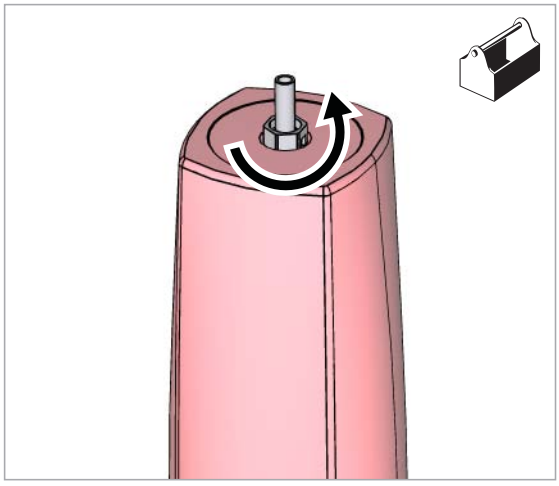

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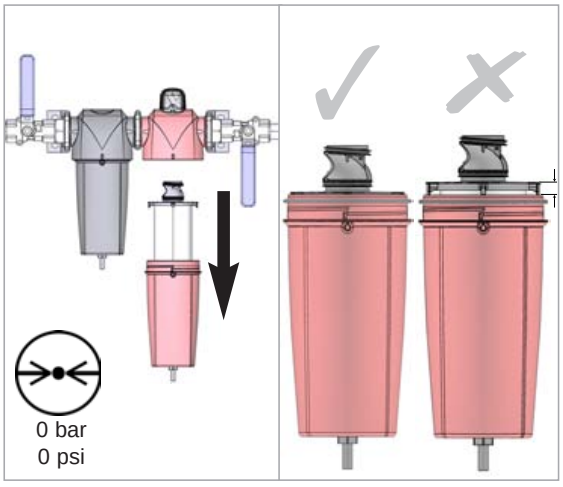

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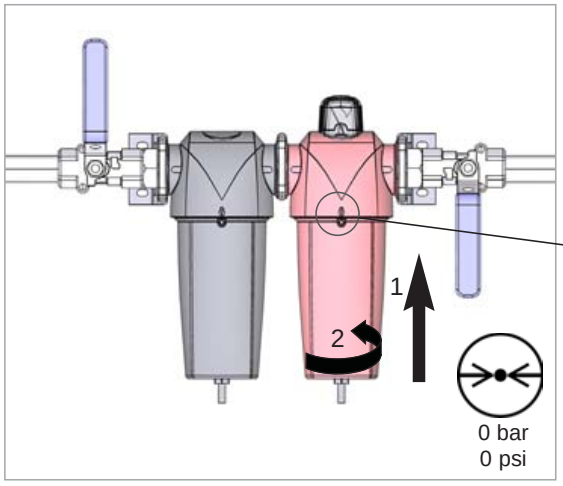

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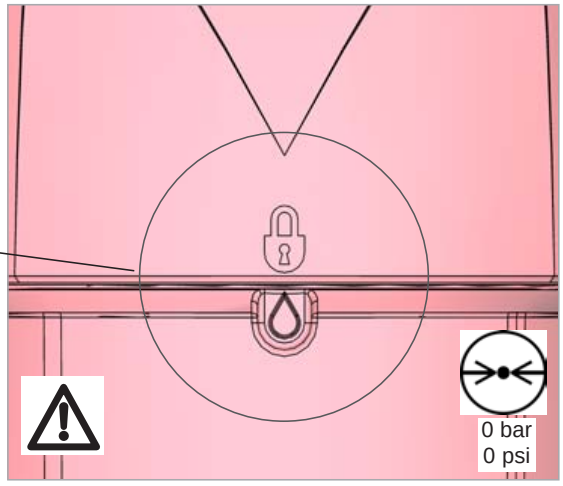

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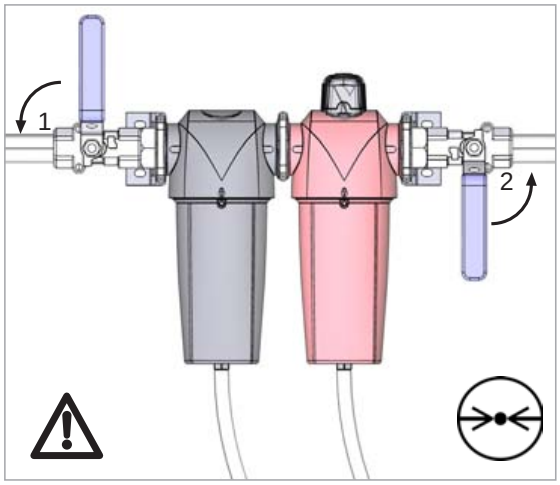

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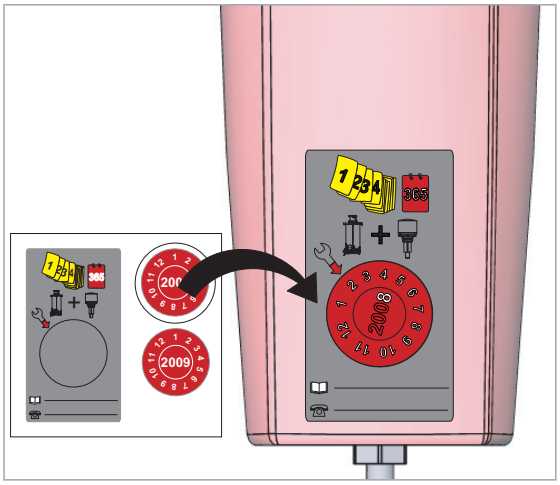
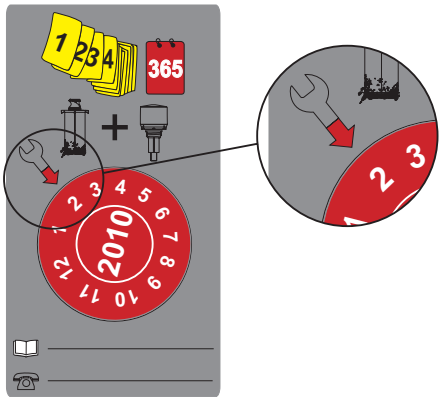




(EN) Align the arrow to the month and year of the next ervice
(NL) Breng de pijl op een lijn met de maand en het jaar van de volgende onderhoud beurt
(DE) Stellen Sie den Pfeil auf Monat und Jahr de näch ten Wartung termin Alignez la flèche ur
(FR) le moi et l'année de la prochaine révi ion
(FI) Kohdi ta nuoli euraavan huollon kuukauteen ja vuoteen
(SV) Rikta pilen mot månaden och året för nä ta ervice
(NO) Ju ter pilen til måneden og året for ne te ervice
(DA) Stil pilen på måned og år for næ te ervice
(EL) Ευθυγραμμίστε το βέλος με το μήνα και έτος του επόμενου σέρβις
(ES) Alinee la flecha con el me y año de la iguiente revi ión
(PT) Alinhe a eta com o mê e o ano da próxima intervenção técnica
(IT) Allineare la freccia in corri pondenza del me e e anno del pro imo intervento di a i tenza
(PL) Należy ustawić strzałkę na miesiąc i rok daty następnego serwisu
(SK) Šípku nasmerujte na mesiac a rok nasledujúcej opravy
(CS) Umístěte šipku na měsíc a rok příští prohlídky
(ET) Joondage nool järgmi e hooldu e kuu ja aa taga
(HU) Irányítsa a nyilat a következő szerviz hónapjára és évére
(LV) Irányítsa a nyilat a következő szerviz hónapjára és évére
(LT) Nustatykite rodyklę ties kitos techninės priežiūros mėnesiu ir metais
(RU) Совместите стрелку с месяцем и годом следующего обслуживания
(SL) Puščico nastavite na mesec in leto naslednjega servisa
(TR) Oku bir sonraki servis işleminin ay ve yılına hizalayın
(MT) Allinja l-vleġġa għax-xahar u s-sena tas-servis li jmiss
(RO) Aliniați săgeata în dreptul lunii și al anului următoarei vizite de service

ФЕДЕРАЛЬНАЯ СЛУЖБА
ПО ЭКОЛОГИЧЕСКОМУ, ТЕХНОЛОГИЧЕСКОМУ И АТОМНОМУ НАДЗОРУ

РАЗРЕШЕНИЕ

№ РРС 00-32481

На применение

Оборудование (техническое устройство, материал):
Оборудование, работающее под давлением, в соответствии с перечнем в приложении к настоящему разрешению.

Код ОКП (ТН ВЭД): Оборудование комплектное, коды ОКП (ТН ВЭД) в соответствии с технической документацией.

Изготовитель (поставщик): Фирма "Parker Hannifin Ltd. domnick hunter division" (Великобритания).

Основание выдачи разрешения: Техническая документация, заключение экспертизы промышленной безопасности ООО "ХАНК" № 419-840-2008 от 27.10.2008 г., сертификаты соответствия ОС ООО "ХАНК" № РОСС GB.ГС03.В00284 - №РОСС GB.ГС03.В00286 от 29.10.2008 г.

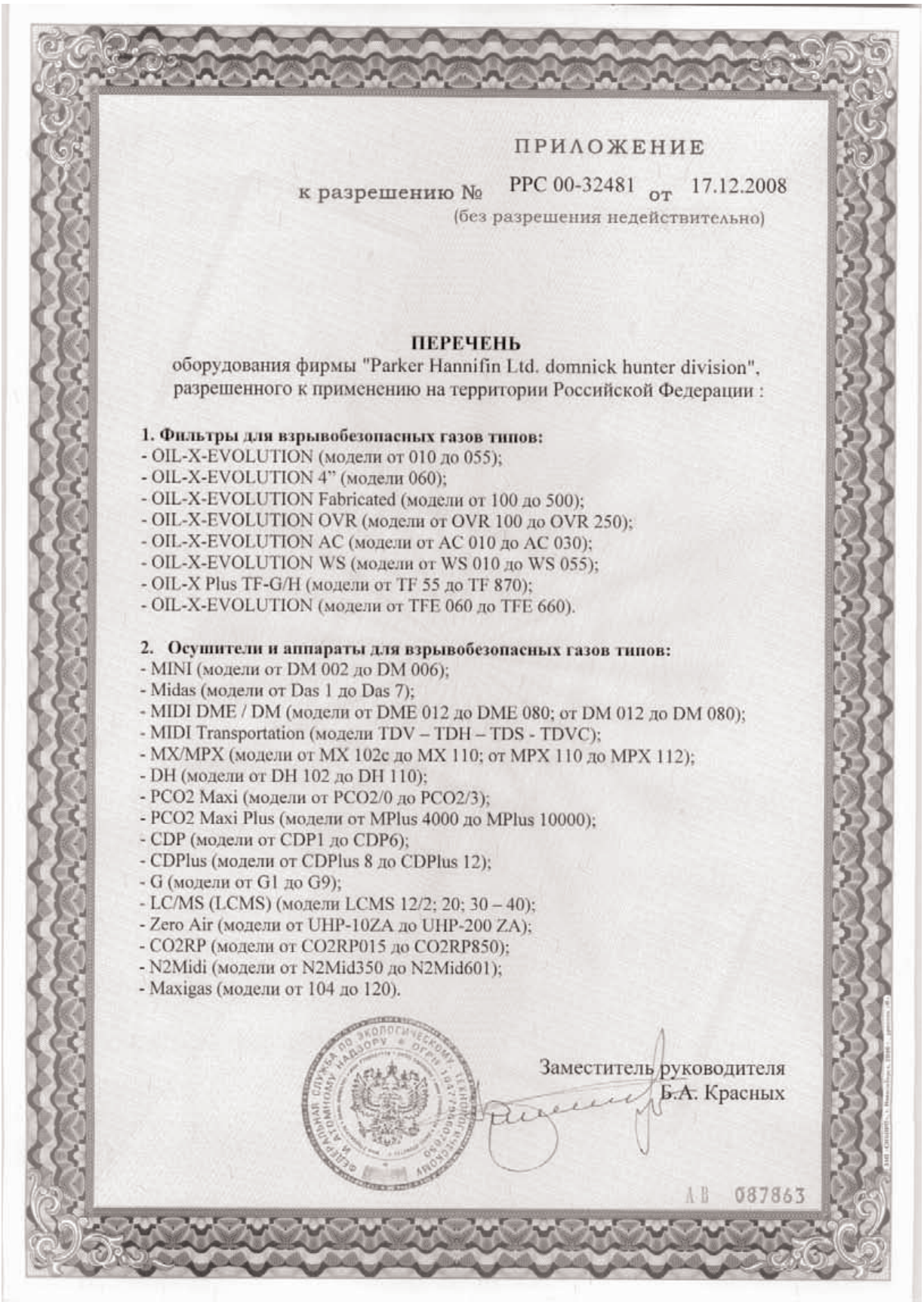
Условия применения:
1. Оформление технической документации на оборудование (паспортов, чертежей, инструкций по монтажу и эксплуатации) в соответствии с требованиями действующих в России правил промышленной безопасности на русском языке.
2. Осуществление монтажа, ввода в работу и эксплуатации оборудования в соответствии с требованиями "Правил устройства и безопасной эксплуатации сосудов, работающих под давлением".

Срок действия разрешения до 17.12.2013

Дата выдачи 17.12.2008

Заместитель руководителя
Б.А. Красных

АА 009261



ПРИЛОЖЕНИЕ

к разрешению № РРС 00-32481 от 17.12.2008

(без разрешения недействительно)

ПЕРЕЧЕНЬ

оборудования фирмы "Parker Hannifin Ltd. domnick hunter division", разрешенного к применению на территории Российской Федерации :

1. Фильтры для взрывобезопасных газов типов:
- OIL-X-EVOLUTION (модели от 010 до 055);
- OIL-X-EVOLUTION 4" (модели 060);
- OIL-X-EVOLUTION Fabricated (модели от 100 до 500);
- OIL-X-EVOLUTION OVR (модели от OVR 100 до OVR 250);
- OIL-X-EVOLUTION AC (модели от AC 010 до AC 030);
- OIL-X-EVOLUTION WS (модели от WS 010 до WS 055);
- OIL-X Plus TF-G/H (модели от TF 55 до TF 870);
- OIL-X-EVOLUTION (модели от TFE 060 до TFE 660).

2. Осушители и аппараты для взрывобезопасных газов типов:
- MINI (модели от DM 002 до DM 006);
- Midas (модели от Das 1 до Das 7);
- MIDI DME / DM (модели от DME 012 до DME 080; от DM 012 до DM 080);
- MIDI Transportation (модели TDV – TDH – TDS - TDVC);
- MX/MPX (модели от MX 102c до MX 110; от MPX 110 до MPX 112);
- DH (модели от DH 102 до DH 110);
- PCO2 Maxi (модели от PCO2/0 до PCO2/3);
- PCO2 Maxi Plus (модели от MPlus 4000 до MPlus 10000);
- CDP (модели от CDP1 до CDP6);
- CDPlus (модели от CDPlus 8 до CDPlus 12);
- G (модели от G1 до G9);
- LC/MS (LCMS) (модели LCMS 12/2; 20; 30 – 40);
- Zero Air (модели от UHP-10ZA до UHP-200 ZA);
- CO2RP (модели от CO2RP015 до CO2RP850);
- N2Midi (модели от N2Mid350 до N2Mid601);
- Maxigas (модели от 104 до 120).

Заместитель руководителя
Б.А. Красных

АВ 087863

FILTER DH-OIL-X EVO AO AA 01-

Declaration of Conformity **EN**

Parker Hannifin ltd domn ck hunter divis on
Dukesway TVTE Gateshead Tyne & Wear NE11 0PZ UK

OIL X Evolution
AO AA ACS AR AAR 005 010 015 020 025 030
AO AA ACS AR AAR 035 040 045
AO AA ACS AR AAR 050 055

Directives	97 23/EC
Standards used	Genera ly in accordance wi h ASMEVIII Div 1 2004
PED Assessment Route	Article 3 3 (AO AA ACS AAR 005 010 015 020 025 030) Module A (AO AA ACS AAR 035 040 045) Module B (AO AA ACS AR AAR 050 055)
Notified body for PED	Lloyds Register Ve if cation 71 Fenchurch St London EC3M 4BS
EC Type exam nat on Certificate	COV0413459/TEC
Authorised Representative	Derek Bank er Divisional Qual ty Manager Parker Hannifin ltd domn ck hunter d v s on

Declaration

I declare that as the author sed representat ve he above information n relation to the supply / manufacture of this product s n conformity wi h he standards and o her related documents fo low ng the provisions of the above D rect ves

Signature **Date** 8/8/2007

Declaration Number 0002/8807

Déclaration de conformité **FR**

Parker Hannifin ltd domn ck hunter division
Dukesway TVTE Gateshead Tyne & Wear NE11 0PZ UK

OIL X Evolution
AO AA ACS AR AAR 005 010 015 020 025 030
AO AA ACS AR AAR 035 040 045
AO AA ACS AR AAR 050 055

Directives	97/23 EC
Normes utilisées	Géné alement conforme à ASMEVIII d v 1 2004
Mé hode d'évaluation de la directive d'équipements de pression	Article 3 3 (AO AA ACS AAR 005 010 015 020 025 030) Module A (AO AA ACS AAR 035 040 045) Module B (AO AA ACS AR AAR 050 055)
Organisme de notificat on pour la directive d'équipement sous pression	Lloyds Reg ster Ver fication 71 Fenchurch St London EC3M 4BS
Certificat d'examen de type CE	COV0413459/TEC
Représentant agréé	Derek Bankier D v s onal Quality Manager Parker Hannif n td domn ck hunter division

Déclaration

Je déclare à titre de représentant agréé que les informations ci dessus liées à la fourniture/fabrication de ce produit sont en conformité avec les normes et autres documents l és décla és selon les dispos tions des d rect ves susment onnées

S gnature **Date** 8/8/2007

N° de déclaration 0002/8807

Verklaring van Conformiteit **NL**

Parker Hannifin ltd domn ck hunter divis on
Dukesway TVTE Gateshead Tyne & Wear NE11 0PZ UK

OIL X Evolution
AO AA ACS AR AAR 005 010 015 020 025 030
AO AA ACS AR AAR 035 040 045
AO AA ACS AR AAR 050 055

Richtlijnen	97 23/EC
Gehanteerde normen	Gewoonlijk volgens ASMEV II D v 1 2004
PED beoordelingstraject	Artikel 3 3 (AO AA ACS AAR 005 010 015 020 025 030) Module A (AO AA ACS AAR 035 040 045) Module B (AO AA ACS AR AAR 050 055)
Aangemelde instantie voor PED	Lloyds Register Ver fication 71 Fenchu ch St London EC3M 4BS
EC Type onderzoekscertif caat	COV0413459/TEC
Bevoegde vertegenwoord ger	Derek Bankier D v s onal Quality Manager Parker Hannifin ltd domn ck hunter d v s on

Verklar ng

Als bevoegde vertegenwoord ger verklaar k dat bovenstaande informatie met betrekking tot de levering / vervaard ging van dit product overeenstemt met de normen en andere b jbehoorende documentatie volgens de bepalingen van bovengenoemde richtlijnen

Handtekening **Datum** 8/8 2007

Verklaringnummer 0002/8807

Vaatimustenmukaisuusvakuutus **FI**

Parker Hannifin ltd domn ck hunter division
Dukesway TVTE Gateshead Tyne & Wear NE11 0PZ UK

OIL X Evolution
AO AA ACS AR AAR 005 010 015 020 025 030
AO AA ACS AR AAR 035 040 045
AO AA ACS AR AAR 050 055

Direkti vit	97/23/EC
Käytetyt standardit	Yleensä seuraavan standardin muka sesti ASMEV II D v 1 2004
PED arviointi menettely	Art kla 3 3 (AO AA ACS AAR 005 010 015 020 025 030) Moduuli A (AO AA ACS AAR 035 040 045) Moduuli B (AO AA ACS AR AAR 050 055)
PED säännösten lmoitettu laitos	Lloyds Reg ster Verificat on 71 Fenchurch St London EC3M 4BS
EY tyyppihyväksynnän sertifikaatti	COV0413459 TEC
Valtuutettu edustaja	Derek Bank er Divisional Qual ty Manager Parker Hann fin ltd domnick hunter d v s on

Vakuutus

Valtuutettuna edustajana vakuutan e tä y lä olevat tiedot jotka l ittyvät tämän tuotteen toimi tamiseen tai valm stamiseen ovat standardien ja muiden asiaan l ittyvien as akirjoien mukaisia ja noudattavat yllä ma n ttuja d rekti vejä

Allek rjoitus **Pä väys** 8 8/2007

Vakuutuksen numero 0002/8807

Konformitätserk ärung **DE**

Parker Hannifin ltd domn ck hunter divis on
Dukesway TVTE Gateshead Tyne & Wear NE11 0PZ UK

OIL X Evolution
AO AA ACS AR AAR 005 010 015 020 025 030
AO AA ACS AR AAR 035 040 045
AO AA ACS AR AAR 050 055

Richtlinien	97/23/EC
Angewandte Normen	Allgemein in Übere nst mmung m t ASMEVIII Div 1 2004
Beurteilungsroute der Druckgeräter chtlinie	Art kel 3 3 (AO AA ACS AAR 005 010 015 020 025 030) Modul A (AO AA ACS AAR 035 040 045) Modul B (AO AA ACS AR AAR 050 055)
Benannte Stelle für die Druckgeräter chtlinie	Lloyds Reg ster Verificat on 71 Fenchurch St London EC3M 4BS
EG Baumusterprüfbesche nigung	COV0413459 TEC
Bevollmächtigter Vertreter	Derek Bank er Divisional Qual ty Manager Parker Hann fin ltd domnick hunter d v s on

Erklärung

Hiermit erklä e ch als bevollmächtigter Vertreter die Konformität der oben aufgeführten Informationen in Bezug auf die Lieferung/Herste lung d eses Produkts mit den Normen und ande en zugehörigen Dokumenten gemäß den Best mmungen der oben genannten R chtlin en

Unterschrift **Datum** 8 8/2007

Nummer der Erklärung 0002 8807

Försäkran om överensstämmelse **SV**

Parker Hannifin ltd domn ck hunter division
Dukesway TVTE Gateshead Tyne & Wear NE11 0PZ UK

OIL X Evolution
AO AA ACS AR AAR 005 010 015 020 025 030
AO AA ACS AR AAR 035 040 045
AO AA ACS AR AAR 050 055

Direktiv	97/23 EC
Använda standarder	Gene el t i enl ghet med ASMEVIII Div 1 2004
Fastställningsväg för PED	Artikel 3 3 (AO AA ACS AAR 005 010 015 020 025 030) Modul A (AO AA ACS AAR 035 040 045) Modul B (AO AA ACS AR AAR 050 055)
Anmält organ för PED	Lloyds Reg ster Ver fication 71 Fenchurch St London EC3M 4BS
EG intyg om typprovning	COV0413459/TEC
Auktoriserad representant	Derek Bankier D v s onal Quality Manager Parker Hannif n td domn ck hunter division

Försäkran

Jag försäkrar i egenskap av auktoriserad representant att ovannämnda info mation avseende leverans ti verkn ng av denna produkt öve ensstämmer med standarder och övriga relaterade dokument enligt vil koren i ovanstående d rekt v

Underskrift **Datum** 8/8/2007

Försäkran nummer 0002/8807

FILTER DH-OIL-X EVO AO AA 01-

Konformitetserk ær ng **NO**

Parker Hannifin ltd domn ck hunter divis on
Dukesway TVTE Gateshead Tyne & Wear NE11 0PZ UK

OIL X Evolution
AO AA ACS AR AAR 005 010 015 020 025 030
AO AA ACS AR AAR 035 040 045
AO AA ACS AR AAR 050 055

Direktiver	97 23/EC
Benyttede standarder	Hovedsakelig i samsvar med ASMEVIII d v 1 2004
Rute for vurdering av PED (d rekt vet for trykkpålagt utstyr)	Paragraf 3 3 (AO AA ACS AAR 005 010 015 020 025 030) Modul A (AO AA ACS AAR 035 040 045) Modul B (AO AA ACS AR AAR 050 055)
Underrettet organ for PED	Lloyds Register Ver fication 71 Fenchu ch St London EC3M 4BS
EC typegodkjenn ngssertifikat	COV0413459/TEC
Autorisert representant	Derek Bankier D v s onal Quality Manager Parker Hannifin ltd domn ck hunter d v s on

Erklæring

Jeg erklærer som autor sert representant at nformasjonen ovenfor med hensyn til levering/produksjon av dette produktet er i overensstemmelse med standardene og and e relaterte dokumenter følge bestemmelsene i direkt vene ovenfor

Signatur **Dato** 8/8/2007

Erklæring nr 0002/8807

Declaración de conformidad **ES**

Parker Hannifin ltd domn ck hunter division
Dukesway TVTE Gateshead Tyne & Wear NE11 0PZ UK

OIL X Evolution
AO AA ACS AR AAR 005 010 015 020 025 030
AO AA ACS AR AAR 035 040 045
AO AA ACS AR AAR 050 055

Directivas	97 23 EC
Normas ut lizadas	Generalmente de conform dad con ASMEVIII Div 1 2004
Ruta de evaluación de la normativa PED	Artículo 3 3 (AO AA ACS AAR 005 010 015 020 025 030) Módulo A (AO AA ACS AAR 035 040 045) Módulo B (AO AA ACS AR AAR 050 055)
Organismo not ficado para la normativa PED	Lloyds Register Ver fication 71 Fenchurch St London EC3M 4BS
Cert ficado de examen CE de t po	COV0413459/TEC
Representante autorizado	Derek Bankier D v s onal Quality Manager Parker Hannifin ltd domn ck hunter division

Declarac ón

Como representante autorizado declaro que la información anter ormente expuesta en relac ón con el sum n stro y/o fabr cac ón de este p oducto cumple las normativas ndicadas y otros documentos afines según las disposiciones de las Direct vas c tadas anteriormente

Firma **Fecha** 8 8/2007

Número de declaración 0002/8807

Overensstemmelseserklæring **DA**

Parker Hannifin ltd domn ck hunter divis on
Dukesway TVTE Gateshead Tyne & Wear NE11 0PZ UK

OIL X Evolution
AO AA ACS AR AAR 005 010 015 020 025 030
AO AA ACS AR AAR 035 040 045
AO AA ACS AR AAR 050 055

Direktiver	97/23 EC
Anvendte standarder	Generelt i overensstemmelse med ASMEVIII div 1 2004
Forløb for PED bedømmelse	Artikel 3 3 (AO AA ACS AAR 005 010 015 020 025 030) Modul A (AO AA ACS AAR 035 040 045) Modul B (AO AA ACS AR AAR 050 055)
Not ficeret organ for PED	Lloyds Reg ster Ver fication 71 Fenchurch St London EC3M 4BS
EF typeafprøvningsattest	COV0413459/TEC
Autoriseret repræsentant	Derek Bankier D v s onal Quality Manager Parker Hannif n td domn ck hunter division

Erklæring

Jeg erklærer hermed som autor seret repræsentant at ovennævnte oplysninger ved arende levering/produkt on af dette produkt er i overensstemmelse med de anførte standarder og øvrige tilknyttede dokumenter i henhold t l bestemmelserne i ovenstående d rekt ver

Underskrift **Dato** 8/8/2007

Erklær ngsnummer 0002/8807

Declaração de Conformidade **PT**

Parker Hannifin ltd domn ck hunter division
Dukesway TVTE Gateshead Tyne & Wear NE11 0PZ UK

OIL X Evolution
AO AA ACS AR AAR 005 010 015 020 025 030
AO AA ACS AR AAR 035 040 045
AO AA ACS AR AAR 050 055

Directivas	97/23/EC
Padrões utilizados	De forma geral em concordânc a com ASMEV II D v 1 2004
Percurso de Aval ação do PED	Artigo 3 3 (AO AA ACS AAR 005 010 015 020 025 030) Módulo A (AO AA ACS AAR 035 040 045) Módulo B (AO AA ACS AR AAR 050 055)
Not ficado para o PED	Lloyds Reg ster Ver ficat on 71 Fenchurch St London EC3M 4BS
Cert ficado de Inspecção Tipo CE	COV0413459 TEC
Revendedor Autorizado	Derek Bankier D v s onal Quality Manager Parker Hannif n td domnick hunter division

Declaração

Declaro na qualidade de representante auto izado que as nformações acima contidas referentes ao fornec mento / fabrico deste produto estão em conformidade com as normas e outros documentos relac onados de acordo com as dispos ções das Directivas anteriores

Assinatura **Data** 8/8/2007

Número da Declaração 0002/8807

Δήλωση συμμόρφωσης **EL**

Parker Hannifin ltd domn ck hunter divis on
Dukesway TVTE Gateshead Tyne & Wear NE11 0PZ UK

OIL X Evolution
AO AA ACS AR AAR 005 010 015 020 025 030
AO AA ACS AR AAR 035 040 045
AO AA ACS AR AAR 050 055

Οδηγίες	97 23/EC
Πρότυπα που χρησιμοποιήθηκαν	Γεν κά σε συμφων α με το ASMEVIII Div 1 2004
Δ αδρομή αξιολόγησης για κανον σμούς PED	Άρθρο 3 3 (AO AA ACS AAR 005 010 015 020 025 030) Ενότητα A (AO AA ACS AAR 035 040 045) Ενότητα B (AO AA ACS AR AAR 050 055)
Ενήμερος οργανισμός για κανον σμούς PED	Lloyds Register Verif cation 71 Fenchurch St London EC3M 4BS
Π στοποιητ κό εξέτασης τύπου ΕΚ	COV0413459/TEC
Εξουσιοδοτημένος αντ πρόσωπος	Derek Bankier Divisional Qual ty Manager Parker Hannifin ltd domn ck hunter divis on

Δήλωση

Δηλώνω ως ο εξουσιοδοτημένος αντ πρόσωπος ότι οι παραπάνω πληροφορ ες σε σχέση με τη δ άθεση / κατασκευή αυτού του προ όντος συμμορφώνονται ως προς τα πρότυπα και ως προς τα άλλα σχετ κά έγγραφα που συνοδεύουν τ ς δ ατάξεις των πιο πάνω οδηγ ών

Υπογραφή **Ημερομηνία** 8/8 2007

Αριθμός δήλωσης 0002/8807

Dichiarazione di conformità **IT**

Parker Hannifin ltd domn ck hunter division
Dukesway TVTE Gateshead Tyne & Wear NE11 0PZ UK

OIL X Evolution
AO AA ACS AR AAR 005 010 015 020 025 030
AO AA ACS AR AAR 035 040 045
AO AA ACS AR AAR 050 055

Direttive	97 23 EC
Norme util zzate	Generalmente confo me a ASMEVIII Div 1 2004
Procedura di valutazione PED	Articolo 3 3 (AO AA ACS AAR 005 010 015 020 025 030) Moduli A (AO AA ACS AAR 035 040 045) Moduli B (AO AA ACS AR AAR 050 055)
Organismo accreditato per PED	Lloyds Register Ver fication 71 Fenchurch St London EC3M 4BS
Attestato di certif cazione tipo CE	COV0413459/TEC
Rappresentante autor zzato	Derek Bankier D v s onal Quality Manager Parker Hannifin ltd domn ck hunter division

Dichiarazione

In qualità di rappresentante auto izzato dichiaro che le informaz oni di cui sopra in mer to alla fornitura fabbr caz one del prodotto n oggetto sono conformi alle norme ndicate e a qualsiasi a tro documento correlati a la forn tura basato su quanto prescri to dalle dire tive menzionate

Firma **Data** 8 8/2007

Dichiarazione numero 0002/8807

FILTER DH-OIL-X EVO AO AA 01-

Deklaracja zgodności **PL**

Parker Hannifin ltd domn ck hunter divis on
Dukesway TVTE Gateshead Tyne & Wear NE11 0PZ UK

OIL X Evolution
AO AA ACS AR AAR 005 010 015 020 025 030
AO AA ACS AR AAR 035 040 045
AO AA ACS AR AAR 050 055

Dyrektywy	97/23/EC
Stosowane standardy	Ogólnie zgodny z ASMEVIII dział 1 2004
Ścieżka potwierdzania zgodności z PED	Artykuł 3 3 (AO AA ACS AAR 005 010 015 020 025 030) Modul A (AO AA ACS AAR 035 040 045) Modul B (AO AA ACS AR AAR 050 055)
Organ/instytucja powiadamiana na mocy PED	Lloyds Reg ster Ver ficat on 71 Fenchurch St London EC3M 4BS
Certyfikat badan a typu WE	COV0413459 TEC
Autoryzowany przedstawiciel	Derek Bankier D v s onal Quality Manager Parker Hannif n td domn ck hunter division

Deklaracja

Ośw adczam jako auto yzowany przedstawiciel że powyższe informacje dotyczące dostawy / wytworzen a niniejszego produktu są zgodne ze standardami i innymi dokumentami powiązanymi zgodn e z postanowieniami powyższych dyrektyw

Podpis **Data** 8 8/2007

Numer deklaracji 0002/8807

Vastavusdeklaratsioon **ET**

Parker Hannifin ltd domn ck hunter division
Dukesway TVTE Gateshead Tyne & Wear NE11 0PZ UK

OIL X Evolution
AO AA ACS AR AAR 005 010 015 020 025 030
AO AA ACS AR AAR 035 040 045
AO AA ACS AR AAR 050 055

Direkti vid	97/23 EC
Kasutatud standardid	Üld selt vastavuses standard ga ASMEVI I D v 1 2004
PED vastavushinnangu jaotus	A tikkel 3 3 (AO AA ACS AAR 005 010 015 020 025 030) Moodul A (AO AA ACS AAR 035 040 045) Moodul B (AO AA ACS AR AAR 050 055)
PEDist (surveseadmete direktiivist) teav tatud asutus	Lloyds Register Ver fication 71 Fenchurch St London EC3M 4BS
EÜ tüübih ndamistõend	COV0413459/TEC
Volitatud es ndaja	Derek Bankier D v s onal Quality Manager Parker Hannif n ltd domn ck hunter division

Deklaratsioon

Volitatud esindajana kinn tan et üialtoodud teave seoses antud toote tarn m se/tootmisega on vastavuses standardite ja muude seotud dokumentidega vastava t üialtoodud d rekti v de sätetele

Allkiri **Kuupäev** 8 8/2007

Deklaratsiooni number 0002/8807

Vyhlásenie o zhode **SK**

Parker Hannifin ltd domn ck hunter divis on
Dukesway TVTE Gateshead Tyne & Wear NE11 0PZ UK

OIL X Evolution
AO AA ACS AR AAR 005 010 015 020 025 030
AO AA ACS AR AAR 035 040 045
AO AA ACS AR AAR 050 055

Smern ce	97 23/EC
Použ té normy	Vo všeobecnosti v zhode s ASMEV II oddiel 1 2004
Spôsob posudzovania podľa smernice PED	Článok 3 3 (AO AA ACS AAR 005 010 015 020 025 030) Modul A (AO AA ACS AAR 035 040 045) Modul B (AO AA ACS AR AAR 050 055)
Oboznámený orgán podľa smernice PED	Lloyds Register Ver fication 71 Fenchu ch St London EC3M 4BS
Osvedčenie typovej skúšky ES	COV0413459/TEC
Splnomocnený zástupca	Derek Bankier D v s onal Quality Manager Parker Hannifin ltd domn ck hunter d v s on

Vyhlásenie

Ako splnomocnený zástupca vyhlasujem že nformácie uvedené vyššie sú v súv slosti s dodávkou / výrobou tohto výrobku v zhode s normami a nými súvisiac mi dokumentmi podľa ustanovení uvedených smern c

Podpis **Dátum** 8/8/2007

Číslo vyhlásen a 0002 8807

Megfelelőségi nyi atkozat **HU**

Parker Hannifin ltd domn ck hunter division
Dukesway TVTE Gateshead Tyne & Wear NE11 0PZ UK

OIL X Evolution
AO AA ACS AR AAR 005 010 015 020 025 030
AO AA ACS AR AAR 035 040 045
AO AA ACS AR AAR 050 055

Direktívák	97/23/EC
Alkalmazott szabványok	Á talánosan a következő alapján ASMEV II D v 1 2004
PED értékelési irányvonal	3 3 as c kkely (AO AA ACS AAR 005 010 015 020 025 030) Modulok A (AO AA ACS AAR 035 040 045) Modulok B (AO AA ACS AR AAR 050 055)
PED del kapcsolatban értes tett testület	Lloyds Reg ster Verificat on 71 Fenchurch St London EC3M 4BS
EC t pusvizsgálati bizonyítvány	COV0413459 TEC
Hivatalos képviselő	De ek Bankier Divisional Quality Manager Parker Hannif n td domnick hunter division

Nyilatkozat

Hivatalos képviselőként kijelentem hogy a termék szállításával / gyártásával kapcsolatos fent olvasható informác ók megfelelnek a fenti Direktívák elő rásai szerinti szabványoknak és egyéb kapcsolódó dokumentumoknak

Aláírás **Dátum** 8/8/2007

Nyilatkozat száma 0002/8807

Prohlášení o shodě **CS**

Parker Hannifin ltd domn ck hunter divis on
Dukesway TVTE Gateshead Tyne & Wear NE11 0PZ UK

OIL X Evolution
AO AA ACS AR AAR 005 010 015 020 025 030
AO AA ACS AR AAR 035 040 045
AO AA ACS AR AAR 050 055

Směrn ce	97 23/EC
Použ té normy	Obecně v souladu ASMEVIII Div 1 2004
Metoda stanovení shody pro tlaková zař zení (PED)	Článek 3 3 (AO AA ACS AAR 005 010 015 020 025 030) D lčí část A (AO AA ACS AAR 035 040 045) D lčí část B (AO AA ACS AR AAR 050 055)
Notif kovaný orgán pro PED	Lloyds Register Ver fication 71 Fenchu ch St London EC3M 4BS
Osvědčení o zkoušce typu ES	COV0413459/TEC
Oprávněný zástupce	Derek Bank er Divisional Qual ty Manager Parker Hann fin ltd domnick hunter d v s on

Prohlášení

Jako oprávněný zástupce prohlašuji že výše uvedené nformace týkající se dodávky /výroby tohoto produktu jsou v souladu s normami a j nými souv sej cími dokumenty vyplývajícími z ustanovení výše uvedených směrnic

Podpis **Datum** 8/8 2007

Č slo prohlášení 0002/8807

Atbilstības deklarācija **LV**

Parker Hannifin ltd domn ck hunter division
Dukesway TVTE Gateshead Tyne & Wear NE11 0PZ UK

OIL X Evolution
AO AA ACS AR AAR 005 010 015 020 025 030
AO AA ACS AR AAR 035 040 045
AO AA ACS AR AAR 050 055

Direktīvas	97 23/EC
Izmantotie standarti	Parasti saskaņa ar ASMEVI I D v 1 2004
PED novērtējums	Pants 3 3 (AO AA ACS AAR 005 010 015 020 025 030) Modulis A (AO AA ACS AAR 035 040 045) Modulis B (AO AA ACS AR AAR 050 055)
Par PED informētā organizāc ja	Lloyds Register Ver fication 71 Fenchu ch St London EC3M 4BS
EK sastādīts Eksaminācijas sertifikāts	COV0413459/TEC
Pilnvarotais pārstāvis	Derek Bankier D v s onal Quality Manager Parker Hannifin ltd domn ck hunter d v s on

Deklarācija

Es kā pilnvarots pārstāvis ar šo pazinoju ka iepriekšminētā informācija kas a tiecas uz šī produkta piegādi / ražošanu atbilst standartiem un c tiem a bilstošiem dokumentiem saskaņā ar iep iekšm nētajām D rektīvām

Paraksts **Datums** 8/8/2007

Deklarāc jas numurs 0002/8807

FILTER DH-OIL-X EVO AO AA 01-

Atitikties deklaracija **LT**

Parker Hannifin ltd domn ck hunter division
Dukesway TVTE Gateshead Tyne & Wear NE11 0PZ UK

OIL X Evolution
AO AA ACS AR AAR 005 010 015 020 025 030
AO AA ACS AR AAR 035 040 045
AO AA ACS AR AAR 050 055

Direktyvos	97 23/EC
Naudoti standartai	Atitinka bendrąsias ASMEVIII Div 1 : 2004 nuostatas
PED įvertinimo pakopa:	3 3 stra psn s (AO AA ACS AAR 005 010 015 020 025 030) Modulis A (AO AA ACS AAR 035 040 045) Modulis B (AO AA ACS AR AAR 050 055)
PED notifikuotoji institucija	Lloyds Register Ver fication 71 Fenchu ch St London EC3M 4BS
EB t po testavimo sertifikatas	COV0413459/TEC
Įgaliotasis atstovas	Derek Bankier D v s onal Quality Manager Parker Hannifin ltd domn ck hunter d v s on

Deklaracija

Aš, įgaliotasis atstovas, patvirtinu, kad aukščiau pateikta gaminio tiekimo/pagaminimo informacija atitinka aukščiau nurodytus standartus ir kitą su nurodytų direktyvų nuostatomis susijusią dokumentaciją.

Parašas **Data** 8 8/2007

Deklaracijos numeris 0002 8807

Uyum Beyanı **TR**

Parker Hannifin ltd domn ck hunter division
Dukesway TVTE Gateshead Tyne & Wear NE11 0PZ UK

OIL X Evolution
AO AA ACS AR AAR 005 010 015 020 025 030
AO AA ACS AR AAR 035 040 045
AO AA ACS AR AAR 050 055

Direktifler	97/23 EC
Kullanılan standartlar	Genelde ASMEV II D v 1 2004'e uygun
PED (Basınçlı Ekipman Direktifi) Değerlendirmesi Yolu	Madde 3 3 (AO AA ACS AAR 005 010 015 020 025 030) Modül A (AO AA ACS AAR 035 040 045) Modül B (AO AA ACS AR AAR 050 055)
PED için bild rimde bulunulan kuruluş:	Lloyds Reg ster Ver fication 71 Fenchurch St London EC3M 4BS
AT Tip İncelemesi Sertifikası:	COV0413459/TEC
Yetkili Temsilci	Derek Bankier D v s onal Quality Manager Parker Hannif n td domn ck hunter division

Beyan

Yetkili temsilci olarak beyan ederim ki bu ürünün teminine / üretimine ilişkin olarak yukarıda verilen bilgiler yukarıda anılan Direktiflerin hükümlerine uyan standartlara ve ilgili başka belgelere uygundur.

İmza: **Tarih:** 8/8 2007

Beyan No 0002/8807

Декларация соответствия **RU**

Parker Hannifin ltd domn ck hunter division
Dukesway TVTE Gateshead Tyne & Wear NE11 0PZ UK

OIL X Evolution
AO AA ACS AR AAR 005 010 015 020 025 030
AO AA ACS AR AAR 035 040 045
AO AA ACS AR AAR 050 055

Требования	97 23 EC
Применяемые стандарты	В большинстве случаев обеспечивается соответствие стандарту ASMEVIII, Раздел 1: 2004.
Система обеспечения качества PED	Статья 3.3 (AO, AA, ACS, AAR - 005, 010 015 020 025 030) Модуль A (AO, AA, ACS, AAR - 035, 040 045) Модуль B (AO, AA, ACS, AR, AAR, - 050 055)
Уполномоченный орган для PED:	Lloyds Register Ver fication 71 Fenchurch St London EC3M 4BS
Сертификат ЕС на проведение типовых испытаний:	COV0413459/TEC
Уполномоченный представитель	Derek Bankier D v s onal Quality Manager Parker Hannifin ltd domn ck hunter division

Декларация

Как уполномоченный представитель, я заявляю, что приведенная выше информация относительно поставки/производства данного продукта соответствует стандартам, другим связанным документам и положениям указанных выше требований.

Подпись: **Дата:** 8 8/2007

Номер декларации: 0002/8807

Dikjarazzjoni tal Konformità **MT**

Parker Hannifin ltd domn ck hunter division
Dukesway TVTE Gateshead Tyne & Wear NE11 0PZ UK

OIL X Evolution
AO AA ACS AR AAR 005 010 015 020 025 030
AO AA ACS AR AAR 035 040 045
AO AA ACS AR AAR 050 055

Direttivi	97/23 EC
Standards użati	Generalment f'konformità ma' ASMEVIII Div 1 : 2004
Rotta ta' l Assessjar tal PED	Artikolu 3 3 (AO AA ACS AAR 005 010 015 020 025 030) Modulu A (AO AA ACS AAR 035 040 045) Modulu B (AO AA ACS AR AAR 050 055)
Korp notifikat għall-PED:	Lloyds Reg ster Ver fication 71 Fenchurch St London EC3M 4BS
Ċertifikat tal-KE ta' l-eżaminazzjoni tat-Tip:	COV0413459/TEC
Rappreżentant Awtorizzat	Derek Bankier D v s onal Quality Manager Parker Hannif n td domn ck hunter division

D kjarazzjoni

Niddikjara li bħala r-rappreżentant awtorizzat, l-informazzjoni ta' hawn fuq, f'dak li għandu x'jaqsam mal-formiment/manifattura ta' dan il-prodott, hija f'konformità ma' l-istandards u d-dokumenti l-oħra relatati li jsegwu d-dispożizzjonijiet tad-Direttivi msemmija hawn fuq

Firma **Data** 8/8/2007

Numru tad Dikjarazzjoni 0002 8807

Izjava o skladnosti **SL**

Parker Hannifin ltd domn ck hunter division
Dukesway TVTE Gateshead Tyne & Wear NE11 0PZ UK

OIL X Evolution
AO AA ACS AR AAR 005 010 015 020 025 030
AO AA ACS AR AAR 035 040 045
AO AA ACS AR AAR 050 055

Direktive	97/23 EC
Uporabljeni standardi	Splošno skladno z ASMEVIII Div 1 2004
Ocenjevalna pot PED	Članek 3.3 (AO, AA, ACS, AAR - 005, 010, 015, 020, 025 030) Modul A (AO AA ACS AAR 035 040 045) Modul B (AO AA ACS AR AAR 050 055)
Priglašeni organ za PED	Lloyds Register Ver fication 71 Fenchurch St London EC3M 4BS
Cert fikat o tipskem pregledu ES	COV0413459/TEC
Pooblaščeni zastopnik	Derek Bankier D v s onal Quality Manager Parker Hannif n ltd domn ck hunter division

Izjava

Kot pooblaščeni zastopnik izjavljam, da so zgornji podatki glede dobave/pro zvodnje tega zdelka skladni s standardi n ostalimi sorodnimi dokumenti, ki sledijo določbam zgornjih direktiv.

Podpis **Datum** 8/8 2007

Štev lka izjave 0002/8807

Declaraţie de conformitate **RO**

Parker Hannifin ltd domnick hunter div sion
Dukesway TVTE Gateshead Tyne & Wear NE11 0PZ UK

OIL X Evolution
AO AA ACS AR AAR 005 010 015 020 025 030
AO AA ACS AR AAR 035 040 045
AO AA ACS AR AAR 050 055

Directive	97/23/EC
Standarde u ilizate	Splošno skladno z ASMEV II D v 1 2004
Traseu de evaluare PED	Članek 3.3 (AO, AA, ACS, AAR - 005, 010, 015, 020, 025 030) Modul A (AO AA ACS AAR 035 040 045) Modul B (AO AA ACS AR AAR 050 055)
Organism no ificat pentru PED	Lloyds Reg ster Verificat on 71 Fenchurch St London EC3M 4BS
Certificat de examinare de tip CE	COV0413459 TEC
Reprezentant autorizat	Derek Bankier D v s onal Quality Manager Parker Hannif n td domnick hunter division

Declaraţie

În calitate de reprezentant autorizat, declar că informaţiile de mai sus, referitoare la furnizarea / fabricaţia acestui produs, sunt în conformitate cu standardele şi alte documente corelate care respectă prevederile Directivelor de mai sus.

Semnătura: **Data:** 8 8/2007

Număr declaraţie: 0002/8807

13.6 Installing CAM-LOK

CAM-LOK® SINGLE POLE CONNECTORS
E-Z1016 & E-Z1018 SERIES

EATON CROUSE-HINDS SERIES

Installation and Maintenance Information

IM 1012

SAVE THESE INSTRUCTIONS FOR FUTURE REFERENCE

APPLICATION

Eaton Crouse-Hinds Cam-Lok connectors are designed to meet NEC code requirements for listed connectors that are of the locking type. These single pole plugs and receptacles are insulated in a specially formulated elastomeric material for safety and water tightness. They allow you to connect or disconnect electrical equipment instantly without any tools. Cam-Lok connectors are the industry standard for motors, generators, indoor and outdoor lighting distribution panels and numerous other power applications. Cam-Lok E-Z Series connectors are rated at 600 Volts up to 400 Amperes continuous. Actual operation must comply with the information stipulated on the unit's nameplate.

INSTALLATION

⚠ WARNING
Installation and Maintenance should be performed by authorized personnel only.

⚠ WARNING
To avoid damage to equipment or injury to personnel, electrical power must be **OFF** before and during installation and maintenance.

⚠ CAUTION
Connector installation must comply with NEC and any local codes.

Note: Use Copper (CU) Conductors Only.

1. Measure cable jacket diameter.

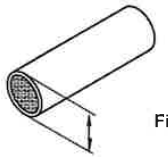


Figure 1

2. Cut sleeve to match cable jacket diameter.

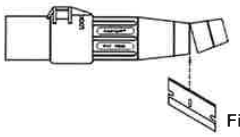


Figure 2

3. Slide sleeve on to cable.

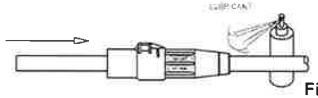


Figure 3

4. **Remove 1-5/8" of the cable jacket.**

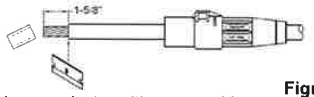


Figure 4

5. Wrap conductor with copper shim.
   NOTE: Use two shims for #2-1/0 cable and one shim for 2/0-4/0 cable.

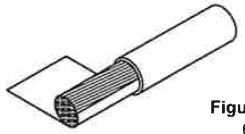
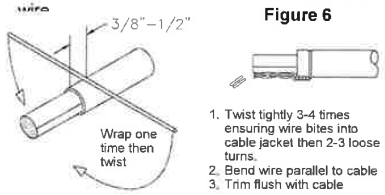


Figure 5

6. Wrap strain relief

Figure 6



7. Insert conductor into contact.
   7.a For 4/0 size conductor:

OR

Figure 7a

7.b For all other conductor sizes:

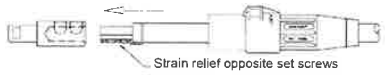
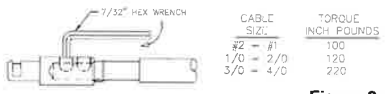


Figure 7b

8. Complete conductor termination
   8a. Tighten set screw using 7/32" hex key.



CABLE SIZE	TORQUE INCH POUNDS
#2 – #1	100
1/0 – 2/0	120
3/0 – 4/0	220

Figure 8a

OR

8b. Crimp Contact

CABLE SIZE	CRIMP NEST	CRIMP PRESS
#2 – #1	100514–3	A200914–3
1/0 – 2/0	T&B No. 54	
3/0 –4/0	T&B No. 66H	

Figure 8b

9. Lubricate contact.

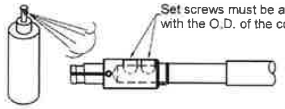


Figure 9

10. Line up drive pin on contact with 'mate' arrow on sleeve.

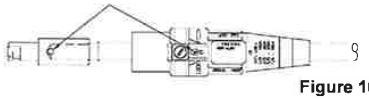


Figure 10

11. Slide sleeve over contact.

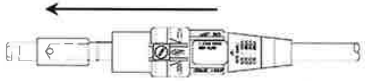


Figure 11

12. Ensure drive pin stops at end of keyway and tighten retaining screw.

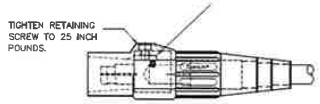


Figure 12

13. Check final position.

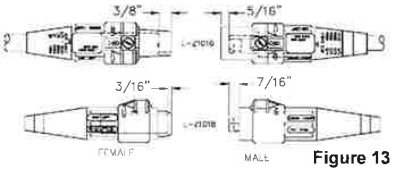


Figure 13

OPERATION

1. To mate, fully engage male to female and rotate 1/3 of a turn clockwise.
2. To unmate, rotate male counter clockwise 1/3 of a turn and pull straight out.

INSULATOR SLEEVE REMOVAL

⚠ WARNING
Installation and Maintenance should be performed by authorized personnel only.

⚠ WARNING
To avoid damage to equipment or injury to personnel, electrical power must be **OFF** before and during installation and maintenance

1. Loosen retaining screw 4-6 turns.

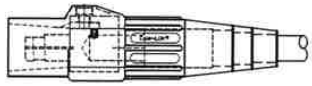


Figure 14

2. Slide sleeve off contact.

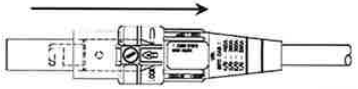


Figure 15

MAINTENANCE

Note: Perform visual, electrical and mechanical checks of all components on a regular schedule. This should be determined by the environment and frequency of use, but it is recommended that it occur at least once per year.

1. Make sure retaining screw is tight. (See Fig 11)
2. Clean contact thoroughly.
3. Clean all external parts of the connector

⚠ WARNING
If any part of this connector appears to be broken or shows signs of any damage – **DISCONTINUE USE IMMEDIATELY.** Replace or properly repair the connector **BEFORE** continuing service.

EATON CROUSE-HINDS SERIES
Eaton Corporation
Crouse-Hinds Division
4758 Washington Street, LaGrange, NC 28551 USA

IM 1012 REVISIONS
REV E: IC-ECN004493

CAM-LOK® SINGLE POLE CONNECTORS
E-Z1016 & E-Z1018 SERIES
Installation and Maintenance Information

EATON CROUSE-HINDS SERIES

IM 1012

SAVE THESE INSTRUCTIONS FOR FUTURE REFERENCE

Note: Eaton Crouse-Hinds E-Z1016 and E-Z1018 connectors are designed to be used with the following contacts only.

CONTACT AND CONDUCTOR INFORMATION

Series	Style	Conductor Size	Continuous Amp Rating	Conductor Entrance Diameter (in)	Contact Part Number	
					Male	Female
E-Z1016	Crimp	#2-1	190	0.402	A200036-18	A200037-23
E-Z1016	Crimp	1/0-2/0	300	0.495	A200038-11	A200035-17
E-Z1016	Crimp	3/0-4/0	400	0.620	A200038-6	A200035-14
E-Z1016	Double Set Screw	#6-#2	190	0.406	A200630-13	A200640-13
E-Z1016	Double Set Screw	#2-2/0	300	0.578	A200630-1	A200640-3
E-Z1016	Double Set Screw	2/0-4/0	400 - Use 90°C Cable	0.656	A200639-1	A200641-1
E-Z1018	Double Set Screw	#2-2/0	300	0.578	A200630-1	A200640-4
E-Z1018	Double Set Screw	2/0-4/0	400 - Use 90°C Cable	0.656	A200639-1	A200641-2

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EATON CROUSE-HINDS SERIES
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CONECTORES UNIPOLARIS CAM-LOK®
SERIES E-Z1016 y E-Z1018

Información de instalación y mantenimiento

EATON CROUSE-HINDS SERIES

IM 1012

GUARDE ESTAS INSTRUCCIONES PARA REFERENCIA FUTURA

APLICACIÓN

Los conectores Cam-Lok de Eaton Crouse-Hinds están diseñados para cumplir con los requisitos del Código Eléctrico Nacional (NEC, por sus siglas en inglés) para los conectores enumerados de bloqueo. Estos receptáculos y enchufes unipolares están aislados mediante un material elastomérico especialmente formulado para brindar seguridad y son herméticos al agua. Permiten conectar o desconectar equipos eléctricos de forma instantánea sin utilizar herramientas. Los conectores Cam-Lok representan la norma de la industria para motores, generadores, paneles de distribución de iluminación interior y exterior y muchas otras aplicaciones eléctricas.

Los conectores de la serie Cam-Lok E-Z tienen una capacidad de 600 voltios que llega hasta 400 amperios continuos. El funcionamiento real debe cumplir con la información estipulada en la placa de identificación de la unidad.

INSTALACIÓN

ADVERTENCIA ⚠ Solo personal autorizado debe realizar tareas de instalación y mantenimiento.

⚠ ADVERTENCIA

A fin de evitar daños al equipo o lesiones al personal, el equipo eléctrico debe estar **APAGADO** antes y durante las tareas de instalación y mantenimiento.

PRECAUCIÓN ⚠ La instalación del conector debe cumplir con el Código Eléctrico Nacional (NEC, por sus siglas en inglés) de EE.UU y con cualquier otro código local.

Nota: Utilice conductores de cobre (CU) únicamente.

1. Mida el diámetro de la funda del cable.

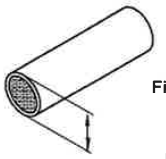


Figura 1

2. Corte la manga para que coincida con el diámetro de la funda del cable.

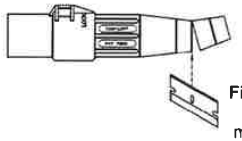


Figura 2

3. Deslice la manga sobre el cable.

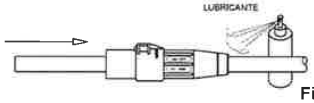


Figura 3

4. **Quite 1-5/8" de la funda del cable.**

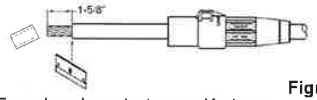


Figura 4

5. Envuelva el conductor con láminas de cobre.
   NOTA: Utilice dos láminas para el cable n° 2 1/0 y una para cable 2/0-4/0.

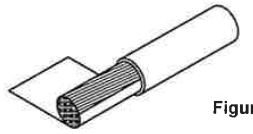


Figura 5

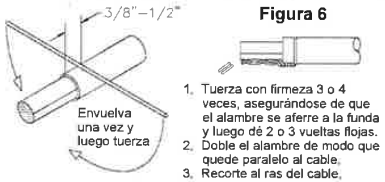


Figura 6

1. Tuerza con firmeza 3 o 4 veces, asegurándose de que el alambre se aferre a la funda y luego dé 2 o 3 vueltas flojas.
2. Doble el alambre de modo que quede paralelo al cable.
3. Recorte al ras del cable.

Figura 7a

7. Inserte el conductor en el contacto.
   7.a Para el conductor tamaño 4/0:

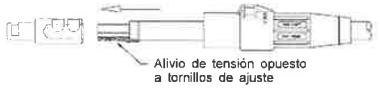


Figura 7b

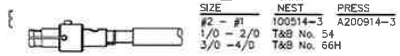
8. Complete la terminación del conductor.
   8a. Apriete el tornillo de ajuste con una llave hexagonal de 7/32"

TAMAÑO DEL CABLE	PAR DE TORSIÓN EN PULGADA-LIBRAS
#2 – #1	100
1/0 – 2/0	120
3/0 – 4/0	220

Figura 8a

O

8b. Contacto de crimpado



TAMAÑO DEL CABLE	MATRIZ DE CRIMPADO	PRENSA DE CRIMPADO
CABLE SIZE	CRIMP NEST	CRIMP PRESS
#2 – #1	100514-3	A200914-3
1/0 – 2/0	T&B No. 54	
3/0 –4/0	T&B No. 66H	

Figura 8b

9. Lubrique el contacto.

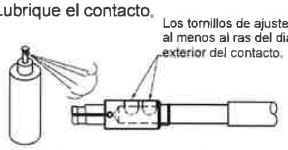


Figura 9

10. Alinee el pasador de arrastre del contacto con la fleche de acople ("mate") de la manga.
11. Deslice la manga sobre el contacto.

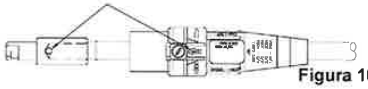
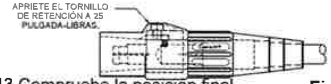


Figura 10

12. Asegúrese de que el pasador de arrastre se detenga al final del chavetero y luego apriete el tornillo de retención.

Figura 11



13. Compruebe la posición final.

Figura 12

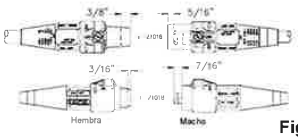


Figura 13

OPERACIÓN

1. Para el acople, conecte la pieza macho a la hembra y gire 1/3 de vuelta en el sentido de las agujas del reloj.
2. Para desacoplar, gire la pieza macho en el sentido contrario a las agujas del reloj 1/3 de vuelta y tire hacia afuera.

EXTRACCIÓN DE LA MANGA DE AISLAMIENTO

ADVERTENCIA ⚠ Solo personal autorizado debe realizar tareas de instalación y mantenimiento.

⚠ ADVERTENCIA

A fin de evitar daños al equipo o lesiones al personal, el equipo eléctrico debe estar **APAGADO** antes y durante las tareas de instalación y mantenimiento.

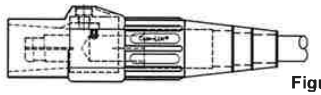


Figura 14

1. Afloje el tornillo de retención con 4 a 6 vueltas.

2. Deslice la manga fuera del contacto. **Figura 15**

MANTENIMIENTO

Nota: Realice controles visuales, eléctricos y mecánicos de todos los componentes de forma periódica. Para determinar esto debe tenerse en cuenta el entorno y la frecuencia de uso, pero se recomienda realizar los controles al menos una vez por año.

1. Asegúrese de que el tornillo de retención esté ajustado. (Ver Fig 11)
2. Limpie bien el contacto.
3. Limpie todas las piezas externas del conector.

⚠ ADVERTENCIA

Si alguna parte de este conector parece estar rota o muestra indicios de daño, INTERRUMPA EL USO DE INMEDIATO. Reemplace o repare apropiadamente el conector ANTES de continuar con la operación.

Todas las declaraciones, la información técnica y las recomendaciones contenidas en la presente se fundamentan en información y pruebas que se consideran confiables. Su precisión o integridad no están garantizadas. De conformidad con los "Términos y condiciones de venta" de Eaton Crouse-Hinds, y debido a que las condiciones de uso escapan a nuestro control, el comprador debe determinar la idoneidad del producto para el uso que planea hacer de él y asume todo riesgo y responsabilidad respecto de ello.

EATON CROUSE-HINDS SERIES
Eaton Corporation
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CONECTORES UNIPOLARIS CAM-LOK®
SERIES E-Z1016 y E-Z1018
Información de instalación y mantenimiento

EATON CROUSE-HINDS SERIES

IM 1012

GUARDE ESTAS INSTRUCCIONES PARA REFERENCIA FUTURA

Nota: Los conectores E-Z1016 y E-Z1018 de Eaton Crouse-Hinds están diseñados para utilizarse con los siguientes contactos únicamente.

INFORMACIÓN DE CONTACTOS Y CONDUCTORES

Serie	Estilo	Tamaño del conductor	Amperaje continuo nominal	Diámetro de entrada del conductor (pulgadas)	Número de pieza del contacto	
					Macho	Hembra
E-Z1016	Crimpado	#2-1	190	0.402	A200036-18	A200037-23
E-Z1016	Crimpado	1/0-2/0	300	0.495	A200038-11	A200035-17
E-Z1016	Crimpado	3/0-4/0	400	0.620	A200038-6	A200035-14
E-Z1016	Dos tornillos de ajuste	#6-#2	190	0.406	A200630-13	A200640-13
E-Z1016	Dos tornillos de ajuste	#2-2/0	300	0.578	A200630-1	A200640-3
E-Z1016	Dos tornillos de ajuste	2/0-4/0	400 - Utilice cable de 90°C	0.656	A200639-1	A200641-1
E-Z1018	Dos tornillos de ajuste	#2-2/0	300	0.578	A200630-1	A200640-4
E-Z1018	Dos tornillos de ajuste	2/0-4/0	400 - Utilice cable de 90°C	0.656	A200639-1	A200641-2

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CONNECTEURS UNIPOLAIRES CAM-LOK® SÉRIES E-Z1016 ET E-Z1018

Installation et entretien

IM 1012

CONSERVER CES INSTRUCTIONS POUR POUVOIR LES CONSULTER ULTÉRIEUREMENT

UTILISATION

Les connecteurs Eaton Crouse-Hinds Cam-Lok sont conçus pour répondre aux exigences du code NEC relatives aux connecteurs inscrits de type verrouillable. Ces prises et fiches unipolaires sont isolées dans un élastomère spécialement formulé assurant étanchéité et sécurité; elles vous permettent de brancher et de débrancher instantanément des appareils électriques sans outils. Les connecteurs Cam-Lok constituent la norme industrielle pour les moteurs, générateurs, panneaux de distribution éclairage intérieur et extérieur, ainsi que pour de nombreuses autres utilisations électriques.

La tension nominale des connecteurs Cam-Lok des séries E-Z est de 600 V pour des intensités en régime permanent allant jusqu'à 400 A. Le fonctionnement réel doit être conforme aux renseignements mentionnés sur la plate signalétique des unités.

INSTALLATION

⚠ ATTENTION

L'installation et l'entretien ne doivent être effectués que par le personnel autorisé.

⚠ ATTENTION

Pour éviter d'endommager l'équipement ou de blesser une personne, l'alimentation électrique doit être **COUPÉE** avant et pendant l'installation et l'entretien.

⚠ ATTENTION

L'installation du connecteur doit être conforme au NEC et à tout autre code.

Remarque : Utiliser des conducteurs en cuivre (CU) seulement.

1. Mesurer le diamètre de la gaine du câble.

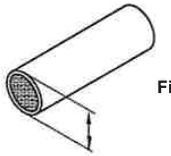


Figure 1

2. Couper le manchon pour qu'il corresponde au diamètre de la gaine.

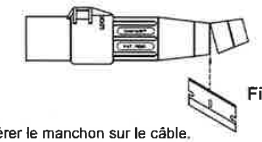


Figure 2

3. Insérer le manchon sur le câble.

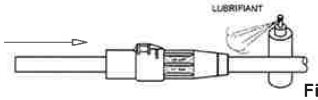


Figure 3

4. Retirer 1-5/8 po de gaine de câble.

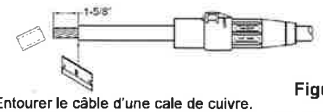


Figure 4

5. Entourer le câble d'une cale de cuivre.
REMARQUE : Utiliser deux cales pour un câble 2-1/0 et une cale pour un câble 2/0-4/0.

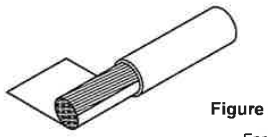


Figure 5

6. Enrouler un fil antitraction.

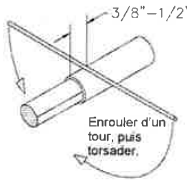


Figure 6

1. Torsader étroitement 3 à 4 fois, de sorte que le fil s'incruste dans la gaine du câble, puis desserrer de 2 à 3 tours.
2. Recourber le fil parallèlement au câble.

7. Insérer un conducteur dans le contact.

7.a Pour un conducteur de calibre 4/0 :

OU

7.b Pour tous les autres calibres de conducteurs :

Figure 7a

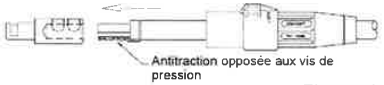
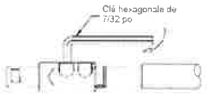


Figure 7b

8. Terminaison du conducteur

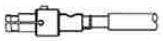
8a. Serrer une vis de pression avec une clé hexagonale de 7/32 po.



CALIBRE DU CÂBLE	COUPLE EN POUCES-LIVRES
#2 – #1	120
1/0 – 2/0	120
3/0 – 4/0	220

Figure 8a

8b. Contact à sertir **OU**



CALIBRE DU CÂBLE	MATRICE DE SERTISSAGE	PRESSE DE SERTISSAGE
2 - 1	100514-3	A200914 - 3
1-0 – 2/0	No. T&B 54	
3-0 – 4-0- 3	No. T&B 60H	

Figure 8b

9. Lubrifier le contact.

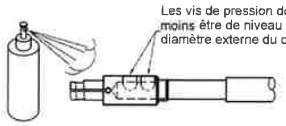


Figure 9

10. Aligner la goupille d'entraînement du contact avec la flèche d'accouplement sur le manchon.

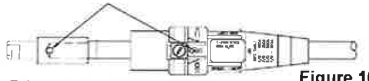


Figure 10

11. Faire glisser le manchon sur le contact.

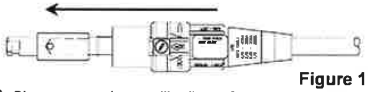


Figure 11

12. S'assurer que la goupille d'entraînement s'arrête à l'extrémité de la rainure et serrer la vis de retenue.

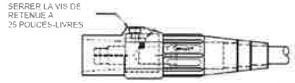


Figure 12

13. Vérifier la position finale.

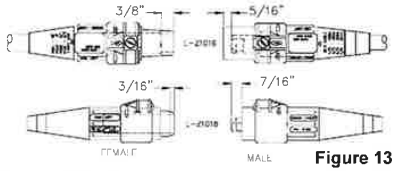


Figure 13

FONCTIONNEMENT

1. Pour raccorder, engager complètement la partie mâle dans la partie femelle et tourner de 1/3 de tour dans le sens horaire.
2. Pour désaccoupler, tourner la partie mâle de 1/3 de tour et tirer.

RETRAIT DU MANCHON ISOLANT

⚠ ATTENTION

L'installation et l'entretien ne doivent être effectués que par le personnel autorisé.

⚠ ATTENTION

Pour éviter d'endommager l'équipement ou de blesser une personne, l'alimentation électrique doit être **COUPÉE** avant et pendant l'installation et l'entretien.

1. Desserrer la vis de retenue de 4 à 6 tours.

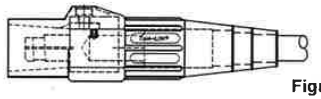


Figure 14

2. Retirer le manchon du contact en le faisant glisser.

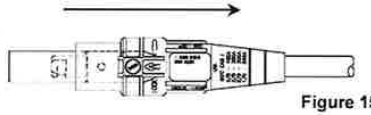


Figure 15

ENTRETIEN

Remarque : Contrôler visuellement, électriquement et mécaniquement tous les composants en suivant un calendrier régulier. Le calendrier doit être déterminé par l'environnement et la fréquence d'utilisation, mais il est recommandé que ce contrôle soit fait au moins une fois par an.

1. Vérifier que la vis de retenue est serrée. (Voir la fig. 6)
2. Bien nettoyer les contacts.
3. Nettoyer toutes les pièces externes du connecteur.

⚠ ATTENTION

Si l'une des pièces de ce connecteur semble cassée ou endommagée, **CESSER IMMÉDIATEMENT DE L'UTILISER**. Remplacer ou réparer correctement le connecteur **AVANT** de continuer à l'utiliser.

Eaton Corporation
Crouse-Hinds Division
4758 Washington Street, LaGrange, NC 28551 USA

CONNECTEURS UNIPOLAIRES CAM-LOK®
SÉRIES E-Z1016 ET E-Z1018
Installation et entretien

EATON CROUSE-HINDS SERIES

IM 1012

CONSERVER CES INSTRUCTIONS POUR POUVOIR LES CONSULTER ULTÉRIEUREMENT

Remarque : Les connecteurs E-Z1016 et E-Z1018 de Eaton Crouse-Hinds sont conçus pour les contacts suivants uniquement.

RENSEIGNEMENTS SUR LES CONTACTS ET LES CONDUCTEURS						
Série	**Style**	**Calibre du conducteur**	**Intensité nominale en régime permanent**	**Diamètre (po) de l'entrée du conducteur**	**Numéro de pièce du contact**	
					Mâle	**Femelle**
E-Z1016	Serti	#2-1	190	0.402	A200036-18	A200037-23
E-Z1016	Serti	1/0-2/0	300	0.495	A200038-11	A200035-17
E-Z1016	Serti	3/0-4/0	400	0.620	A200038-6	A200035-14
E-Z1016	Double vis de pression	#6-#2	190	0.406	A200630-13	A200640-13
E-Z1016	Double vis de pression	#2-2/0	300	0.578	A200630-1	A200640-3
E-Z1016	Double vis de pression	2/0-4/0	400 - utilise un câble de 90 °C	0.656	A200639-1	A200641-1
E-Z1018	Double vis de pression	#2-2/0	300	0.578	A200630-1	A200640-4
E-Z1018	Double vis de pression	2/0-4/0	400 - utilise un câble de 90 °C	0.656	A200639-1	A200641-2

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