

Operator Manual

Portable Rotary Screw Compressor

MOBILAIR M125 SIGMA CONTROL MOBIL pV

No.: 901802 07 USE

WARNING

Breathing diesel engine exhaust exposes you to chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

- > Always start and operate the engine in a well-ventilated area.
- > If in an enclosed area, vent the exhaust to the outside.
- > Do not modify or tamper with the exhaust system.
- > Do not idle the engine except as necessary.

For more information go to www.P65warnings.ca.gov/diesel.

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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 the applicable directive
- Chassis operating instructions (where applicable)
- SIGMA CONTROL MOBIL operating manual

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

This operator manual is copyright protected. Queries regarding use or duplication of the documentation should be referred to KAESER. Correct use of information will be fully supported.

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

1 Regarding this Document

1.4 Symbols and labels

Signal word	Meaning	Consequences of ignoring the warning
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 2.3.



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 model designation and important technical information. The nameplate is located on the outside of the machine (see illustration in chapter 13.1).

➤ Enter the nameplate data here as a reference:

Feature	Value
Vehicle Identification No.	
Permissible total weight	
Permissible coupling load	
Permissible axle load	
Portable compressor	
Part no.	
Serial no.	
Year of manufacture	
Total weight	
Lifting point load capacity	
Rated engine power	
Engine speed	
Maximum working pressure	

Tab. 3 Nameplate

2.2 Vehicle identification number

The vehicle identification number (VIN) is the only unmodifiable and therefore the most important identification feature on the machine.

The vehicle identification number remains associated with the machine throughout the entire duration of its service life. The vehicle identification number is stamped into the bodywork of the machine.

Further information For the location of the VIN stamp, see chapter 13.1.

2.3 Options – options label

A list of the options fitted to your machine helps to relate the information in this service manual. Options fitted to the machine are listed on the options label (code letters).

The nameplate is to be found:

- on the outside of the machine,
- on the front (see chapter 13.1)



The following table lists all possible options. Only the codes for those options fitted appear on the nameplate.

da df dc dd _ _	<p>* r1 - r5 = place holders for chassis options:</p> <ul style="list-style-type: none"> ■ r1 = rb; rc; rd ■ r2 = rk; rl ■ r3 = rm; ro ■ r4 = rr; rs; rt ■ r5 = rw; rx
_ _ _ _ _ _	
fa _ _ fc _ _	
_ _ _ _ _ _	
ba bb _ _ bd _ _	
_ _ lb _ _	
ga _ _ _ _	
_ _ ob oc od oe	
_ _ _ _ _ _	
_ _ _ _ _ _	
r1 r2 r3 r4 r5 #)	
ta tb tc _ _ te	
_ _ sg _ _ _ _	
Q2-MQ277	

Tab. 4 Extract from the options label

➤ Take a list of fitted options from the options label and enter the fitted options as reference.

2.3.1 Option da, df, dc, dd
Air treatment

Option	Option code	Provided?
Aftercooler and cyclone separator	da	
Heat exchanger (with bypass)	df	
Fresh air filter	dc	
Filter combination	dd	

Tab. 5 Air treatment options

2.3.2 Option fa, fc
Compressed air distributor

Option	Option code	Available?
Non-separated compressed air distribution line	fa	
Separated compressed air distribution lines, downstream of the option	fc	

Tab. 6 Compressed air distributor option

2.3.3 Option ba
Low temperature equipment

Option	Option code	Available?
Low temperature equipment	ba	
Engine coolant pre-heating	bb	

Option	Option code	Available?
Stronger battery	bd	

Tab. 7 Low temperature equipment options

2.3.4 Option lb Equipment for fire hazard areas

Option	Option code	Available?
Engine air intake shut-off valve (automatic shut-off)	lb	

Tab. 8 Optional equipment for fire hazard areas

2.3.5 Option ob, od Automatic engine start/stop

Option	Option code	Available?
Automatic engine start/stop	ob	
Trickle charging for starter batteries	od	

Tab. 9 Automatic engine start/stop

2.3.6 Option oc GSM/GPS unit

Option	Option code	Available?
GSM/GPS unit	oc	

Tab. 10 GSM/GPS unit

2.3.7 Option ta, tb, tc, te Lighting

Option	Option code	Available?
None (stationary)	ta	
Reflective warning triangle	tb	
EG - 12 V	tc	
USA - 12 V (DOT conformity)	te	

Tab. 11 Lighting options

2.3.8 Option ga Generator

Option	Option code	Available?
Generator	ga	

Tab. 12 Generator option

**2.3.9 Option oe
Closed floor pan**

Option	Option code	Available?
Closed floor pan	oe	

Tab. 13 Closed floor pan option

**2.3.10 Option sg
Pedestrian protection**

Option	Option code	Available?
Pedestrian protection	sg	

Tab. 14 Pedestrian protection option

2.4 Machine (without options)
2.4.1 Sound pressure level

Sound pressure levels comply with the American EPA Standard.
Measurement distance: 23 ft

	M125
Guaranteed sound pressure level ⁽¹⁾ [dB(A)]	76

⁽¹⁾ Applies exclusively to machines lined with sound proofing material.

Tab. 15 Sound pressure level

2.4.2 Tightening torque
2.4.2.1 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. 16 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]	354.0	620.0	929.3	1460	2832.2	4867.9

Surface finish: zinc flake coating (matte).

Standards based on VDI 2230.

Tab. 17 Torques for M10–M24 screws

2.4.2.2 Tightening torques for lifting eye

Recommended values for screws by strength class:

Screws	Strength class	Thread	Torque [lbf in]
Hex-head bolt	8.8	M12	620
Hex-head bolt	8.8	M16	1770

Tab. 18 Torques for lifting eye screws

2.4.2.3 Tightening torques for oil separator tank cover fixing screws

Recommended values for screws by strength class:

Screws	Strength class	Thread	Torque [lbf-in]
Hex-head bolt	8.8	M20	1770

Tab. 19 Tightening torques for oil separator tank cover fixing screws

2.4.3 Ambient conditions

Positioning	Limit value
Maximum altitude amsl* [ft]	3000
Minimum ambient temperature [°F]	14
Maximum ambient temperature [°F]	113

* Higher altitudes are permissible only after consultation with the manufacturer.

Tab. 20 Ambient conditions

2.4.4 Additional specifications

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

- dimensions,
- track width,
- footprint,

can be found in the dimensioned drawings in Chapter 13.3.



The dimensional drawings also show the position of the following inlets and outlets:

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

2.5 Chassis

2.5.1 Chassis options

- See the technical data relating to the chassis in the separate document "Chassis Operating Manual".

2.6 Machines with stationary frame design

2.6.1 Option rw, rx

Weight of machines with stationary frame design

Actual weight of individual machines is dependent on equipment fitted (see machine nameplate).

- Enter the actual overall weight* from the nameplate into the table below for reference.

Option	rw	rx
Type of stationary frame design	Skids	Frame
Actual total weight [[b]]*		

*Enter here for reference, the actual total weight taken from the nameplate of the machine.

Tab. 21 Weight of the machine

2.7 Compressor

2.7.1 Variable pressure flow rate control (pV control)

Maximum machine working pressure:

Maximum working pressure [psi]	203
SIGMA airend	29-G
Setting range, nominal system pressure [psig]	87 - 203

Tab. 22 Maximum working pressure

Flow rate and nominal system pressure:

Measuring point	Maximum working pressure (Nominal pressure) [psi]	Flow rate [cfm]	Application example
a1	87	406	Hammer application
a2	145		Blasting application

Measuring point	Maximum working pressure (Nominal pressure) [psi]	Flow rate [cfm]	Application example
a3	174	378	Cable injection
a4	203	342	Drilling application

Tab. 23 Flow rate depending on the nominal system pressure



Use compressed air tools only with the pressure appropriate for its intended use (tool working pressure)!

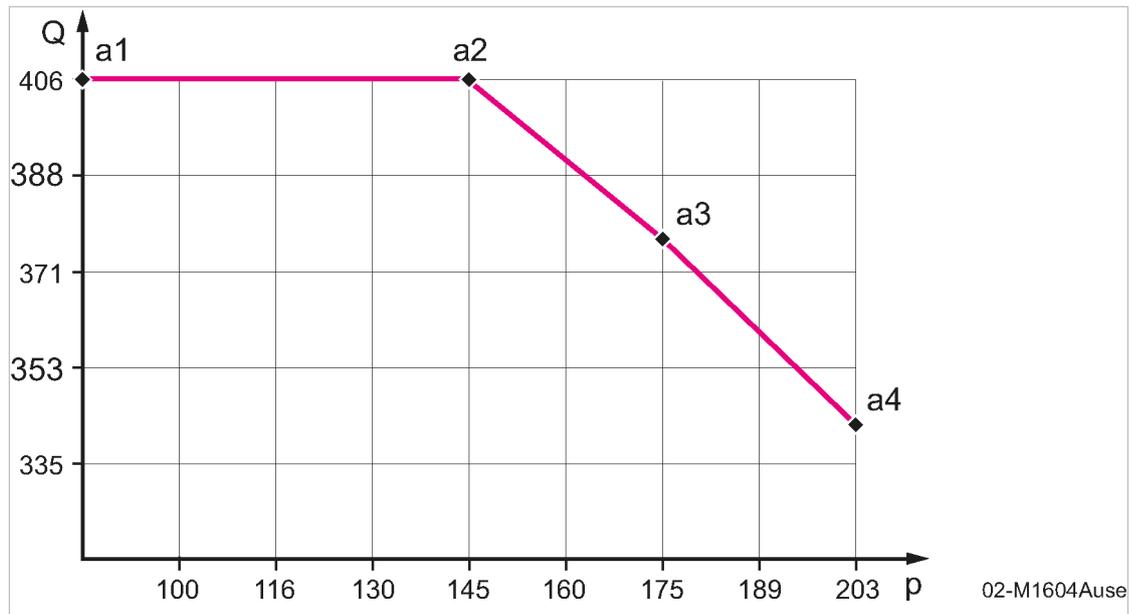


Fig. 1 Engine speed/flow rate depending on the nominal system pressure

- Q Flow rate [cfm]
- p Nominal pressure [psig]



Flow rate in accordance with ISO 1217:2009. Annex D

Engine speed depending on the nominal system pressure:

Measuring point	Pressure stage (nominal pressure) [psi]	Speed rpm
a1	87–145	2200
a2	145	2200
a3	174	2100
a4	203	1950

Tab. 24 Engine speed depending on the nominal system pressure

Example, by way of illustration:

Maximum nominal system pressure at SIGMA CONTROL MOBIL controller set to: → 94 psig (in graphic marked as B)

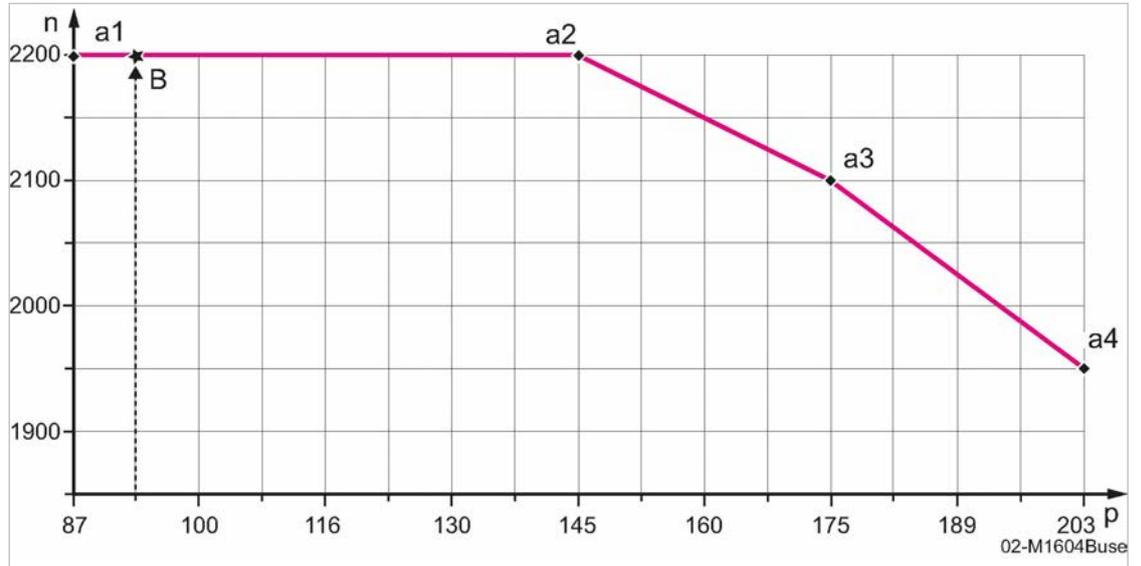


Fig. 2 Engine speed depending on the nominal system pressure

- n** Engine speed [rpm]
- p** Nominal pressure [psig]
- B** Example

2.7.2 Compressed air outlet

Outlet valve ["]	Number
G 3/4	3
G 1 1/2	1

Tab. 25 Compressed air distributor

2.7.3 Safety relief valve

Maximum working pressure [psig]	Activating pressure [psig]
203	230

Tab. 26 Safety relief valve activating pressure

2.7.4 Temperature

Required temperatures readiness to switch to LOAD mode	Values
Airend discharge temperature (ADT) [°F]	86
The engine coolant temperature (ECT) [°F]	68

Tab. 27 Required temperatures readiness to switch to LOAD mode

Airend discharge temperature	Values
Typical airend discharge temperature during operation [°F]	167 212

Airend discharge temperature	Values
Maximum airend discharge temperature (automatic safety shut-down) [°F]	243

Tab. 28 Airend discharge temperature

2.7.5 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.

Cooling oils for general applications

	SIGMA FLUID		
	MOL	S-460	S-570
Description	Mineral oil	Synthetic oil	Synthetic oil
Application	Standard oil for all applications except in connection with processing of food products. Particularly suitable for machines with a low duty cycle.	Standard oil for all applications except in connection with processing of food products. Particularly suitable for machines with a high duty cycle. Not suitable for East and Southeast Asia.	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	0.07 in ² /s (D 445; ASTM test)	0.07 in ² /s (D 445; ASTM test)	0.08 in ² /s (D 445; ASTM test)
Viscosity at 212 °F	0.01 in ² /s (D 445; ASTM test)	0.01 in ² /s (D 445; ASTM test)	0.01 in ² /s (D 445; ASTM test)
Flash point	446 °F (D 92; ASTM test)	484 °F (D 92; ASTM test)	496 °F (D 92; ASTM test)
Density at 59 °F	54.2 lb/ft ³ (D 4052; ASTM test)	53.7 lb/ft ³ (D 4052; ASTM test)	54.2 lb/ft ³ (D 4052; ASTM test)
Pour point:	-22 °F (D 97; ASTM test)	-16.6 °F (D 97; ASTM test)	-65 °F (D 97; ASTM test)

Tab. 29 Cooling oil recommendation

Cooling oils for applications in food processing

	SIGMA FLUID	
	FG-460	FG-680
Description	Synthetic oil	Synthetic oil
Application	Specifically for machines in applications where the compressed air may come into contact with foodstuff.	Special oil for ambient conditions with high temperatures and humidity. Specifically for machines in applications where the compressed air may come into contact with foodstuff.

	SIGMA FLUID	
	FG-460	FG-680
Approval	USDA H1, NSF approved for the manufacture of food packaging, meat and poultry processing and other food processing applications.	USDA H1, NSF approved for the manufacture of food packaging, meat and poultry processing and other food processing applications.
Viscosity at 104 °F	0.07 in ² /s (D 445; ASTM test)	0.10 in ² /s (D 445; ASTM test)
Viscosity at 212 °F	0.01 in ² /s (D 445; ASTM test)	0.02 in ² /s (D 445; ASTM test)
Flash point	475 °F (D 92; ASTM test)	460 °F (D 92; ASTM test)
Density at 59 °F	54.5 lb/ft ³ (D 4052; ASTM test)	53.3 lb/ft ³ (D 4052; ASTM test)
Pour point:	-38.2 °F (D 97; ASTM test)	-38.2 °F (D 97; ASTM test)

Tab. 30 Cooling oil recommendation (food processing)

2.7.6 Cooling oil charge

Cooling oil	Fluid volume [gal]
Machine	8.32
Machine + heat exchanger (Option db)	9.11

Tab. 31 Cooling oil charge

2.8 Engine

2.8.1 Engine specifications

Engine specifications (EU emission level V):

Feature	Specification
Make/model	Deutz / TCD 4.1 L04
Engine control	Electronic
Fuel injection	Common rail system
Rated engine power [hp]	140
Speed at LOAD operation [rpm]	2200
Speed at IDLE operation [rpm]	1500
Fuel type	Diesel
Fuel consumption in LOAD operation [gal/h]	6.18
Engine oil consumption relative to fuel consumption [%]	Approx. 0.5

Feature	Specification
Reduction agent consumption (relative to fuel consumption) [%]*	Approx. 3 – 7
⁽¹⁾ DOC = Diesel Oxidation Catalytic converter; DPF = Diesel Particulate Filter; SCR = SCR catalytic converter	

Tab. 32 Deutz / TCD 4.1 L04 Engine specifications

Further information * For more information on factors that influence reduction agent consumption, please see Chapter 2.8.5 Reduction Agent.

Carbon dioxide emissions:

Definition of CO₂ emissions:

CO₂ emissions are the mass of carbon dioxide produced when substances containing carbon are combusted.

Units for CO₂ emissions:

- g/km
- g/kWh*
- lb/hp·h**

CO ₂ measurement	Value
CO ₂ emissions [g/kWh]	709.9
corresponds to [lb/hp·h]	1.167
* ≙ Unit employed in this operating manual; ** converted to US Customary Units	

Tab. 33 Engine specifications

Further information These CO₂ measurements result from the testing of a (parent) engine over a fixed test cycle under laboratory conditions. The engine is representative of the engine family and shall not imply or express any guarantee of the performance of a particular engine.

2.8.2 Oil recommendation

The engine oil must meet the following classification:

- DEUTZ DQC IV LA
- ACEA, class E9
- API, class CI-4



- Use only engine with low white ash build up.
- Engine oils that do not conform to the above can shorten the useful life of the engine.
- The use of unlisted engine oils requires prior authorization by KAESER.
- Contact an authorized KAESER service representative.

Viscosity

For selecting the appropriate viscosity class, you must take the ambient temperature at the installation site or the machine deployment area into account. Excessively-high viscosity can cause starting difficulties, while a too low viscosity reduces the lubricating capacity and may cause very high oil consumption.

Viscosity is classified by SAE.



Always use multi-grade lubricating oils!

Always ensure the prescribed lubricating oil quality when selecting the viscosity class!

Ambient temperatures [°F]	Viscosity class
-22 86	SAE 5W-30
-22 104	SAE 5W-40
-4 86	SAE 10W-30
-4 104	SAE 10W-40
5 95	SAE 15W-30
5 104	SAE 15W-40

Tab. 34 Engine oil recommendation

Initial engine oil quantity

The engine is filled initially with the following engine oil:

Ambient temperatures [°F]	Viscosity class
-4 104	SAE 10W-40

Tab. 35 Initial engine oil quantity

2.8.3 Fuel recommendation

To comply with emission regulations, diesel engines fitted with an exhaust gas treatment system must be operated only with a sulphur-free diesel fuel. Compliance with the emission requirements but also the durability of the individual exhaust gas treatment components is not assured if this requirement is ignored!

The diesel fuel must meet the requirements of EN 590 and ASTM D975 respectively.

The use of other fuels as well as the mixing with additives is only permitted after consultation with the engine manufacturer.

The following fuel specifications are approved:

- Diesel fuels according to EN 590
 - ($\leq 0.0010\%$ Sulphur – EU: Level IIIB and higher)
- Diesel fuels according to ASTM D975
 - ($\leq 0.0015\%$ Sulphur – EPA: Tier 4 interim and higher)



Never store fuel in galvanised containers!

Bio diesel:

According to EN 590 and ASTM D975, a specific portion of bio diesel is permitted in the fuel.

Depending on the country of origin, bio diesel can be produced from different plant materials and thus have different properties.

Affected by temperature, atmospheric oxygen and time, these bio diesel components in the fuel may decompose in the fuel and thus cause damages within the fuel system.



The fuel must be filtered before it is filled into the machine when it has been supplied in barrels or canisters. This procedure prevents malfunctions in the fuel system caused by contamination.

2.8.4 Engine coolant recommendation

In fluid-cooled engines, the cooling fluid must be treated and monitored to prevent engine damage.

Water quality:

An important factor for treating the cooling fluid is the correct water quality.

As a rule, clear and clean fresh water complying with the following analysis values must be used:

Characteristic	Value
1°dH = 0.1783 mmol/l; alkaline earth ions = 7.147 mg/l Ca ²⁺ or 4.336 mg/l Mg ²⁺	

2.8.5 Reduction agent

Feature	Specification
Type	Urea solution AUS 32
Description	DEF (Diesel Exhaust Fluid) AdBlue®
Quality	according to ATSTM D 7821 or EN 70070/ISO 22241
Application temperature [°F]	12 ... 113
Switching point for engine torque reduction (level in tank) [%]	empty 14

Tab. 36 Reduction agent

Reduction agent consumption:

The injected quantity of reduction agent is not a fixed value. It is based on the measured values of the sensors of the exhaust after-treatment. The injection time and injection quantity are calculated by the engine controller. The higher the concentration of nitrogen oxides, the more reduction agents are injected.

Influencing factors for nitrogen oxide concentration in exhaust gas:

- Engine temperature
- Quality of the diesel fuel (standard ASTM D975 and EN 590)
- Quality of the reduction agent (standard ISO 22241/EN 70070)
- Weather (temperature/humidity)

- frequent change between LOAD/IDLE
- frequent switching the machine on and off

2.8.6 Fluid volumes

Description	Fluid volume [gal]
Engine oil	3.17
Fuel	44.90
Coolant	5.68
Reduction agent	1,58

Tab. 37 Fluid volumes

2.8.7 Batteries

Feature	Value
Voltage [V]	24 (2 x 12)
Capacity [Ah]	2 x 100
PTC testing current [A] (according to EN 50342)	850

Tab. 38 Batteries

2.9 Options
2.9.1 Air treatment options
**2.9.1.1 Option dc
Fresh air filter**

Feature	Value
Maximum working pressure [psig]	232
Minimum ambient temperature [°F]	34.7
Maximum ambient temperature [°F]	86

Tab. 39 Fresh air filter conditions

2.9.1.2 Air quality at the compressed air outlets
Interrelation between compressed air treatment and compressed air quality

Air treatment		Compressed air quality	
Option designation	Components	Characteristics	Abbreviation
da	<ul style="list-style-type: none"> ■ Aftercooler ■ Centrifugal separator 	cool and condensate-free	A

Air treatment		Compressed air quality	
Option designation	Components	Characteristics	Abbreviation
da + df	<ul style="list-style-type: none"> ■ Aftercooler ■ Centrifugal separator ■ Heat exchanger 	dry and warmed	W
da + dd	<ul style="list-style-type: none"> ■ Aftercooler ■ Centrifugal separator ■ Filter combination 	dry and technically oil-free	F
da + dd + df	<ul style="list-style-type: none"> ■ Aftercooler ■ Centrifugal separator ■ Filter combination ■ Heat exchanger 	technically oil-free and warmed	G

Tab. 40 Interrelation between compressed air treatment and compressed air quality



The compressed air outlets at the air distributor are labelled with the identifiers of compressed air quality.

2.9.2 Option ba Low temperature equipment

2.9.2.1 Ambient conditions

Installation	Limit value
Maximum elevation ASL* [ft]	3000
Minimum ambient temperature [°F]	-13
Maximum ambient temperature [°F]	113

* Higher altitudes are permissible only after consultation with the manufacturer

Tab. 41 Ambient conditions, low temperature equipment

2.9.2.2 Option bb Engine coolant pre-heating

Further information Section 2.9.3 provides the data for the coolant pre-heating system of the diesel engine.

2.9.2.3 Option bd Batteries

Characteristic	Value
Voltage [V]	24 (2 x 12)
Capacity [Ah]	2 x 135

Characteristic	Value
PTC testing current [A] (according to EN 50342)	1000

Tab. 42 Batteries, low-temperature equipment

2.9.3 Option bb; od Auxiliary electrical systems

Power supply details

Mains supply	Value
Mains voltage [V/1-phase/N/PE]	240
Frequency [Hz]	50
Supply cable cross-section [AWG] (Cu multicore)	3 x AWG16
User's fusing [A]	16

Tab. 43 Power supply details

Option bb Coolant pre-heating diesel engine:

Coolant pre-heater	Value
Voltage [V]	240
Power [W]	1000

Tab. 44 Technical data – Cooling water pre-heating device

Option od Battery charger:

Battery charger	Value
Model	2 x 12V DC / 4A
Charging voltage [V]	24.0
Charging current [A]	>0.5
Maximum charging current [A]	4
Enclosure protection	IP 54

Tab. 45 Battery charger specification

2.9.4 Option ga Generator

Generator specifications:

Characteristics	400/230V/3-phase	230V, 3-phase
Rated power [kVA] 3-phase	12.7	13.0
Rated power [kVA] single-phase	7.3	7.5

Characteristics	400/230V/3-phase	230V, 3-phase
Voltage [V]	400/230	230/230
Voltage constant [%] balanced load	±5	
Voltage constant [%] single-phase load	+6/-10	
Rated current [A] single-phase	32.6	32.6
Rated current [A] 3-phase	32.6	32.6
Rated current [A] Short-circuit (0.3 s / 170 V)	330.0	330.0
cos phi	0.8 – 1	
Frequency [Hz]	50	
Speed [rpm]	3000	
Distortion factor [%]	<5	
Type	Synchronous internal pole (electronically controlled)	
Protection class	IP 54	

Tab. 46 Generator specification

Reduced compressed air flow rate:

Maximum working pressure [psi]	10	12	14
SIGMA airend	29 G		
Flow rate [cfm]	10.3 – 10.4	5.6 – 10.0	1.6 – 9.7

* value depending on current supply

See chapter 13.7 for more details.

Tab. 47 Flow rate in generator mode

Connections:

Type	400/230V/3-phase	230V, 3-phase
Power sockets	Number:	
16 A; 230V / 1~ / N / PE	3	–
16 A; 400V / 3~ / N / PE	1	–
16 A; 230V / 2~ / PE	–	2
32 A; 230V / 3~ / PE	–	1
16 A; 230V / 3~ / PE	–	1

Tab. 48 Connection sockets

Circuit breaker

Generator	400/230V/3-phase	230V, 3-phase
Rated power [kVA]	12.7	13.0
Safety cut-out	Number:	
16 [A]	1	1
32 [A]	–	1

Tab. 49 Circuit breaker

Operating limits

(to EN 60034-22, page 10, table)

Characteristics	Value
Design category	G3
Voltage adjustment range [%]	±5
Static voltage deviation [%]	1
Maximum dynamic voltage drop [%]	–15
Maximum dynamic voltage rise [%]	20
Maximum voltage settling time [ms]	1500
Maximum voltage asymmetry [%]	1

Tab. 50 Generator operating limits

Maximum power loading by consumers:

Resistive consumers include lamps and heaters, for example.

Electric engines and transformers are inductive consumers.

Nominal rating conditions

- Ambient temperature: 77°F
- Max. height above MSL of the place of installation: 3000 ft

Three-phase power supply

Generator		400/230V/3-phase	230V, 3-phase
Rated power [kVA]		12.7	13.0
Resistive consumers [kVA]	–	12.7	12.7
Inductive consumers [kW]	Rated power	12.7	12.7

Tab. 51 Maximum three-phase mains load

AC power supply

Generator		400/230V/3-phase	230V, 3-phase
Rated power [kVA]		12.7	13.0
Resistive consumers [kVA]	per phase	3.5	3.5
	total	10.5	10.5
Inductive consumers [kW]	Rated power per phase	3.5	3.5
	Rated power total	10.5	10.5

Tab. 52 Maximum AC mains load

**2.9.5 Option oc
GSM/GPS unit**

Feature	Specification
Supplier/Manufacturer	Proemion
Type	CANlink mobile 5***

Tab. 53 GSM/GPS unit

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.

- Keep to 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 User's Responsibilities

3.4.1 Observe statutory and universally accepted regulations

- Observe relevant statutory and accepted regulations during operation, transporting and maintenance of the machine.

3.4.2 Determining 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 done and recognize the possible dangers involved.

Authorized operators possess the following qualifications:

- are of legal age,
- are familiar with and adhere to the safety instructions and sections of the service manual relevant to operation,
- have received adequate training and authorization to operate vehicles and electrical and compressed air devices.

Authorized maintenance personnel possess the following qualifications:

- are of legal age,
- have read, are familiar with and adhere to the safety instructions and sections of the service manual applicable to maintenance,
- are completely familiar with the safety concepts and regulations of motor vehicle, electrical and compressed air engineering,
- are able to recognize the possible dangers of motor vehicle, 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:

- are of legal age,
 - are familiar with and adhere to the safety instructions and sections of the service manual relevant to transporting,
 - are trained and authorized in safe vehicle transporting,
 - are familiar with the safety regulations relating to handling motor vehicles and transport goods,
 - are able to recognize the possible dangers of motor vehicles and take appropriate measures to safeguard persons and property.
- Ensure that personnel entrusted with operation, maintenance and transporting 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. 54 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.

3.4.4 Taking the machine for general inspection

To ensure safety on public roads, every vehicle owner is obliged to have his vehicle inspected in regular intervals. A trailer will be inspected to determine if it is road-worthy and compliant with safety standards.

Take the machine as trailer to an approved inspection authority in specified intervals for general inspection pursuant to Section 29 of the German Road Traffic Safety Act (or the corresponding national authority).

These intervals are determined by:

- Date of initial registration of the machine as trailer on public roads
- Permissible overall weight of the trailer

1. Take the machine for general inspection at due date.

General inspection intervals:

Machine weight [lb]	≤ 1650	< 7700	> 7700
1. Inspection interval after initial registration			
Interval [months]	36	24	12
Further inspection intervals			
Interval [months]	24	24	12

Tab. 55 General inspection intervals

3.4.5 Documenting the mileage of the machine as trailer

The miles of the machine actually travelled as a trailer with the towing vehicle are the determining factor for maintenance tasks at the chassis. To record the actually travelled mileage, we recommend that you maintain a logbook for the machine. This allows you document the actually travelled mileage of the machine as trailer even when different towing vehicles are used and to complete any maintenance tasks in a timely manner.

1. Create a logbook for the machine as trailer.
2. Enter all longer transports of the machine in a logbook.
3. Carry out (or have carried out) maintenance of the chassis according to the corresponding maintenance plan.

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

Exhaust fumes

Exhaust gases from combustion engines contain carbon monoxide, a color- and odor- less but highly toxic gas. The inhalation of minute quantities can be lethal.

Furthermore, diesel exhaust contains soot particles, some of which are noxious.

- Do not inhale exhaust fumes.
- Park the machine in such a manner that the exhaust cannot blow towards the operators.
- Never use the machine in enclosed spaces, only in the open.

Fire and explosion

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

- Do not allow open flames or sparks at the place of use.
- Do not smoke while refueling.
- Never refuel the machine when it is running.
- Do not allow fuel to overflow.
- Wipe up spilled fuel immediately.
- Provide a fire extinguisher in the immediate vicinity.
- For operation in combustible environment, fit the machine with an exhaust silencer (Option Ia).

Hot coolant

The cooling system of a liquid-cooled engine at running temperature is under high pressure. Coolant can spray out when the filler cap is opened causing severe burns.

- Let the machine cool down before opening the cooling system.
- Unscrew the filler cap carefully by a quarter to half a turn at first. Remove the filler cap only when pressure has escaped completely.

Electricity

Touching voltage-carrying components can result in electric shocks, burns, or 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.
- Check regularly that all electrical connections are tight and in proper condition.
- Switch off any external power sources.
For example, the connections to the electrical engine cooling water pre-heater.

Forces of compression

Compressed air is contained energy. Uncontrolled release of this energy can cause serious injury or death. The following information concerns work on components that could be under pressure.

- Wait until the compressor has automatically vented. (Check the pressure gauge: it 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.

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 (fresh air reinforcement) and/or for the processing of food products.
- Use food-grade cooling oil whenever compressed air is to come into contact with food products.

Spring forces

Springs under tension or compression store energy. Uncontrolled release of this energy can cause serious injury or death.

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

- Do not open or dismantle any valves.

Rotating components

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

- Do not open the access doors or panels while the machine is running.
- Switch off and lock out the machine and check that no voltage is present before opening the access doors or canopy.

- Wear close-fitting clothes and a hair net if necessary.
- Ensure that all covers and safety guards are in place and secured before restarting.

Temperature

The operation of the combustion engine and the compression generate high temperatures. Touching hot components may cause injuries.

- Avoid contact with hot components.
These include, for example, engine, compressor airend, oil and compressed air lines, coolers, and oil separator tank. Any objects in or near the flow of exhaust gas or discharged cooling air will become very hot.
- 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 bodywork is closed.

- Operate the machine only with closed bodywork and intact sound insulation.
- Wear hearing protection if necessary.
The blowing-off of the safety relief valve can be particularly loud.
- Never generate compressed air without air 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 fuel, lubricants, antifreeze, and chemical substances.
- Avoid contact with skin and eyes.
- Do not inhale fumes or vapors from fuel or oil.
- Do not eat or drink while handling fuel, cooling and lubricating fluids, or antifreeze.
- 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.
- Use only genuine KAESER replacement parts on pressure bearing parts.

Conversion or modification of the machine

Modifications, additions to, or conversions 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.
- Obtain written approval by the manufacturer prior to any technical modification or expansion of the machine or controller.

3.5.2 Save handling of the DEF reduction agent

⚠ WARNING

Ammonia fumes!

When DEF (Diesel Exhaust Fluid) is heated beyond 122° F for some time, it may decompose resulting in Ammonia fumes.

Ammonia fumes can cause severe health damage.

- *Replenish DEF only when the machine has cooled down.*
- *Do not inhale DEF fumes.*

Handling DEF contaminated with foreign matter:

Individual components of the SCR system will react very sensitively to even the smallest traces of contaminants in DEF.

- Always use clean containers and bowls reserved for this purpose when handling DEF.
- Do not use DEF containing contaminant traces. Dispose of the contaminated liquid according to environmental protection regulations.

Handling fluids contaminated with DEF:

Fluids contaminated with DEF may cause damage to the machine's components.

For example, a small amount of DEF in the cooling water circuit will damage thermostats and sensors.

- Ensure that DEF is stored separately from other fluids such as fuel, coolants and lubricants as well as hydraulic and brake fluids, and that it is never used in the same containers and bowls.
- Do not use any fluids containing traces of DEF. Dispose of the contaminated fluids according to environmental protection regulations.

3.5.3 Safe machine operation

The following is information supporting you in the safe handling of the machine during individual product life phases.

Personal protective equipment

When working on the machine you may be exposed to dangers that can result in accidents with severe adverse health effects.

- Wear protective clothing as necessary.

Suitable protective clothing (examples):

- Safety work wear
- Protective gloves
- Safety boots

- Eye protection
- Ear protection

3.5.3.1 Transport

The weight and size of the machine require safety measures during its transport to prevent accidents.

- Allow transport only by personnel trained in safely dealing with motor vehicles and the transport of goods.
- Ensure that no persons are on the machine when transporting.

Transport as trailer

Non-compliance with the basic rules for a safe trailer operation may cause severe accidents during machine transport.

- The maximum permissible load for the towing vehicle coupling and the maximum coupling load given for the machine must not be exceeded.
- Avoid causing a shift in the centre of gravity by an excessive or incorrectly distributed load.
- Do not tow in such a way as to impose excessive stress on the machine or chassis.
- Adjust towing speed to accommodate ground and weather conditions. This applies particularly to unpaved roads and when taking curves.
- The towbar must be parallel with the ground otherwise towing instability can develop, resulting in damage to the machine and/or towing vehicle.
- Before moving the machine, make sure any security devices (e.g. anti-theft chain) are released.

Transport as trailer on public roads

- Do not tow machines without service brake on public roads.
- Do not tow machines without illumination and signaling equipment on public roads.
- Ensure all running gear, including chassis, wheels, brakes, signalling and lighting, is in safe condition.
- The local laws and regulations regarding the use of public roads must be observed.

Transporting with a crane

Non-compliance with the safety regulations for load suspension and hoisting equipment may cause severe accidents during lifting and moving the machine with cranes.

- Do not enter the danger zone while the machine is being lifted.
- Never lift and move the machine over people or occupied buildings.
- Avoid extreme weight shifting caused by additional loads or additions (tilting).
- Do not exceed the lifting capacity on the machine's lifting point (lifting eye).
- Only the designated lifting point should be used to attach lifting gear and under no circumstances are handles, tow-bar or other components to be used.
- Use only hooks and shackles that comply with local safety regulations
- Do not attach cables, chains or ropes directly to the machine's lifting eye.
- Do not manipulate the crane suspension system, in particular the holding points of the crane lifting eye.

- If screwed crane fixings had to be removed, please use only new self-locking nuts when installing.
- Avoid jerking when lifting, as this may damage components.
- Loads must be slowly lifted and carefully set down.
- Never allow the load to hang from the crane longer than necessary.



The following are forbidden:

- Air transport of the machine by slinging beneath a helicopter.
- Dropping the machine by parachute.

3.5.3.2 Installation



The operator must ensure that only authorised personnel has access to the machine.

General instructions

A suitable installation location for the machine prevents accidents and faults.

- Do not position the machine under roofs or coverings. A build up of heat from the exhaust can damage the machine.
- Ensure accessibility so that all work on the machine can be carried out without danger or hindrance.
- Do not operate in areas in which specific requirements with regard to explosion protection are in force.
For instance, the requirements of ATEX directive 94/9/EC "Equipment and Protective Systems intended for use in Potentially Explosive Atmospheres".
- Ensure adequate ventilation.
- Place the machine in such a manner that the working conditions in its environment are not impaired.
- Comply with limit values for ambient temperature and humidity.
- The intake air must not contain any damaging contaminants,

Damaging contaminants are for instance:

- Exhaust gases from combustion engines,
 - Combustible, explosive or chemically unstable gases or vapours,
 - Acid- or base-forming chemicals such as ammonia, chlorine, or hydrogen sulphide.
- Do not position the machine in the warm exhaust air flow from other machines.
 - Keep suitable fire extinguishing agents ready for use.

Parking the machine:

Improper parking and use of the parked machine endangers personnel and material.

- To park the machine, select an even and solid surface which is capable of bearing the machine's weight.
- Move the machine only with a towing vehicle.
- Secure the parked machine:

- Lower the prop stand / wind down the jockey wheel.
- Chock the wheels to prevent unwanted movement.
 - Place chocks under the wheels.
 - Pull on the parking brake.
- Unauthorised persons must not be present in the parking area of the machine. The parking area must be properly secured.
- The machine – the chassis and the towing mechanism in particular – must not be stepped on or used for sitting.
- Do not place additional loads on the machine (e.g. excavator bucket as anti-theft measure).

3.5.3.3 Commissioning, operation and maintenance

During commissioning, operation and maintenance you may be exposed to dangers resulting from, e.g., electricity, pressure and temperature. Careless actions can cause accidents with severe adverse effects for your health.

- Allow maintenance work to be carried out only by authorised personnel.
- Wear close-fitting, flame-resistant clothing. Wear protective clothing as necessary.
- Switch off the machine and lock out the supply disconnecting device.
- De-pressurise all pressurised components and enclosures.
- Wait until the machine has automatically vented.
- Carefully open the compressed air outlet valve.
- Check: The pressure gauge must read 0 psig!
- For maintenance and repair work, isolate machines with "automatic start/stop" (Option ob) from the compressed air network and secure against automatic start.
- Allow the machine to cool down.
- Do not open the body while the machine is switched on.
- Do not open or dismantle any valves.
- Use only spare parts approved by KAESER for use in this machine.
- Operate the machine only in technically sound condition.
- Carry out regular inspections:
 - for visible damage and leakage,
 - of safety devices,
 - of the EMERGENCY STOP device,
 - of parts needing monitoring.
- Pay particular attention to cleanliness during all maintenance and repair work. Cover components and openings with clean cloths, paper or tape to keep them clean.
- Do not leave any loose components, tools or cleaning rags on or in the machine.
- Components removed from the machine can still be dangerous.
Do not attempt to open or destroy any components taken from the machine.
- Self-locking nuts removed for the installation must not be reused but replaced by new nuts, because the non-positive safety is no longer ensured.
- Use only suitable compressed air hoses.

Compressed air hoses must meet the following requirements:

- they are of the right type and size for the highest permissible machine working pressure,
 - they are not damaged, worn or of reduced quality,
 - they have couplings and connections of the right type and size.
- Wear protective gloves when connecting or disconnecting compressed air hoses.
 - Make sure compressed air hoses are de-pressurised before disconnecting from the machine.
 - Secure the open end of an air hose before applying air pressure. An unsecured hose may whip and cause injury.
 - At working pressures >100 psi, compressed air hoses should be secured by a cable to their respective outlet valves.
 - Connect and operate only suitable air tools.
- The air tools must meet the set output pressure of the machine.
 - Use a pressure reducer for air tools requiring a lower pressure.
 - Use compressed air tools only with the pressure appropriate for its purpose (tool working pressure).

3.5.3.4 De-commissioning, storage and disposal

Improper handling of old operating fluids and components represent a danger for the environment.

- Drain off fluids and dispose of them according to environmental regulations. These include, for example, fuel, engine oil and compressor cooling oil and engine coolant.
- Dispose of the machine in accordance with local environmental regulations.

3.5.4 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.

3.5.5 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.	Maintenance personnel
	Within a 3 ft radius of the machine.	
Operation	Within a 3 ft radius of the machine.	Operating personnel
Maintenance	Within the machine.	Maintenance personnel
	Within a 3 ft radius of the machine.	

Tab. 56 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 Safety signs

The tables list the various safety signs used and their meanings. The figures show the position of the safety signs on the machine, inside and outside.



During cleaning or maintenance work, a check should be made that safety signs have not been removed or obliterated. Have missing or illegible signs replaced!

Safety signs outside

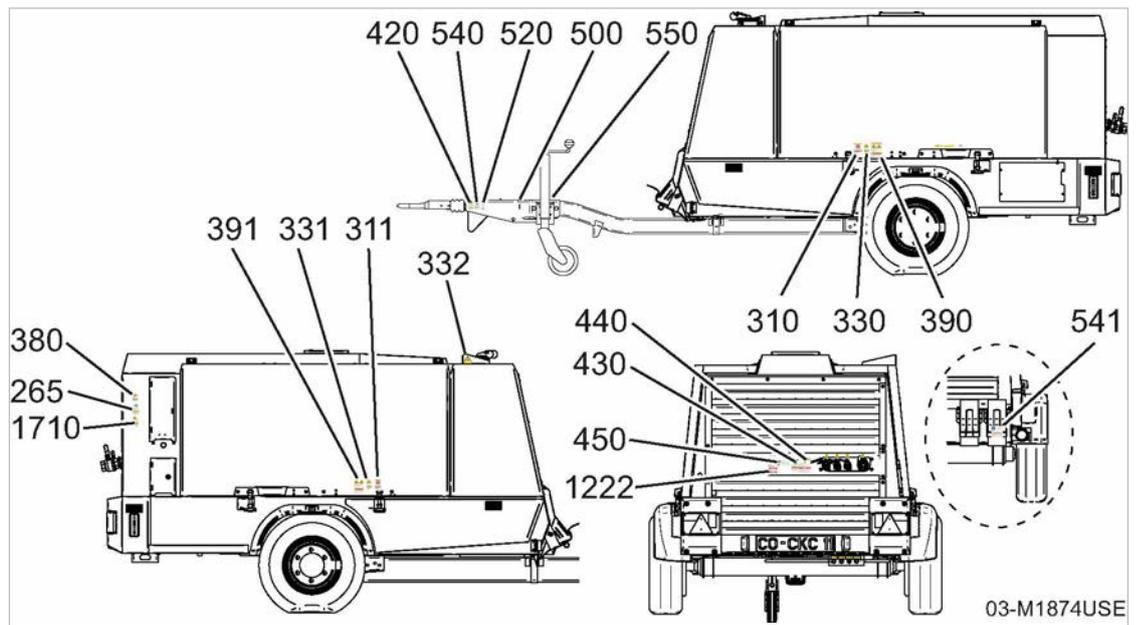


Fig. 3 Location of safety signs (outside)

Location	Sign	Meaning
265		<p>Caution!</p> <p>Injury and/or machine defects caused by improper use!</p> <ul style="list-style-type: none"> ➤ Maintenance should be performed by properly trained personnel only. ➤ Read and understand manual and all safety labels before switching the machine on. ➤ Never remove or cover safety labels.
310 311		<p>Warning!</p> <p>Injury or damage from open machine!</p> <ul style="list-style-type: none"> ➤ Operate the machine only when closed. ➤ Transport the machine only when closed.
330 331 332		<p>Caution!</p> <p>Hot surface can cause burns!</p> <p>Risk of burns caused by contact with hot components!</p> <ul style="list-style-type: none"> ➤ Let the machine cool down. ➤ Do not touch the surface. ➤ Wear long-sleeved garments (no synthetics such as polyester) and protective gloves.
380		<p>Danger!</p> <p>Toxic gases in work area!</p> <ul style="list-style-type: none"> ➤ Operate machine outdoors only. ➤ Ensure exhaust gases are vented to the outdoors. ➤ Do not inhale dangerous gases.
390 391		<p>Warning!</p> <p>Rotating fan blades and V-belt drive!</p> <p>Severe injury could result from touching the fan blades and V-belt drive while it is rotating.</p> <ul style="list-style-type: none"> ➤ Never switch the machine on without guard in place over the fan blade. ➤ Isolate completely from the power supply (battery isolating switch) and ensure the supply cannot be switched on again.
420		<p>Caution!</p> <p>Injury or damage can result because tongue weight on this equipment maybe heavy!</p> <ul style="list-style-type: none"> ➤ Do not lift drawbar by hand if weight is more than you can safely handle. ➤ See safety section of service manual.

(1) Only portable machines

(2) Only machines with option dc,

(3) Only machines with option ob

Location	Sign	Meaning
430		<p>Warning!</p> <p>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.</p>
440		<p>Danger!</p> <p>Compressed air quality!</p> <p>Injury and/or contamination can result from breathing compressed air. Contamination of food can result from using untreated compressed air for food processing.</p> <ul style="list-style-type: none"> ➤ Never breathe untreated compressed air! ➤ Air from this compressor must meet OSHA 29 CFR 1910.134 and FDA 21 CFR 178.3570 standards, if used for breathing or food processing. Use proper compressed air treatment. ➤ Food grade coolant must be used for food processing.
450		<p>Warning!</p> <p>Loud noise and compressed air blast!</p> <p>Damage to hearing and injury if ball valve is opened without a compressed air hose being connected.</p> <ul style="list-style-type: none"> ➤ Connect a compressed air hose. ➤ Open the ball valve.
500		<p>Warning!</p> <p>Towbar load and ground clearance!</p> <p>Danger of fishtailing, incorrect towing vehicle load, damage to the machine caused by rollover or contact with the ground.</p> <ul style="list-style-type: none"> ➤ Always line up the towbar so that the machine is level with the ground.
520		<p>Warning!</p> <p>Always use safety chains!</p> <p>Chains hold trailer if connection fails.</p> <p>You must:</p> <ul style="list-style-type: none"> ■ Cross chains underneath coupling. ■ Allow slack for trailer to turn. ■ Attach chain hooks securely to tow vehicle frame.

⁽¹⁾ Only portable machines

⁽²⁾ Only machines with option dc,

⁽³⁾ Only machines with option ob

Location	Sign	Meaning
540 ⁽¹⁾		<p>Warning!</p> <p>Machine without breaks!</p> <p>Serious injury or death may result from uncontrolled movement when the unit is not safeguarded by chocks.</p> <ul style="list-style-type: none"> ➤ Always use chocks before uncoupling and generally when the unit is not in motion. ➤ Do not move unit manually.
541 ⁽¹⁾		<p>Warning!</p> <p>Missing chock!</p> <p>Serious injury or death may result from uncontrolled movement when the unit is not safeguarded by chocks.</p> <ul style="list-style-type: none"> ➤ Always fix chock for proper storage. ➤ Always replace missing chock immediately.
550		<p>Danger!</p> <p>Uncontrolled tensioning of the breakaway cable!</p> <p>Danger of accident caused by travelling with the trailer parking brake applied.</p> <ul style="list-style-type: none"> ➤ Never attach the breakaway cable to anything but the tow coupling to prevent unintentional tensioning when under way. ➤ Make sure the breakaway cable is not under tension. ➤ Ensure that the breakaway cable is fed through the cable guide.
1222 ⁽²⁾		<p>Danger!</p> <p>Fresh air filter.</p> <p>Death or serious injury can result from breathing CO, CO₂ and toxic gas.</p> <ul style="list-style-type: none"> ➤ Draw in only surrounding air of breathing quality.
1710 ⁽³⁾		<p>Caution!</p> <p>Machine starts automatically!</p> <p>Severe injury can result from rotating components, electrical voltage and air pressure.</p> <ul style="list-style-type: none"> ➤ Isolate completely from the power supply (battery isolating switch) and ensure the supply cannot be switched on again. ➤ Check that no voltage is present.

⁽¹⁾ Only portable machines
⁽²⁾ Only machines with option dc,
⁽³⁾ Only machines with option ob

Tab. 57 Safety signs (outside)

Safety signs inside

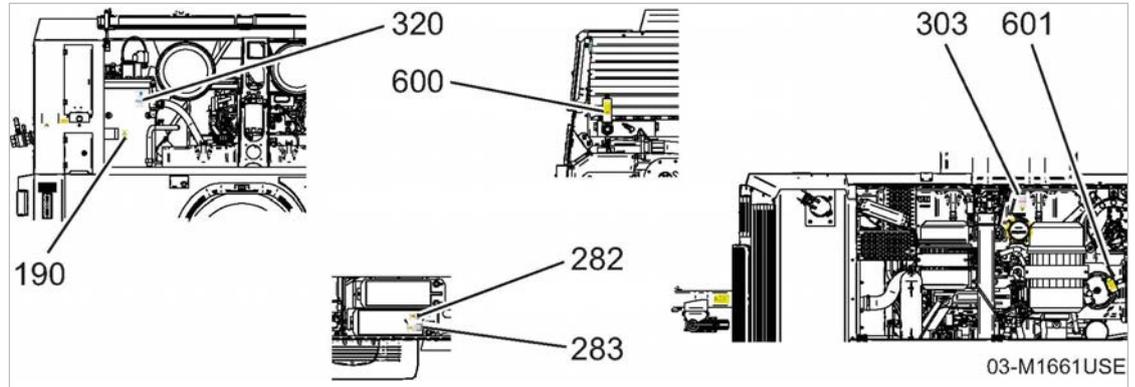


Fig. 4 Location of safety signs (inside)

Location	Sign	Meaning
190		<p>Caution!</p> <p>Wrong cooling oil level!</p> <p>Risk of machine defects or rising oil consumption (oil content for pure air).</p> <ul style="list-style-type: none"> ➤ Check cooling-oil level. ➤ Run the machine only with proper cooling-oil level.
282		<p>Danger!</p> <p>Explosive hydrogen gas!</p> <p>Severe injury or death could result from exploding gas.</p> <ul style="list-style-type: none"> ➤ Keep flames, sparks, and other sources of ignition away.
283		<p>Warning!</p> <p>Battery contains acid!</p> <p>Severe injury result from contact with battery acid.</p> <ul style="list-style-type: none"> ➤ Do not allow battery acid to contact eyes, skin, clothing, or painted surfaces. ➤ Do not attempt to jump-start if battery fluid is frozen. ➤ Due to risk of explosion, please ensure that you bring the battery up to a temperature of at least 60°F before attempting a jump start.
303		<p>Danger!</p> <p>Fire or explosion caused by refueling!</p> <p>Severe injury or death result from inflaming fuel.</p> <ul style="list-style-type: none"> ➤ Use diesel fuel only. ➤ NEVER attempt to refuel the compressor while it is operating. ➤ Always replace fuel filter cap after refueling. ➤ Always wipe up fuel spills which may occur inside the compressor enclosure and allow the machine to ventilate.

Location	Sign	Meaning
320		Warning! Loud noise and oil mist when safety relief valve opens! Ear damage and burns can result. ➤ Wear ear protection and protective clothes. ➤ Close all maintenance doors and cover panels. ➤ Work carefully.
600 601		Warning! Pressure and spring force! Serious injury or death can result from loosening or opening component that is under pressure and heavily spring loaded. ➤ Never open (dismantle) valve. ➤ Contact an authorized KAESER service representative.

Tab. 58 Safety signs (inside)

3.8 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.

3.9 Option ga Generator operation

3.9.1 Comply with the protective measures against dangerous electric current

Protection against dangerous electric current is regulated by the "Low-voltage current generating installations" directive IEC 60364–5–551 (DIN VDE 0100–551).

The protective measure concerning "isolation, insulation monitoring and shut-down" is applied. The generator is equipped with an automatic mains cut-out with overcurrent release and insulation monitoring in accordance with this protective measure.

- Observe and follow the regulations concerning protection against dangerous electric current when using the generator.

3.9.2 Safe generator operation

Take note of the following to ensure the safe operation of the machine with a generator:

- Check correct function of the insulation monitoring device daily.
- Do not earth the neutral line (N) or connect it to the common protective earth/equipotential bonding (PE).
- Make sure the equipotential bonding to earth is properly carried through (mains and machine through cable to consumer).
- If the generator feeds a network (TN network), let the network's protective measures remain effective or create another protective measure that is effective.
- Adjust the protective measures accordingly if the generator feeds a different network.
- Only a qualified electrician is allowed to carry out work on the generator or generator control box. The electrician is responsible for the effectiveness of the protective measures provided.
- Do not use the generator for feeding the construction current distribution.
- A generator with insulation monitoring must not be connected to another insulation monitoring device as these monitoring devices can then have counter effects.
- Ground fault current (F1) protection switches do not function in unearthed networks (IT network such as provided by the generator). The isolation provided by the generator, however, makes a further ground fault current protection switch unnecessary.
- Follow the regulations of the local electricity supply utility and obtain any necessary permits.
- When cleaning the inside of the machine do not direct water or steam jets directly at the generator or terminal box.
- Check regularly that all electrical connections are tight and in proper condition.

3.9.3 Connecting extension cables

- When operating the generator, observe the regulations regarding the connection of extension cables.

Bear in mind:

- In IT networks, the total length of power cables may not exceed 250 m (DIN VDE 0100, Part 728 / IEC 60364-5-551).
- Use at least H07RN-F cables to DIN VDE 0282 Part 4 (IEC 60245-4 / HD 22.4) as non-fixed extension cables.

3.9.4 Do not exceed the maximum supply system load

- When operating the generator, do not exceed the maximum supply system load due to connected consumers.

Bear in mind:

- The power consumption values of simultaneous consumers are added.
- The maximum continuous power loading on the generator by the connected consumers is limited by the safety cut-out.

3.9.5 Perform regular generator inspections

To ensure a safe operation, the machine must be subjected to regular inspections.

Daily inspection prior to activating the device by authorised operating personnel:

- Insulation monitor function check.

Annual inspection by trained and authorised electrician:

- Inspect the generator and generator control cubicle for mechanical damages.
- Inspect the protective conductor.
- Measure the dielectric resistance.
- Measure the substitute leakage current.
- Test the generator functionality.
- Test the proper functioning of the generator fan and clean, if required.
- Clean the cooling air openings.
- Check and tighten the screw connections at the generator and the generator control cubicle.
- Check covers and power socket caps for damage and good sealing.
- Check the completeness of labeling and warning labels.

3.10 Emergencies

3.10.1 Correct actions in the event of a fire

Suitable extinguishing media:

- Foam
- carbon dioxide
- Sand or earth

Unsuitable extinguishing agents:

- Strong jet of water

1. Keep calm.
2. Give the alarm.
3. If possible: Turn off engine using control devices.
4. Make safe:
 - Warn persons in danger
 - Help incapacitated persons
 - Close the doors
5. When trained accordingly: Attempt to extinguish the fire.

3.10.2 Treating injuries from handling operating fluids/materials

The following operating fluids/materials are in the machine:

- Fuel
- Lubricating oils
- Compressor cooling oil
- Engine coolant
- Battery electrolyte
- Reduction agent

Eye contact:

Fuel, oil and other fluids/materials can cause irritation.

- Rinse eyes thoroughly with lukewarm water and seek medical assistance immediately.

Skin contact:

Fuel, oil and other fluids/materials may irritate after prolonged contact.

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

If inhaled:

Fuel and oil vapours impair breathing.

- Clear the respirator tract from fuel or oil vapour.
Any difficulty with respiration: seek immediate medical help.

If swallowed:

- 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 modules are designed according to applicable regulations and are submitted for approval procedures by the relevant authorities (where applicable).

Concerned modules include:

- Engine
- Fuel system
- Exhaust system
- Chassis (if available)
- Compressor
- Pressure-bearing components (e. g., valves, vessels, pipelines)

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

The concerned directives and regulations can be:

- Machinery directive
- Pressure vessel directive
- EMC Directive
- Directive on environmental noise

In machines requiring a national road traffic permit, remodeling or modifications may adversely affect their approval for road traffic.

- Exhaust emission limits may not be met.
- The prerequisites for approval are no longer given.

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

- Warranty (if directly and originally affected by the remodeling or modification)
- Reduced replacement part supply (scope, delivery times)
- SIGMA CONTROL MOBIL:
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 fluids/materials to escape into the environment or into the sewage system!
- Store and dispose of operating fluids/materials and replaced parts in accordance with local environment protection regulations.
- Observe relevant national regulations.
This applies particularly to parts contaminated with fuel, oil, coolants, reduction agents and acids.



For the emission output of the corresponding engine class to always comply with applicable requirements, the drive engine must only be operated, used and maintained in accordance with instruction provided to the end user.

Do not intentionally manipulate the engine management of the drive engine or operate it improperly or carry out deficient maintenance measures.

Intentional manipulations of the emission reduction system and its improper operation, especially deactivation or deficient maintenance of the exhaust gas after-treatment system or individual exhaust gas after-treatment components are not permitted.

Possible exhaust gas after-treatment components (if provided):

- Components for the reduction of particle emission
 - Diesel oxidation catalytic converter
 - Diesel particulate filter
- Components for the reduction of nitrogen oxide emissions
 - SCR catalytic converter with reduction agent addition

4 Design and Function

4.1 Bodywork

Bodywork is understood to be the exterior of the machine mounted on the chassis.

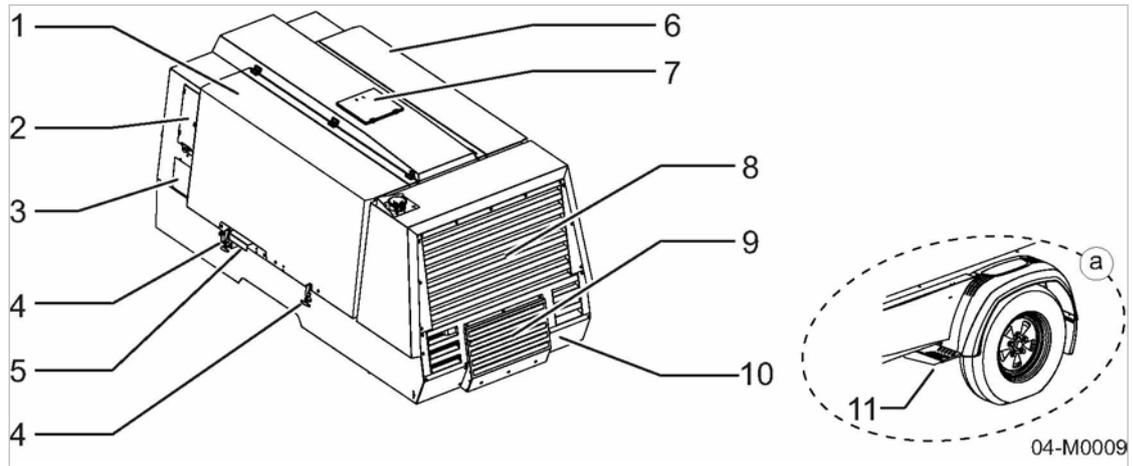


Fig. 5 Overview of bodywork

- | | | | |
|---|--|---|---------------------------------------|
| ① | Right-hand wing door | ⑦ | Cover for lifting eye |
| ② | Instrument panel, control cabinet key fixed within | ⑧ | Sound damping louver, air outlet grid |
| ③ | Fuelling panel filler plug, reduction agent tank | ⑨ | Emission after-treatment cover grid |
| ④ | Snap fastener | ⑩ | Lower body |
| ⑤ | Handle | Ⓐ | Detail: mobile machine |
| ⑥ | Left-hand wing door | ⑪ | Ascent support (climbing aid) |

The bodywork has several functions when it is closed:

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

The bodywork is 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.

⚠ CAUTION

Pinch hazard!

Risk of serious pinch injury to fingers when closing doors and covers.

- *Work with caution.*
- *Wear protective gloves as necessary.*

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

The lift-up doors are held open by gas springs. Release the doors by the snap fasteners.

The filler neck for the reduction agent tank is located at the right side of the machine underneath the operating panel cover. It is hidden behind a fuelling panel which is secured by a lock.

The cover of the lifting eye is also secured with a lock.

Mobile machine:

The mobile machine is equipped with a climbing aid (11) at the bottom on both sides (right and left). The climbing aid (step) serves to securely reach the lifting eye to hook the crane hook in or unhook it, if needed.

4.2 Machine layout

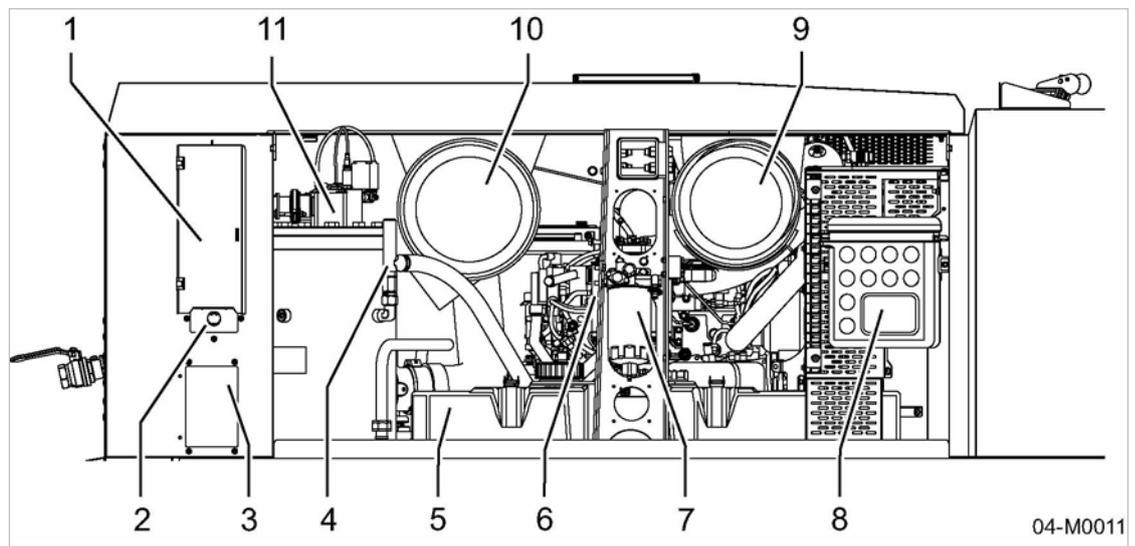


Fig. 6 Right-hand door opened

- | | | | |
|---|---|---|--|
| ① | Control panel (cover closed) | ⑦ | Fuel filter with water trap |
| ② | «EMERGENCY STOP» key | ⑧ | Document bag |
| ③ | Reduction agent tank filler neck (cover closed) | ⑨ | Engine air filter |
| ④ | Safety valve | ⑩ | Compressor air filter |
| ⑤ | Fuel tank | ⑪ | Control valve with proportional controller |
| ⑥ | Fuel filter | | |

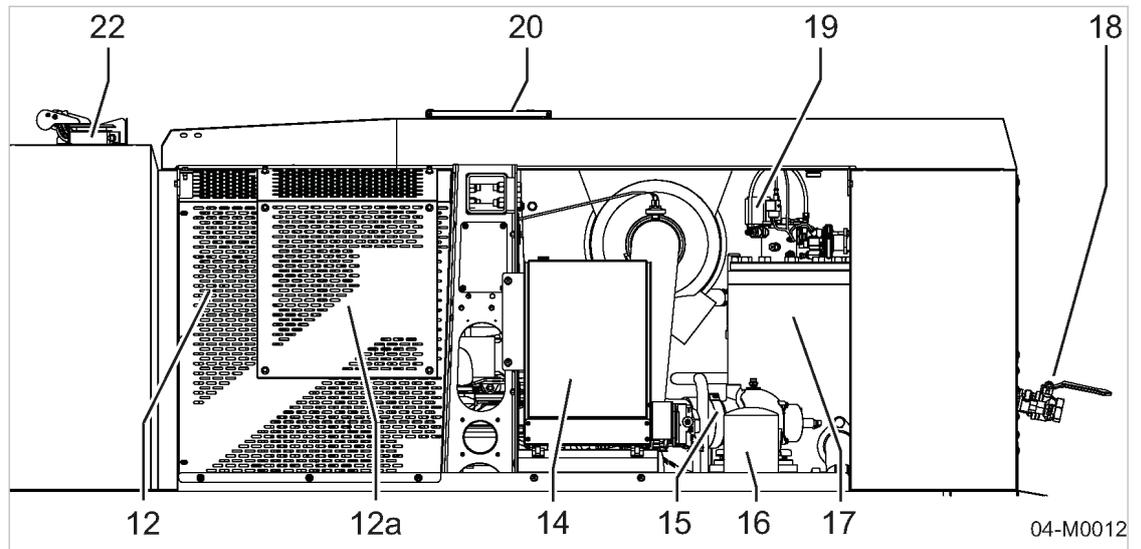


Fig. 7 Left-hand door opened

- | | | | |
|-----|-----------------------|----|----------------------------|
| 12 | Safety screen | 17 | Oil separator tank |
| 12a | Grille access door | 18 | Compressed air consumption |
| 14 | Control cabinet | 19 | Proportional controller |
| 15 | Compressor block | 20 | Cover for lifting eye |
| 16 | Compressor oil filter | 22 | Cover, exhaust discharge |

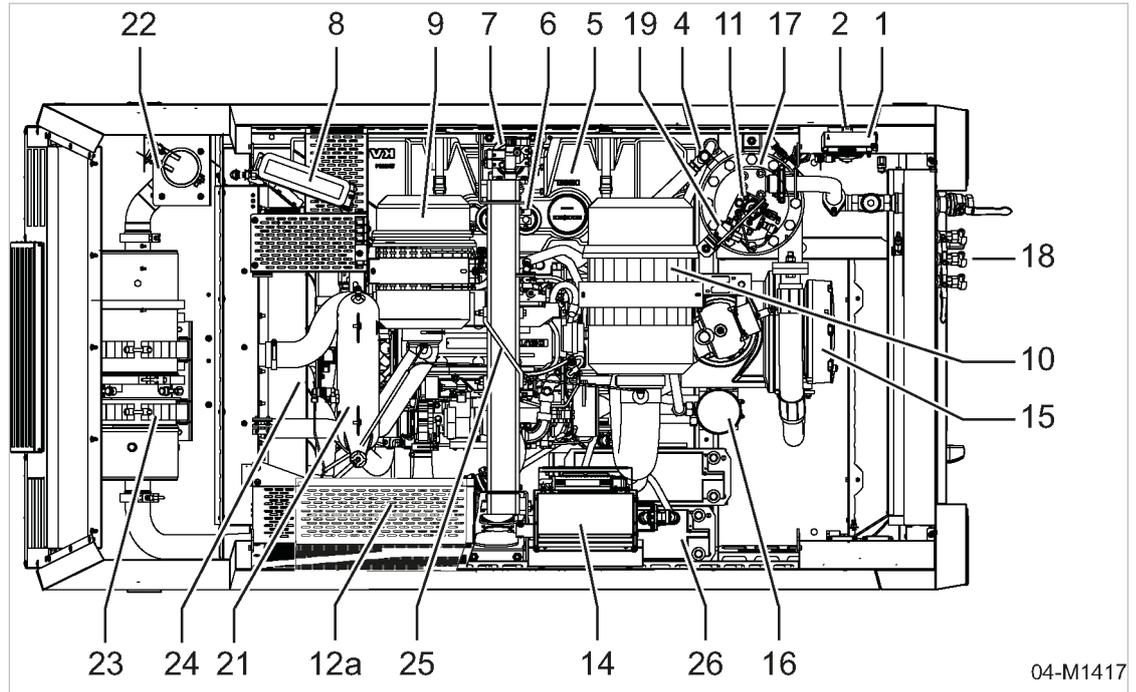


Fig. 8 Machine from above, roof removed

- | | |
|--|--------------------------------|
| ① Control panel (cover closed) | ⑮ Compressor block |
| ② «EMERGENCY STOP» push button | ⑯ Oil filter |
| ④ Safety valve | ⑰ Oil separator tank |
| ⑤ Fuel tank | ⑱ Proportional controller |
| ⑥ Fuel filter | ⑲ Cooling water expansion tank |
| ⑦ Fuel filter with water trap | ⑳ Cover, exhaust discharge |
| ⑧ Document bag | ㉑ Emission after-treatment |
| ⑨ Engine air filter | ㉒ Fan |
| ⑩ Compressor air filter | ㉓ Lifting eye |
| ⑪ Control valve with proportional controller | ㉔ Batteries |
| ⑫a Grille access door | |
| ⑭ Control cabinet | |

Machine from beneath, drain ports for operating fluids:

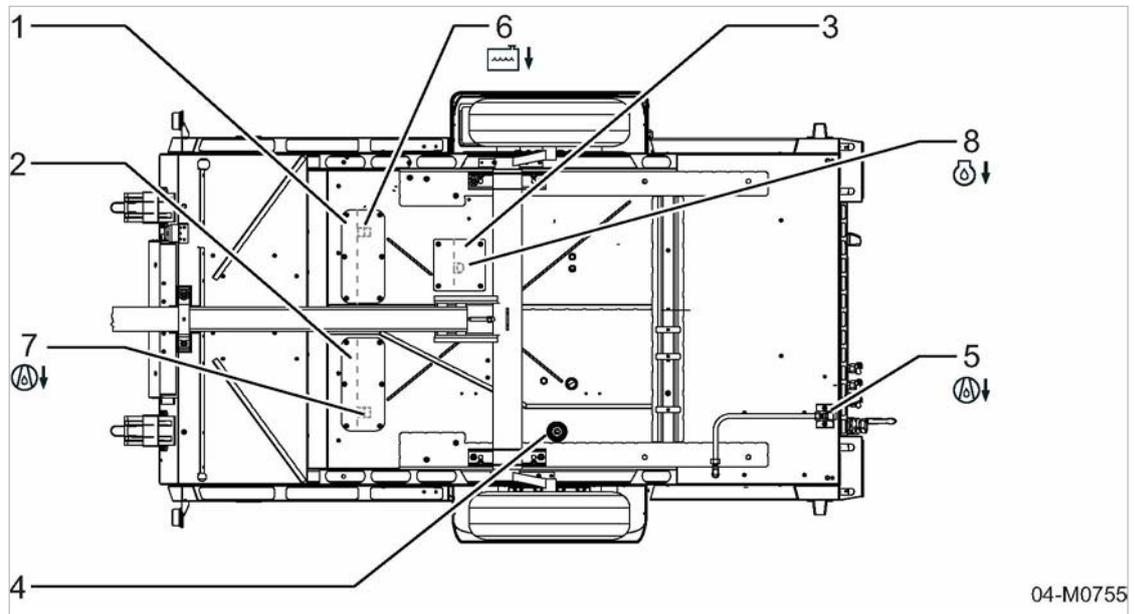


Fig. 9 View from beneath

- | | | | |
|---|---|---|--------------------------------------|
| ① | Service opening of water cooler, with sheet metal cover closed | ⑤ | Oil separator tank drain, compressor |
| ② | Service opening of compressor oil cooler, with sheet metal cover closed | ⑥ | Engine cooling water drain |
| ③ | Service opening engine oil, with sheet metal cover closed | ⑦ | Oil cooler drain, compressor |
| ④ | Fuel tank drain port, closed with bung | ⑧ | Engine oil drain |

4.3 Machine function

Machine function (without options)

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

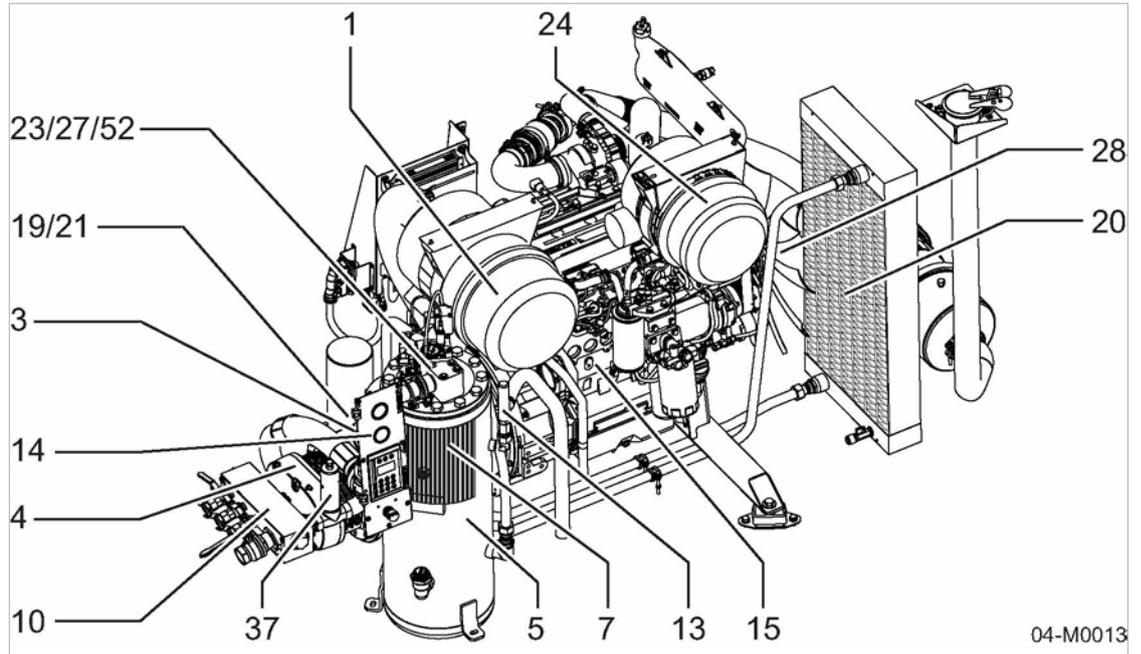


Fig. 10 Machine overview

- | | |
|--|--|
| ① Compressor air filter | ⑲ Thermostatic valve (oil temperature control) |
| ③ Inlet valve | ⑳ Oil cooler |
| ④ Airend | ㉑ Oil filter |
| ⑤ Oil separator tank | ㉒ Proportional controller |
| ⑦ Oil separator cartridge | ㉓ Motor air filter |
| ⑩ Air distributor | ㉔ Venting valve |
| ⑬ Safety relief valve | ㉕ Fan |
| ⑭ Pressure gauge (on the instrument panel) | ㉖ Minimum pressure check valve |
| ⑮ Engine | ㉗ Control valve |

Ambient air is cleaned as it is drawn in through the filter ①.

The air is then compressed in the airend ④.

The airend is driven by an internal combustion engine ⑮.

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

Cooling oil recovered from the compressed air in the oil separator tank ⑤ gives up its heat in the oil cooler ⑳. The oil then flows through the filter ㉑ and back to the point of injection. Air pressure within the machine keeps the oil circulating. A separate pump is not necessary. A thermostatic valve ⑲ regulates and optimizes the cooling oil temperature.

Compressed air, freed of cooling oil in the oil separator tank ⑤, flows through the minimum pressure check valve ㉖ into the air distributor ⑩. The minimum pressure check valve ensures sufficient internal pressure to maintain cooling oil circulation.

The cooling fan ㉕ ensures optimum cooling of all components within the enclosure.

4.4 Operating modes and control mode

4.4.1 Machine operating modes

The machine operates in the following modes:

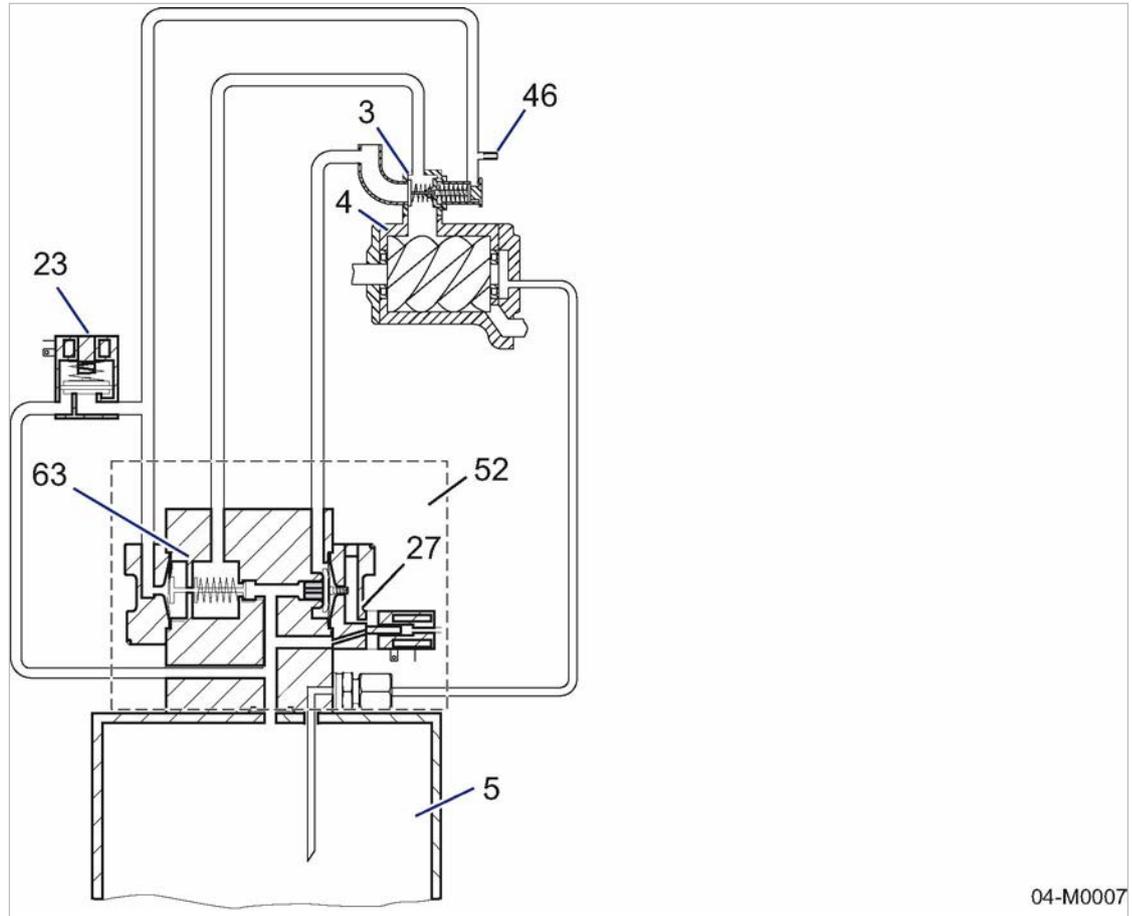
- **WARM-UP**
 - The inlet valve is nearly fully closed.
 - The minimum intake air volume escapes via the venting valve.
 - The engine runs at minimum speed.
- **LOAD**
 - The inlet valve is open.
 - The engine runs at maximum speed.
 - The airend delivers compressed air.
- **MODULATING**
 - With the help of a control valve (the proportional controller) the degree of opening of the inlet valve is continuously varied in response to the air demand.
 - The load and fuel consumption of the engine rises and falls with the air demand.
 - The airend delivers compressed air.
- **IDLE**
 - The inlet valve is closed.
 - The control valve opens, allowing pressure in the oil separator tank to be applied to the inlet valve.
 - Compressed air then flows in a closed circuit through the airend, the oil separator tank and the control valve.
 - The pressure in the oil separator tank remains constant.
 - The engine runs at minimum speed.
- **RUN-ON PERIOD/STANDSTILL**
 - The inlet valve closes.
 - The venting valve opens to depressurize the machine.
 - Machine cools down.
 - The engine stops.

4.4.2 MODULATING control

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 fuel consumption of the engine. The load and fuel consumption of the engine rises and falls with the air demand.



04-M0007

Fig. 11 Continuous regulation of FAD (standstill)

- | | |
|---------------------------------------|---------------------------------------|
| ③ Inlet valve | ②⑦ Venting valve |
| ④ Air end | ④⑥ Nozzle |
| ⑤ Oil separator tank | ⑤② Control valve |
| ②③ Proportional controller (electric) | ⑥③ Control valve (proportional valve) |

4.5 Safety devices

4.5.1 Monitoring functions with shutdown

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

The SIGMA CONTROL MOBIL saves the alarm message in the message memory.

Further information Further information on alarm messages at the controller 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 for immediate shutdown of the machine. The engine comes to a stop. The pressure system is vented.

- Safety relief valves:
Safety relief valves protect the system against unacceptable pressure rise. They are factory set.
- Enclosures and guards for moving parts and electrical connections:
These protect against accidental contact.

4.6 SIGMA CONTROL MOBIL control panel

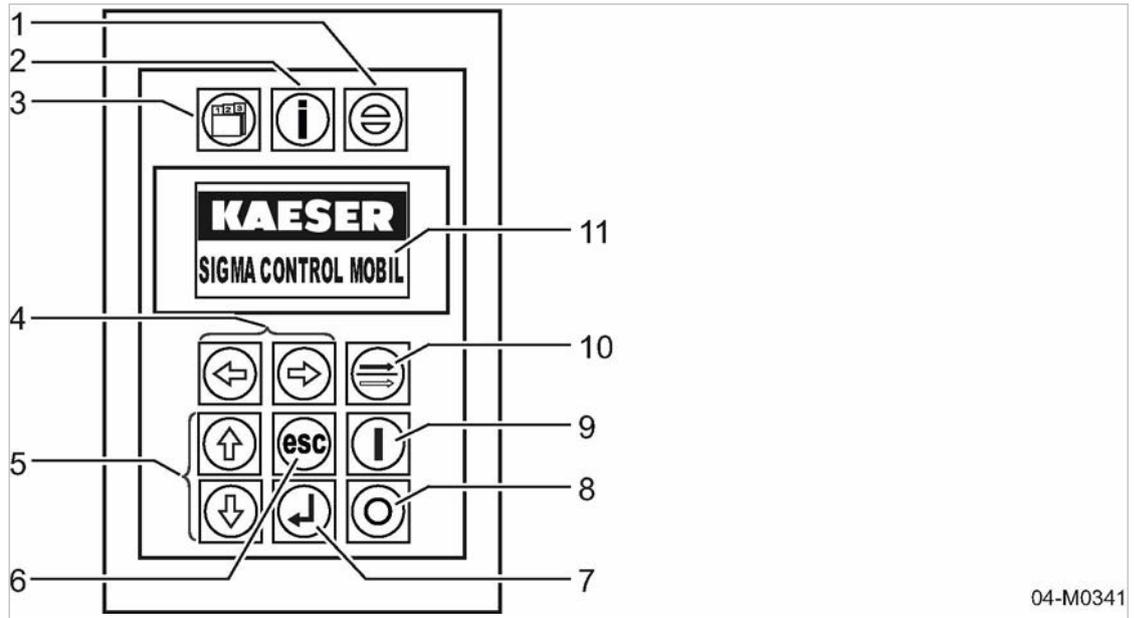


Fig. 12 SIGMA CONTROL MOBIL main display – overview

Item	Sign	Designation	Function	Background LED
1		Key «Acknowledge»	Acknowledge key. Confirms active and displayed messages (acknowledging).	Flashes when a message is active and waiting for acknowledgement.
2		«Information» key	Operation display: Display event memory.	Flashes if a message is active.
3		«Menu» key	Displays the main menu.	–
4		«Change value» keys: «Left» and «Right» keys	Changing a parameter value, jump to the left or right.	–

4 Design and Function

4.7 Variable pressure speed control

Item	Sign	Designation	Function	Background LED
5	 	«Up» and «Down» keys	Scrolls upwards or downwards through the menu options.	–
6		«Escape» key	Jumps back to next higher menu level. Exits the edit mode without saving.	–
7		«Enter» key	Jump into the selected subordinate menu. Accepts an input.	–
8		«STOP» key	Stops the machine.	Continuous light when a fault has occurred.
9		«START» key	Start the machine.	Flashes when ready to start. Lights continuously, when the engine is running.
10		«LOAD/IDLE» toggle key	Toggles the compressor between LOAD and IDLE operating modes.	Flashes when ready to switch to LOAD mode. Continuous light when the machine is running under LOAD mode.
11	–	Indicator field or display	Graphic display	–

Tab. 59 Instrument panel keys and displays

Further information For more information about the controller's functionality, please see the separate SIGMA CONTROL MOBIL operating manual.

4.7 Variable pressure speed control

The machine is fitted with a variable pressure speed control.

The flow rate is flexible in accordance with the preselected pressure setting and adjustment of the engine speed. With it, the machine can be operated from a minimum pressure of 87 psi to the maximum working pressure.

Limiting is achieved by *<setting the maximum nominal pressure>* at the SIGMA CONTROL MOBIL controller.

Further information For more information about setting the *maximum nominal pressure*, see the separate operating manual of the SIGMA CONTROL MOBIL controller, Section "Set maximum nominal pressure".

4.8 Exhaust gas after-treatment

The exhaust from a diesel engine contains invisible particles that are dangerous to health.

State-of-the-art engine technologies are used to reduce the emission of pollutants and to meet the tighter exhaust standards.

For a proper balance, all parameters affecting combustion must be optimally adjusted to each other. In interaction with injection and turbo-charging in particular, the exhaust gas recirculation allows for combustions with significantly less nitrogen oxides.

Furthermore, all engines are fitted with various after-treatment facilities. The total of these measures contribute to the protection of human health and the environment.

4.8.1 Engine optimisation

The engine series is equipped with a common rail diesel injection system and exhaust gas return. The engines are set to a maximum of efficiency and low particle emissions.

Electronic engine management:

The engine system is equipped with an electronic engine management that communicates with the SIGMA CONTROL MOBIL system controller.

In addition to monitoring the engine and exhaust gas treatment, the engine control unit (ECU) also monitors itself. Any faults or malfunctions are stored as fault codes in the alarm memory and forwarded to the SIGMA CONTROL MOBIL controller.

Common rail injection system:

The engine is fitted with a common rail injection system for mixture preparation. It is a high-pressure accumulator injection system for diesel engines. The common rail injection allows you to optimise the combustion process so that fewer contaminants are generated whilst consuming less fuel. The fuel is injected into the combustion chamber from a highly pressurised joint distributor pipe (common rail). The common rail injection system is controlled by a DEUTZ engine control unit.

Exhaust gas recirculation:

Exhaust gas recirculation is measure to reduce the emissions of nitrogen oxides. At high combustion temperatures, increasingly damaging nitrogen oxides (NO_x) develop in the engine. To reduce these levels, the combustion temperature must be lowered. The cooled and controlled exhaust gas recirculation circulates a portion of the exhaust gas back to the inlet side of the engine where it is added to the inlet air. This reduces the available oxygen volume and thus the combustion temperature. Both measures reduce the development of nitrogen oxides.

Exhaust gas recirculation occurs only in the partial load area of the engine because the engine runs particularly lean in this area. Exhaust gas recirculation is not practical in cold start, warm-up and full load.

Exhaust gas turbo-charging:

The performance of the combustion engine can be enhanced by means of turbo-charging. A turbo-charger compresses the air to allow more oxygen to flow into the combustion chamber. As a result, more fuel can be combusted and the engine performance increases accordingly. The turbocharger is driven by exhaust gas which makes turbo-charged engines very efficiently.

4.8.2 Reduction of particle emissions

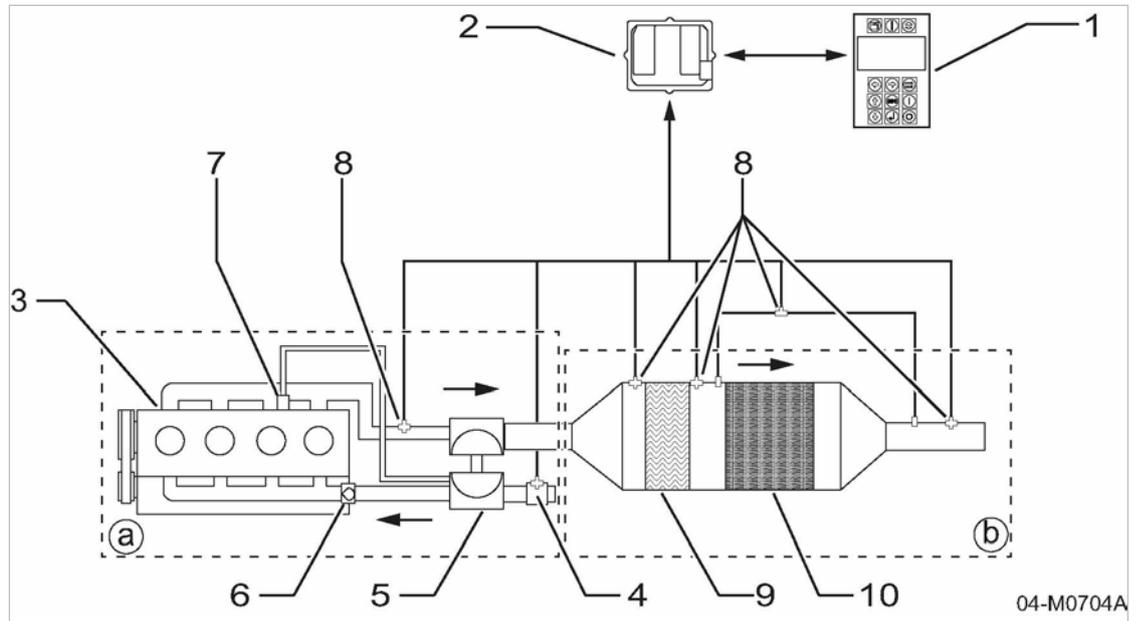


Fig. 13 Exhaust gas treatment – Reduction of particle emissions

- | | |
|----------------------------------|---|
| ① SIGMA CONTROL MOBIL controller | ⑥ Inlet throttle |
| ② Engine control unit (ECU) | ⑦ Exhaust gas return valve (EGR) |
| ③ Engine | ⑧ Sensors |
| ④ Air flow meter | ⑨ Diesel oxidation catalytic converter (DOC) |
| ⑤ Turbocharger | ⑩ Diesel particulate filter (DPF) |
| | ⑧ Exhaust gas treatment system: Reduction of particle emissions |

Diesel oxidation catalytic converter (DOC):

The diesel oxidation catalytic converter uses the fuel which has not been burnt during final injection for the active regeneration of the diesel particulate filter. The diesel oxidation catalytic converter serves a source of heat for the regeneration of the diesel particulate filter.

The diesel oxidation catalytic converter has a catalytic surface converting the pollutants in the exhaust gas into harmless substances. Carbon monoxides and non-burned hydrocarbons are forced to react with oxygen and converted to carbon dioxide and water. In addition, the nitrogen monoxides are converted to nitrogen oxides. To achieve a high efficiency, temperatures must be higher than 482 °F.

Diesel particulate filter (DPF):

The diesel particulate filter is used for reducing the particulate present in the diesel engine exhaust (fine solids and mostly soot). Nearly all of these particulates are trapped in the filter and burnt to carbon dioxide at high exhaust gas temperature.

At a low exhaust gas temperature when the particulate does not burn spontaneously, a pressure difference occurs between inlet and outlet of the diesel particulate filter. This initiates a regeneration of the filter,

during which the soot is removed. Regeneration is activated when the filter medium is saturated with soot to a certain degree.

4.8.3 Diesel particulate filter regeneration

The removal of soot from the diesel particulate filter is called regeneration.



As a rule, the engine control unit automatically starts the regeneration. Regeneration must be manually initiated (standstill regeneration) only in exceptional cases (adverse application conditions).

Function:

The exhaust gas treatment system of the DEUTZ diesel engine is a passive particulate filter system. A passive particulate filter system burns the soot in the filter with the nitrogen dioxides contained in the exhaust after they have been converted in the DOC. This process is continuous as soon as the exhaust gas temperature exceeds 662 °F. The passive particulate filter system does not contain a burner. Prerequisite for passive continuous regeneration is a sufficient ratio of nitrogen oxides and soot in the engine's exhaust gas.

CRT operation:

The CRT (Continuous Regeneration Trap) system is based on a continuous regeneration process which is activated when a required exhaust gas temperature is reached at the system inlet. The system constantly monitors the filter load.

Definition of nominal filter load:

The engine control unit internally monitors the soot level in the diesel particulate filter. The current soot load is displayed in percentage at the SIGMA CONTROL MOBIL. When the soot load in the DPF has reached 100%, the system prompts a *standstill regeneration*.

Standard operation (passive regeneration):

Under normal operational conditions (exhaust gas temperature > 662 °F), the exhaust gas treatment system operates without operator intervention. The soot particulate is continuously burnt without intervention by the engine control unit. This occurs mostly at high engine load. A reaction with nitrogen dioxide converts the soot particulate to carbon dioxide. The soot load of the DPF remains in a permissible range.

Support mode (active regeneration):

If the engine operating conditions do not allow passive regeneration, the soot load in the DPF will rise. This can be the case at extremely low utilisation or very short working times.

Since no more soot particulates can be removed, soot accumulates in the filter. When the relative soot load of the particulate filter exceeds a limit of approximately 80%, active regeneration is initiated by the engine control unit. The engine is operated in a special *Heat mode* and changes its mode (exhaust gas temperature is increased) to improve the regeneration conditions. The soot particulates are burnt to carbon dioxide with an exhaust gas temperature of 1112 – 1202 °F.

This is an automated process that does not require operator intervention. The activation of the *Heat mode* is not indicated by either illuminated push-buttons or the *SIGMA CONTROL MOBIL* display.

Heat mode automatically terminates when the soot load of the particulate filter drops below 72%.

Standstill regeneration (activated by operator):

If the *Heat mode* support mode does not result in a sufficient reduction of the soot load, the particulate filter will further accept soot until a standstill regeneration (particulate filter system load > 100%) becomes necessary. This standstill regeneration is the ultimate option for filter regeneration because all prior attempts to regenerate the filter have failed.

A specific engine operating state is assumed during standstill regeneration and it is not possible to generate compressed air for its entire duration.

When an engine requests a standstill regeneration, it displays the *Standstill regeneration required* warning message

The operator must then initiate the standstill regeneration. This results in the compressor being unloaded and the engine can start standstill regeneration. The process requires approximately 30 minutes and, during this time, the engine can autonomously adjust its speed to arrive at the optimal operating point for the standstill regeneration.



Because the regeneration will start only at temperatures above 662 °F, it is recommended to warm up the engine in LOAD before initiating standstill regeneration.



The engine will internally calculate the cancellations of standstill regeneration. After three cancellations, the engine will move into emergency run and a service regeneration must be carried out by the DEUTZ service personnel!

The same applies when the request for standstill regeneration is ignored resulting in an impermissible overload of the particulate filter.

4.8.4 Reduction of nitrogen oxide emissions

In order to comply with TIER 4 FINAL emissions level, the engine is additionally equipped with an SCR system for the reduction of nitrogen oxide (NOx).

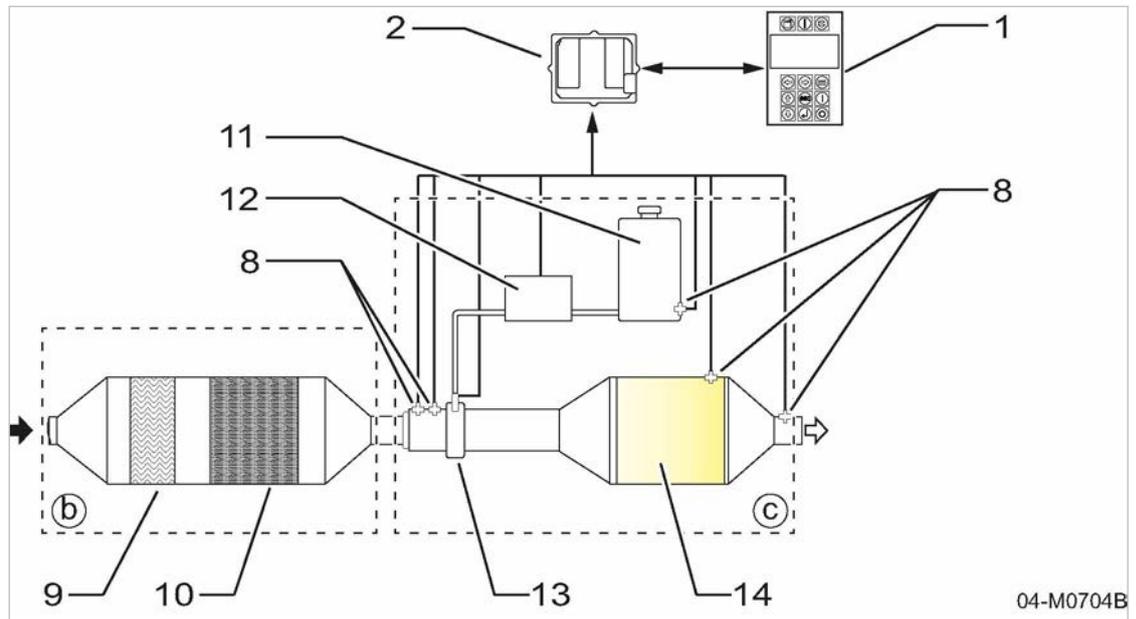


Fig. 14 Exhaust gas treatment – Reduction of nitrogen oxide emissions

- | | | | |
|---|---|---|-------------------------|
| ① | SIGMA CONTROL MOBIL controller | ⑧ | Sensors |
| ② | Engine control unit (ECU) | ⑪ | Reduction agent tank |
| ⑬ | Exhaust gas treatment system:
Reduction of particle emissions | ⑫ | Reduction agent pump |
| ⑨ | Diesel oxidation catalytic converter (DOC) | ⑬ | Dosing module |
| ⑩ | Diesel particulate filter (DPF) | ⑭ | SCR catalytic converter |
| ⑬ | Exhaust gas treatment system:
Nitrogen oxide emissions reduction | | |

Principle:

The nitrogen oxide emissions that are emitted by the engine are reduced with the SCR system. A reduction agent (DEF) that is injected into the exhaust system in a controlled manner, releases ammonia in the exhaust system and reacts in the SCR catalytic converter with the nitrogen oxides (NO_x) that are contained in the exhaust gas. During this process, they are converted to nitrogen and water. The injection quantity of the reduction agent is controlled by means of the machine electronics.

- The engine is optimised in such a manner that very few soot particles are created but a purposely large quantity of nitrogen oxides.
- The reduction agent is then injected into the exhaust flow.
- Due to the high exhaust temperature, the reduction agent is converted into ammonia and carbon dioxide.
- Thanks to the ammonia, the nitrogen oxides on the catalytic converter's surface react to nitrogen and water which are natural components of our atmosphere.

SCR system:

A heater is located in the reduction agent tank which melts sufficient liquid any time when there is severe frost (DEF freezes at $-11.3\text{ }^{\circ}\text{F}$), in order to quickly activate the system. Heatable pipes lead the AdBlue® from the tank to a dosing module controlled by the engine control unit. This module ensures that always the correct quantity of reduction agent required for the speed and engine load is injected. The exhaust gas system behind the dosing module is designed in a manner that DEF, or the released ammonia is optimally distributed via the actual catalytic converter. Sensors in front and behind the SCR catalytic converter measure, for example, the nitrogen oxide concentration and temperature and send signals to the engine control unit. This process ensures even more precise dosing and monitors the correct functioning of the SCR system at the same time.

Reduction agent:

As operating fluid the synthetically produced watery urea solution AUS 32 is used as reduction agent. Alternatively, the reduction agent is also known by the trade name AdBlue®, which is also known as "Urea" or, in North America, as "DEF" (Diesel Exhaust Fluid).

DEF consists of 32.5% of urea and 67.5% of pure water. In this mixture ratio, the urea concentration always remains steady. The high purity and quality is guaranteed by the standard EN 70070/ISO 22241. DEF is neither a hazardous material as defined by the Chemicals Control Law nor a hazardous good as defined by the Dangerous Goods Regulation. It must not be mixed with any additives or diluted with water, or contaminated with other substances.

DEF – a non-toxic and odor-free urea solution – is easily filled at the petrol pump and carried in a separate container.

Further information Instructions regarding the safe handling of the DEF reduction agent are provided in chapter 3.5.2.

Monitoring the addition of the reduction agent:

Well-functioning exhaust air treatment is necessary in order to meet the stricter emission limits. For this reason, the SRC system is monitored by various sensors, including the filling level of the reduction agent tank.

Once the filling level in this tank reaches a certain minimum level, the engine control switches the engine to "torque reduction". The SIGMA CONTROL MOBIL displays the warning message "Torque reduction active" (message code 3182).

In "torque reduction" mode, the engine reduces its output to force the operator to replenish the reduction agent and/or to have the exhaust system inspected.

This means that the engine runs in IDLE speed and no longer generates compressed air. The machine is no longer operational.

The engine will operate with normal speeds only after the reduction agent has been replenished.

4.9 Options

The options available for your machine are described below.

4.9.1 Option da, df, dc, dd Air treatment options

For some applications, the compressed air generated by this machine must be treated before use. The following describes the possible air treatment options that may be fitted to the machine.

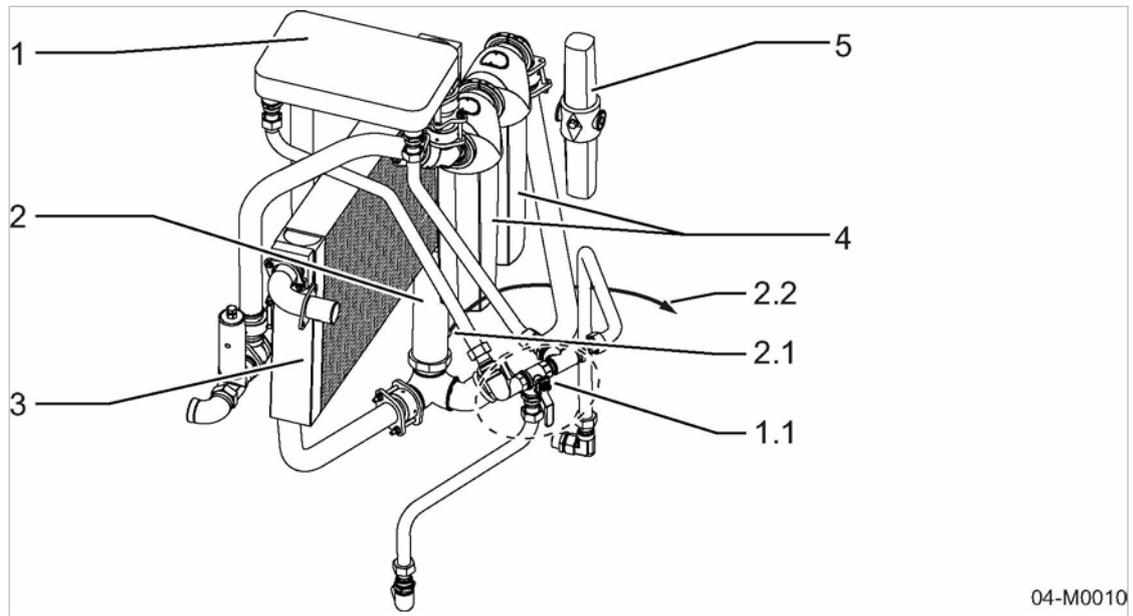


Fig. 15 Compressed air options

- | | |
|---|---|
| ① Heat exchanger (Option df) | ②.2 Condensate drain pipe to exhaust gas pipe (option da) |
| ①.1 Bypass for heat exchanger (Option df) | ③ Compressed air aftercooler (Option da) |
| ② Centrifugal separator (Option da) | ④ Filter combination (Option dd) |
| ②.1 Dirt trap (option da) | ⑤ Fresh air filter (Option dc) |

4.9.1.1 Option da Aftercooler

The compressed air after-cooler lowers the compressed air temperature to only 5 K to 10 K above the ambient temperature. The exchange of heat lowers the compressed air temperature and the water and oil mist contained in the air precipitates to condensate. Most of the moisture carried in the air is removed in the after-cooler. This condensate, mixed with oil particles, has to be drained by a separator.

4.9.1.2 Option da Centrifugal separator

A centrifugal separator is used to isolate the condensate from the compressed air. The centrifugal separator sets the compressed air that still contains moisture into a circular movement (turbulence). The heavy dirt particles and water droplets combined in the condensate are thrown to the outside and run down against the wall of the separator. The accumulating condensate collects at the bottom of the centrifugal separator.

4.9.1.3 Option da Dirt trap with condensate drain pipe

A dirt trap is located at the bottom end of the centrifugal separator. Whilst the condensate flows through the dirt trap, existing dirt particles are retained.

Subsequently, the condensate flows through the connected condensate drain pipe to the exhaust gas pipe. Due to the high exhaust temperatures during engine operation, the condensate evaporates completely.

**4.9.1.4 Option df
Heat exchanger**

The oil/compressed air heat exchanger is fed with hot compressor cooling oil that warms the outgoing moisture-reduced compressed air.

This warm, dry compressed air is ideal for sand blasting, for example.

Option df Compressed air quality with/without heat exchanger:

If heating is not required, you can use the bypass to bridge the heat exchanger.

Option designation	Heat exchanger	Compressed air quality
da + df	activated	heated and dry
	Bridged	cool and condensate-free
da + dd + df	activated	heated and technically oil-free
	Bridged	cool and technically oil-free

Tab. 60 Compressed air quality with/without heat exchanger

**4.9.1.5 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.

**4.9.1.6 Option dc
Fresh air filter**

Compressed air from oil-injected compressors may not be used directly as breathing air.

The concentration of contaminants will increase during the compression of the intake ambient air, and cooling oil and abraded particles can enter the compressed air. This requires a subsequent treatment of the pre-filtered compressed air.

Air must be filtered to remove all contaminants, such as fine dust and oil as well as odours, before it can be used for breathing purposes.

To achieve this, part of the compressed air output from the compressor is passed through a combination of micro-filter and activated carbon filter.

The connection to air treated in this way is specially marked. It is designed as a quick-release coupling next to the outlet valves on the compressed air distributor.

⚠ DANGER

Danger from toxic air!

Danger of respiratory arrest because the filter does not remove CO/CO₂, methane or other toxic gases or vapours.

- *Never use the machine in enclosed spaces, only in the open.*
- *Clean inlet air without hazardous contaminants. Engine exhaust fumes must not be drawn into the compressor.*



The treated air does not meet the local standards for 'Compressed air for breathing apparatus'. Therefore, it must not be used as pure breathing air, but may be used to reinforce the flow of fresh air when working in dusty or dirty conditions such as sand blasting.

Further information See Chapter 2.9.1.1 for ambient conditions under which the fresh air filter can be used.

Further information See DIN EN 12021 for more information regarding permissible limit values for hazardous contaminants in breathing air.

4.9.2 Option bb; od Auxiliary electrical systems

The following auxiliary electrical equipment is provided in the machine:

- Cooling water heater for diesel engine
- Battery charger for start/stop automatic

The auxiliary electrical equipment is pre-wired for operation. A separate mains power connection provides power.

A flexible power cable (supplied) connects the machine's power plug to the user's power socket.

Option bb Cooling water heater for diesel engine

The engine's coolant should be pre-heated in order to protect the engine at low temperatures. A cooling water pre-heating system is installed for this purpose. The coolant pre-heater works according to the principle of self-circulation.

Option od Battery charger for automatic start/stop

The automatic start/stop can be set in the SIGMA CONTROL MOBIL controller for automatic machine start. The engine's starting battery must be sufficiently charged at any time, in order for the drive engine to be started even after longer standstill times. Use a battery charger.

4.9.3 Option ba Low temperature equipment options

Special equipment is provided for operation in extremely low temperatures.

This equipment assures trouble-free operation in ambient temperatures from -13 °F to 122 °F. The electrical system will reliably start the engine at ambient temperatures to -4 °F.

Option bb Coolant pre-heating:

The engine coolant can be pre-heated to improve starting under cold conditions.

4.9.4 Option lb Options for operating in fire hazard areas

Diesel engines represent a potential source of ignition in environments with concentrations of gas, vapor or dust, and may cause major fires with disastrous consequences for people, the environment and production.

For the operation in fire hazard areas, the machine is equipped with an engine air shut-off valve.

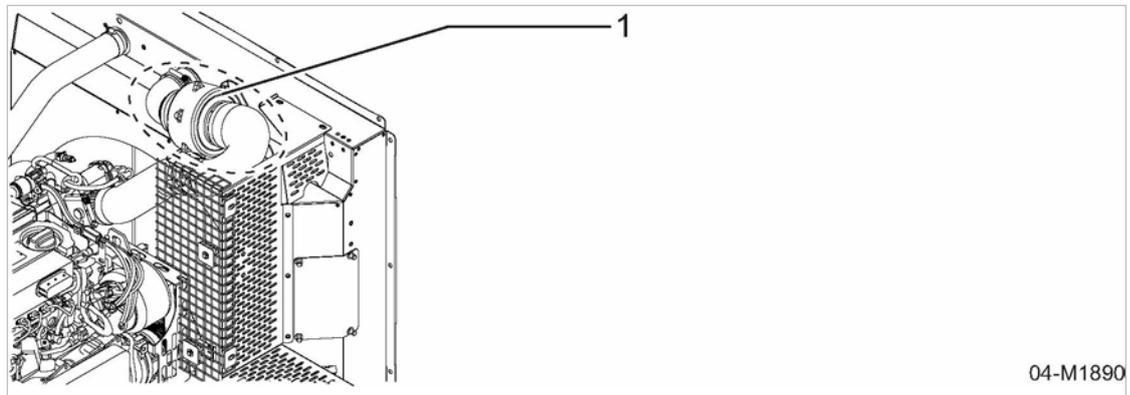
**4.9.4.1 Option lb
Engine air shut-off valve**

If flammable gases and vapors are drawn by the diesel engine from the environment into the air intake, they will act like additional fuel. This causes a sudden and uncontrolled increase in engine speed that can result in serious mechanical damage. Without appropriate preventive measures, the engine and the engine-driven devices can be destroyed. Explosion or fire are also possible.

When flammable gas is drawn into the engine, shutting off the fuel supply will no longer stop the engine. In order to shut down the engine quickly and reliably in these events, the intake of the combustion air must be interrupted.

If a certain engine speed is exceeded, the engine air throttle valve will close automatically. The feed of intake air is interrupted and causes the engine to immediately stand still.

Option lb



04-M1890

Fig. 16 Engine air shut-off valve

① Engine air shut-off valve

**4.9.5 Option ga
Generator option**

A generator is installed to provide a power supply to electrical consumers. The generator is driven from the engine by a drive belt. A tensioning device automatically ensures optimum belt tension.

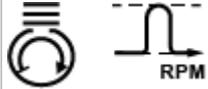
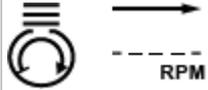
4.9.5.1 Operating modes

The compressor works with the normal flow rate regulation and generates electrical power at the same time.

The generator can work in two modes. These are selected by the mode switch:

- Automatic cut-in
- Continuous load

Generator power supply isolating device	Mode selector switch	What is provided?
OFF	-	Compressed air

Generator power supply isolating device	Mode selector switch	What is provided?
ON	 <p>Position 1 (automatic start mode)</p>	Electrical power and compressed air
	 <p>Position 2 (continuous load)</p>	Electrical power and compressed air

Tab. 61 Generator / compressor operation

Operating mode	Automatic cut-in	Continuous load
Switch position	Position 1	Position 2
Engine speed	<p>Electrical power consumption > 100 VA automatic maximum speed</p> <p>Power consumption below minimum value: Engine run-on time of approximately 2 minutes at maximum speed</p>	Permanent maximum speed (engine under full load)
Advantages	<p>Fuel saving</p> <p>Constant oscillation between maximum and minimum speed avoided</p>	Continuous generator power available without delay

Tab. 62 Generator operating modes

4.9.5.2 Operating controls

The switches, fuses and outlet sockets for electrical consumers are located on the generator control box. Individual consumers are connected only by these outlet sockets.

Generator 400/230 V/3~; 13 kVA:

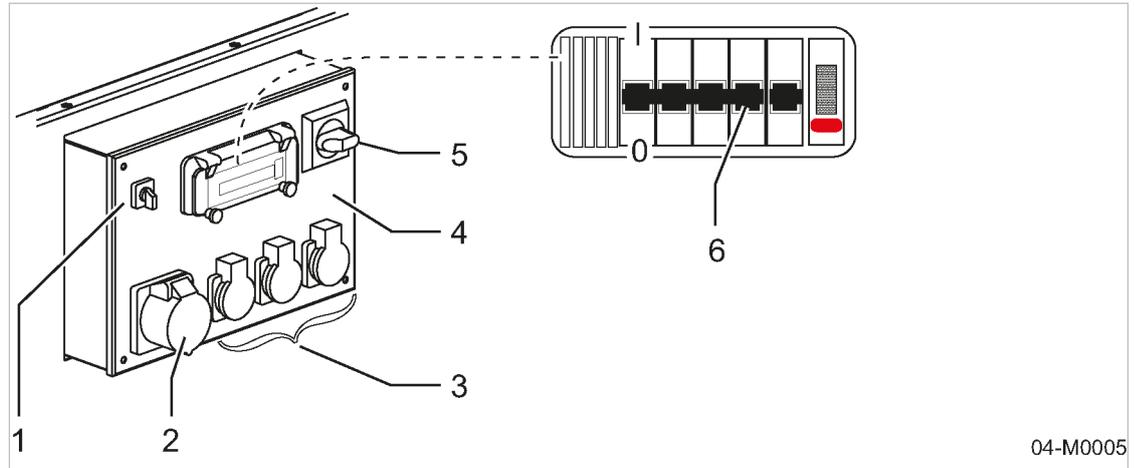


Fig. 17 Operator panel of the generator control cabinet, 400/230 VAC

- | | |
|-----------------------------------|--|
| ① «Mode selector switch» | ④ Generator control box |
| ② Power socket 400 V / 3 / N / PE | ⑤ «Generator main switch» |
| ③ Power sockets 230 V AC/1/N/PE | ⑥ «Safety cut-out»
(with shunt opening release) |

Generator 230 V/3~; 13 kVA:

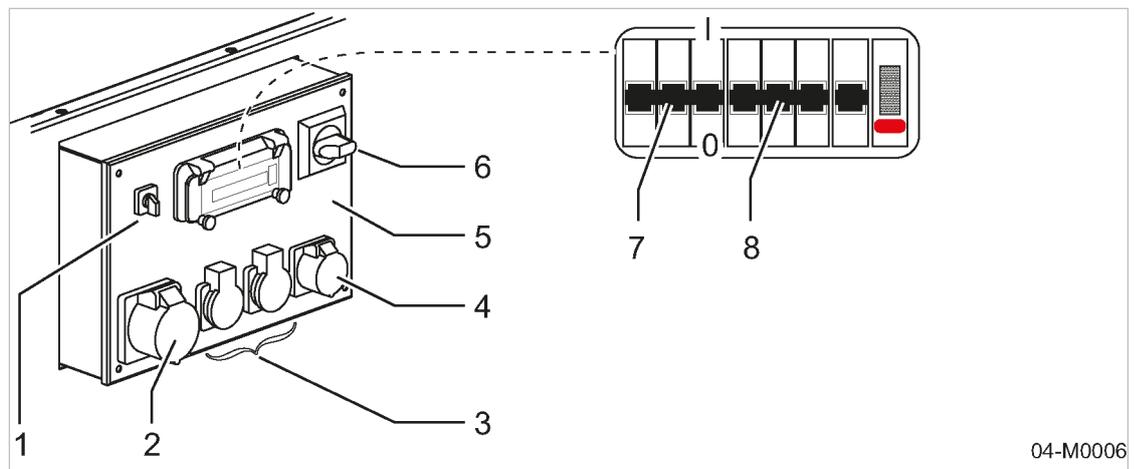


Fig. 18 Instrument panel – generator control box, 230 V three phase

- | | |
|--|--|
| ① «Mode selector switch» | ⑤ Generator control box |
| ② Power socket 230 V / 3~ / PE (32 A) | ⑥ «Generator main switch» |
| ③ Power socket 230 V AC / 2-phase / PE | ⑦ «Safety cut-out» |
| ④ Power socket 230 V / 3~ / PE (16 A) | ⑧ «Safety cut-out»
(with shunt opening release) |

4.9.5.3 Note when operating the generator

Do not exceed the maximum supply system load

- When operating the generator, do not exceed the maximum supply system load due to connected consumers.

Bear in mind:

- The power consumption values of simultaneous consumers are added.
- The maximum continuous power loading on the generator by the connected consumers is limited by the safety cut-out.

Connect electrical consumers

⚠ DANGER

*Devices start automatically without warning.
Serious injury and damage to property is possible.*

- *Make sure that electric consumers are switched off.*

Before connecting electrical consumers, carry out the following:

- Read the technical specification for the generator before connecting voltage-sensitive equipment.
- Check that electric consumers and their connecting cables are in perfect condition.
- Plug in and switch on consumers one-by-one.
- Consumers with unfavourable on/off characteristics (e.g. high starting current) should be started first.

Do not allow the rated current for each electrical socket and for the generator to be exceeded.

Switch off the generator

Before deactivating the generator, carry out the following:

- Switch off electrical consumers and unplug them one-by-one.
- Switch off consumers drawing the highest current last.
- Check that the protective covers on the power sockets are correctly closed.
- Run the engine for a further 2 minutes after switching off the generator to allow the generator to cool down.

4.9.6 Option ob, od Automatic start/stop options

Option ob Automatic engine start/stop

The automatic start/stop option can be set in the SIGMA CONTROL MOBIL controller for automatic machine start.

Option od Trickle charging of starter batteries

The engine's starting batteries must be sufficiently charged at any time, in order for the engine to be started even after longer standstill times. Use a battery charger.

4.9.6.1 Option ob Automatic start/stop, external connections

The machine is equipped with two external connections (sockets) to allow the customer to connect the SIGMA CONTROL MOBIL controller. This enables the controller to connect to master control systems.

Connection X51:

- Remote On/Off contact:
 - Make contact to be provided by the customer

Connection X50:

- Release contact to be provided by the customer
- Message contacts:
 - Group alarm
 - Group warning
 - Group maintenance
 - Fuel level
 - *Motor running* message
 - *LOAD operation* message

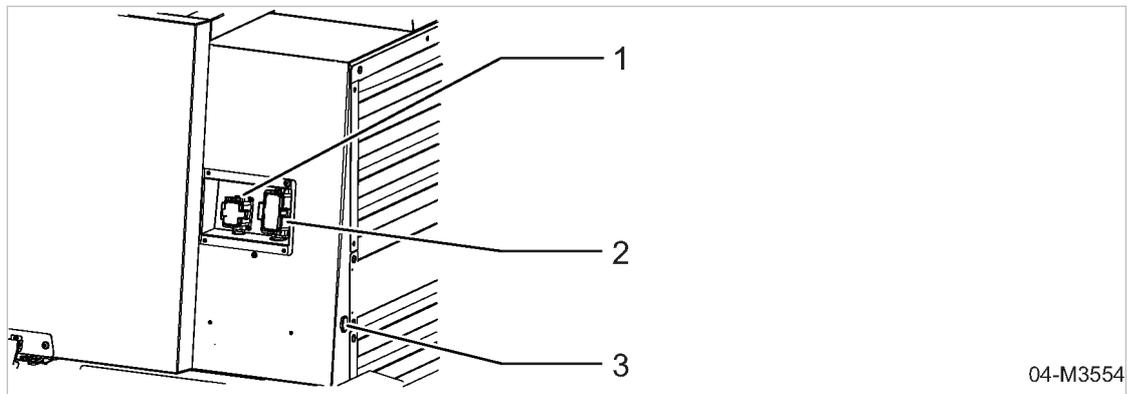


Fig. 19 Automatic start/stop, external connections

- ① Socket 1 (X51)
- ② Socket 2 (X50)
- ③ Device connection for auxiliary electrical systems, such as battery charger for automatic start/stop



The connector plug for both socket is included with the machine. A certified electrician must connect them to the connecting cables of the controller technology provided by the customer.

4.9.7 Option oc GSM/GPS unit

The machine is equipped with a GSM/GPS unit. This is equipped with a SIM card and provides fleet management capability for the customer.

The GSM/GPS unit comprises:

- GSM modem
- GPS receiver



Please observe all information from the manufacturer regarding functionality, operation and service!

Further information Dealer/manufacturer and GSM/GPS unit model information can be found in chapter 2.9.5.

4.9.8 Transport options



See the separate document "Chassis Operating Manual" for information on the design of the individual chassis.

4.9.9 Frame design options for stationary machines

4.9.9.1 Option rw; rx Frame types of stationary machines

Option	Designation	Characteristics
rw	Skid	<ul style="list-style-type: none"> ■ Frame designed as skid ■ Use as stationary machine ■ Mounted on truck/trailer platform
rx	Frame	<ul style="list-style-type: none"> ■ The mounting assembly is designed as a frame. ■ Use as stationary machine ■ Mounted on truck/trailer platform

Tab. 63 Stationary machines

Further information See chapter 13.3 for the dimensional drawings of machines with stationary frame designs.

4.9.10 Option oe Sealed floor pan option

The machine is fitted with a sealed floor pan which catches operating liquids in the event of leaks. Thus, direct contamination of the floor is prevented.



The sealed floor pan:

- Cannot catch all liquids contained in the machine, but is intended only to capture small leaks in the vicinity of endangered components.
- Is equipped with service openings which are sealed with sheet metal covers or closed with bungs.

Prior to the installation, these components must be properly sealed or tightly closed.

Position of service openings in the closed floor pan

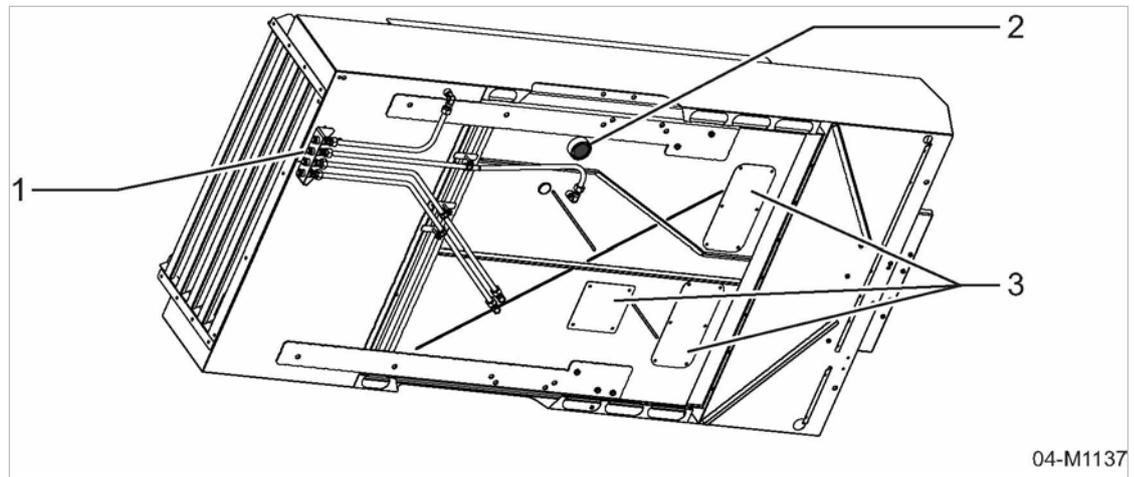


Fig. 20 Position of service openings in the closed floor pan

- ① Central drain point for oil/coolant
- ② Fuel tank service opening, closed with bung
- ③ Cleaning opening, closed with sheet metal cover

The drain points for compressor cooling oil and engine coolant are led to a central point outside.

Position of drains for oil and coolant from engine and compressor

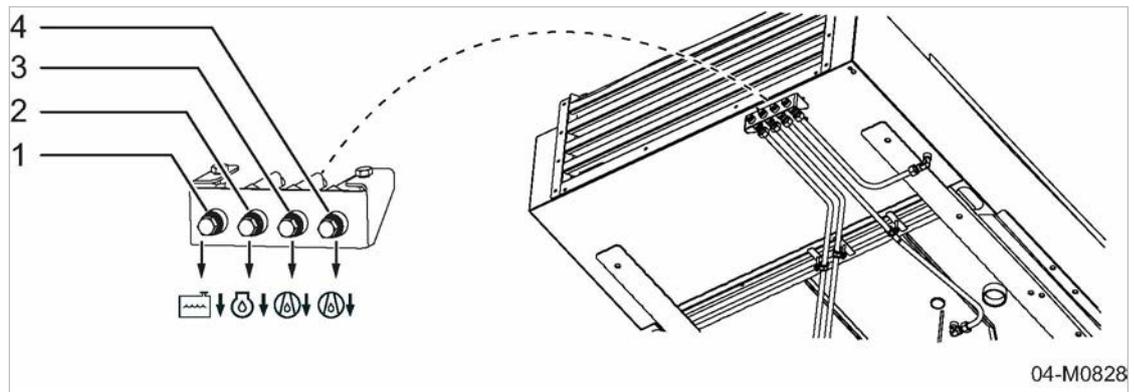


Fig. 21 Drain points for oil and coolant from engine and compressor

- ① Coolant drain - water cooler engine
- ② Engine oil drain
- ③ Coolant drain - oil cooler - compressor
- ④ Coolant oil drain - oil separator tank - compressor

4.9.11 Option sg Pedestrian protection option

The machine is fitted with a special protective guard that prevents pedestrians from being run over.

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 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!

- 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 fuel or oil vapors or parts of the machine.
- Do not store any flammable materials 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 applied.
- Keep suitable fire extinguishing agents on hand and ready for use.
- Ensure that required ambient conditions are maintained.

Required ambient conditions may be:

- A specific ambient temperature range
- 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

Precondition The floor must be level, firm and capable of bearing the weight of the machine.

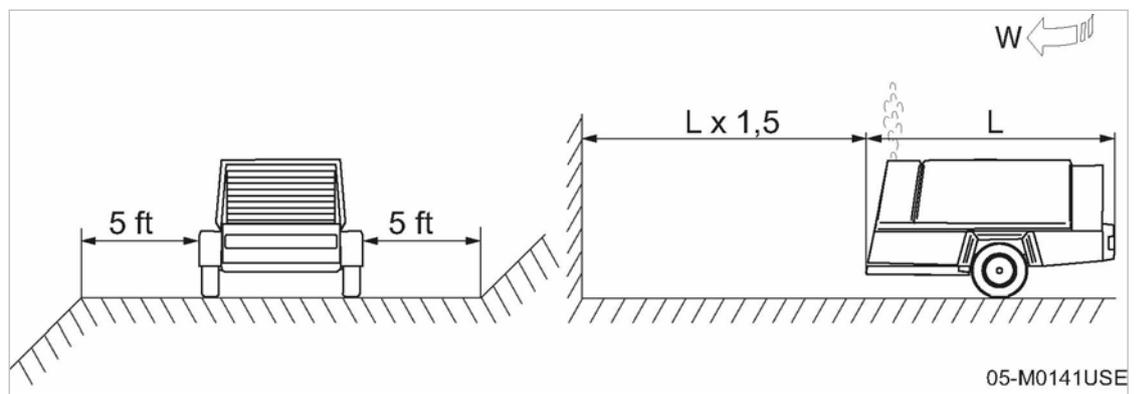


Fig. 22 Minimum distance from excavations/slopes and walls

(W) Wind direction



1. Keep sufficient distance (at least 5 ft) from the edges of excavations and slopes.
2. Ensure that the machine is as level as possible.
 - The machine can be temporarily operated on a slope of not more than 15°.
 - *Option oe:*
Except for machines with sealed floor pans - these should always be installed on as horizontal a surface as possible!
3. Ensure accessibility so that all work on the machine can be carried out without danger or hindrance. The operator panel with the «EMERGENCY STOP» push button must be accessible and within reach at any time.
4. **NOTICE** *Danger of burning from build up of heat and hot exhaust!*
Insufficient distance from a wall may cause heat build up that could damage the machine.
 - *Do not position the machine directly under a low roof or covering.*
 - *Always ensure sufficient ventilation space around the machine.*
5. Ensure there is enough free space all round and above the machine.
6. Keep air inlet and outlet openings free of obstructions so that the cooling air can flow freely through the machine.
7. Position the machine in such a manner that:
 - Exhaust gases and heated exhaust air can escape freely.
 - Do not allow exhaust gases and heated cooling air to be drawn into the compressor.
Note the wind direction! (see figure 22)
 - Ensure the unimpeded intake of fresh air (air intake, cooling air).
8. **NOTICE** *Ambient temperature too low!*
Frozen condensate and highly viscous engine or compressor cooling oil can cause damage when starting the machine.
 - *Use winter grade engine oil.*
 - *Use winter diesel fuel.*
 - *Use low viscosity compressor cooling oil.*
9. At ambient temperatures below 32°F, follow the instructions in chapter 7.4.

5.3 Option rx Machine with stationary frame structure

Stationary machines mounted on a frame may be installed on the load platforms of trucks.

For safe footing, the machine must be fixed to the load platform via bolt-down anti-vibration mounts (bonded rubber/metal elements) for safe footing.

Prerequisites for the installation on truck platforms:

1. Follow the vehicle manufacturer's loading guidelines for safe operation and transportation.
2. Ensure there is enough free space around and above the machine.
3. Ensure accessibility so that all work on the machine can be carried out without danger or hindrance. The operator panel with the «QUICK STOP» push-button must be accessible and within reach at any time.
4. Keep air inlet and outlet openings free of obstructions so that the cooling air can flow freely through the machine.

6 Installation

6.1 Ensuring safety

Follow the instructions below for safe installation.

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".
- Installation work may only be carried out by authorized personnel.
- Replace self-locking nuts that have been removed, do not reuse old ones. The nut is no longer self-locking once it has been unscrewed.

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 Perform regular maintenance on the chassis

- See the separate document "Chassis Operating Manual" for instructions regarding maintenance on the chassis.

6.4 Option rx

Installing a machine with stationary frame superstructure on a truck platform

For safe footing, attach the machine frame with screw-in machine mounts on the load platform. See the dimensional drawing in chapter 13.3 for position and dimensions of the machine mounts. These machine mounts are either supplied with the machine or can be ordered separately from KAESER.

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

Precondition The machine is switched off.

Installing the machine mounts on the frame:

- Fasten the machine mounts (anti-vibration elements) at the frame:

Fasten the machine on the load platform:

Precondition The bolt-down machine mounts are attached to the machine.

1. Position the machine on the loading platform according to chapter 5.3, Installation conditions.
2. Use suitable screws to fasten the machine with the bolt-down machine feet to the loading platform.

6.5 Option ob Connect automatic start/stop externally

In order to operate the controller of the machine with the “automatic start/stop” option, you must connect the machine to the controller system provided by the customer.

Precondition Controller is switched off

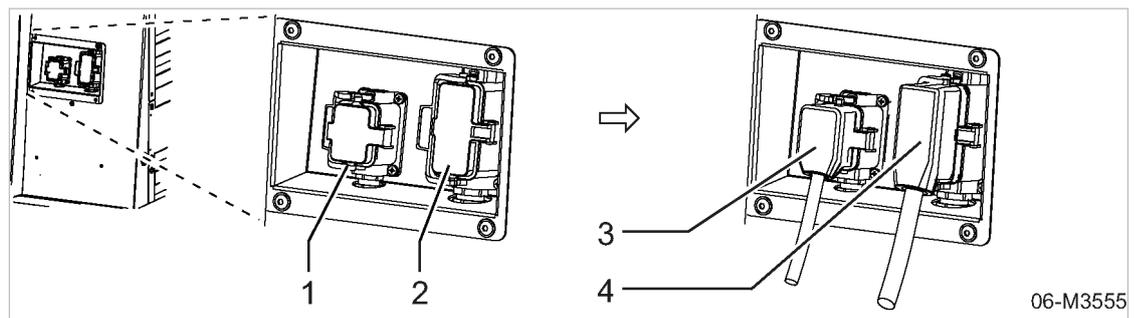


Fig. 23 Connect automatic start/stop externally

- | | |
|--|---|
| <ol style="list-style-type: none"> ① Socket 1 (cover closed) ② Socket 2 (cover closed) | <ol style="list-style-type: none"> ③ «Remote ON/OFF» connector connected ④ «Messages» connector connected |
|--|---|

1. Establish plug connection [X51]:
 - ➤ Open cover of socket 1.
 - ➤ Connect the corresponding connector of the connecting cable.
 - ➤ Secure the plug connection with the locking clamp.
 - Remote ON/OFF contact has been connected.
2. Establish plug connection [X50]:
 - ➤ Open cover of socket 2.
 - ➤ Connect the corresponding connector of the connecting cable.
 - ➤ Secure the plug connection with the locking clamp.
 - Release and message contacts have been connected.

Result The SIGMA CONTROL MOBIL controller of the machine has been connected to the controller system provided by the customer and is ready for start in automatic mode.

6.6 Option od Electrical connection of the battery charger

A battery charger is used to ensure trickle charging of the starter batteries for the machine's "start-stop device" at all times. This battery charger must be connected to the user-end power supply network.

This battery charger is designed for operation in an industrial environment with a dedicated power supply network, separated from the public power supply network by a transformer or a generator. The operator must ensure that the battery charger is operated exclusively with a power supply network which meets these requirements.

- Connect the battery charger to a user-end power supply network which is separated from the public power supply network.

7 Initial Start-up

7.1 Ensuring safety

Follow the instructions below for safe commissioning of the machine. 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”.
- Commissioning work may only be carried out by authorized personnel!
- Make sure that no one is working on the machine.
- Ensure that all service doors and panels are locked.

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.

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.

7.2.2 Special measures for recommissioning after storage

- Carry out the following before every start-up after long period of storage:

Storage period longer than:	Remedy
5 months	<ul style="list-style-type: none"> ➤ Remove the desiccant from the openings in the air intake filters of the engine and compressor. ➤ Check the air and oil filters. ➤ Drain the preserving oil from the separator tank. ➤ Fill with cooling oil. ➤ Drain the preserving oil from the engine. ➤ Fill with engine oil. ➤ Check the engine coolant ➤ Check the battery charge. ➤ Re-connect the battery (batteries). ➤ Check all fuel lines, engine oil lines and compressor cooling oil lines for leaks, loose connections, wear and damage. ➤ Clean the bodywork with a grease and dirt dissolving agent. ➤ Check the tire pressures.
36 months	<ul style="list-style-type: none"> ➤ Have the overall technical condition checked by an authorized KAESER service representative.

Tab. 64 Measures for recommissioning the compressor after a long period of storage

7.3 Checking installation and operating conditions

- Check and confirm all the items in the checklist before starting the machine.

To be checked	See chapter	Complied?
➤ Are the operators completely familiar with safety regulations?	–	
➤ Have all the positioning conditions been fulfilled?	5	
➤ Is there sufficient cooling oil in the separator tank?	10.5.1	
➤ Is there sufficient oil in the engine?	10.4.4	
➤ Is the maintenance indicator on the air intake filters (engine and compressor) OK?	10.4.2, 10.5.7	
➤ Is there sufficient coolant in the coolant expansion tank?	10.4.1	
➤ Is there sufficient fuel in the fuel tank?	–	
➤ Is there sufficient reducing agent (emission treatment) in the reducing agent tank?	–	
➤ Are all access doors closed and all body panels in place?	–	
➤ Are the tire pressures OK?	–	

Tab. 65 Installation conditions checklist

7.4 Low-temperature operation (winter)

The machine's electrical equipment is designed for starting at ambient temperatures as low as 14 °F.

- In temperatures below 32°F, use the following operating materials/components:
 - Winter-grade engine oil,
 - Low viscosity cooling oil for the compressor
 - Winter-grade diesel fuel
 - Stronger batteries



Use air hoses that are as short as possible under extremely cold conditions.

7.4.1 Jump starting the machine

If the machine's starter batteries are discharged, the machine can be jump-started with the batteries of another vehicle or engine-driven machine.

Material Jumper cables

Precondition The machine is disconnected from the towing vehicle and safely parked.

⚠ WARNING

Fire and explosion hazard.

Short-circuit currents caused by short-circuited battery. Shorted batteries can catch fire or explode.

Battery casing may crack and allow acidic fluid to spray out.

- *Observe the instructions provided with the battery jumper cables.*
- *Do not connect the battery jumper cables to the negative pole of the discharged battery or to the bodywork of the machine.*
- *Work with caution.*

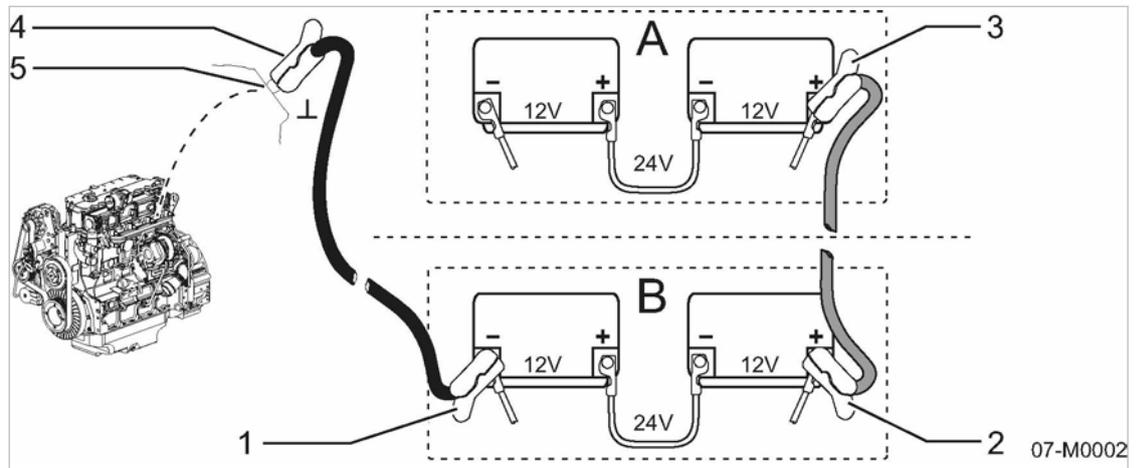


Fig. 24 Jumper cable connection diagram

- | | |
|--|---|
| Ⓐ Machine batteries (receiving battery) | ③ Positive pole clamp (red) on machine battery |
| Ⓑ Assisting vehicle batteries (externally provided battery) | ④ Negative pole clamp (black/blue) on machine earth |
| ① Negative pole clamp (black/blue) on battery of assisting vehicle | ⑤ Bare metal point on the air end (earth) |
| ② Positive pole clamp (red) on battery of assisting vehicle | |

Complying with safety notes:

1. **⚠ WARNING** *Fault in jump-start process!*
 - *Connect batteries of the same nominal voltage only.*
 - *Ensure that machine and assisting vehicle do not touch.*
 - *Switch off all consumers prior to connecting and disconnecting the batteries.*
 - *Only use battery jumper cables of sufficient diameter and with insulated terminal clamps.*
 - *Observe the instructions provided with the battery jumper cables.*
 - *Keep jumper cables away from rotating parts.*
 - *Avoid short-circuits due to incorrect poling and/or bridging with tools.*
 - *Do not bend over the batteries when attaching jumper cables.*
 - *Do not attempt to start the machine if its battery is frozen. Allow the battery to thaw first!*
 - *Do not try to start the machine with a boost charger.*
2. Comply with the safety instruction listed when jump-starting and using starter batteries.

Preparations:

1. Park the assisting vehicle in close distance to the engine, without their bodywork coming into contact with each other.
2. Stop the engine of the assisting vehicle.
3. Open the accesses to the batteries (remove maintenance panels/bonnet and pole caps).
4. Switch off all power consumers.

Connecting the battery jumper cables:

1. Clamp the first terminal clamp ③ of the red jumper cable to the positive pole of the engine's battery.
2. Clamp the second terminal clamp ② of the red jumper cable to the positive pole of the assisting vehicle's battery.
3. **⚠ DANGER** *Explosion hazard!*
A spark may ignite an explosive gas mixture.
 - *Do not, under any circumstances, connect the negative pole of the assisting machine to the negative pole of the battery in the machine to be jump-started.*
Sparks may be caused when connecting and disconnecting.
 - *Work with caution.*
4. Connect the first pole clamp ④ of the black jumper cable to the engine block or a connected, solid and unpainted metal component of the machine ⑤ (as distant as possible to the battery).
5. Clamp the second terminal clamp ① of the black jumper cable to the negative pole of the assisting vehicle's battery.

Starting the engine:

1. Start the engine of the assisting vehicle and run at high speed.
2. Start the compressor engine.



Upon a successful start, run both engines for approximately 10 – 15 minutes. This is important, in particular for fully discharged batteries. In the beginning, they will only pick up little current and have a high internal resistance. Any voltage peaks occurring in the engine generator in this state can be attenuated only by the batteries of the assisting vehicle. In particular the engine electronics of the machine are sensitive to overvoltages and could be damaged easily.

Disconnecting the battery jumper cables:

1. Stop the engine of the assisting vehicle.
2. Disconnect the jumper cables in the reverse order, first negative (-) then positive (+) poles.
3. Replace the pole caps.
4. Close the maintenance panels and/or bonnet.



If the compressor engine stops as soon as the cables are disconnected, this could indicate major damage (e.g., to the engine generator or batteries) which must be repaired by a specialised workshop.

7.4.2 Option ba Starting up low-temperature equipment

Option bb Starting the engine coolant pre-heating:

The engine coolant can be pre-heated to improve starting under cold conditions. The coolant pre-heating works according to the principle of self-circulation operation.

Coolant pre-heating should be started approx. 1 to 2 hours prior to the engine start.

- Start the coolant pre-heating as described in chapter 7.5.

7.5 Option bb; od Commissioning electrical equipment

The auxiliary electrical equipment is pre-wired for operation. A separate power supply connection provides power. A common device plug is provided at the lower part of the machine, beneath the operator panel, for the connection with the supplied power cable.

The power supply voltage must be permanently connected as long as the compressor is to be operated in standby mode. Trickle charging the battery ensures that it is always in a condition to start the portable compressor.

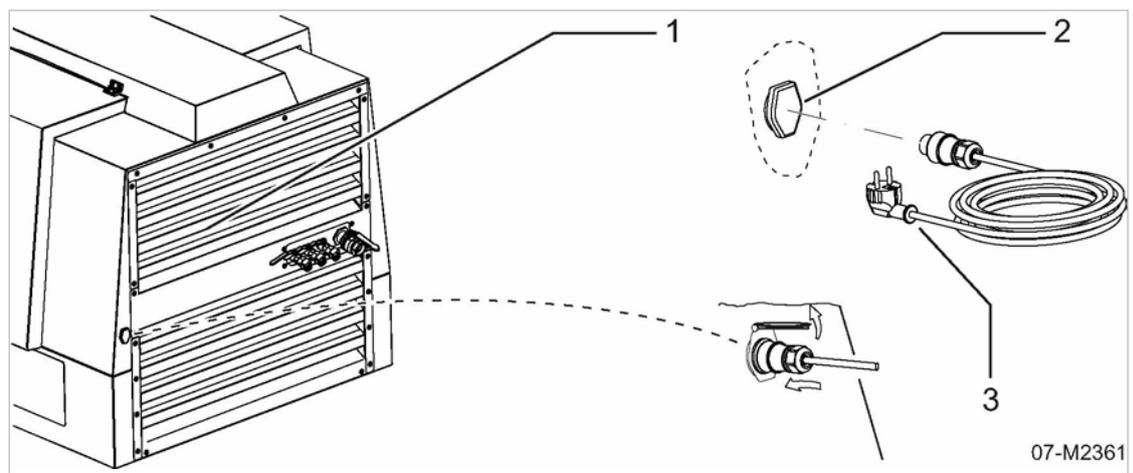


Fig. 25 Connect auxiliary electrical systems

- ① Rear of the machine
- ② Device connector (plug) for auxiliary electrical systems
- ③ Power cable

1. **⚠ DANGER** *Danger of fatal injury from electric shock! Serious injury or death can result from a short-circuit in the electrical equipment.*
 - *The power cable for the electrical equipment may only be plugged into an electrical socket fitted with a protective ground.*
 - *Have the electrical equipment and associated wiring checked according to the maintenance schedule.*
2. Connect the power cable with the user's power outlet.

Further information Chapter 4.9.2 gives an overview of the electrical equipment.

7.6 Option ga Activating the generator

7.6.1 Checking the generator

The generator can be operated without earthing.

Test the insulation monitoring daily with the engine running before putting the generator into operation.

Generator 400 V/3~; 13 kVA:

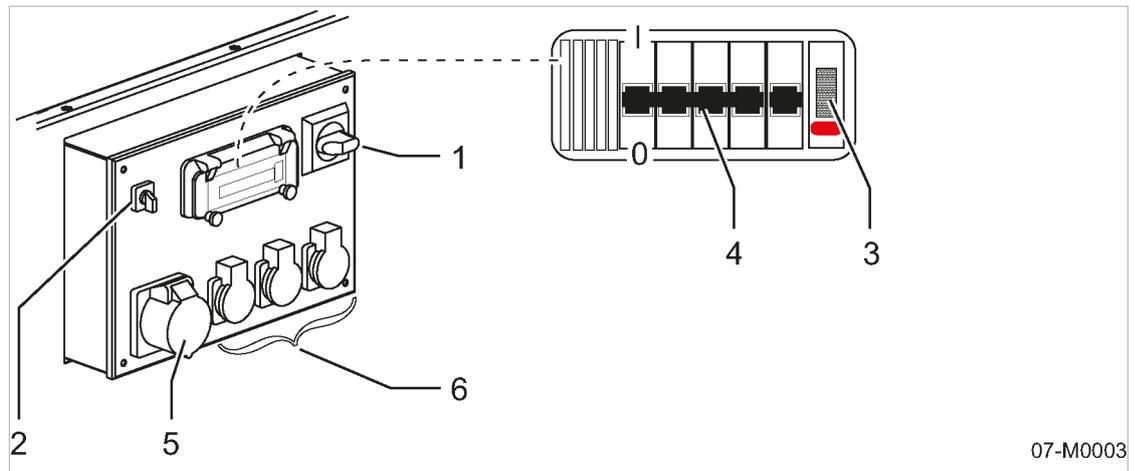


Fig. 26 Insulation monitoring – 400 V three-phase Generator

Generator 230 V/3~; 13 kVA:

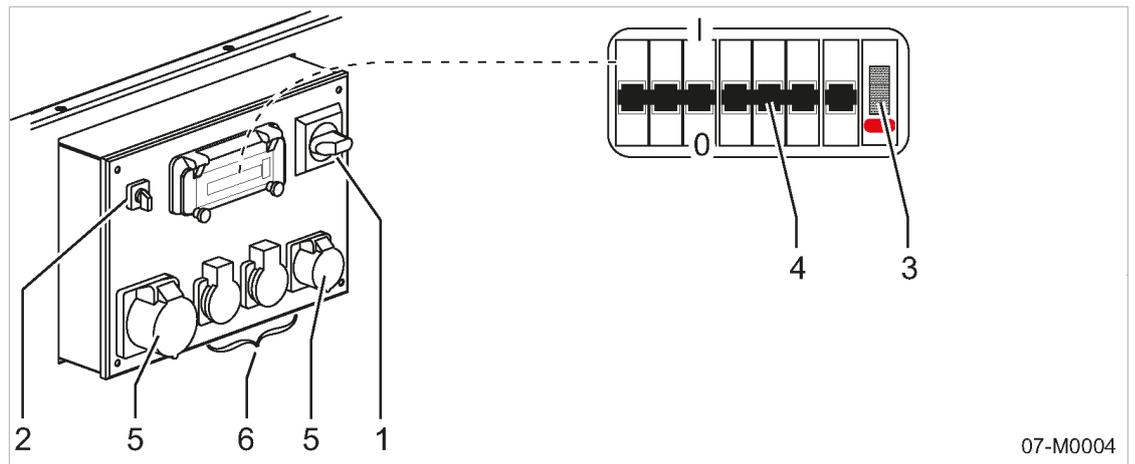


Fig. 27 Insulation monitoring – 230 V three-phase Generator

- | | |
|---|---|
| ① «Generator main switch» | ④ «Mains circuit breaker» |
| ② «Mode selector switch» | («Circuit breaker» designed as automatic circuit-breaker with shunt trip) |
| ③ Test button with <i>earth leak</i> warning lamp for «insulation monitoring» | ⑤ Three-phase AC power sockets |
| | ⑥ Single-phase AC power sockets |

1. Start the machine.
2. **⚠ DANGER** *Risk of fatal injury caused by contact with live components!*
 - *The generator may only be used if the «circuit breaker» («mains circuit breaker») has tripped during the test!*

3. Check the insulation monitor according to instructions:



Checking instructions are given on the label attached to the generator control box.

DANGER!**Electrical power**

Risk of fatal injury caused by contact with live components!

- ▶ Test the «mains circuit breaker» each day while the machine is running.
- ▶ The generator may only be operated if the «mains circuit breaker» is functioning correctly.

Checking the «safety cut-out»:

- ▶ Switch on the «mains circuit breaker» for the generator.
- ▶ Press and hold the «test button» for 3 seconds.

The «mains circuit breaker» trips out.

Problem: The «mains circuit breaker » does not trip out.

- ▶ Shut down the generator and call KAESER SERVICE.

Tab. 66 Test instructions for a generator with an earth leak detection device.

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 Starting and stopping

Precondition No personnel are working on the machine.
Service doors and panels are locked.

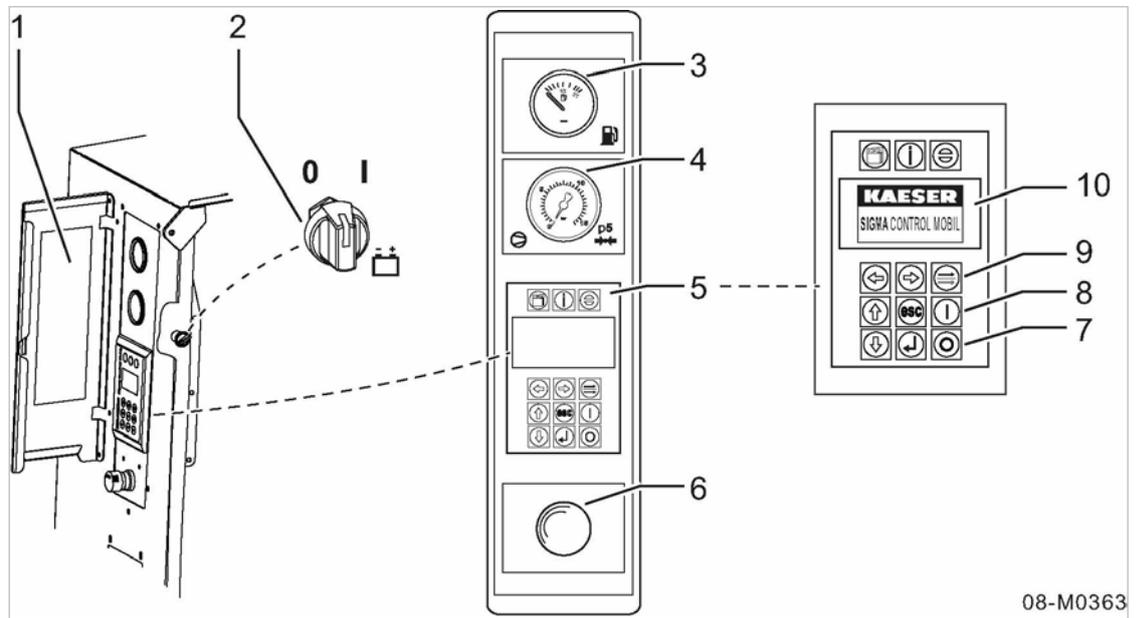


Fig. 28 Starting instruments

- | | |
|---|--|
| <ul style="list-style-type: none"> ① Operator panel cover with adhesive label providing brief instructions ② «Controller ON/OFF» switch ③ Fuel gauge ④ Compressed air outlet pressure gauge ⑤ SIGMA CONTROL MOBIL controller | <ul style="list-style-type: none"> ⑥ «EMERGENCY STOP» push button ⑦ «STOP» key ⑧ «START» key ⑨ «LOAD/IDLE» toggle key ⑩ Display |
|---|--|

8.2.1 Follow the brief instructions

Brief instructions containing symbolic information on starting and stopping are attached at the inside of the instrument panel cover.

Starting sequence

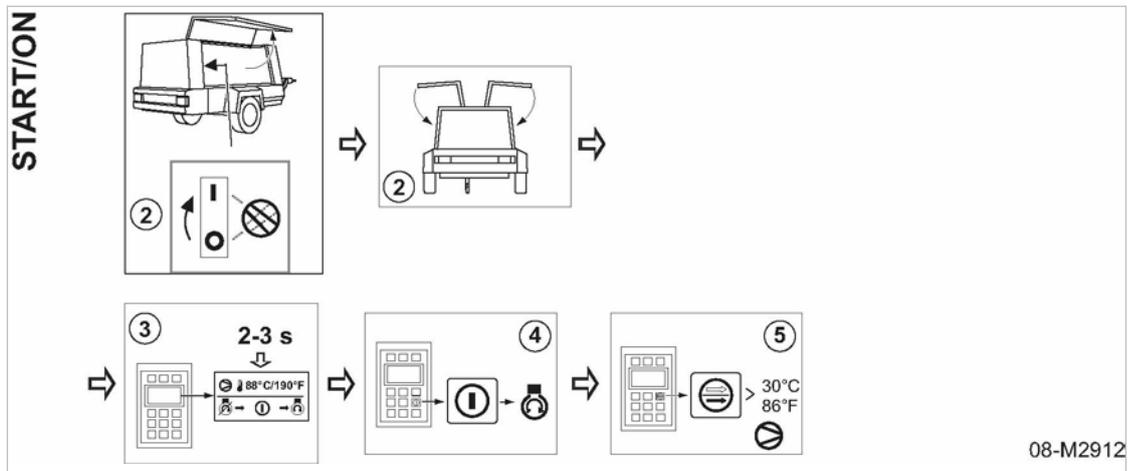


Fig. 29 Brief instructions on starting procedure

- Open the instrument panel cover and follow the brief instructions on the starting procedure attached at the inside.

Shutdown sequence

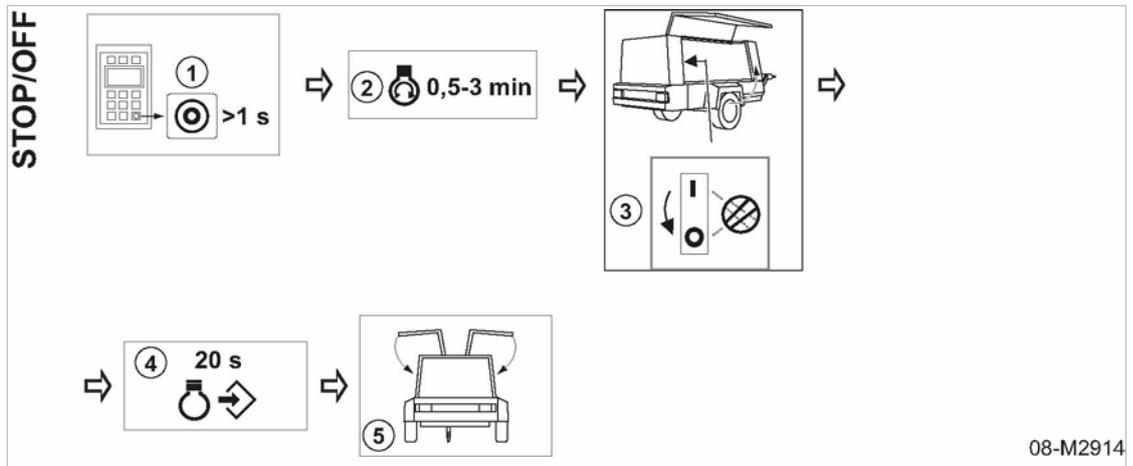


Fig. 30 Brief instructions on stopping procedure

- Open the instrument panel cover and follow the instructions attached at the inside.



The individual steps are fully explained below.

8.2.2 Starting the machine

Notes concerning snow and ice

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

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

As a safety measure, check the function of the «EMERGENCY STOP» push button.

1. **⚠ WARNING** «EMERGENCY STOP» push button locked out!
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: Defrost the «EMERGENCY STOP» push button.
3. Disengage the «EMERGENCY STOP» push button again.



- The «EMERGENCY STOP» push button still does not function after defrosting.
- Have the «EMERGENCY STOP» push button replaced.

8.2.3 Starting the machine

NOTICE

- Serious damage to the engine from cold starting sprays!
 Cold-start assists, such as ether or other sprays, can cause severe engine damage.*
- Do not use cold start sprays.

Preparing the start:

1. Open the operator panel cover and the right door.
2. Switch on the «Controller ON/OFF» key.
 - The controller boots up and the Welcome page appears on the display.
 - If the temperature is below 32 °F, the engine control unit will automatically switch on engine pre-heating.
 - If the controller does not display any unacknowledged messages (see separate SIGMA CONTROL MOBIL operating manual, chapter "Functional description"), the display switches to *Operating mode* and signals readiness.
 - The «Start» key flashes.
3. Close the door.

Starting the engine:

- Press the «START» key.
 - The engine is started
 - The machine is in *warm-up phase* and runs at IDLE speed.



The machine is ready to be switched to LOAD as soon as the specified machine temperatures are attained.
 (For temperature settings, see chapter 2.7.4 "Temperature")

- Result** ⌚ → *The following set temperatures have been attained:*
- Airend discharge temperature (ADT)
 - Engine coolant temperature (ECT)

The «START» key illuminates and the «LOAD» key flashes.
 The machine is ready to be switched to LOAD.



Despite "preheating", the engine does not start in cold weather.
The engine is still too cold.

- Restart the controller.

1. Switch off the «Controller ON/OFF» switch.
2. Switch on the «Controller ON/OFF» switch.
3. Press the «START» button.

Result The engine preheats once again.

Switching the machine to LOAD operation:

- Press «LOAD/IDLE» key.
 - The machine switches to LOAD mode and is ready to generate compressed air.
 - The «LOAD/IDLE» key illuminates.



If the «LOAD» key is pressed before the required ADT or ECT are attained, the engine continues to run at IDLE speed. The controller switches automatically to LOAD when these temperature limits are reached.

Further information A representation of the operating sequence of the SIGMA CONTROL MOBIL is provided in the separate operating manual for the controller.

8.2.4 Setting the compressed air discharge pressure

The compressed air discharge pressure is set from the instrument panel.
Setting is in increments of 0.1 psi and shown as a scale on the display.

⚠ 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.*

- Comply with the separate operating manual for the SIGMA CONTROL MOBIL controller.

8.2.4.1 Selecting the discharge pressure in the Settings menu

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

- Quick access
- Entry via the menu structure

Quick access

Precondition LOAD operation.

<Main menu> (operating state) is selected.

- Press either «Left» or «Right».
This immediately selects the output setting menu.

Access via menu structure

Precondition LOAD operation.

<Main menu => operating data – compressor > is selected.

Enter the output pressure in the submenu "set pressure in oil separator tank"

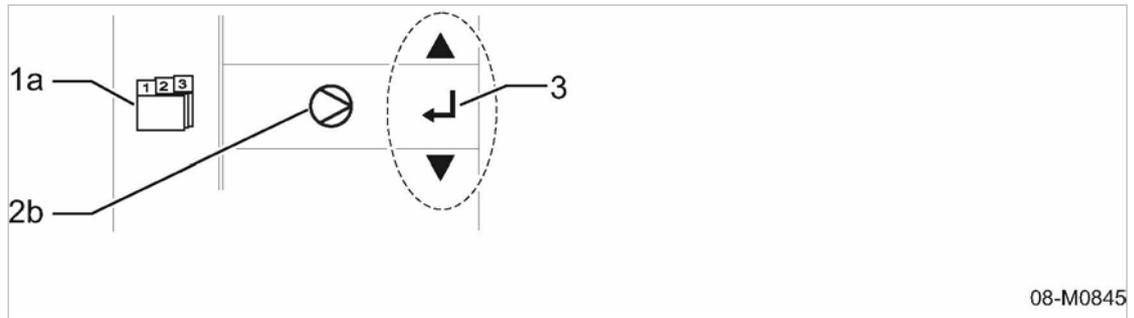


Fig. 31 Select menu option "set pressure in the oil separator tank"

- 1a Main menu
- 2b Compressor unit data
- 3 Menu navigation

1. Select the compressor data symbol and confirm with «Enter».
2. Press either «Up» or «Down».
This immediately selects the output setting menu.

8.2.4.2 Setting pressure

The pressure can only be set at lower than the nominal working pressure of the machine.

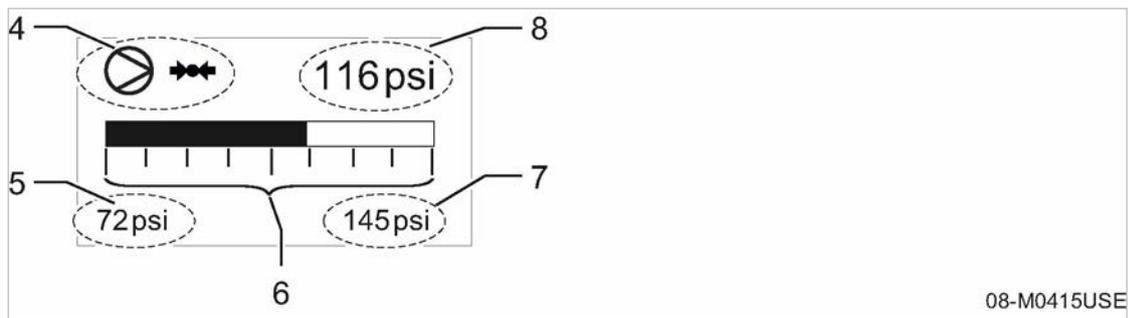


Fig. 32 Setting the output pressure

- 4 Select menu option "set pressure in the oil separator tank"
- 5 Minimum working pressure (lower setting limit)
- 6 Setting scale with indicator bar
- 7 Maximum working pressure (upper setting limit)
- 8 Current setting

➤ Use «Right» and/or «Left» key to select the output pressure and check on the instrument panel pressure gauge.



The set pressure is saved when leaving the Setting menu option.

- Press «Escape».
- The discharge pressure is set and the display changes to *Operating mode*.

8.2.5 Switching the machine to the run-on phase

- Press «LOAD/IDLE» key.
 - The machine switches to *unloaded run-on*, that is:
 - the engine runs at IDLE speed.
 - the inlet valve closes
 - the machine vents and cools down.
 - The «LOAD/IDLE» key flashes and displays:
 - The machine is ready for switching to LOAD mode.
 - The machine is ready for shutting down the motor/engine.



The cooled down machine can be switched off with the «STOP» key.

8.2.6 Shutting down the machine

NOTICE

Thermal overload of the turbocharger!

Abrupt stopping of the engine under load can cause a fault or damage to the turbo charger.

- *Run the engine a few minutes in idle before shutting down to allow the turbocharger to cool.*
- *Use the controller to shut down the machine as normal; do not use the «EMERGENCY STOP» push button to save time.*

Operating the machine in the run-on phase

- Press and hold the «Stop» key for more than one second.
 - The machine switches to *unloaded run-on*, that is:
 - the engine runs at IDLE speed.
 - the inlet valve closes.
 - the machine vents and cools down.
 - When the set cool-down period* has elapsed, the machine has cooled enough so that the engine can stop automatically.
 (* See also the separate SIGMA CONTROL MOBIL User Manual, chapter “Engine settings” “Setting the maximum cool-down time.”)



- The controller display shows *back pressure* if the pressure in the oil separator tank is still > 1 psi.
- When the machine is fully vented, the display changes to *Ready to start*.
- When all pressure is vented from the OST after shut down, the restart inhibitor is activated and is indicated by the timer counting down from 20 seconds.

Switch the controller off:

1. Open the right-hand access door.

2. **NOTICE** *Memory fault!*
Damage to the machine electronics and/or controller is possible.
 - *Shut down the controller only after the engine control unit has completed saving.*
3. ⌚ Wait for approx. 0.5 to 3 minutes (saving process of motor/engine electronics).
4. Switch off the «Controller ON/OFF» key.

Secure the machine:

- Close all «compressed air outlet valves» on the air distributor.
- Close the operating panel cover and all doors. Lock if necessary.

8.2.7 Shutting down in an emergency

Stop the machine in case of danger by pressing the «EMERGENCY STOP» push button.



Use the «EMERGENCY STOP» push button to stop the machine only in **emergencies**.

Quick shutdown

- Press the «EMERGENCY STOP» push button.
 - The engine stops immediately.
 - The «EMERGENCY STOP» push button remains engaged after being pressed.
 - The re-start inhibitor is activated (shut-off period 20 seconds).
 - The «Information» and «STOP» keys are illuminated.
 - The «Acknowledge» key flashes.

Putting the machine back into operation

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

Precondition Fault rectified.

- Disengage «EMERGENCY STOP» push button.
- Confirm the alarm message with the «Acknowledge» key.
The «Information», «STOP» and «Acknowledge» keys are no longer illuminated.
The machine can now be started again.

8.3 Acknowledging alarm, warning and maintenance messages

Information from the controller is interpreted as displayed messages.

The message is stored in the event memory at the same time.

8.3.1 Confirming alarm messages

When an alarm message is displayed,

- The machine is shut down and cannot be restarted.
- The «Information» and «STOP» keys are illuminated.
- The «Acknowledge» key flashes.

Precondition Fault rectified.

- Confirm the message with the «Acknowledge» key.
The «Information», «STOP» and «Acknowledge» keys extinguish.

8.3.2 Acknowledging warning and maintenance messages

A fault warning message or notification of maintenance due is displayed, and:

- The «Information» key illuminates.
- The «Acknowledge» key flashes.

Precondition The cause of the warning is rectified.
Maintenance has been carried out.

- Confirm the message with the «Acknowledge» key.
The «Acknowledge» key is extinguished but the «Information» key is still illuminated.



The «Information» key continues to be illuminated when the machine is restarted until the fault is rectified or maintenance has been carried out.
Upon maintenance, the maintenance interval counter must be reset.

Further information For more information about the event memory and resetting the maintenance timer, see the separate operating manual of the SIGMA CONTROL MOBIL

8.4 Operating the options

- Comply with all instructions.

8.4.1 Option ob Operating the machine with the "Automatic start/stop" option

If you purchased a machine with the "Automatic start/stop" option, the operator can select between running the controller in *automatic* or *manual* mode. The machine is factory-set for *automatic* operation when you switch the machine on. The machine can be controlled in *manual* mode as usual in normal operation.



The battery can deplete if the controller stays continuously switched on (readiness for automatic machine start). The starting voltage is insufficient to start the engine when needed. Moreover, deep discharge of the battery may result in battery damage.

- Use battery maintenance charge.

Precondition External connector cable of the master controller connected.
No personnel are working on the machine.
Maintenance doors/panels are locked.

8.4.1.1 Preparing for start

- Switch the «Controller ON/OFF» key to ON.
 - The controller boots up and the Welcome page appears on the display.
 - If the temperature is below 32 F, the engine control unit will automatically switch on engine pre-heating.
 - If the controller does not display any unacknowledged messages (see separate SIGMA CONTROL MOBIL User Manual, chapter "Functional description"), the display switches to the display image 33 and signals readiness to start.
 - The «START» button flashes.

After switching on the machine (with automatic mode active) the «START» button must be pressed once to switch to *Ready to start*. Until this status is reached, the following message appears on the controller display:

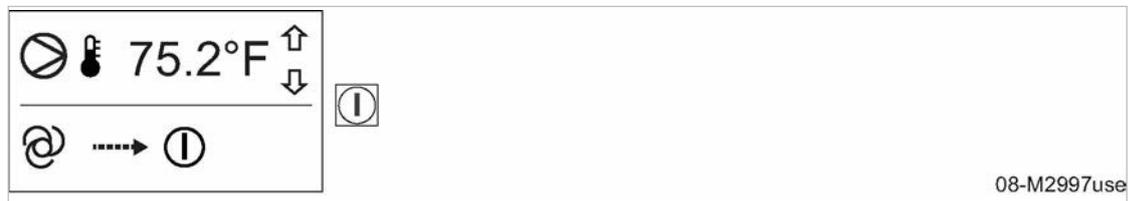


Fig. 33 Preparing readiness to start of the "Automatic start/stop"

- Press the «START» button.

Wait for start command

The display image 34 appears on the controller display and signals *Waiting for start command*.

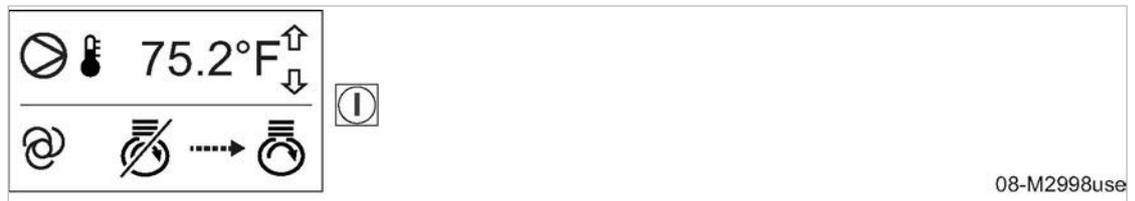


Fig. 34 Waiting for start command

- Press the «START» button.



The machine is ready to start.

The remote contact of the master control system signals the compressed air demand to the controller:

- The engine is automatically started.
- The controller switches the machine to LOAD as soon as the required airtend discharge temperature (ADT)* has been attained.
- If the starting sequence fails or is interrupted by pressing the «EMERGENCY STOP» push-button, the "re-start inhibitor" is activated for 20 seconds. The display shows the remaining time before another start can be attempted.

Further information * For temperature settings, see chapter 2.7.4

8.4.1.2 Suspend automatic mode for operating cycle (forced manual operation)

If the «START» or «STOP» buttons are pressed for longer than two seconds, the controller switches to manual operation (manual mode) for this operating cycle.

- Push the «START», or «STOP» key longer than 2 seconds.

The machine can be controlled as usual in normal operation.



The activated manual operation can be cancelled again by activating the «Controller ON/OFF» switch.

8.4.1.3 Shutting down the machine

When the compressed air demand via the remote contact of the master controller ends, the machine shuts down as follows:

Machine switches to *run-on phase*:

- The engine runs at IDLE speed.
- The inlet valve closes.
- Oil separator tank (OST) is vented.
- When the pre-set cool-down period* has elapsed, the machine has cooled enough so that the engine can stop automatically.
(* See also the separate SIGMA CONTROL MOBIL User Manual, chapter “Engine settings” “Setting the maximum cool-down time.)



- If the pressure in the oil separator tank is still > 1 psi, the controller will activate the *back pressure* indicator.
- When the machine is fully vented, the display changes to *Ready to start*.
- When all pressure is vented from the OST after shut down, the restart inhibitor is activated and is indicated by the timer counting down from 20 seconds.

Switch the controller off

1. **NOTICE** *Memory fault!*
Damage to the machine electronics and/or controller is possible.
 - *Shut down the controller only after the engine control unit has completed saving.*
2. ⌚ Wait for approx. 3 seconds until saving is complete.
3. Switch off the «Controller ON/OFF» switch.

Further information Please see the separate User Manual for SIGMA CONTROL MOBIL for details on changing the parameters of the “Automatic start/stop” option and for changing the operating mode to *manual mode*.

**8.4.2 Option ba
Using the low-temperature equipment**
Option bb Pre-heating the engine cooling water:

- Start the engine coolant pre-heating as described in chapter 7.5.

8.4.3 Option da/df, da/dd/df Bypassing and activating the heat exchanger

A heat exchanger reheats the treated compressed air. This reheating unit can be bridged via by-pass realized with a directional control valve. An intermediate position between the "I" - Open (red marking) and "0" - Closed (blue) positions is also possible. This enables a rough predetermination of the temperature of the produced compressed air.

- Open the right-hand access door.

8.4.3.1 Option da/df Selecting either B or A compressed air quality

You can choose between the following options provided for compressed air treatment:

- Condensate-free and also heated compressed air
→ Compressed air quality B
- Condensate-free compressed air
→ Compressed air quality A

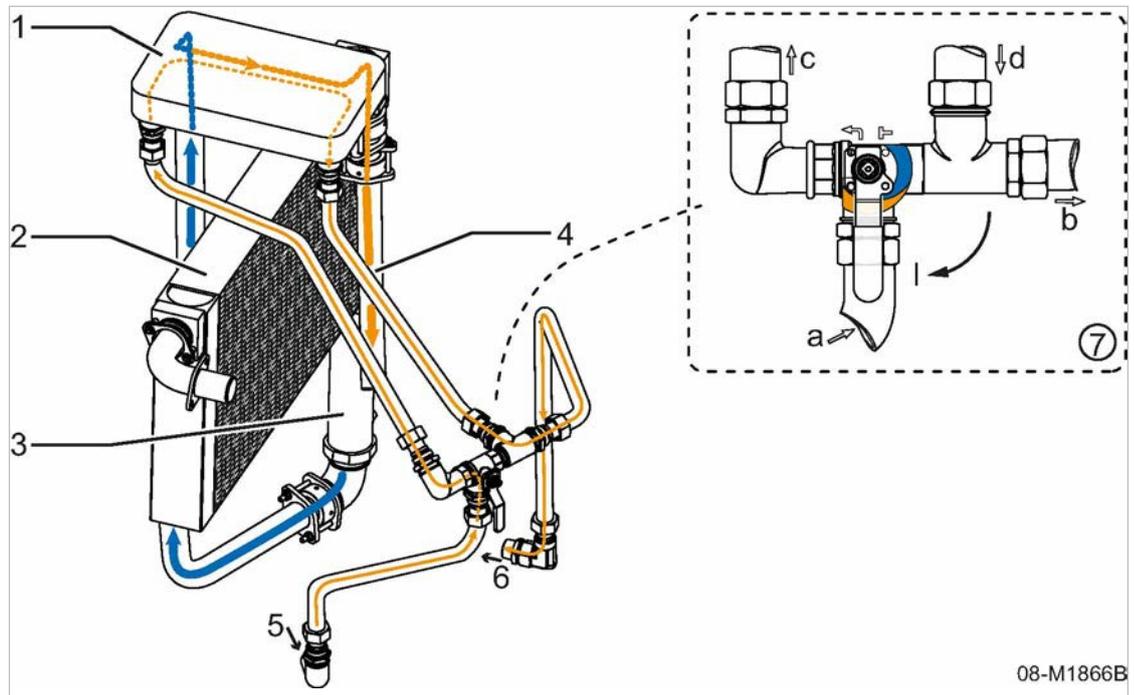
Heat exchanger shut-off valve	Compressed air quality at the compressed air outlet	Compressed air quality, abbreviation
I	Condensate-free and heated compressed air	W
0	Condensate-free compressed air	A

I - Shut-off valve open; 0 - Shut-off valve closed

Tab. 67 Shut-off valve position and selected compressed air quality

Precondition Machine is shut down.

Activating the heat exchanger



08-M1866B

Fig. 35 Heat exchanger without bypass operation (with compressed air heating)

- | | |
|--|--|
| ① Heat exchanger | ⑦ Shut-off valve (3-way) |
| ② Aftercooler | “I” - Open position (red marking) |
| ③ Centrifugal separator | Ⓐ Oil from the oil separator tank |
| ④ Air pipe (to compressed air outlet) | Ⓑ Oil to thermostatic valve/oil filter |
| ⑤ Connection for oil separator tank (cooling oil inlet) | Ⓒ Oil to heat exchanger (open) |
| ⑥ Connection for thermostatic valve (cooling oil outlet) | Ⓓ Oil from heat exchanger |

➤ Open the shut-off valve at the heat exchanger (position I) → red marking.

Result The cooling oil flows from Ⓐ via Ⓒ and Ⓓ to Ⓑ. The direct connection between Ⓐ and Ⓑ is closed. The oil/compressed air heat exchanger is part of the compressor's oil circuit. The compressed air fed through the heat exchanger is heated by the hot cooling oil of the compressor. "Condensate-free and heated compressed air" is available at the compressor air distributor.

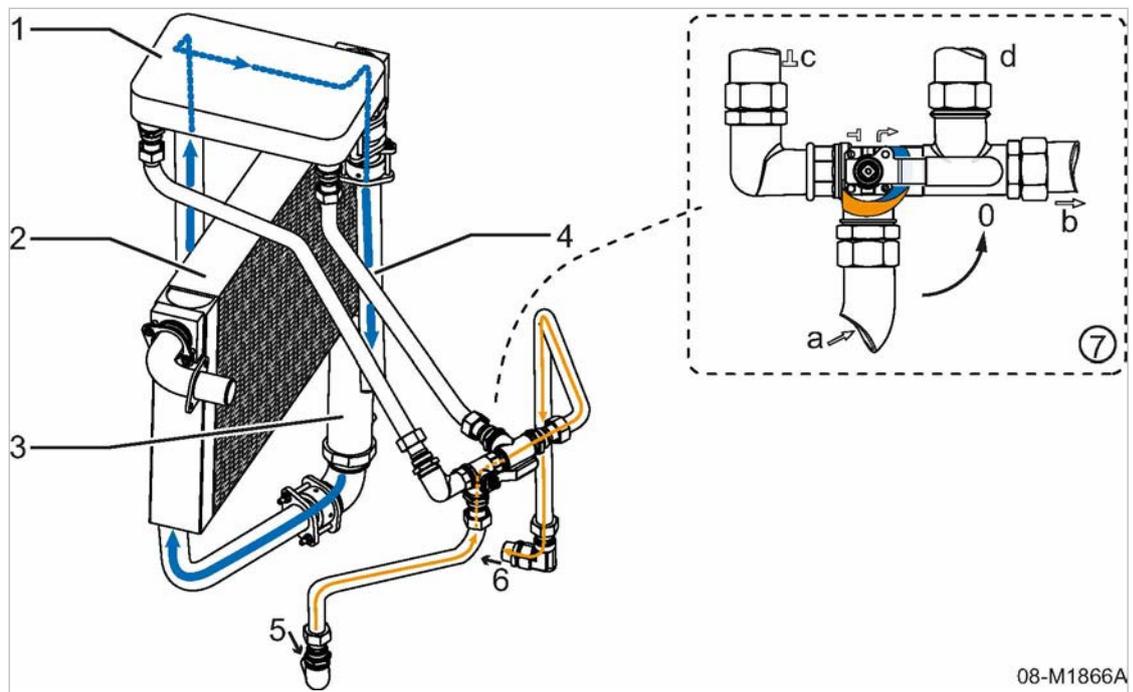
Deactivating the heat exchanger


Fig. 36 Heat exchanger with bypass operation (no compressed air heating)

- | | |
|--|--|
| ① Heat exchanger | ⑦ Shut-off valve (3-way) |
| ② Aftercooler | “0” - Closed position (blue marking) |
| ③ Centrifugal separator | Ⓐ Oil from the oil separator tank |
| ④ Air pipe (to compressed air outlet) | Ⓑ Oil to thermostatic valve/oil filter |
| ⑤ Connection for oil separator tank (cooling oil inlet) | Ⓒ Oil to heat exchanger (closed) |
| ⑥ Connection for thermostatic valve (cooling oil outlet) | Ⓓ Oil from heat exchanger |

- Close the shut-off valve at the heat exchanger (position 0) → blue marking.

Result The cooling oil flows directly from Ⓐ to Ⓑ, Ⓒ is closed.

The bypass line bridges the oil/compressed air heat exchanger and is not part of the compressor's oil circuit. The compressed air fed through the heat exchanger is not heated. Only " condensate-free compressed air" is then available at the compressed air distributor.

- Close the door.

8.4.3.2 Option da/dd/df Selecting either G or F compressed air quality

You can choose between the following options provided for compressed air treatment:

- Moisture-reduced, oil-free and also heated compressed air
 → Compressed air quality G
- Moisture-reduced, oil-free compressed air
 → Compressed air quality F

Heat exchanger shut-off valve	Compressed air quality at the compressed air outlet	Compressed air quality, abbreviation
I	Moisture-reduced, technically oil-free and heated compressed air	G
0	Moisture-reduced, technically oil-free compressed air	F

I - Shut-off valve open; 0 - Shut-off valve closed

Tab. 68 Shut-off valve position and selected compressed air quality

Activating the heat exchanger



For details about the directional control valve, see Fig. 35, item 7.

- Open the shut-off valve at the heat exchanger (position I) → red marking.

Result The cooling oil flows from [a] via [c] and [d] to [b]. The direct connection between [a] and [b] is closed. The oil/compressed air heat exchanger is part of the compressor's oil circuit. The compressed air fed through the heat exchanger is heated by the hot cooling oil of the compressor. "Technically oil-free, dry and heated compressed air" is available at the compressed air distributor.

Deactivating the heat exchanger



For details about the directional control valve, see Fig. 36, item 7.

- Close the shut-off valve at the heat exchanger (position 0) → blue marking.

Result The cooling oil flows directly from [a] to [b], [c] is closed. The bypass line bridges the oil/compressed air heat exchanger and is not part of the compressor's oil circuit. The compressed air fed through the heat exchanger is not heated. "Technically oil-free and dry compressed air" is available at the compressed air distributor.

- Close the door.

8.4.4 Option ga Generator operation

⚠ DANGER

Risk of fatal injury caused by contact with live components!

- Check correct function of the insulation monitoring device daily (see chapter 7.6).
- Have the generator and control box checked annually by a qualified electrician (see chapter 3.9.5).

8.4.4.1 Switch on the generator

Precondition LOAD operation.

Read and follow the instructions on generator operation in chapter 4.9.5.3.

1. Turn the «generator main switch » to the "I" position.

2. Set the «automatic circuit-breaker(s)» to the "I" position.
3. Turn the mode selector switch to the required mode of operation.

Further information See chapter 4.9.5.2 for generator controls.
 See chapter 4.9.5.1 for generator operating modes.

8.4.4.2 Switch off the generator

Precondition Read and follow the instructions on switching off the generator in chapter 4.9.5.3.

1. **NOTICE** *Thermal overload of the turbo generator. Stopping the machine abruptly after the generator has been in operation for some time can cause heat damage to the generator.*
 - *Allow the engine to run for about 2 minutes in idle before shutting down to allow the generator to cool down.*
2. Set the «automatic circuit breaker(s)» to the "0" position.
3. Turn the «generator main switch» to the "0" position.
4. Press «LOAD/IDLE» key.
 - The machine switches to *unloaded run-on*, that is:
 - The engine runs at IDLE speed.
 - The Oil separator tank (OST) is vented.
 - The machine cools down.
 - After running about 2 minutes in IDLE, the generator has cooled down enough so that the engine can be stopped.

8.5 Cleaning the machine after operation

Material High-pressure cleaner

Precondition The machine is switched off.
 The machine has cooled down.
 The machine is fully vented, the pressure gauge reads 0 psig.
 All compressed air consumers are disconnected and the air outlet valves are open.

Maintain the following minimum distances to the object to be cleaned in order to prevent damages to the machine when cleaning with the high-pressure cleaner.

- Circular section jets: approximately 2.3 ft
- Fan jets: approximately 1 ft
- Dirt blasters: approximately 1 ft



Keep the water jet in permanent motion during the cleaning process. You prevent damage.



Cleaning with dry-ice jets is strictly forbidden as it could cause unforeseeable damages.

1. **NOTICE** *Machine damage caused by strong water jet!*
Direct water jets can damage or even destroy sensitive components.
 - *Do **not** directly focus a strong water jet towards sensitive components.*
 - *Work carefully.*
2. Carefully clean the machine with the high-pressure cleaner.



Water has accumulated in the closed floor pan.

- Drain the water.



Catch the liquid and dispose in accordance with applicable environmental regulations.

Further information See chapter 10.13.6 for information to the draining of liquids within the machine.

8.6 Refuelling the machine

In order to avoid accidents caused by igniting fuel, special caution must be exercised when filling the fuel tank.

⚠ DANGER

Fuel poses a fire risk!

Overflowing or spilled fuel can ignite upon contact with hot engine parts, open flames or sparks, resulting in serious burns.

- *Only refuel the machine after switching it off and allowing it to cool down.*
 - *Never refuel the machine in the vicinity of open flames or sparks.*
 - *Do not allow fuel to spill or overflow.*
 - *Do not smoke.*
- Follow all instructions carefully.

8.6.1 Use the correct type of fuel

The use of incorrect fuels in modern diesel engines may – in the most serious cases – result in a total loss of the injection system and engine.

In the worst case scenario, irreparable damage occurs when a modern diesel engine is started with petrol or premium-grade petrol in the fuel tank. Because these fuels lack the special lubricating properties of diesel fuel, it is primarily the precision components in the injection system that are destroyed. Secondary damage may occur to the drive engine.

Example: Machine with diesel engine	Measures
<ul style="list-style-type: none"> ■ Fuel tank is filled with petrol or premium-grade fuel. ■ Error is noticed. ■ Drive engine is not started. 	<ul style="list-style-type: none"> ➤ Do not start the engine under any circumstances. ➤ Drain/pump out the incorrect fuel from the tank. ➤ Have the fuel tank cleaned. ➤ Fill the fuel tank with diesel fuel.

Example: Machine with diesel engine	Measures
<ul style="list-style-type: none"> ■ Fuel tank is filled with petrol or premium-grade fuel. ■ Error is not noticed. ■ Drive engine is started. 	<ul style="list-style-type: none"> ➤ Switch off the drive engine immediately. ➤ Contact a specialist workshop. ➤ Drain/pump out the incorrect fuel from the tank. ➤ Have the fuel tank cleaned. ➤ Have the fuel system cleaned. ➤ Have the injection system checked/replaced. ➤ Have the drive engine checked/replaced. ➤ Fill the fuel tank with diesel fuel.

Tab. 69 Measures required should the fuel tanks be filled with the incorrect fuel type

The manufacturer is not liable for any damage caused due to filling of the tank with the incorrect fuel type.

The fuel tank must be filled exclusively with liquid fuel of the correct type and the recommended specification.

A label placed on the fuel tank in the vicinity of the filler neck indicates the correct fuel type, see Figure 37.

NOTICE

Operating the machine with the incorrect fuel type will result in damage to the injection system and drive engine!

- Empty the fuel tank and have it cleaned.
- Have the entire fuel system cleaned.
- If necessary, replace the injection system/drive engine.
- Only fill the fuel tank with diesel that complies with the recommended fuel specifications.

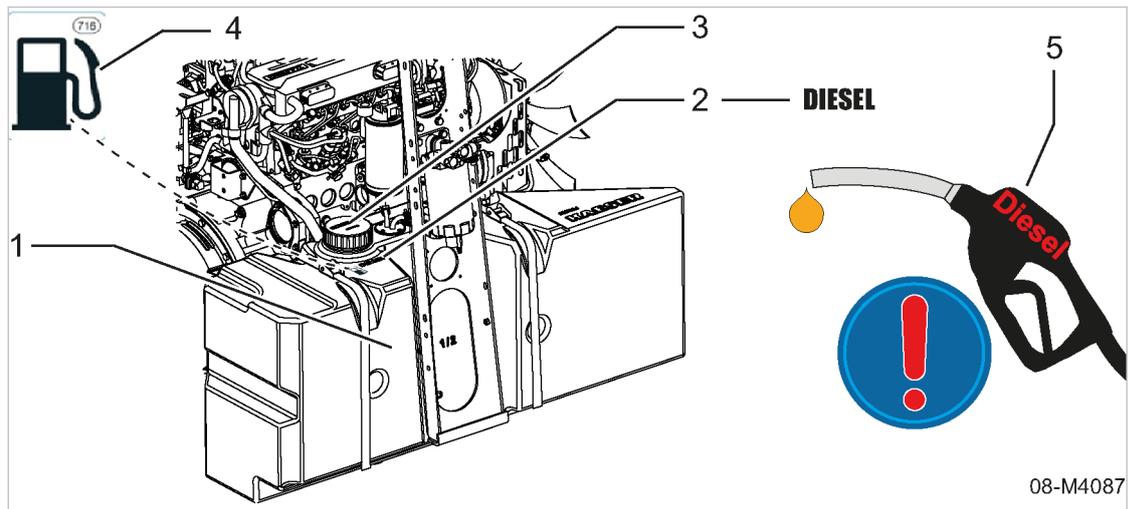


Fig. 37 Filling the tank with the correct fuel type

- | | |
|-----------------------|----------------------|
| ① Fuel tank | ④ Refuelling label |
| ② Specified fuel type | ⑤ Diesel fuel nozzle |
| ③ Fuel tank cap | |

- Check the correct fuel type and specifications by referring to Table 71.

Fuel type/fuel specification	Designation/standard
Fuel type	Diesel fuel
Recommended fuel specification	ASTM D975 ⁽²⁾
	EN590 ⁽¹⁾

⁽¹⁾ ≙ Sales region Europe, ⁽²⁾ ≙ Sales region USA

Tab. 70 Fuel type/fuel specification



Fuel type/fuel specification does not comply with regulations.

- Under no circumstances must the fuel tank be filled with the incorrect fuel type.

Further information For more details on the correct fuel specification, see chapter 2.8.3.

8.6.2 Filling the fuel tank at a pump with a refuelling nozzle



Liquid fuels expand at high ambient temperatures. To prevent overflowing, the fuel tank must not be filled to the brim.

The *maximum fill level* is indicated on the fuel tank.

Precondition The machine is standing level.
The machine has cooled down.
Air consumers are disconnected,
the take-off valves are open,
the machine is fully vented, the pressure gauge reads 0 psig.
The negative cable to the battery is disconnected.
The selected fuel meets the requirements specified in Table 71.

1. Open the right-hand wing door.
2. Loosen and remove the fuel tank cap.
3. Insert the diesel fuel nozzle into the filler neck.
4. Activate the fuel nozzle.
Refuelling begins.
5. Wait until the maximum fill level of the fuel tank has been reached.
Sufficient expansion volume remains.
6. Shut off and remove the fuel nozzle.
7. Close the fuel tank filler neck with the fuel cap.



Dispose of any spilled fuel and fuel-contaminated working materials in accordance with applicable environmental regulations.

Preparing for operation

1. Connect the negative cable to the battery.
2. Close the wing door.

8.6.3 Filling the fuel tank on a construction site with a canister

Liquid fuels expand at high ambient temperatures. To prevent overflowing, the fuel tank must not be filled to the brim.

The *maximum fill level* is indicated on the fuel tank.

Material Funnel

Precondition The machine is standing level.
The machine has cooled down.
Air consumers are disconnected,
the take-off valves are open,
the machine is fully vented, the pressure gauge reads 0 psig.
The negative cable to the battery is disconnected.
The selected fuel meets the requirements specified in Table 71.

1. Open the right-hand wing door.
2. Loosen and remove the fuel tank cap.
3. Insert a funnel into the filler neck.
4. Carefully pour the contents of the canister into the funnel.
5. Do not allow fuel to spill or overflow.
6. Fill the tank to the *maximum fill level* marking.
Sufficient expansion volume remains.
7. Remove the funnel.
8. Close the fuel tank filler neck with the fuel cap.



Dispose of any spilled fuel and fuel-contaminated working materials in accordance with applicable environmental regulations.

Preparing for operation

1. Connect the negative cable to the battery.
2. Close the wing door.

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 MOBIL messages

There are three types of message:

- Alarm messages, see chapter 9.2.1
- Warning messages, see chapter 9.2.2
- Maintenance messages, see chapter 10.2

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

9.2.1 Alarm messages on the controller (machine off)

Alarm with automatic deactivation of the machine.

The «Acknowledge» key flashes. The «Information» key and the «STOP» key are illuminated.



You must acknowledge the alarm message upon correction of the fault before you can restart the machine.

Further information Further information on the acknowledgement of alarm messages can be found in Chapter 8.3.

Message codes, range 1100 – 1199 "engine faults"

Code	Meaning	Remedy	See chapter	Where can I get help?	
				SW	KS
1100	Fault – oil pressure (p76) low.	Check the engine oil level.	10.4.4	–	–
		Have the engine oil pressure checked.	–	X	–
		Have the oil pressure switch checked.	–	X	X
1101	Fault – oil pressure sensor.	Have the sensor changed.	–	X	X

SW = Specialized workshop; KS = KAESER SERVICE

SCM - SIGMA CONTROL MOBIL; ECU - Engine Control Unit

DPF = Diesel particulate filter; SCR - Selective Catalytic Reduction

Code	Meaning	Remedy	See chapter	Where can I get help?	
				SW	KS
1104	Fault oil temperature.	Have checked.	–	X	X
1110	Fault – coolant temperature (T70) high.	Check the coolant level.	10.4.1	–	–
		Clean the cooler.	10.6	–	–
		Check the water cooling system.	–	X	X
1111	Fault – coolant level too low.	Check the coolant level.	10.4.1	–	–
1112	Fault – coolant level sensor.	Have the sensor changed.	–	X	X
1120	Fault – fault in turbo air pressure.	Have the turbo air pressure sensor checked.	–	X	X
1121	Fault – turbo air temperature (T73) high.	Check operating conditions.	5.2	–	–
		Allow the machine to cool down.			
		Clean the cooler.	10.6	–	–
1122	Fault – sensor turbo air pressure.	Have the sensor changed.	–	X	X
1123	Fault – sensor turbo air temperature.	Have the sensor changed.	–	X	X
1124	Fault - engine fault air flow meter.	Have checked.	–	X	X
1130	Fault – engine fuel level too low.	Refuel.	–	–	–
1131	Fault – fuel temperature (T75) high.	Allow the machine to cool down.	–	–	–
1132	Fault – fuel pressure low.	Have checked.	–	X	X
		Clean / replace the fuel filter.	10.4.3	–	–
1133	Fault – sensor fuel temperature.	Have the sensor changed.	–	X	X
1134	Fault – sensor fuel pressure.	Have the sensor changed.	–	X	X
1135	Fault – fuel pump.	Have checked.	–	X	X
1136	Fault – floor pan fluid level.	Drain the liquid.	10.13.6	–	–
1140	Fault – engine generator does not load.	Have checked.	–	X	X

SW = Specialized workshop; KS = KAESER SERVICE

SCM - SIGMA CONTROL MOBIL; ECU - Engine Control Unit

DPF = Diesel particulate filter; SCR - Selective Catalytic Reduction

Code	Meaning	Remedy	See chapter	Where can I get help?	
				SW	KS
1141	Fault – ECU power supply.	Battery maintenance.	10.4.9	–	–
		Check battery charging system.	–	X	X
1150	Fault – ECU other faults.	Have checked.	–	X	X
1151	Fault – ECU-SCM communication.	Have checked.	–	X	X
1160	Fault – rail pressure sensor.	Have checked.	–	X	X
1161	Fault – speed sensor.	Have checked.	–	X	X
1165	Fault - engine speed low.	Have checked.	–	X	X
1170	Fault – automatic start mode fault.	Have checked.	–	–	X
1171	Fault – manual stop automatic mode.	Unblock.	8.2.7	–	–
		Have checked.	–	–	X
1180	Fault – DPF fault.	Check DPF.	–	–	X
1181	Fault – DEF level low.	Fill tank.	–	–	–
1185	Fault – fault in emission treatment.	Have the emission treatment checked.	–	–	X
1186	Fault message emission treatment – temperature high.	Have the emission treatment checked.	–	–	X
1187	Fault message emission treatment – regeneration.	Have the emission treatment checked.	–	–	X
1189	Fault – SCR catalytic system error.	Have checked.	–	X	X
1191	Fault – DEF quality deficient.	Have checked. Have changed if necessary.	–	X	X

SW = Specialized workshop; KS = KAESER SERVICE

SCM - SIGMA CONTROL MOBIL; ECU - Engine Control Unit

DPF = Diesel particulate filter; SCR - Selective Catalytic Reduction

Tab. 71 Alarm messages and actions concerning the engine

Message codes, range 1200 – 1299 “Compressor faults”

Code	Meaning	Remedy	See chapter	Where can I get help?	
				SW	KS
1200	Fault - ADT high.	Check operating conditions. Allow the machine to cool down.	5.2	–	–
		Check the cooling oil level.	10.5.1	–	–
		Clean the cooler.	10.6	–	–
1201	Fault - OST pressure high.	Have it checked.	–	–	X
1202	Fault - oil separator tank temperature high at the air discharge port.	Check the cooling oil level.	10.5.1	–	–
		Clean the cooler.	10.6	–	–
		Change oil separator cartridge.	10.5.6	–	–

SW = specialized workshop; KS = KAESER SERVICE

ADT = Airend discharge temperature; OST - Oil separator cartridge

Tab. 72 Alarm messages and actions concerning the compressor unit

Message codes, range 1300 – 1399 “Controller faults”

Code	Meaning	Remedy	See chapter	Where can I get help?	
				SW	KS
1300	Fault – PLC memory error.	Have it checked.	–	–	X
1301	Fault PLC - GSM communication.	Have checked.	–	–	X
1302	Fault PLC – HMI communication.	Have it checked.	–	–	X
1303	Fault PLC – temperature high.	Check operating conditions. Allow the machine to cool down.	5.2	–	–
1304	Fault – PLC power supply.	Have it checked.	–	–	X
1306	PLC - ECU communication fault.	Have checked.	–	–	X
1310	Fault – Fault in watchdog.	Have it checked.	–	–	X

SW = Specialized workshop; KS = KAESER SERVICE

PLC = Programmable Logic Controller; HMI = Controller display; GSM = Global system for mobile communications; ECU = Engine Control Unit; Watchdog = Function monitoring

Tab. 73 Alarm messages and actions concerning the controller

Message codes, range 1400 – 1499 "General faults"

Code	Meaning	Remedy	See chapter	Where can I get help?	
				SW	KS
1400	Fault message EMERGENCY STOP.	Disengage «EMERGENCY STOP» push button.	8.2.7	–	–
		Have checked.	–	–	X
1410	Fault - OST pressure sensor open circuit.	Have repaired.	–	–	X
1411	Fault – OST pressure sensor short-circuit.	Have repaired.	–	–	X
1412	Fault – inlet valve pressure sensor open circuit.	Have repaired.	–	–	X
1413	Fault – inlet valve pressure sensor short-circuit.	Have repaired.	–	–	X
1414	Fault – ADT sensor open circuit.	Have repaired.	–	–	X
1415	Fault – ADT sensor short-circuit.	Have repaired.	–	–	X
1416	Fault – fuel level sensor open circuit.	Have repaired.	–	–	X
1417	Fault – fuel level sensor short-circuit.	Have repaired.	–	–	X
1420	Fault – venting valve open circuit.	Have repaired.	–	–	X
1421	Fault – venting valve open circuit.	Have repaired.	–	–	X
1422	Fault – auxiliary venting valve open circuit.	Have repaired.	–	–	X
1423	Fault – auxiliary venting valve short-circuit.	Have repaired.	–	–	X
1424	Fault – inlet valve control valve open circuit.	Have repaired.	–	–	X
1425	Fault – inlet valve control valve short-circuit.	Have repaired.	–	–	X
1426	Fault – frost protector valve open circuit.	Have repaired.	–	–	X
1427	Fault – frost protector valve short-circuit.	Have repaired.	–	–	X
1450	Fault – GSM module control locked.	Unblock GSM/GPS module.	–	–	X

SW = Specialized workshop; KS = KAESER SERVICE

OST = oil separator tank; ADT = Airend discharge temperature; GSM = Global system for mobile communications

Tab. 74 Alarm messages and troubleshooting in "General faults"

9.2.2 Warning messages on the controller

The machine is not shut down.

The «Acknowledge» key flashes. The «Information» key illuminates.



- In the case of an overheating warning, the machine switches automatically to IDLE 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 8.3.

Message codes, range 3100 – 3199 "Engine warning"

Code	Meaning	Remedy	See chapter	Where can I get help?	
				SW	KS
3100	Warning – oil pressure (p76) low.	Check the engine oil level.	10.4.4	–	–
		Have the engine oil pressure checked.	–	X	–
		Have the oil pressure switch checked.	–	X	X
3102	Warning – oil level low.	Replenish engine oil.	10.4.5	–	–
3103	Warning – oil level high.	Check the engine oil level and drain, if necessary.	10.4.4	–	–
3104	Warning - oil temperature high.	Have checked.	–	X	X
3105	Warning – oil quality bad.	Change oil.	10.4.6	X	X
3110	Warning – coolant temperature (T70) high.	Check the coolant level.	10.4.1	–	–
		Clean the cooler.	10.6	–	–
		Check the water cooling system.	–	X	X
3121	Warning – turbo air temperature (T73) high.	Check operating conditions. Allow the machine to cool down.	5.2	–	–
		Clean the cooler.	10.6	–	–
		Have the turbo air pressure sensor checked.	–	X	X
3130	Warning – engine fuel level low.	Refuel.	–	–	–

SW = Specialized workshop; KS = KAESER SERVICE

SCR - Selective Catalytic Reduction; DPF - Diesel Particulate Filter

UM SCM = Separate user manual for the SIGMA CONTROL SMART controller

Code	Meaning	Remedy	See chapter	Where can I get help?	
				SW	KS
3131	Warning – fuel temperature (T75) high.	Check operating conditions. Allow the machine to cool down.	5.2	–	–
		Have checked.	–	X	X
3132	Warning – fuel pressure (T75) high.	Have checked.	–	X	X
3133	Warning - fuel temperature sensor (T75) faulty.	Have checked.	–	X	X
3134	Warning - fuel pressure sensor (p75) faulty.	Have checked.	–	X	X
3135	Warning - fuel pump.	Have checked.	–	X	X
3136	Warning – fuel filter water level.	Empty the fuel filter (water trap).	10.4.3	–	–
3154	Warning – engine sensor fault.	Have checked.	–	X	X
3155	Warning – engine actuator fault.	Have checked.	–	X	X
3165	Warning – engine speed low.	Have checked.	–	X	X
3181	Warning – DEF level low.	Fill DEF tank.	–	–	X
3182	Warning – Torque reduction active.	Fill DEF tank.	–	–	X
3183	Warning – Torque reduction next engine start.	Fill DEF tank.	–	–	X
3184	Warning – fault in ambient temperature sensor.	Check/repair.	–	–	X
3185	Warning message - fault in emission treatment.	Have the emission treatment checked.	–	–	X
3186	Warning message emission treatment - temperature high.	Have the emission treatment checked.	–	–	X
3187	Warning message emission treatment – regeneration.	Have the emission treatment checked.	–	–	X
3188	Warning message Standstill regeneration required.	Start the standstill regeneration.	UM SCM	–	–
3189	Warning – SCR catalytic system error.	Have checked.	–	X	X

SW = Specialized workshop; KS = KAESER SERVICE

SCR - Selective Catalytic Reduction; DPF - Diesel Particulate Filter

UM SCM = Separate user manual for the SIGMA CONTROL SMART controller

Code	Meaning	Remedy	See chapter	Where can I get help?	
				SW	KS
3190	Warning - DPF exchange required.	Have the DPF replaced.	–	X	–
3191	Warning – DEF quality deficient.	Have checked. Have changed if necessary.	–	X	X

SW = Specialized workshop; KS = KAESER SERVICE

SCR - Selective Catalytic Reduction; DPF - Diesel Particulate Filter

UM SCM = Separate user manual for the SIGMA CONTROL SMART controller

Tab. 75 Warning messages and measures relating to the engine

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

OST = Oil separator tank; ADT = Airend discharge temperature

Tab. 76 Warning messages and measures relating to the compressor

9.3 Evaluating engine faults and alarms

9.3.1 Engine refuses to start or does not turn over

Possible cause	Remedy	Where can I get help?	
		SW	KS
«EMERGENCY STOP» push button activated.	Unlatch the «EMERGENCY STOP» push button, see chapter 8.2.7.	–	–
Defective starter.	Have changed.	X	–
Engine electrical fault.	Have repaired/changed.	X	–
Fuel tank empty.	Fill up the fuel tank.	–	–

SW = Specialised workshop; KS = KAESER SERVICE

Possible cause	Remedy	Where can I get help?	
		SW	KS
Airlock in the fuel line between fuel tank and injector pump.	Bleed the fuel line (see chapter 10.4.3).	–	–
Fuel filter clogged.	Clean or replace, see chapter 10.4.3.	–	–
Fuel line broken.	Have changed.	X	–
Defective control fuse or relay.	Have repaired or replaced if necessary.	X	X
Discharge temperature too high.	Have checked.	–	X
SIGMA CONTROL MOBIL defective.	Have repaired/changed.	–	X
Electrical connections and/or cables loose or broken.	Tighten the connection or have the cable replaced.	X	–
Defective battery or low charge.	Maintain battery, see chapter 10.10.	–	–
Motor alternator defective.	Have changed.	X	–
Defective alternator regulator.	Have changed.	X	–
Oil pressure switch indicating insufficient oil pressure.	Check the engine oil level (see chapter 10.4.4).	–	–
	Have the engine repaired or exchanged.	X	–

SW = Specialised workshop; KS = KAESER SERVICE

Tab. 77 Fault: engine refuses to start or comes to a stop

9.3.2 Engine does not reach full speed

Possible cause	Remedy	Where can I get help?	
		SW	KS
Airlock in the fuel line between fuel tank and injector pump.	Bleed the fuel line (see chapter 10.4.3).	–	–
Fuel filter clogged.	Clean or replace, see chapter 10.4.3.	–	–
Fuel line broken.	Have changed.	X	–
Engine electrical fault.	Have repaired/changed.	X	–
SIGMA CONTROL MOBIL defective.	Have repaired/changed.	–	X
Cleaning process of the diesel particulate filter is active.	Wait until cleaning is complete.	X	X

SW = Specialised workshop; KS = KAESER SERVICE

Possible cause	Remedy	Where can I get help?	
		SW	KS
Torque reduction active.	Check/top off the reducing agent in the tank.	X	X
	Have the exhaust system checked.	X	X

SW = Specialised workshop; KS = KAESER SERVICE

Tab. 78 Alarm: "engine does not reach full speed"

9.4 Analyzing compressor faults and alarms

9.4.1 Working pressure too high

Possible cause	Remedy	Where can I get help?	
		SW	KS
Proportional controller defective.	Have repaired or replaced 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.	Have repaired or replaced if necessary.	–	X
Venting valve does not blow off.	Check the connections and function and have repaired or replaced as necessary.	–	X

SW = Specialized workshop; KS = KAESER SERVICE

Tab. 79 Fault: working pressure too high

9.4.2 Working pressure too low

Possible cause	Remedy	Where can I get help?	
		SW	KS
Proportional controller defective.	Have repaired or replaced if necessary.	–	X
Inlet valve not opening or only opening partially.	Repair or have replaced if necessary.	–	X
Pressure gauge indicating false pressure.	Have repaired or replaced if necessary.	–	X
Safety relief valve maladjusted and/or leaking.	Have repaired or replaced if necessary.	–	X
Venting valve does not close.	Check the connections and function and have repaired or replaced as necessary.	–	X

SW = Specialized workshop; KS = KAESER SERVICE

Possible cause	Remedy	Where can I get help?	
		SW	KS
Engine does not run at maximum speed (in LOAD mode).	See chapter 9.3	X	X
Engine air filter and/or compressor air filter clogged.	Clean or change, see chapters 10.4.2 and 10.5.7.	–	–
Oil separator cartridge heavily clogged.	Change, see chapter 10.5.6.	–	–

SW = Specialized workshop; KS = KAESER SERVICE

Tab. 80 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.	Adjust or have replaced if necessary.	–	X

SW = Specialized workshop; KS = KAESER SERVICE

Tab. 81 Fault: safety relief valve blowing off

9.4.4 Machine overheating

Possible cause	Remedy	Where can I get help?	
		SW	KS
Defective cooling fan.	Have the blades or the complete fan wheel replaced.	–	X
Oil cooler surface clogged.	Clean surface, see chapter 10.6.	–	–
The working element of the thermostatic valve not working.	Have repaired or replaced if necessary.	–	X
Working pressure too high (proportional controller maladjusted).	Reset to the permissible value or have replaced.	–	X
Oil separator cartridge heavily clogged.	Measure the pressure differential and change the cartridge if greater than 1 psi. Change, see chapter 10.5.6.	–	X
Compressor oil filter cartridge clogged.	Change, see chapter 10.5.4.	–	–

SW = Specialized workshop; KS = KAESER SERVICE

Possible cause	Remedy	Where can I get help?	
		SW	KS
Compressor cooling oil level too low.	Replenish, see chapter 10.5.2.	–	–
Oil pipes leaking.	Seal leaks or have pipes changed.	X	X
Engine cooling system or cooling fan defective.	Have repaired.	X	X
Ambient temperature too high.	See installation conditions in chapter 5.2.	–	–

SW = Specialized workshop; KS = KAESER SERVICE

Tab. 82 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 oil separator cartridge dirt trap or replace the strainer and nozzle if necessary. See chapter 10.5.5	–	X
Fractured oil separator cartridge.	Change, see chapter 10.5.6.	–	–
Oil level in the oil separator tank too high.	Reduce to maximum level, see chapters 10.5.1 and 10.5.3.	–	–

SW = Specialized workshop; KS = KAESER SERVICE

Tab. 83 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 have replaced if necessary.	–	X

SW = Specialized workshop; KS = KAESER SERVICE

Tab. 84 Alarm: "Oil flows from the compressor air filter after shutdown"

**9.4.7 Option da, df, dc, dd
 High moisture content in the compressed air**

Possible cause	Remedy	Where can I get help?	
		SW	KS
Blocked condensate drain on the cyclone separator.	Clean the cyclone separator dirt trap or replace the strainer and nozzle if necessary. See chapter 10.13.1	–	X

SW = Specialized workshop; KS = KAESER SERVICE

Tab. 85 Fault: high moisture content in the compressed air

**9.5 Option ga
 Generator faults and alarms**
9.5.1 No voltage or too low a voltage from the generator

Possible cause	Remedy	Where can I get help?	
		Specialized workshop	KAESER Service
Defective drive belt.	Have replaced.	X	X
Generator / regulator defective	Have repaired.	X	X
Overload protection switch triggered because of overload or defect.	Check the power requirement of the connected consumers and reduce if necessary; check the consumers for short circuits.	X	–
	Check the overload protection switch and have changed if necessary.	X	X
Engine speed too low.	Have reset to rated speed.	X	X
Generator not switched in.	Switch in the generator.	–	–
The compressor's working pressure is set too high, engine overloaded, speed drops off	Have the working pressure adjusted.	X	X
The engine power is reduced because of climatic conditions or other effects.	Keep the generator and compressor load below the rated power	–	–

Tab. 86 Fault: No voltage or too low a voltage from the generator

9.5.2 Generator voltage too high

Possible cause	Remedy	Where can I get help?	
		Specialized workshop	KAESER Service
Generator / regulator defective	Have repaired.	X	X

Possible cause	Remedy	Where can I get help?	
		Specialized workshop	KAESER Service
Engine speed too high.	Have reset to rated speed.	X	X

Tab. 87 Fault: Generator voltage too high

10 Maintenance

10.1 Ensuring safety

Follow the instructions below to ensure safe machine maintenance.

Warning instructions are located directly at a potentially dangerous task.



Disregard of warning warnings 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”.
- Maintenance work may only be carried out by authorized personnel.
- Do not reuse removed self-locking nuts but replace with new ones. The non-positive safety against loosening is no longer ensured when the nut is unscrewed.
- 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. 88 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.



The access doors are held up by gas struts.

- Check that the doors remain open.

If door does not remain opened: Have the gas-filled spring changed.

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.
- Depressurize all pressurised components and enclosures. Verify the vented state.
 - Wait until the machine has automatically vented.

- Carefully open the compressed air outlet valve.
- Check: The pressure gauge must read 0 psig!
- Do not open or dismantle any valves.

When working on the drive system

Touching rotating, very hot, or electrically-live components can result in serious injury.

- Shut down the machine before opening any doors/canopy.
- Disconnect the negative terminals on the batteries.
- Ensure that the machine has cooled down.

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 Note the maintenance messages on the controller

The SIGMA CONTROL MOBIL displays selected maintenance intervals. Display begins 25 operating hours before the interval will expire.

When the machine is switched on, the «Information» key illuminates. The «Acknowledge» key flashes.

- Read the message code from the controller's display.

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 10.3.4.1.

Code	Meaning	Remedy	See chapter
Message code, range 2100 – 2199 “engine maintenance”			
2100	Maintenance message drive motor - renew oil filter.	Change the engine oil filter. (every 500 hours)	10.4.7
2101	Maintenance message drive motor - clean/replace air filter.	Clean or change air filter. (every 500 hours)	10.4.2
2102	Maintenance message drive motor - change the oil.	Change the engine oil. (every 500 hours)	10.4.6
Message codes, range 2200 – 2299 “compressor unit maintenance”			
2200	Maintenance message compressor - renew oil filter.	Replace the compressor oil filter. (every 1000 hours)	10.5.4
2201	Maintenance message compressor - clean/replace the air filter.	Clean or change the compressor air filter. (every 250 hours)	10.5.7
2201	Maintenance message compressor - change the cooling oil.	Replace the compressor cooling oil. (every 1000 hours)	10.5.3

h - operating hours

Tab. 89 Maintenance messages and required actions

10.2.2 Concluding the maintenance

Acknowledge the maintenance message

Precondition Maintenance has been carried out.

- Acknowledge the maintenance message as described in chapter 8.3.

Resetting the maintenance interval counter

Precondition Maintenance is carried out and the maintenance message is acknowledged.

- Reset the maintenance timer as described in the separate operating manual for the SIGMA CONTROL MOBIL controller, chapter "Reset maintenance timer".

10.3 Maintenance schedules

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.:

- poor fuel quality
- 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 the frequency of individual maintenance tasks and deviations from our recommendations to be determined.

Further information A list is given in chapter 10.14.

10.3.2 Maintenance tasks after commissioning

The tables below lists maintenance tasks required after commissioning (initial start-up).

10.3.2.1 Maintenance tasks on the machine after commissioning

- Carry out maintenance tasks according to the following schedule:

Component: Task	E10	E50	See chapter	Note
Engine:				
Check belt tension and re-tension if necessary.		X	10.4.8	KS; SW
Option ga – Generator:				
Check/adjust belt tension.	X		10.13.5	
E10 = after the first 10 operating hours; E50 = after the first 50 operating hours KS = Contact KAESER SERVICE; SW = Contact specialized workshop				

Tab. 90 Maintenance tasks on the machine after commissioning

10.3.3 Preventive maintenance

Preventive maintenance begins with a daily check of the machine.

- Before starting the machine, check for the following:
 - increased consumption of oil, coolant or fuel
 - loose components or leakage
 - worn or damaged drive belts
 - worn or defective cable assemblies
 - smell of fuel
 - electrical smell
- When the motor is running, be alert for unusual system noises that may indicate the need for servicing or maintenance work.

Result When problems occur, take appropriate action to address malfunctions or contact KAESER SERVICE.

10.3.4 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 h, at least every three years.	A3000
Every 4000 operating hours	A4000

Maintenance interval	Short description
Every 6000 operating hours	A6000
Every 36000 h, at least every six years.	A36000

Tab. 91 Maintenance intervals and regular maintenance tasks

The table below lists regular maintenance tasks.

1. Carry out maintenance tasks punctually taking ambient and operating conditions into consideration.
2. Change consumables and operating fluids according to each site.

10.3.4.1 Machine maintenance schedule

- Carry out maintenance tasks as per the following schedule:



Where annual operation exceeds 500 hours, maintenance work marked with (*) in the tables must also be carried out every 6 months.

Assembly: Task	Daily	A250	A500	A1000	A1500	A2000	A3000	A4000	A6000	A36000	See Chapter	Note
Engine:												
Check engine air filter maintenance indicator.	X										10.4.2	
Check engine oil level.	X										10.4.4	
Clean engine air filter.			X								10.4.2	
Change engine oil (*).			X								10.4.6	
Replace engine oil filter (*).			X								10.4.7	KS; SW
Check/adjust the drive belt tension.			X								10.4.8	KS; SW
Have the V-ribbed belt / jockey wheel checked.				X								KS; SW
Replace engine air filter.				X							10.4.2	
Arrange to have the charge air cooler maintained.				X								KS; SW
Have turbocharger checked and cleaned.									X			KS; SW
Check the engine mounts.				X								KS; SW
Arrange for valves to be adjusted.						X						KS; SW
Replace the drive belt.						X					10.4.8	KS; SW

KS = Contact KAESER SERVICE, SW = Contact specialised workshop, DEUTZ = Contact engine manufacturer DEUTZ

SCM = SIGMA CONTROL MOBILE controller

DPF = Diesel particulate filter; SCR = Selective Catalytic Reduction

Assembly: Task	Daily	A250	A500	A1000	A1500	A2000	A3000	A4000	A6000	A36000	See Chapter	Note
Arrange to have the V-ribbed belt / tensioner checked/ replaced.								X				KS; SW
Check engine coolant level.	X										10.4.1	
Clean cooler.		X									10.6	
Check the coolant antifreeze.			X								10.4.1	KS; SW
Change coolant.							X				10.4.1	KS; SW
Fill fuel tank.	X											
Empty fuel prefilter (water separator).	X										10.4.3	
Clean/change the fuel filter.			X								10.4.3	KS; SW
Arrange to have the fuel pump cleaned.				X								KS; SW
Clean the tank strainer.			X									
Clean the fuel tank.			X									
Replace fuel prefilter (*).				X							10.4.3	
Replace the fuel filter (*).				X							10.4.3	KS; SW
Check the fuel return line is tightly fitted and has no leak-ages.			X									
Arrange to have the injector nozzles checked.								X				KS; SW
Arrange to have the fuel injection pump checked.								X				KS; SW
Check battery electrolyte level and service cable connections.			X								10.4.9	
Check fuel tank for secure fixing.		X									10.4.10	
Have the engine monitoring checked.				X								KS; SW
Exhaust gas treatment:												
Check the exhaust system for leaks, including the exhaust gas after-treatment components.	X											
Have the exhaust return line checked.						X						KS; SW

KS = Contact KAESER SERVICE, SW = Contact specialised workshop, DEUTZ = Contact engine manufacturer DEUTZ

SCM = SIGMA CONTROL MOBILE controller

DPF = Diesel particulate filter; SCR = Selective Catalytic Reduction

Assembly: Task	Daily	A250	A500	A1000	A1500	A2000	A3000	A4000	A6000	A36000	See Chapter	Note
Have the DPF system checked.			X									KS; SW
Have the DPF replaced.												<i>Warning SCM!</i> KS; DEUTZ
Exhaust gas treatment with SCR catalytic converter:												
Fill the reduction agent tank.	X											
Check/service the SCR system.			X									KS; SW
Replace the filter insert for the reduction agent pump.				X							10.4.11	KS; SW
Compressor:												
Check compressor air filter maintenance indicator.	X										10.5.7	
Check cooling oil level.	X										10.5.1	
Clean compressor air filter.		X									10.5.7	
Clean compressor oil cooler.		X									10.6	
Check/clean the dirt trap in the oil separator tank (*).			X								10.5.5	
Replace compressor air filter.				X							10.5.7	
Change cooling oil.				X							10.5.3	
Replace compressor oil filter.				X							10.5.4	
Change oil separator cartridge in oil separator tank.						X					10.5.6	
Safety functions:												
Check EMERGENCY STOP device.	X										10.12.1	
Arrange for EMERGENCY STOP device to be tested.			X									KS; SW
Arrange for safety valve(s) to be checked.			X								10.12.2	KS
Arrange for excess temperature safety shutdown to be tested for proper function.			X								10.12.3	KS
Bodywork/chassis:												
Check wing doors.			X								10.8	KS
KS = Contact KAESER SERVICE, SW = Contact specialised workshop, DEUTZ = Contact engine manufacturer DEUTZ												
SCM = SIGMA CONTROL MOBILE controller												
DPF = Diesel particulate filter; SCR = Selective Catalytic Reduction												

Assembly: Task	Daily	A250	A500	A1000	A1500	A2000	A3000	A4000	A6000	A36000	See Chapter	Note
Check screw connections.			X								10.7	
Check sound insulation material.		X									10.9	KS
Service rubber sealing strips.			X								10.10	
Arrange for crane suspension to be checked.			X									KS; SW
Pipes and hose lines (fuel hoses, pressure hoses):												
Check all pipes and hose lines on the machine are tightly fitted and without leaks or wear; replace if necessary.			X								10.11	KS; SW
Replace engine fuel hoses.									X		10.11.1	KS; SW
Replace engine pressure hoses.									X		10.11.2	KS; SW
Replace compressor pressure hoses.									X		10.11.3	KS; SW
Further maintenance tasks:												
Check all electrical connections for tightness.			X									

KS = Contact KAESER SERVICE, SW = Contact specialised workshop, DEUTZ = Contact engine manufacturer DEUTZ
SCM = SIGMA CONTROL MOBILE controller
DPF = Diesel particulate filter; SCR = Selective Catalytic Reduction

Tab. 92 Regular machine maintenance tasks

10.3.4.2 Maintenance schedule for options

- Carry out maintenance tasks according to the following schedule:



The maintenance work marked with (*) in the tables must additionally be carried out every 6 months if the annual operational performance is more than 500 operational hours.

Option: Task	Daily	A250	A500	A1000	A2000	A20000	See chapter	Note
Option da, df, dc, dd – Centrifugal separator:								
Clean and check the dirt trap (*).			X				10.13.1	
Options da, df, dc, dd – compressed air aftercooler:								
Clean the cooler.		X					10.6.2	

EL = qualified electrician
KS = Contact KAESER SERVICE; SW = Contact specialised workshop

Option: Task	Daily	A250	A500	A1000	A2000	A20000	See chapter	Note
Option dd – Filter combination:								
Drain condensate.	X						10.13.2	
Change the filter elements (*).			X				10.13.2	
Option dc – Fresh air filter								
Drain condensate.	X						10.13.3	
Check the oil level indicator.	X						10.13.3	
Change the filter elements (*).			X				10.13.3	
Option bb; od – Auxiliary electric devices:								
Have the coolant pre-heating, battery charge and connection cable checked.			X					EL KS; SW
Option lb - Engine air intake shut-off valve								
Clean/check the engine air intake shut-off valve.		X					10.13.4	
Option ga – Generator:								
Carry out visual check of drive belt.		X					10.13.5	
Have the generator and generator control box checked.			X				13.10	EL
Replace the drive belt.					X		10.13.5	
Have the generator bearings checked.				X				KS; SW
Have the generator bearings changed.						X		KS; SW
Option oe – sealed floor pan:								
Check the machine interior for liquid accumulations and drain, if required.	X						10.13.6	
EL = qualified electrician								
KS = Contact KAESER SERVICE; SW = Contact specialised workshop								

Tab. 93 Regular maintenance task options

10.4 Engine maintenance

- Perform maintenance tasks according to the schedule in chapter 10.3.4.1.

10.4.1 Coolant cooler maintenance

Material Coolant
Coolant tester
Receptacle
Funnel
Cleaning cloth

Precondition The machine is switched off.
The machine is standing level.
The machine is fully vented, the pressure gauge reads 0 psig.
The machine has cooled down.
All compressed air consumers are disconnected and the air discharge valves are open.

⚠ WARNING

*Risk of scalding from hot coolant!
Serious injuries can be caused by hot coolant.*

- *Allow the machine to cool down before opening the cooling system.*

⚠ CAUTION

Risk of chemical burns from coolants containing antifreeze!

- *Avoid eye and skin contact with coolant. In case of contact, rinse immediately with running water.*
- *Wear protective glasses and gloves.*

NOTICE

*Insufficient coolant in the cooling circuit can damage the machine!
Insufficient coolant will cause the engine to overheat. Overheating can result in significant damage to the engine.*

- *Check the coolant level daily.*
- *Top up the coolant as necessary.*

- Open the right-hand access door.

10.4.1.1 Checking coolant level

The coolant level in the engine cooling circuit must be checked daily prior to start-up.
The level is checked on the coolant expansion tank:

- The tank is semi-transparent so the coolant level can be seen from outside.
- The level should be between the *minimum and maximum markings* when the engine has cooled down.

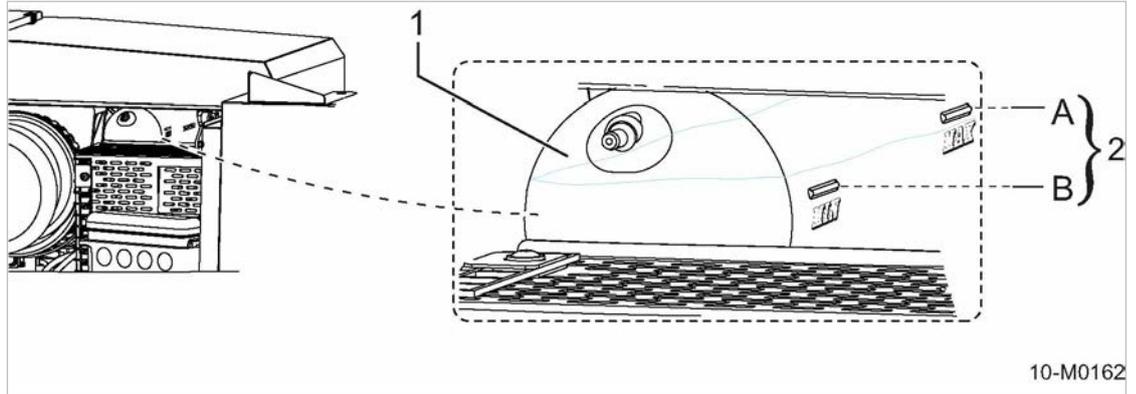


Fig. 38 Checking coolant level

- | | | | |
|---|------------------------|---|--------------------------|
| ① | Coolant expansion tank | A | Maximum mark (FULL) |
| ② | Coolant level | B | Minimum check mark (LOW) |

1. Check the level of coolant in the expansion tank.
When the coolant level falls below the *minimum mark* B: Replenish the coolant.
2. Close the door.



Determine the cause for the coolant loss and rectify.

10.4.1.2 Checking the coolant

The coolant should be checked in line with the maintenance schedule to ensure quality and long service life.

Coolant quality can be determined by the following parameters:

- Visual check
- Antifreeze concentration measuring

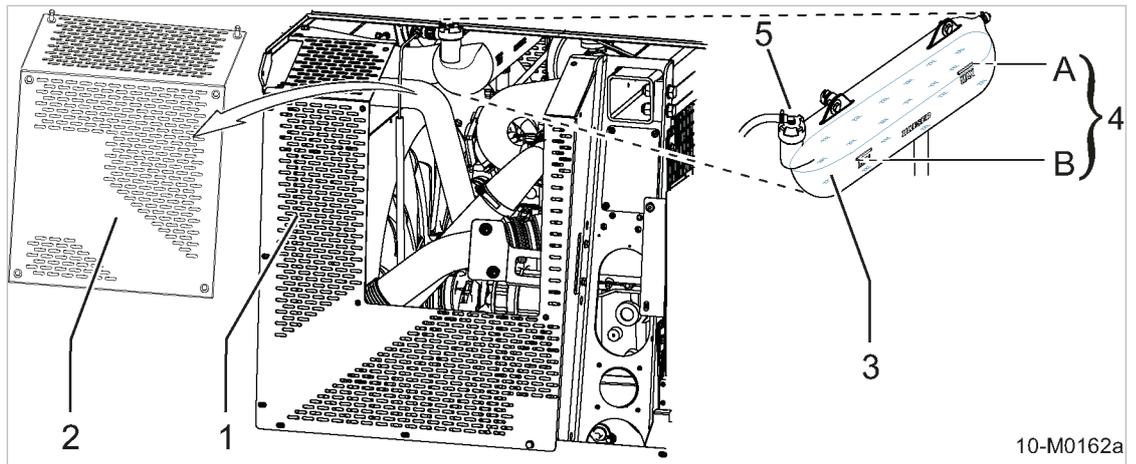


Fig. 39 Checking coolant level

- | | | | |
|---|------------------------|---|----------------------|
| ① | Safety screen | ④ | Coolant level |
| ② | Grille access door | A | (maximum mark) |
| ③ | Coolant expansion tank | B | (minimum mark) |
| | | ⑤ | Filler neck with cap |

Creating access:

1. Open the left-hand door.
2. Unscrew the screw connection of the grille access door.
3. Remove the grille access door.
4. Unscrew and remove the expansion tank filler cap.

Performing a visual check:

The coolant should be checked for discolouration and any floating particles (flocculation).

- Take a coolant sample and analyse it.

If the coolant is heavily discoloured and/or contains floating particles: Change the coolant.

Perform antifreeze concentration measuring:

An instrument (e.g. refractometer) is used to check antifreeze concentration.

Maximum frost protection is ensured with an antifreeze concentration of 55% by volume, as frost protection and heat transfer properties deteriorate beyond this point. A higher concentration also leads to higher operating temperatures.

1. **NOTICE** *The engine can be damaged if the antifreeze concentration is insufficient.*
Corrosion.
Damage to the cooling system.
Engine housing fracture.
 - *Check coolant.*
 - *Protect the coolant against freezing.*
 - *Replenish immediately if necessary.*
2. Use the coolant tester as instructed by the manufacturer to test the coolant.
Concentration of antifreeze is too low: Change the coolant.

Closing tasks:

1. Screw on the filler cap.
2. Insert the grille access door and attach.
3. Close the door.

10.4.1.3 Mixing the coolant

Never use water without added coolant. Water alone is corrosive at engine operating temperatures. Water alone does not offer sufficient protection from boiling or freezing of the coolant.

The coolant is a mixture of clean, fresh water and an antifreeze containing added anti-corrosion agent.

To protect against corrosion and raise the boiling point, the coolant must remain in the cooling system throughout the year.

The maximum permissible service life for the coolant is 3 years.



Fig. 40 Recommended mixture ratio for coolant

- ① Water
- ② Anti-corrosion agent/antifreeze

➤ Observe the coolant recommendations given in Chapter 2.8.4!

Preparing the coolant:

Precondition Coolant must meet the DEUTZ coolant specification DQC CC-14.

➤ The coolant should be mixed in the proportions specified by the manufacturer.

Coolant mixture table:

Proportions [% vol.]		Frost protection down to approx. [°F]
Anti-corrosion agent/anti-freeze	Water	
50	50	-34.6

Tab. 94 Coolant mixture table



Do not use a higher concentration than 55% vol. of corrosion inhibitor/antifreeze even in extremely low ambient temperatures. Maximum frost protection is reached with 55% vol. of corrosion inhibitor/antifreeze. This corresponds to frost protection up to approx. -49° F.

The concentration of antifreeze should not be less than 33%, since corrosion protection can no longer be guaranteed and heat transfer properties deteriorate beyond this point!

10.4.1.4 Filling/refilling the coolant

In order to ensure optimum frost/corrosion protection and prevent the build-up of deposits (sludge) in the cooling circuit, the proportion of antifreeze in the coolant should not be permitted to fall below 33%. Replenishing solely with water dilutes the antifreeze concentration and is therefore prohibited.



Make sure that there is sufficient room for hot coolant to expand without overflowing.

Precondition Negative cable to the batteries disconnected.

Creating access:

1. Open the left-hand door.
2. Unscrew the screw connection of the grille access door.
3. Remove the grille access door.
4. Twist and remove the coolant expansion tank filler cap.

Filling in coolant:

1. Mix a quantity of coolant as per the table and replenish to the level indicated.
Replenish the coolant just below the *maximum mark* (A).
2. Screw on the filler cap.
3. Insert the grille access door and attach.
4. Reconnect the negative cable to the batteries.
5. Close the door.
6. Start the engine and allow to IDLE for about 1 minute.
7. Switch off the engine.
8. Open the left-hand door.
9. Check the coolant level.
If the coolant level in the expansion tank has decreased: Replenish the coolant.
10. Visually inspect for leaks.
11. Close the door.

10.4.1.5 Draining the coolant

Precondition The machine has cooled down.
Negative cable to the batteries is disconnected.

Draining the coolant (machine with chassis)

In machines with chassis (no stationary machine), the entire coolant of the cooling circuit is drained directly at the engine's coolant cooler. This is done from a drain valve with the aid of a separate drain hose. This drain valve is accessible by means of a service opening in the floor pan.



See chapter 4, Fig. 9 for the location of the service openings/drain points for lubricant and coolant in the floor pan.

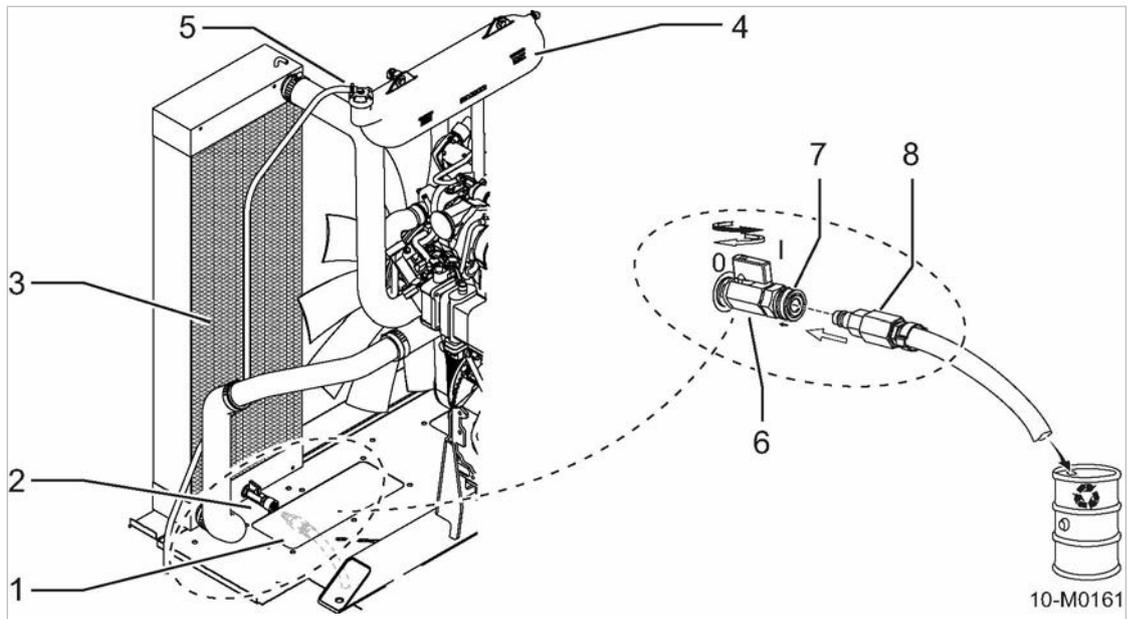


Fig. 41 Draining the coolant from the engine coolant cooler

- | | |
|---|---|
| ① Service opening for coolant cooler in floor pan (with cover closed) | ⑤ Filler cap |
| ② Drain, coolant | ⑥ Shut-off valve (ball valve)
I - Open
0 - Closed |
| ③ Coolant cooler | ⑦ Quick-release coupling |
| ④ Coolant expansion tank | ⑧ Drain hose with male fitting |

1. Open the left-hand door.
2. Dismantle safety screen and move it to the side.
3. Unscrew and remove the expansion tank filler cap ⑤.
4. Dismantle corresponding sheet metal cover of service opening underneath the machine and place aside.
5. Prepare a receptacle beneath the service opening of the floor pan.
6. Connect a suitable drain hose ⑧ to the coolant cooler quick-release coupling ⑦.
7. Lead the hose through the hole in the floor panel and into the receptacle, securing it in place.
8. Open the shut-off valve ⑥ and catch the draining coolant.
9. Close the shut-off valve and remove the drain hose.
10. Replace the plug in the filler neck.
11. Install sheet metal cover of service opening. Make sure the opening is closed tightly.
12. Insert and install the safety screen.
13. Close the door.

Option oe, rw, rx Draining the coolant (closed floor pan/stationary machine):

Compressor cooling oil and engine coolant drain lines are led to a central point outside the machine on stationary machines and machines with closed floor pan. The cooling oil is drained via a combination of hose and pipe which is screwed into the drain opening of the cooler and closed with a shut-off valve. The pipe is sealed with a screwed sealing plug at the drain end.

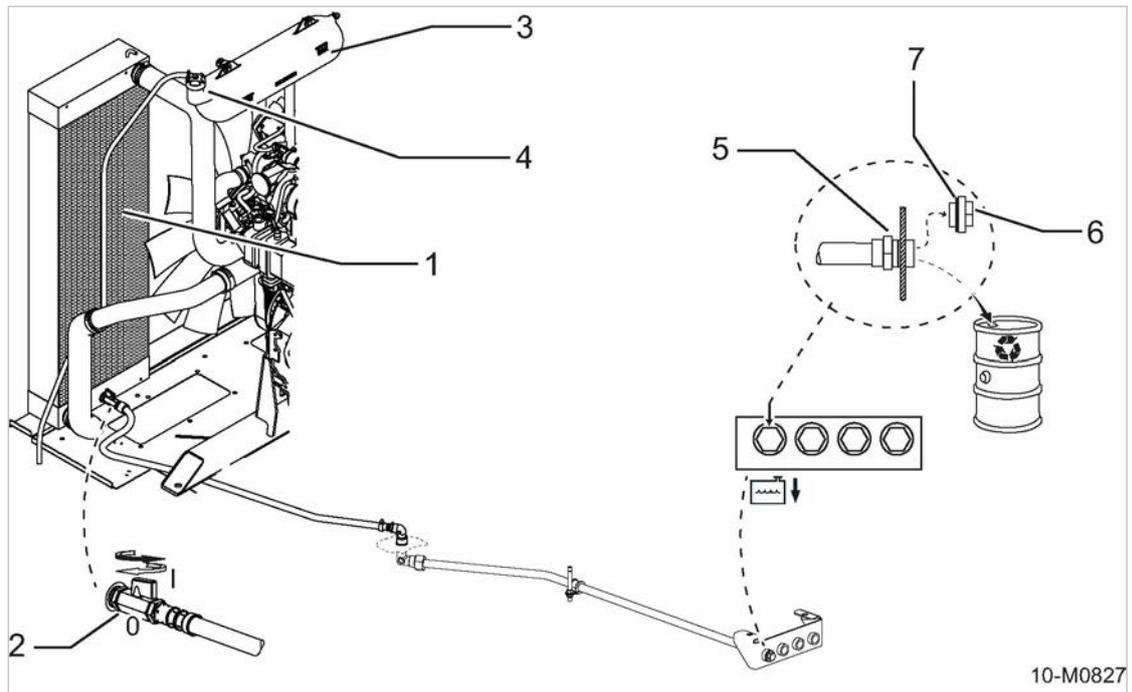


Fig. 42 Draining the coolant from the engine coolant cooler (closed floor pan/stationary machine)

- | | | | |
|---|-----------------------------|---|----------------|
| ① | Coolant cooler | ⑤ | Drain, coolant |
| ② | Shut-off valve (ball valve) | ⑥ | Screw plug |
| | I - Open | ⑦ | Sealing ring |
| | 0 - Closed | | |
| ③ | Coolant expansion tank | | |
| ④ | Filler cap | | |

1. Open the left-hand door.
2. Dismantle safety screen and move it to the side.
3. Unscrew and remove the expansion tank filler cap ④.
4. Place a receptacle beneath the drainage location of the coolant cooler.
5. Unscrew the corresponding screwed sealing cap ⑥ at the coolant drain.
6. Open the shut-off valve ② at the coolant cooler and catch any escaping coolant.
7. Close the shut-off valve.
8. Check the sealing ring ⑦ of the filler plug.
The sealing ring is deformed or defective: Replace the sealing ring.
9. Screw in the plug.
10. Replace the plug in the filler neck.
11. Insert and install the safety screen.
12. Close the door.



➤ Dispose of used coolant in accordance with the applicable environmental protection regulations.

Removing scaling from inside the coolant cooler

After extended periods of use, scaling may form inside the cooling circuit and in particular in the coolant cooler. Due to the resulting reduction in heat transfer, the engine may overheat.

1. **NOTICE** *Scaling in the cooling circuit!*
Damage caused by engine overheating.
 - Use a cooler cleaning agent to remove scaling from inside the coolant cooler.
2. Read and observe the manufacturer's instructions regarding the use of cooler cleaning agent.
3. After draining the coolant, use a coolant cleaning agent to descale the water cooler.



- Dispose of used coolant in accordance with environmental protection regulations.

10.4.2 Engine air filter maintenance

Clean the filter according to the maintenance schedule or if the maintenance indicator shows this to be necessary.

Renew the air filter element after 2 years or after it has been cleaned 5 times.



- Operating the engine without an air filter element is not permitted!
- Do not use a filter element with damaged folds or gasket.
- The use of an unsuitable air filter can permit dirt to enter the engine and cause premature wear and damage.

Material Compressed air for blowing out
Spare parts (as required)
Cleaning cloth

Precondition The machine is switched off.
The machine is fully vented, the pressure gauge reads 0 psig.
The machine has cooled down.
All compressed air consumers are disconnected and the air outlet valves are open.

NOTICE

Damaged air filter element!
Wear in the engine from intake of contaminated air.

- Do not try to clean the filter element by striking or knocking it.
- Do not wash the filter element.

Analyzing the warning message on the controller

The air filter is connected by a sensor to the controller. The controller returns a warning message with rising degree of contamination in the air filter.

- The controller display will show "Service engine air filter".
- The «Information» key illuminates.
- The «Acknowledge» key flashes.



If this warning message triggers, maintenance of the engine air filter is required.

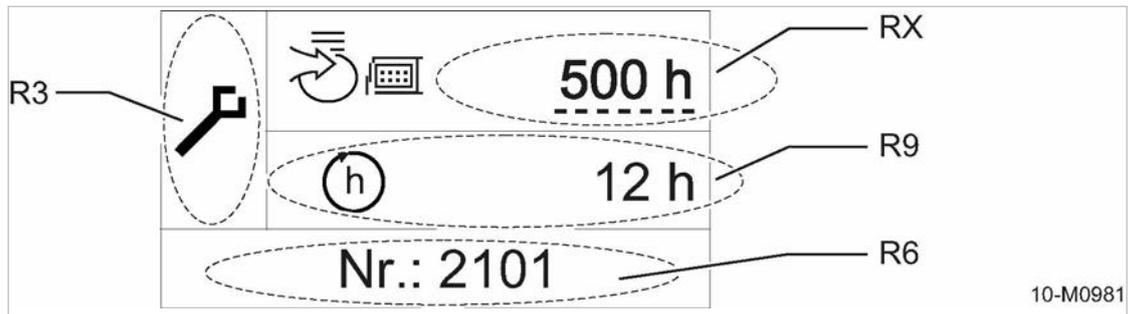


Fig. 43 Warning messages: Air filter engine intake maintenance

- | | |
|--|--|
| R3 Event memory category: Maintenance | R9 Time when maintenance is due |
| R6 Message codes | RX Maintenance interval |

- Maintain the filter.
- Open the right-hand access door.

Cleaning the air filter

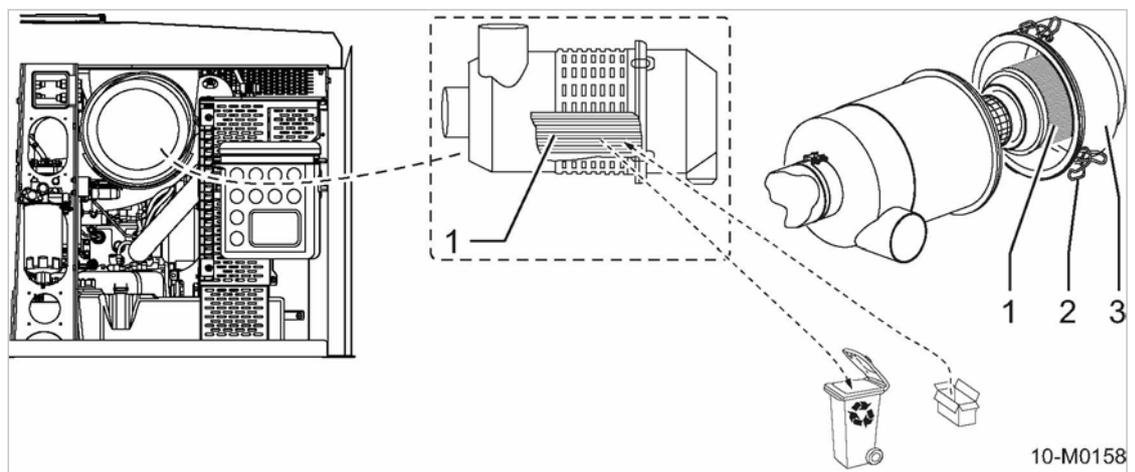


Fig. 44 Engine air filter maintenance

- ① Filter element (air filter)
- ② Retaining clip
- ③ Filter cap

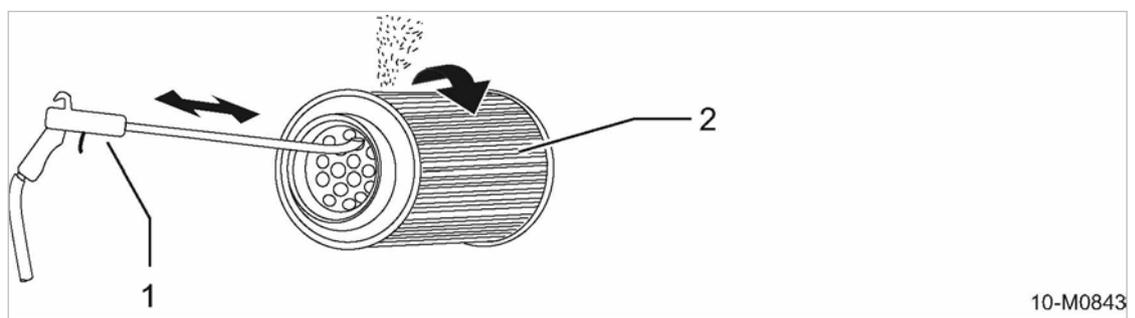


Fig. 45 Clean the filter element (air filter)

- ① Compressed air gun with blast pipe bent to 90° at the end
- ② Filter element (air filter)

1. Release the retaining clamps, lift off the cap and extract the air filter.
2. Carefully clean the inside of the housing, the cover and sealing faces with a damp cloth.
3. Cleaning the filter element:
 - Use dry compressed air (≤ 30 psi!) at an angle to blow dust from the element from inside to outside until no further dust develops.
 - The blast pipe must be long enough to reach the bottom of the element.
 - The tip of the blast pipe must not touch the element.
 - Cleaning sealing faces.
4. Inspect the element carefully for any damage.
Damaged filter element: Replace filter element.
5. Insert the cleaned or new filter element into the filter housing. Make sure it is properly in place and sealed by its gaskets.
6. Replace the cap and secure with the clip.

Concluding the maintenance

Maintenance must be acknowledged after the air filter has been maintained.



For more information about acknowledging the maintenance message and resetting the maintenance timer, see the separate operating manual of the SIGMA CONTROL MOBIL

Precondition Air filter maintained

1. Acknowledge the maintenance message.
 - Confirm the message with the «Acknowledge» key.
 - The «Acknowledge» key is extinguished but the «Information» key is still illuminated.
2. Resetting the maintenance interval counter.
 - Simultaneously press and hold the «Acknowledge» and «Enter» keys for 2 seconds.
 - The system will automatically display the input menu for the password if no password is active.
 - Password (for example: Customer password: 4512) enter and confirm with the keypad.
 - Simultaneously press and hold the «Acknowledge» key and «Enter» for 2 seconds.

Result The maintenance interval counter is reset and the «Information» key extinguishes.

- Close the door.



Dispose of old parts and contaminated materials according to environmental regulations.

10.4.3 Fuel system maintenance

Make sure no dirt enters the fuel system during maintenance. Clean components and their surroundings before dismounting.

- Material Spare parts
Collecting vessel
Cleaning cloth
- Precondition The machine is switched off.
The machine is standing level.
The machine is fully vented, the pressure gauge reads 0 psig.
The machine has cooled down.
All compressed air consumers are disconnected and the air outlet valves are open.
Negative cable to the batteries disconnected.

⚠ DANGER

Danger of fire from spontaneous ignition of fuel!

Serious injury or death could result from the ignition and combustion of fuel.

- Allow no open flames or sparks at the place of use.
- Ensure that the maximum ambient temperature is not exceeded at the place of use.
- Shut down the engine.
- Wipe up escaped fuel.
- Keep fuel away from hot machine parts.

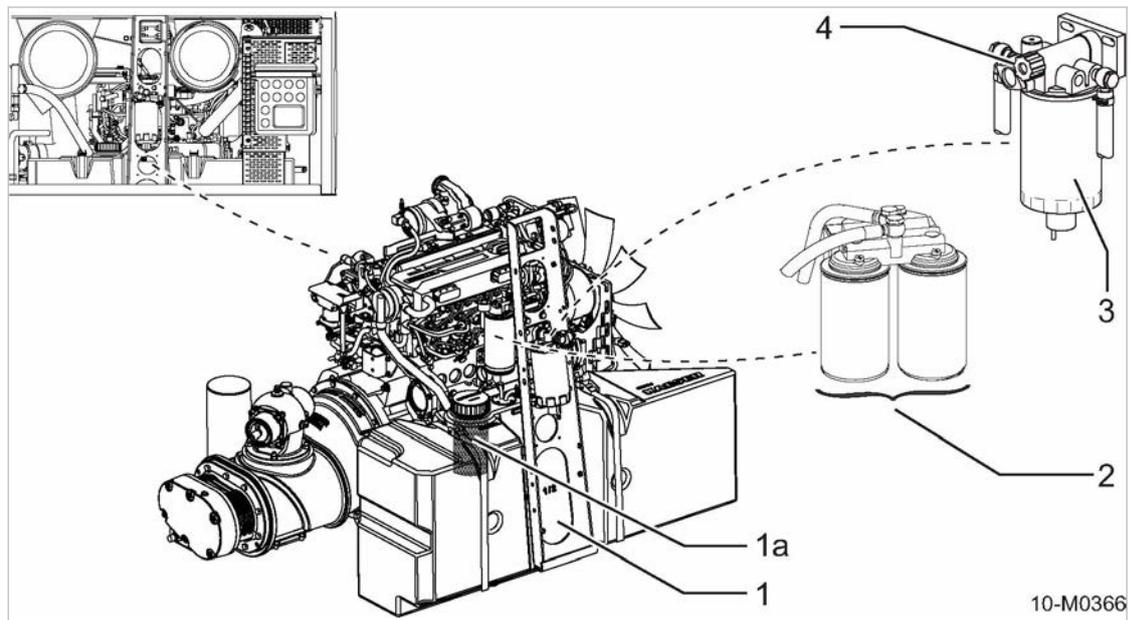


Fig. 46 Service fuel system

- | | |
|------------------|--|
| ① Fuel tank | ③ Fuel prefilter with integrated water separator |
| ①a Fuel strainer | ④ Manual fuel pump |
| ② Fuel filter | |

- Open the right-hand access door.

10.4.3.1 Bleeding the fuel system

Air can enter the fuel system if the fuel tank is empty after a fuel filter change or when carrying out work on the fuel lines.

If the engine refuses to start despite a full tank, bleed the fuel system.

Precondition Batteries connected.

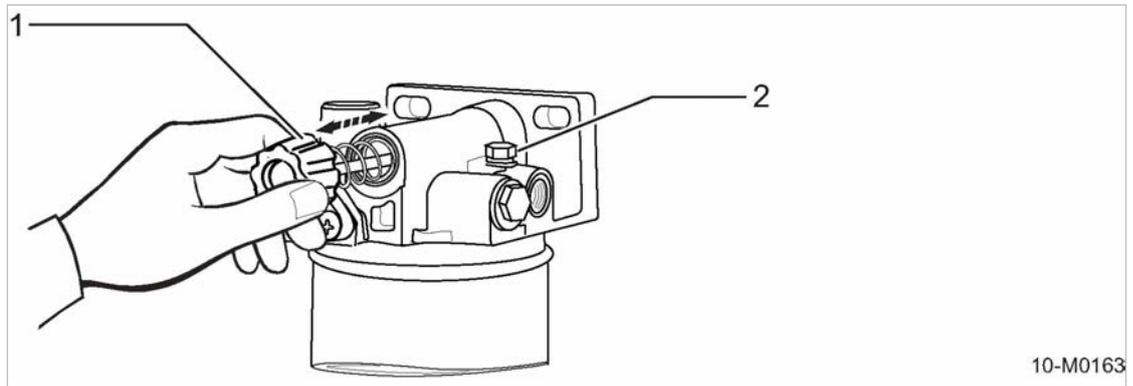


Fig. 47 Bleeding the fuel system

- ① Manual fuel pump
- ② Open bleed screw

1. Place a receptacle beneath the fuel pre-filter housing.
2. Open the bleed screw at the filter head.
3. Unlatch the manual fuel pump bayonet lock by pressing and turning anti-clockwise.
The pump piston is pushed out by the spring.
4. Actuate the manual fuel pump until the bleed screw does no longer emit air bubbles.
5. Close the bleed screw at the filter head.
6. Continue to actuate the manual pump until high resistance is felt and pumping is very slow.
7. Keep pumping until the return line is filled.
8. Latch the manual fuel pump bayonet lock by pressing and turning clockwise.
9. Close the door.



Start the engine as soon as the fuel system has been bled and allow to run for at least 5 minutes in IDLE mode.

10. Open the right-hand access door.
11. Visually check the fuel system for leaks. If required, re-tighten all screw connections.
12. Close the door.

10.4.3.2 Fuel pre-filter maintenance
Emptying the fuel water separator:

The fuel pre-filter is equipped with an integrated water separator. Contaminants in the water are trapped in the water receptacle of the filter cartridge.

The water separator is connected by a sensor to the controller. If the water in the separator reaches a set level, the controller displays a warning.

- The display indicates water in the fuel filter by returning *Fuel filter water level*.

- The «Information» key illuminates.
- The «Acknowledgement» key flashes.



The water separator must be emptied when this warning is given.

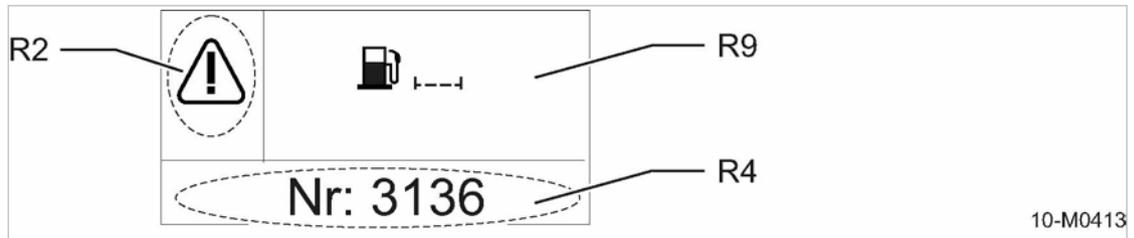


Fig. 48 Warning message: Fuel filter water level

- Ⓜ R2 Event memory category: Warning
- Ⓜ R4 Message codes
- Ⓜ R9 Fuel filter water level (fuel filter maintenance)

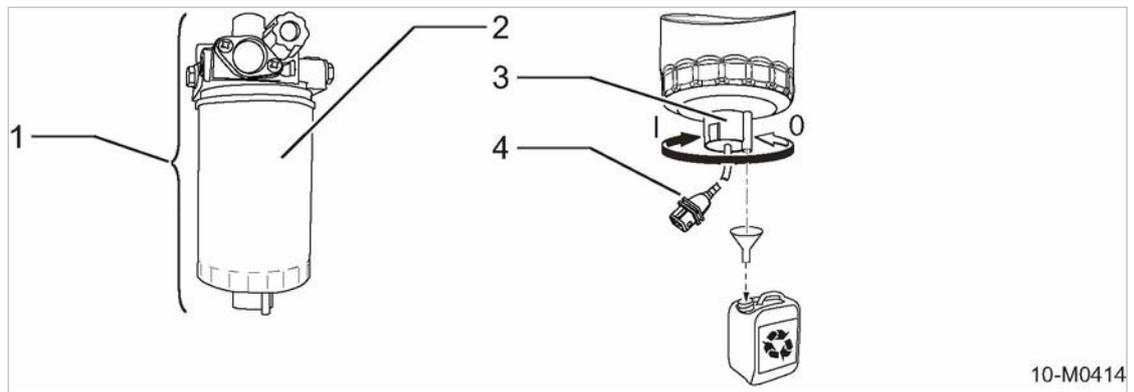


Fig. 49 Emptying the fuel pre-filter and water separator

- ① Fuel prefilter
- ② Filter cartridge with integrated water receptacle
- ③ Water draining stopper with integrated level sensor
I - open
0 - close
- ④ Level sensor connecting plug (fuel filter maintenance)

1. Place a receptacle beneath the fuel pre-filter housing.
2. Unscrew the draining stopper on the bottom of the filter cartridge (2 turns max.) and drain water and contamination.
3. Close the draining stopper.
4. Reconnect the negative cable to the batteries.
5. Close the door.

Maintenance must be acknowledged after the water separator has been emptied.

Precondition The water separator has been emptied.

- Confirm the maintenance with the «Acknowledgement» key.
The illuminated «Acknowledge» and «Information» keys are extinguished.



The mixture of fuel and water and any materials contaminated with fuel must be disposed of in accordance with environment protection regulations.

Changing the filter cartridge:

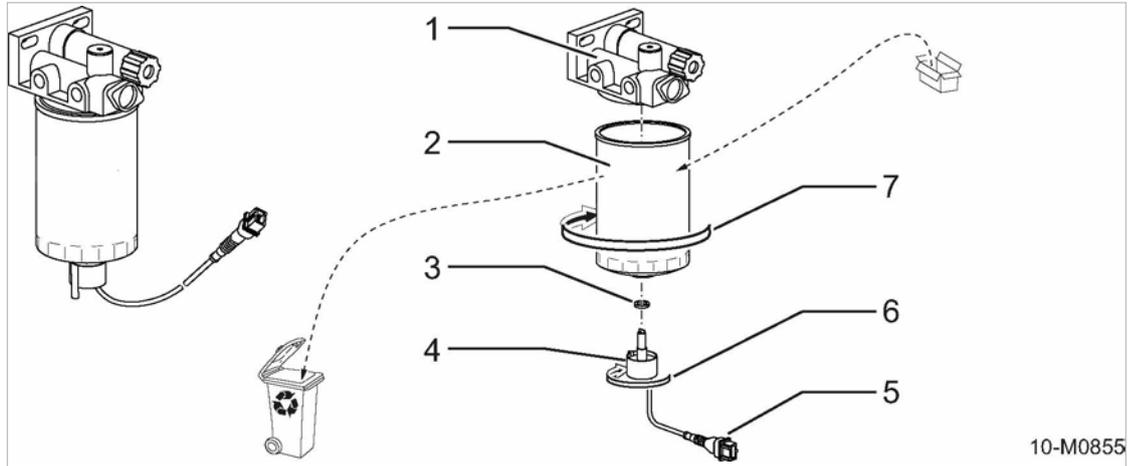


Fig. 50 Change the fuel prefilter cartridge

- | | |
|---|--|
| ① Filter head | ⑤ Water level sensor connecting plug (fuel filter maintenance) |
| ② Filter cartridge with integrated water receptacle | ⑥ Direction of rotation to unscrew the draining stopper. |
| ③ Draining stopper seal | ⑦ Turn in this direction to unscrew the filter cartridge. |
| ④ Draining stopper with integrated level sensor | |

1. Place a receptacle beneath the fuel pre-filter housing.
2. Unscrew the draining stopper on the bottom of the filter cartridge (2 turns max.) and drain water and contamination.
3. Remove the connecting plug of the water level sensor.
4. Use a standard wrench to loosen and unscrew (counter-clockwise) the filter cartridge.
5. Empty any remaining fuel into a receptacle.
6. Unscrew the draining stopper of the filter cartridge and clean with lint-free cloth.
7. Check the seal of the draining stopper.
Seal damaged: replace seal.
8. Screw the draining stopper to a new filter cartridge.
9. Clean the sealing faces of the filter cartridge and filter head with a lint-free cloth.
10. Mount the filter cartridge to the filter head:
 - Moisten the sealing faces of the new filter cartridge with some fuel.
 - Manually screw the filter cartridge to the filter head (clockwise), until seal is tight.
 - Continue to manually turn until the filter cartridge is seated tightly ($\frac{1}{2}$ to $\frac{3}{4}$ turn approximately).
11. Fasten the connecting plug of the water level sensor.
12. Reconnect the negative cable to the batteries.
13. Close the door.



The fuel system must be bled after the filter cartridge has been changed.



Dispose of fuel and any materials and components contaminated with it in accordance with environmental protection regulations.

10.4.3.3 Fuel filter maintenance

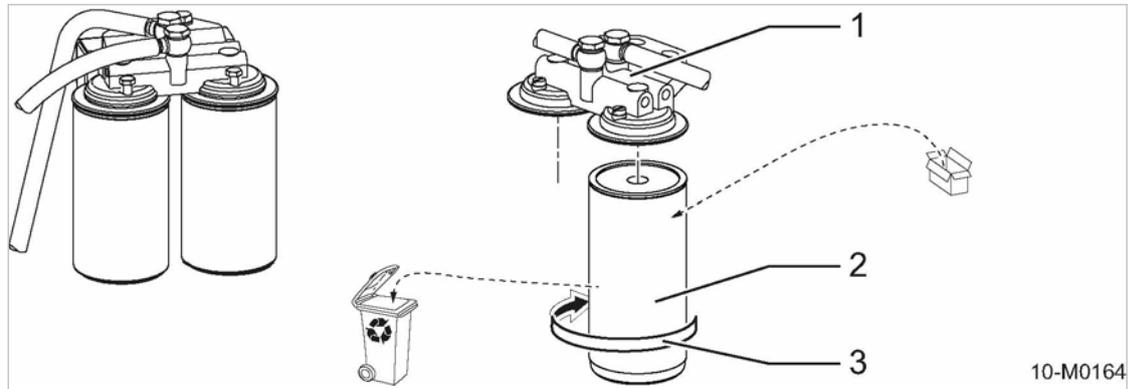


Fig. 51 Fuel filter maintenance

- ① Filter holder
- ② Filter cartridge
- ③ Direction of rotation to unscrew the filter cartridge

1. Place a receptacle beneath the housing of the fuel filter.
2. Use a filter wrench to loosen then unscrew the filter cartridges. Collect any escaping fuel.
3. Clean the sealing faces of the new filter cartridges and the opposing side of the filter holder with a lint-free cloth.
4. Mount the filter cartridges to the filter holder:
 - Moisten the rubber seals of the filter holder and the sealing faces of the new filter cartridges with some fuel.
 - Manually screw the filter cartridges to the filter holder (clockwise), until seals are tight.
 - Continue to manually turn until the filter cartridges are seated tightly ($\frac{1}{2}$ to $\frac{3}{4}$ turn approximately).
5. Reconnect the negative cable to the batteries.
6. Close the door.



The fuel system must be bled after the filter cartridges have been changed.



Dispose of fuel and any materials and components contaminated with it in accordance with environmental protection regulations.

Starting the machine and performing a test run:

1. Switch the machine on and run it in IDLE mode for approx. 1 minute.
2. Shut down the machine.
3. Open the right-hand access door.
4. Visually check the fuel system for leaks.
5. Tighten all screw connections.
6. Close the door.

10.4.4 Checking the engine oil level

The engine oil is indicated by a dipstick in the oil sump. The oil level should ideally be between the two marks on the dipstick. The oil level should not be allowed to fall below the *minimum level*.

Material Cleaning cloth

Precondition The machine is switched off,
the machine is standing level,
the machine is fully vented, the pressure gauge reads 0 psig,
the engine is cooled down,
all compressed air consumers are disconnected and the air outlet valves are open.

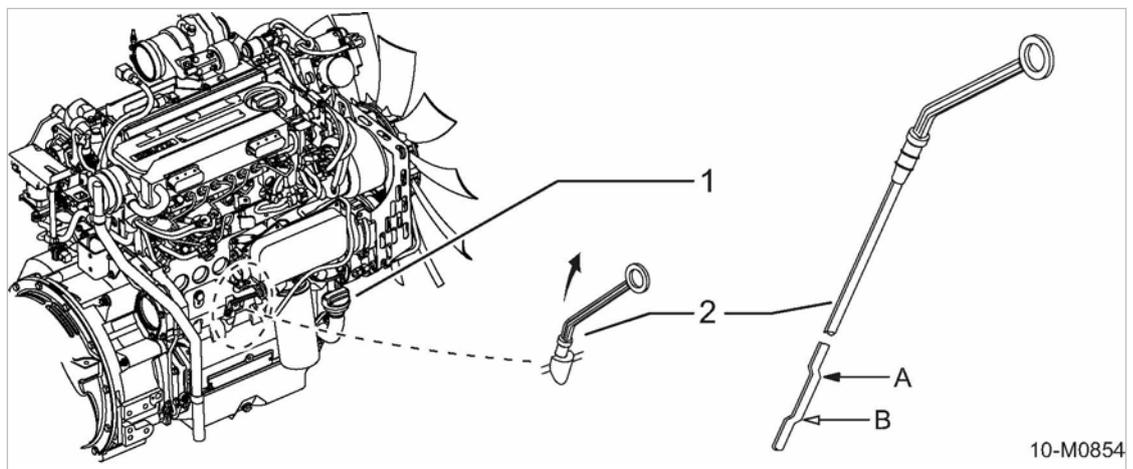


Fig. 52 Checking the engine oil level

- | | |
|-------------------------------------|-------------------------------------|
| ① Oil filler neck cover, engine oil | Ⓐ Mark for <i>maximum oil level</i> |
| ② Dipstick | Ⓑ Mark for <i>minimum oil level</i> |

1. Open the right-hand access door.
2. Withdraw the dipstick, wipe with a lint-free cloth and insert fully.
3. Withdraw the dipstick once more and read off the oil level.

Oil level between both markings: Oil level OK.

The level has reached the *minimum level* or is below the mark: Replenish engine oil.

4. Close the door.



The marked *maximum oil level* should not be exceeded in order for the level of oil in the crankcase not to reach the crankshaft. If this were to occur, it could create oil bubbles that would reduce the oil's lubricating capability and impair engine performance.

10.4.5 Engine oil filling and topping off

Material Engine oil
Cleaning cloth
Funnel

Precondition The machine is switched off,
the machine is standing level,
the machine is fully vented, the pressure gauge reads 0 psig.
All compressed air consumers are disconnected and the air outlet valves are open.
Negative cable to the batteries disconnected.

Filling with engine oil



See chapter 2.8.6 for engine oil filling volume.
The oil dipstick is marked with the *maximum oil level*.

1. Open the right-hand access door.
2. Remove the filler cap and fill with fresh oil.
3. Wait 5 minutes then check the oil level.



It takes a few minutes for oil to reach the sump.

Top off if the level is too low.

4. Replace the plug in the filler port.
5. Reconnect the negative cable to the batteries.
6. Close the door.

Starting the machine and performing a test run

1. Switch the machine on and run it in IDLE mode for approx. 5 minutes.
2. Shut down the machine.
3. Wait until the machine has automatically vented.
Pressure gauge reads 0 psig!
4. Open the right-hand access door.
5. After approximately 5 minutes: Check the engine oil level.
Top off if the level is too low.
6. Visually inspect for leaks.
7. Close the door.

10.4.6 Changing the engine oil

The engine oil should be changed:

- according to the maintenance schedule,
- according to the degree of contamination of the intake air,
- at least once a year.

- Material Engine oil
Receptacle
Wrench
Cleaning cloth
- Precondition The machine is switched off,
the machine is standing level,
the machine is fully vented, the pressure gauge reads 0 psig,
the engine is at operating temperature.
All compressed air consumers are disconnected and the air outlet valves are open.
Negative cable to the batteries disconnected.

⚠ CAUTION

Danger of burns from hot components and escaping engine oil!

- *Wear long-sleeved clothing and protective gloves.*

Draining the engine oil (machines with chassis)

In machines with chassis (no stationary machine), the engine oil is drained directly at the machine's oil pan. This is done from a drain valve with the aid of a separate drain hose. This oil drain valve is accessible by means of a service opening in the floor pan.

The oil filling port is located next to the engine oil filter, behind the fuel tank of the machine.



See chapter 4, Fig. 9 for the location of the service openings/drain points for lubricant and coolant in the floor pan.

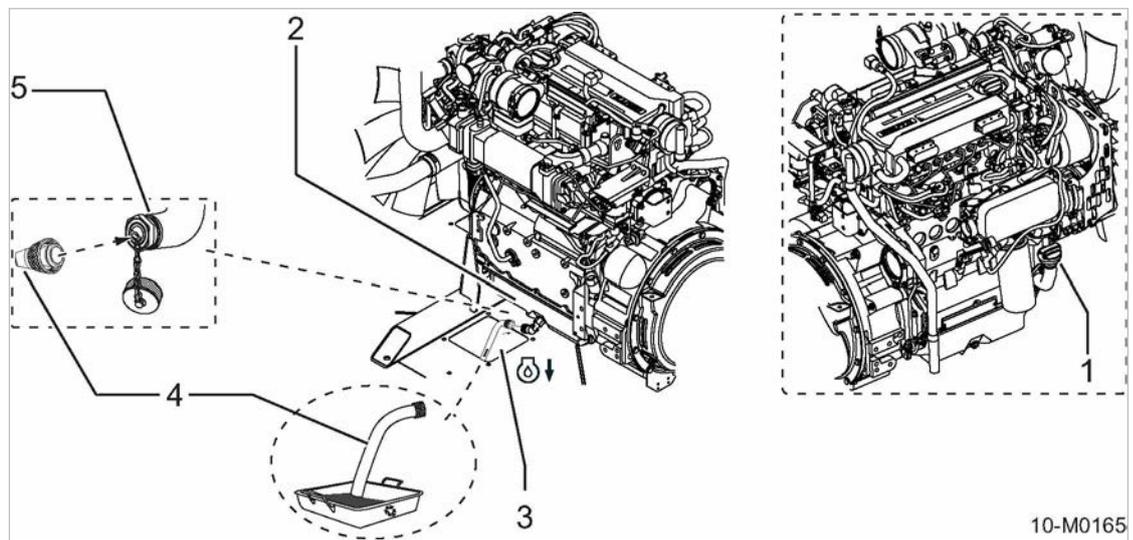


Fig. 53 Draining the engine oil

- | | |
|--|--|
| ① Oil filler neck cover, engine oil | ④ Drain hose with rapid action hose coupling |
| ② Engine oil sump | ⑤ Oil drain valve |
| ③ Service opening of engine oil in floor pan (with cover closed) | |

1. Open the right-hand access door.
2. Remove the oil filler cap ①.

3. Open the left-hand door.
4. Dismantle corresponding sheet metal cover of service opening underneath the machine and place aside.
5. Prepare a receptacle beneath the service opening of the floor pan.
6. Lead the free end of the drain hose(4) through the service opening in the floor pan and into the receptacle.
7. Remove the protective cap from the oil drain valve (5).
8. Screw the drain hose with quick-release coupling onto the oil drain valve.
The valve opens and oil drains through the hose.
9. When all the oil has drained out, uncouple and remove the drain hose.
10. Replace the protective cap on the oil drain valve.
11. Replace the plug in the filler port.
12. Install sheet metal cover of service opening. Make sure the opening is closed tightly.
13. Close both doors.

Option oe, rw, rx Draining the engine oil (sealed floor pan - stationary machine)

Compressor cooling oil and engine coolant drain lines are led to a central point outside the machine on stationary machines and machines with sealed floor pan. The engine oil is drained via a combination of hose and pipe which is screwed into the drain opening of the cooler and closed with a shut-off valve. The pipe is sealed with a screwed sealing plug at the drain end.

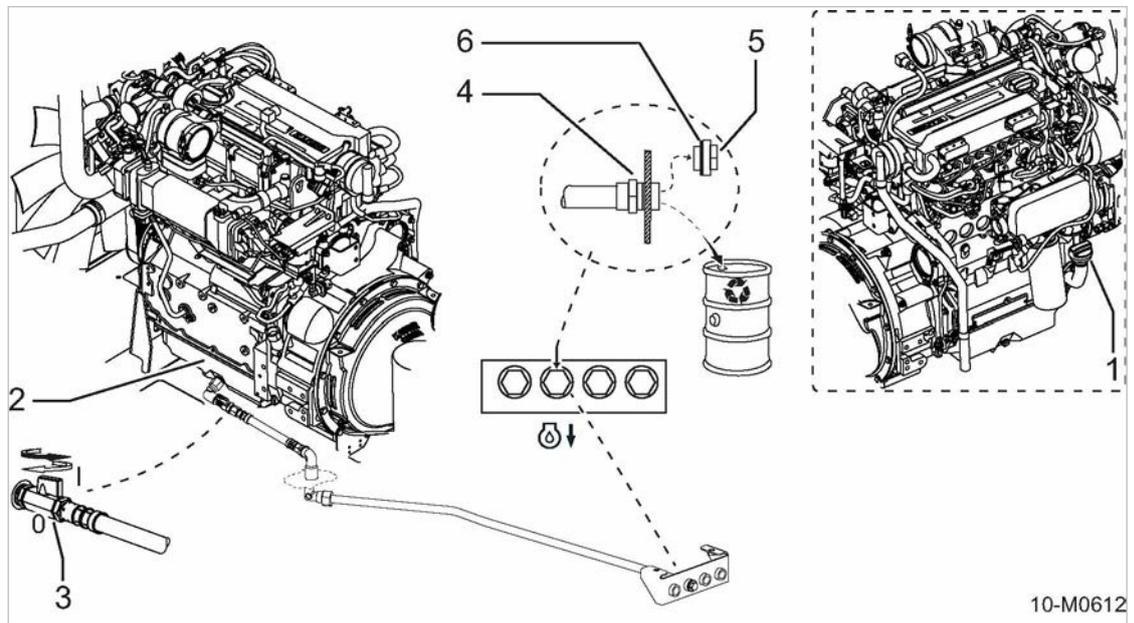


Fig. 54 Draining the engine oil (sealed floor pan - stationary machine)

- | | |
|-------------------------------------|--------------------|
| ① Oil filler neck cover, engine oil | ④ Engine oil drain |
| ② Engine oil sump | ⑤ Screw plug |
| ③ Shut-off valve (ball valve) | ⑥ Sealing ring |
- I - open
0 - closed

1. Open the right-hand access door.
2. Remove the oil filler cap (1).

3. Position a receptacle beneath the drainage location of the engine oil.
4. Unscrew the corresponding screwed sealing cap **5** at the engine oil drain.
5. Open the left-hand door.
6. Open the shut-off valve **3** at the engine oil drain and catch the escaping oil.
7. Close the shut-off valve.
8. Check the sealing ring **6** of the filler plug.
The sealing ring is deformed or defective: Replace the sealing ring.
9. Screw in the plug.
10. Replace the plug in the filler port.
11. Close the doors.



Dispose of old oil and oil-soaked working materials according to environmental protection regulations.

Further information See chapter 10.4.5 for engine oil filling.

10.4.7 Replacing the engine oil filter

Material Spare part
Strap wrench (Purchase order number 8.9410.0)
Cleaning cloth
Receptacle

Precondition The machine is switched off,
the machine is fully vented, the pressure gauge reads 0 psig,
the engine is cooled down.
All compressed air consumers are disconnected and the air outlet valves are open.
Negative cable to the batteries disconnected.

⚠ CAUTION

Danger of burns from hot components and escaping engine oil!

- *Wear long-sleeved clothing and protective gloves.*

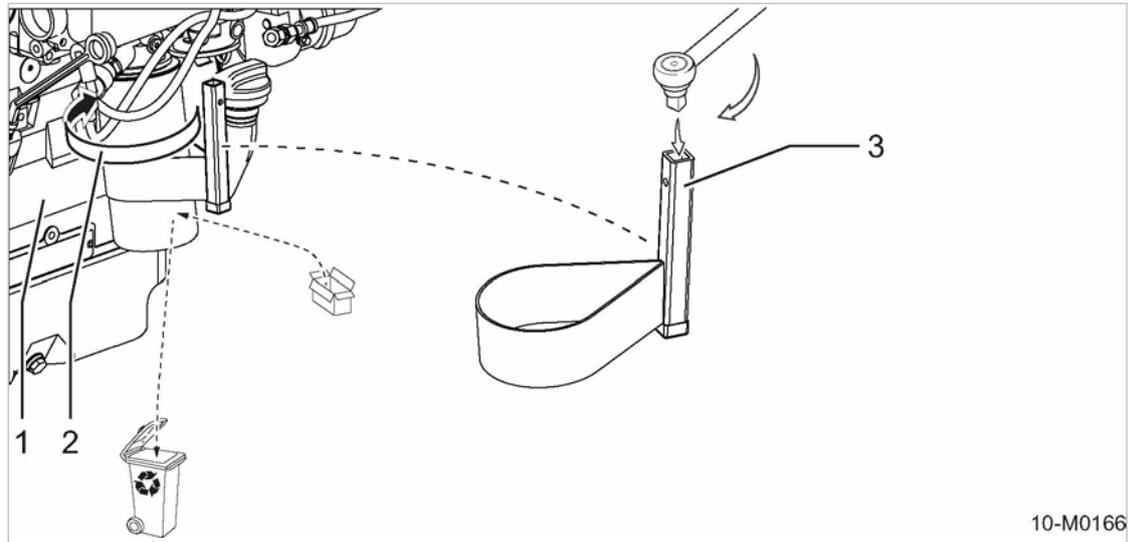


Fig. 55 Change the oil filter

- ① Engine block
- ② Direction of rotation to unscrew the filter
- ③ Strap wrench

Due to restricted space, a strap wrench should be used to unscrew the oil filter. The strap wrench is operated with a 1/2" ratchet.

1. Open the right-hand access door.
2. Prepare a receptacle.
3. Loosen the filter with the strap wrench and unscrew. Catch any escaping engine oil.
4. Carefully clean sealing surfaces using lint-free cloth.
5. Lightly oil the new filter's gasket.
6. Turn the oil filter clockwise by hand to tighten.
7. Check the engine oil level.
Top off if the level is too low.
8. Reconnect the negative cable to the batteries.
9. Close the door.



Dispose of old oil filter, old oil and materials contaminated with oil according to applicable environmental protection regulations.

10.4.8 Drive belt maintenance

The life of the drive belts is influenced by belt tension.

- Slack belts can slip and become damaged and may result in engine overheating.
- Over-tight belts cause excessive strain and, hence, a reduction of the service life. Over-tight belts also place unnecessary stress on bearings and shorten their life.

Material Ratchet
Locking pin
V-belt tension measuring device
Spare part

Precondition The machine is switched off,
the machine is fully vented, the pressure gauge reads 0 psig,
the machine has cooled down.
All compressed air consumers are disconnected and the air outlet valves are open.
Negative cable to the batteries disconnected.

⚠ WARNING

*Beware of rotating pulleys and moving belts!
There is danger of serious injury from pinching.*

- *Never check the drive belt unless the engine is at standstill.*
- *Never operate the machine without a belt guard.*

- Open both doors.

Removing the belt guard

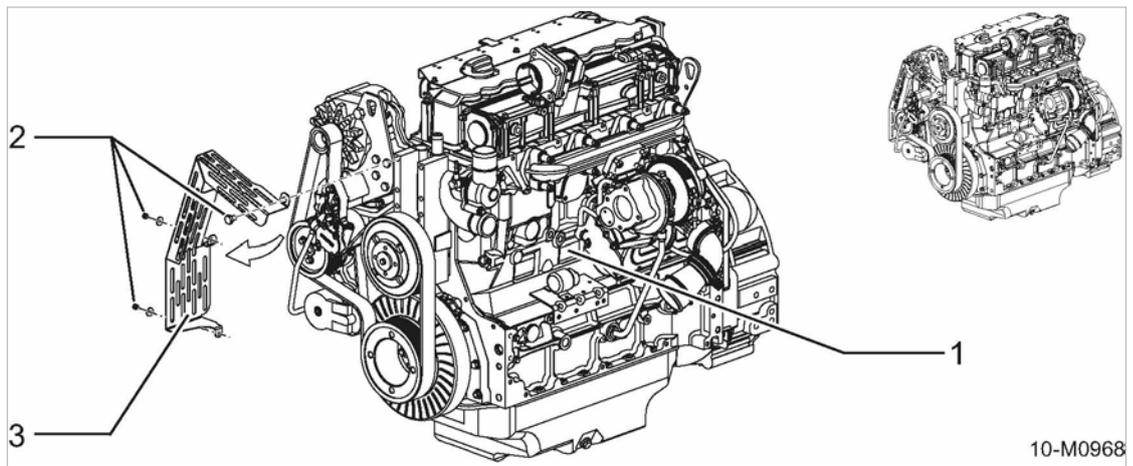


Fig. 56 Belt guard attachment

- ① Engine
- ② Hexagon screws (belt guard attachment)
- ③ Belt guard

- Unscrew the securing screws of the belt guard and remove the belt guard.

10.4.8.1 Carrying out visual inspection

1. Check the belt thoroughly for cracks, fraying or stretching.
When damaged or worn: Replace the drive belt immediately.
2. Replace the belt guard.
3. Reconnect the negative cable to the batteries.
4. Close the doors.

10.4.8.2 Checking belt tension

Check belt tensions only when they are warm, not hot, to avoid length differences due to temperature differences.

The engine manufacturer recommends a tension measuring device for belts.

The belt tension may also be checked by hand if no tension measuring device is available.

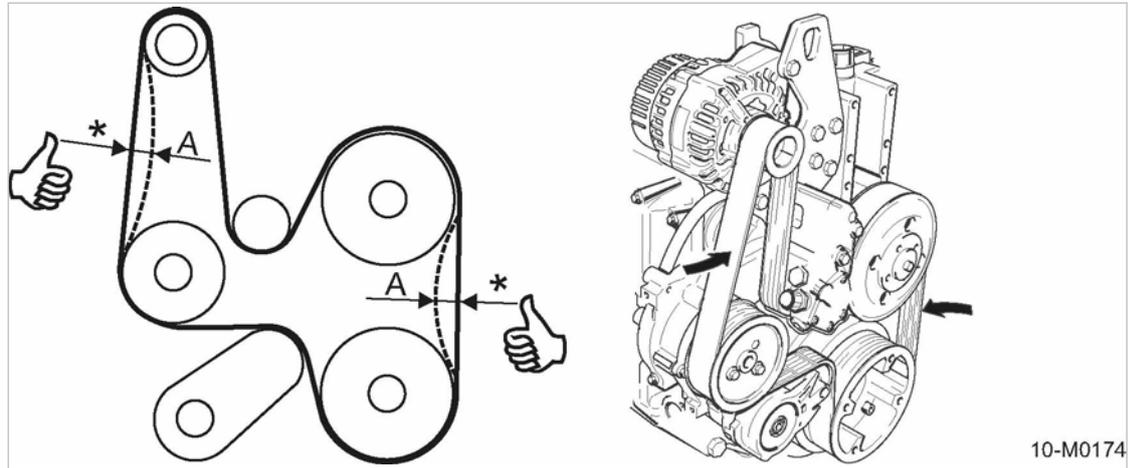


Fig. 57 Manually checking the belt tension

- Ⓐ Drive belt testing position
- Ⓢ - Compressive load approximately: 22 lb
- Ⓢ - Play approximately: 0.4 – 0.6 in

Checking belt tension with tension measuring device	Checking belt tension by hand
<ol style="list-style-type: none"> 1. Check belt tension with the tension measuring device. 2. Increase the tension on a loose belt. 	<p>Press the belts in with the thumb at the midpoint between pulleys.</p> <ol style="list-style-type: none"> 1. Check belt tension by hand (see Fig. 57). 2. Increase the tension on a loose belt.

Putting in operation

1. Replace the belt guard.
2. Reconnect the negative cable to the batteries.
3. Close the doors.

10.4.8.3 Changing/tensioning the drive belt

The drive belt is pre-tensioned by the spring force in the jockey wheel. By turning the jockey wheel you can adjust the belt tension.

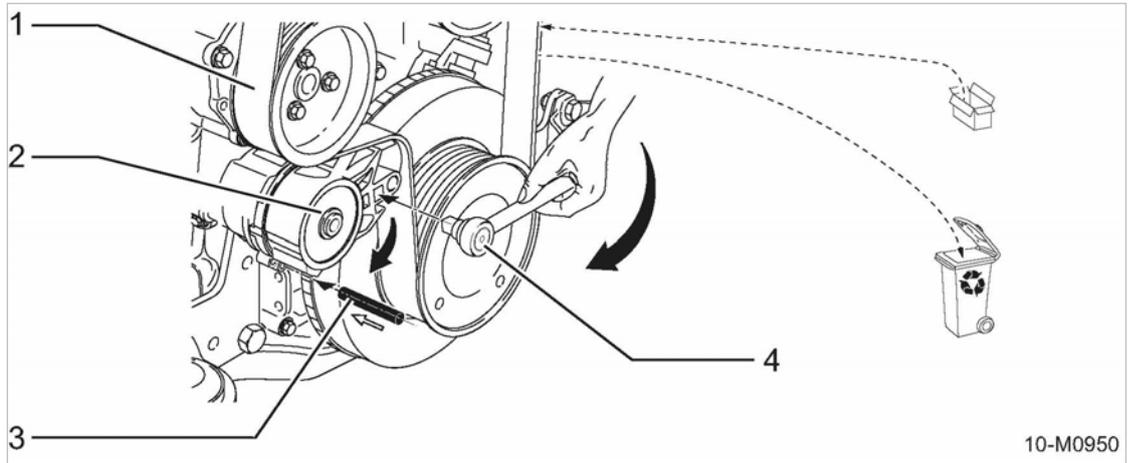


Fig. 58 Changing/tensioning the drive belt

- | | |
|------------------|---------------|
| ① Drive belt | ③ Locking pin |
| ② Tension pulley | ④ Ratchet |

Tensioning the drive belt

1. Insert the ratchet square in the corresponding hole in the jockey wheel.
2. Using the ratchet, press the jockey wheel opposite the arrow direction. Ensure that the drive belt is correctly positioned in its guide.
3. Check the belt tension (see Fig. 57).
Belt tension too low: Using the ratchet, further press the jockey wheel opposite the arrow direction.
Belt tension too high: Using the ratchet, slightly press the jockey wheel in arrow direction.

Replace the drive belt

1. Insert the ratchet square in the corresponding hole in the jockey wheel.
2. Using the ratchet, press the jockey wheel in arrow direction until the locking pin can be fastened in the mounting hole.
3. Insert locking pin in mounting hole.
The drive belt is free of tension.
4. Pull the drive belt first off the smallest or the jockey wheel.
5. Check the pulleys for dirt and wear.
Dirty pulley: Clean pulley.
Worn pulley: Have the pulley changed.
6. Manually route the new drive belt over the pulleys without using force.
7. Hold up the jockey wheel with the ratchet and remove the locking pin.
The jockey wheel is pushed upwards by spring tension and pre-tensions the drive belt.
8. Tension the drive belt. Ensure that the drive belt is correctly positioned in its guide.



A belt that has been replaced may not be used again.
Check the belt tension after running for approximately 15 minutes.



Old belts should be disposed of in accordance with the latest environmental regulations.

Putting in operation

1. Replace the belt guard.
2. Reconnect the negative cable to the batteries.
3. Close the doors.

10.4.9 Battery maintenance

- Check the charging system if the batteries discharge without obvious reason.

10.4.9.1 Safety
⚠ WARNING

Danger of acid burns from escaping electrolyte!

- *Wear appropriate protective clothing including acid-proof rubber gloves.*
- *Always wear eye and face protection.*
- *Do not tip the battery. Electrolyte may escape from vent holes.*
- *Work with caution.*

When working on batteries, comply with the following safety signs:

A warning label with safety signs is attached to the battery.



10-M0167

Fig. 59 Safety signs - warning labels on the battery

- Take heed of any safety signs on the battery warning label.
The individual safety signs have the following meaning:
 - ① – Fire, sparks, open flame and smoking are forbidden!
 - ② – Eye and face protection must be worn because of the danger of acid burns.
 - ③ – Keep children well away from batteries and electrolyte.
 - ④ – Wear protective gloves, batteries are filled with caustic electrolyte!
 - ⑤ – Observe the battery manufacturer's instructions!
 - ⑥ – Follow the safety rules, explosion hazard!

Further instructions on working with batteries:

- Do not remove battery terminal covers unnecessarily.

- Do not lay tools on the battery. This can lead to short circuiting, overheating and battery bursting!
- Take particular care when the battery has been in service for a long time or has just been charged, as highly explosive gas is emitted!
Ensure adequate ventilation!

10.4.9.2 Ensuring battery charge condition

If the machine has not been operated for a longer period of time, the batteries may self-discharge. The starting voltage may be insufficient to start the motor/engine when needed. Moreover, exhaustive discharge of batteries can result in battery damage.



Always consider the following for starter batteries:
Recharge if stored for 30 days or longer!

The current charge level of the starter batteries can be read from the  *Battery voltage* operating mode display at the SIGMA CONTROL MOBIL.

Starter batteries charge level:

Charge level [%]	Voltage display [V]		Electrolyte density [lb/gal]	Notes
	12 V	24 V		
100	12.7 - 12.85	25.4 - 25.7	10.60	Battery OK, fully charged.
75	12.5	25.0	10.35	Recharging required!
65	12.4	24.8	10.18	
50	12.3	24.6	10.09	Limit of starting capacity!
25	12.0	24.0	9.68	Battery discharged below permitted discharge limit.
20	11.9	23.8	9.51	
0	11.6	23.2	9.09	Battery permanently damaged due to total discharge!

Values at 77° F

Tab. 95 Starter batteries charge level

- Check battery charge and recharge with suitable charging device, if necessary.

10.4.9.3 Battery check and care

Even so-called 'maintenance-free' batteries need a degree of care to obtain their maximum operational life.



The outside of the battery and the terminals should be cleaned regularly with a soft cloth. This avoids current leaks and minimises the discharge rate.

- Material Terminal grease
Distilled water
Cleaning cloth
Protective gloves
Eye protection
- Precondition The machine is switched off.
The machine is standing level.
The machine is fully vented, the pressure gauge reads 0 psig.
The machine has cooled down.
- Open the left-hand door.
 - 1. Clean the casing and terminals. Do not use a wire brush!
 - 2. Lightly grease the terminals to prevent corrosion.
 - 3. Check that the batteries and cable connections are properly seated and tighten if necessary.

Checking the battery electrolyte level:

The fluid is generally sufficient for the life of the battery. Nevertheless, the fluid level should be checked annually. The level should be up to the mark, 0.4 inches above the plates.



Replace the battery immediately if the casing leaks!

1. **NOTICE** *Battery destruction!*
Topping up with pure acid will increase the electrolyte concentration and can destroy the battery.
 - *Top up only with distilled water.*
2. Check the electrolyte level.



If the electrolyte level does not reach the mark -
➤ top up with distilled water.

- Close the door.

Winter operation:

Battery performance is particularly affected by winter operating conditions. Only a fraction of the normal starting energy is available at low temperatures.

1. **NOTICE** *Danger of batteries freezing!*
Discharged batteries are subject to frost damage and can freeze at 14 °F.
 - *Check battery charge condition with a specific gravity tester.*
 - *Recharge the batteries.*
 - *Clean the battery terminals and wipe with grease.*
2. Check the battery charge weekly.
Recharge as necessary.
3. For machine standstill times of several weeks: Remove the batteries and store in a frost-free environment.



In extreme cases, the use of heavy-duty cold-start batteries and/or additional batteries is recommended.

10.4.9.4 Battery removal and installation

Precondition The machine is switched off.
The machine is standing level.
The machine is fully vented, the pressure gauge reads 0 psig.
The machine has cooled down.

1. **⚠ CAUTION** *There is danger of batteries bursting!
If a battery is short circuited it will overheat and can burst.*
 - *Never short-circuit a battery (e.g. with a hand tool).*
 - *Wear gloves and eye protection.*
2. **NOTICE** *Excessive voltage produced by the engine generator!
Voltage peaks can destroy the alternator regulator and diodes.*
 - *The batteries serve as a buffer and must not be disconnected while the engine is running.*
 - *Carry out work on batteries only with the machine shut down.*
3. Open the left-hand door.
4. Disconnect the negative cable first, then the positive cable.
5. Unscrew the battery fixing clamp.
6. Replace in the reverse order.
7. Make sure the battery is properly secured.
8. Close the door.

Replacing batteries

Replacement batteries must have the same capacity, current strength and design as the original batteries.

- Always replace batteries with the same type.



Old batteries are hazardous waste and must be disposed of correctly in accordance with local environmental protection regulations.

10.4.10 Checking the fastening of the fuel tank

The machine is equipped with a fuel tank or tanks. These are fastened with lashing strips and ratchets.

Precondition The machine is shut down,
the machine is standing level,
the machine is fully vented, the pressure gauge reads 0 psig,
the machine is cooled down,
all compressed air consumers are disconnected and the air outlet valves are open.

NOTICE

*The lashing strip of the fuel tank is overly tightened!
The plastic tank can be damaged by excessive tightening of the lashing strips.
The fuel tank may burst and spill.*

- *Do not overtighten the lashing strips.*
- *Slightly hand-tighten the lashing strips.*

Carrying out visual check

1. Check the lashing strips for tears and fraying in the fabric, and for damages to the ratchet.
Change any damaged lashing strip immediately.
2. Check whether the lashing strips are tight with the tank and that the ratchet is closed.
If the lashing strips sits loose, or the ratchet is not closed properly, tighten the fastening.

Tightening the fastening of the fuel tank

The lashing strips are tensioned via the integrated ratchet.

The lashing strips must fit closely around the fuel tank. The tensioning force of the strips must not exceed 10 daN (approx. 25 lbf), slightly hand-tighten only.

- Hand-tighten the lashing strip with the integrated ratchet and push the ratchet to the strip.

10.4.11 Replace the filter insert for the reduction agent pump

Always wear protective gloves when working on components of the SCR system!

Make sure no dirt can enter the reduction agent system during maintenance. Clean components and their surroundings before dismounting.

Material Spare parts
Receptacle
Cleaning cloth
Protective gloves
Socket wrench SW 27(1.06 in)

Precondition The machine is switched off.
The machine is standing level.
The machine is fully vented, the pressure gauge reads 0 psig.
The machine has cooled down.
All compressed air consumers are disconnected and the air outlet valves are open.
Negative cable to the batteries disconnected.

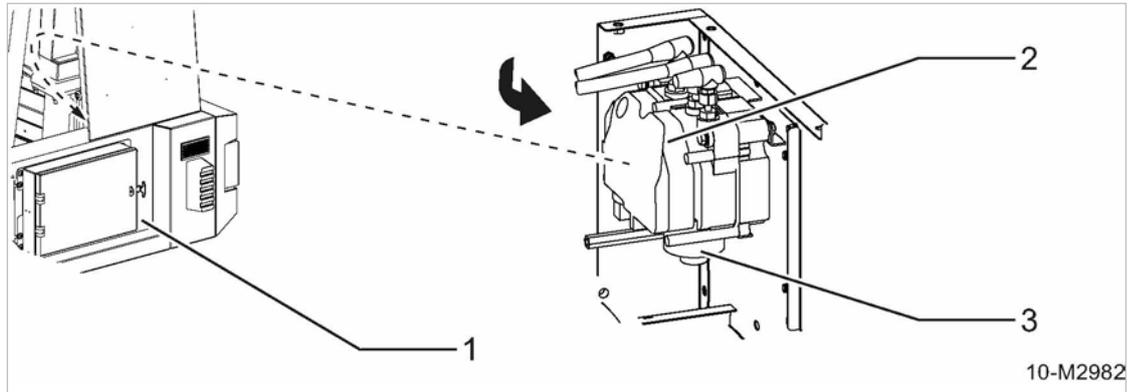


Fig. 60 Reduction agent pump
 ① Rear underside, left
 ② Reduction agent pump
 ③ Filter for reduction agent pump

➤ Open the left-hand door.

Remove reduction agent pump:

In order to make maintenance work at the pump easier, it should first be removed from the underside of the machine.

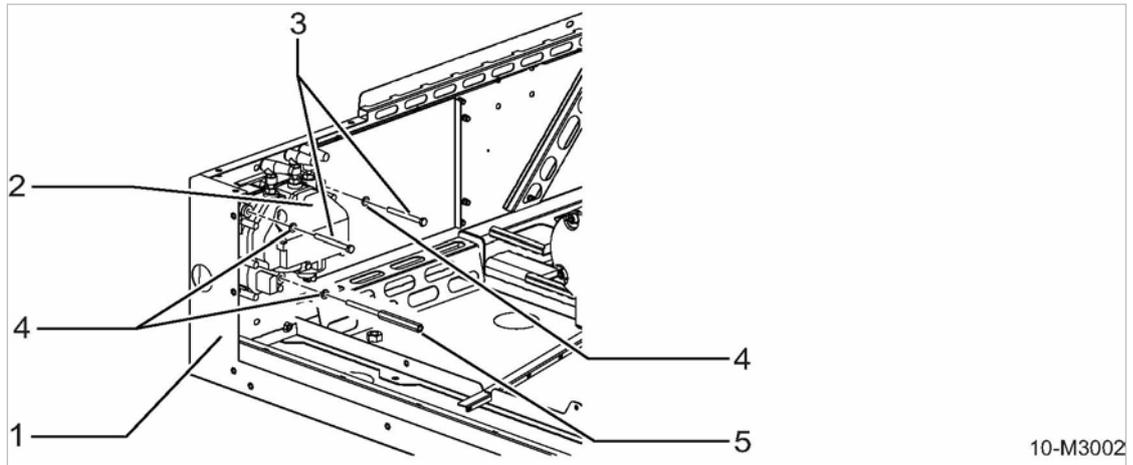
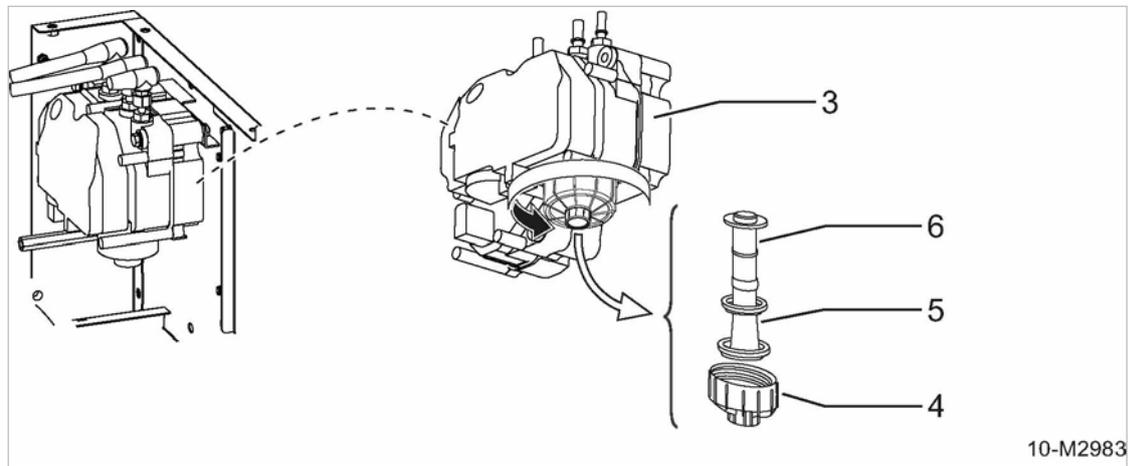


Fig. 61 Remove reduction agent pump
 ① Machine underside
 ② Reduction agent pump
 ③ Hex. head screws
 ④ Washers
 ⑤ Special hex head bolt with extended head piece

1. Unscrew screw-in fitting (two hex head bolts + one special screw) and put to one side.
2. Swivel pump upward.

Result The pump is easily accessible for maintenance work.

Changing filter insert:


10-M2983

Fig. 62 Changing the filter insert for the reduction agent pump

- | | | | |
|---|----------------------|---|-----------------------|
| ③ | Reduction agent pump | ⑤ | Compensation material |
| ④ | Filter cap | ⑥ | Filter element |

1. Place a container beneath the reduction agent pump.
2. Unscrew the filter cap counter-clockwise using a socket wrench and place aside.
3. Pull out filter insert and compensation material.
4. Thoroughly clean the housing, filter cap and sealing surfaces with a lint-free cloth.
5. Check sealing surfaces on housing and cap.
In case of damage: Replace cap or pump/have it replaced.
6. Insert new filter insert with compensation material.
7. Screw on filter cap (200 ± 22 lbf in tightening torque)
8. Carefully remove the receptacle.



Dispose of reduction agent and any materials and components contaminated with it in accordance with environmental protection regulations.

Install reduction agent pump:

1. Swivel pump downward and screw onto the underside:
 - into the two top fastening holes with the regular hex head bolts
 - into the bottom fastening hole with the special screw with extended head piece
 - make sure to include the washers
2. Reconnect the negative cable to the batteries.
3. Close the door

Starting the machine and performing a test run:

1. Switch the machine on and run it in IDLE mode for approx. 1 minute.
2. Shut down the machine.
3. Open the left-hand door.
4. Visually check the reduction agent system for leaks.

5. Tighten all fittings.
6. Close the door.

10.5 Compressor Maintenance

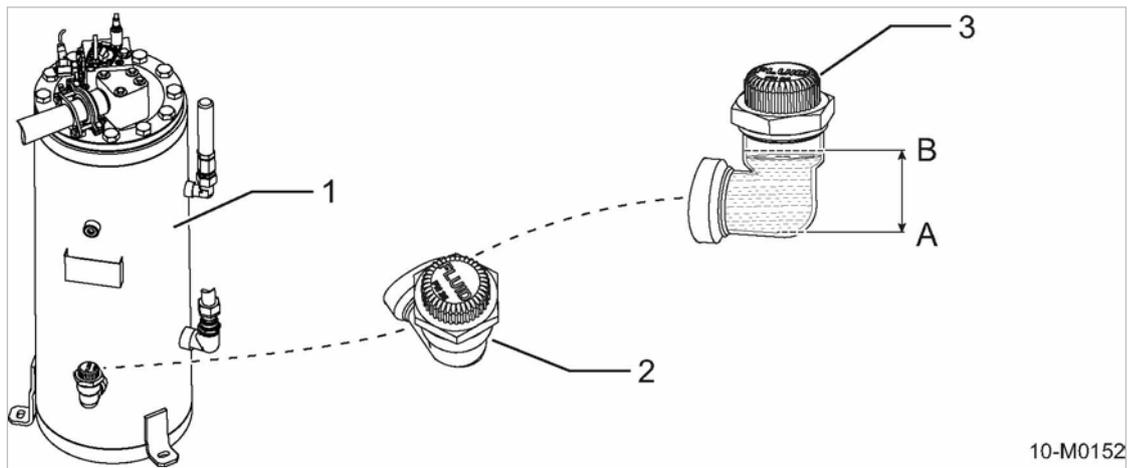
- Perform maintenance tasks according to the schedule in chapter 10.3.4.1.

10.5.1 Checking the cooling oil level

The oil level is checked at the oil separator tank filling port. Oil must be visible in the port when the filler plug is removed.

Material Wrench
Cleaning cloth

Precondition The machine is shut down,
the machine is standing level,
the machine is fully vented, the pressure gauge reads 0 psig,
all compressed air consumers are disconnected and the air outlet valves are open.



10-M0152

Fig. 63 Checking the cooling oil level

- | | |
|----------------------|-----------------|
| ① Oil separator tank | Ⓐ Minimum level |
| ② Oil filler port | Ⓑ Maximum level |
| ③ Screw plug | |

1. Open the right-hand access door.
2. Slowly unscrew and withdraw the plug from the oil filler port.
3. Check the cooling oil level.
Top off if no oil is visible.
4. Replace the plug in the filler port.
5. Close the door.

10.5.2 Cooling oil filling and topping off

Material Cooling oil
Funnel
Cleaning cloth
Wrench

Precondition The machine is shut down,
the machine is standing level,
the machine is fully vented, the pressure gauge reads 0 psig,
the machine is cooled down.
All compressed air consumers are disconnected and the air outlet valves are open.
Negative cable to the batteries disconnected.

Filling with cooling oil

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

1. **NOTICE** *The machine could be damaged by unsuitable oil!*
 - *Never mix different types of oil.*
 - *Never top off with a type of oil that differs from the one already used in the machine.*
2. Open the right-hand access door.
3. Slowly unscrew and withdraw the plug from the oil filler port.
4. Top off the cooling oil to the maximum level  with the help of a funnel.
5. Check the oil level.
6. Check the filler plug gasket for damage.
Damaged gasket: replace gasket.
7. Replace the plug in the filler port.
8. Reconnect the negative cable to the batteries.
9. Close the door.

Starting the machine and performing a test run

1. Start the machine and run in IDLE until the operating temperature is reached.
2. Close the outlet valves.
3. Shut down the machine.
4. Wait until the machine has automatically vented.
Pressure gauge reads 0 psig!
5. Open the outlet valves.
6. Open the right-hand access door.
7. Check the oil level after about 5 minutes.
Top off if the level is too low.
8. Visually inspect for leaks.
9. Close the door.

10.5.3 Changing the cooling oil

Drain the oil completely from the following components:

- Oil separator tank
 - Oil cooler
 - Oil pipes
- Always change the oil filter when changing the oil.

Material

Cooling oil

Receptacle

Drain hose with hose coupling is disconnectedly laying at the machine

New gasket for the drain plug

Funnel

Cleaning cloth

Precondition

The machine is shut down,

the machine is standing level,

the machine is fully vented, the pressure gauge reads 0 psig,

the machine is at operating temperature.

All compressed air consumers are disconnected and the air outlet valves are open.

Negative cable to the batteries disconnected.

⚠ CAUTION

Danger of burning from hot components and oil!

- *Wear long-sleeved clothing and protective gloves.*

- Open both doors.

10.5.3.1 Draining the cooling oil (machine with chassis)

The drain point for the cooling oil of the oil separator tank of the compressor has been led to the outside. The cooling oil is drained via a hose line which is screwed into the drain opening of the oil separator tank and closed with a shut-off valve. The pipe is sealed with a screwed sealing plug at the drain end. The cooling oil at the oil cooler is directly drained. This is done from a drain valve with the aid of a separate drain hose. This drain valve is accessible by means of a service opening in the floor pan.



See chapter 4, Fig. 9 for the location of the drain points for lubricant and coolant in the floor pan.

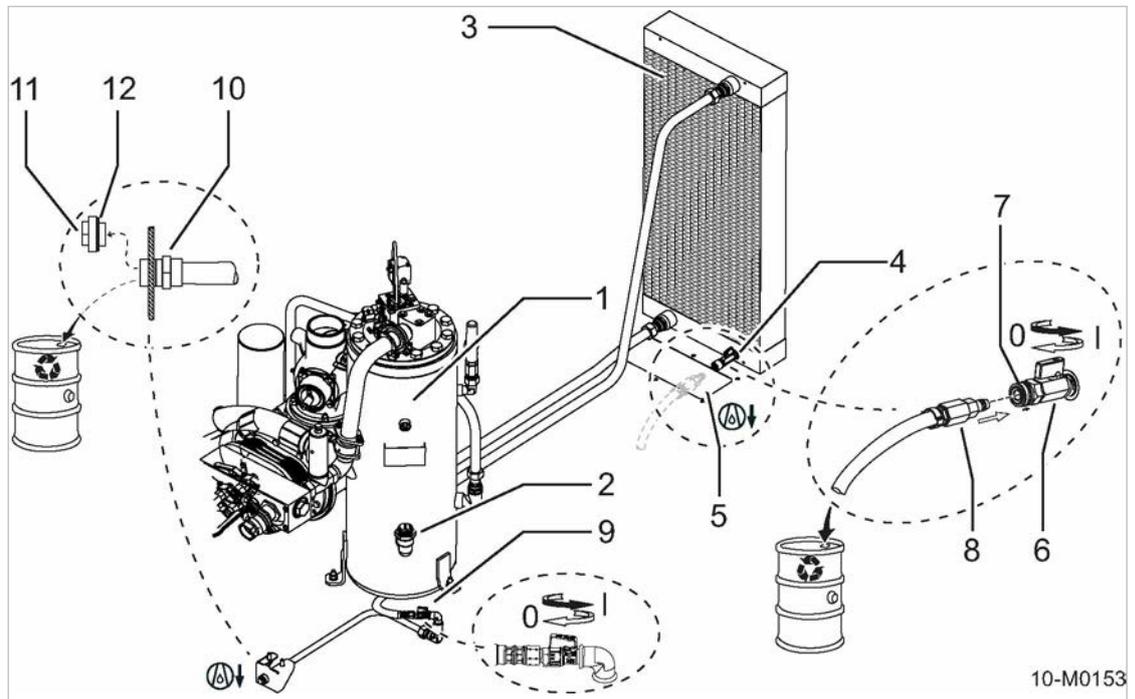


Fig. 64 Draining the compressor cooling oil

- | | |
|---|--|
| ① Oil separator tank | ⑦ Quick-release coupling |
| ② Screw plug for oil filler port | ⑧ Drain hose with male fitting |
| ③ Oil cooler | ⑨ Shut-off valve (ball valve) oil separator tank |
| ④ Cooling oil drain, oil cooler | I - Open |
| ⑤ Service opening of oil cooler in floor pan
(with cover closed) | 0 - Closed |
| ⑥ Shut-off valve (ball valve) oil cooler | ⑩ Cooling oil drain, oil separator tank |
| I - Open | ⑪ Screw plug |
| 0 - Closed | ⑫ Sealing ring |

1. Open the right-hand access door.
2. Remove the plug ② from the oil separator tank filler port.

Draining the cooling oil from the oil separator tank:

1. Position a receptacle beneath the oil drainage point for the oil separator tank's cooling oil ③.
2. Unscrew the filler plug ⑪ at the cooling oil drain of the oil separator tank.
3. Open the corresponding shut-off valve ⑨ and collect the coolant.
4. Close the shut-off valve.
5. Check the sealing ring ⑫ of the filler plug.
The sealing ring is deformed or defective: Replace the sealing ring.
6. Screw in the plug.

Draining the oil from the oil cooler

1. Dismantle safety screen and move it to the side.
2. Dismantle corresponding sheet metal cover of service opening underneath the machine and place aside.
3. Prepare a receptacle beneath the service opening of the floor pan.

4. Connect a suitable drain hose (8) to the oil cooler quick-release coupling (7).
5. Lead the hose through the hole in the floor panel and into the receptacle, securing it in place.
6. Open the shut-off valve (6) and collect the cooling oil.
7. Close the shut-off valve and remove the drain hose.
8. Install sheet metal cover of service opening. Make sure the opening is closed tightly.
9. Refit the safety screen.

Performing final work steps:

1. Replace the plug in the oil separator tank filler port.
2. Close the door.



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

Further information See chapter 10.5.2 for cooling oil filling.

10.5.3.2 Option oe, rw, rx**Draining the cooling oil (sealed floor pan - stationary machine)**

Compressor cooling oil and engine coolant drain lines are led to a central point outside the machine on stationary machines and machines with sealed floor pan. Oil drainage is via hose and pipe lines screwed into the drain ports of the oil separator tank and the airend and which are closed with a shut-off valve. The pipes are each sealed with a screwed sealing plug at the drain end.

Option oe, rw, rx

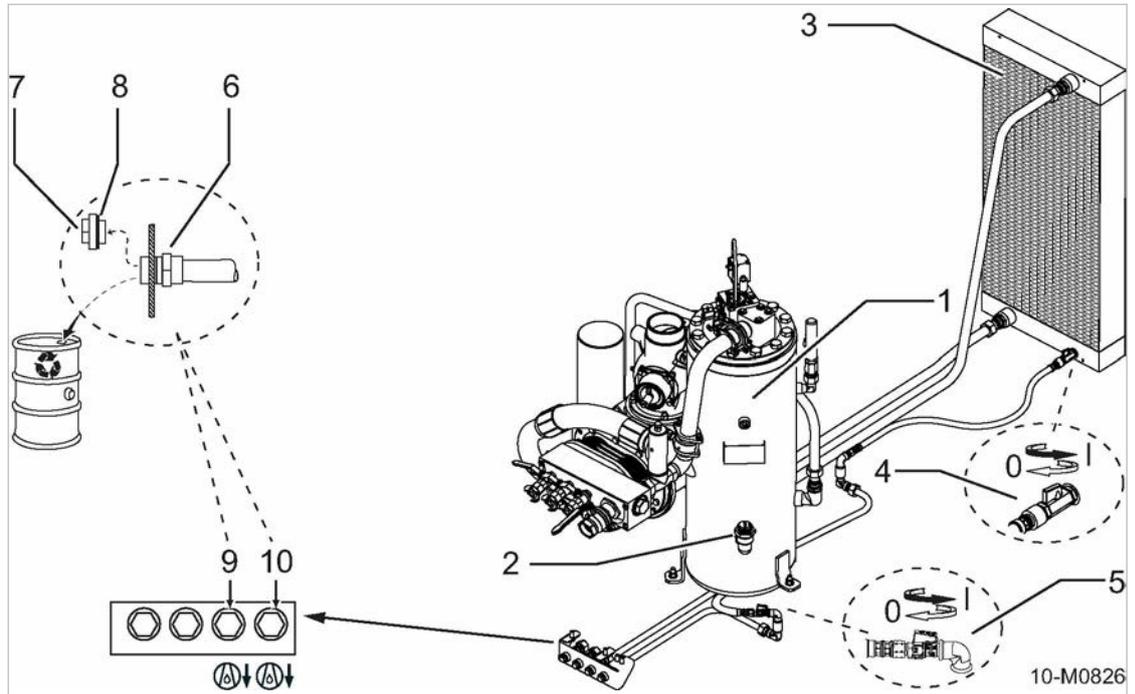


Fig. 65 Draining the cooling oil (sealed floor pan - stationary machine)

- | | |
|--|---|
| ① Oil separator tank | ⑥ Cooling oil drain |
| ② Oil filler plug | ⑦ Screwed sealing cap - cooling oil drain |
| ③ Oil cooler | ⑧ Sealing ring |
| ④ Shut-off valve (ball valve) oil cooler
I - Open
0 - Closed | ⑨ Oil cooler drain |
| ⑤ Shut-off valve (ball valve) oil separator tank
I - Open
0 - Closed | ⑩ Oil separator tank drain |

1. Open the right-hand access door.
2. Remove the plug ② from the oil separator tank filling port.

Draining the cooling oil from the oil separator tank

1. Position a receptacle beneath the oil drainage point for the oil separator tank's cooling oil ⑩.
2. Unscrew the corresponding screwed sealing cap ⑦ at the cooling oil drain.
3. Open the appropriate shut-off valve ⑤ at the cooling oil drain and catch the escaping cooling oil.
4. Close the shut-off valve.
5. Check the sealing ring ⑧ of the filler plug.
The sealing ring is deformed or defective: Replace the sealing ring.
6. Screw in the plug.

Draining the oil from the oil cooler

1. Dismantle safety screen and move it to the side.

2. Unscrew the corresponding screwed sealing cap (7) at the cooling oil drain.
3. Position a receptacle beneath the oil drainage point for the oil cooler's cooling oil (9).
4. Open the appropriate shut-off valve (4) at the cooling oil drain and catch the escaping cooling oil.
5. Close the shut-off valve.
6. Check the sealing ring (8) of the filler plug.
The sealing ring is deformed or defective: Replace the sealing ring.
7. Screw in the plug.
8. Refit the safety screen.

Performing final work steps

1. Replace the plug (2) to the filling port of the oil separator tank.
2. Close the door.



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

Further information See chapter 10.5.2 for cooling oil filling.

10.5.4 Replacing the compressor oil filter

Material Spare part
Receptacle
Cleaning cloth

Precondition The machine is switched off,
the machine is fully vented, the pressure gauge reads 0 psig,
the machine has cooled down.
All compressed air consumers are disconnected and the air outlet valves are open.
Negative cable to the batteries disconnected.

⚠ CAUTION

Danger of burning from hot components and oil!

- *Wear long-sleeved clothing and protective gloves.*

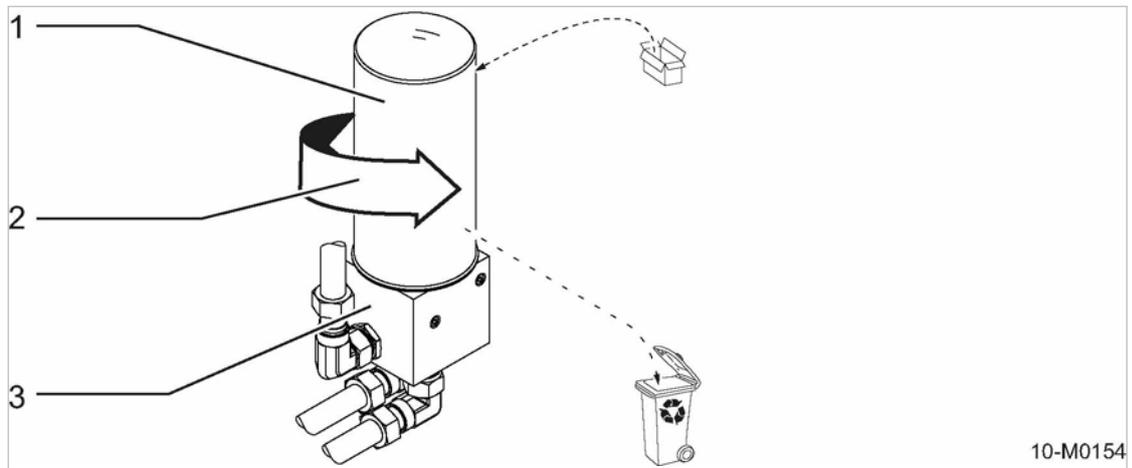


Fig. 66 Change the oil filter

- ① Oil filter
- ② Direction of rotation to unscrew the oil filter
- ③ Combination valve

Changing the oil filter

1. Open the left-hand door.
2. Prepare a receptacle.
3. Loosen the filter by turning counter-clockwise and catch any escaping oil.
4. Carefully clean sealing surfaces using lint-free cloth.
5. Lightly oil the new filter's gasket.
6. Turn the oil filter clockwise by hand to tighten.
7. Check the oil level in the oil separator tank.
Top off if the level is too low.
8. Reconnect the negative cable to the batteries.
9. Close the door.



Dispose of old cooling oil and any materials or parts contaminated with oil according to environment protection regulations.

Starting the machine and performing a test run

1. Start the machine and run in IDLE until the operating temperature is reached.
2. Close the outlet valves.
3. Shut down the machine.
4. Wait until the machine has automatically vented.
Pressure gauge reads 0 psig!
5. Open the outlet valves.
6. Open the right-hand access door.
7. After approximately 5 minutes: Check the cooling oil level.
Top off if the level is too low.
8. Visually inspect for leaks.
9. Close the door.

10.5.5 Oil separator tank dirt trap maintenance

The control valve is mounted on the oil separator tank cover. The control valve has two different dirt traps that must be cleaned at least once a year.

Material Cleaning cloth
 Wrench
 Small screwdriver
 Maintenance kit, control valve
 Petroleum ether or spirit

Precondition The machine is switched off.
 The machine is fully vented, the pressure gauge reads 0 psig.
 The machine has cooled down.
 All compressed air consumers are disconnected and the air outlet valves are open.
 Negative cable to the batteries disconnected.

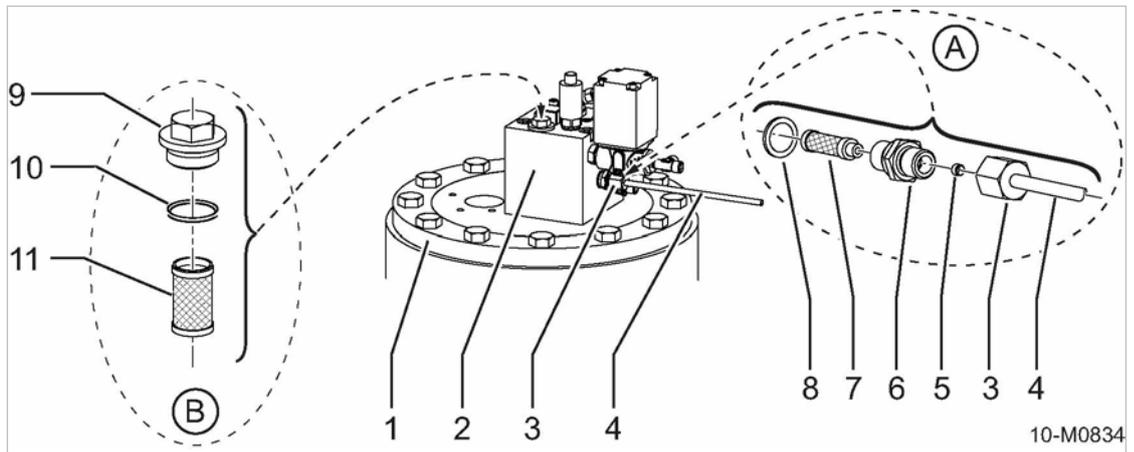


Fig. 67 Oil separator tank dirt trap maintenance

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

➤ Open the right-hand access door.

10.5.5.1 Oil return line dirt trap maintenance

See Fig. 67; Detail: A.

1. Undo the union nut ③ and bend the oil return line ④ to one side.
2. Unscrew the screw-in connector ⑥.
3. Unscrew the strainer ⑦ from the screw-in connector.
4. Use a screw driver to unscrew the nozzle ⑤ from the screw-in connector.
5. Clean the housing, strainer and sealing ring ⑧ with cleaning solvent or spirit.

6. Check the nozzle, strainer and sealing ring for wear.
When clearly worn: replace components.
7. Fit the nozzle and strainer to the screw-in connector.
8. Screw in the connector making sure the sealing ring seats properly.
9. Refit the oil scavenge line.

10.5.5.2 Maintenance of the proportional controller dirt trap

See Fig. 67; Detail: B.

1. Unscrew the plug (9) and remove the strainer (11).
2. Clean the plug, strainer and O-ring (10) with cleaning solvent or spirit.
3. Check the strainer and O-ring for wear.
When clearly worn: replace components.
4. Place the screw plug on the strainer.
5. Screw in the plug making sure the O-ring seats properly.

Putting in operation:

1. Reconnect the negative cable to the batteries.
2. Close the door.



Dispose of old parts and contaminated materials according to environmental regulations.

Starting the machine and performing a test run:

1. Switch the machine on and run it in IDLE mode for approx. 5 minutes.
2. Shut down the machine.
3. Wait until the machine has automatically vented.
Pressure gauge reads 0 psig!
4. Open the outlet valves.
5. Open the right-hand access door.
6. Visually inspect for leaks.
7. Shut down the machine.
8. Close the door.

10.5.6 Changing the oil separator cartridge



The oil separator cartridge cannot be cleaned.

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

- Contamination in the air drawn into the compressor;
- Adherence to the changing intervals for the:
 - Cooling oil
 - Oil filter
 - Air filter

Material Spare part
Cleaning cloth
Wrench

Precondition The machine is switched off.
The machine is fully vented, the pressure gauge reads 0 psig!
The machine has cooled down.
All compressed air consumers are disconnected and the air discharge valves are open.
Negative cable to the batteries disconnected.

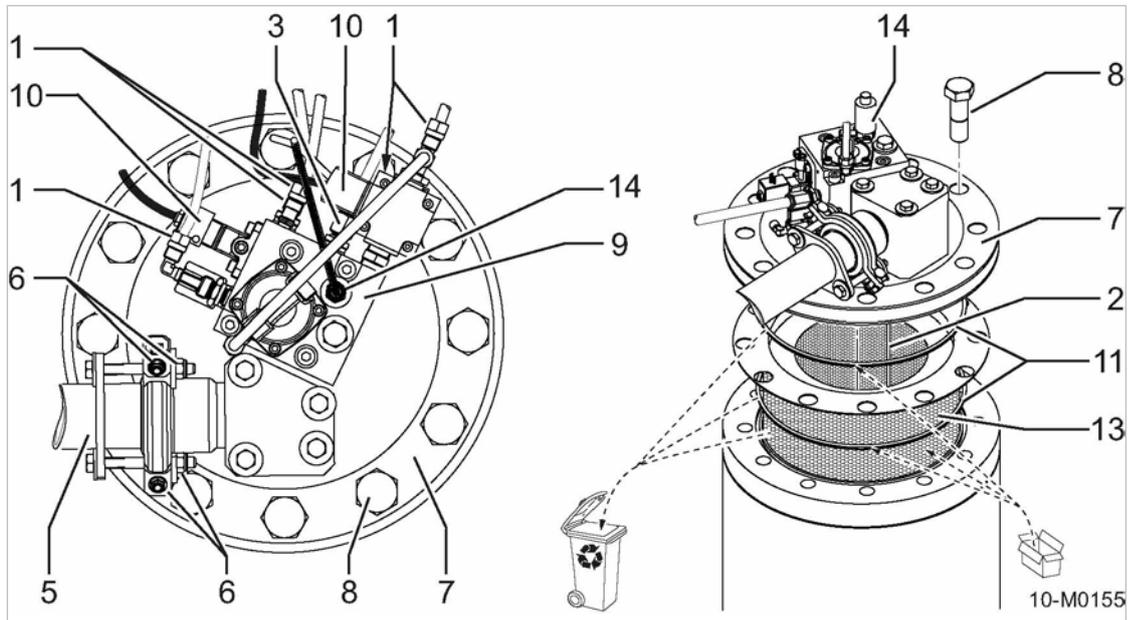


Fig. 68 Changing the oil separator cartridge

- | | |
|---|---------------------------|
| ① Control air line union nut | ⑧ Fixing screw |
| ② Oil return line (screwed onto the cover) | ⑨ Control valve |
| ③ Oil return line clamping nut (lower connection, screwed into the dirt trap) | ⑩ Solenoid valve |
| ⑤ Air pipe | ⑪ Sealing ring |
| ⑥ Pipe fitting | ⑬ Oil separator cartridge |
| ⑦ Cover | ⑭ Pressure transducer |

➤ Open the right-hand access door.

Changing the oil separator cartridge

1. Unscrew the union nuts ① and place the components with connections carefully to one side.
2. Pull out the plugs at the connection cables of the solenoid valves ⑩ and withdraw the cable.
3. Pull out the plug to the sensor ⑭ and withdraw the cable.
4. Unscrew the pipe fittings ⑥ and turn the air pipe ⑤ to one side.
5. Remove the fitting screws ⑧ securing the cover ⑦ of the oil separator tank.
6. Carefully lift the cover and put to one side.



Take care with the pipe of the oil return line ② screwed under the cover.

7. Remove the old oil separator cartridge (13) and sealing rings (11).
8. Clean all sealing surfaces, taking care that no foreign bodies (dirt particles) fall into the oil separator tank.
9. Insert the new oil separator cartridge and sealing rings.
10. Replace the cover and screw down tightly.



- Tighten screws crosswise.
- Observe specified tightening torque when screwing down the cover.
Reference values can be found in "Technical Specifications", Chapter 2.4.2.3.

11. Secure the air pipe (5) in position with new (self-locking) nuts.



- Follow the instructions in chapter 10.5.8 concerning flexible pipe connections.

12. Replace and tighten all loosened fittings.
13. Reconnect all cables.
14. Check the oil level in the oil separator tank.
Cooling oil level too low: Top off the cooling oil.



- The dirt trap at the oil separator tank must also be serviced, whenever the oil separator cartridge is changed.

Further information Information on control valve dirt trap maintenance is given in chapter 10.5.5.

Putting in operation

1. Reconnect the negative cable to the batteries.
2. Close the door.



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

Starting the machine and performing a test run

1. Start the machine and run in IDLE until the operating temperature is reached.
2. Close the discharge valves.
3. Shut down the machine.
4. Wait until the machine has automatically vented.
The pressure gauge reads 0 psig!
5. Open the discharge valves.
6. Open the right-hand access door.
7. After approximately 5 minutes: Check the cooling oil level.
Cooling oil level too low: Top off the cooling oil.
8. Visually inspect for leaks.
9. Close the door.

10.5.7 Compressor air filter maintenance

Clean the air filter as per the maintenance table but at the latest when the controller displays the corresponding maintenance message.

Renew the air filter element after 2 years or after it has been cleaned 5 times.



- Using the machine without an air filter element is not permitted!
- Do not use a filter element with damaged folds or gasket.
- The use of an unsuitable air filter can permit dirt to ingress the pressure system and cause premature wear and damage to the machine.

Material Compressed air for blowing out
Spare parts (as required)
Cleaning cloth

Precondition The machine is switched off,
the machine is fully vented, the pressure gauge reads 0 psig,
the machine has cooled down.
All compressed air consumers are disconnected and the air outlet valves are open.

NOTICE

- Damaged air filter element!*
Machine damage due to contaminated intake air.
- Do not try to clean the filter element by striking or knocking it.
 - Do not wash the filter element.

Analyzing the warning message on the controller

The air filters are connected to the controller via sensors. If the level of dirtiness of the air filter increases, a warning message is sent to the controller.

- The controller display will show "Service compressor air filter".
- The «Information» key illuminates.
- The «Acknowledge» key flashes.



Servicing the compressor air filter is required as soon as this message is displayed.

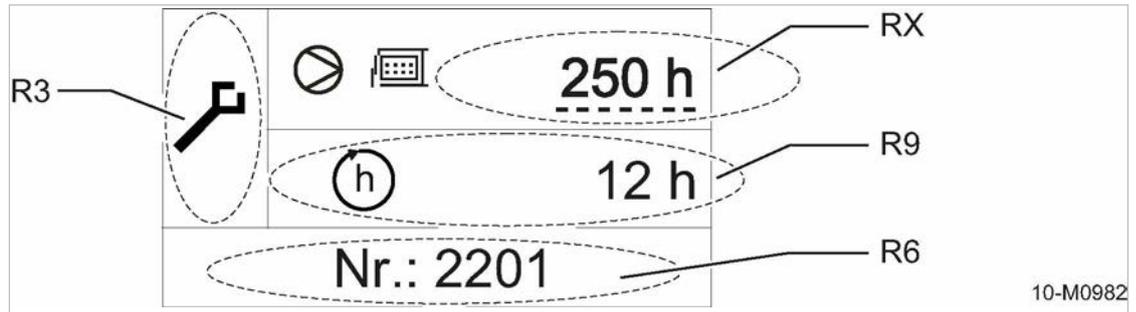


Fig. 69 Warning messages: Compressor air filter maintenance

- (R3) Event memory category: Maintenance
- (R6) Message codes
- (R9) Time when maintenance is due
- (RX) Maintenance interval

- Maintain the filter.
- Open the right-hand access door.

Cleaning the air filter

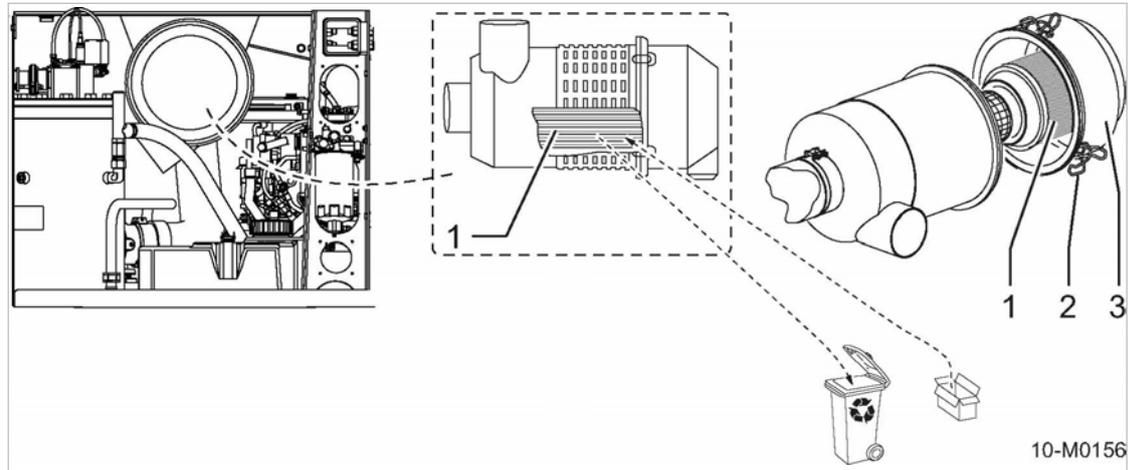


Fig. 70 Compressor air filter maintenance

- ① Filter element (air filter)
- ② Retaining clip
- ③ Filter cap

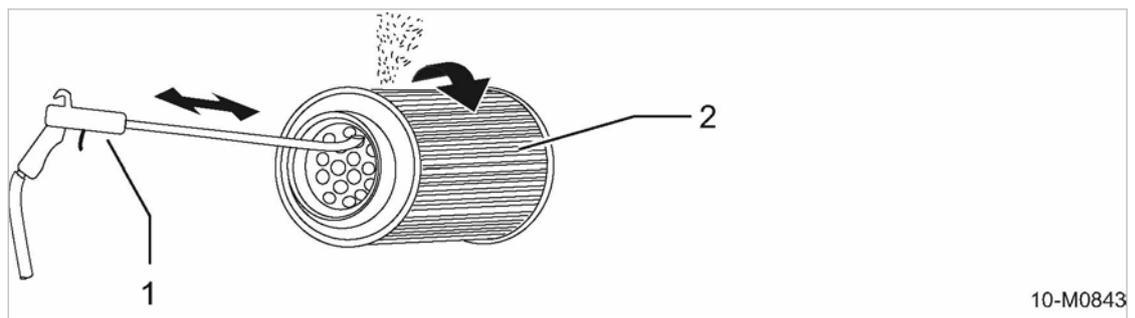


Fig. 71 Clean the filter element (air filter)

- ① Compressed air gun with blast pipe bent to 90° at the end
- ② Filter element (air filter)

1. Release the retaining clamps, lift off the cap and extract the air filter.
2. Carefully clean the inside of the housing, the cover and sealing faces with a damp cloth.
3. Cleaning the filter element:
 - Use dry compressed air (≤ 30 psi!) at an angle to blow dust from the element from inside to outside until no further dust develops.
 - The blast pipe must be long enough to reach the bottom of the element.
 - The tip of the blast pipe must not touch the element.
 - Cleaning sealing faces.
4. Inspect the element carefully for any damage.
Damaged filter element: Replace filter element.
5. Insert the cleaned or new filter element into the filter housing. Make sure it is properly in place and sealed by its gaskets.
6. Replace the cap and secure with the clip.

Concluding the maintenance

Maintenance must be acknowledged after the air filter has been maintained.



For more information about acknowledging the maintenance message and resetting the maintenance timer, see the separate operating manual of the SIGMA CONTROL MOBIL

Precondition Air filter maintained

1. Acknowledge the maintenance message.
 - Confirm the message with the «Acknowledge» key.
 - The «Acknowledge» key is extinguished but the «Information» key is still illuminated.
2. Resetting the maintenance interval counter.
 - Simultaneously press and hold the «Acknowledge» and «Enter» keys for 2 seconds.
 - The system will automatically display the input menu for the password if no password is active.
 - Password (for example: Customer password: 4512) enter and confirm with the keypad.
 - Simultaneously press and hold the «Acknowledge» key and «Enter» for 2 seconds.

Result The maintenance interval counter is reset and the «Information» key extinguishes.

- Close the door.



Dispose of old parts and contaminated materials according to environmental regulations.

10.5.8 Fit the flexible pipe connection

With the machine stopped, the clamping bolts must be freely movable by hand and parallel with the pipe.

In LOAD operation, all clamping bolts must be equally loaded.

- Replace the self-locking nuts.

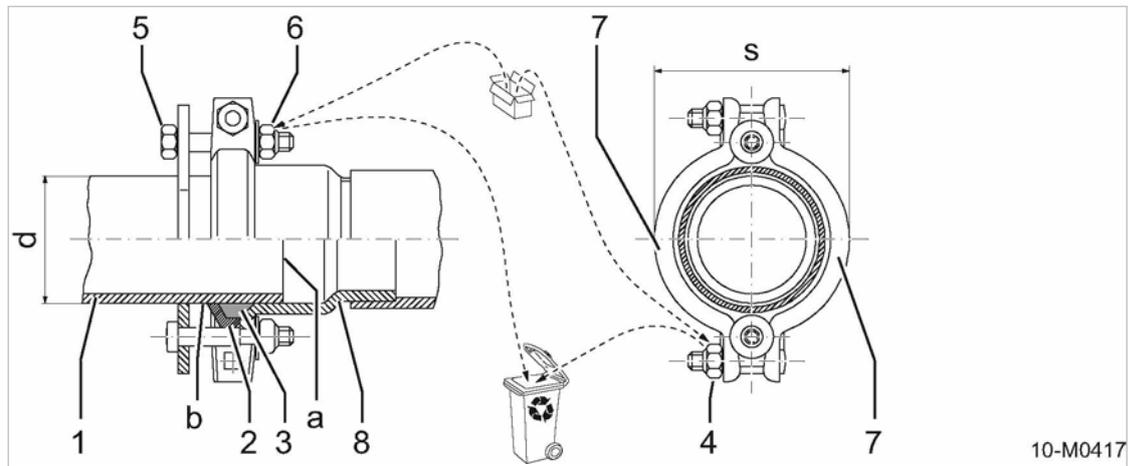


Fig. 72 Fit the flexible pipe connection

- | | |
|----------------------|---|
| ① Pipe | ⑦ Pipe clamp halves |
| ② Seal holder | ⑧ Sleeve |
| ③ Gasket (seal ring) | ① Pipe cut edge |
| ④ Self-locking nut | ② Pipe sealing surface |
| ⑤ Clamping screw | ③ Pipe diameter (outside) |
| ⑥ Self-locking nut | ④ Dimension of the flexible pipe joint under tension. |

Precondition The components to be connected must be flush-aligned.

The pipe must be deburred and the sealing face clean and undamaged. Point-shaped small concavities can be ignored, the axial direction must not exhibit any grooves.

1. Slide the seal holder ② and gasket ③ over the pipe ①.
2. Slide the pipe end ⑧ into the bush without pretension.
3. Ensure proper alignment of the pipe and push the sealing ring with sealing holder up to the beveled edge of the sleeve.
4. Lay the pipe clamp halves ⑦ over the seal holder ② and bush ⑧ and tighten the self-locking nuts ④ until the dimension ④ is reached.

Pipe diameter: d [in]	Clamp diameter: s [in]
1.90	3.21

Tab. 96 Dimensions of the flexible pipe connection

5. Tighten up the clamping bolts ⑤ with the self-locking nuts ⑥.
It must be just possible to manually move the screw connections.

10.6 Cleaning the cooler

The frequency of cleaning is mainly dependent on local operating conditions.

Severe clogging of the coolers causes overheating and machine damage.

Check coolers regularly for clogging.

Avoid creating dust swirls. Wear breathing protection if necessary.

Do not clean the coolers/radiators with a sharp instrument as they may be damaged.

A severely contaminated cooler/radiator should be cleaned by KAESER SERVICE.

- Material Compressed air
Breathing mask (if necessary)
Water or steam jet blaster
- Precondition The machine is placed over a washing station equipped with an oil separator.
The machine is switched off.
The machine has cooled down.
The machine is fully vented, the pressure gauge reads 0 psig.
All compressed air consumers are disconnected and the air outlet valves are open.
Negative cable to the batteries disconnected.

NOTICE

Damage to the machine can be caused by water or steam jets.

Direct water or steam jets can damage or destroy electrical components and display instruments.

- *Cover up electrical components such as the control cabinet, alternator, starter and instruments.*
 - *Do **not** direct water or steam jets at sensitive components such as alternator, starter or indicating instruments or sensors.*
 - *Deploy the extension pole of the pressure washer at a distance of at least 50 cm and an approximately 90° angle to the cooler/radiator surface.*
- Open both doors.

10.6.1 Cleaning the compressor cooler and engine radiator

The compressor oil cooler and engine coolant radiator are combined in a single cooler block.

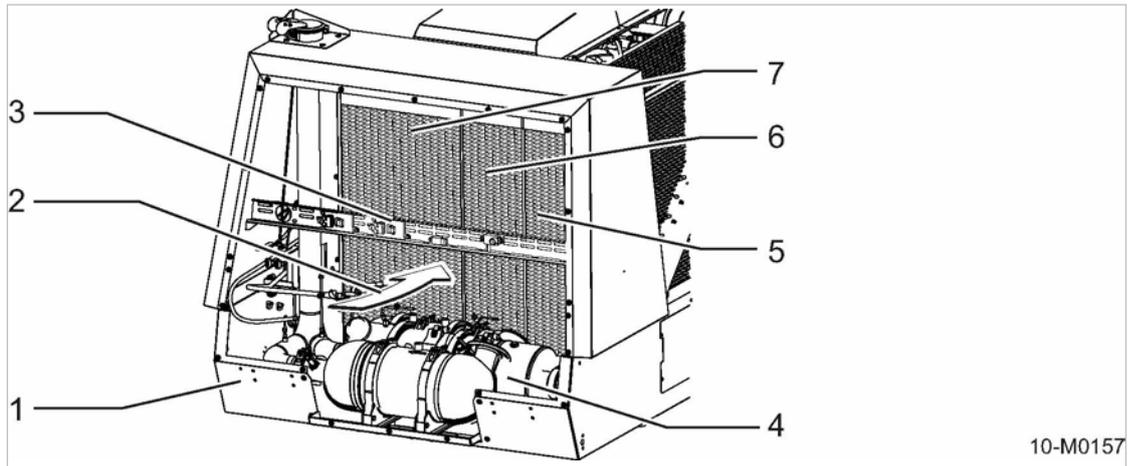


Fig. 73 Cleaning the compressor cooler and engine radiator

- | | |
|---|------------------------------|
| ① Machine front side, sound damping louvers removed | ⑤ Coolant cooler (engine) |
| ② Direction of impacting water or steam jet (from outside to inside). | ⑥ Charge air cooler (engine) |
| ③ Strip with sensors | ⑦ Compressor oil cooler |
| ④ Components with emission after-treatment | |

Cooler cleaning

1. Seal off the air intakes of the engine and compressor air filters before starting cleaning.
2. Remove the sound damping louvres in front of the cooler/radiator.
3. Clean the cooling fins with compressed air, water or steam jet in the opposite direction to the cooling air flow (from inside to outside).



Ensure that sensitive components, such as sensors, are not damaged by the cleaning jets!

4. Replace the sound damping louvre.
5. Remove the protective coverings from the air filters.
6. Reconnect the negative cable to the batteries.
7. Close the doors.
8. Start the machine and run up to operating temperature so that excess water is evaporated.

Check the cooler for leaks:

1. Open both doors.
2. Visually inspect for leaks: Is oil/coolant leaking out?



Is a cooler leaking?

➤ Have the defective cooler repaired or replaced immediately by KAESER SERVICE.

➤ Close the doors.

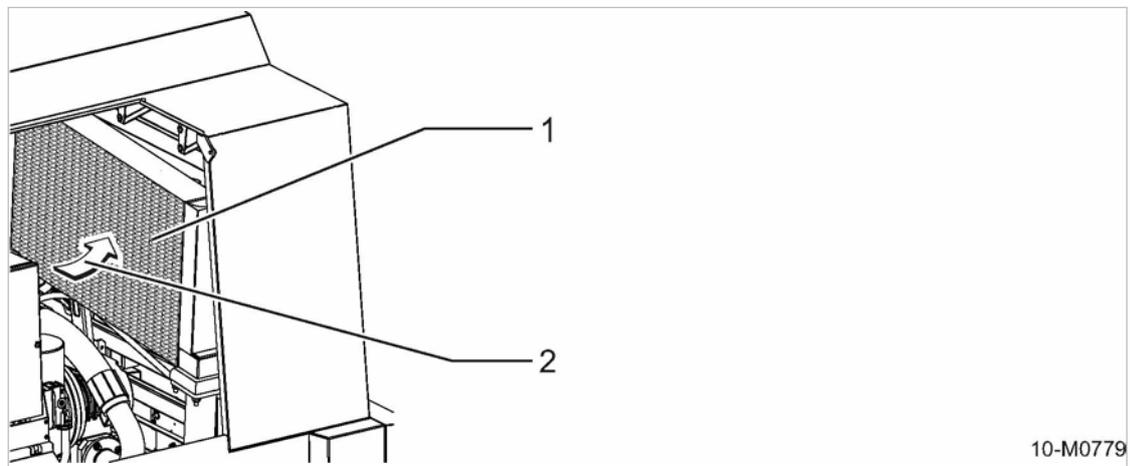


Clean the cooler fins only in a washing area equipped with an oil separator!

**10.6.2 Option da, df, dc, dd
Cleaning the compressed air after-cooler**

The compressed air after-cooler is located near the air treatment devices.

Option da, df, dc, dd



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Fig. 74 Cleaning the compressed air after-cooler

- ① Compressed air after-cooler
- ② Direction of impacting water or steam jet (from inside to outside).

1. Seal off the air intakes of the engine and compressor air filters before starting cleaning.
2. Clean the cooling fins with compressed air, water or steam jet in the opposite direction to the cooling air flow (from inside to outside).
3. Remove the protective coverings from the air filters.
4. Reconnect the negative cable to the batteries.
5. Close the doors.
6. Start the machine and run up to operating temperature so that excess water is evaporated.



Clean the cooler fins only in a washing area equipped with an oil separator!

10.7 Checking 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.

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.

1. **NOTICE** *Damage to the machine from insufficient clamping force at screw connections*
 - *Tighten all screw connections with the defined tightening torque.*
2. Determine the thread size for the screw connection.
3. For determining the defined torque, see chapter 2.4.2.
4. Tighten all screw connections with the defined torque.

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 2.4.2.
 - E.g. Screw connections on lifting eyes.
 - Values for further specific tightening torques are provided in the section covering the relevant maintenance task.
1. **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.*
 2. Determine the correct specific tightening torque.
 3. Tighten the screw connections with the specific tightening torque.

Sealed screw connections:

Screw connections which must not be adjusted are sealed with a coloured locking varnish.

1. **NOTICE** *Damage to the machine caused by adjusting the settings*
 - *Leave sealed screw connections in their original condition.*
2. Do not loosen or adjust sealed screw connections.



Failure to comply with these instructions will invalidate all warranty claims.

10.8 Check wing doors

The closed wing doors perform the following functions when the machine is running: Protection against contact, cooling air flow, sound proofing and weather protection.

To ensure these functions at all times, the doors and their connecting elements must always be in perfect working condition.

Material Acid-free oil

Precondition The machine is switched off.
The machine is fully vented, the pressure gauge reads 0 psig.
The machine has cooled down.
All compressed air consumers are disconnected, the discharge valves are open.

Check function of wing doors:

1. Close all wing doors.
2. Close all catches.



One or more wing doors are not resting properly on the body or cannot be latched.
➤ Contact authorised KAESER SERVICE.

Checking connecting elements of wing doors:

The connecting elements of the wing doors may include:

- Screw connections
- Hinges
- Handles
- Latches
- Snap fasteners
- Gas struts

1. Check all connecting elements of the wing doors for damage, wear and firm seating.
2. If necessary, grease the hinges.
3. Clean gas struts.
4. Check that gas struts will open the unlocked wing doors properly.
Wing doors open independently to the maximum opening angle.
5. Check that open wing doors remain open at maximum angle.



- Wing doors do not open properly or do not stay open.
- Replace defective gas struts.

10.9 Check sound proofing material



In order to limit the machine's noise emissions to a minimum the sound proofing material that has been built into the enclosure must be checked regularly. Damaged sound proofing material must be replaced immediately.

- Check sound proofing material inside the enclosure for condition, fastening, and dirt.



The sound proofing material is porous, cracked, no longer exists, or severely contaminated with oil, fuel, or cleaning agent.

- Have an authorized KAESER service representative replace the sound proofing material that can no longer be used.

10.10 Maintenance of rubber sealing strips

The rubber sealing strips between the body panels and the access doors serve both as a sound-proofing measure and to prevent ingress of rain water.

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.

Material Cleaning cloth
Silicone or Vaseline

- Precondition** The machine is shut down.
The machine is fully vented, the pressure gauge reads 0 psig.
Machine is cooled down.
All compressed air consumers are disconnected and the air outlet valves are open.
1. Open all the doors.
 2. Clean the rubber sealing strips with a lint-free cloth and check for cracks, holes and other damage.
Have any damaged gasket replaced.
 3. Properly grease the rubber strips.
 4. Close the doors.

10.11 Check/replace hose lines

Overview of hose lines of machine:

- Fuel lines of the drive engine
- Pressure hoses of the drive engine
- 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 10.3.4.1

- Comply with all instructions!

10.11.1 Replace the fuel lines of the drive engine

- Have an authorized KAESER service representative replace the fuel lines of the drive engine.

10.11.2 Replace the pressure hoses of the drive engine



Overview of all pressure hoses at drive engine:

- Engine oil
- Coolant for the water cooler
- Charge air (if available)

- Have an authorized KAESER service representative replace the pressure hoses of the drive engine.

10.11.3 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 Check safety functions

- Perform inspection tasks/have them performed according to the maintenance schedule in chapter 10.3.4.1.

10.12.1 Check the EMERGENCY STOP push button

In order to shut down the machine in the event of danger, the machine is equipped with an EMERGENCY STOP push button. The EMERGENCY STOP push button of the machine is referred to as «EMERGENCY» push button

The position of the «EMERGENCY-STOP» push button is shown in Chapter 4.2 "Machine Design".



Use the «EMERGENCY STOP» push button to stop the machine only in emergencies!

Check the mechanical function of the «EMERGENCY STOP» push button daily with the machine shut down.

⚠ WARNING

«EMERGENCY STOP» push button locked out!

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.

Precondition The machine is switched off.
The drive motor stands still.

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



The «EMERGENCY STOP» push button cannot be pressed or does not engage.

- Do not start the machine.
- Have the «EMERGENCY STOP» push button replaced.

10.12.2 Have the activating pressure of the relief valve checked

The machine should shut down if the activating pressure of the relief valve reaches a maximum of P_{max} . (P_{max} . see table 98).



Check in accordance with section: "Check activating pressure of relief valve" in the separate operating manual for the SIGMA CONTROL MOBIL controller, chapter "Have safety functions checked".

Maximum working pressure [psi]	Activating pressure [psi]
203	230

Tab. 97 Relief valve activating pressure

Material Hearing protection
Eye protection

⚠ WARNING

Risk of hearing damage when air is blown out through the pressure relief valve!

- Close all the doors/enclosure.
- Wear hearing protection.

⚠ WARNING

Risk of burns due to released cooling oil and compressed air when blowing off the pressure relief valve!

- Wear eye protection.

- Have the activating pressure of the relief valve checked.

Result When the "activating pressure" is reached, the pressure release valve actuates (blows off).



When the "activating pressure" is reached, the pressure release valve does not actuate (blow off).

- Immediately shut down the machine and cease any further operation.
- Request an inspection and/or replacement of the pressure relief valve.

10.12.3 Having excessive temperature shut-down function checked

The machine should shut down if the discharge temperature reaches a maximum of $T_{max.}$ ($T_{max.}$ [°F] see table 99).



Check in accordance with section: "Check safety shut-down at excessive airend discharge temperature" in the separate operating manual for the SIGMA CONTROL MOBIL controller, chapter "Have safety functions checked".

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

Tab. 98 Safety shut-down at excessive airend discharge temperature

- Have shut-down at excessive airend discharge temperature checked.

Result When the maximum airend discharge temperature is exceeded, the SIGMA CONTROL MOBIL controller switches the machine off.



The machine does not shut down?

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

- Immediately shut down the machine and cease any further operation.
- Have machine checked.

10.13 Maintenance for Optional Items

- Perform maintenance tasks according to the schedule in chapter 10.3.4.2.

10.13.1 Option da, df, dc, dd Centrifugal separator maintenance

Clean the centrifugal separator dirt trap if the moisture content in the compressed air is too high.

- Material**
- Cleaning cloth
 - Wrench
 - Small screwdriver
 - Dirt trap maintenance kit
 - Petroleum ether or spirit

Precondition The machine is switched off,
the machine has cooled down,
the machine is fully vented, the pressure gauge reads 0 psig.
All compressed air consumers are disconnected and the air outlet valves are open.
Negative cable to the batteries disconnected.

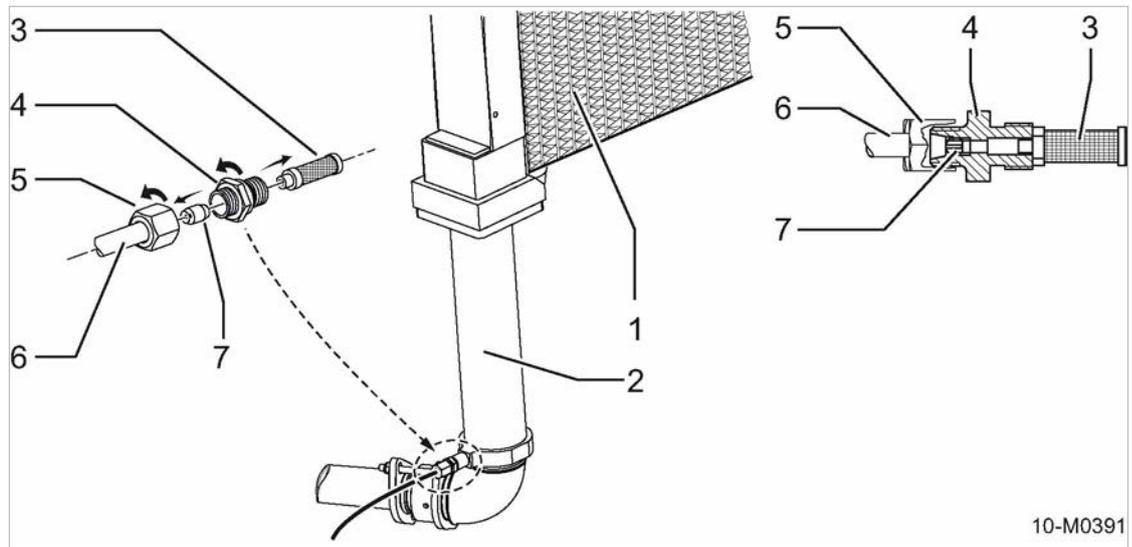


Fig. 75 Cleaning the condensate drain

- | | | | |
|---|-----------------------|---|---------------------------------|
| ① | Aftercooler | ⑤ | Union nut condensate drain hose |
| ② | Centrifugal separator | ⑥ | Condensate drain hose |
| ③ | Strainer | ⑦ | Nozzle |
| ④ | Pipe fitting | | |

- Open the left-hand door.

Cleaning the condensate drain

1. Loosen the union nut ⑤ and detach the condensate drain hose ⑥ from the screw-in fitting.
2. Unscrew the screw-in fitting ④ from the centrifugal separator and pull off the strainer ③.
3. Use a screwdriver to unscrew the nozzle ⑦ from the housing of the screw-in fitting.
4. Clean the nozzle, strainer and hose fitting with cleaning solvent or spirit.
5. Check the nozzle and strainer for wear.
When clearly worn: replace components.
6. Plug the strainer onto the screw-in fitting.
7. Install the screw-in fitting on the centrifugal separator.
8. Screw in the nozzle and re-attach the condensate drain hose.

Putting in operation

1. Reconnect the negative cable to the batteries.
2. Close the door.

Starting the machine and performing a test run

1. Switch the machine on and run it in IDLE mode for approx. 5 minutes.
2. Shut down the machine.
3. Wait until the machine has automatically vented.
Pressure gauge reads 0 psig!
4. Open the outlet valves.
5. Open the left-hand door.

6. Check the centrifugal separator housing and hose line for leaks.
7. Close the door.

10.13.2 Option dd Combination filter maintenance

Precondition The machine is switched off,
the machine is standing level,
the machine is fully vented, the pressure gauge reads 0 psig.
All compressed air consumers are disconnected and the air outlet valves are open.

⚠ WARNING

Danger of injury from compressed air!

Filter combination is pressurised during operation. Serious injury can result from loosening or opening components under pressure.

- *Wait until the machine has automatically vented (check: pressure gauge reads 0 psig!*
- *Depressurize the combination filter.*

Option dd

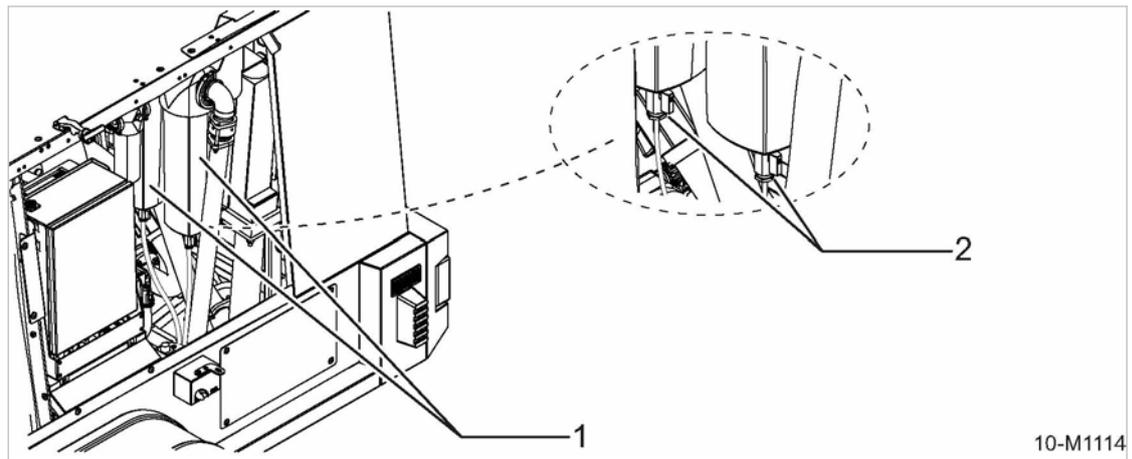


Fig. 76 Filter combination

- ① Filter combination
- ② Shut-off valve condensate drain

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Option dd

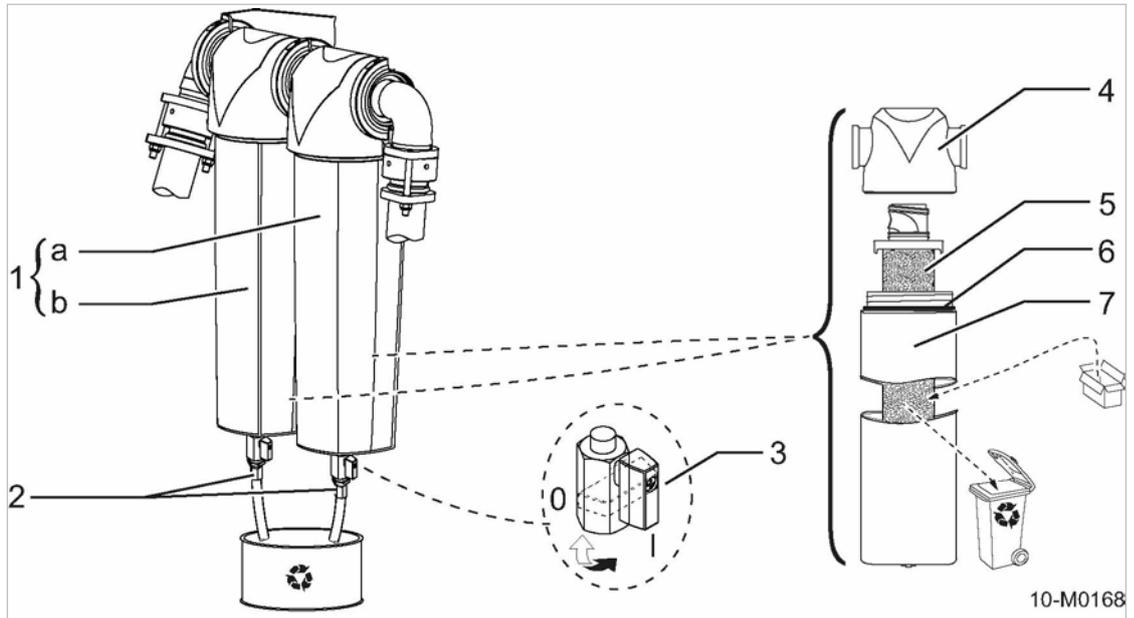


Fig. 77 Combination filter maintenance

- | | | | |
|---|---|---|----------------|
| ① | Filter combination | ④ | Filter head |
| ⓐ | Pre-filter | ⑤ | Filter element |
| ⓑ | Fine filter (micro-filter) | ⑥ | Casing gasket |
| ② | Screw-in fitting of condensate drain hose (at shut-off valve) | ⑦ | Filter housing |
| ③ | Shut-off valves (ball valve) for condensate drain | | |
| | 0 – Closed | | |
| | 1 – Open | | |

➤ Open the left-hand door.

10.13.2.1 Draining condensate

Material Receptacle
Cleaning cloth

1. Place the receptacle under the combination filter hose lines.
2. Open the pre-filter and micro-filter condensate drain shut off valves.
3. Close the door.
4. Start up the machine and run in IDLE.
The condensate collecting in the filter housings is blown out.
5. Stop the compressor as soon as air escapes.
6. Open the left-hand door.
7. Close the shut-off valve.
8. Close the door.



Condensate must be stored in suitable containers and disposed of in accordance with local environmental regulations.

10.13.2.2 Changing the filter elements

The pre-filter and microfilter contain different elements and these must be changed as a pair. Note location!



Using the combination filter without an element installed is not permitted.

Handle new filter elements only with 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 has cooled down.
Negative cable to the batteries disconnected.

Ensure that the combination filter is not under pressure

- Slowly open the pre-filter and micro-filter condensate drain shut off valves. Remaining pressure escapes.

Gaining access to the filter housing

- Loosen the screw fitting of the condensate drain hoses from the filter housings of pre-filter and micro-filter and remove the drain hoses.

Changing the prefilter element

1. Unscrew the filter housing counter-clockwise.
2. Draw the filter element down and out.
3. Clean the filter head, housing and sealing surface with a lint-free cloth.
4. Check the housing gasket.
Housing gasket is damaged: replace gasket.
5. Insert a new filter element.



Wear protective gloves!

6. Screw on the filter housing clockwise.

Changing the prefilter element

1. Unscrew the filter housing counter-clockwise.
2. Draw the filter element down and out.
3. Clean the filter head, housing and sealing surface with a lint-free cloth.
4. Check the housing gasket.
Housing gasket is damaged: replace gasket.

5. Insert a new filter element.



Wear protective gloves!

6. Screw on the filter housing clockwise.

Putting in operation

1. Screw the condensate drain hoses to the housings of the pre-filter and the micro-filter.
2. Close the condensate drain shut-off valves.
3. Tighten the filter combination fittings.
4. Reconnect the negative cable to the batteries.
5. Close the door.



Dispose of old parts and contaminated materials according to environmental regulations.

Further information Further information on changing elements can be found in the filter instructions in chapter 13.8.

Starting the machine and performing a test run

1. Switch the machine on and run it in IDLE mode for approx. 5 minutes.
2. Shut down the machine.
3. Wait until the machine has automatically vented.
Pressure gauge reads 0 psig!
4. Open the outlet valves.
5. Open the left-hand door.
6. Check the combination filter housing and hose lines for leaks.
7. Close the door.

10.13.3 Option dc Fresh air filter maintenance

Before commencing work on the fresh air filter, read and understand the operating instructions given in chapter 13.9.

Precondition The machine is switched off,
the machine is standing level,
the machine is fully vented, the pressure gauge reads 0 psig.
All compressed air consumers are disconnected and the air outlet valves are open.

Option dc

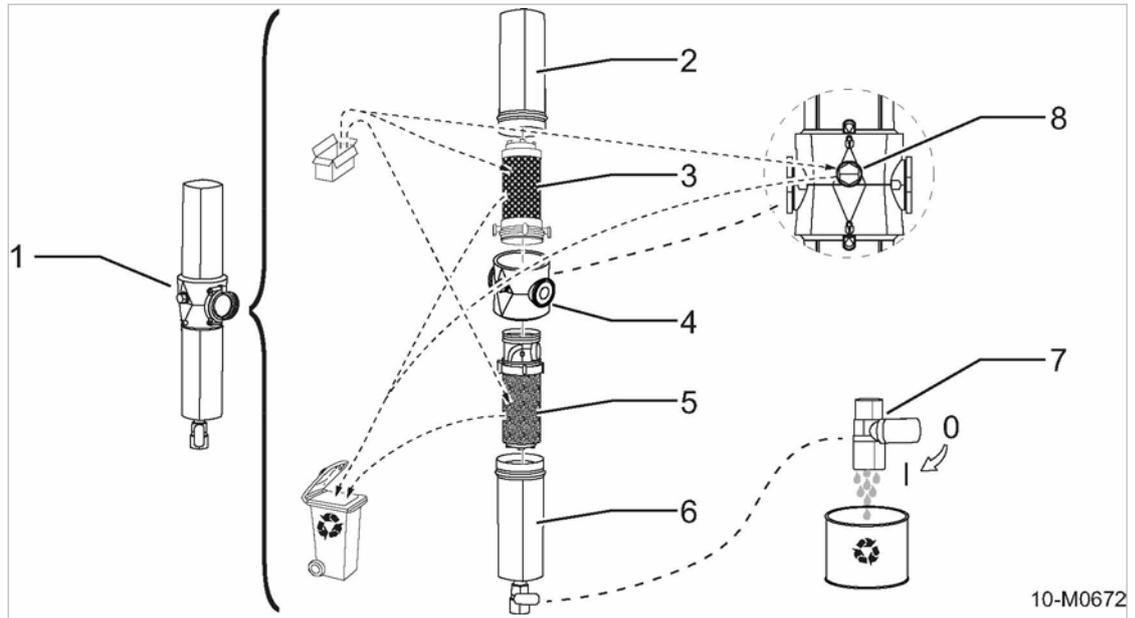


Fig. 78 Fresh air filter maintenance

- | | |
|--------------------------------------|--|
| ① Fresh air filter | ⑤ Lower filter element (high capacity element) |
| ② Upper housing | ⑥ Lower housing |
| ③ Upper element (adsorption element) | ⑦ Drain valve (condensate drain for manual draining) |
| ④ Body | 0 - Closed |
| | I - Open |
| | ⑧ Oil indicator |

➤ Open the left-hand door.

10.13.3.1 Draining condensate

Material Receptacle
Cleaning cloth

1. Place the receptacle below the fresh air filter condensate drain point.
2. Open the condensate drain valve.
3. Close the doors.
4. Switch the machine on and run it in IDLE mode for approx. 2 minutes.
The condensate collecting in the filter housings is blown out.
5. Shut down the machine.
6. Open both doors.
7. Close the drain valve.
8. Carefully remove the receptacle.
9. Close the door.



Condensate must be stored in suitable containers and disposed of in accordance with local environmental regulations.

10.13.3.2 Checking the oil indicator

The fresh air filter is fitted with an oil indicator. When the indicator is blue, the filtration function can no longer be ensured and the filter must not be used. Both filter elements and the oil indicator must be changed (regardless of the maintenance schedule).

The oil indicator must be checked at least once daily.



The oil indicator does not give information on the filter element changing interval.

- Check the oil indicator.

Indicator is blue: Replace both filter elements + oil level indicator.

10.13.3.3 Changing spare parts

The fresh air filter contains two different elements which must be changed as a pair. Note location!



Using the fresh air filter without installed filter elements is not permitted!

Handle new filter elements only with 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 has cooled down.
Negative cable to the batteries disconnected.

Ensure the fresh air filter is depressurized

- Open the fresh air filter drain tap to release any remaining pressure.

Changing the lower filter element (high performance element)

1. Unscrew the lower housing counter-clockwise.
2. Draw the filter element down and out.
3. Clean the lower housing and sealing surface with a lint-free cloth.
4. Check the housing gasket.
Housing gasket is damaged: replace gasket.
5. Insert a new lower filter element.



Wear protective gloves!

6. Screw on the lower housing clockwise.

Change the upper filter element (adsorption insert)

1. Unscrew the upper housing counter-clockwise.
2. Draw the filter element up and out.
3. Clean the lower housing and sealing surface with a lint-free cloth.

4. Check the housing gasket.
Housing gasket is damaged: replace gasket.
5. Insert a new filter element.



Wear protective gloves!

6. Screw on the upper housing clockwise.

Replace the oil indicator

1. Unscrew the oil indicator.
2. Clean the housing and sealing surface with a lint-free cloth.
3. Screw in the new oil indicator.

Putting in operation

1. Close the drain valve.
2. Reconnect the negative cable to the batteries.
3. Close the door.



Dispose of old parts and contaminated materials according to environmental regulations.

Further information

Further information on changing elements can be found in the "operating instructions for pressurised air filters (fresh air filters)" in chapter 13.9.

Starting the machine and performing a test run

1. Switch the machine on and run it in IDLE mode for approx. 5 minutes.
2. Shut down the machine.
3. Wait until the machine has automatically vented.
Pressure gauge reads 0 psig!
4. Open the outlet valves.
5. Open the left-hand door.
6. Check the fresh air filter housing and hose line for leaks.
7. Close the door.

10.13.4 Option 1b Engine air shut-off valve maintenance

Material	Compressed air for blowing out Petroleum ether or spirit Cleaning cloth
Precondition	The machine is switched off. The machine is fully vented, the pressure gauge reads 0 psig. The machine has cooled down. All compressed air consumers are disconnected and the air outlet valves are open.

NOTICE

Engine air intake shut-off valve misaligned!

The engine air intake shut-off valve does not close when flammable gas is drawn into the engine:

The machine does not shut down. Destruction of the engine and explosion and/or fire are possible.

- *Do not move the valve adjusting screw.*
- *Have the valve set by a specialist workshop or KAESER SERVICE.*

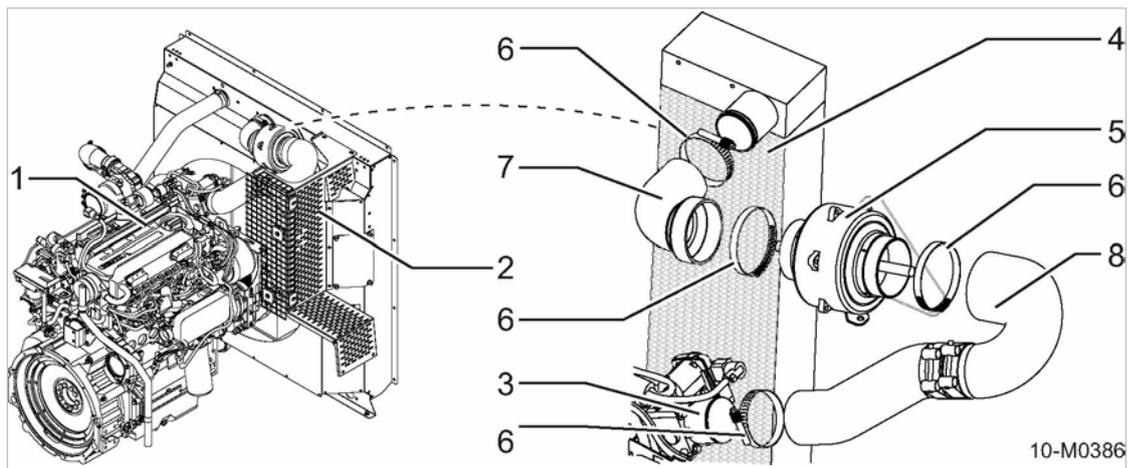


Fig. 79 Engine air shut-off valve maintenance

- | | |
|------------------------|------------------------------------|
| ① Engine | ⑤ Engine air shut-off valve |
| ② Safety screen | ⑥ Hose clamp |
| ③ Combustion air inlet | ⑦ Air hose (turbo air cooler side) |
| ④ Turbo air cooler | ⑧ Air hose (engine side) |

1. Open the right-hand access door.
2. Remove the safety screen ②.

Clean the engine air shut-off valve:

1. **NOTICE** *The engine air intake shut-off valve does not close fully. The machine does not shut down. Destruction of the engine and explosion and/or fire are possible.*

➤ *Do not grease the valve, as this may cause a build up of dust and valve sticking.*

2. Loosen the hose clamp on the engine air shut-off valve (engine side), remove and turn the air hose to one side.
3. Loosen the hose clamp on the engine air shut-off valve (turbo air cooler side), remove and turn the air hose to one side.
4. Check if the interior of the shut-off valve is clean.

Engine shut-off valve is clogged: Blow out with compressed air.



If necessary, clean the valve with cleaning fluid or spirit and allow to dry.

If dirt cannot be removed: Contact specialist workshop or KAESER SERVICE.

Checking the engine air intake shut-off valve for correct function and movement:

1. Check the valve for signs of excessive wear.
2. Check that the valve plate closes fully and easily.

Result When severe wear or function problems are apparent: Have the engine air intake valve replaced.

1. Re-attach the air hoses and tighten the clamps.
2. Refit the safety screen.
3. Close the door.
4. Start the machine and switch to LOAD operation.

The engine stops in LOAD operation: Have the engine air intake valve checked by a specialist workshop or KAESER SERVICE.

**10.13.5 Option ga
Maintaining the generator drive belt**

Correct belt tension is extremely important for the function of the generator and the operational life of the belt itself. The lifespan of the drive belts is affected by belt tension.

- Slack V-belts can cause belt slip and damage to the belts.
- Over-tight belts cause excessive strain and, hence, a reduction of the service life. Over-tight belts also place unnecessary stress on bearings and shorten their life.

Material Wrench
Spare parts (if required)

Precondition The machine is switched off,
the machine is fully vented, the pressure gauge reads 0 psig,
the machine has cooled down.
All compressed air consumers are disconnected and the air outlet valves are open.
Negative cable to the batteries disconnected.

⚠ WARNING

Beware of rotating pulleys and moving belts!

Touching the moving drive belt may result in severe bruising or even loss of limb or extremities.

- *Check the belt only when the compressor is shut down.*
- *Never operate the machine without a belt guard.*

1. Open the right-hand access door.
2. Remove the safety screen.

10.13.5.1 Carrying out visual check

1. Check the drive belt for cracks, frays or stretching.
When damaged or worn: Replace the drive belt immediately.
2. Refit the safety screen.
3. Reconnect the negative cable to the batteries.
4. Close the door.

10.13.5.2 Checking belt tension



Check belt when it is warm, not hot, to avoid length differences caused by temperature differences.

The tensioning device uses spring force to apply correct tension to the belts over a certain range. The tensioning dimension (A) is controlled by adjusting the belt (see fig. 80).

Tensioning dimension:

- **Setting distance:** 0.4 in.
- **Minimum distance:** 0.2 in.

1. Check the tensioning distance (A) at the belt adjustment (9).
Tensioning distance under minimum distance: Re-tension the belt.
2. Refit the safety screen.
3. Reconnect the negative cable to the batteries.
4. Close the door.

10.13.5.3 Changing/tensioning the drive belt

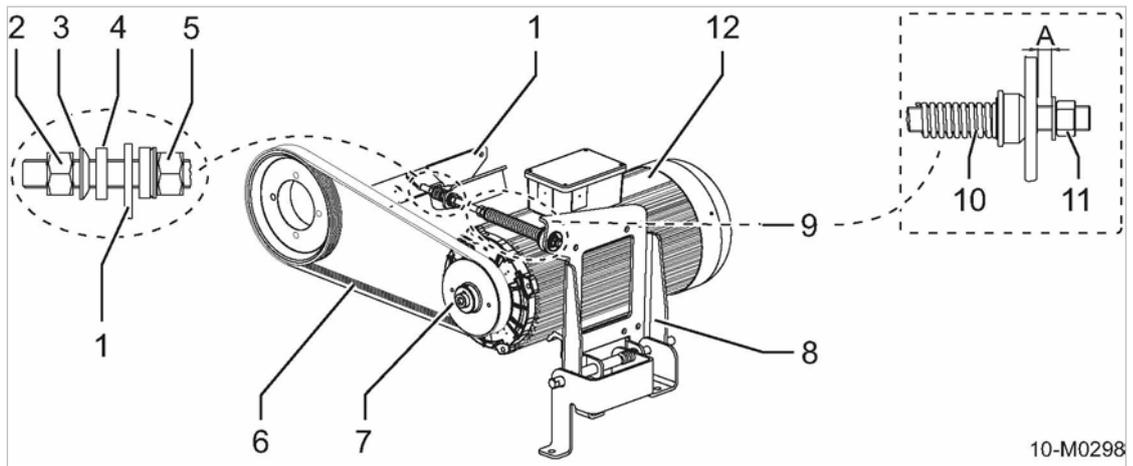


Fig. 80 Tighten the generator drive belt

- | | |
|--------------------------------|---------------------------------|
| (1) Support for belt tensioner | (8) Generator swing frame |
| (2) Hexagon nut | (9) Belt adjustment |
| (3) Spherical seat washer | (10) Compression spring |
| (4) Conical seat washer | (11) Hexagon nut (self-locking) |
| (5) Hexagon nut (locknut) | (12) Generator |
| (6) Drive belt | (A) Tensioning dimension |
| (7) Generator drive pulley | |

Tensioning the drive belt

1. Loosen the nut (2).
2. Turn the tensioning nut (5) to tighten the drive belt (6) until the tensioning dimension (A) matches the setting distance.
3. Tighten the nuts (2) and (5).
4. Refit the safety screen.

5. Reconnect the negative cable to the batteries.
6. Close the door.

Replacing the drive belt

1. Loosen the nut (5) until the drive belt (6) can be slipped off the pulleys.
2. Remove the belt.
3. Check the pulleys for dirt and wear.
Dirty pulley: Clean pulley.
Worn pulley: Have the pulley changed.
4. Without using force, place the new belt over the engine and generator pulleys.
5. Turn the tensioning nut (5) to tighten the drive belt (6) until the tensioning dimension (A) matches the setting distance.
6. Tighten the nuts (2) and (5).
7. Refit the safety screen.
8. Reconnect the negative cable to the batteries.
9. Close the door.
10. Run the compressor under LOAD operation for 15–20 minutes.
11. Check the belt again and re-tension if necessary.



- Check the belt again after a further 2 operating hours.
- A belt that has been replaced may not be used again.



Old belts should be disposed of in accordance with the latest environmental regulations.

**10.13.6 Option oe
Draining liquid accumulation within the machine**

The so-called "closed floor pan" contributes to the protection of the environment by preventing a contamination of the soil in the event of leaking operating fluids.
Liquid accumulations within the machine's body can also cause corrosion or electrical faults.
Liquid accumulations must be removed as quickly as possible to avoid any faults of the machine.
For draining the liquid, maintenance openings have been added to the floor panel of the machine which are closed with bungs.



In order to clean the machine, see chapter 4.9.10 for the location of the service openings.

Material Oil receptacle
Cleaning cloths

Precondition The machine is switched off.
The machine is standing level.
The machine is secured against moving.
The machine is fully vented, the pressure gauge reads 0 psig.
The machine has cooled down.
All compressed air consumers are disconnected and the air outlet valves are open.

➤ Open all doors.

Checking the machine interior for liquid accumulations:

1. Check the machine interior for liquid accumulations.
If liquid is present in the floor pan: Drain the liquid.
2. Close the doors.

Draining the liquid:

1. Place a receptacle underneath the service opening(s).
2. Unscrew and remove the bung(s) from the service openings.
The liquid will drain.
3. Clean the bungs and service openings.
4. Close all service openings with bungs.
The machine body is sealed.
5. Using the cleaning cloth, remove any dirt within the machine.
6. Close the doors.



Dispose of collected liquid and contaminated working materials according to environmental protection regulations.

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 consumable parts and operating fluids/materials

KAESER consumable parts and operating materials are original products. They are specifically selected for use in our machines and ensure trouble-free operation.

Unsuitable or poor-quality consumable 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 spares or operating fluids/materials!

- *Use only original parts and operating fluids/materials.*
- *Do not use alternative consumable parts and operating fluids and materials.*

Compressor

Name	Number/quantity	Number
Air filter element	1	1260
Compressor oil filter	1	1210
Oil separator cartridge (complete set)	1	1450
Cooling oil	1	1600

Tab. 100 Compressor consumables

DEUTZ engine parts

Name	Number/quantity	Number
Air filter element	1	1280
Fuel prefilter (filter cartridge at the water separator)	1	1915
Fuel filter (cartridge)	2	1920
Engine oil filter (cartridge)	1	1905
Oil drain seal	1	4496
Injector nozzle	1	4475
Injector nozzle seal	1	4476
Engine belt	1	4470

Name	Number/quantity	Number
Engine oil	1	1925

Tab. 101 Consumable engine parts

Option dd Filter combination

Name	Number/quantity	Number
Filter element for prefilter	1	1550
Filter element for micro-filter	1	1551
Casing gasket	2	1548

Tab. 102 Replacement parts, combination filter

Option dc Fresh air filter

Name	Number/quantity	Number
Filter elements, fresh air filter (Filter kit)	1	1549
Indicator insert	1	3930

Tab. 103 Replacement parts, fresh air filter

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.

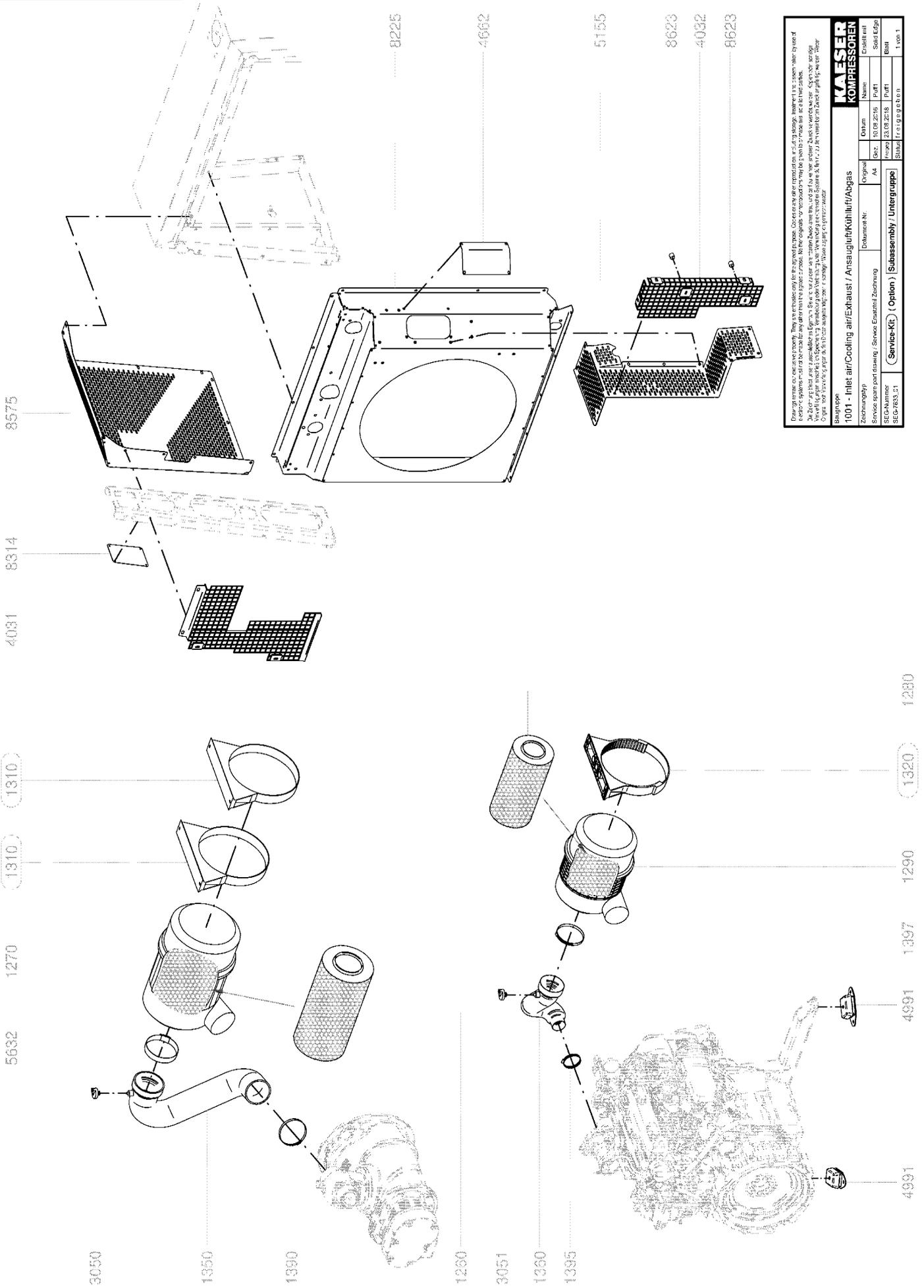
11.4 Replacement parts for service and repair

With the help of the below spare parts list you can plan your material requirement according to operating conditions, and order the spare parts you need.

⚠ 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 manual must not be carried out by unqualified personnel.*
- *Have further tasks, not described in this operating manual, carried out by motor vehicle workshops or KAESER SERVICE.*

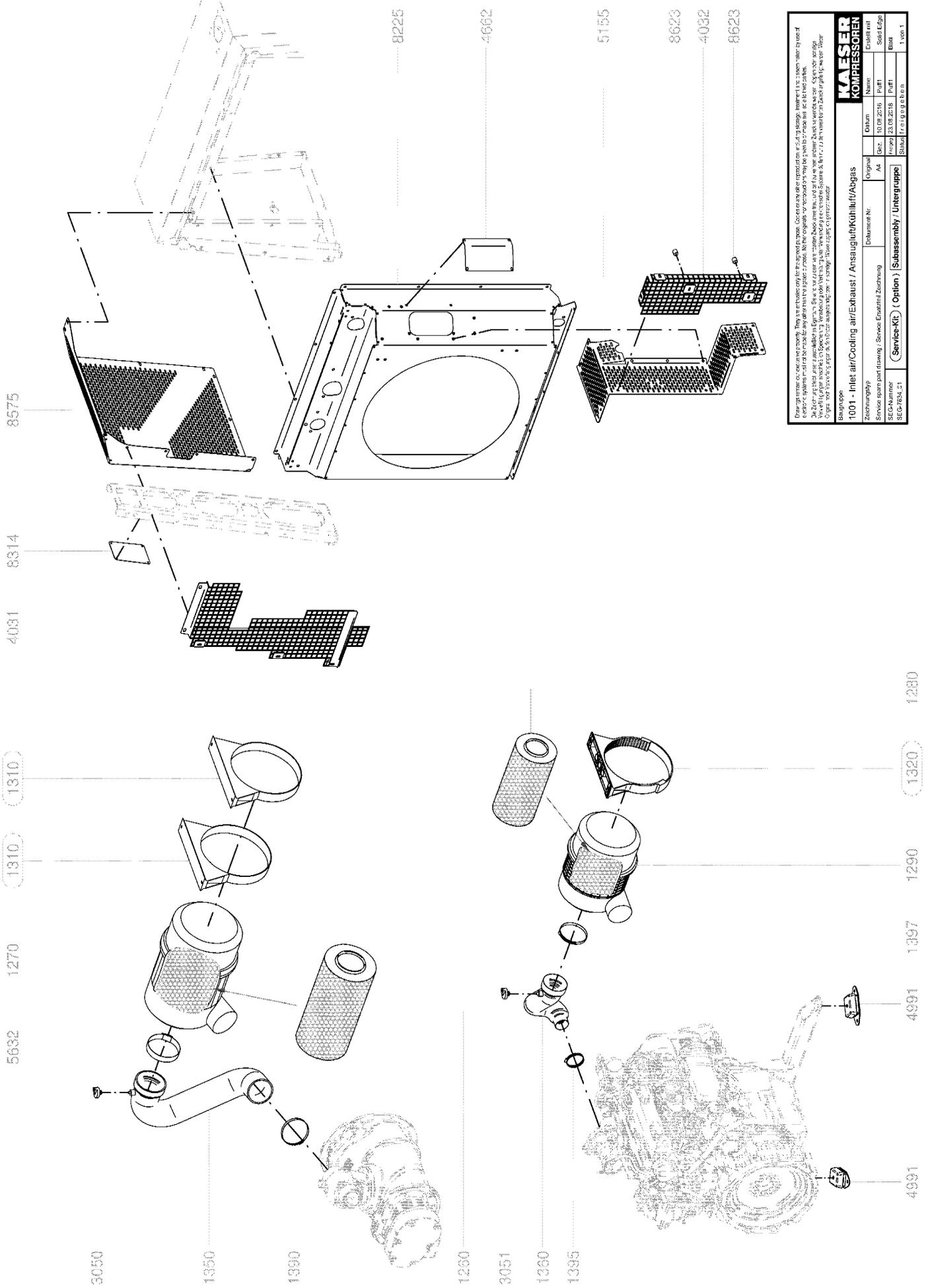


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Bezeichnung	Name	Erstellt mit
Zeichnungsgruppe	Datum	Seit
Original	Alt	Seit
SEGA-Nummer	Version	Reise
SEC-7633.21	03.08.2015	01.01.15
Service-Kit (Option) / Subassembli / Untergruppe		1 von 1

1001 - Inlet air/Cooling air/Exhaust / Ansaugluft/Kühlluft/Abgas



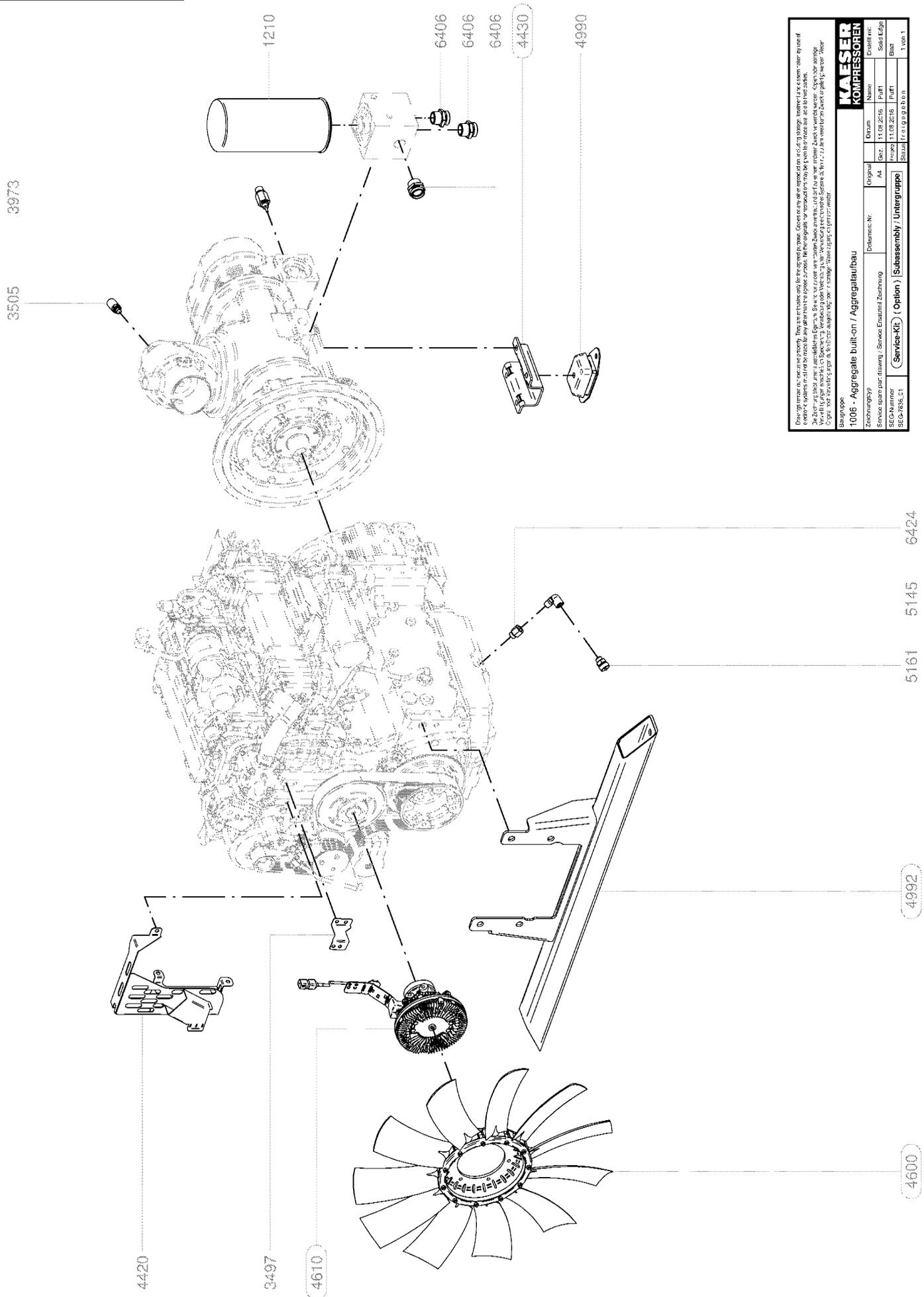
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Bezeichnung	Original	Name	Erstellt mit
Zusammengehörig	Dokument Nr.	Ad.	Seit
SEGA-Nummer	Version	Druck	Blatt
SEC-7653.21	1.0	1.0	1 von 1

1001 - Inlet air/Cooling air/Exhaust / Ansaugluft/Kühlluft/Abgas

(Service-Kit) (Option) (Subassembly) (Untergruppe)



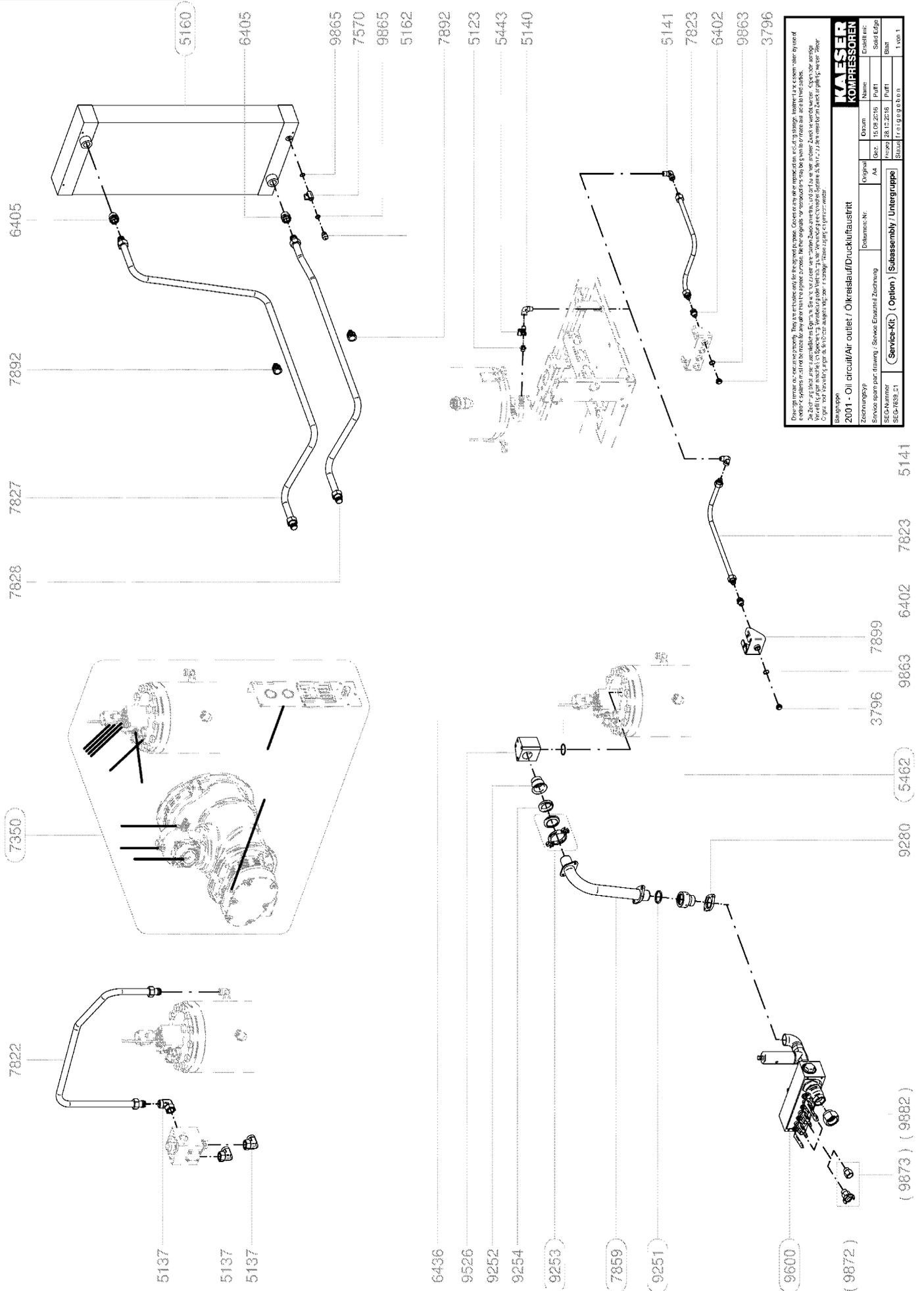
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1006 - Aggregate built-on / Aggregat Aufbau

Zeichnungsgrupp	Dokument-Nr.	Original	Name	Erstellt mit:
Skizze	11.08.2016	Part1		Solid Edge
SECA-Nr.	Version	11.08.2016	Part1	Rev
SEC-7605_21	Skizze	11.08.2016	Part1	1 von 1

(Service-Kit) (Option) (Subassembly) / Untergruppe

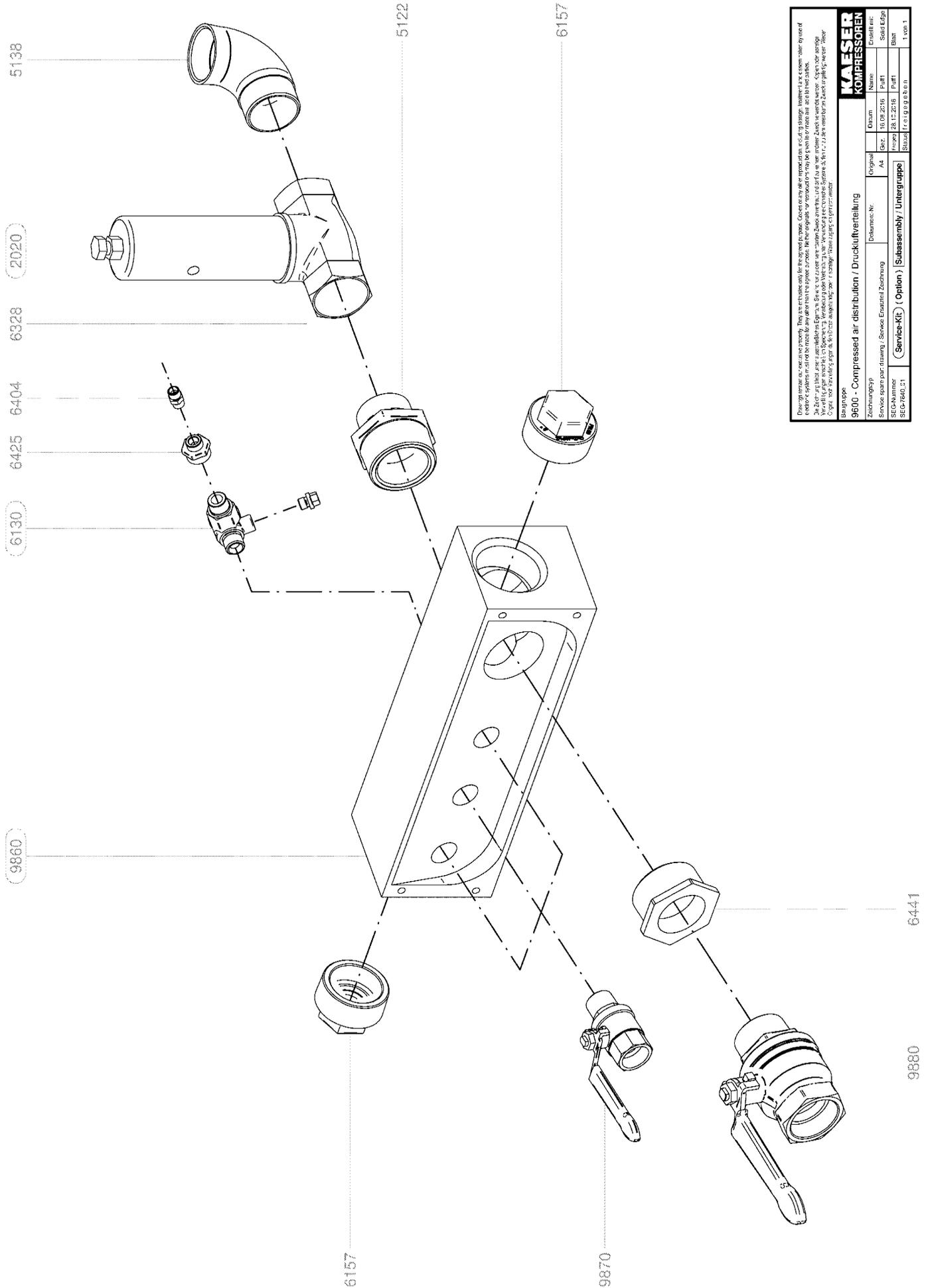
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Original Name Datum Erteilt von
 Zeichnungsart Original Ad. Bez. 15.08.2016 P.011 Solid Edge
 Service spare part drawing Service Ersatzteil-Zeichnung Version 08.12.2016 P.011 B03
 SERA Number (Service-Kit) / Subassembly / Untergruppe SERA-7639.01

KAESER KOMPRESSOREN
 2001 - Oil circuit/Air outlet / Ölkreislauf/Druckluftausritt
 Document Nr. 15.08.2016 P.011
 Version 08.12.2016 P.011
 B03
 Seite 1 von 1

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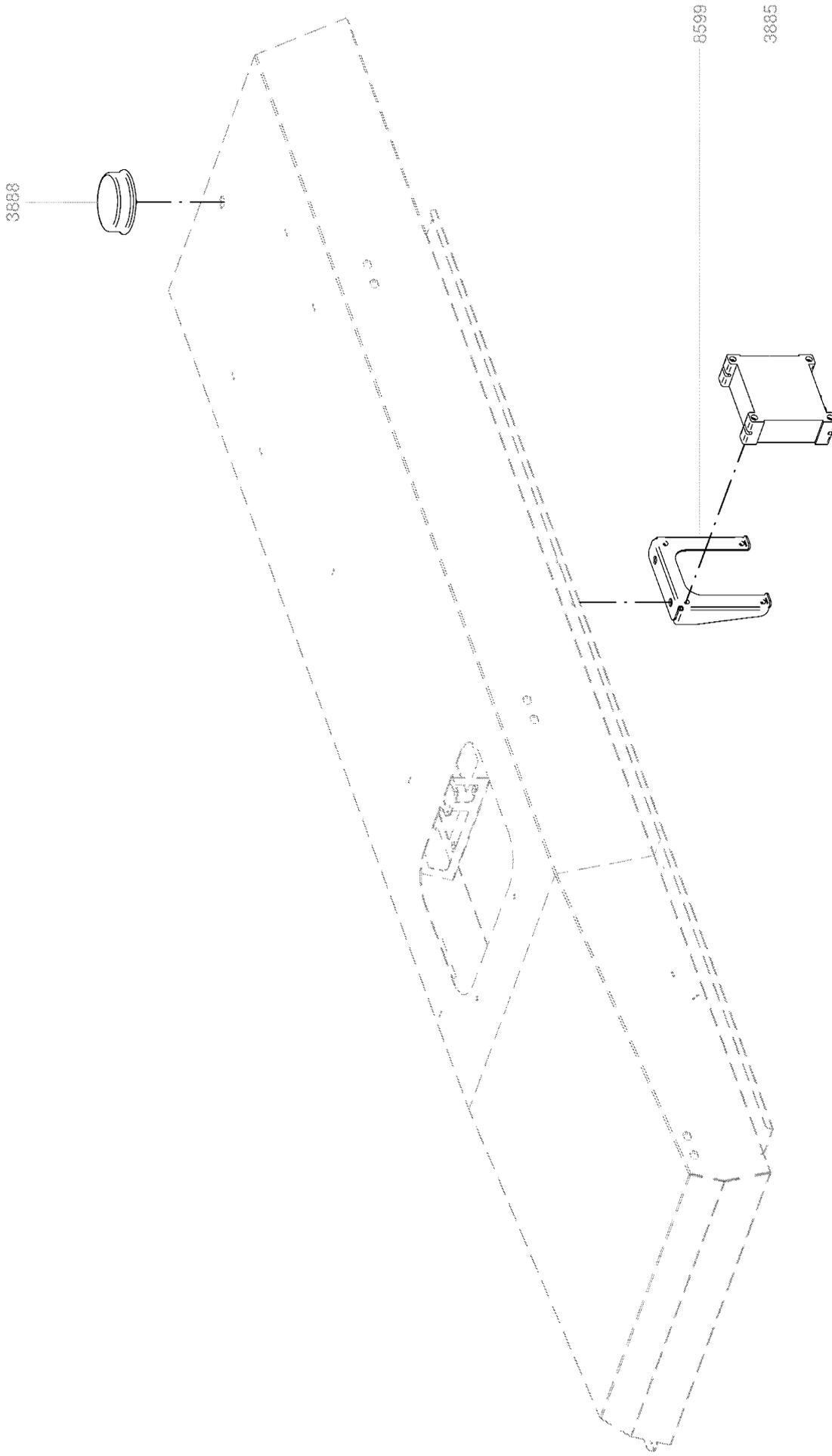
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Original Name Datum
 Zeichnungsart 18.08.2016
 Skizze 18.08.2016
 Zeichner 18.12.2016
 Bearb. 18.12.2016
 Status 1.0 (1.0) (1.0) (1.0)

9500 - Compressed air distribution / Druckluftverteilung
 Dokument-Nr.
 Zeichnungsart
 Skizze
 Zeichner
 Bearb.
 Status

Service-Kit (Option) / Subassembly / Untergruppe
 1 von 1



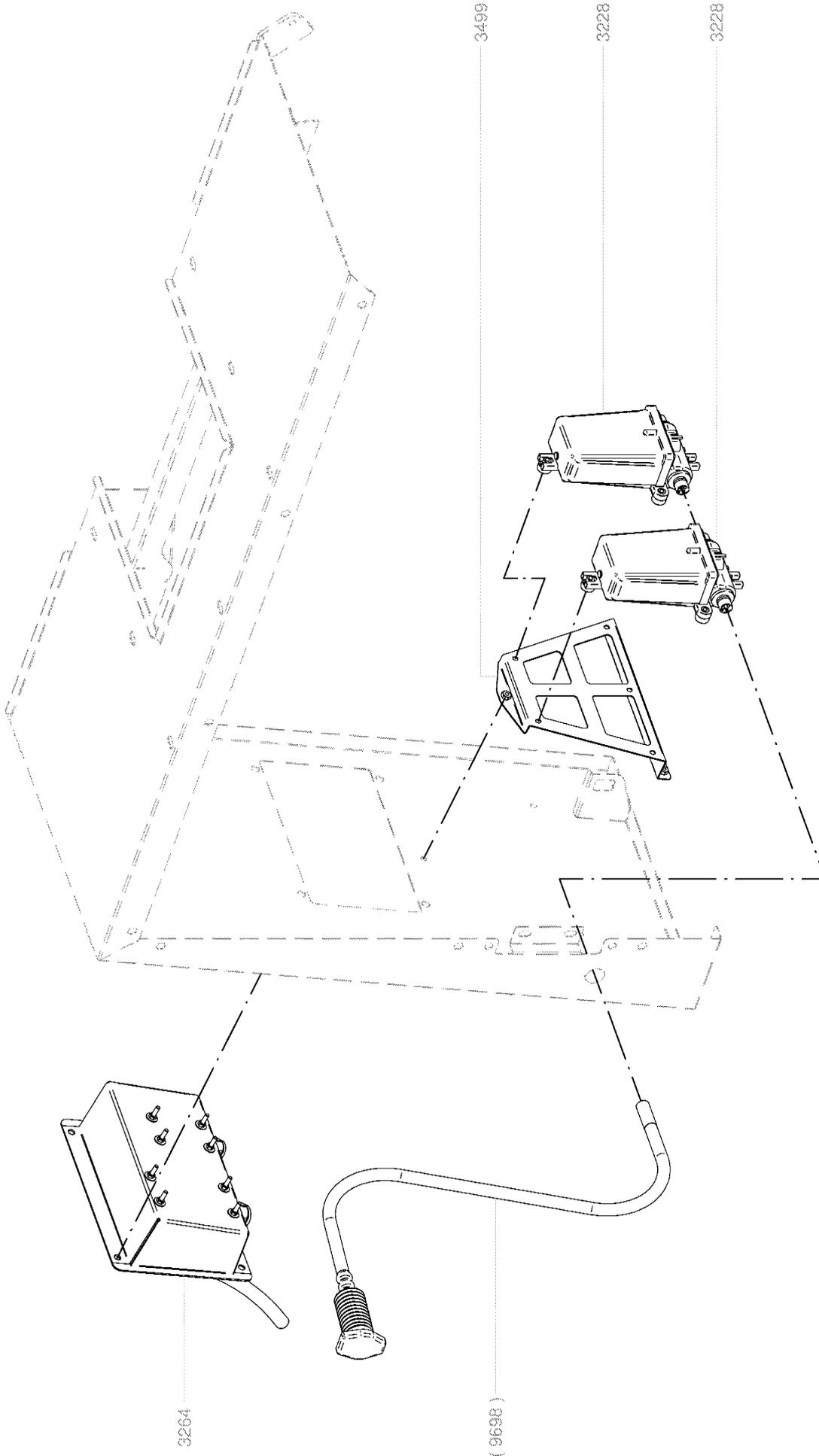
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Benennung: 3008 - GSM modem/GPS receiver / GSM-Modem/GPS-Empfänger
 Zeichnungs-Nr.:
 Skizze: 18.08.2015
 Zeichnungs-Nr.: 18.08.2015
 Blatt: 1 von 1

Original	Alt	Sozial-Logo
18.08.2015	18.08.2015	18.08.2015
18.08.2015	18.08.2015	18.08.2015
18.08.2015	18.08.2015	18.08.2015

(Service-Kit) (Option) (Subassembly) (Untergruppe)



KAESER KOMPRESSOREN

3009 - Autom. start-stop assembly / Baugruppe Start Stopp

Original Name: Erteilt n.r.
 Datum: 11.08.2016
 Zeichnungs-Nr.: 3499
 Original: 3228
 Zeichnungszustand: A4
 Stückzahl: 1
 Material: 11.08.2016
 Part: 3009
 Zeichnungszustand: 11.08.2016
 Part: 3009

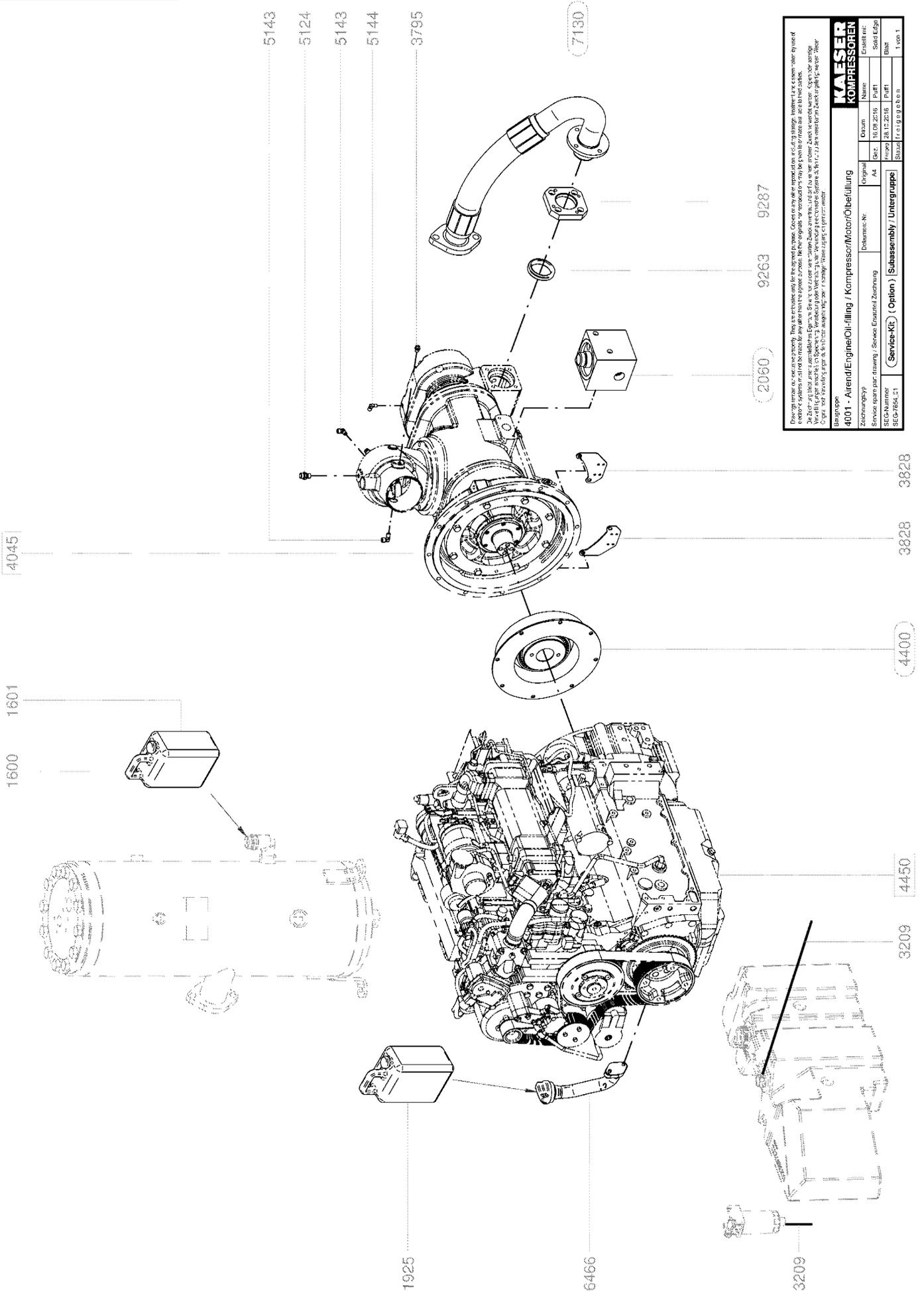
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 Original: 3228
 Zeichnungszustand: A4
 Stückzahl: 1
 Material: 11.08.2016
 Part: 3009

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 SECC-Teil-Nr.: 3009

Original Name: Erteilt n.r.
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 Part: 3009

SECC-Nr.: 3009
 SECC-Teil-Nr.: 3009

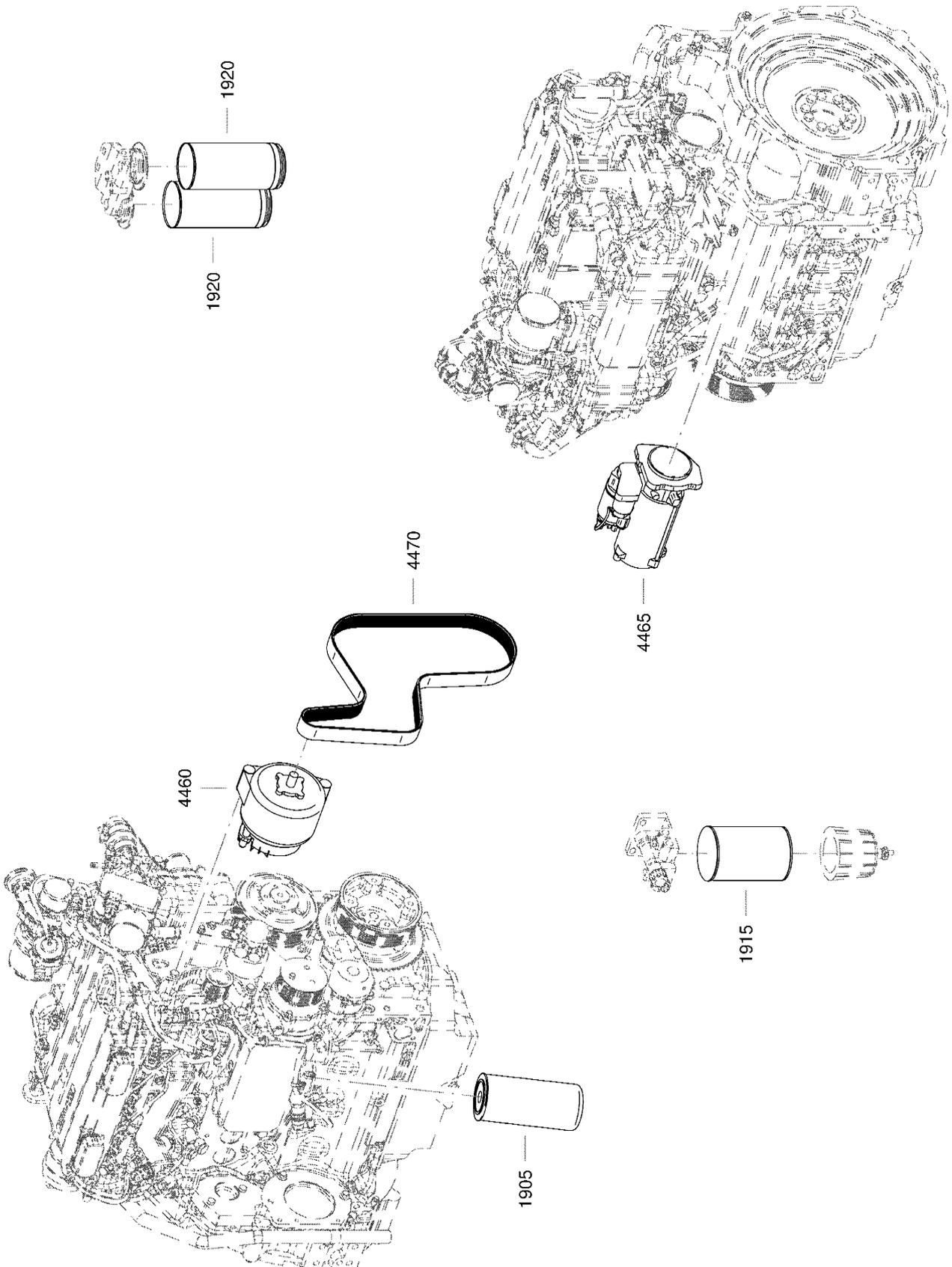


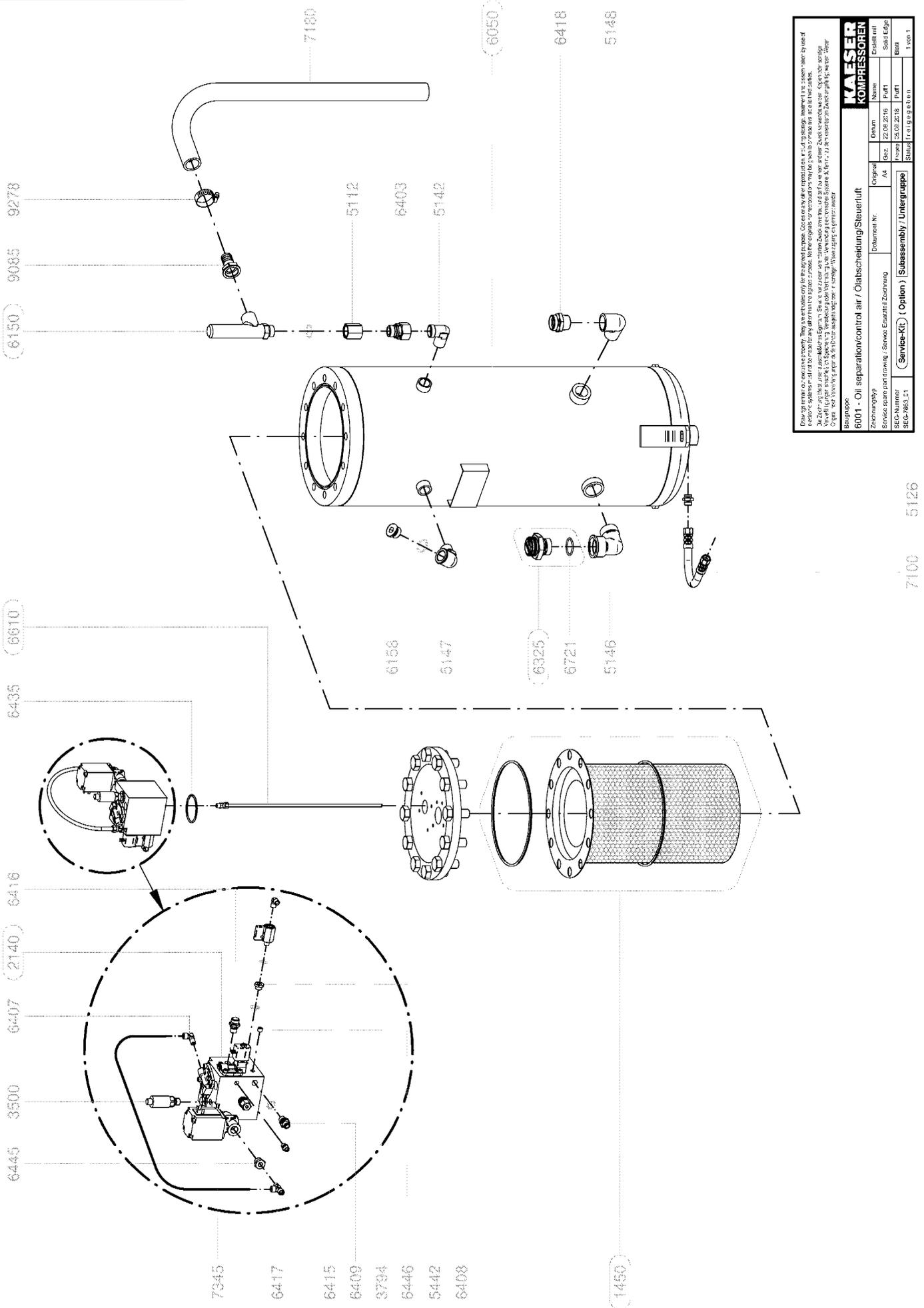
<p>KAESER KOMPRESSOREN</p>	
<p>Benennung 4001 - Airend/Engine/Oil-filling / Kompressor/Motor/Ölbefüllung</p>	<p>Original Name Ersatzteil</p>
<p>Zusammengehörig Sondername zur Zeichnung / Service Einzelteil / Zeichnung</p>	<p>Dokument-Nr. Alt / Neu</p>
<p>SECC-Nr. SECC-76565.21</p>	<p>Original / Ersatzteil 18.08.2016 / 18.12.2016</p>
<p>(Service-Kit) / (Option) / (Untergruppe)</p>	<p>Blatt / Gesamt 1 von 1</p>

4450 Motor / Engine

Service-Kit
(Option)

SEG-5755_01





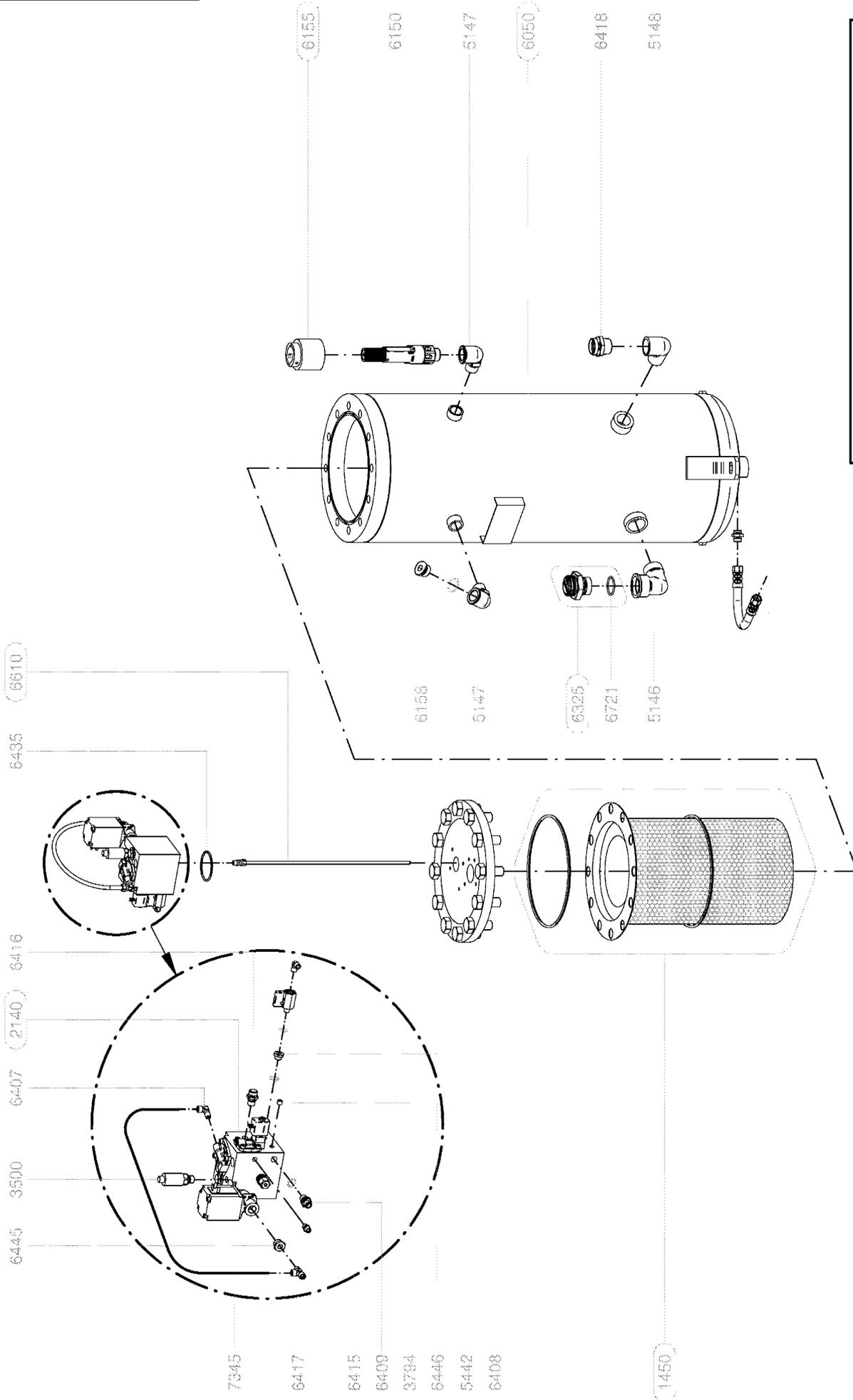
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Bezeichnung: 8001 - Oil separation/control air / Ölabscheidung/Steuerluft
 Zeichnungs-Nr.: 122.08.2105
 Original: 122.08.2105
 Ad: 122.08.2105
 Stückzahl: 1
 Material: 122.08.2105
 Zeichnung: 122.08.2105
 Blatt: 1 von 1

Original: 122.08.2105
 Zeichnung: 122.08.2105
 Blatt: 1 von 1

Service-Kit (Option) / Subassembli / Untergruppe

7100 5126



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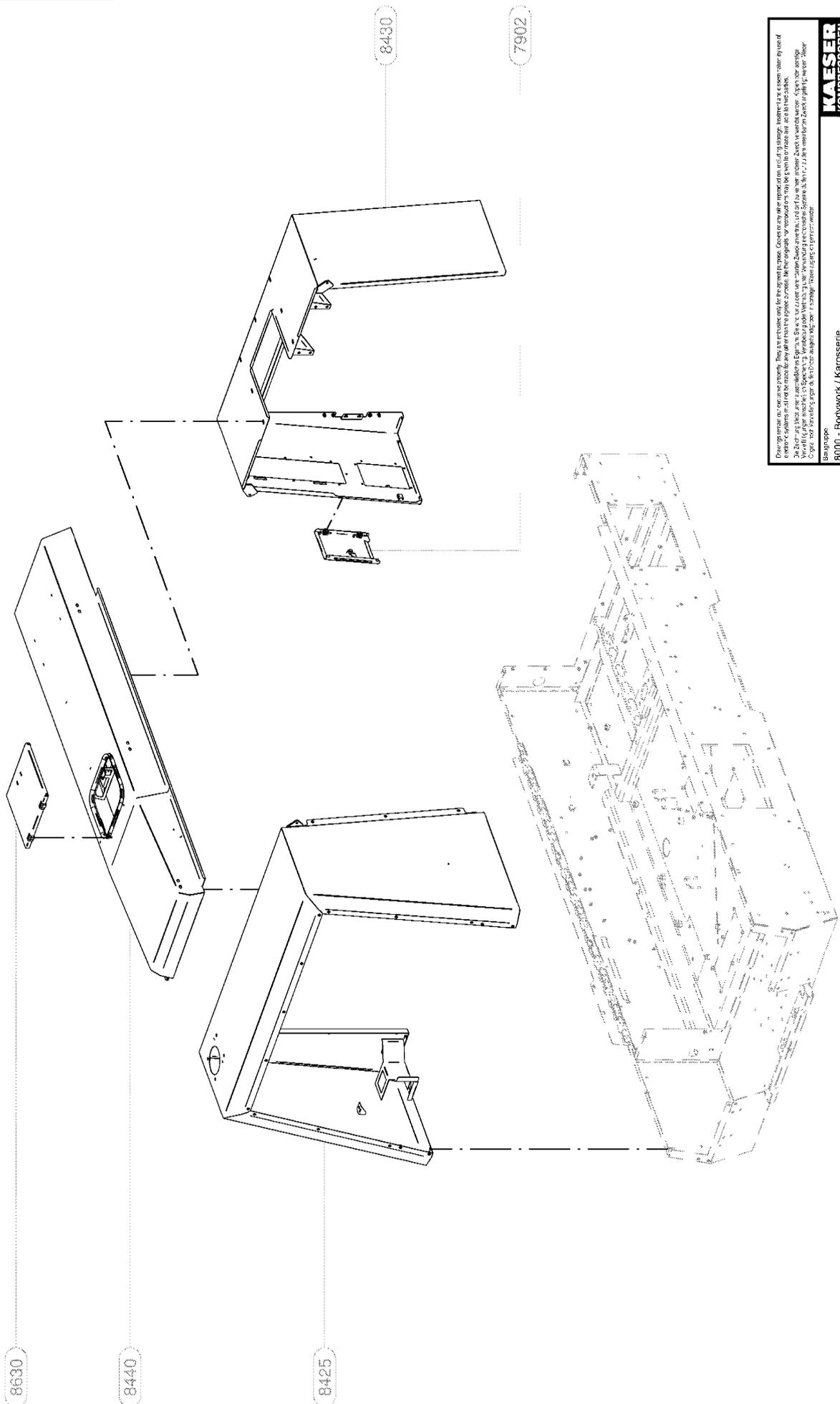
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7100 5126



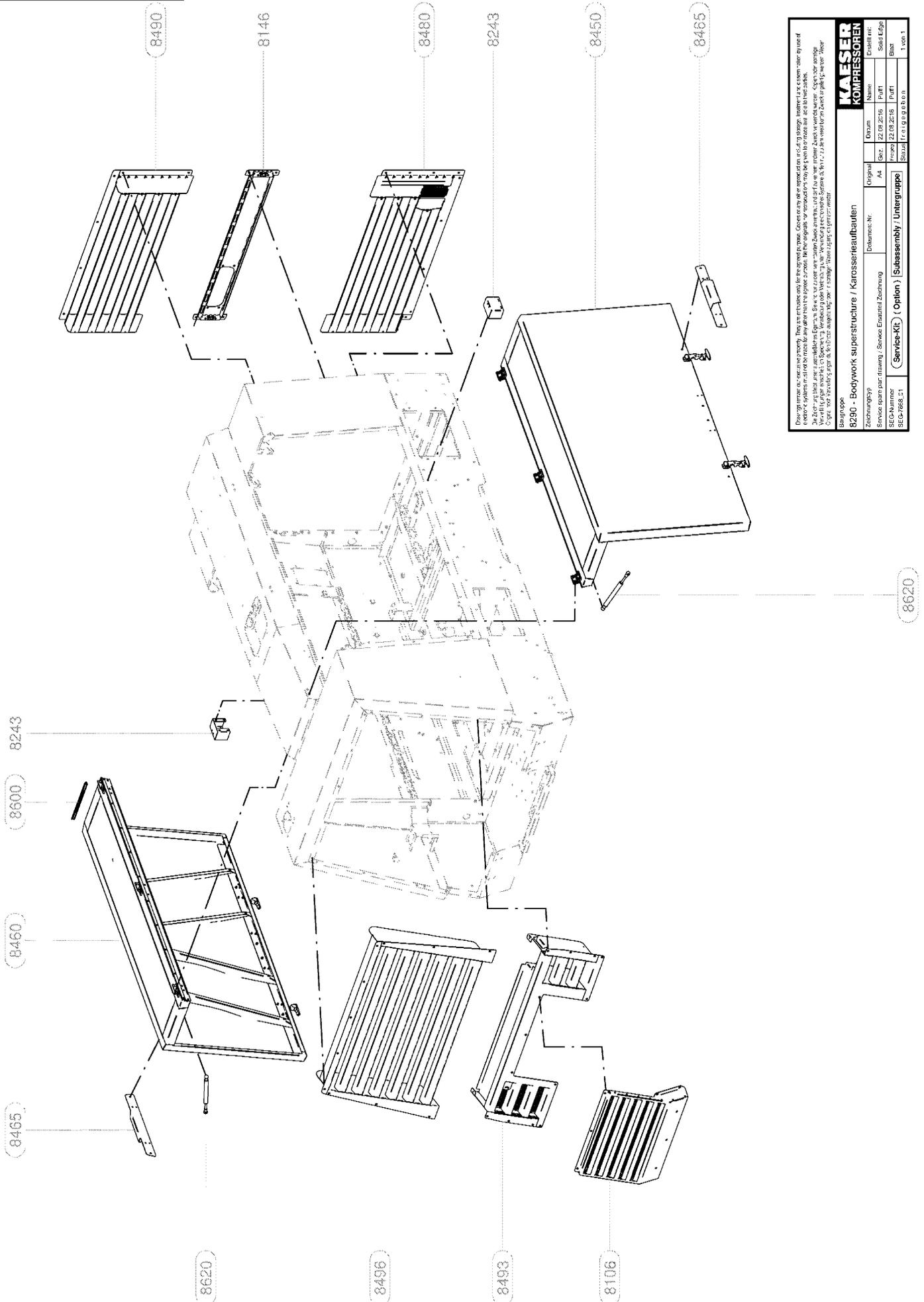
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8000 - Bodywork / Karosserie

Zeichnungsgrupp	Dokument-Nr.	Original	Datum	Erstellt mit:
Service spare part drawing / Service Ersatzteil-Zeichnung		Alt	06.02.22.08.2016	Part1
SEPCANummer			Version	Solid Edge
SEC-7666_21			1	Part1
				Blatt 1 von 1

Service-Kit
 Option
 Subassembly / Untergruppe

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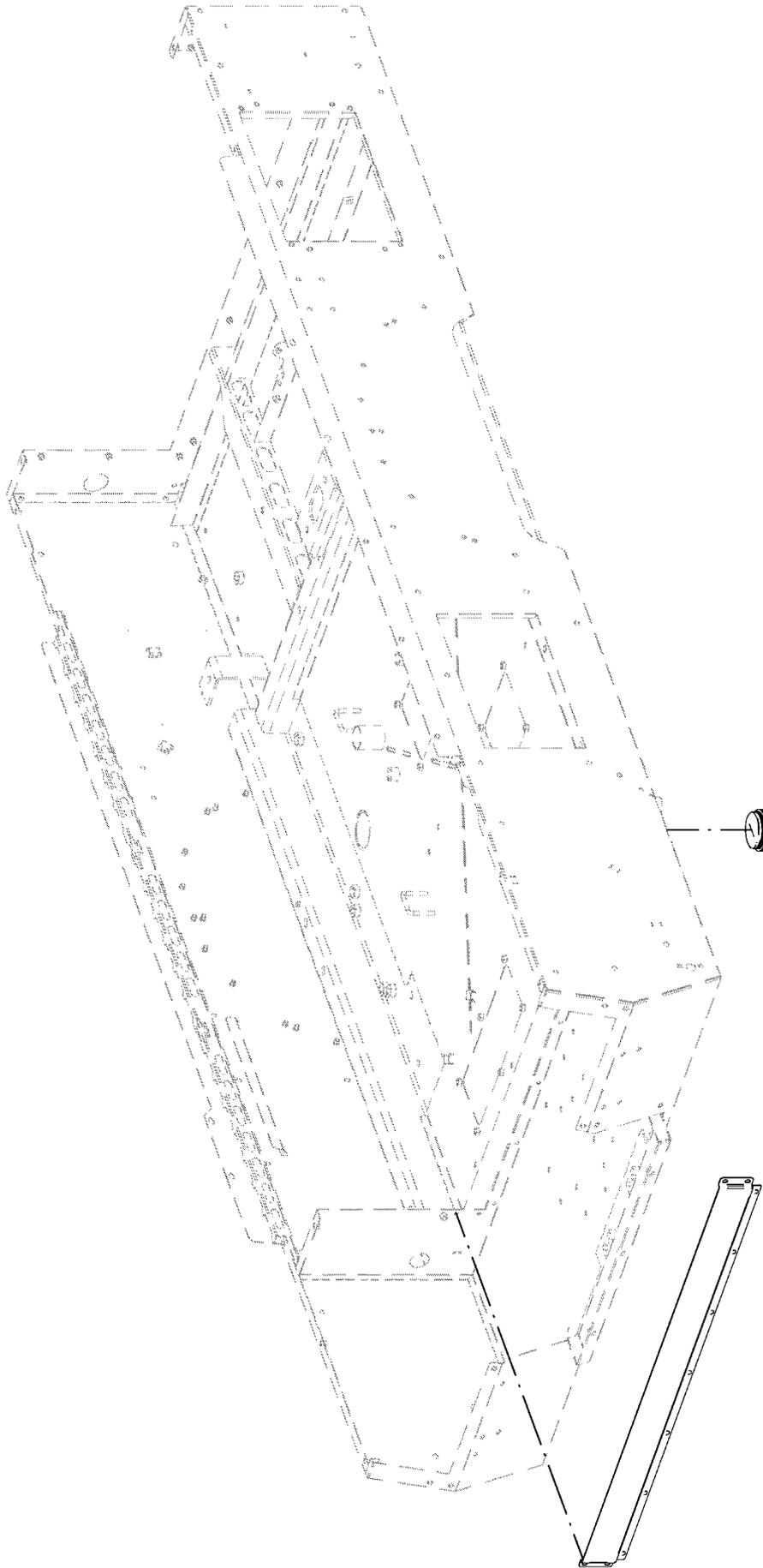
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 Zeichnungs-Nr.: 8290-01-01
 Original: 8290-01-01

8290 - Bodywork superstructure / Karosseriefaufbauten

SECCANUMBER: 8290-01-01
 SECCANUMBER: 8290-01-01
 SECCANUMBER: 8290-01-01
 SECCANUMBER: 8290-01-01

Service-Kit (Option) / Subassembly / Untergruppe

1 von 1



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KAESER KOMPRESSOREN		Name:	Erstellt mit:
Zeichnungs-Nr.	Datum:	Original:	Name:
SMD-Nr.	Art:	Zeichnungs-Nr.:	SMD-Nr.:
SMD-Nr.:	SMD-Nr.:	SMD-Nr.:	SMD-Nr.:
SMD-Nr.:	SMD-Nr.:	SMD-Nr.:	SMD-Nr.:

8405 - Floor pan closed / Geschlossene Bodenwanne
 Dokument-Nr.:
 SMD-Nr.:
 SMD-Nr.:

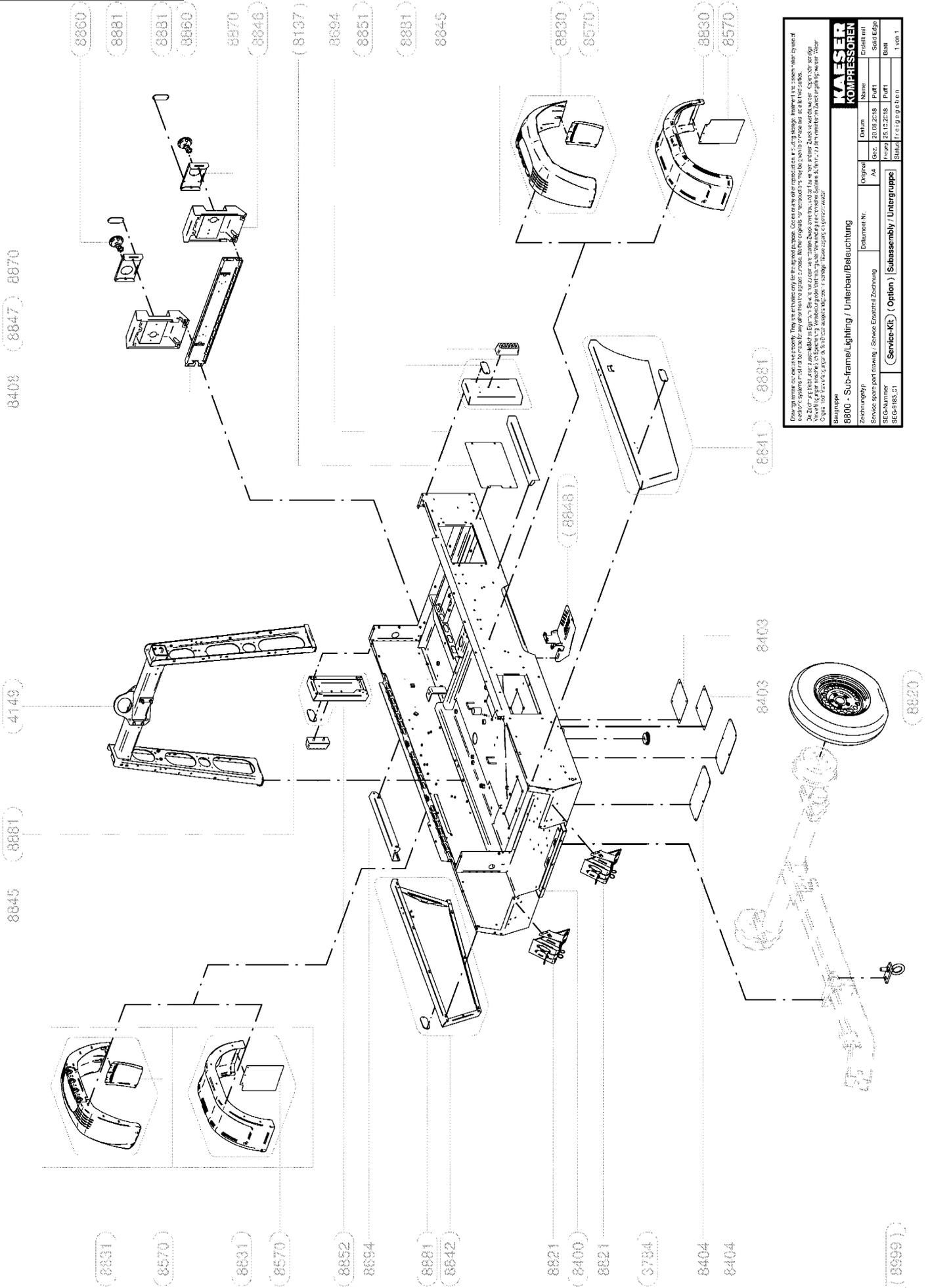
(Service-Kit) (Option) (Subassembly) (Untergruppe)

Blatt 1 von 1

3781

9837

11.4 Replacement parts for service and repair



KAESER KOMPRESSOREN

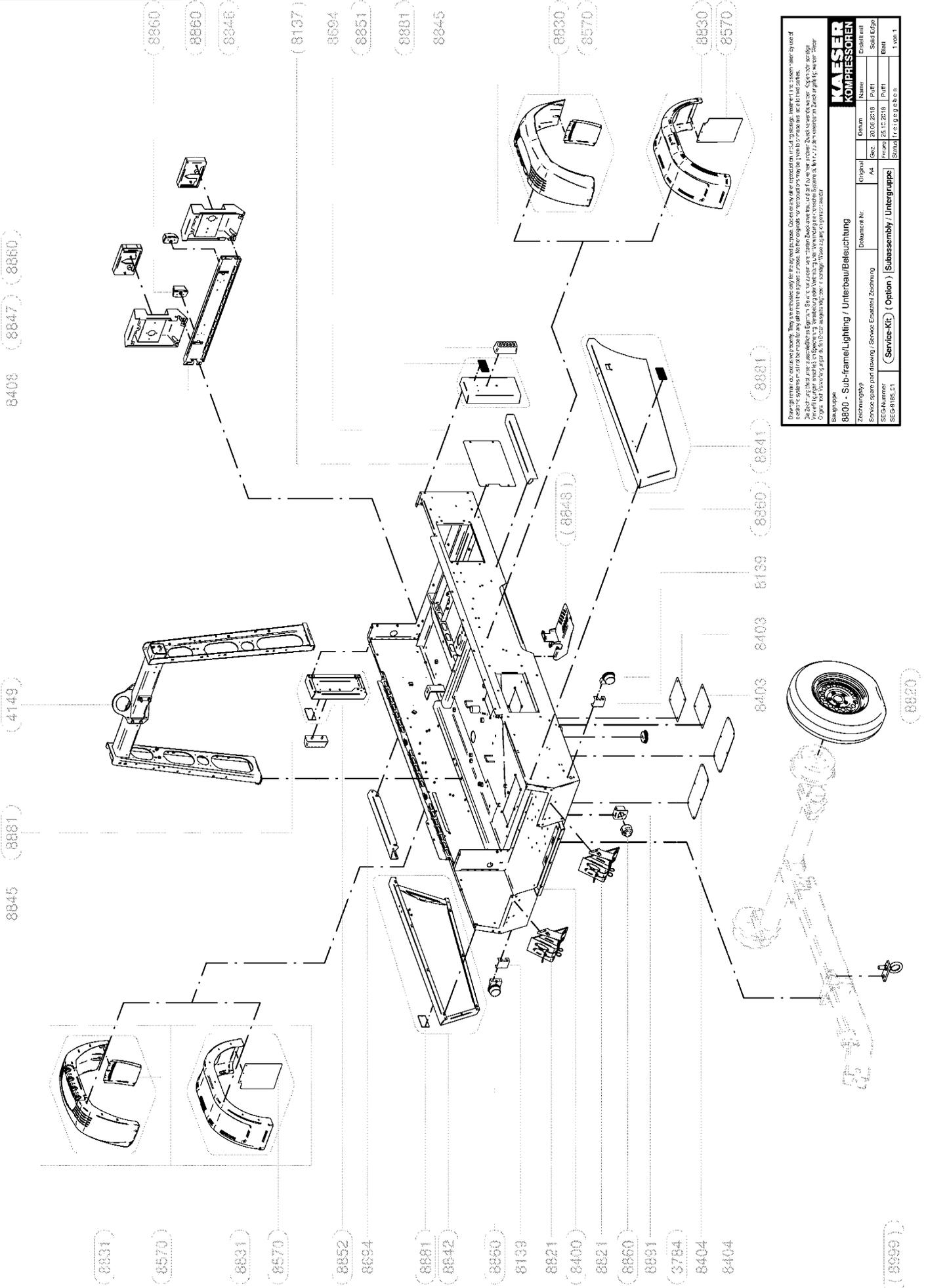
8800 - Sub-frame/Lighting / Unterbau/Beleuchtung

Original	Original	Original	Original
Docu-Nr.	Docu-Nr.	Docu-Nr.	Docu-Nr.
Art.	Art.	Art.	Art.
Version	Version	Version	Version
Standort	Standort	Standort	Standort

Zeichnungsgruppe: **(Service-Kit) (Option) / Subassembly / Untergruppe**
 Zeichnungsnr.: 8800-110-01-2103-10-01
 SECA-Nr.: 8800-110-01-2103-10-01
 SED-#183.21

Blatt 1 von 1
 1 von 1

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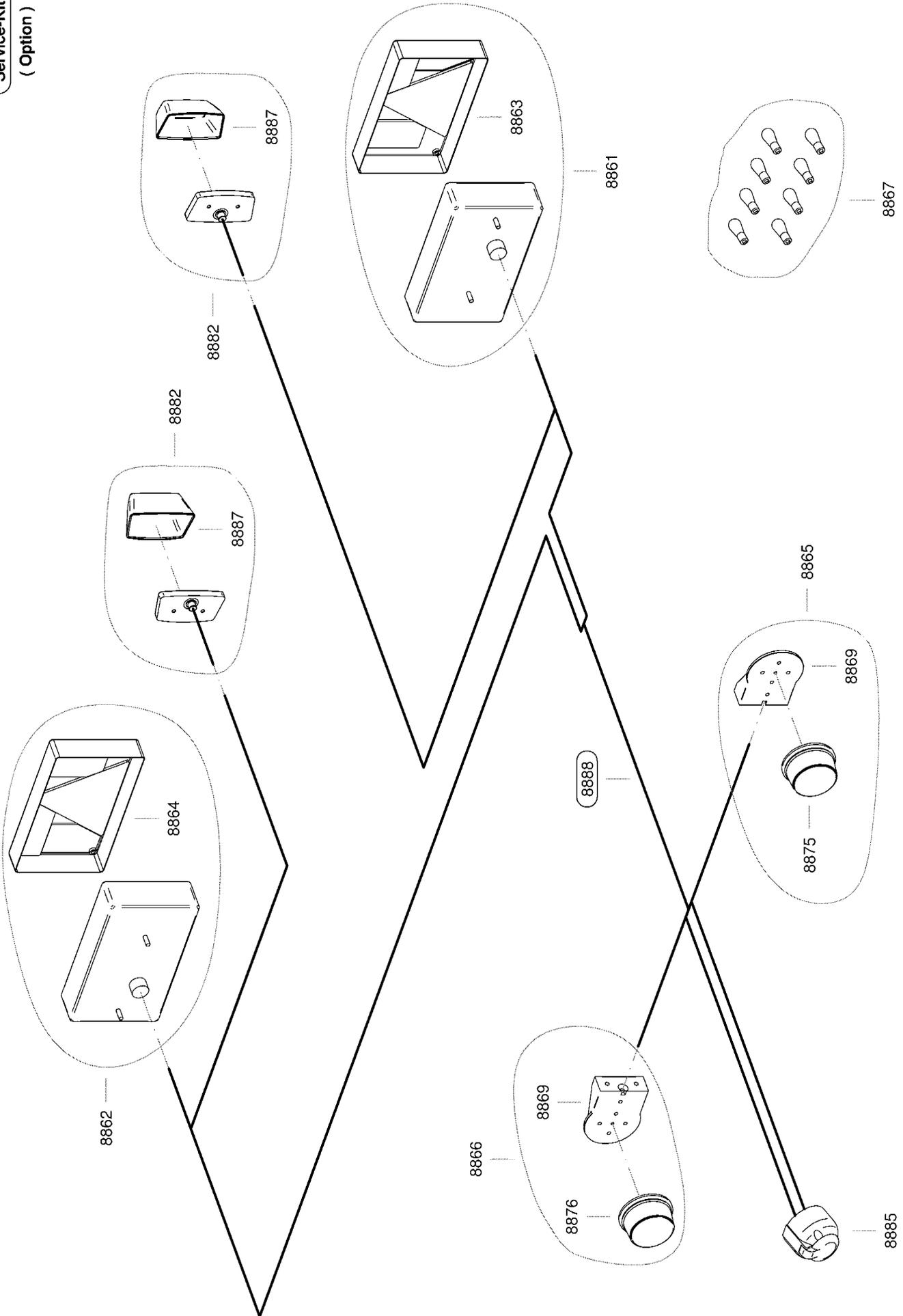
Bezeichnung: 8800 - Sub-frame/Lighting / Unterbau/Beleuchtung
 Zeichnungs-Nr.:
 Original Name:
 Datum:
 Zeichnungs-Nr.:
 Original Name:
 Datum:
 Zeichnungs-Nr.:
 Original Name:
 Datum:

SECA-Nummer: (Service-Kit) (Option) (Subassembly) (Untergruppe)
 SECA-Part-Nr.: 8800.01

Original Name: Enchilotti
 Datum: 20.08.2018
 Zeichnungs-Nr.: 8800.01
 Original Name: Solid Edge
 Datum: 25.12.2018
 Zeichnungs-Nr.: 8800.01

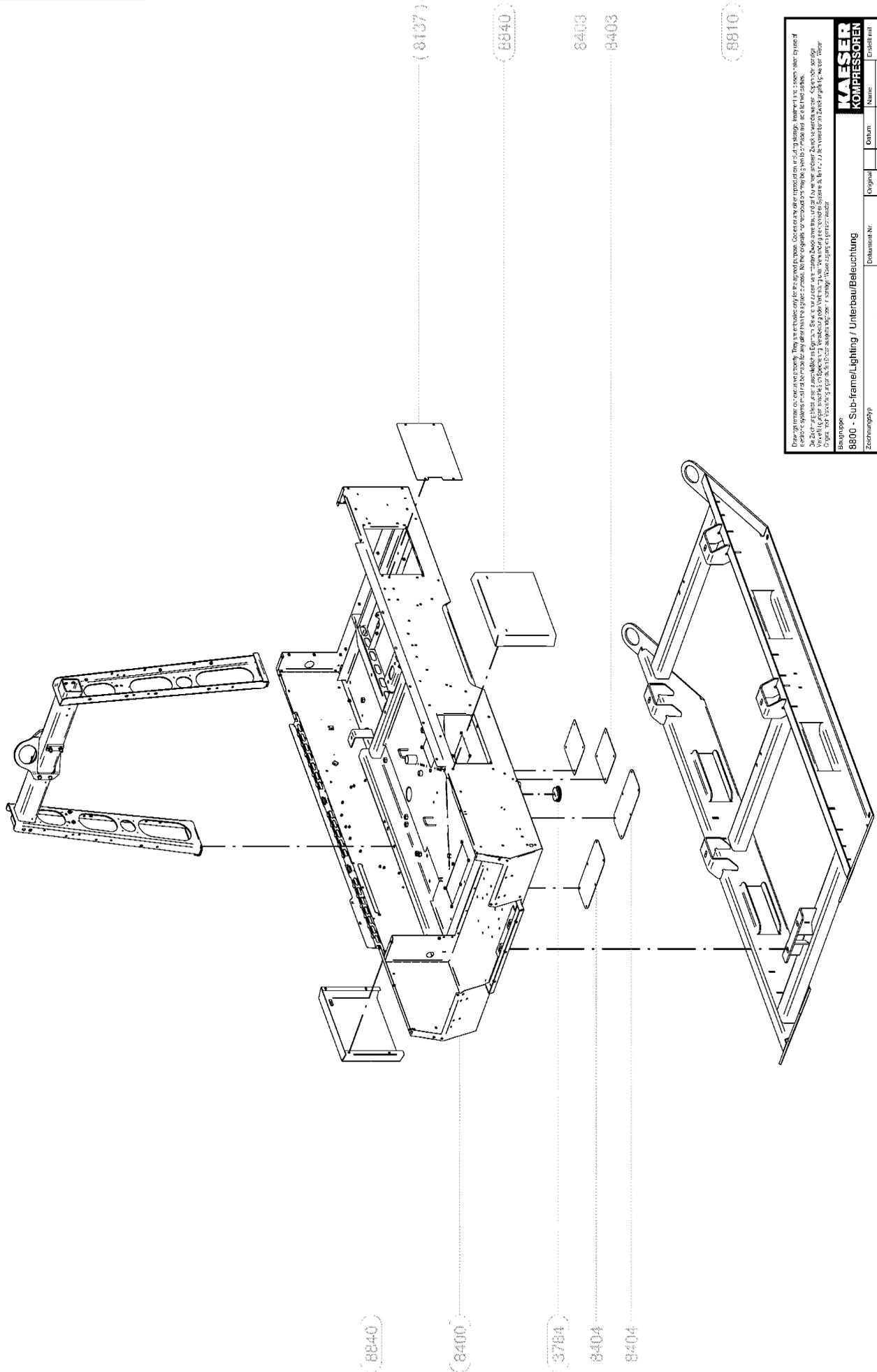
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Service-Kit
(Option)



SEG-4124_01

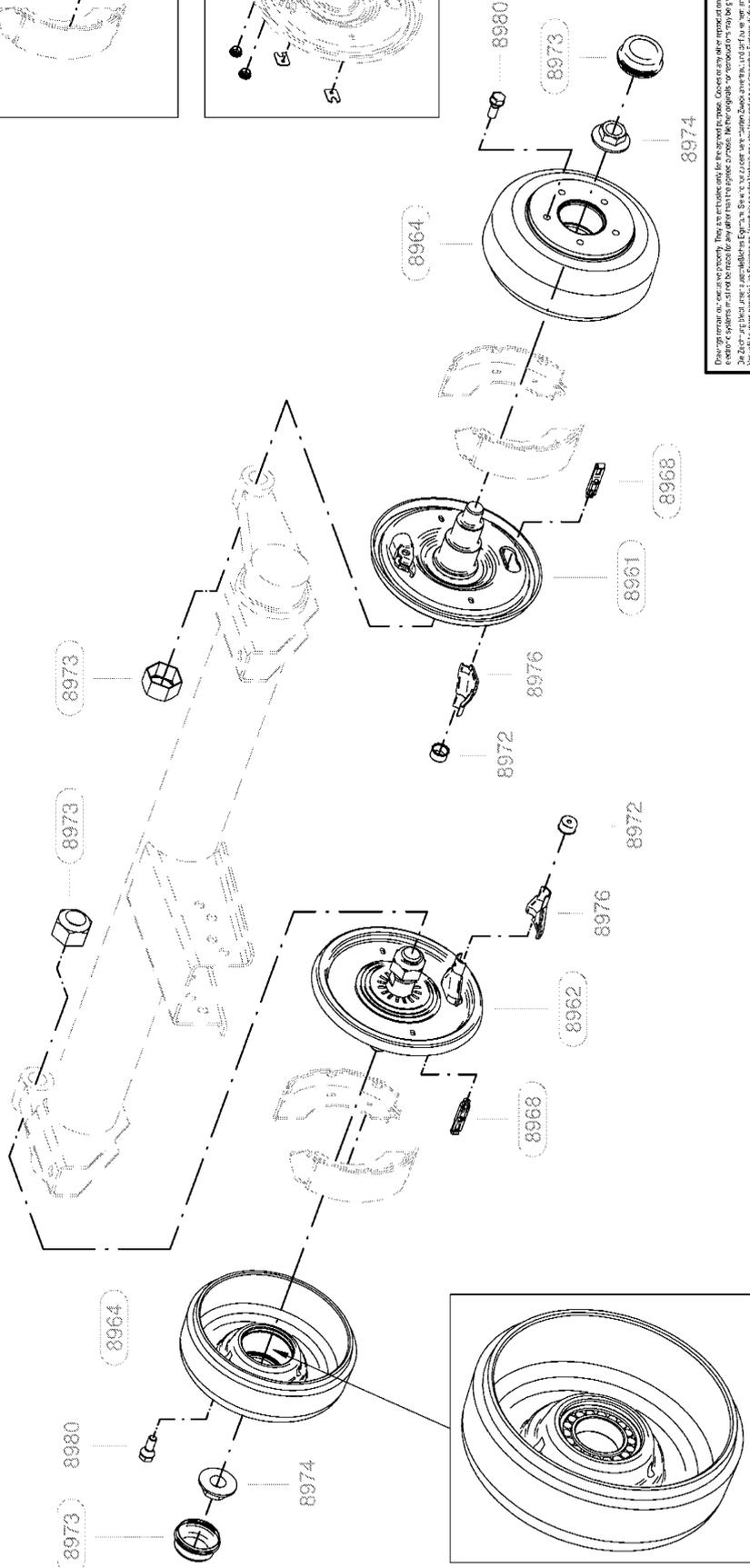
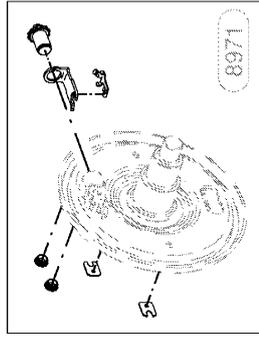
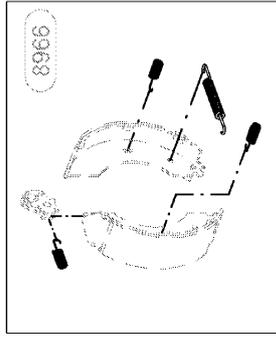
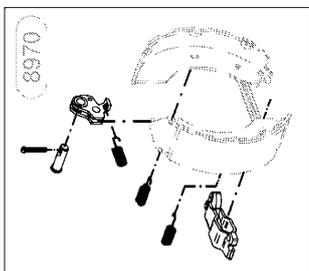
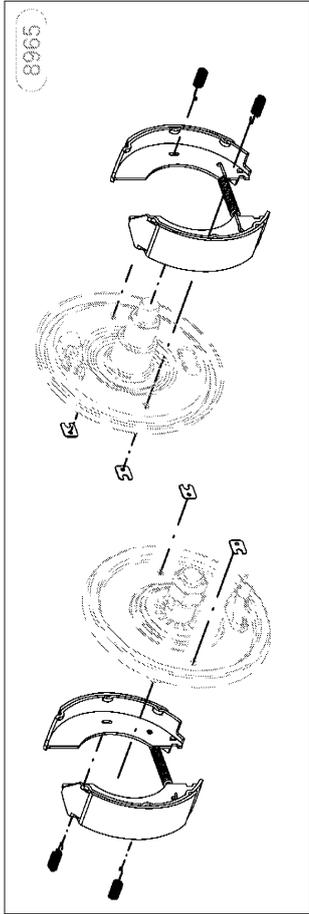
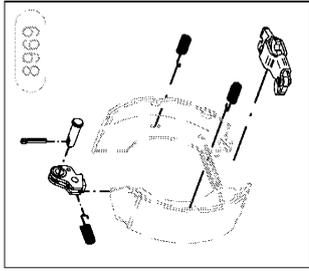
4149



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8800 - Sub-frame/Lighting / Unterbau/Beleuchtung

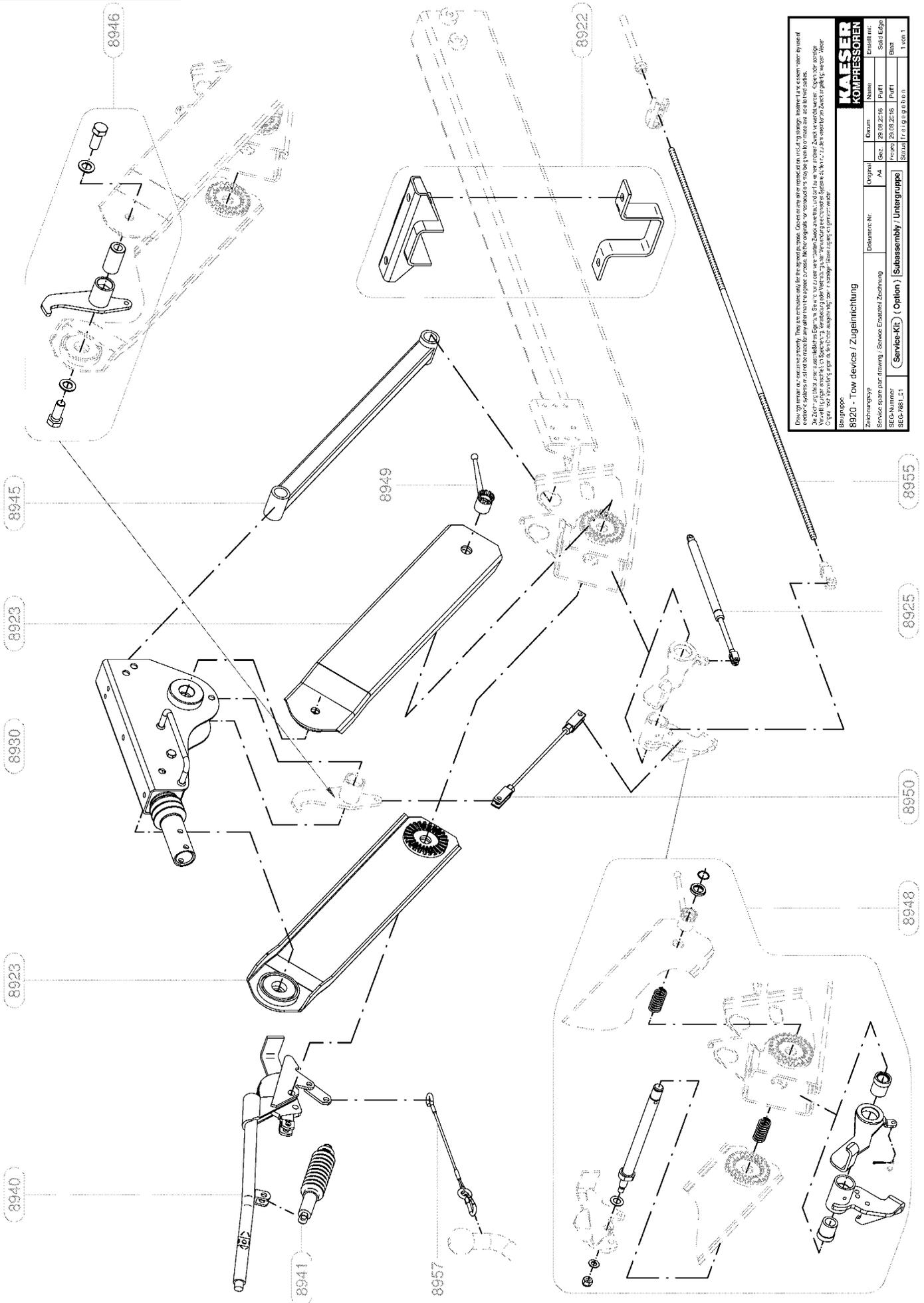
Zeichnungsgruppe	Original	Erstellt mit
Service spare part drawing / Service Ersatzteilzeichnung	Ad	Seitz
SECA-Nummer	Version	14.11.2017
SECC-#/IT/21	Revised / (Option) / Untergruppe	Revis
		1 von 1



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KAESER KOMPRESSOREN		Name: _____ Erstellt mit: _____
Zeichnungs-Nr.: _____ Skizze: 13.07.2015	Datum: _____ Blatt: 1 von 1	Original: _____ Part: _____
Zeichnungsbereich: _____ Zeichnungs-Nr.: _____ Skizze: 13.07.2015	Datum: _____ Blatt: 1 von 1	Original: _____ Part: _____
Zeichnungsbereich: _____ Zeichnungs-Nr.: _____ Skizze: 13.07.2015	Datum: _____ Blatt: 1 von 1	Original: _____ Part: _____

Original: 13.07.2015
 Blatt: 1 von 1



Original Name Datum
 Erstellt mit: Solid Edge
 Version: 20.03.21.05 Part1
 Blatt: 1 von 1

8920 - Tow device / Zuganrichtung

Zeichnungsyp: Original
 Dokument-Nr.:
 Skizze: 28.08.21.05 Part1
 Zeichnungs-Nr.: 20.03.21.05 Part1
 SFCANummer: 8920
 SEC-4883_21

(Service-Kit) (Option) (Subassembly) (Untergruppe)

Original Name Datum
 Erstellt mit: Solid Edge
 Version: 20.03.21.05 Part1
 Blatt: 1 von 1

8920 - Tow device / Zuganrichtung

Zeichnungsyp: Original
 Dokument-Nr.:
 Skizze: 28.08.21.05 Part1
 Zeichnungs-Nr.: 20.03.21.05 Part1
 SFCANummer: 8920
 SEC-4883_21

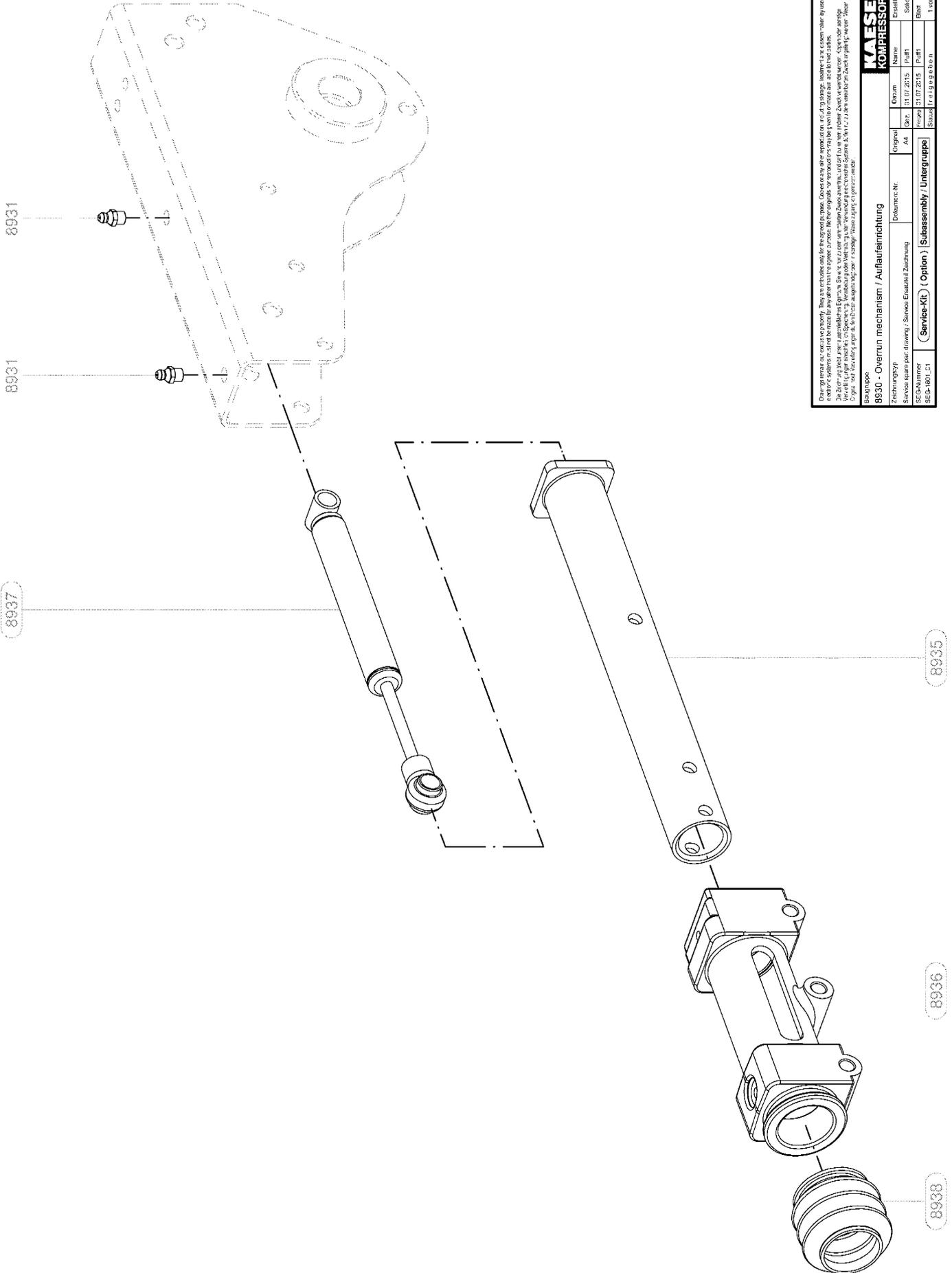
(Service-Kit) (Option) (Subassembly) (Untergruppe)

Original Name Datum
 Erstellt mit: Solid Edge
 Version: 20.03.21.05 Part1
 Blatt: 1 von 1

8920 - Tow device / Zuganrichtung

Zeichnungsyp: Original
 Dokument-Nr.:
 Skizze: 28.08.21.05 Part1
 Zeichnungs-Nr.: 20.03.21.05 Part1
 SFCANummer: 8920
 SEC-4883_21

(Service-Kit) (Option) (Subassembly) (Untergruppe)



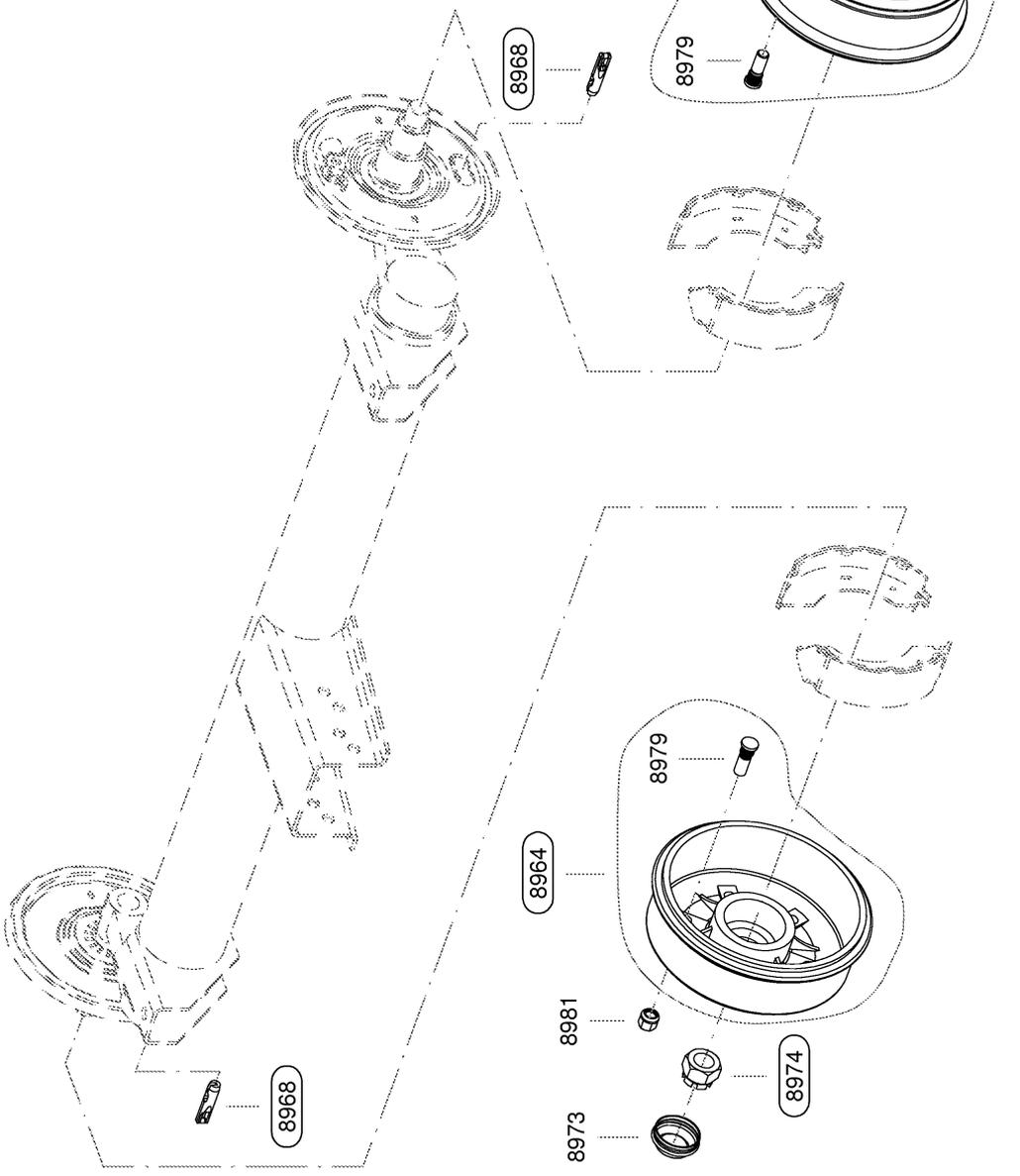
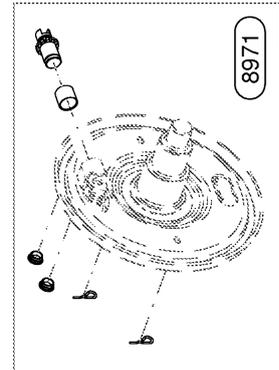
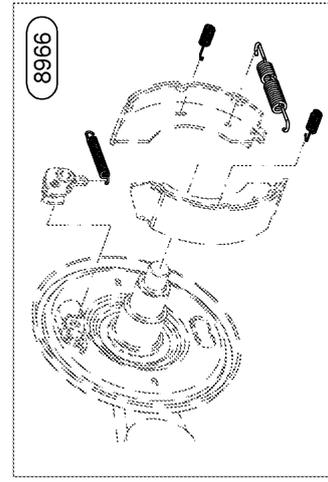
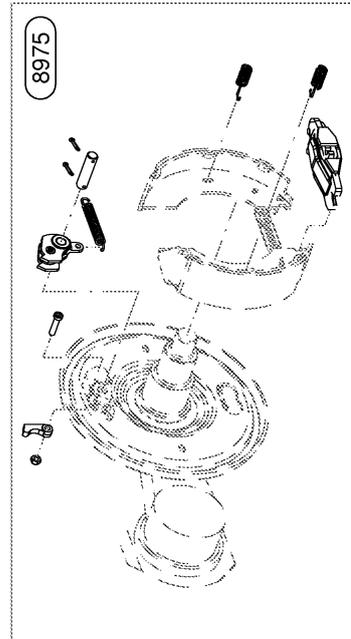
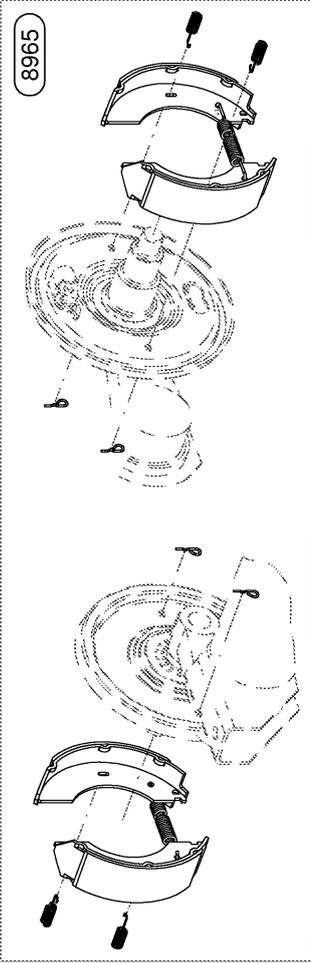
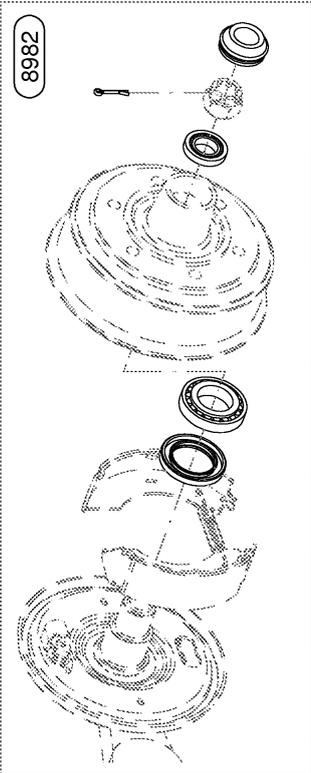
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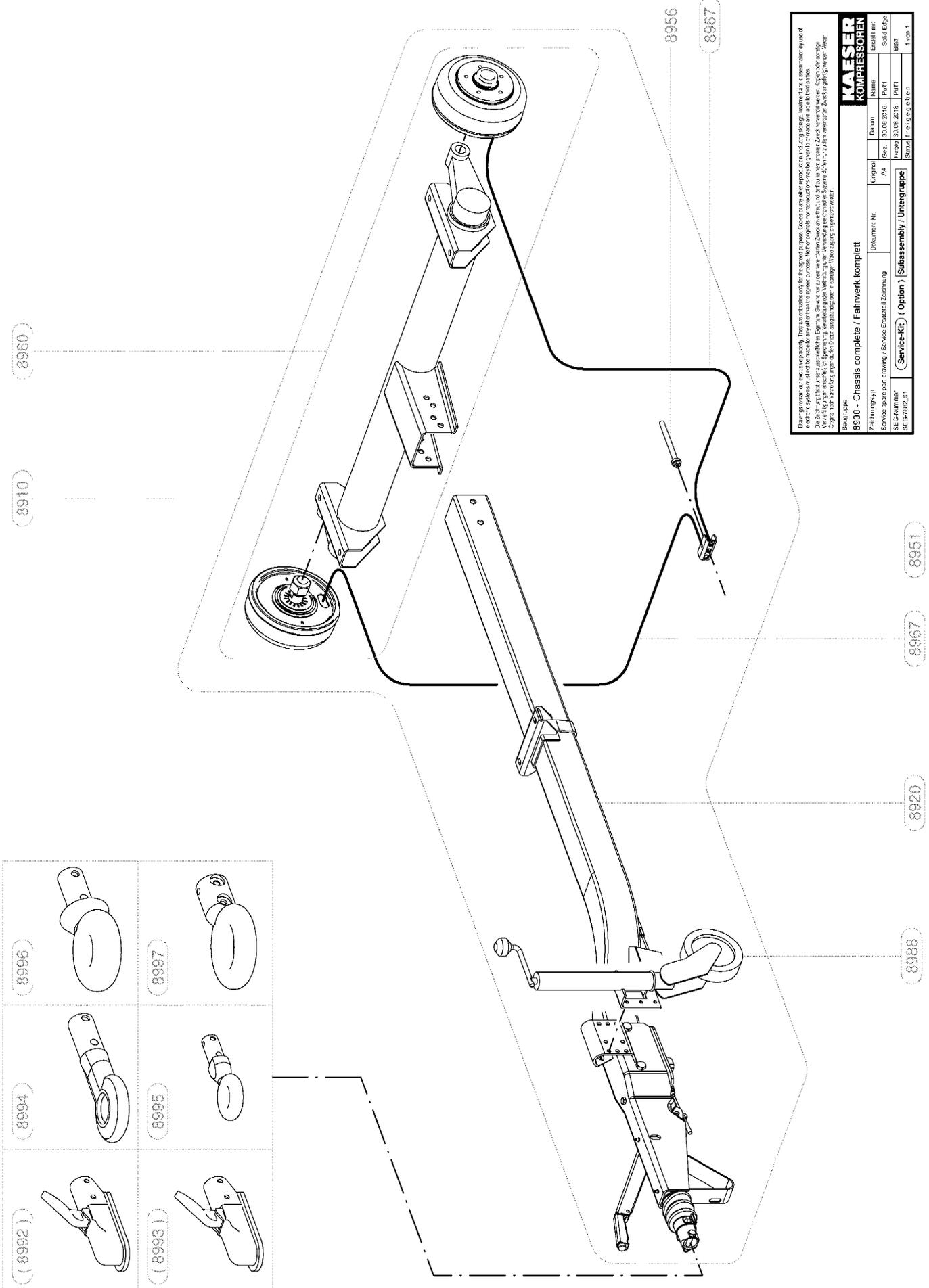
8930 - Overrun mechanism / Aufsteuerung

Zachungsgesys	Original	Name	Erstellt mit
Service spare part drawing / Service Ersatzteilzeichnung	Alt	Docum. Nr.	Seit
SECA-Nummer	Version	Datum	Seit
SEC-1801_21	1.00	13.07.2015	1.00
Service-Kit (Option) / Subassembly / Untergruppe		Part1	Part1
		Part2	Part2
		Part3	Part3
		Part4	Part4
		Part5	Part5
		Part6	Part6
		Part7	Part7
		Part8	Part8
		Part9	Part9
		Part10	Part10
		Part11	Part11
		Part12	Part12
		Part13	Part13
		Part14	Part14
		Part15	Part15
		Part16	Part16
		Part17	Part17
		Part18	Part18
		Part19	Part19
		Part20	Part20
		Part21	Part21
		Part22	Part22
		Part23	Part23
		Part24	Part24
		Part25	Part25
		Part26	Part26
		Part27	Part27
		Part28	Part28
		Part29	Part29
		Part30	Part30
		Part31	Part31
		Part32	Part32
		Part33	Part33
		Part34	Part34
		Part35	Part35
		Part36	Part36
		Part37	Part37
		Part38	Part38
		Part39	Part39
		Part40	Part40
		Part41	Part41
		Part42	Part42
		Part43	Part43
		Part44	Part44
		Part45	Part45
		Part46	Part46
		Part47	Part47
		Part48	Part48
		Part49	Part49
		Part50	Part50
		Part51	Part51
		Part52	Part52
		Part53	Part53
		Part54	Part54
		Part55	Part55
		Part56	Part56
		Part57	Part57
		Part58	Part58
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		Part92	Part92
		Part93	Part93
		Part94	Part94
		Part95	Part95
		Part96	Part96
		Part97	Part97
		Part98	Part98
		Part99	Part99
		Part100	Part100

Service-Kit



SEG-2056_01



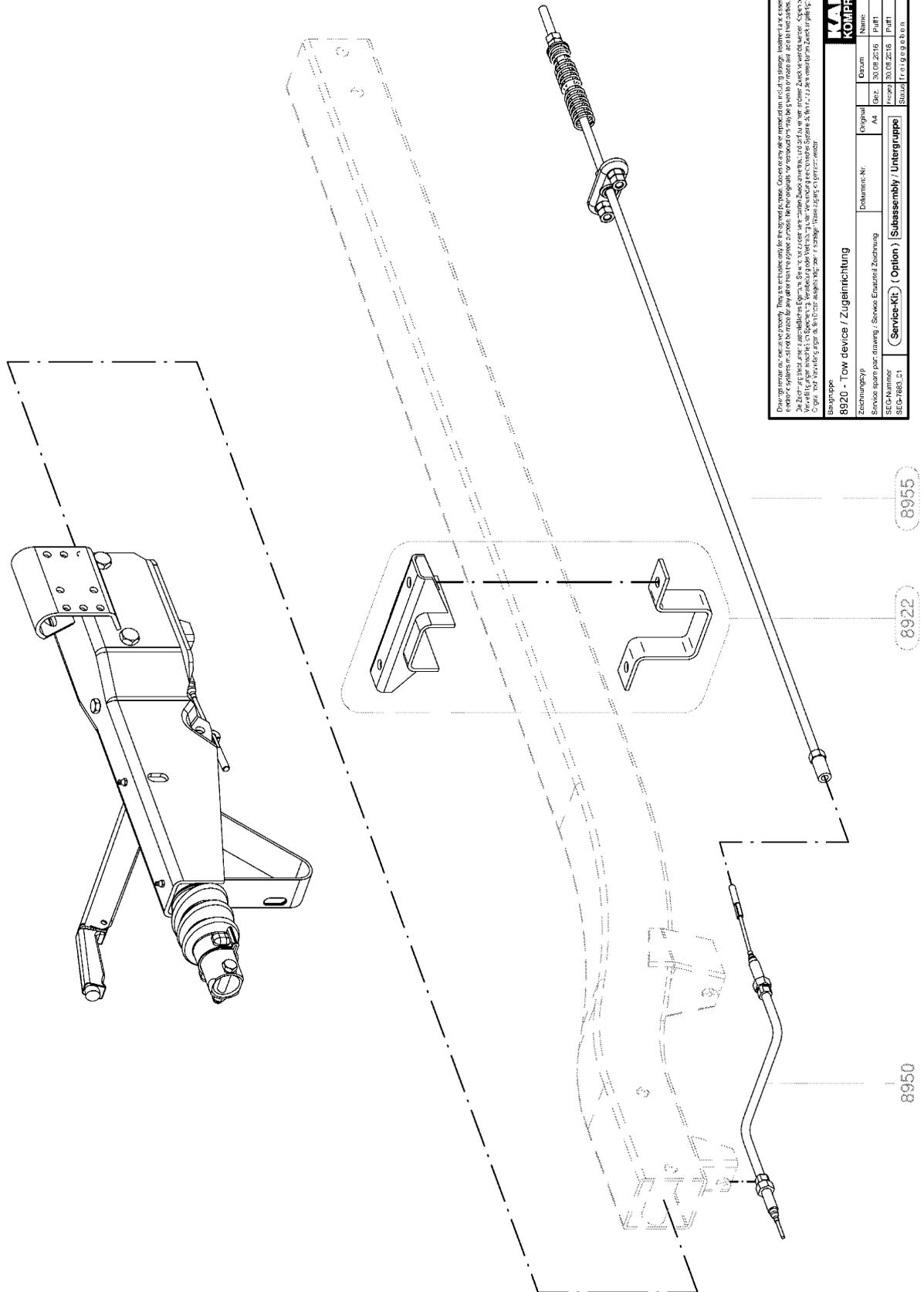
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8900 - Chassis complete / Fahwerk komplett

Zeichnungsgrupp	Dokument-Nr.	Original	Name	Erstellt mit
Service spare part drawing / Service Ersatzteil-Zeichnung	Alt	Alt	30.08.2016	Part1
SECCANumber	Version	30.08.2016	Part1	BRW
SEC-7682.01	Revised	1.01.01.01.01	1 von 1	

(Service-Kit) (Option) (Subassembly / Untergruppe)

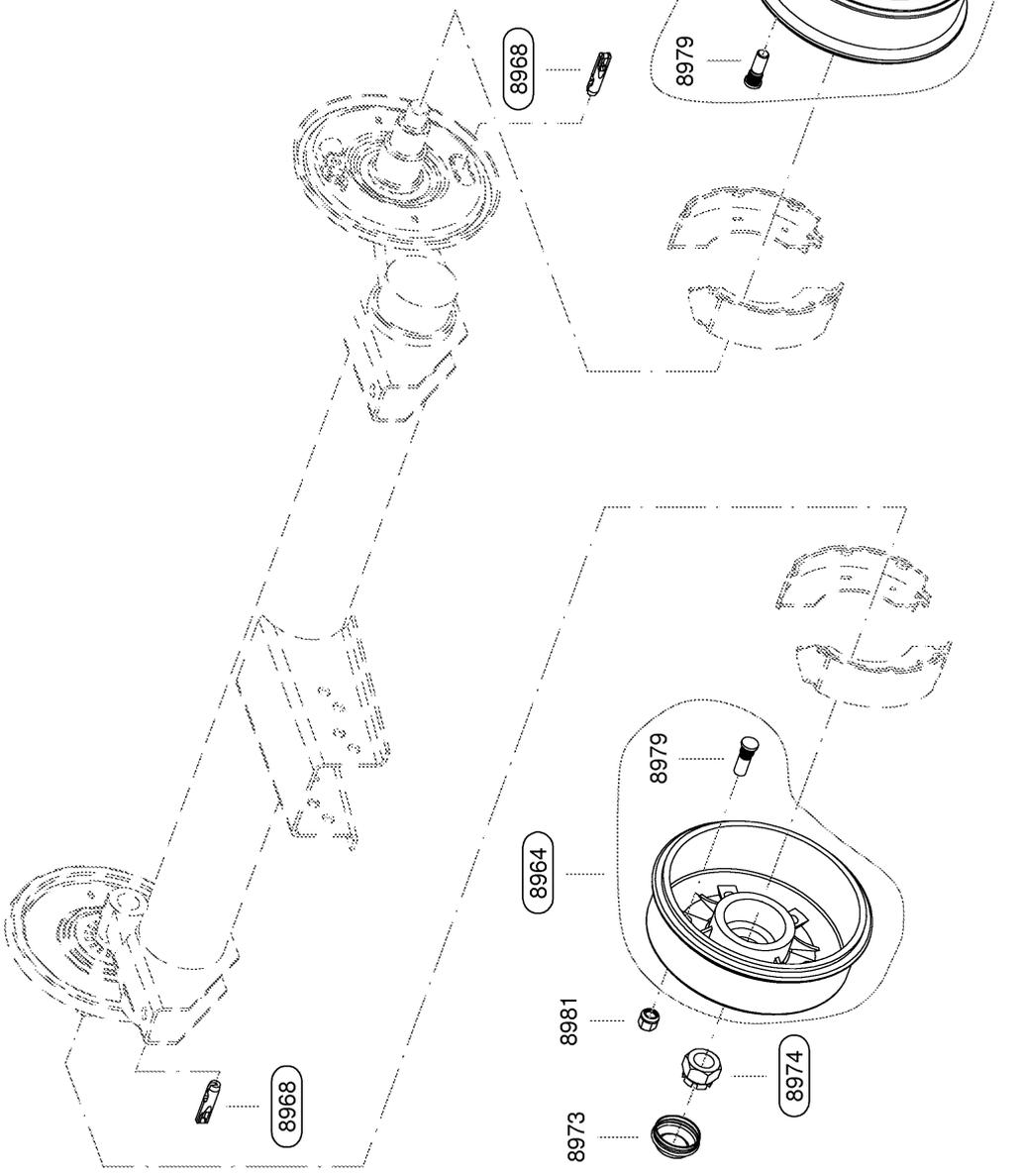
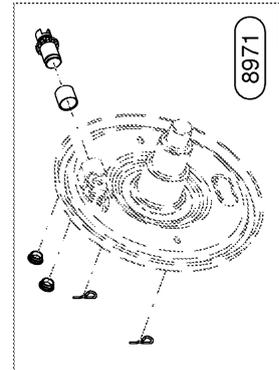
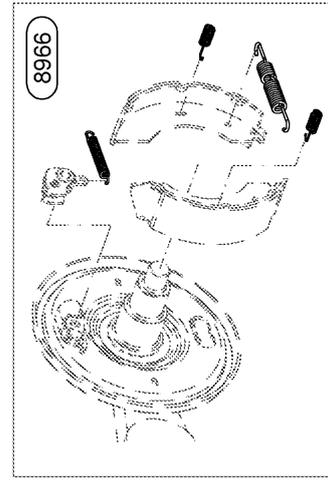
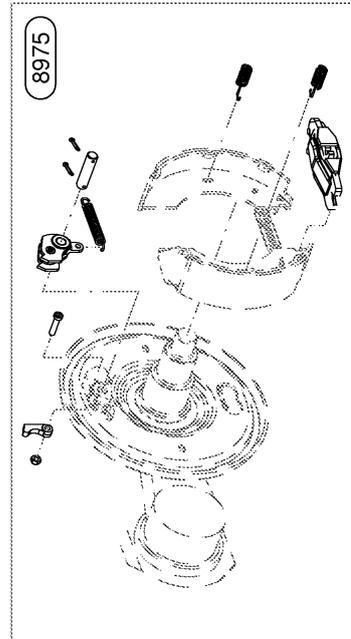
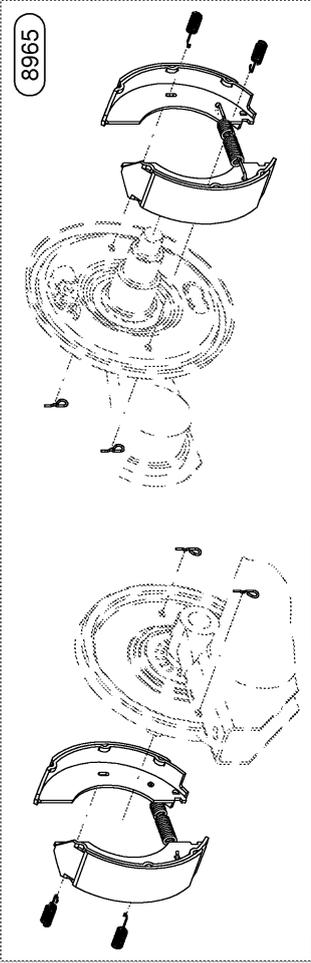
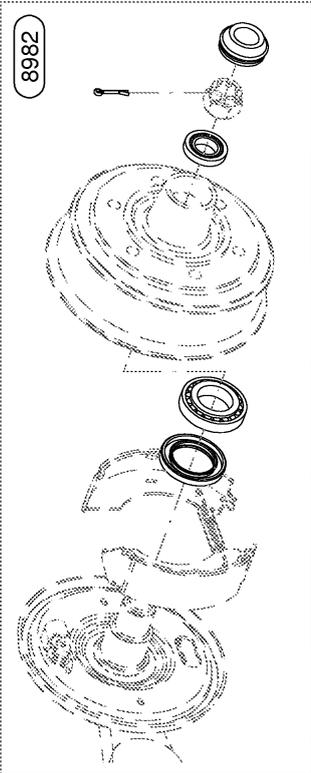


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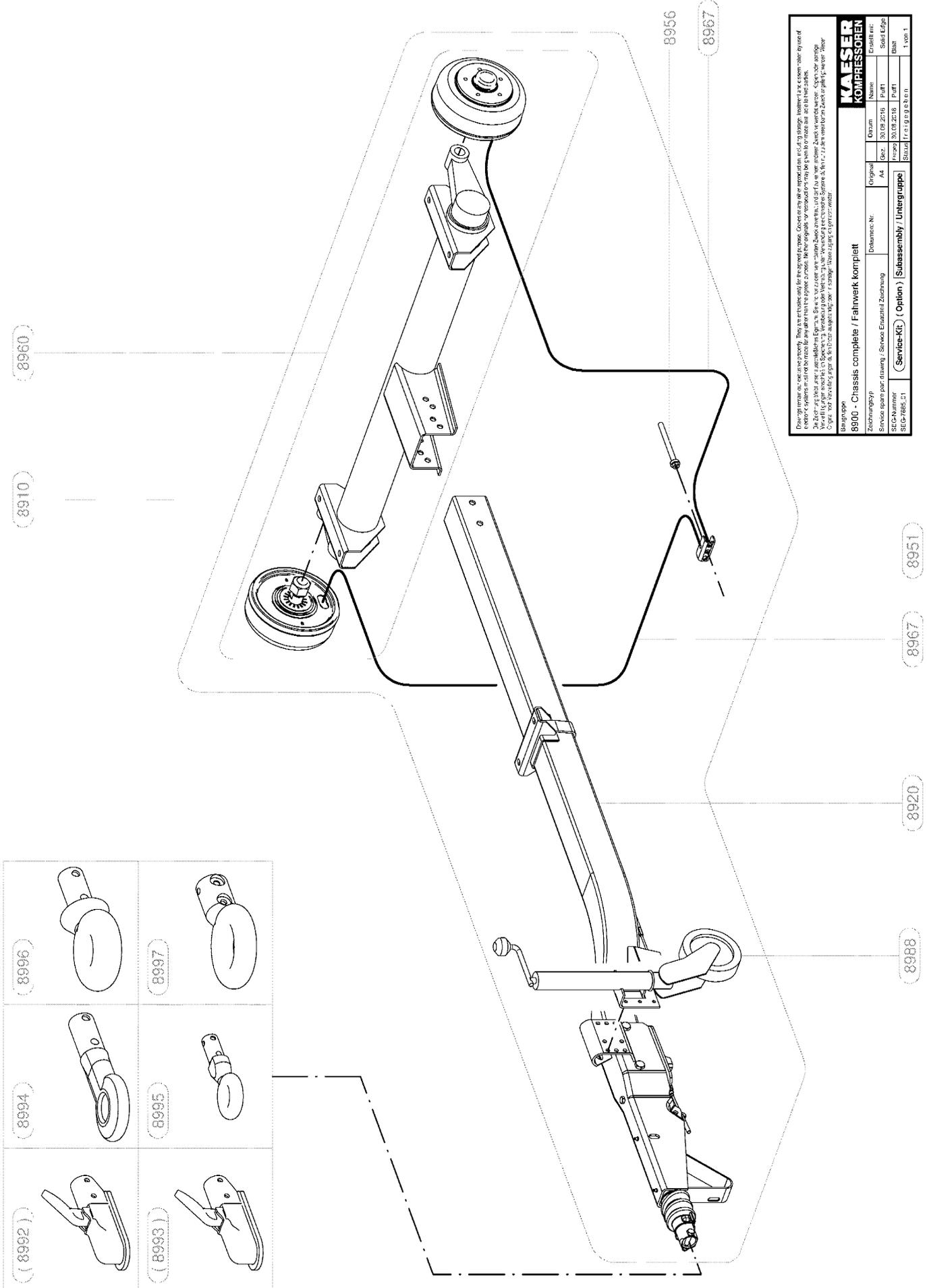
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Bezeichnung	8920 - Tow device / Zuganrichtung		Original	Name	Erstellt mit
Zeichnungsart	Druck	Dokument-Nr.	Alt	Druck	Seit
Skizze	30.08.2015			30.08.2015	1 von 1
SECC-Nummer	8920		SECC-Nummer		
SECC-Teilnummer	8920		SECC-Teilnummer		
Option / Subassembly / Untergruppe					

Service-Kit



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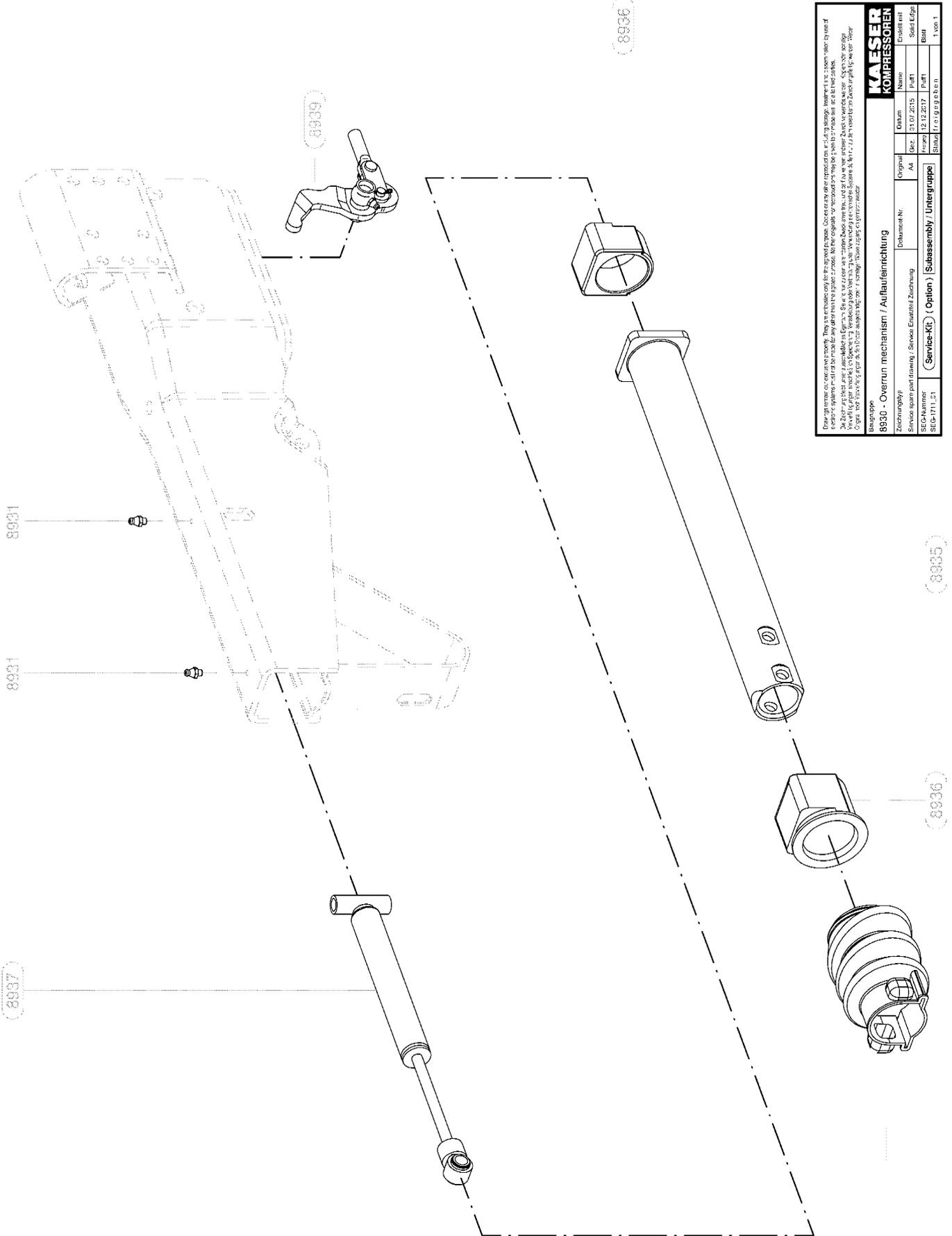


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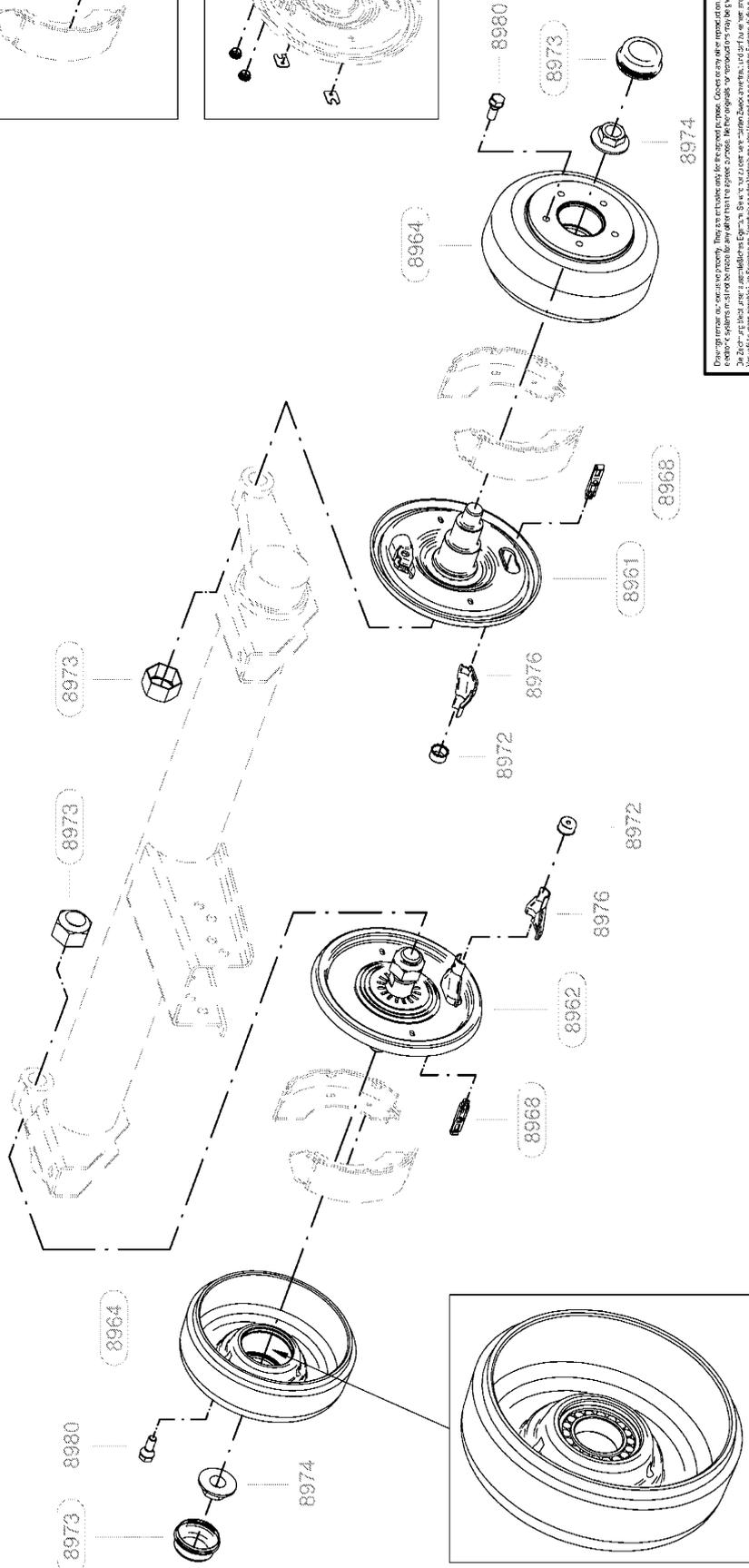
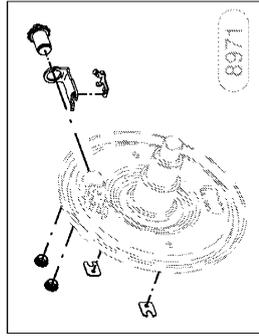
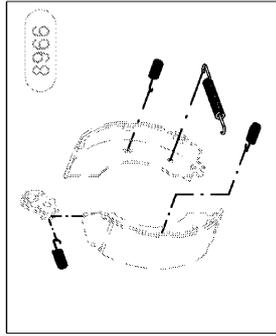
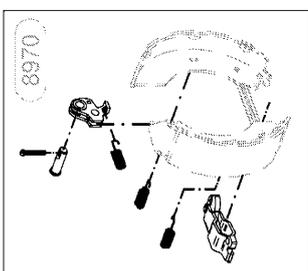
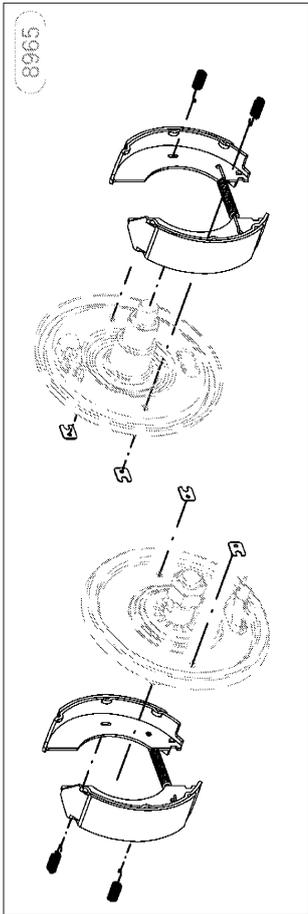
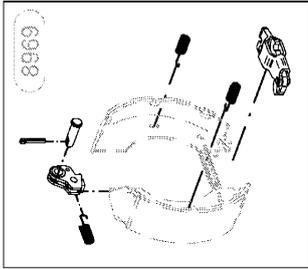
8900 - Chassis complete / Fahrwerk komplett

Zeichnungsgruppe	Dokument-Nr.	Original	Name	Erstellt mit
Service spare part drawing / Service Ersatzteil-Zeichnung	Alt	Alt	8900 08 2115	Part1
SECCANummer	Version	Revisions	30.08.2015	Part1
SECC-Teilenummer	Service-Kit	Subassembly / Untergruppe		Blatt
				1 von 1



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KAESER KOMPRESSOREN		Erstellt mit	
Original Name	Original Nr.	Datum	
8930 - Overrun mechanism / Aufsteuerung		13.07.2015	Part1
Zeichnungsgruppe	Dokument Nr.	Aut.	Solid Edge
Service spare part drawing / Service Ersatzteil Zeichnung		12.12.2017	Part1
SECA Nummer	(Service-Kit) / Subassembly / Untergruppe	Revis.	Revis.
SEC-1711.21		1	1 von 1

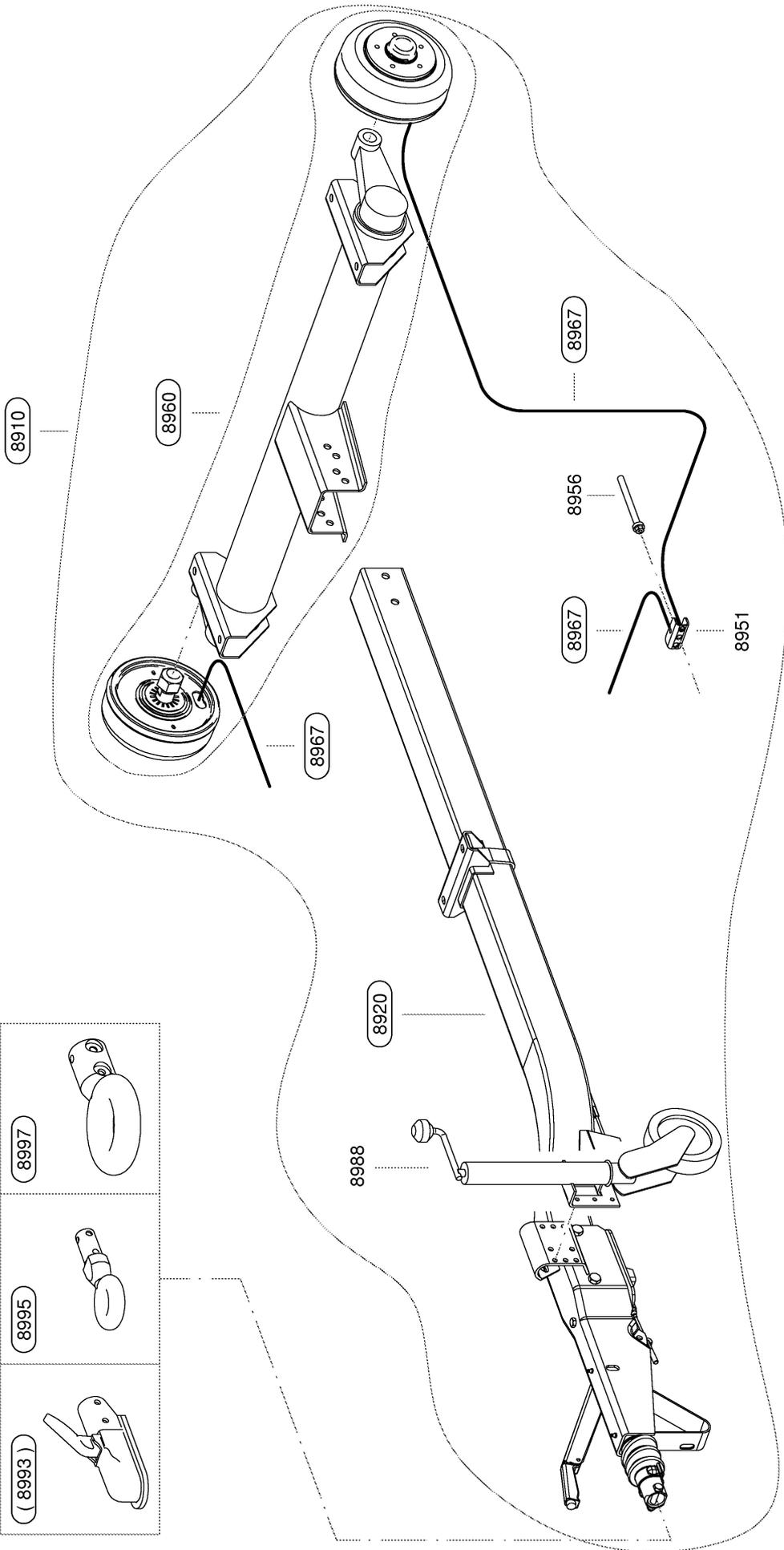
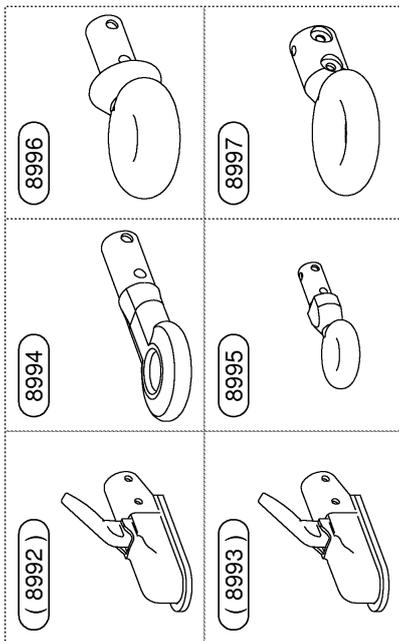


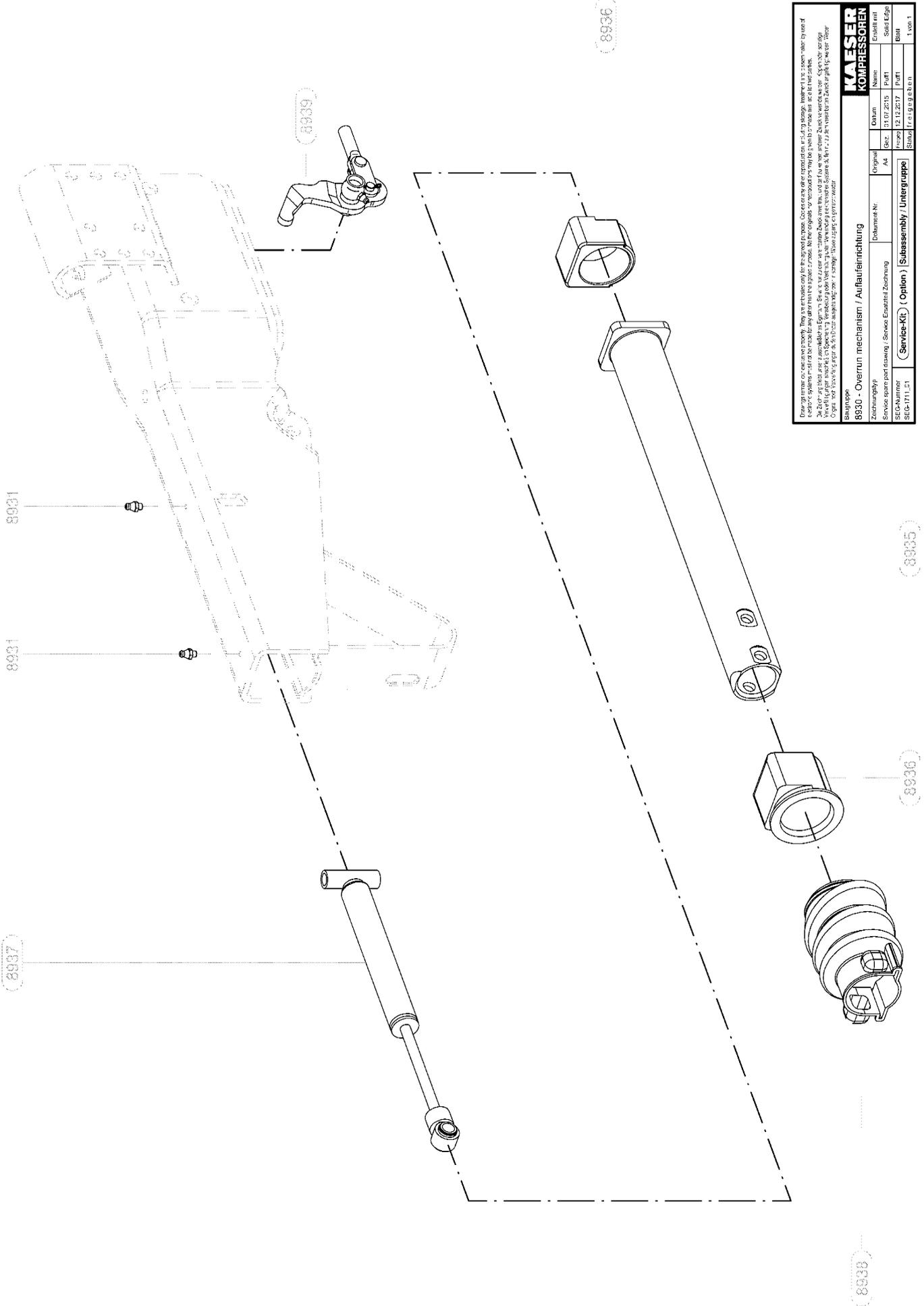
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KAESER KOMPRESSOREN		Erstellt mit:	
Benennung:	8960 - Achse / Achse	Datum:	13.07.2015
Zeichnungsart:	Service-Kit	Original:	Part1
Service-Kit:	Service-Kit	Alt:	Part1
SEGA-Nummer:	8960	Version:	1.00
SEGA-Teil-Nr.:	8960	Reise:	1.00
(Service-Kit) / Subassembly / Untergruppe		Blatt 1 von 1	

Service-Kit
(Option)

SEG-1713_01





KAESER KOMPRESSOREN

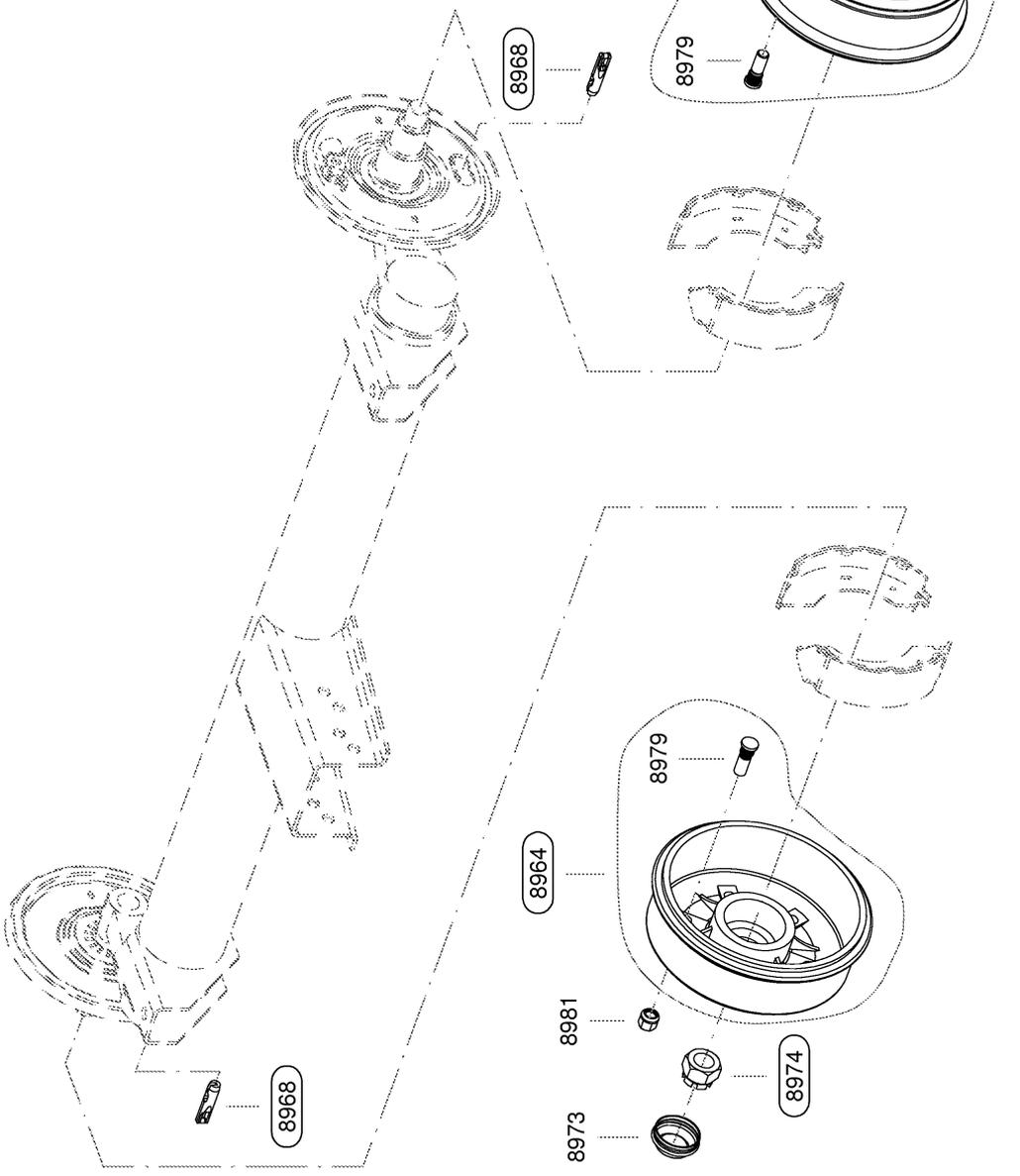
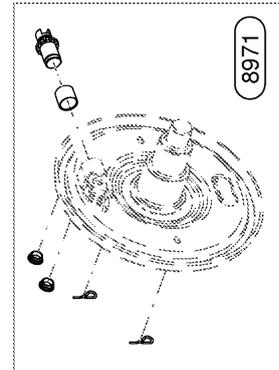
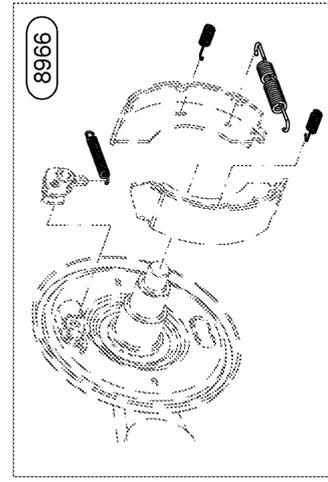
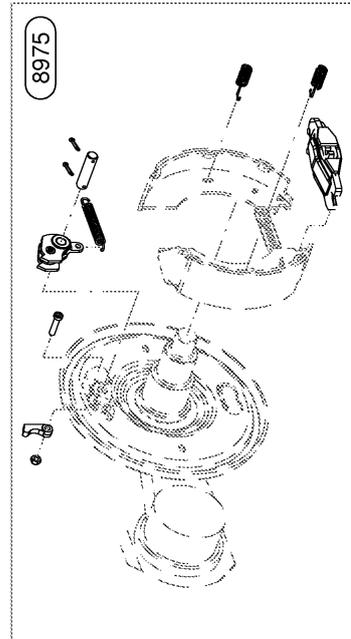
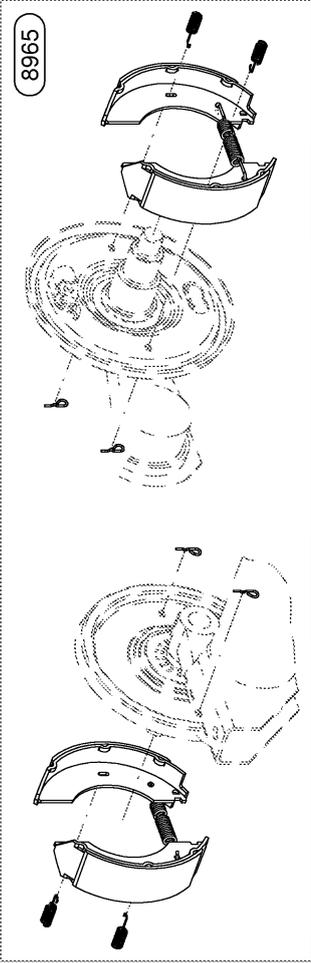
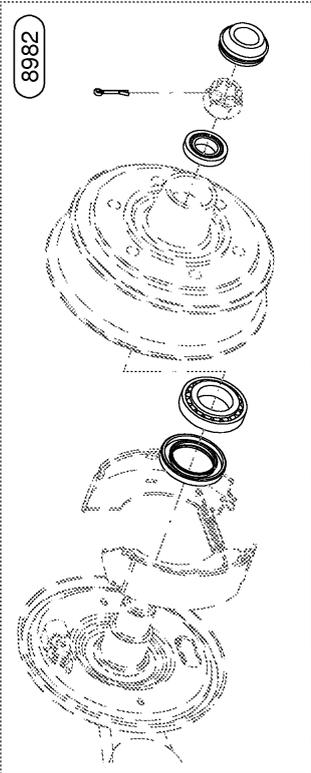
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 Datum: 13.07.2015
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 Name: 1011
 Zeichnung: 1011
 Stückzahl: 1
 Zeichnung: 1011
 Stückzahl: 1

Bezeichnung: 8930 - Overrun mechanism / Aufsteuerung
 Dokument Nr.:
 Zeichnungsgang:
 Stückzahl: 1
 Zeichnung: 13.12.2013
 Name: 1011
 Zeichnung: 1011
 Stückzahl: 1

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 Datum: 13.07.2015
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 Original: 1011
 Zeichnungsgang: 1011
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 Zeichnung: 13.12.2013
 Name: 1011
 Zeichnung: 1011
 Stückzahl: 1

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 Datum: 13.07.2015
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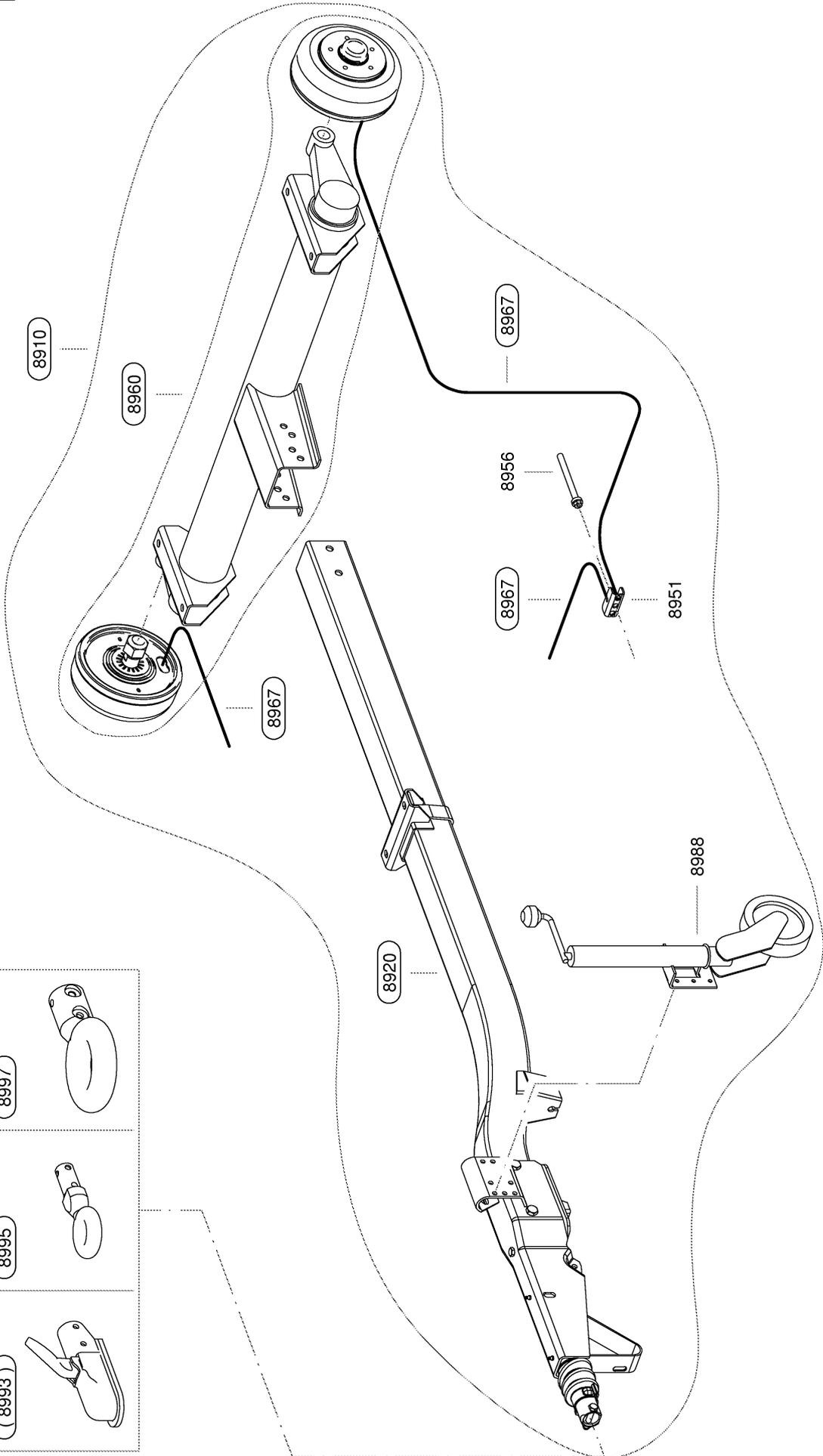
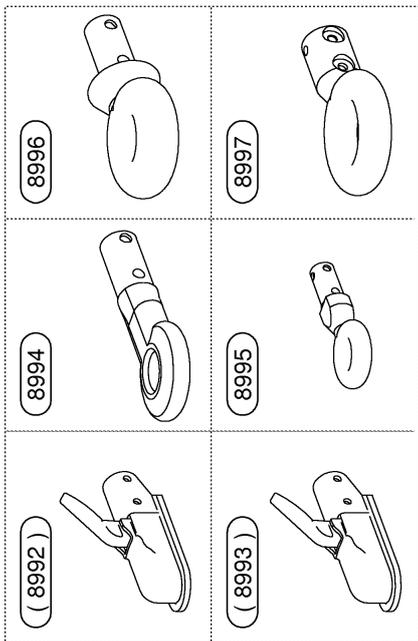
Service-Kit

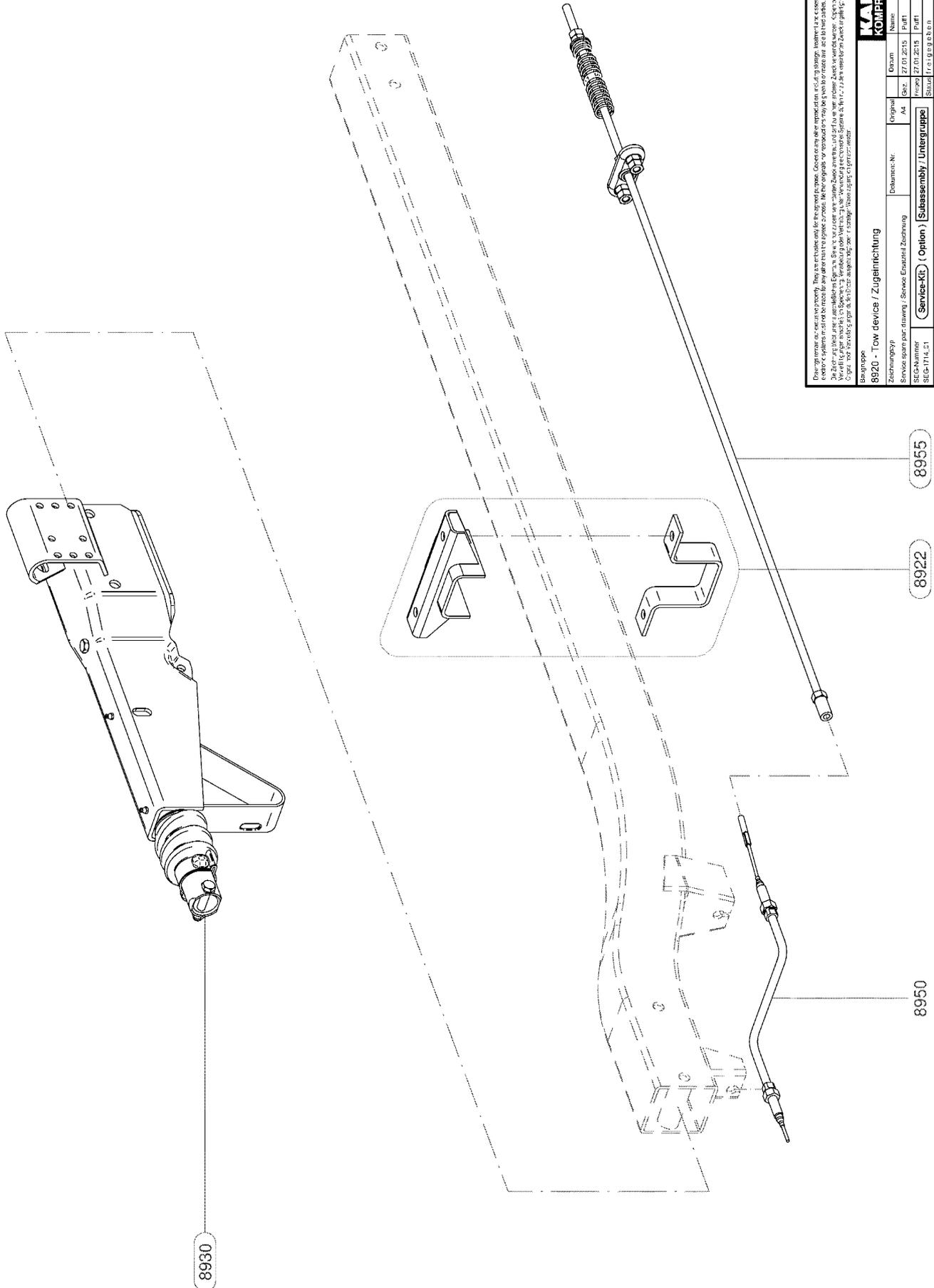


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Service-Kit
(Option)

SEG-1715_01

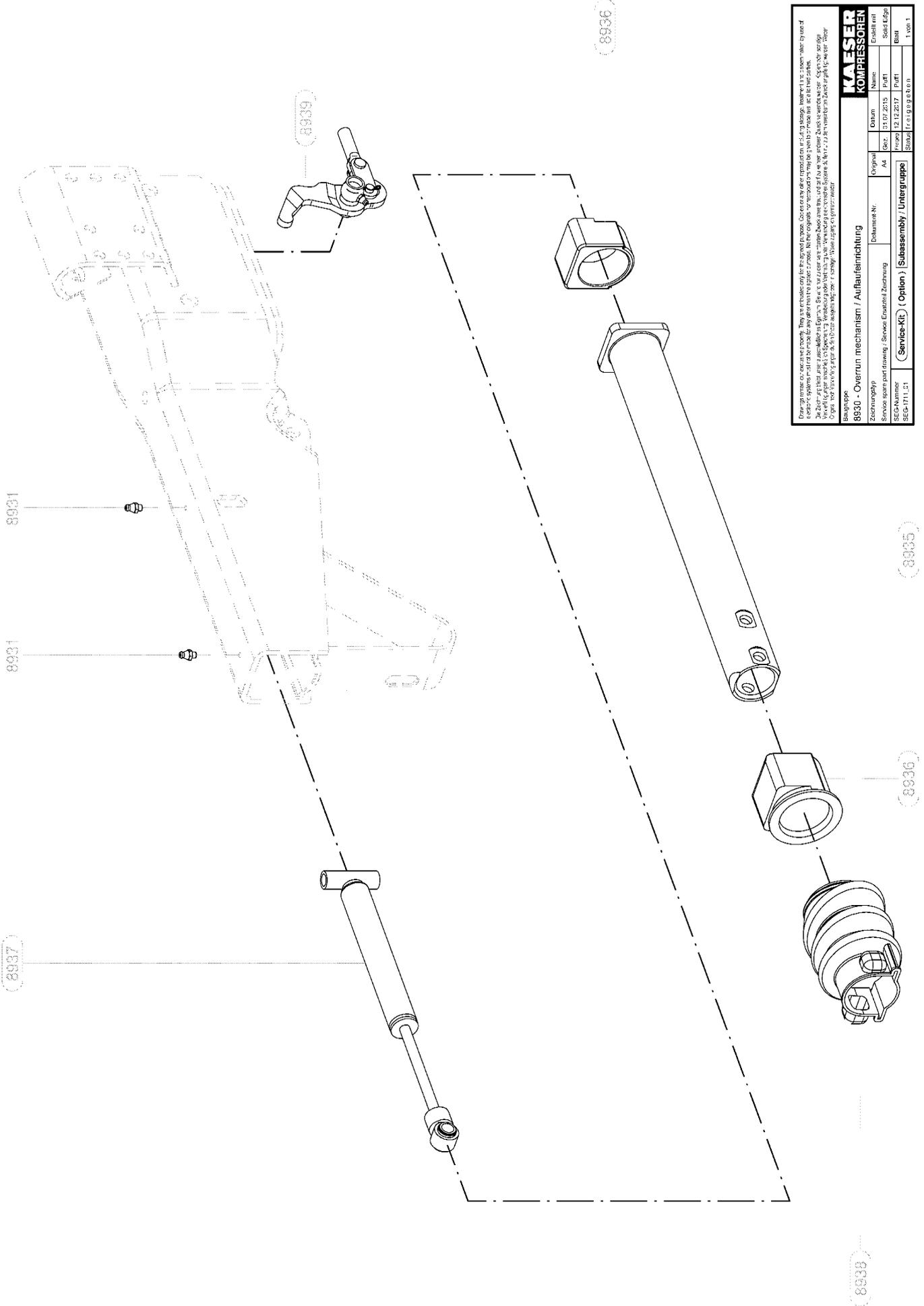




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KAESER KOMPRESSOREN		Name: _____ Erteilt am: _____
Zeichnungs-Nr.: _____ Original: _____	Datum: _____ 27.01.2015	Seite: _____ 1 von 1
Zeichnungsbereich: _____ Service, Ersatzteil, Zeichnung	Dokument-Nr.: _____	Status: _____ 1 von 1
SERIENUMMER: _____ 8950	Datum: _____ 27.01.2015	Blatt: _____ 1 von 1
SERIENUMMER: _____ 8950	Datum: _____ 27.01.2015	Blatt: _____ 1 von 1

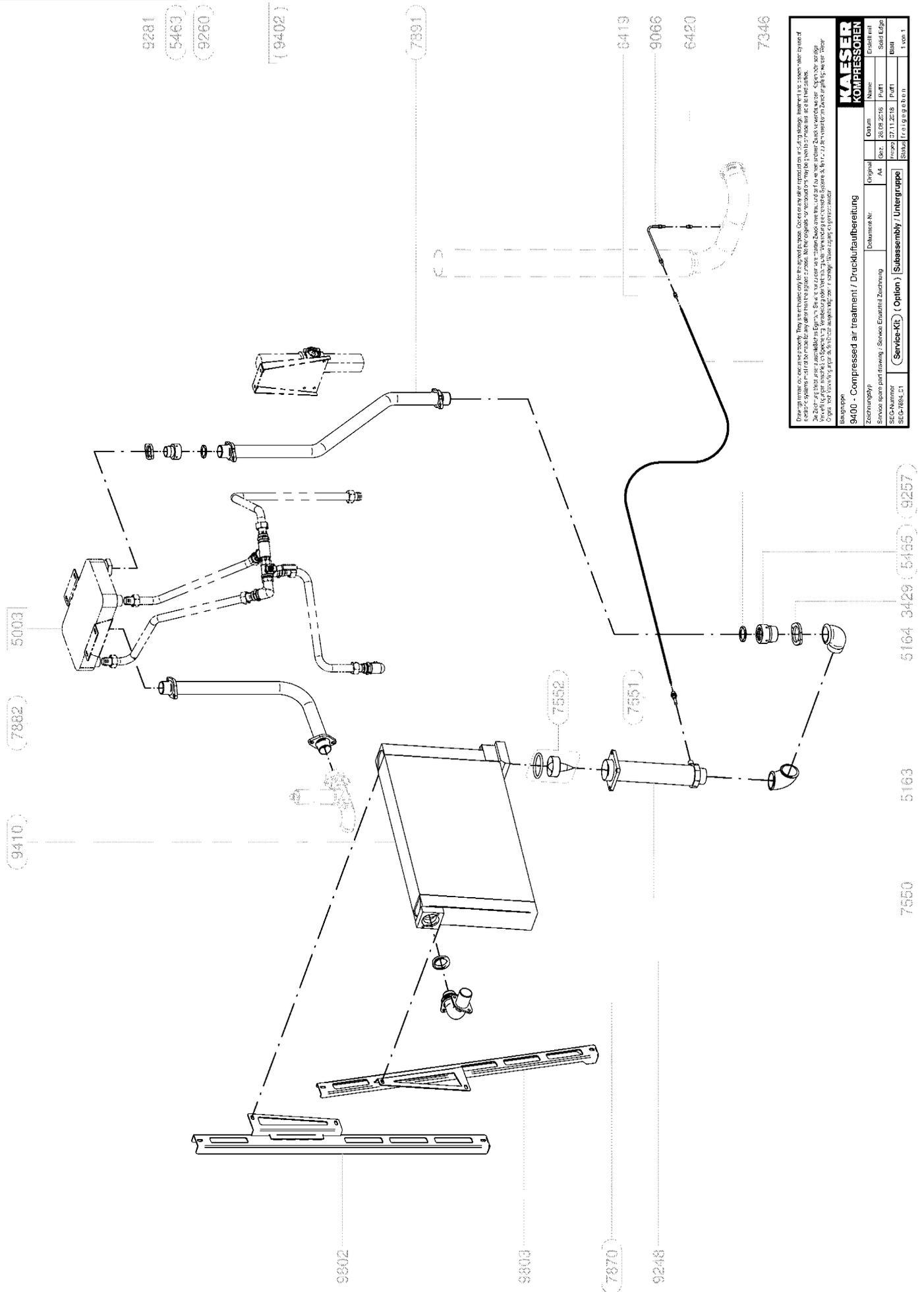
Bezeichnung: 8920 - Tow device / Zuganrichtung
 Zeichnungs-Nr.: _____
 SERIENUMMER: _____
 8950



KAESER KOMPRESSOREN

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Bezeichnung	8930 - Overrun mechanism / Aufsteuerung		Original	Name	Erstellt mit
Zusammenbau	Zusammenbau		Ad	13.07.2015	Part1
SECC-Nummer	SECC-1711.21		Version	12.12.2017	Part1
SECC-Gruppe	(Service-Kit) / Subassembly / Untergruppe		Revisi		1 von 1



KAESER KOMPRESSOREN

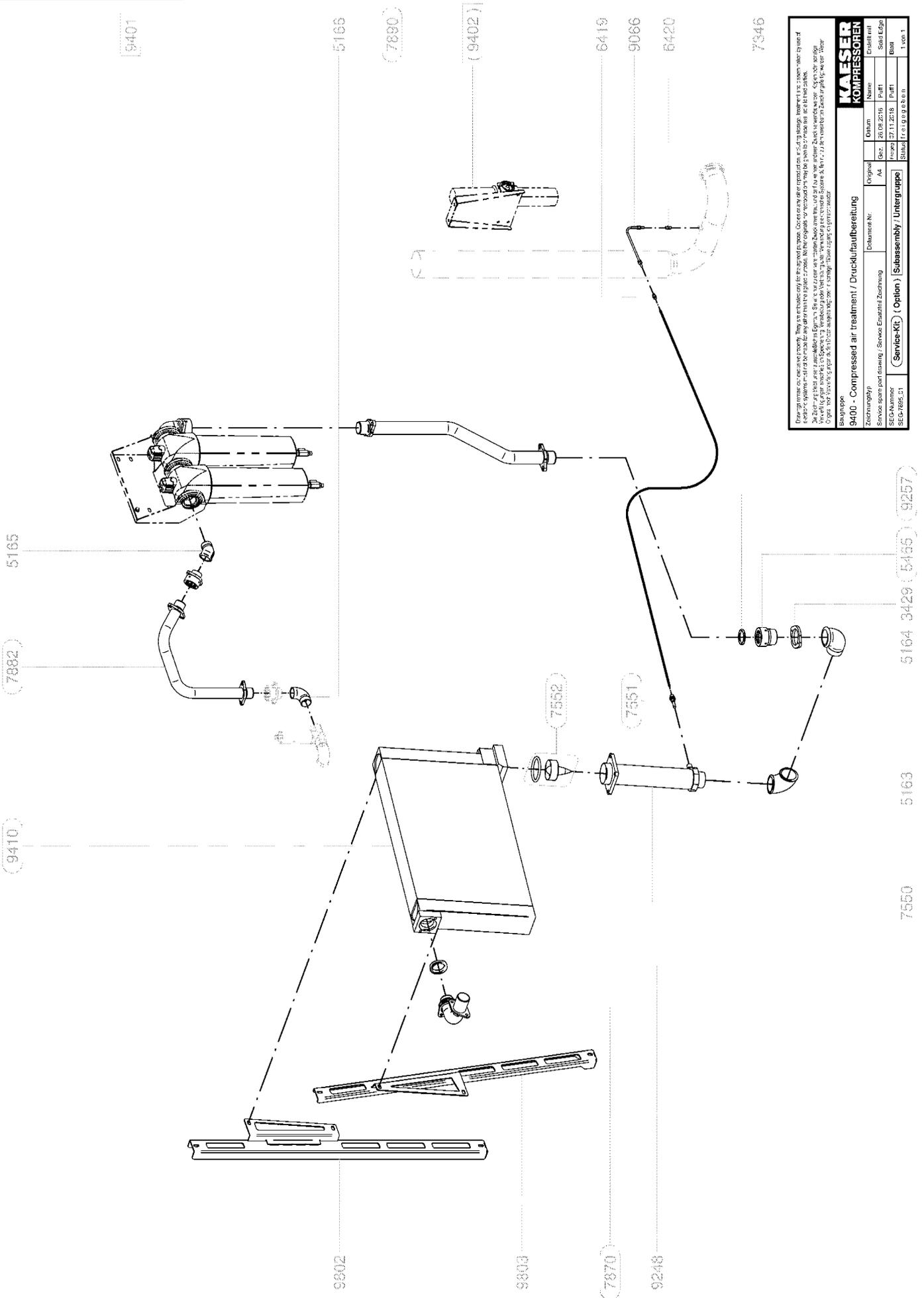
Bitte beachten Sie, dass die Ersatzteile nur für die originale Maschine geeignet sind. Die Verwendung von Ersatzteilen anderer Hersteller kann zu Schäden an der Maschine führen. Die Verantwortung für die Sicherheit der Maschine liegt bei dem Anwender. Die Ersatzteile sind nur für die originale Maschine geeignet. Die Verwendung von Ersatzteilen anderer Hersteller kann zu Schäden an der Maschine führen. Die Verantwortung für die Sicherheit der Maschine liegt bei dem Anwender.

Original: 17.11.2015
 Zeichnung: 17.11.2015
 Blatt: 1 von 1

9400 - Compressed air treatment / Druckluftaufbereitung

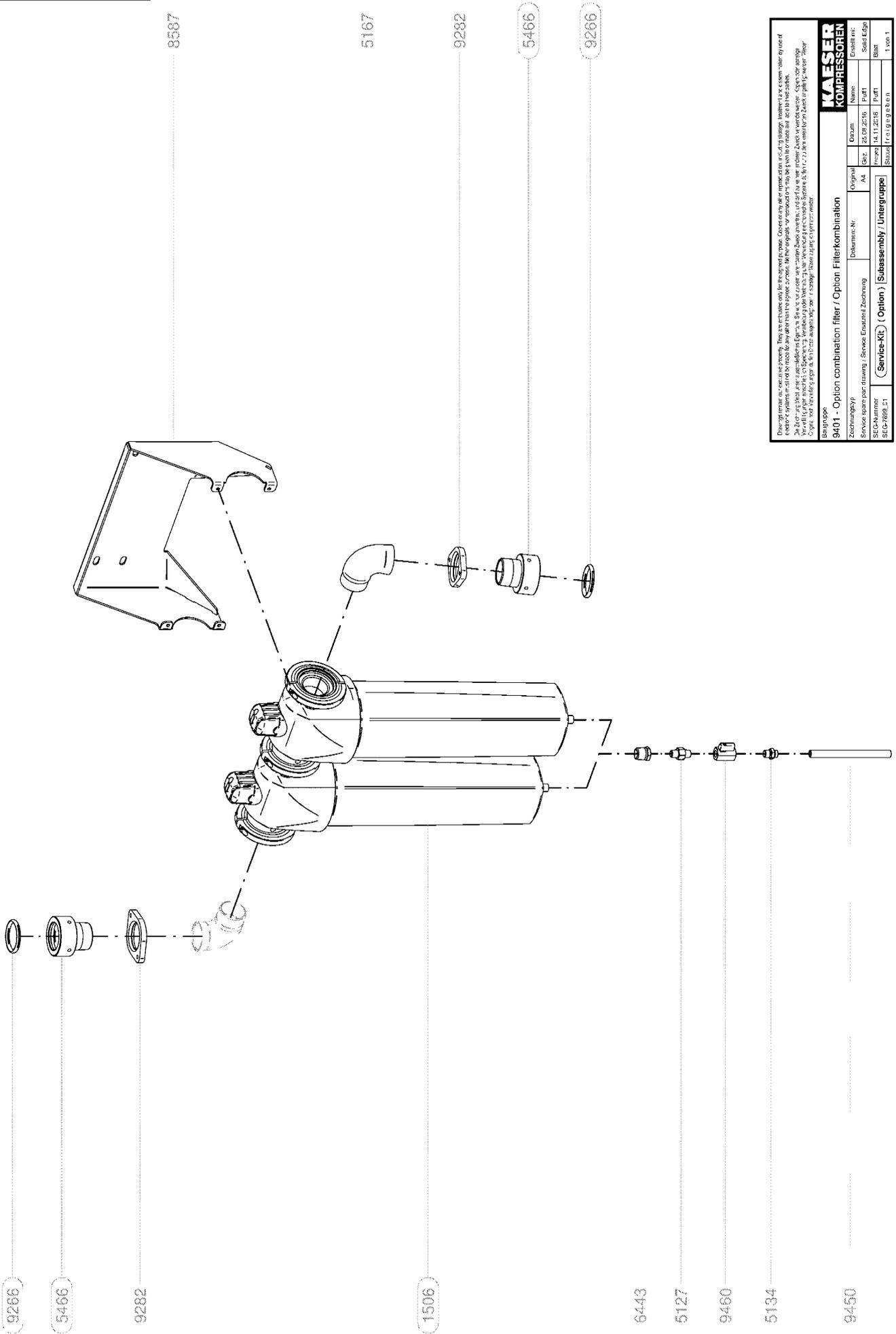
Zeichnungsart	Original	Name	Erstellt mit
Service spare part drawing / Service Ersatzteil-Zeichnung	Ad	9400 210	Part1
SECCANummer	Version	17.11.2015	Part1
SECCANummer	Blatt	1 von 1	Part1

(Service-Kit) (Option) / Subassembly / Untergruppe



Bitte eingetragene Marken beachten. This is not a technical drawing. Specifications are subject to change without notice. For more information, please contact your local KAESER representative. Die Zeichnung ist nicht als Ersatzteilzeichnung zu verstehen. Technische Änderungen sind ohne weiteres möglich. Für weitere Informationen wenden Sie sich an Ihren KAESER-Vertreter. Все детали являются товарными знаками. Технические характеристики могут измениться без предварительного уведомления. Для получения дополнительной информации обращайтесь к своему представителю KAESER.

Bezeichnung		Original		Datum	
9400 - Compressed air treatment / Druckluftaufbereitung		Dokument Nr.		18.08.2016	
Zeichnungsart		Name		Erstellt mit	
Sonder spare part drawing / Service Ersatzteilzeichnung		Ad		Solid Edge	
SECA-Nummer		Version		Blatt	
SEC-7695.01		17.11.2016		1 von 1	
(Service-Kit) (Option) / Subassembly / Untergruppe		Status		1 von 1	



KAESER KOMPRESSOREN

Original Name: Erweitert
 Datum: 26.08.2016
 Zeichnungs-Nr.: 14.11.2016
 Original: 14.11.2016
 Zeichnungszustand: 14.11.2016
 Original: 14.11.2016
 Zeichnungszustand: 14.11.2016

9401 - Option combination filter / Option Filterkombination

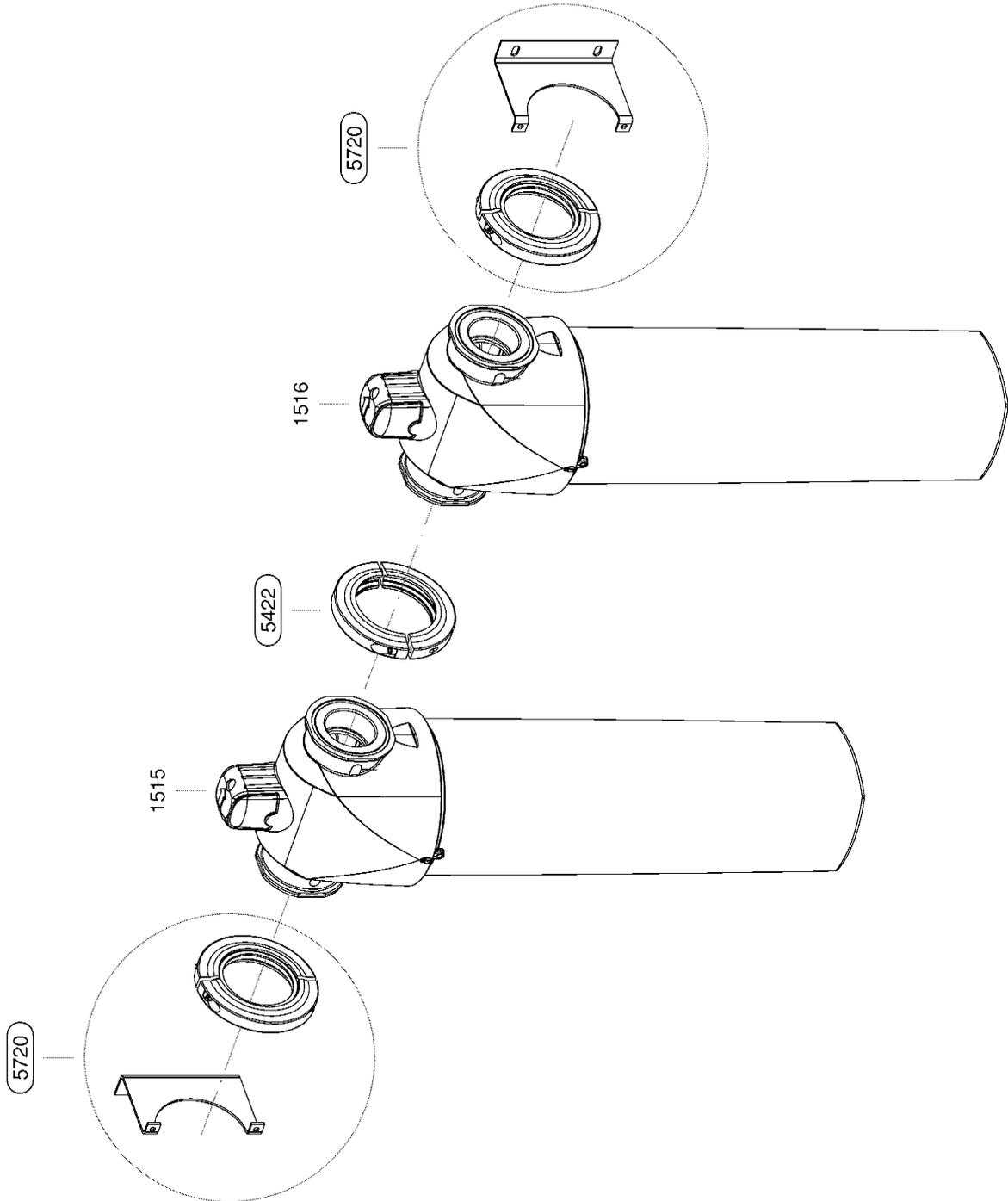
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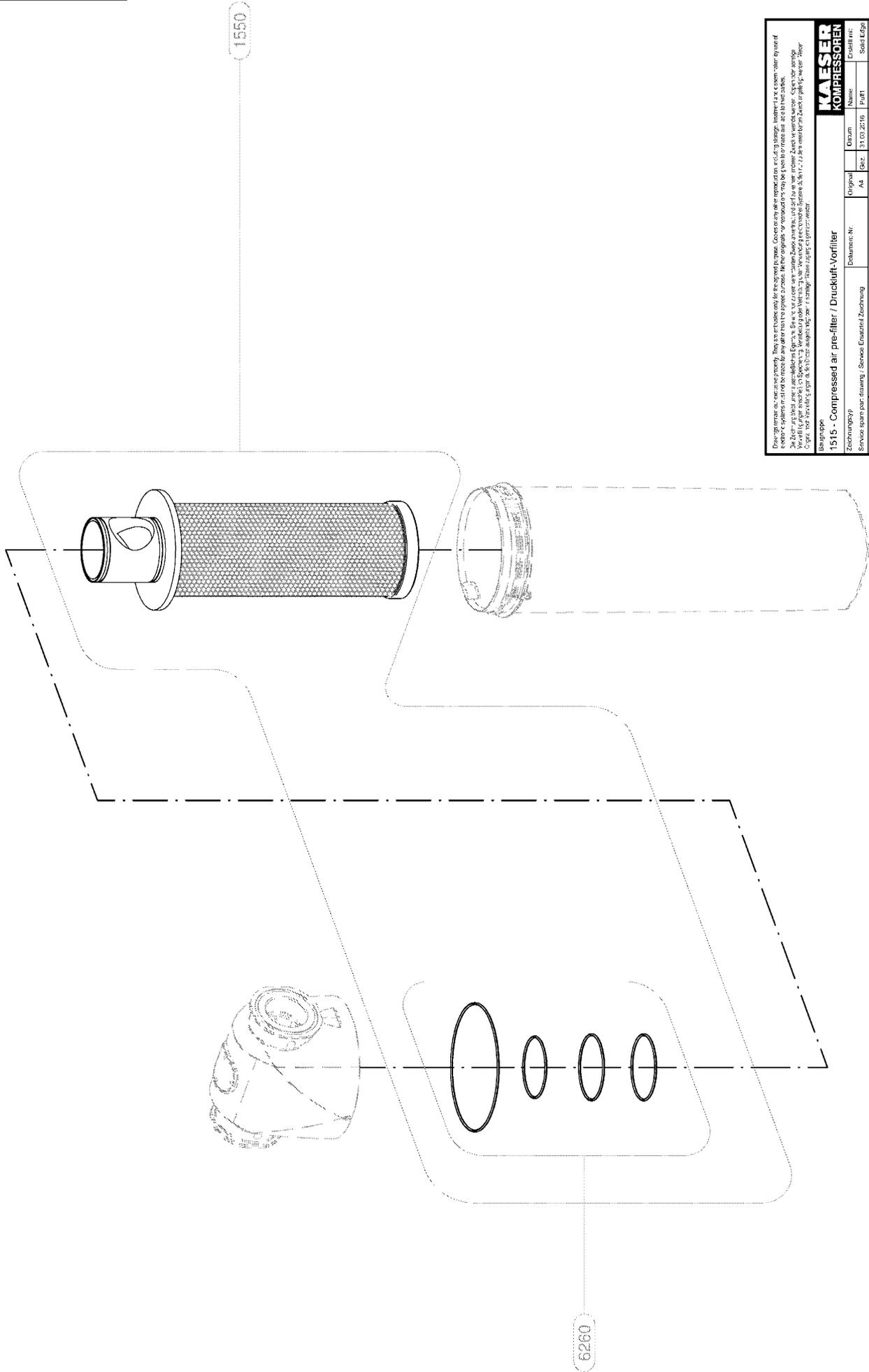
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 Datum: 26.08.2016
 Zeichnungs-Nr.: 14.11.2016
 Original: 14.11.2016
 Zeichnungszustand: 14.11.2016

Original Name: Erweitert
 Datum: 26.08.2016
 Zeichnungs-Nr.: 14.11.2016
 Original: 14.11.2016
 Zeichnungszustand: 14.11.2016

Service-Kit
(Option)

SEG-5736_01





KAESER KOMPRESSOREN

Original Name: Erteilt mit:
 Datum: 31.03.2016 Part: Solid Edge
 Zeichnungszahl: 11.03.2016 Part: Bsp
 Original Name: Erteilt mit:
 Datum: 31.03.2016 Part: Bsp
 Zeichnungszahl: 11.03.2016 Part: Bsp

1515 - Compressed air pre-filter / Druckluft-Vorfilter

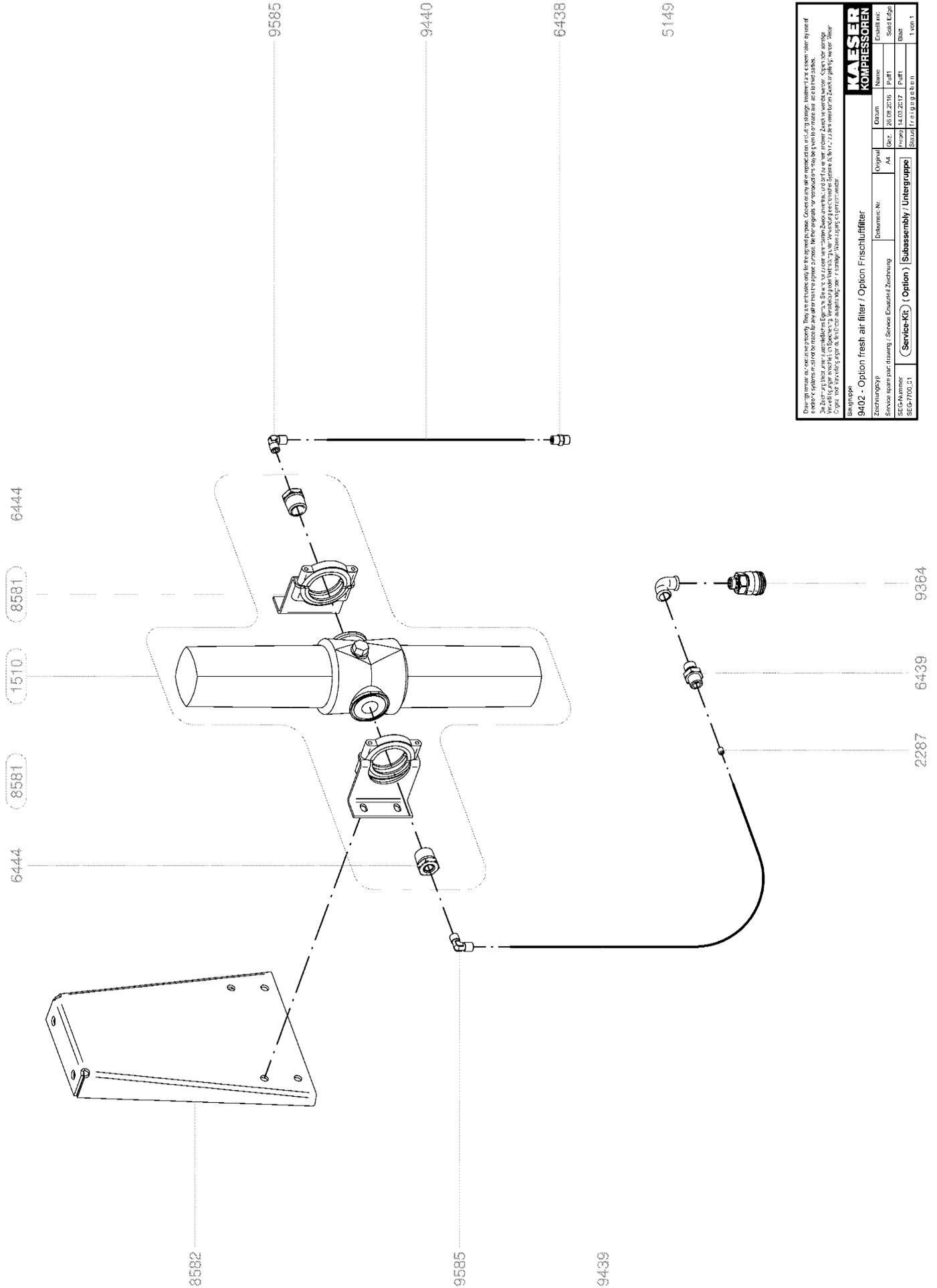
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 Datum: 31.03.2016 Part: Bsp
 Zeichnungszahl: 11.03.2016 Part: Bsp

1515 - Compressed air pre-filter / Druckluft-Vorfilter

Original Name: Erteilt mit:
 Datum: 31.03.2016 Part: Bsp
 Zeichnungszahl: 11.03.2016 Part: Bsp

1550

6260



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KOMPRESSOREN

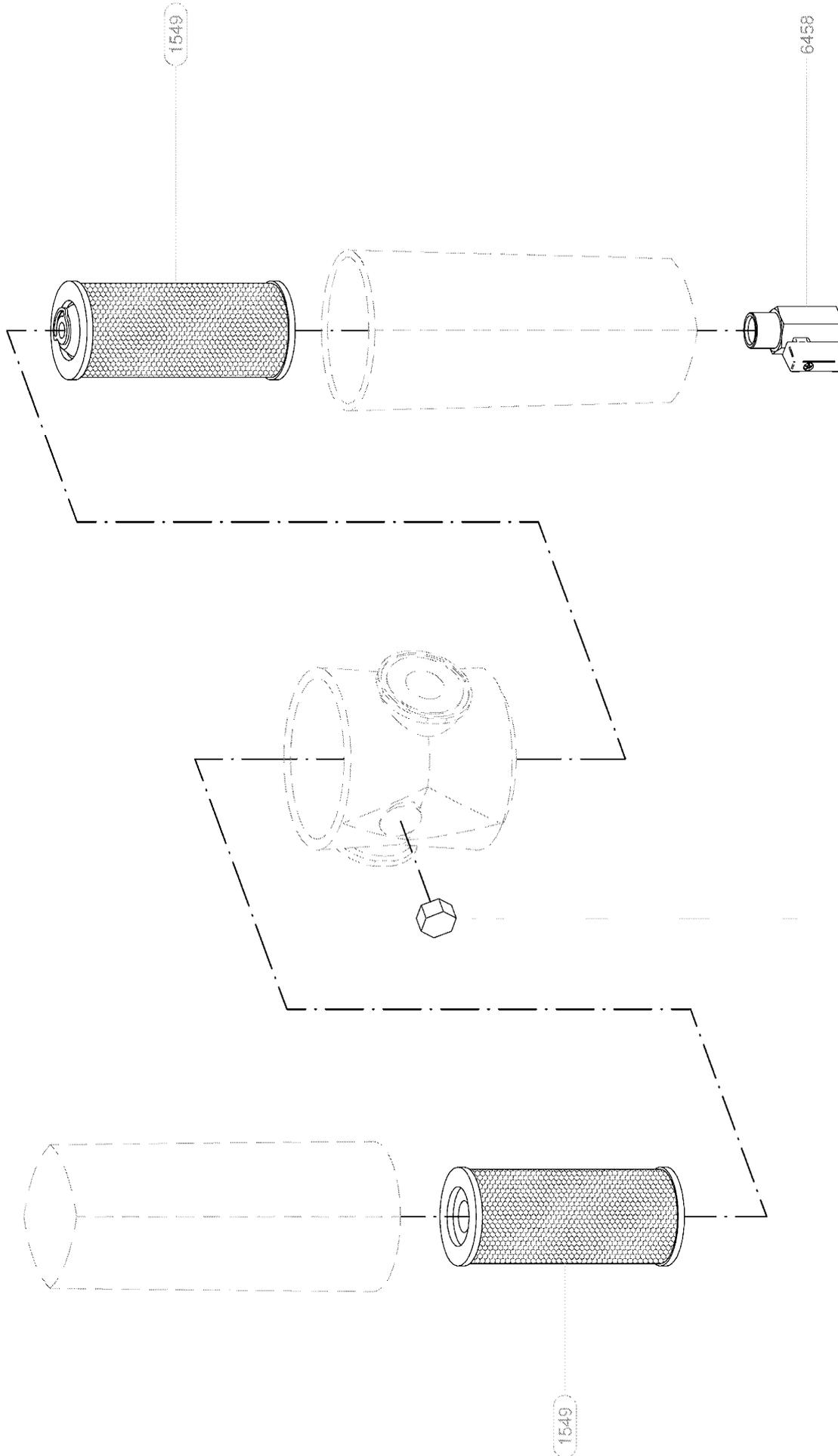
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 Datum: 18.08.2016 Part1
 Zeichnungs-Nr.: 9440
 Dokument-Nr.: 9440
 Erteilt am: 14.03.2017 Part1
 Erteilt von: BMB
 Erteilt durch: BMB

9402 - Option fresh air filter / Option Frischluftfilter

Zeichnungsgruppe: (Service-Kit) / Subassembly / Untergruppe

Blattgruppe: 1 von 1

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KAESER KOMPRESSOREN

1510 - Fresh air filter / Frischluftfilter

Bezeichnung: 1510 - Fresh air filter / Frischluftfilter
 Zeichnungs-Nr.: 1510
 Skizze: 18.07.2015
 Zeichnungs-Nr.: 1510
 Skizze: 18.07.2015
 Zeichnungs-Nr.: 1510
 Skizze: 18.07.2015

Original: 1510
 Ersatzteil-Nr.: 1510
 Skizze: 18.07.2015
 Zeichnungs-Nr.: 1510
 Skizze: 18.07.2015

Service-Kit (Option) / Untergruppe

1 von 1

7959

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. Disconnect the battery (the negative terminal first and then the plus terminal).
2. Close off the following openings with plastic foil and moisture-resistant adhesive tape.
 - Engine air inlet
 - Compressor air inlet
 - Exhaust silencer
3. Attach the following notice on the instrument panel showing the decommissioning measures taken.

Attention!

1. The machine is temporarily decommissioned.
2. The following machine openings have been covered:

- Engine air inlet
- Compressor air inlet
- Exhaust silencer

3. Recommission according to service manual.

Date / signature

Tab. 104 "Temporarily decommissioned" information notice

Decommissioning of the compressor for several weeks during severe frost

1. **NOTICE** *Danger of batteries freezing!*
Discharged batteries are subject to frost damage and can freeze at 14°F.
 - *Store batteries in a frost-free place.*
 - *Store batteries preferably fully charged.*

2. Remove the battery (batteries) and store in a frost-free room.
3. Make sure batteries are fully charged.

12.1.2 Long-term decommissioning and storage

Decommissioning the machine for 5 months or longer.

Material Receptacle
 Preserving oil
 Preservative
 Desiccant
 Plastic sheeting
 Moisture-resistant adhesive tape

- The following measures must be taken for long-term decommissioning and storage:

Long-term decommissioning and storage tasks	See chapter	Confirmed?
➤ Check engine coolant.	10.4.1	
➤ Drain the engine oil.	10.4.6	
➤ Drain the oil from the oil separator tank and the oil cooler.	10.5.3	
➤ Fill the separator tank and engine with preserving oil.	10.5.2 10.4.5	
➤ Run the machine for about 10 minutes to coat all parts with a protective oil film.	–	
➤ Disconnect the battery, the negative terminal first and then the plus terminal, and store in a frost-free room.	–	
➤ Check the battery fluid level.	10.10	
➤ Check the battery charge monthly and recharge if necessary to prevent the battery fluid freezing.	–	
➤ Clean the battery terminals and coat with acid-resistant grease.	–	
➤ Close the compressed air outlet valves.	–	
➤ Use plastic sheeting and moisture-resistant adhesive tape to seal off the following openings: <ul style="list-style-type: none"> ■ Engine air inlet ■ Compressor air inlet ■ Exhaust silencer 	–	
➤ Clean the bodywork and treat with preservative.	–	
➤ Hang a notice on the instrument panel to inform of the decommissioning measures taken.	–	

Tab. 105 Long-term decommissioning and storage checklist

- Attach the following notice on the instrument panel to inform of the decommissioning measures taken.

Attention!

1. The machine is decommissioned.
2. It is filled with preserving oil.
3. For recommissioning:
 - Take measures for recommissioning the compressor after a long period of storage.
 - Recommission according to service manual.

Date / signature

Tab. 106 Text for the long-term decommissioned and storage information notice

- Store in a dry place with constant temperatures.

12.2 Transport

Precondition Machine is switched off and locked off.
 The machine is fully vented, the pressure gauge reads 0 psig.
 The machine is cooled down.
 All compressed air consumers are disconnected.
 All connecting lines and hoses disconnected and removed.
 Any loose or movable parts that could fall off when transporting are removed or secured.

12.2.1 Safety



Allow transport only by personnel trained in safely dealing with motor vehicles and the transport of goods.

1. **⚠ WARNING** *There is danger of being run over or crushed by an overturning vehicle! Death or serious injury can result from being crushed or run-over by a machine under tow.*
 - *Riding on the machine while it is transported is strictly forbidden.*
2. Make sure the danger area is clear of personnel.

12.2.2 Transporting the machine as trailer

- Note the instructions in the separate document "Chassis Operating Manual" regarding the topic "transport of the machine as trailer".

12.2.3 Transporting the machine by crane

Precondition The machine is standing firm and level.
 The machine is switched off.
 The machine has cooled down.

Additional precautions for snow and ice:

Significant snow or ice build-up can occur on the machine when operating in winter conditions. This may adversely affect the machine's centre of gravity (tilting). This may cause the permissible load of the crane and machine hoists to be exceeded.

- Carry out the following preliminary tasks in conditions of snow and 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.

Perform the following tasks prior to moving the machine by crane:

A lifting eye is provided for transportation by crane. The lifting eye is located beneath a lift-up cover plate in the centre of the enclosure.



Risk of falling!

For mobile machines, climbing aids (steps) must be used to safely reach the crane lifting eye!

Wear clean safety footwear!

Climbing onto the roof of the machine is prohibited!

1. **⚠ CAUTION** *Hot components in the machine interior!*
 - Allow the machine to cool down sufficiently.
2. **⚠ CAUTION** *Damage to the machine from jolting during lifting!*
Danger of components breaking.
 - Lift the machine carefully.
3. Unlock the lifting eye cover and lift up.
Unlocking:
 - either from inside using built-in hand lever
 - or from outside using a control cabinet key
4. Position the crane hook vertically above the lifting eye.
5. Engage the crane hook in the eye.
6. Close and lock the access doors.
7. Lift and move the machine slowly and carefully.

Take note when setting down the machine:

1. **📌 NOTICE** *Incorrect setting down can damage the machine!*
Machine components, particularly the chassis, can be damaged by incorrectly setting down the machine.
 - Set the machine down carefully.
 - Do not set down unevenly.
2. Set the machine down slowly and carefully.
 1. Disengage the crane hook.
 2. Press the lifting eye cover down and close. Make sure it locks into place.

12.2.4 Option rw Transporting the machine by forklift

Only stationary machines with skid-type frames may be lifted and locally transported with a forklift truck. Stationary frame-version machines specified with optional skids are equipped with two lifting pockets into which two lifting forks can be inserted.

Precondition A suitable forklift (appropriate for the weight of the machine) is available.
The machine is switched off.
All connecting lines and hoses disconnected and removed.

⚠ CAUTION

*Incorrect lifting with a forklift can damage the machine!
The machine may fall or be damaged by the lifting forks.*

- *Only machines equipped with lifting pockets may be lifted with the forklift.*
- *Do not use a forklift on portable machines or stationary machines with base frame (option rx).*
- *Lift the machine only from the side using the lifting pockets.*

Option rw

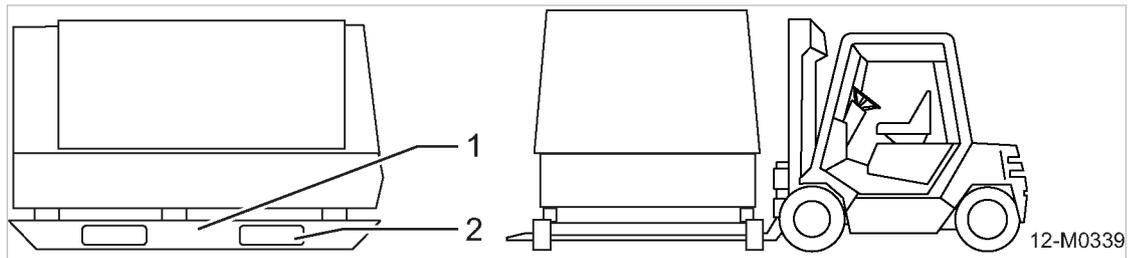


Fig. 81 Transporting using a forklift truck

- ① Skid
- ② Lifting lugs

- Follow all instructions carefully.
- 1. Close and lock the doors.
- 2. Position the forklift truck to the side of the machine with the forks lined up with the lifting pockets.
- 3. Push the full length of the lifting forks into the lifting pockets.
The lifting forks are fully under the machine.
- 4. Carefully raise and transport the machine.

12.2.5 Transporting the machine as a load

The transportation method determines the way in which the machine is packed and the load secured.

Packing and securing methods must be selected that will ensure the load arrives in perfect condition if handled properly.

Additional measures must be taken for the transportation of machines by sea or air. Please contact an authorised KAESER SERVICE agent for more information.

Material Chocks
Stop blocks or squared timbers
Bracing (tensioning straps)

Notes on securing loads:

- National directives and regulations for the securing of loads during transportation must be adhered to.
 - The load must be secured in such a manner that it cannot slide, fall, roll or cause avoidable noise in case of emergency braking or sudden turns. Recognised technical regulations should be observed (e.g. in Germany: VDI Directive 2700 ff).
 - Responsibility for proper securing of the load rests with the driver, owner and carrier.
1. **NOTICE** *Bracing or tensioning straps can damage the bodywork! Forces of movement during transportation can cause damage to the bodywork.*
 - Do not use bracing or tensioning straps over the bodywork.
 - Only attach bracing or tensioning straps using the lashing points welded to the base frame of the machine.
 2. Always observe the applicable accident prevention and safety regulations during transportation.
 3. Loads must be secured against rolling, tipping, slipping and falling.



Contact KAESER SERVICE with any questions regarding transport or securing loads. KAESER accepts no liability and provides no warranty for damage arising from improper transportation or insufficient/incorrect load securing. When transporting machines for the purposes of loans, rentals and trade shows, any transportation safety devices used for the delivery must also be used for the return transport.

Load securing:



The following instructions are intended only as an example for securing a machine as a load. Responsibility for proper securing of the load rests with the driver, owner and carrier.

Use chocks, stop blocks or squared timbers to secure the load.

Precondition The load bed must be suitable for the transportation (maximum load) and securing of the machine
The surface of the load bed must be swept, clean and dry
Tensioning straps must be free from damage and in working order

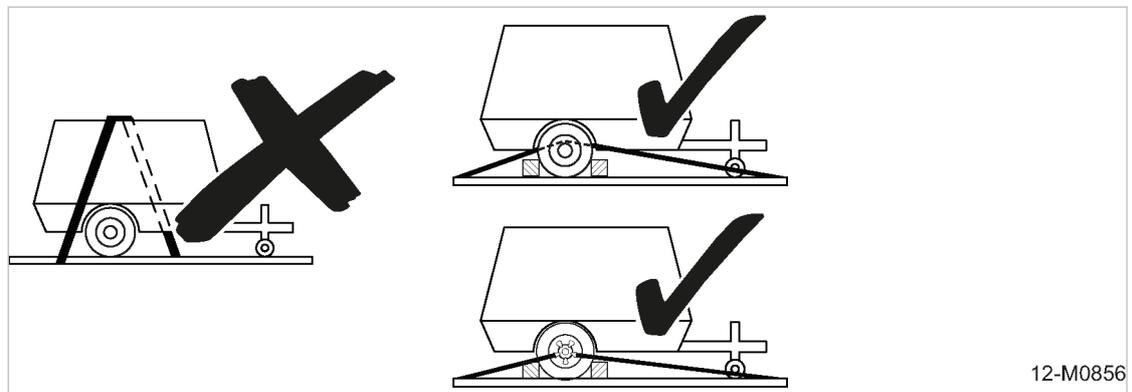


Fig. 82 Bracing to secure the load

12-M0856

1. Use a crane or forklift to place the machine in the centre of the load bed.
2. Apply the parking brake.
3. Position a squared timber in front of and behind the wheels to secure mobile machines against rolling.
4. Position a suitable squared timber by the jockey wheel beneath the drawbar tube to protect the jockey wheel against overloading.
5. Crank in the automatic jockey wheel to the stop point.
6. Fasten the machine with tensioning straps to the load bed of the vehicle:
7. Tension the straps.

The machine is secured against sliding, tipping over and rolling for transportation as a load.



The tension of the straps must be checked during transportation and retightened if necessary.

Before shipment as air freight:

The machine must be designated as hazardous goods for air freight purposes. Non-compliance may result in severe penalties!

1. **⚠ WARNING** *Risk of fire or explosion from operating fluids/materials!*
The machine is equipped with a combustion engine.
 - *Any dangerous fluids/materials contained within the machine must be removed before transportation by air.*
2. Remove all dangerous fluids/materials.
These include:
 - Residues of fuel and fuel vapours.
 - Lubricants in the engine and compressor.
 - Electrolyte in rechargeable batteries.
 - Residues of reduction agents (Exhaust gas after-treatment)

12.3 Storage

Moisture can lead to corrosion, particularly in the engine, 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 KAESER 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 batteries must be removed and delivered to a designated disposal system. Substances that are harmful to living things and the environment can thus be removed and disposed of efficiently or reprocessed. In particular, this procedure facilitates the recycling of batteries.

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 authorised disposal agent.

Overview:

- Remove all batteries.
 - Drain all operating fluids.
 - Drain the condensate.
 - Remove used filters/filter elements.
 - Deliver the machine to an authorised disposal agent.
- Follow all instructions carefully.

12.4.1 Removing the batteries

Overview:

- Remove the batteries
 - Dispose of batteries in accordance with environmental regulations
1. Observe the safety instructions for handling batteries.
 2. Observe the safety signs on the battery.

Further information When handling batteries, observe the specific safety rules and safety signs, see chapter 10.4.9.

- Remove all starter batteries from the internal combustion engine.

Disposing of batteries in accordance with environmental regulations:

Batteries contain substances that are harmful to living things and the environment. For this reason, batteries must not be disposed of with unsorted municipal waste.

Disposal facilities may be local recycling centers for used electrical devices and electronic waste, or the original points of sale.

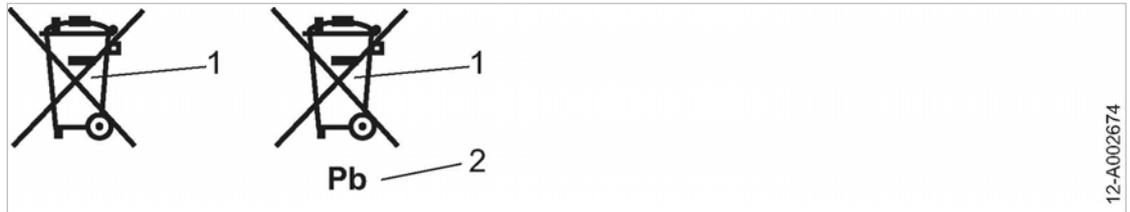


Fig. 83 Battery labelling

- ① Do not dispose of battery with municipal waste
- ② Battery contains lead (if applicable)

1. Observe national disposal regulations!
2. Deliver batteries to the designated disposal system.



You actively contribute to the protection of the environment when you take used batteries to the designated disposal system.

12.4.2 Draining operating fluids



To prevent it from accidentally igniting, always drain the fuel when working on the interior of the machine.

Material Receptacle
Cleaning cloth

- Drain and collect the following operating fluids from your machine.

Designation	Engine	Compressor
Fluid	Fuel	Cooling oil
	Engine oil	
	Coolant	
	Reduction agent Exhaust gas after-treatment (e.g. DEF)	

Tab. 107 Machine fluids



Dispose of operating fluids and working materials and components contaminated with them in accordance with applicable environmental protection regulations.

12.4.3 Draining condensate

Material Receptacle
Cleaning cloth

1. Check compressed air options with condensate separation.
2. Drain and collect any residual quantities of condensate.



Dispose of any residual quantities of condensate and contaminated working materials in accordance with applicable environmental protection regulations.

12.4.4 Removing filters/filter elements

Material Cleaning cloth
 Receptacle

1. Remove all filters/filter elements from the machine.

Designation	Engine	Compressor
Filters/filter elements	Air filter insert	Air filter insert
	Engine oil filter	Oil filter
	Fuel prefilter (filter cartridge at the water separator)	Oil separator cartridge
	Fuel filter	
	Venting filter	
	Fuel tank	

Tab. 108 Machine filters/filter elements

2. Remove all filter elements from the compressed air options specified on the machine.

Designation	Option dd: Filter combination	Option dc: Fresh air filter
Filters/filter elements	Prefilter	Adsorption filter
	Fine filter	High-performance filter

Tab. 109 Machine option filters/filter elements



Dispose of working materials and components contaminated with operating fluids in accordance with applicable environmental protection regulations.

12.4.5 Disposing of the machine

Precondition All batteries have been removed and delivered to the designated disposal system.
 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 Marking

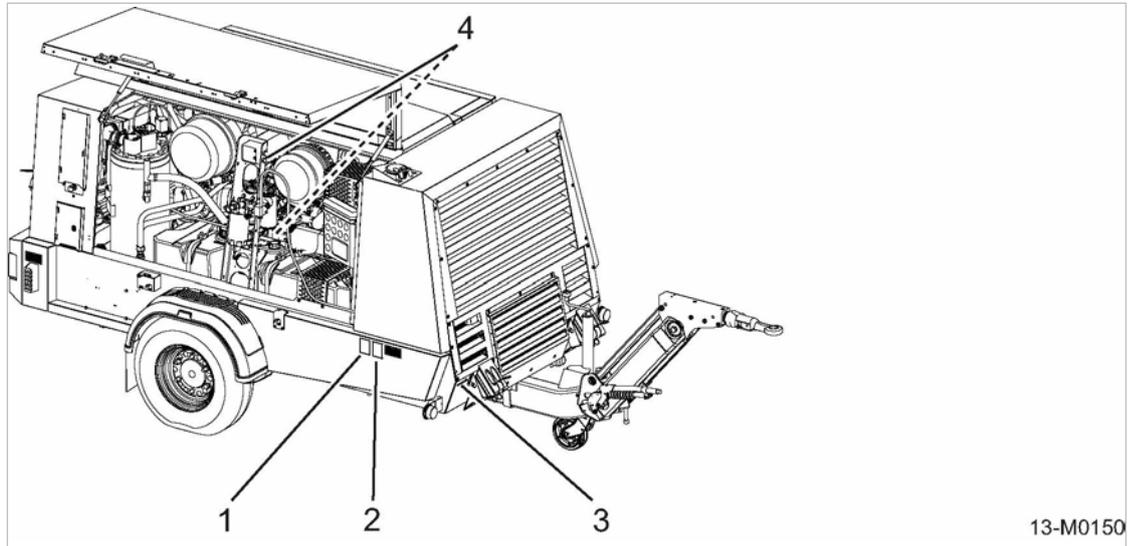
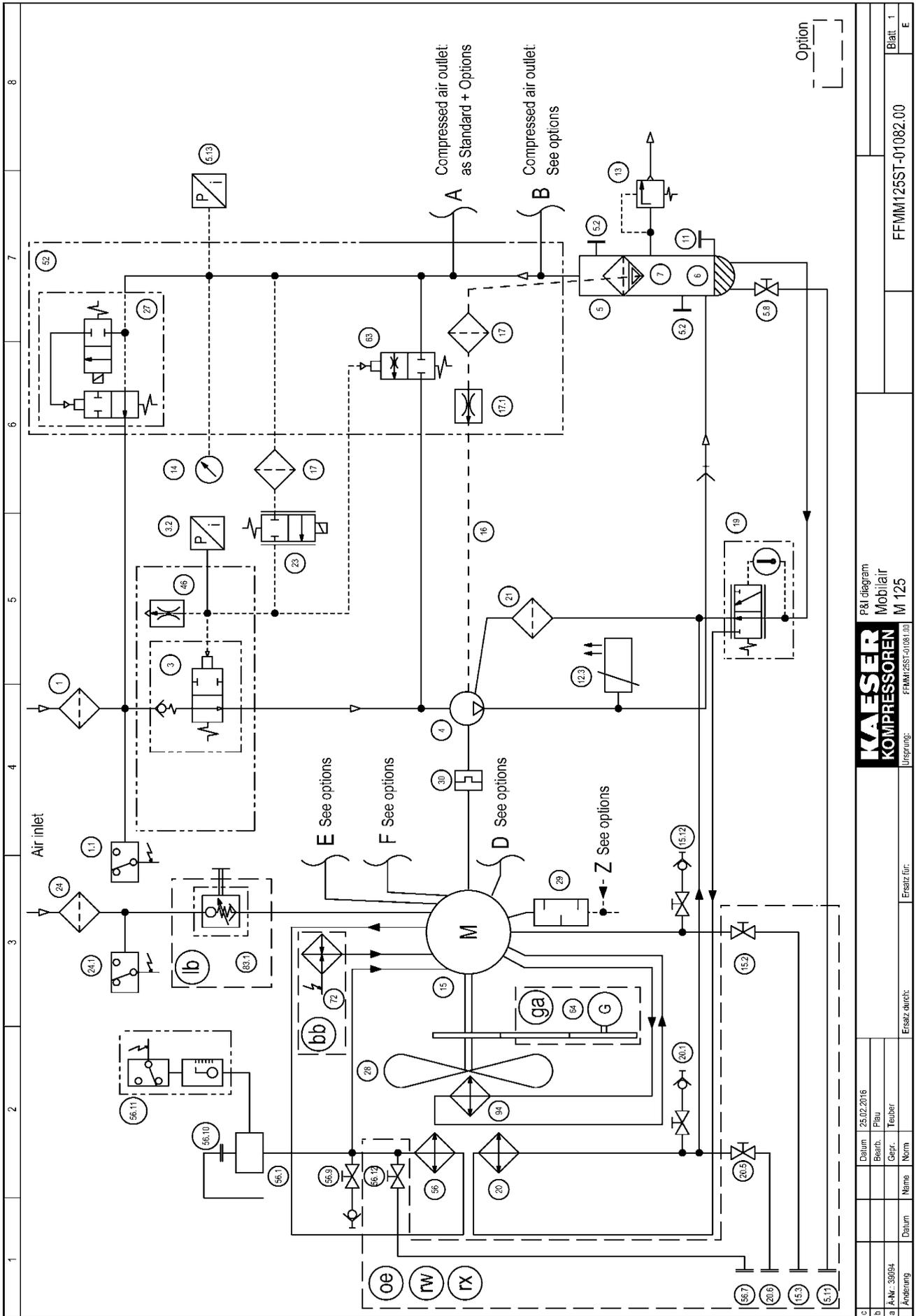


Fig. 84 Marking

- | | | | |
|---|---|---|--|
| ① | Options label | ③ | VIN *) (stamped in the bodywork) |
| ② | Machine nameplate with system serial number | | * Vehicle identity number |
| | | ④ | Engine nameplate with engine serial number |

13.2 Pipeline and instrument flow diagram (P+I diagram)

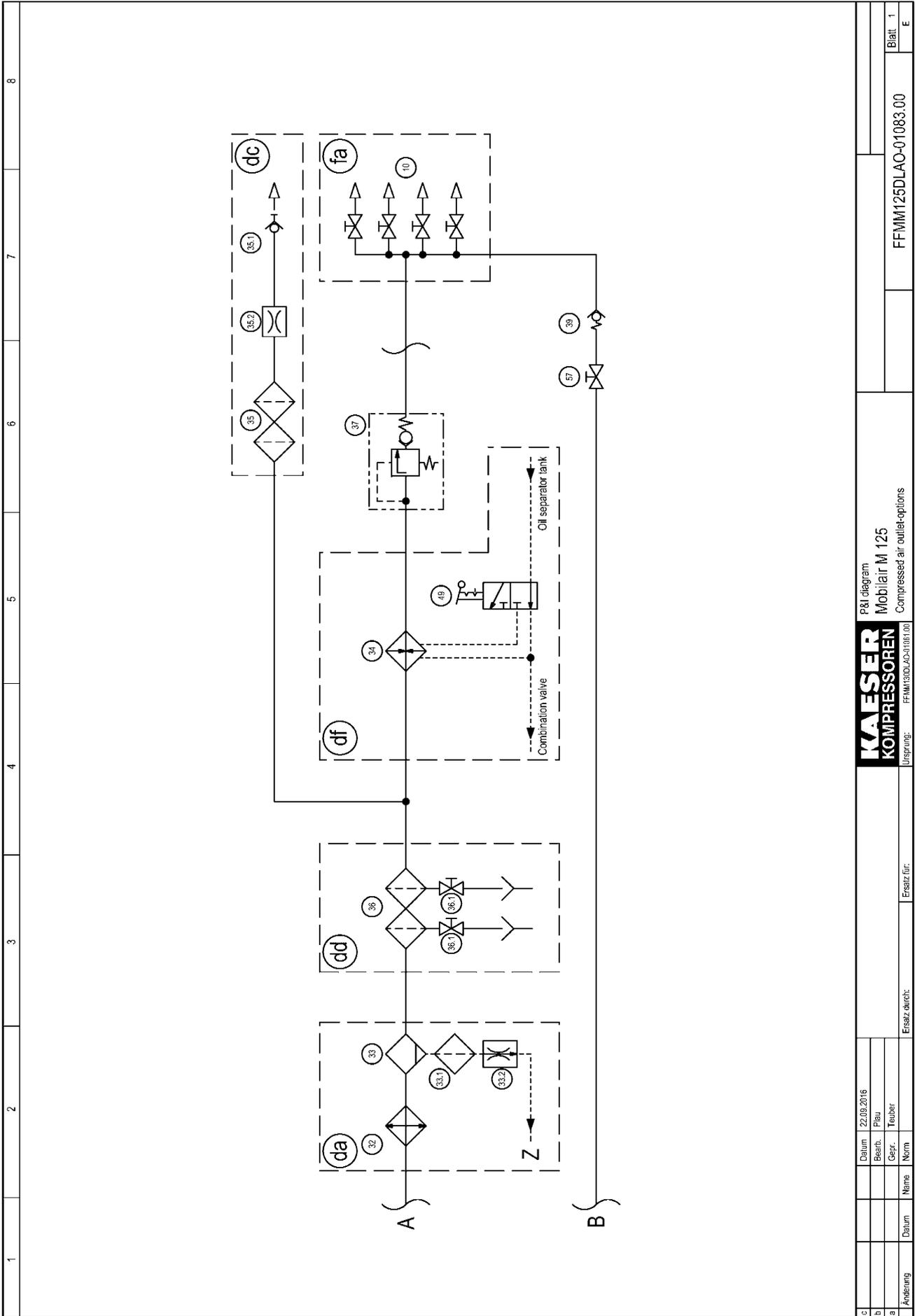


P&I diagram
Mobilair
M 125
Ursprung: FFM125ST-01082.00

Änderung	Datum	Name	Norm	Trainer	Ersatz für:	Ersatz durch:
a	A-Nr. 391094					
b	Datum					
c	Datum	25.02.2016		Flau		

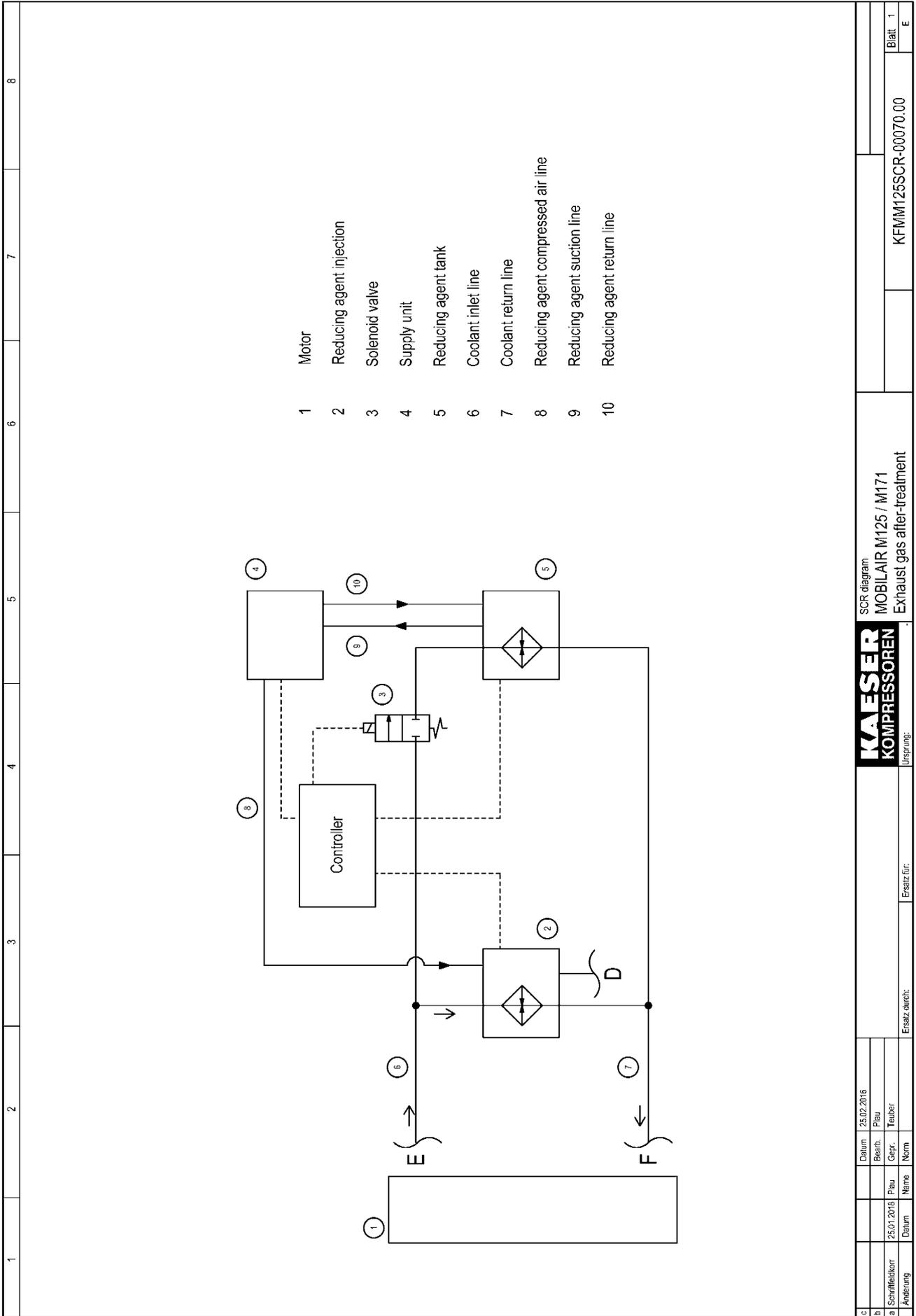
FFMM125ST-01082.00

Blatt 1
E



c	Datum	22.05.2016	P&I Diagram		FFMM125DLAC-01083.00		Blatt 1
b	Bearb.	Plau	Mobilair M 125				E
a	Gepr.	Teuber	Compressed air outlet-options				
Änderung	Datum	Name	Ersetzt durch:	Ursprung:			
				FFMM125DLAC-01083.00			

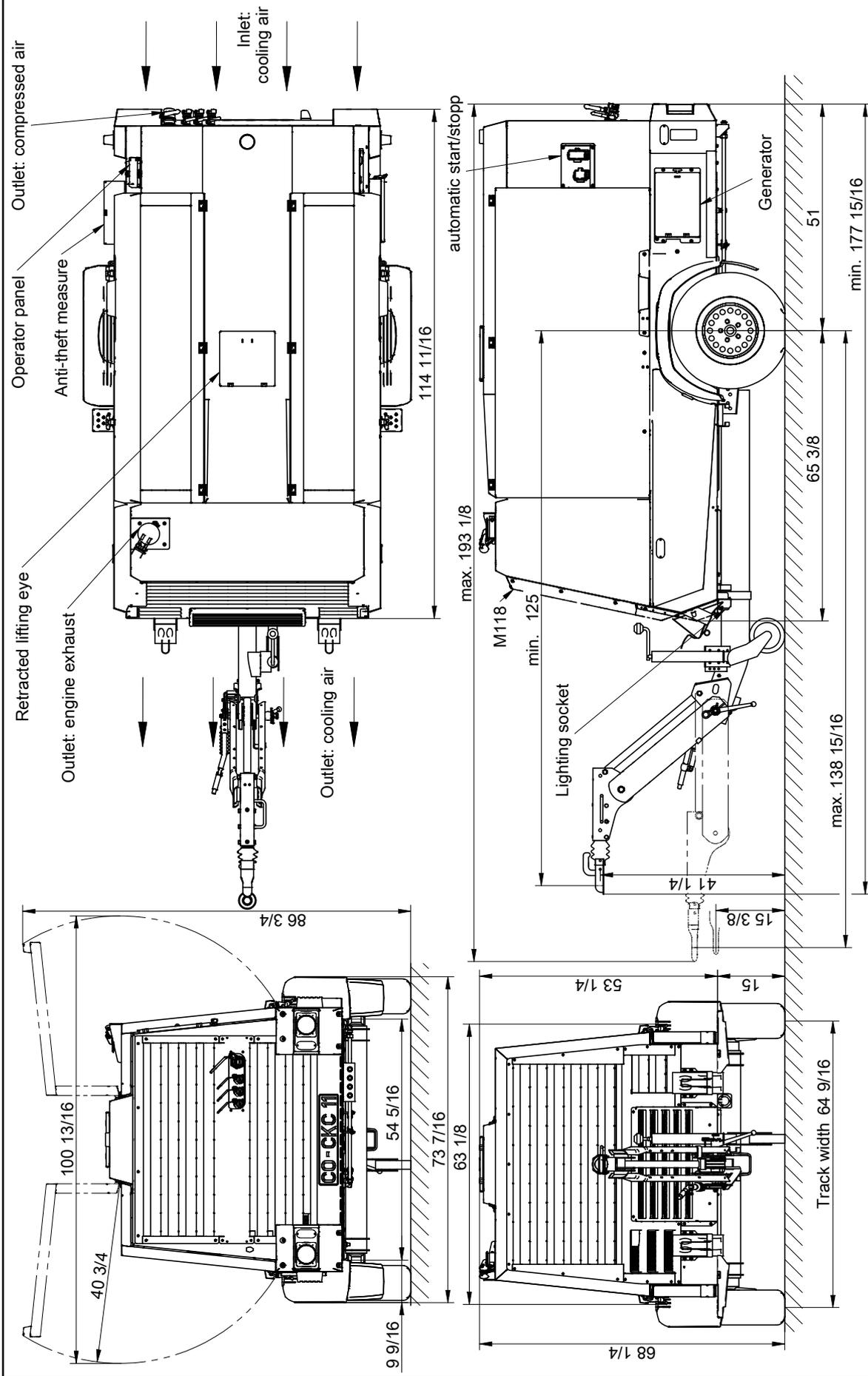
**13.2.1 Option Id
Pipeline and instrument flow diagram (exhaust treatment)**



13.3 Dimensional drawings

13.3.1 Option rb/rk/rm/rs Dimensional drawing – chassis

- Option rb - Chassis, EU type
- Option rk - Chassis with low axle load
- Option rm - Chassis with height adjustment
- Option rs - Chassis with overrun brake



Change number		Projection	Scale	Date	Name
45077			1:20	26.09.2018	JAEGERS
Document TZM			Original	14.12.2018	CLAUS1
10335970 USE 02			A3	Released	14.12.2018
Document TZD			Designation		
10335970 D 02			M 118/125 1900 rb rk rm rs		
Status			Dimension and connection dim.		
Released					

rk	Low axle load
rm	With height adjustment
rs	With overrun brake
rb	EU chassis

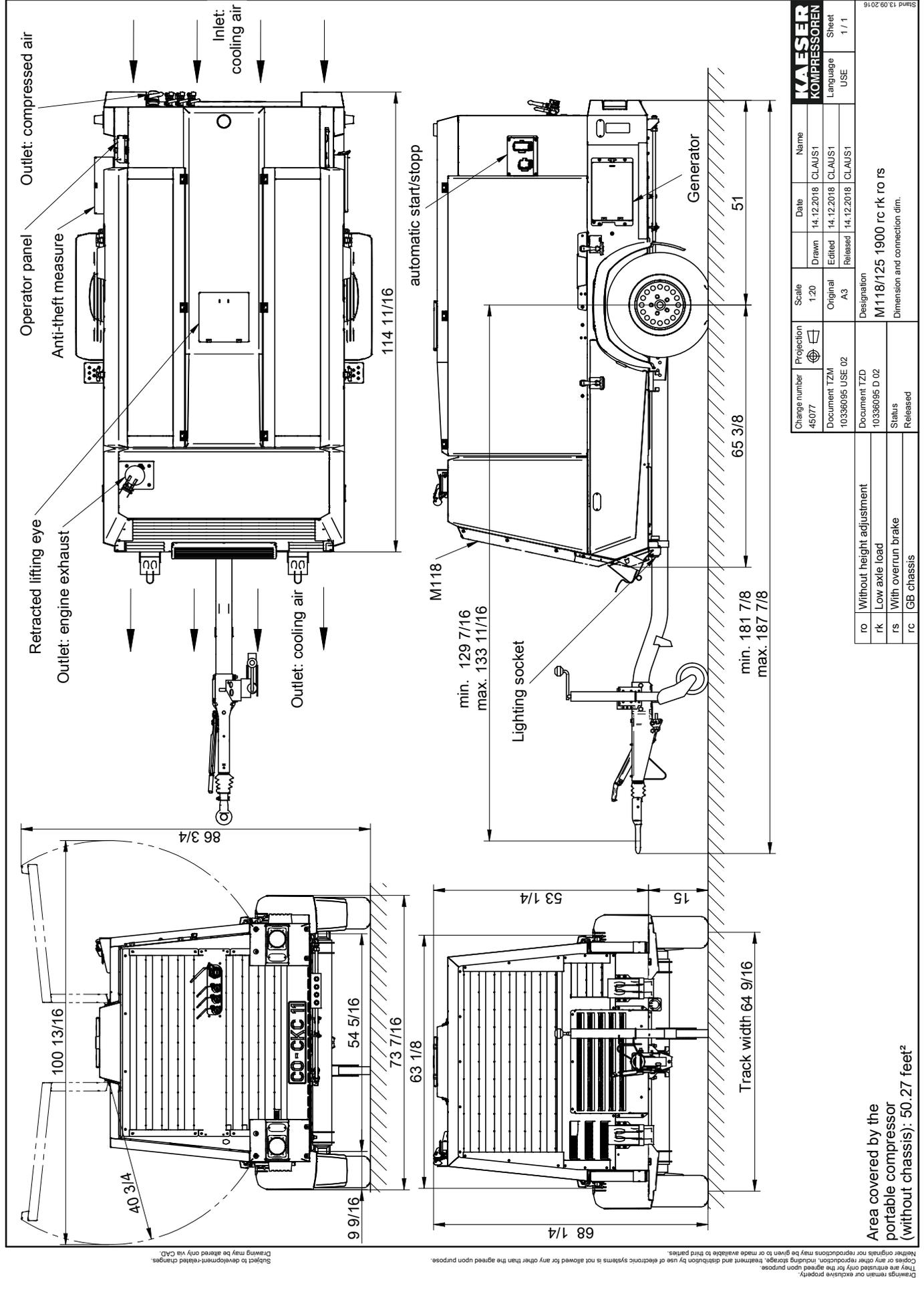
Area covered by the portable compressor (without chassis): 50.27 feet²

Subject to development-related changes. Drawing may be altered only via CAD.

Drawings remain our exclusive property. Neither originals nor reproductions may be given to or made available to third parties. Copies or any other reproductions, including storage, treatment and distribution by use of electronic systems is not allowed for any other than the agreed upon purpose. The file is intended only for the agreed upon purpose.

13.3.2 Option rc/rk/ro/rs
Dimensional drawing – chassis

- Option rc - Chassis, GB type
- Option rk - Chassis with low axle load
- Option ro - Chassis without height adjustment
- Option rs - Chassis with overrun brake

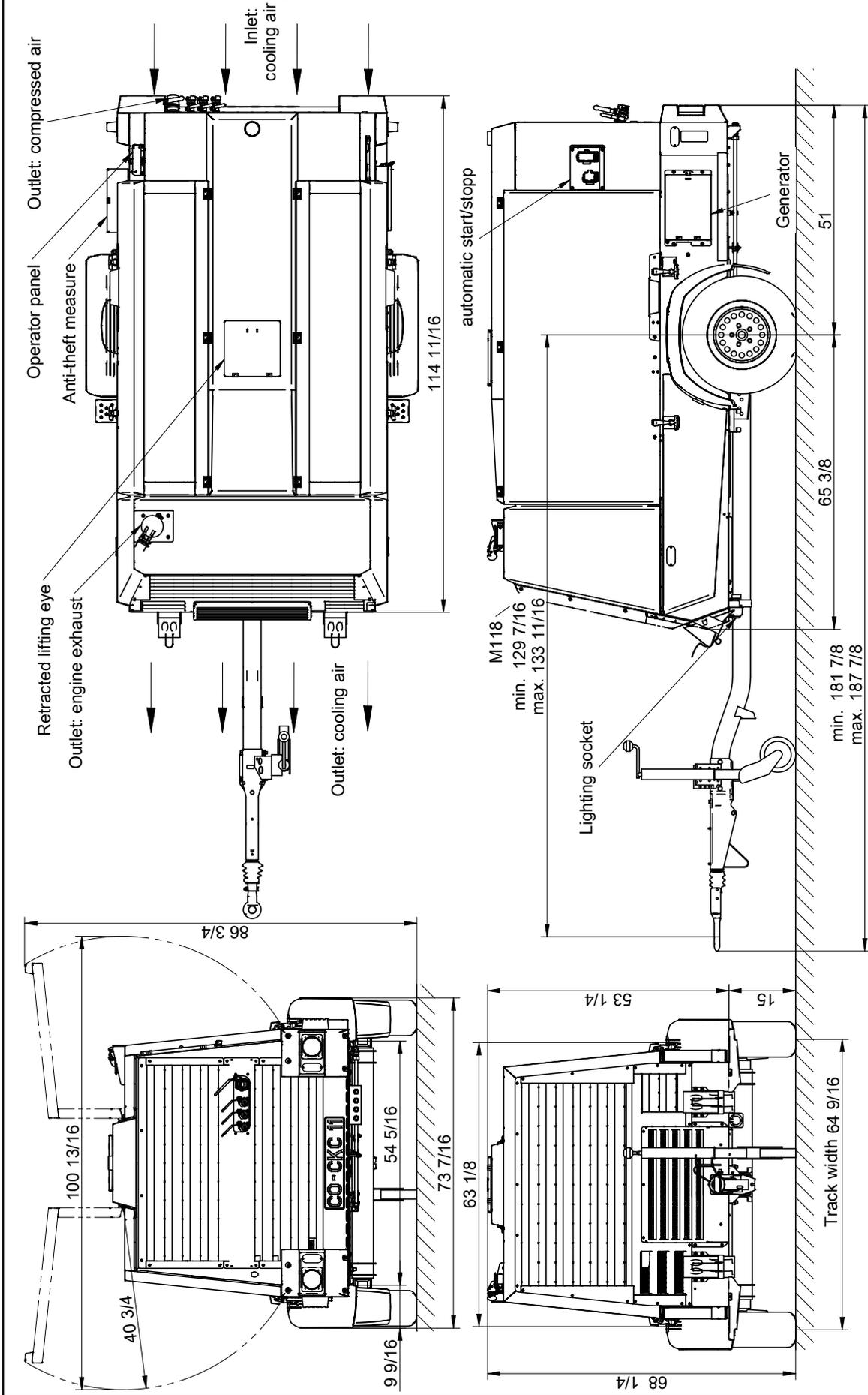


Change number		Projection	Scale	Date	Name
45077		1:20	14.12.2018	CLAUS1	
Document TZM		Original	Edited	Released	Designation
10336095 USE 02		A3	14.12.2018	CLAUS1	M 118/125 1900 rc rk ro rs
Document T2D		Status		Released	
10336095 D 02		Released		Dimension and connection dim.	
ro	Without height adjustment				
rk	Low axle load				
rs	With overrun brake				
rc	GB chassis				

Area covered by the portable compressor (without chassis): 50.27 feet²

13.3.3 Option rd/rk/ro/rs
Dimensional drawing – chassis

- Option rd - Chassis, US type
- Option rk - Chassis with low axle load
- Option ro - Chassis without height adjustment
- Option rs - Chassis with overrun brake



Change number		Projection	Scale	Date	Name
45077			1:20	14.12.2018	CLAUS1
Document		Document	Original	Edited	Released
10336146 USE 02		TZM	A3	14.12.2018	CLAUS1
Document		Document	Designation		
10336146 D 02		TZD	M 118/125 1900 rd rk ro rs		
Status		Dimension and connection dim.			
Released					

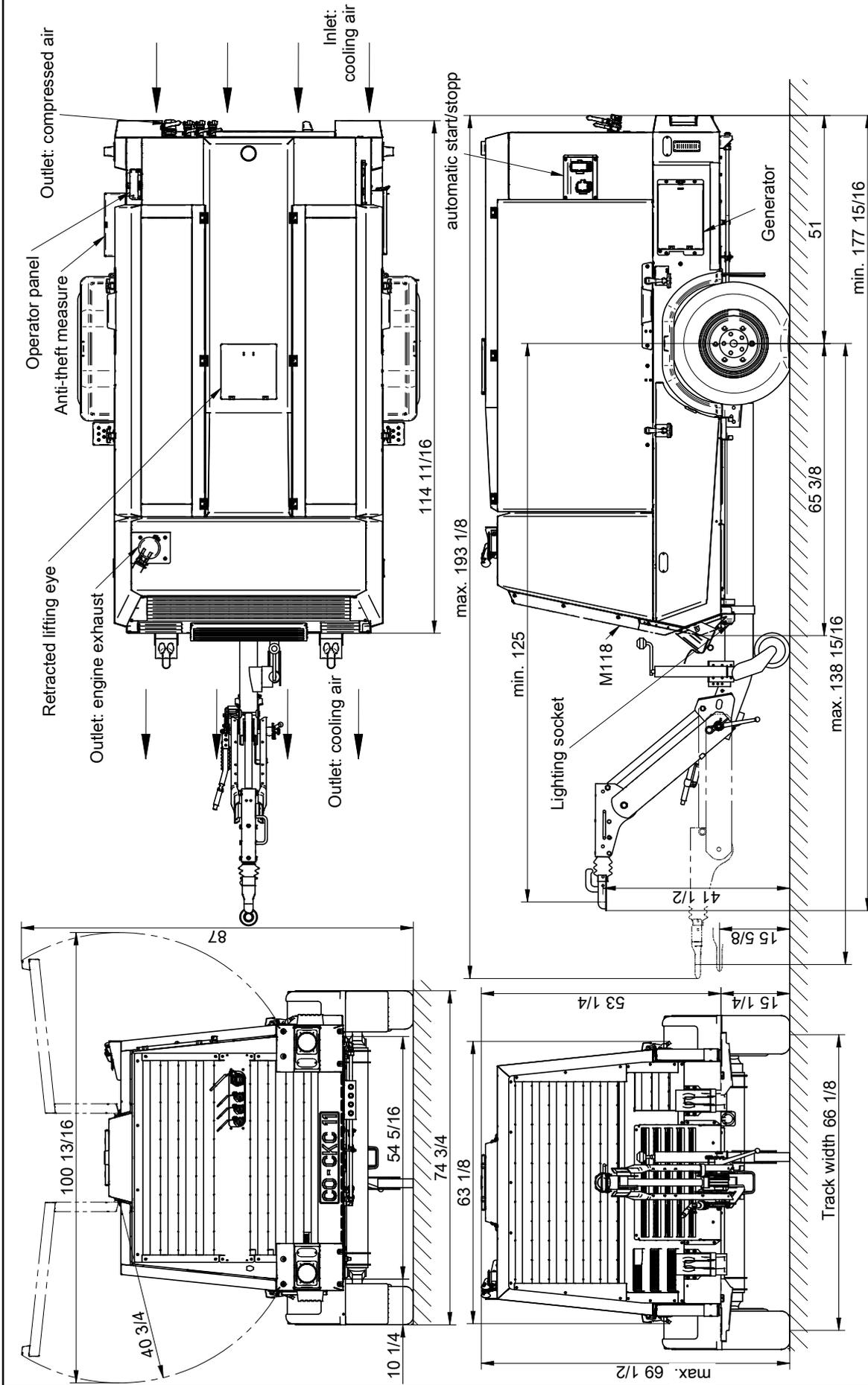
ro	Without height adjustment
rk	Low axle load
rs	With overrun brake
rd	US chassis

Area covered by the portable compressor (without chassis): 50.27 feet²

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13.3.4 Option rb/rl/rm/rs Dimensional drawing, chassis options

- Option rb - Chassis EU version
- Option rl - Chassis with higher axle load
- Option rm - Chassis with height-adjustable towbar
- Option rs - Chassis with overrun brake



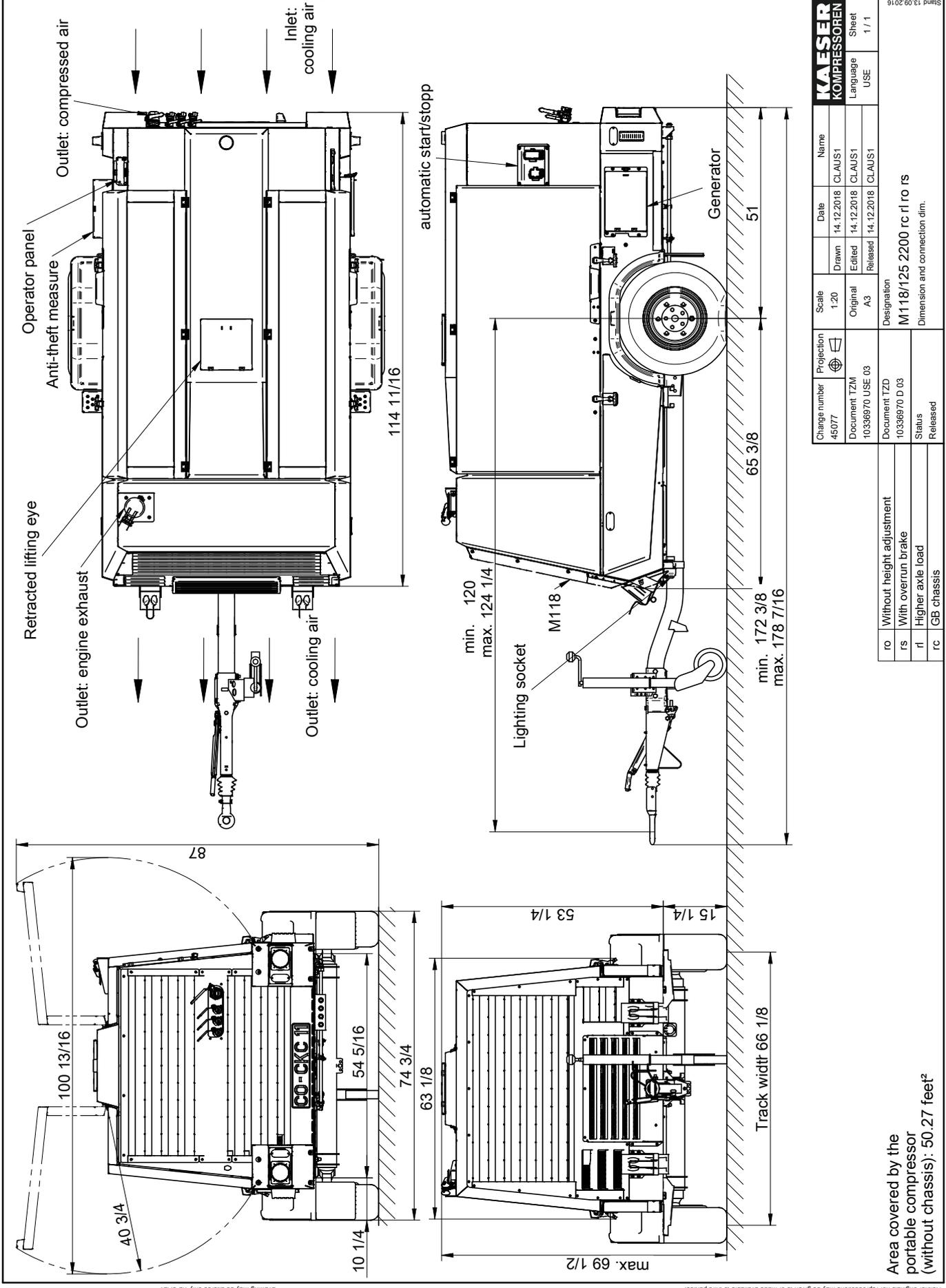
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Document TZN		Original	Edited	Released	Designation
10336732 USE 03		A3	14.12.2018	14.12.2018	CLAUS1
Document TZO		Status	Released		
10336732 D 03		Released			
rm	With height adjustment				
rs	With overrun brake				
rl	Higher axle load				
rb	EU chassis				
Designation M 118/125 2200 rb rl rm rs Dimension and connection dim.					

Area covered by the portable compressor (without chassis): 50.27 feet²

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13.3.5 Option rc/rl/ro/rs
Dimensional drawing – chassis

- Option rc - Chassis, GB type
- Option rl - Chassis with higher axle load
- Option ro - Chassis without height adjustment
- Option rs - Chassis with overrun brake



Change number		Projection	Scale	Date	Name
45077			1:20	14.12.2018	CLAUS1
Document TZM		Original	Edited	Released	Designation
10336970 USE 03		A3	14.12.2018	14.12.2018	CLAUS1
Document TZO		Status	Released		
10336970 D 03		Released			

ro	Without height adjustment
rs	With overrun brake
rl	Higher axle load
rc	GB chassis

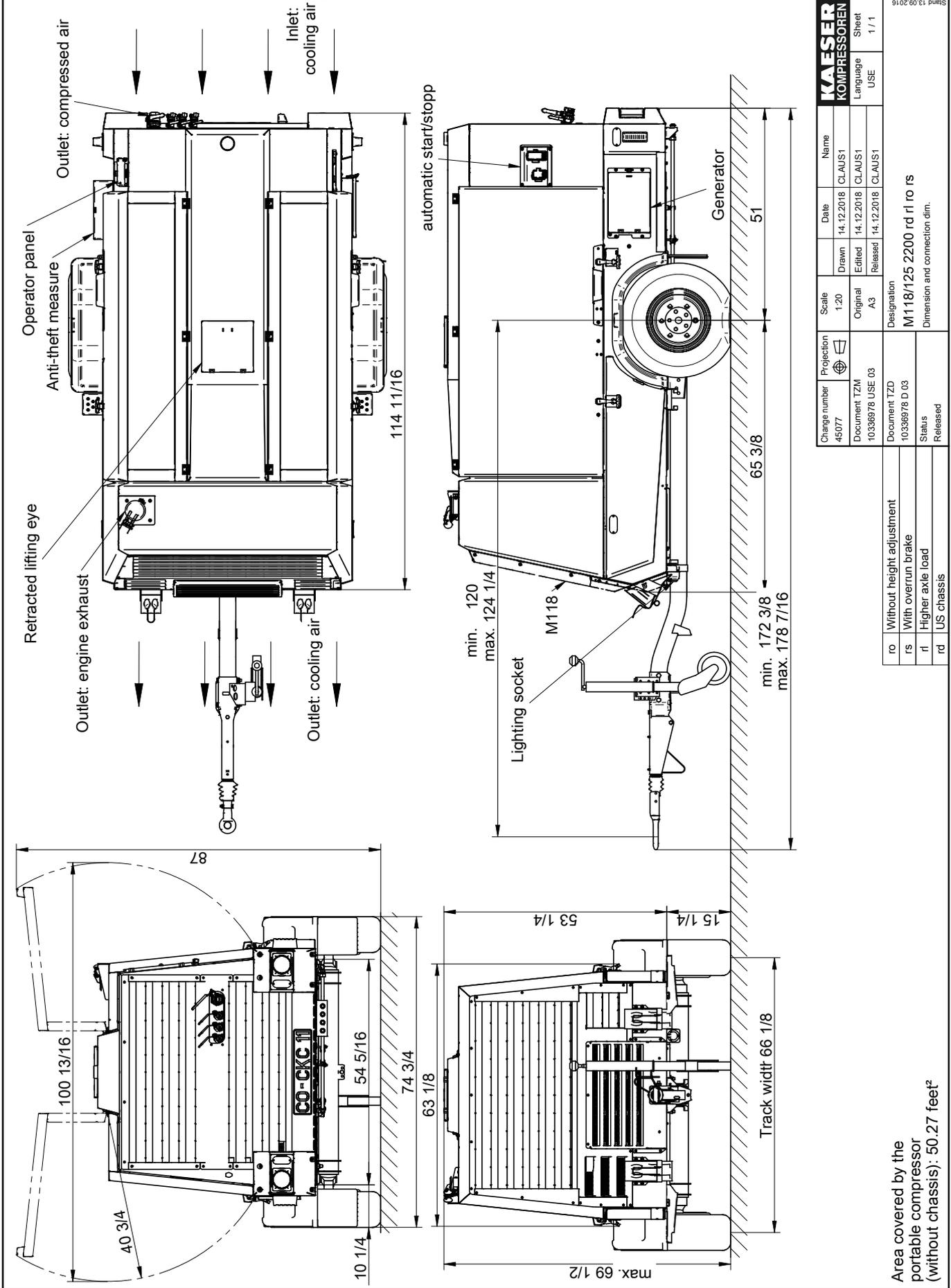
Language	Sheet
USE	1 / 1

Area covered by the portable compressor (without chassis): 50.27 feet²

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13.3.6 Option rd/rl/ro/rs
Dimensional drawing – chassis

- Option rd - Chassis, US type
- Option rl - Chassis with higher axle load
- Option ro - Chassis without height adjustment
- Option rs - Chassis with overrun brake



Change number		Projection	Scale	Date	Name
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Document TZM		Original	Edited	Released	Designation
10336978 USE 03		A3	14.12.2018	14.12.2018	CLAUS1
Document TZO		Status	Released		
10336978 D 03		Released			

ro	Without height adjustment
rs	With overrun brake
rl	Higher axle load
rd	US chassis

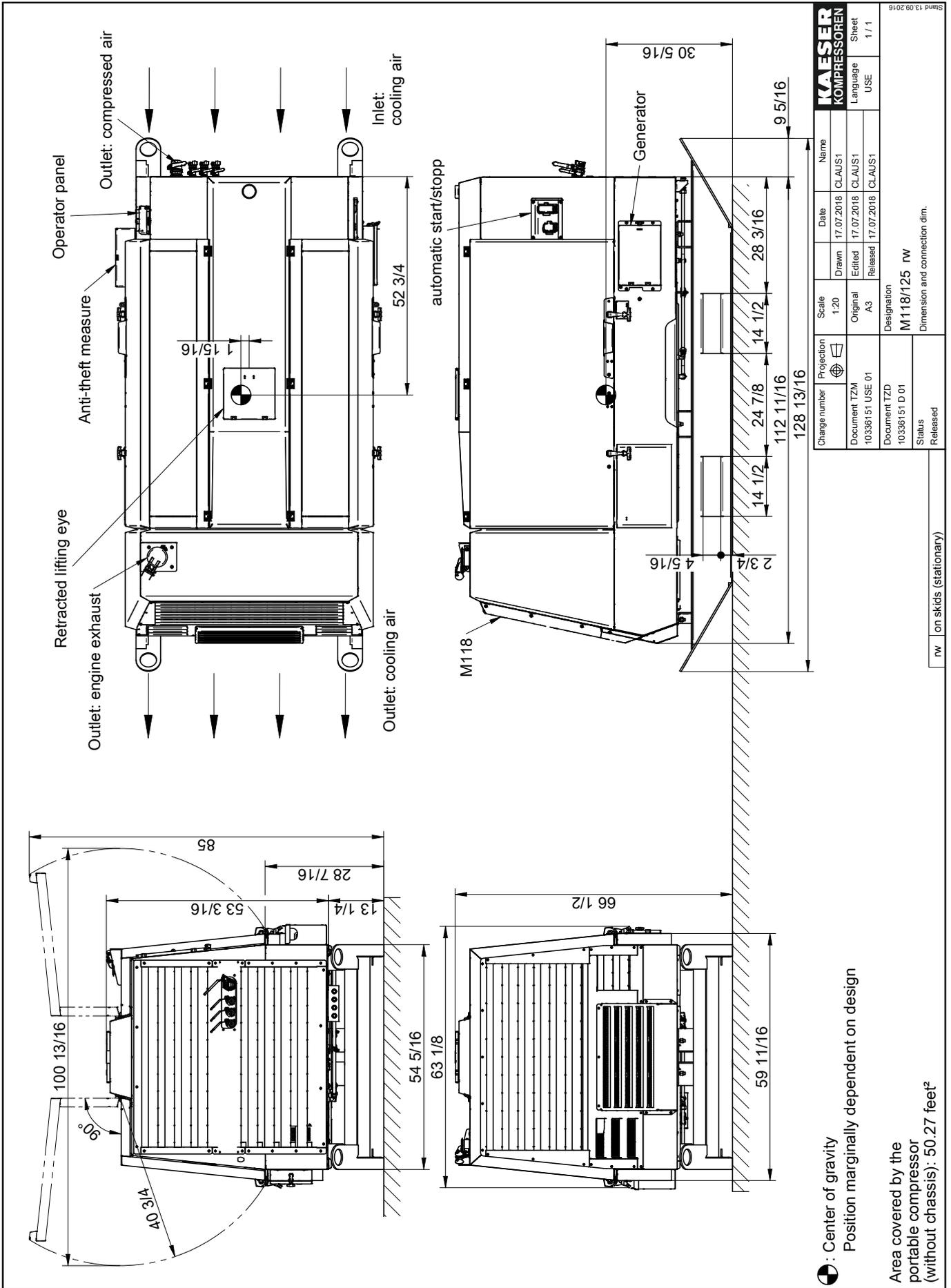
Language	Sheet
USE	1 / 1

Area covered by the portable compressor (without chassis): 50.27 feet²

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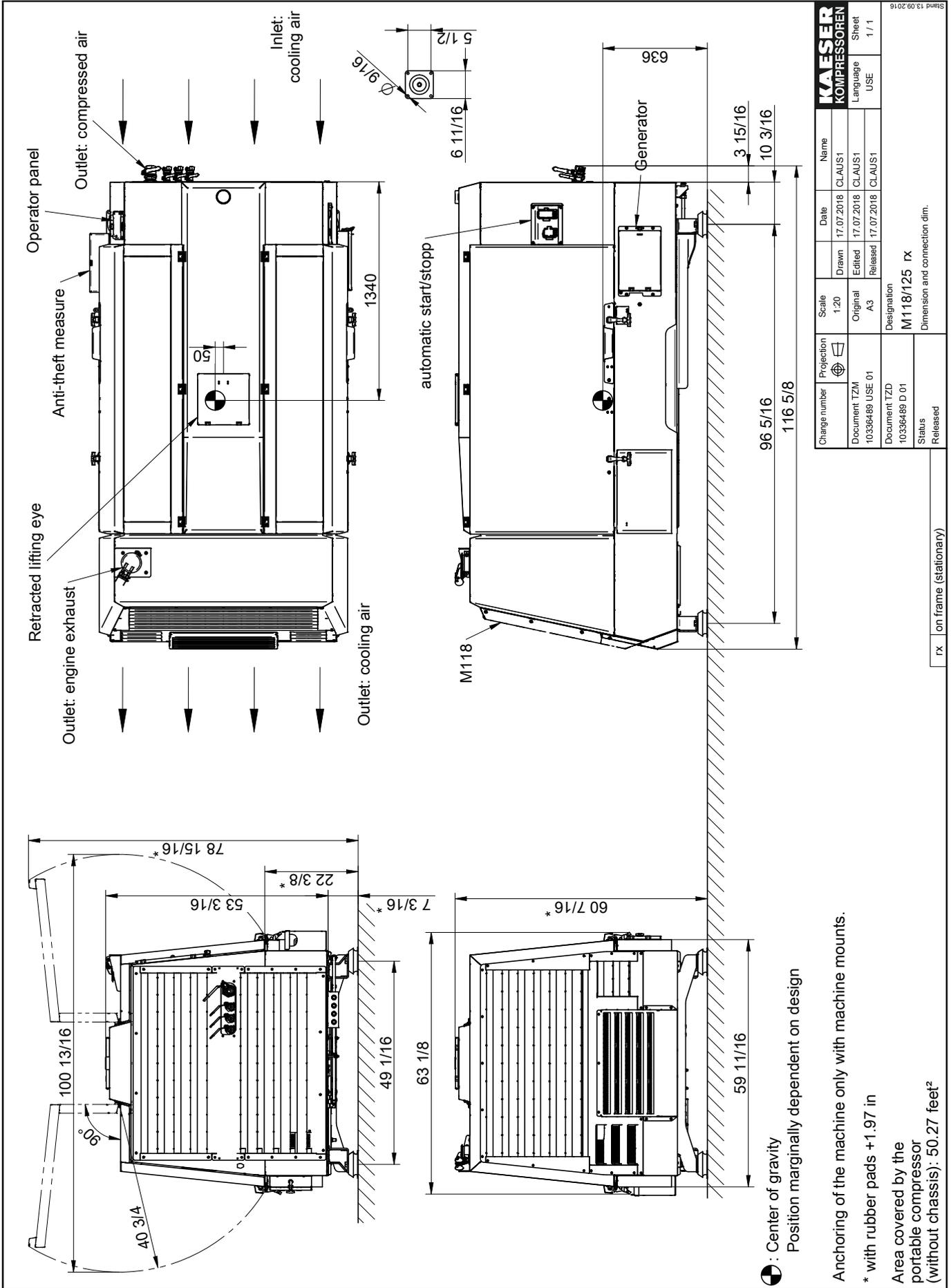
13.3.7 Option rw Dimensional drawing, stationary version

- Option rw - Skid frame on runners



13.3.8 Option rx Dimensional drawing, stationary version

- Option rx - On frame



Subject to development-related changes. Drawing may be altered only via CAD.

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13.4 Wiring diagrams

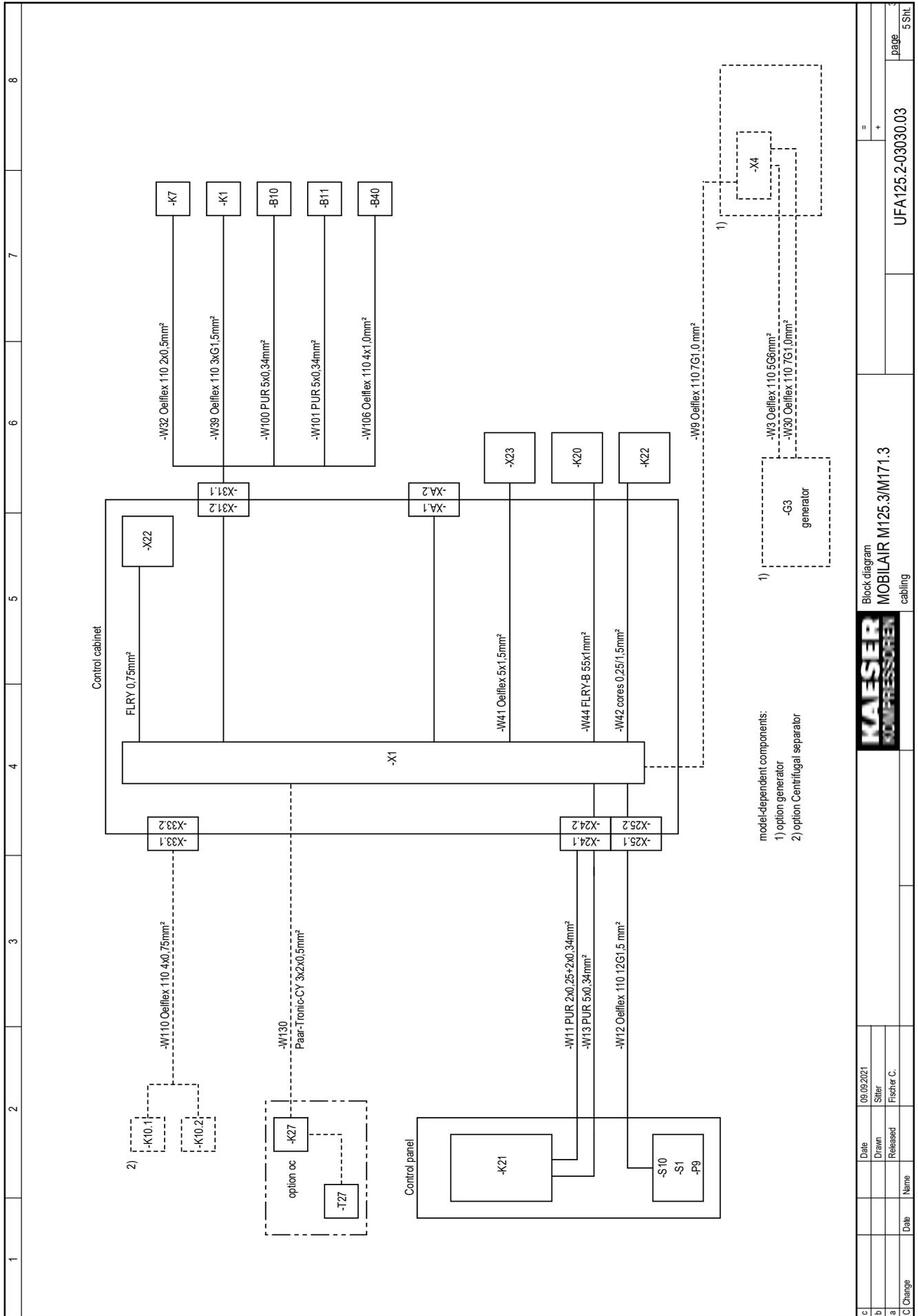
13.4.1 Electrical Diagram

1	2	3	4	5	6	7	8	
<p>Electrical diagrams</p> <p>MOBILAIR M125.3/M171.3</p> <p>DEUTZ stage V Engine with EMR 4</p> <p>SIGMA CONTROL MOBIL</p>								
<p>Manufacturer: KAESER KOMPRESSOREN SE Postfach 2143 96410 Coburg</p>								
<p>The drawings remain our exclusive property. They are entrusted only for the agreed purpose. Copies or any other reproductions, including storage, treatment and dissemination by use of electronic systems must not be made for any other than the agreed purpose. Neither originals nor reproductions must be forwarded or otherwise made accessible to third parties.</p>								
c	Date	08.09.2021	E	Cover page				=
b	Drawn	Siller		MOBILAIR M125.3/M171.3				+
a	Released	01.12.21	FfT/a					
A	Change	Date	Neue					DFA125.2-03030.03
							Page 1	
							Sheet 1	

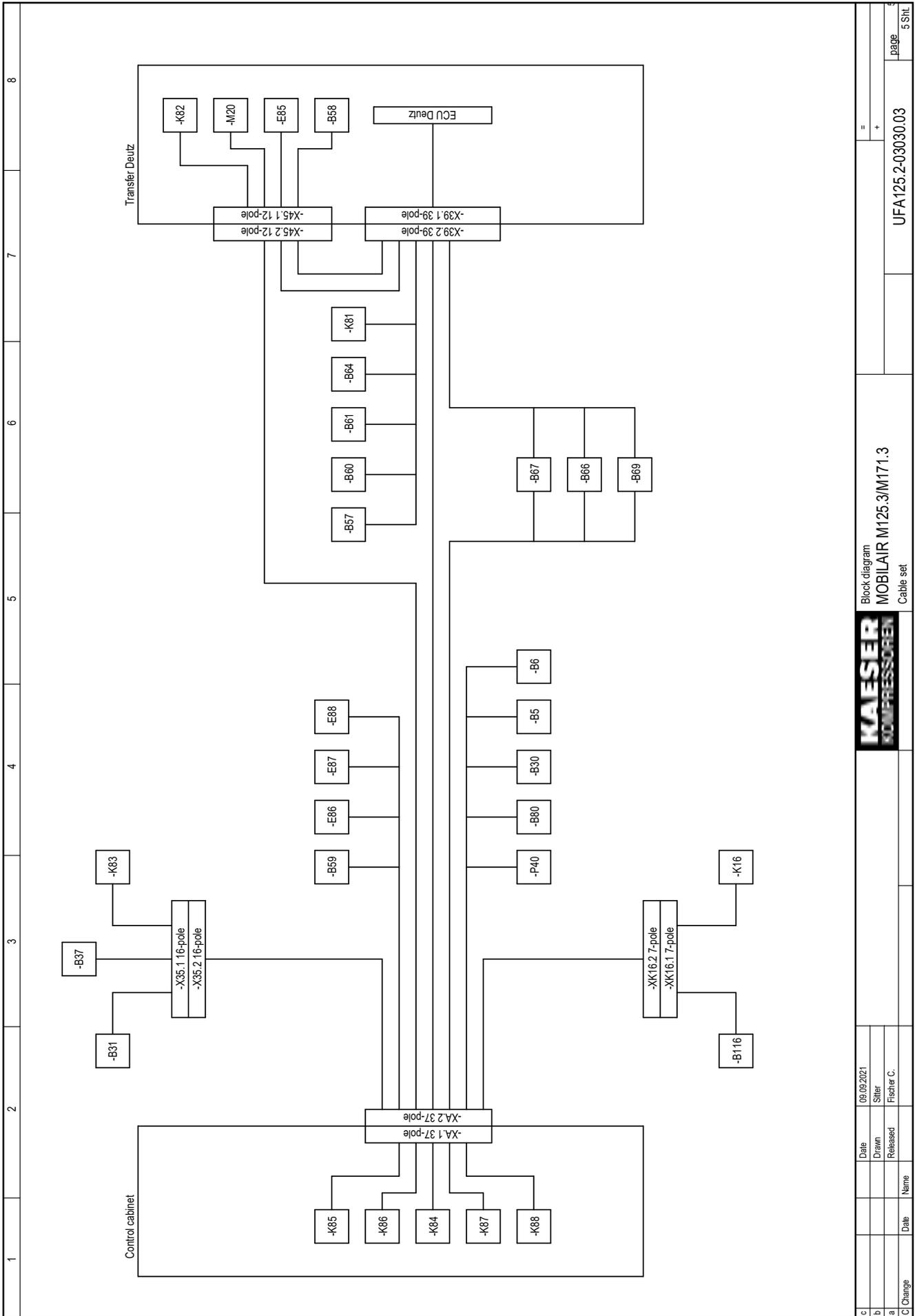
Lfd. Nr. No.	Benennung Name	Zeichnungsnummer (Kunde) Drawing No. (customer)	Zeichnungsnummer (Hersteller) Drawing No. (manufacturer)	Blatt Page	Anlagenkennzeichen Unit designation
1	Cover page		DFA125.2-03030.03	1	
2	List of contents		ZFA125.2-03030.03	1	
3	general instructions		UFA125.2-03030.03	1	
4	electrical equipment identification		UFA125.2-03030.03	2	
5	Block diagram	cabling	UFA125.2-03030.03	3	
6	Block diagram	components	UFA125.2-03030.03	4	
7	Block diagram	Cable set	UFA125.2-03030.03	5	
8	Circuit diagram	Cable set Battery	SFA125.2-BK-03030.03	1	=BK
9	Circuit diagram	Control panel	SFA125.2-BT-03030.03	1	=BT
10	Circuit diagram	switching on	SFA125.2-SK-03030.03	1	=SK
11	Circuit diagram	Control board EMR 4	SFA125.2-SK-03030.03	2	=SK
12	Circuit diagram	interface	SFA125.2-SK-03030.03	3	=SK
13	Circuit diagram	SCM sensors	SFA125.2-SK-03030.03	4	=SK
14	Circuit diagram	SCM inputs	SFA125.2-SK-03030.03	5	=SK
15	Circuit diagram	SCM inputs	SFA125.2-SK-03030.03	6	=SK
16	Circuit diagram	SCM outputs	SFA125.2-SK-03030.03	7	=SK
17	Circuit diagram	SCM outputs	SFA125.2-SK-03030.03	8	=SK
18	Circuit diagram	SCM outputs	SFA125.2-SK-03030.03	9	=SK
19	Circuit diagram	SCM outputs	SFA125.2-SK-03030.03	10	=SK
20	Circuit diagram	SCM outputs	SFA125.2-SK-03030.03	11	=SK
21	Circuit diagram	Cable set Engine	SFA125.2-SK-03030.03	12	=SK
22	Circuit diagram	Control board EMR 4	SFA125.2-SK-03030.03	13	=SK
23	Circuit diagram	Control board EMR 4	SFA125.2-SK-03030.03	14	=SK
24	Circuit diagram	Control board EMR 4	SFA125.2-SK-03030.03	15	=SK
25	Circuit diagram	Vol-free contacts	SFA125.2-SK-03030.03	16	=SK
26	Circuit diagram	Control board EMR 4	SFA125.2-SK-03030.03	17	=SK
27	Equipment parts list	Control cabinet	GFA125.2-03030.03	1	
28	Equipment parts list	Control cabinet	GFA125.2-03030.03	2	
29	Terminal schedule	Terminal strip -X1	KFA125.2-03030.03	1	=SK
30	Terminal schedule	Terminal strip -X1	KFA125.2-03030.03	1	=SK
31	Terminal schedule	Plug connection -X24	KFA125.2-03030.03	2	
32	Terminal schedule	Plug connection -X25	KFA125.2-03030.03	10	
33	Terminal schedule	Plug connection -X31	KFA125.2-03030.03	11	
34	Terminal schedule	Plug connection -X33	KFA125.2-03030.03	20	=SK
35	Terminal schedule	Plug connection -X35	KFA125.2-03030.03	21	=SK
36	Terminal schedule	Plug connection -X35.2	KFA125.2-03030.03	22	=SK
37	Terminal schedule	Plug connection -X45	KFA125.2-03030.03	23	=SK
38	Terminal schedule	Plug connection -XA.1	KFA125.2-03030.03	24	=SK
39	Terminal schedule	Plug connection -XA.2	KFA125.2-03030.03	30	=SK
40	Component layout	Switchboard	AFA125.2-03030.03	31	=SK
41	Component layout	Control cabinet fitting plate	AFA125.2-03030.03	1	
42	Component layout	Control cabinet door / Control panel	AFA125.2-03030.03	2	
				3	

List of contents			
MOBILAIR M125.3/M171.3		= +	
ZFA125.2-03030.03		page 1 Str.	

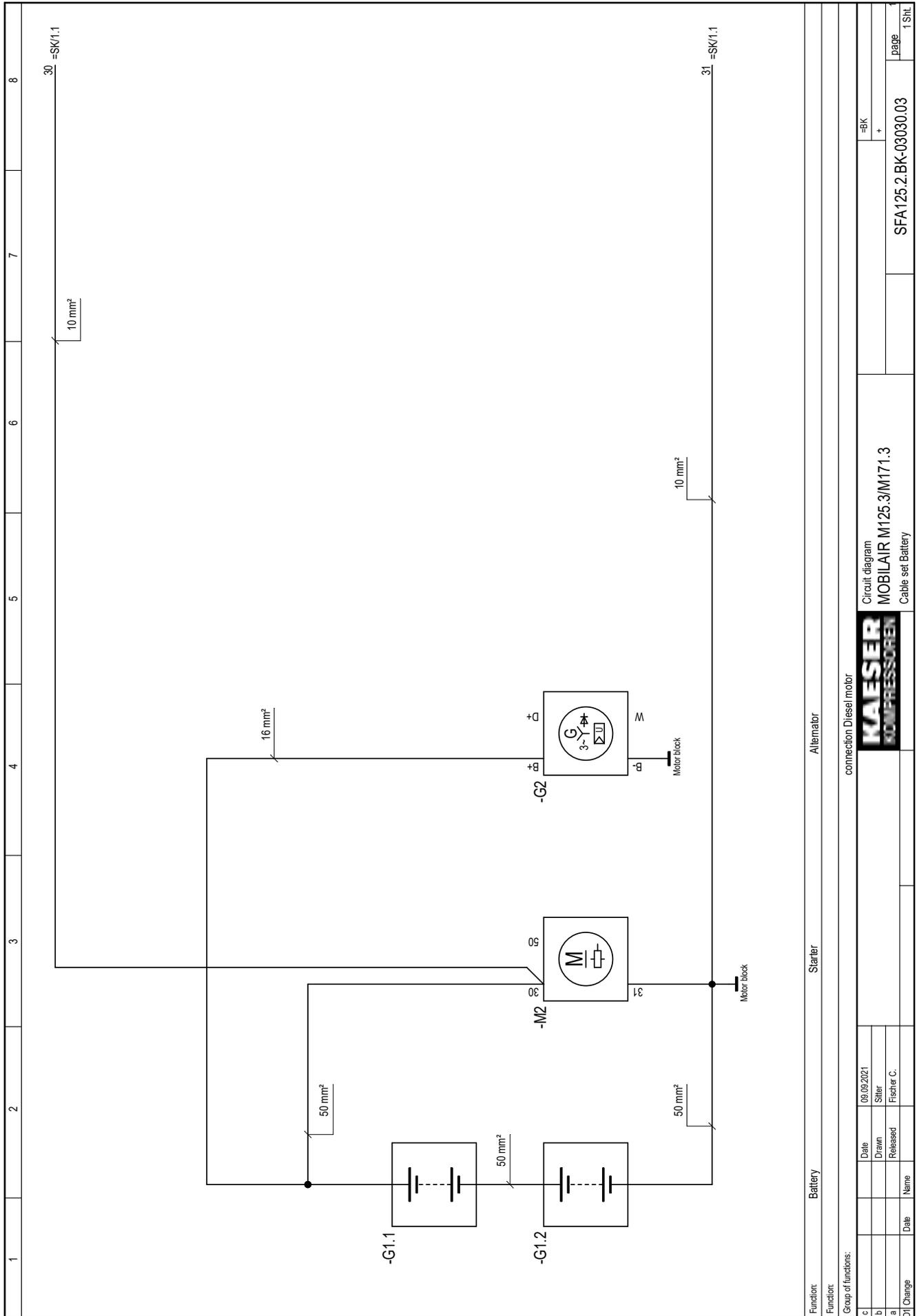
1	2	3	4	5	6	7	8
<p>components Control cabinet</p> <ul style="list-style-type: none"> -K20 Control board SIGMA CONTROL MOBIL -K22 Control board EMR 4 -F10,-F11,-F12,-F13,-F15, -F16,-F17,-F20,-F22,-F27, -F39,-F66,-F69,-F100 -K39 Fuse -K67 Relay switching on -K67 Relay buzzer -K84...-K88 Relay Heating SCR -R3,-R11,-R12,-R13 Resistor -R1 LOAD-DUMP-Modul 24 VDC -R2 Diode -S100 Rotary control switch PLC / HMI -X1 Terminal strip -X24 Adaptor connector HMI -X25 Adaptor connector EMERGENCY STOP -X31,-X33 Adaptor connector Sensor technology/Actuator technology Compressor -X22 diagnostics plug EMR 4 -X100 diagnostics plug KAESER -XA Adaptor connector SCM-Deutz-unit 		<p>components Control panel</p> <ul style="list-style-type: none"> -K21 Operating unit SIGMA CONTROL MOBIL -P9 Display fuel level -S1 EMERGENCY STOP -S10 Control voltage ON/OFF switch 		<p>components unit</p> <ul style="list-style-type: none"> -B10 Pressure transducer system pressure -B11 Pressure transducer Control pressure -B40 sensor airtrend temperature -K1 Control valve Inlet valve -K7 Valve Venting -X23 Power supply unit Deutz-Plug 		<p>model-dependent components:</p> <ul style="list-style-type: none"> -K61...-K66 Relay Volt-free contacts -F9 Fuse -K10.1,-K10.2 Solenoid valve Centrifugal separator connection option generator -X4 Adaptor connector -X50,-X51 -K27 GPS Modem -T27 GPS antenna -X13 GPS Modem interface 	
<p>components Drive motor</p> <ul style="list-style-type: none"> -G2 Alternator -G1.1,-G1.2 Battery -M2 Starter 		<p>KAESER KOMPRESSOREN</p> <p>electrical equipment identification MOBILAIR M125.3/M171.3</p>					
<p>c Date 08.09.2021</p> <p>b Drawn Siller</p> <p>a Released Fischer C.</p>		<p>= +</p> <p>UFA125.2-03030.03</p>					
<p>c Change Date Name</p>		<p>page 5 SInL</p>					



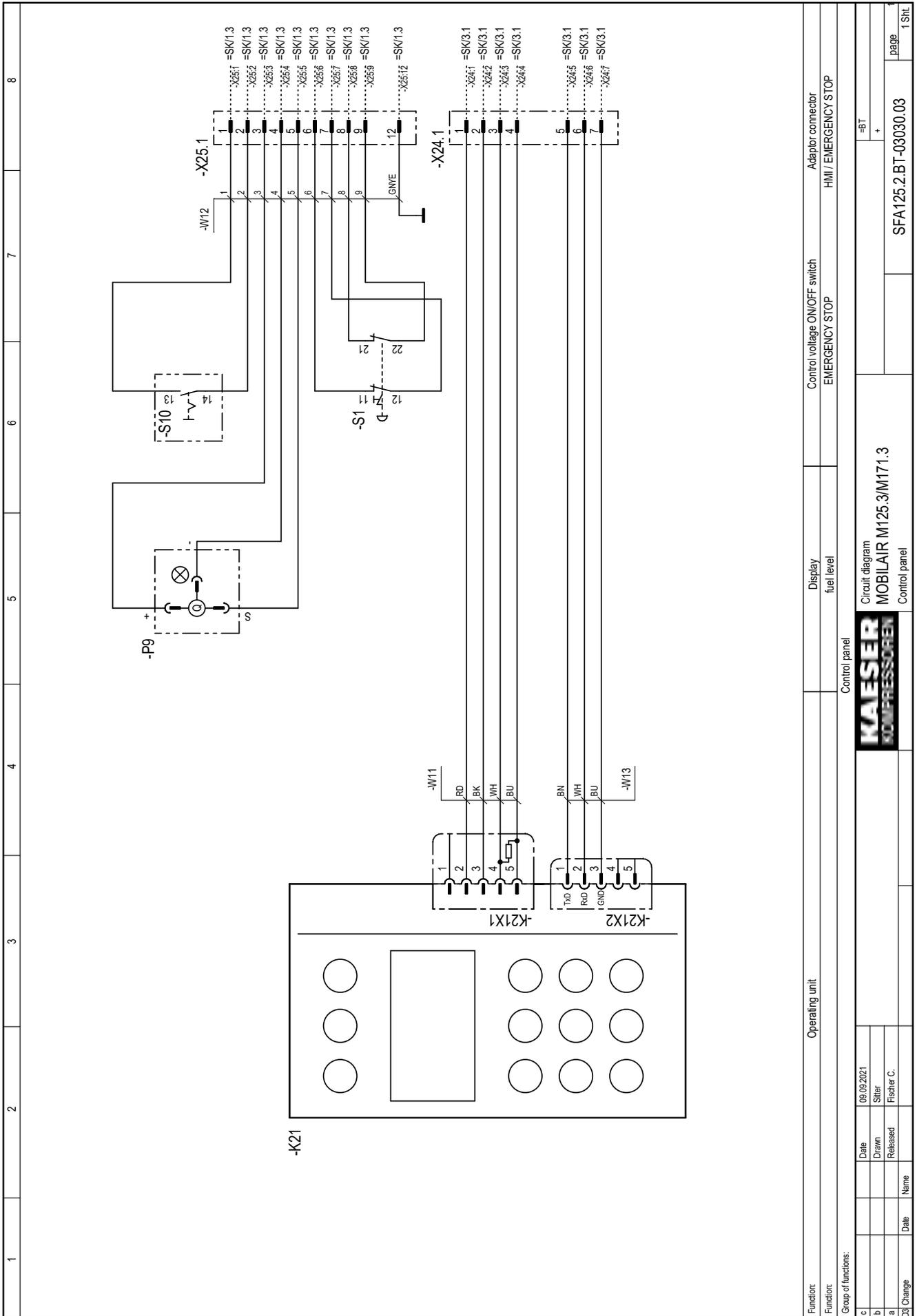
1	2	3	4	5	6	7	8
<p>components Cable set Engine XA</p> <ul style="list-style-type: none"> -B5,-B6 Pressure switch Filter monitoring -B30 sensor coolant level -P40 Hest/Signal horn -B57 differential pressure DPF -B59 Pressure sensor downstream from DPF -B60 Exhaust temp. upstream from oxi. cat. convert. -B61 Temperature of exhaust gas downstream of oxidation catalyst sensor -B64 Temperature SCR Kat -B66 NOx sensor upstream from SCR cat. convert. -B67 NOx sensor downstream from SCR cat. convert. -B69 AdBlue Quality -B80 sensor Ambient temperature -E86...-E88 Heating SCR System -K81 Dispensing valve SCR System -X35 <i>plug connection 16-pole</i> -B31 sensor Filter maintenance indication -B37 sensor fuel level -K83 Heating valve -XK16 <i>plug connection 7-pole</i> -B116 Speed sensor Fan coupling -K16 bypass valve Fan 1 -X45 <i>plug connection 12-pole, Pump module Deutz</i> -B58 Pressure after pump -E85 Heating SCR System -K82 Suction valve SCR System -M20 SCR Pump -X39 <i>plug connection 39-pole, Deutz Transfer</i> 							
							
<p>Block diagram MOBILAIR M125.3/M171.3 components Cable set Engine XA</p>							
= + UFA125.2-03030.03							
page 5 Str.							
c	Date	08.09.2021					
b	Drawn	Siller					
a	Released	Fischer C.					
C Change	Date	Name					



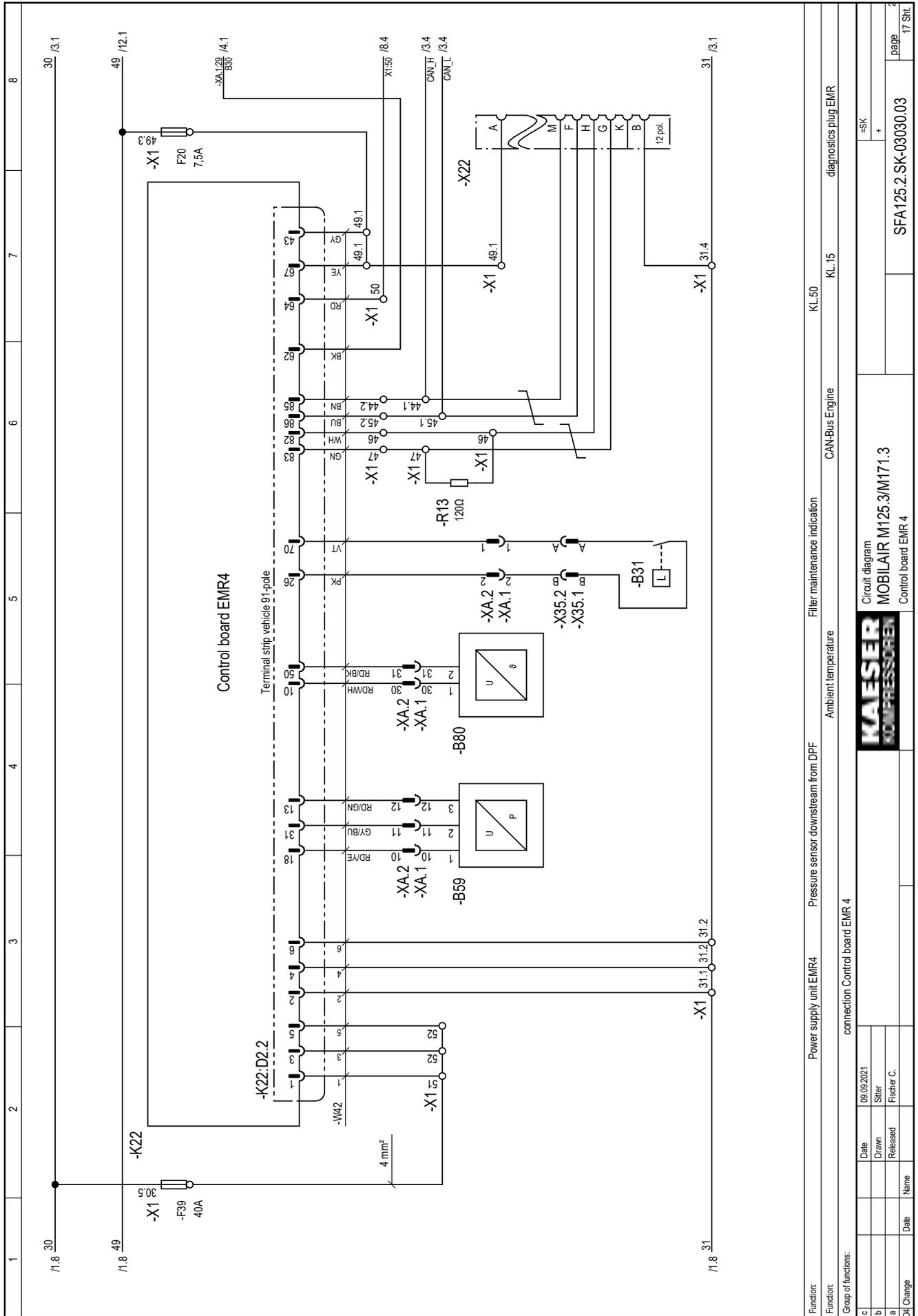
c	Date	08.09.2021			Block diagram MOBILAIR M125.3/M171.3 Cable set	UFA125.2-03030.03	Page 5 5 Str.
b	Drawn	Siller					
a	Released	Fischer C.					
C	Change	Date	Name				



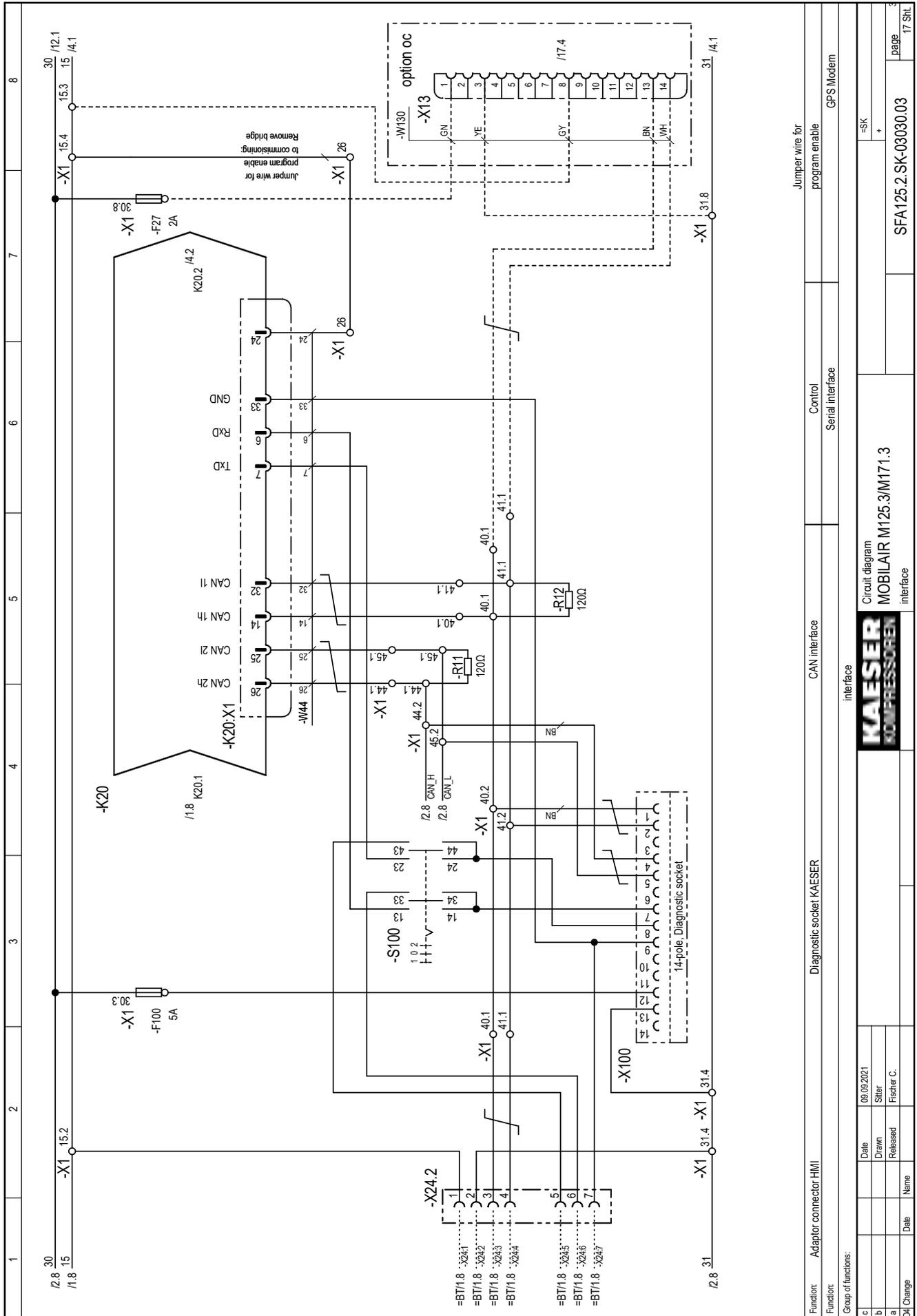
Function:		Battery		Starter		Alternator	
Group of functions:		connection Diesel motor					
c	Date	08.09.2021	Drawn	Siller			-BK
b	Released		Released	Fischer C.			+
a	Date		Name				
Circuit diagram MOBILAIR M125.3/M171.3 Cable set Battery							SFA125.2.BK-03030.03
page							1 Str.



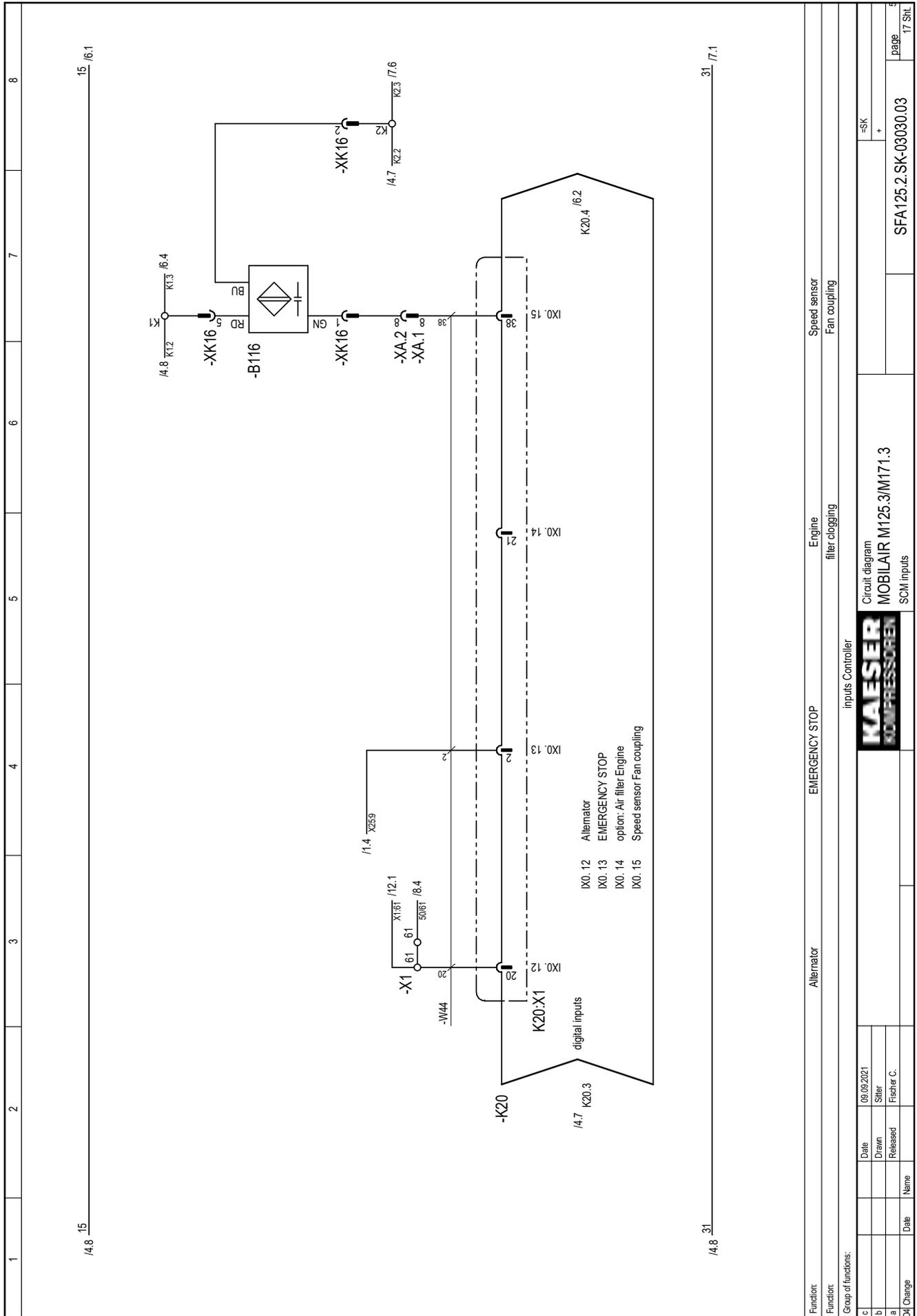
Function:		Operating unit		Control panel		Display fuel level		Control voltage ON/OFF switch EMERGENCY STOP		Adaptor connector HMI / EMERGENCY STOP		
Group of functions:		Control panel		Control panel		Control panel		EMERGENCY STOP		HMI / EMERGENCY STOP		
c	Date	08.09.2021										
b	Drawn	Siller										
a	Released	Fischer C.										
03	Change	Date	Name									
Circuit diagram MOBILAIR M125.3/M171.3 Control panel										SFA125.2.BT-03030.03		
										-BT		
										+		
										page 1		
										1 Sit.		

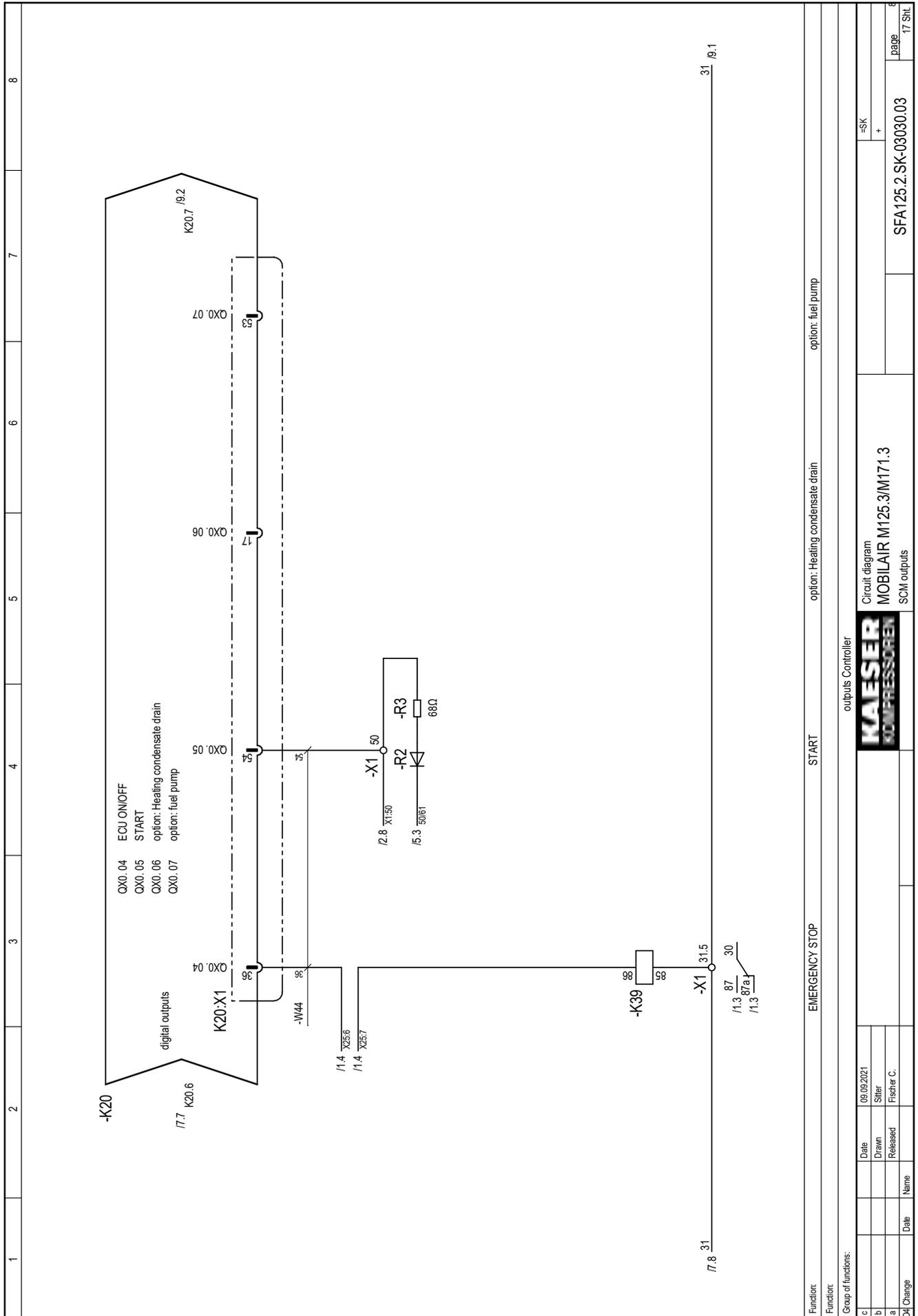


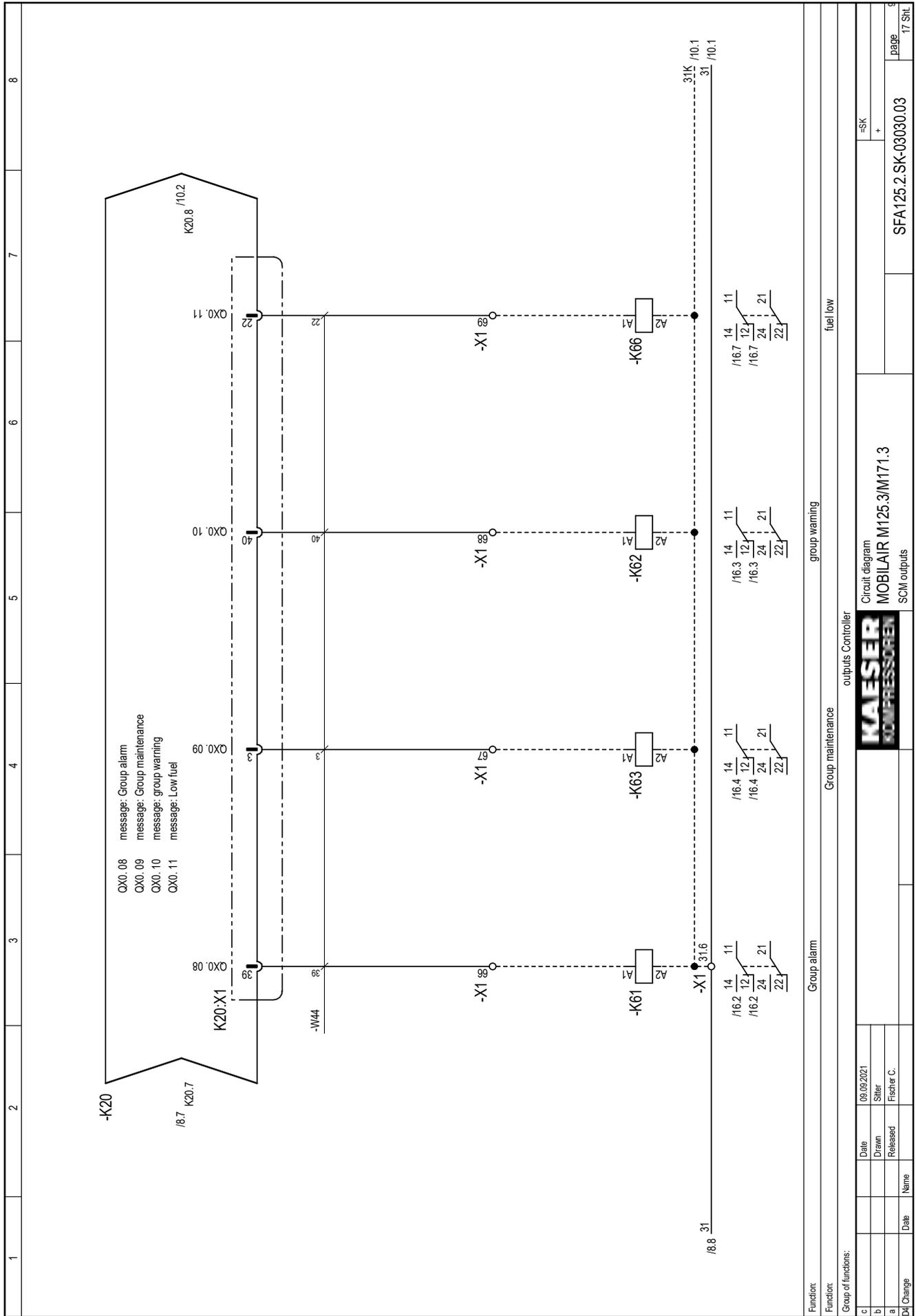
Function:	Power supply unit EMR4	Pressure sensor downstream from DPF	Ambient temperature	Filter maintenance indication	CAN-Bus Engine	KL.50	KL.15	diagnostics plug EMR	
Group of functions:	connection Control board EMR 4								
c	Date	08.09.2021							-SK
b	Drawn	Siller							+
a	Released	Fischer C.							
DL Change	Date	Name							
								SFA125.2.SK-03030.03	
								page 2	
								17 SHL	



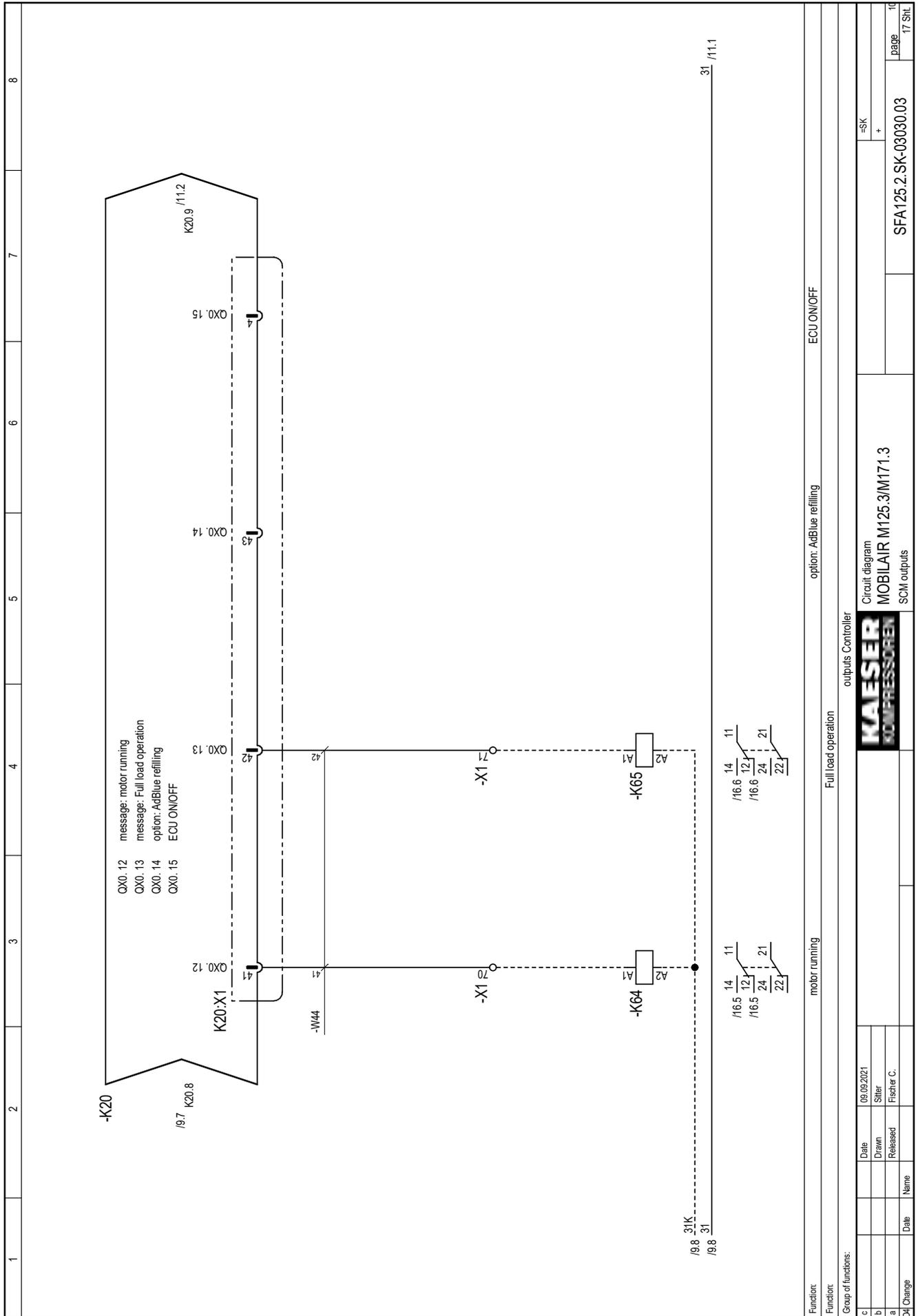
Function: Adaptor connector HMI		CAN interface		Control Serial interface		GFS Modem	
Function: Diagnostic socket KAESER		interface		interface		interface	
Group of functions:		Circuit diagram		MOBILAIR M125.3/M171.3		page 17 SHL	
c	Date	08.09.2021					
b	Drawn	Siller					
a	Released	Fischer C.					
DM Change	Date	Name					
			SFA125.2.SK-03030.03				

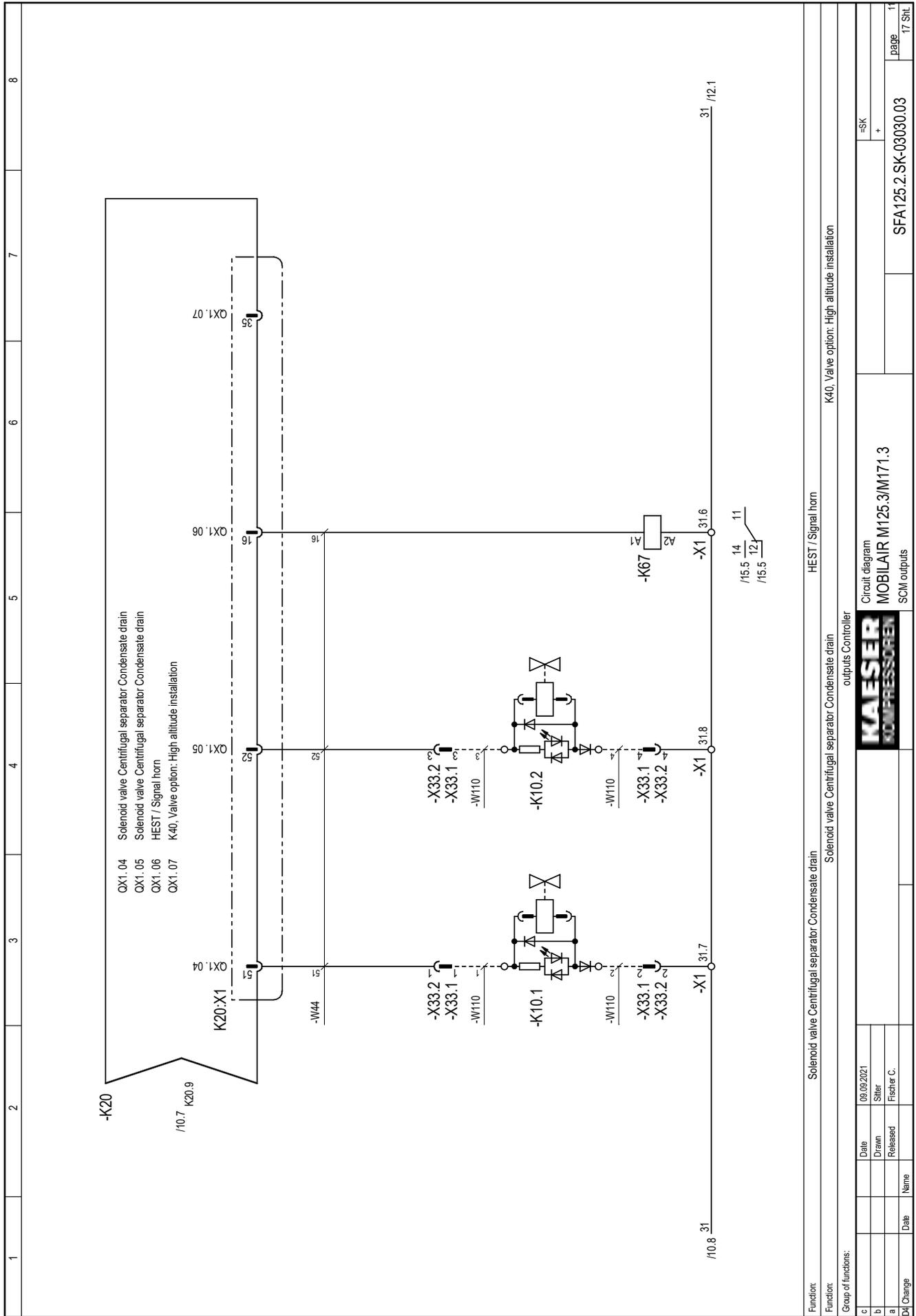


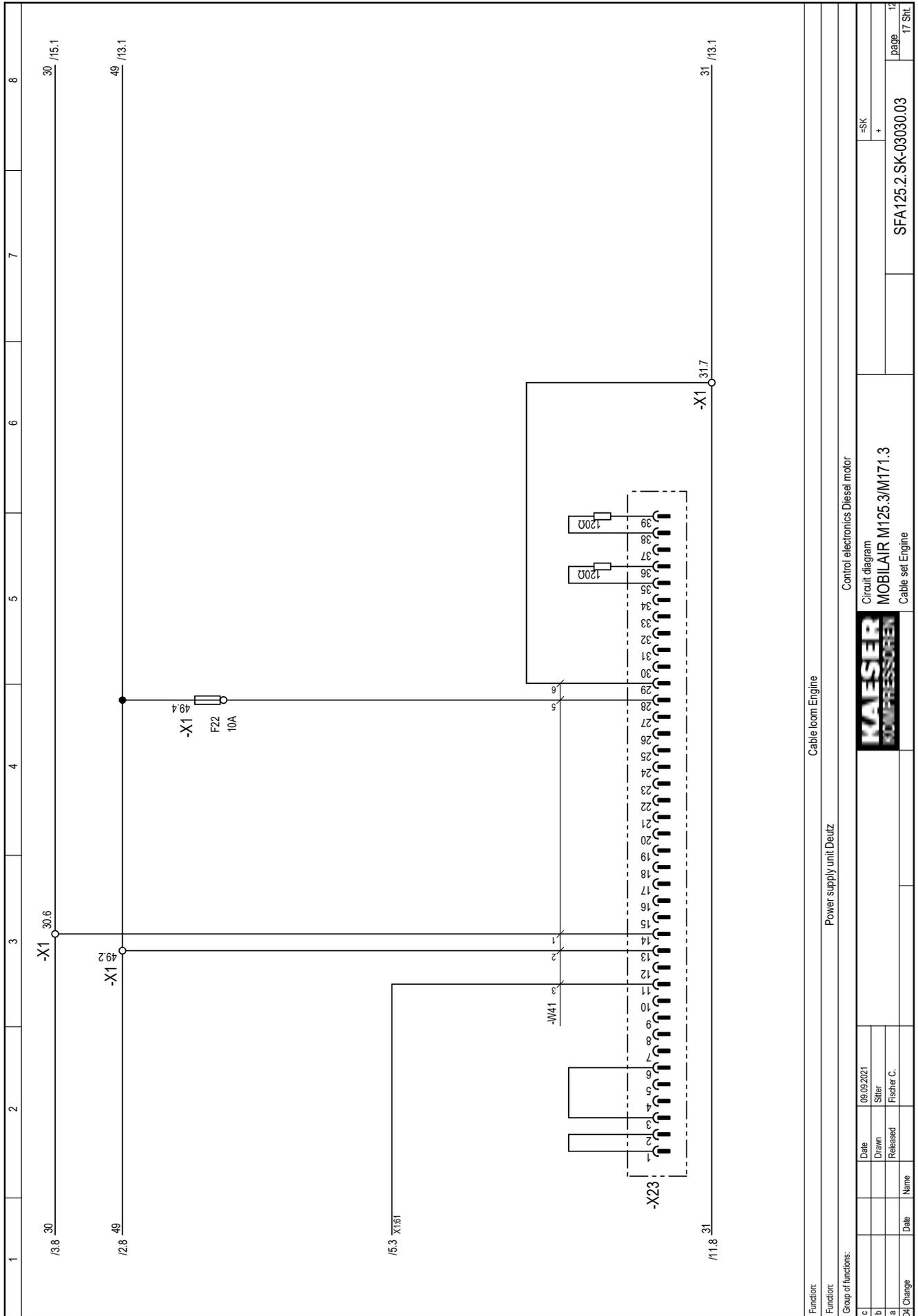




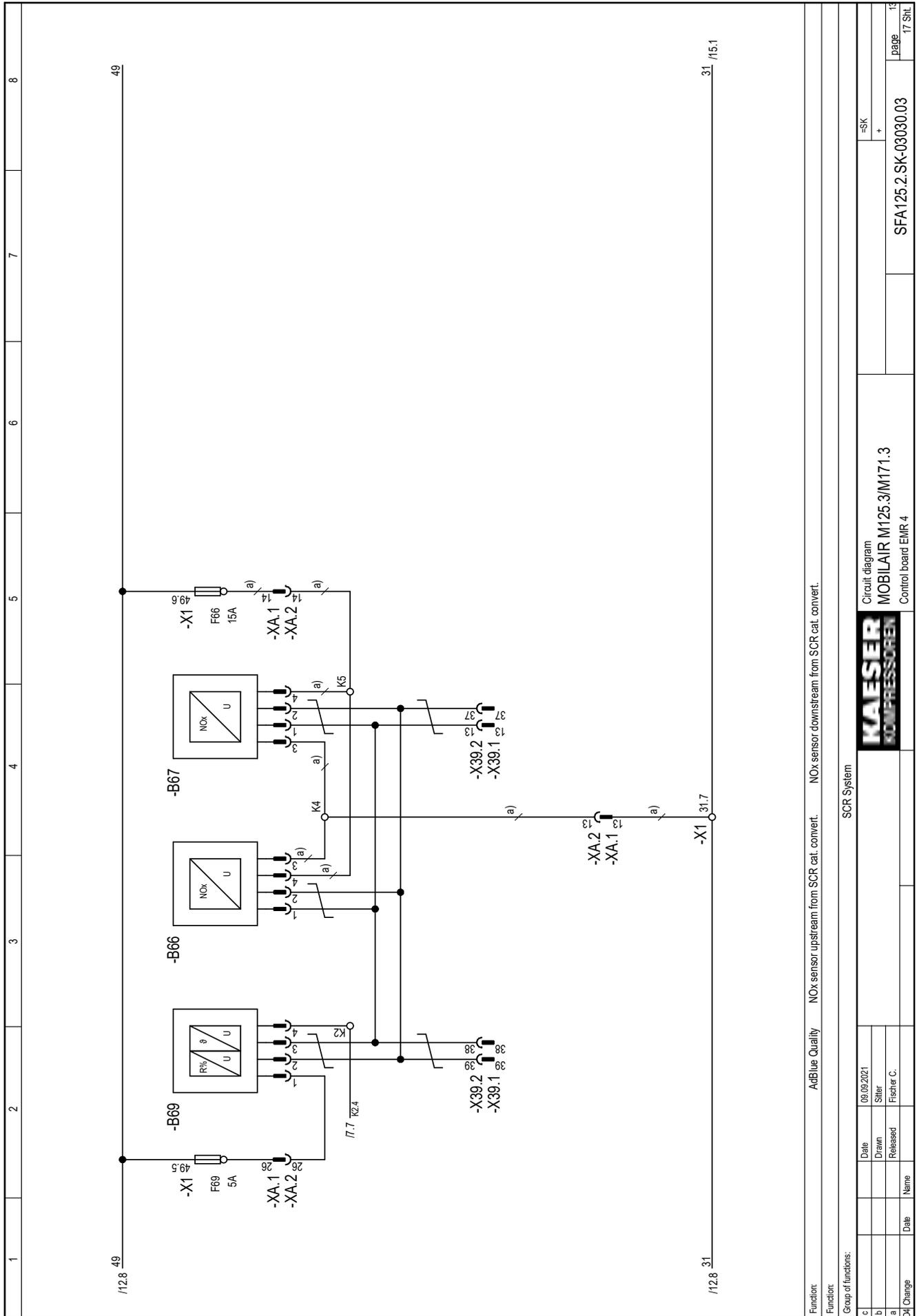
Function:		Group alarm		Group maintenance		Group warning		fuel/low	
Group of functions:		outputs Controller		outputs Controller		outputs Controller		outputs Controller	
c	Date	08.09.2021	Drawn	Siller	Released	Fischer C.	-SK		+
b	Date		Drawn		Released		-SK		+
a	Date		Drawn		Released		-SK		+
DM Change	Date		Drawn		Released		-SK		+
Circuit diagram MOBILAIR M125.3/M171.3 SCM outputs							SFA125.2.SK-03030.03		
							page 17 SHL		



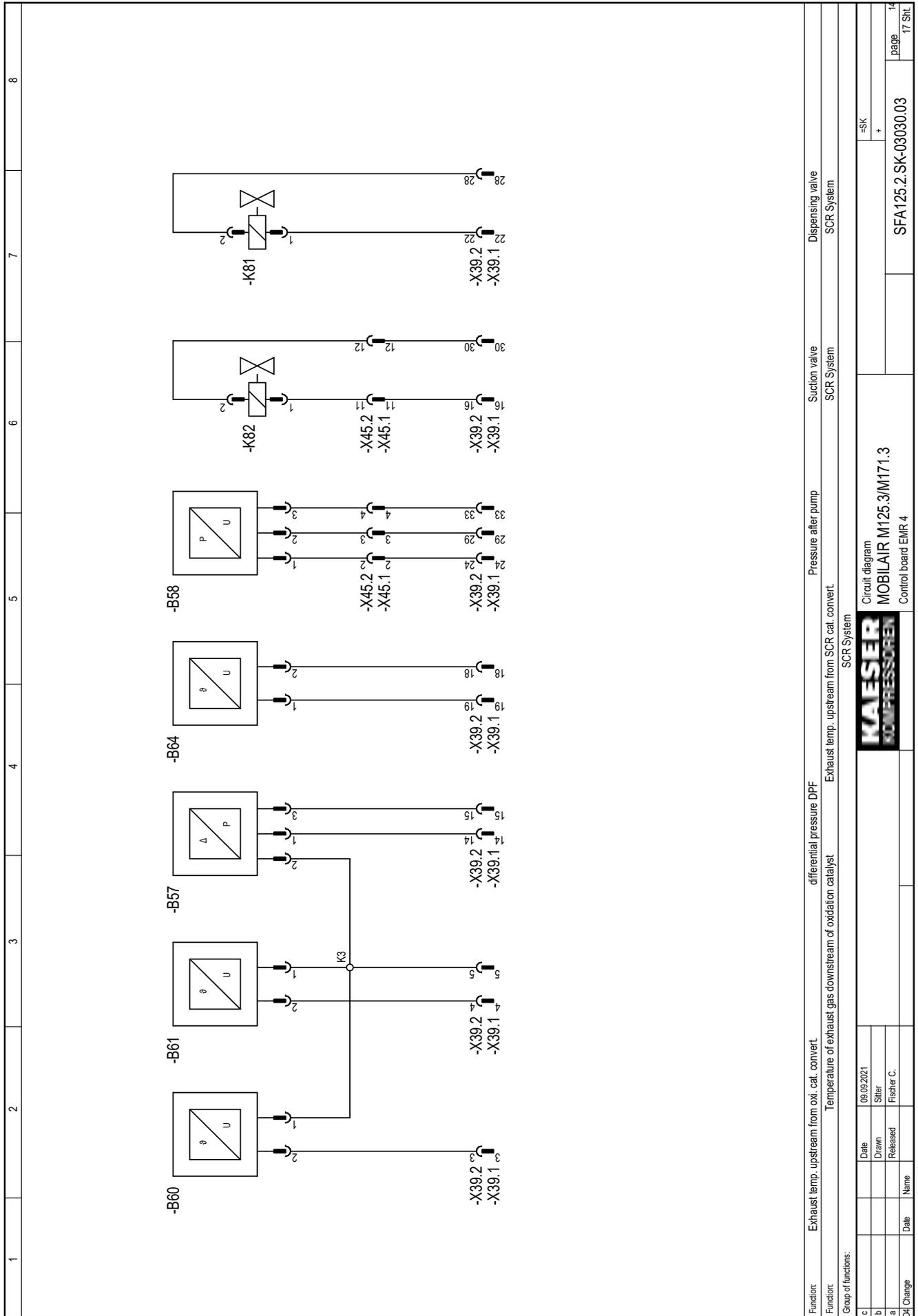




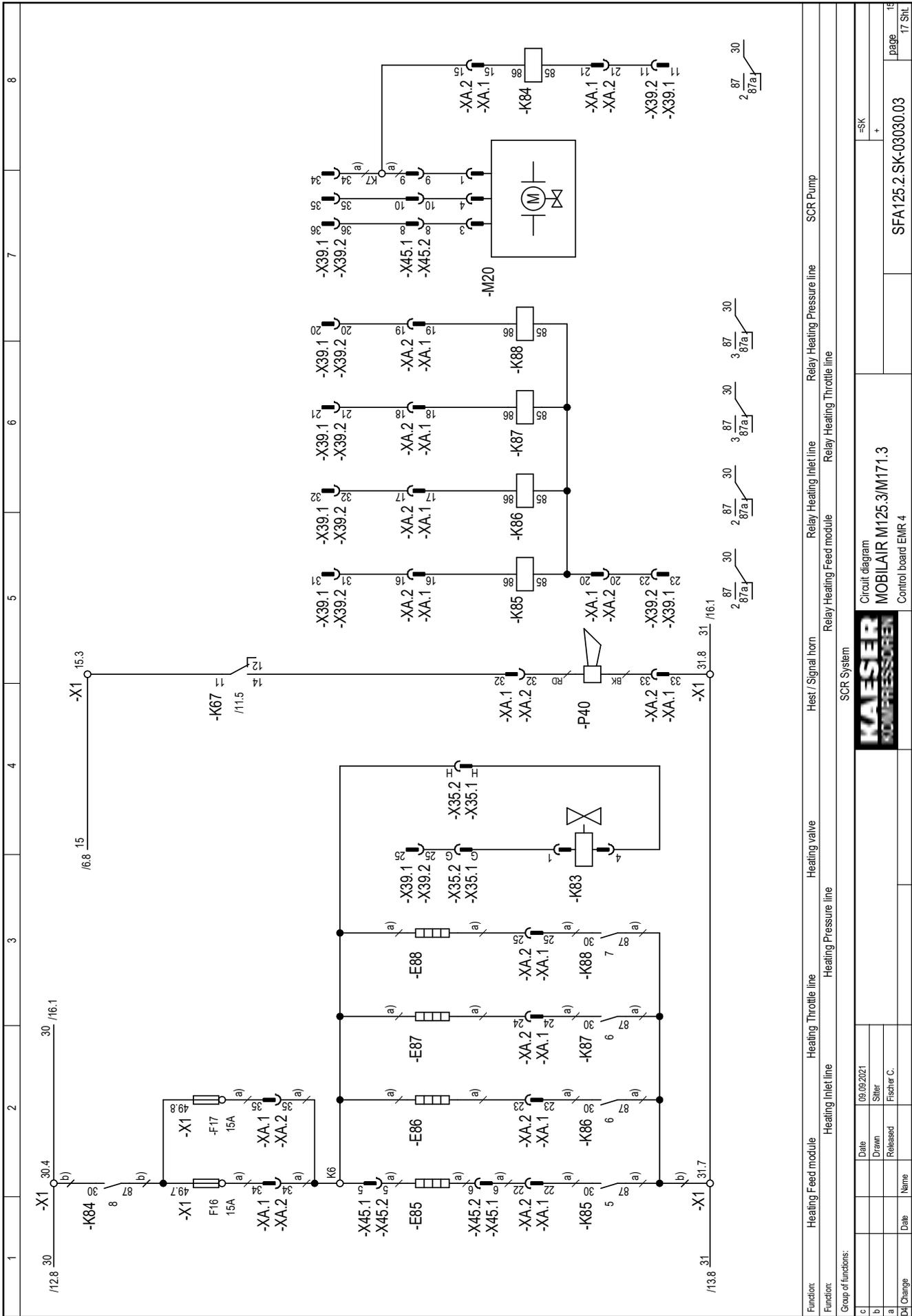
Function:		Control electronics Diesel motor	
Group of functions:		Circuit diagram MOBILAIR M125.3/M171.3 Cable set Engine	
c	Date	08.09.2021	-SK
b	Drawn	Siller	+
a	Released	Fischer C.	
DM Change	Date	None	
		SFA125.2.SK-03030.03	
		page	12
		17 SHL	



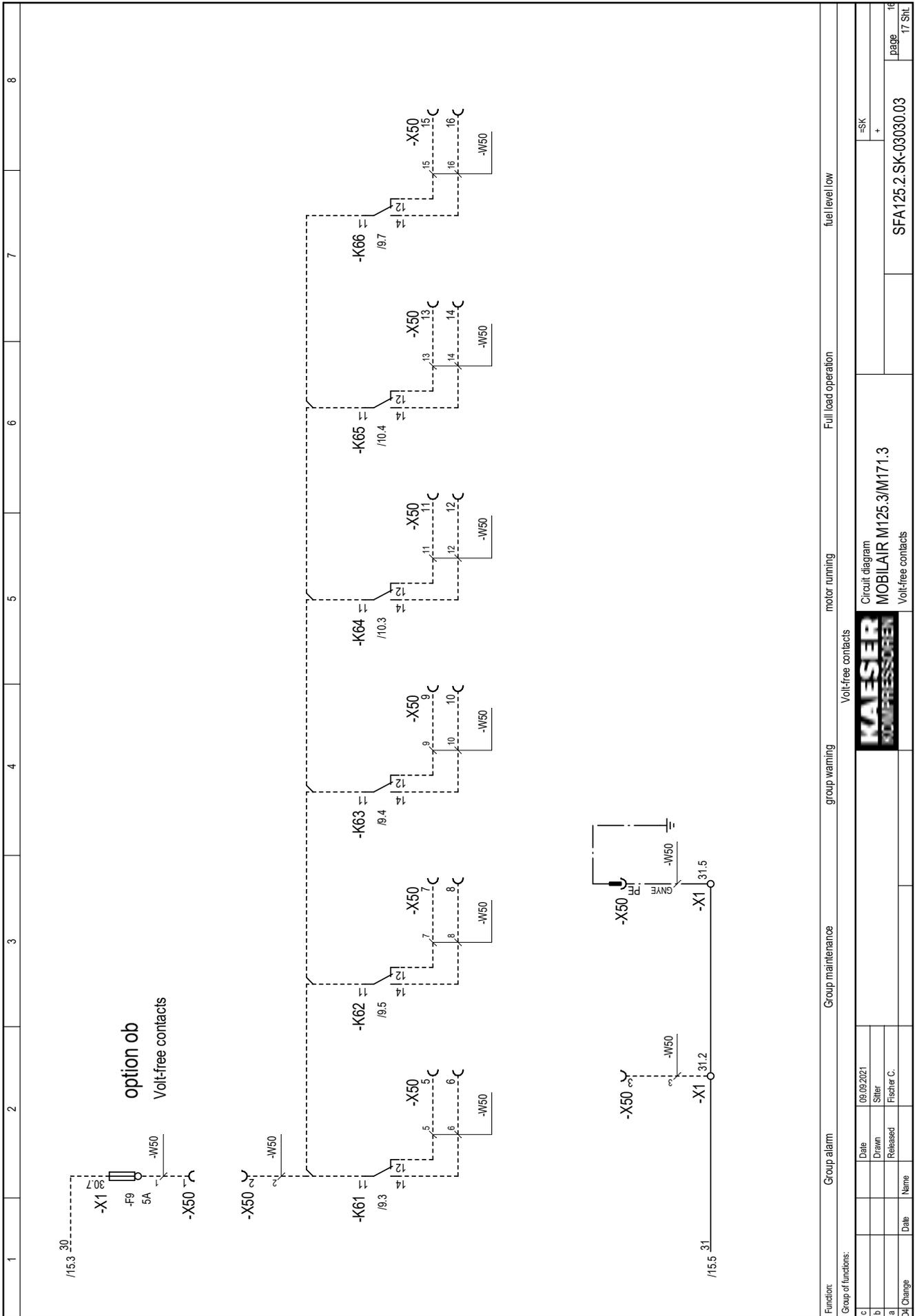
Function:		AdBlue Quality		NOx sensor upstream from SCR cat. convert.		NOx sensor downstream from SCR cat. convert.	
Group of functions:		SCR System					
c	Date	08.09.2021	Drawn	Siller	-SK		
b	Released	Fischer C.	+			SFA125.2.SK-03030.03	
a	Name		Date		page 13		
DM Change	Date		Name		17 SHL		



Function:	Exhaust temp. upstream from oxi. cat. convert.	Exhaust temp. upstream from SCR cat. convert.	Pressure after pump	Suction valve	Dispensing valve
Function:	Temperature of exhaust gas downstream of oxidation catalyst	Exhaust temp. upstream from SCR cat. convert.	SCR System	SCR System	SCR System
Group of functions:	SCR System				
c	Date	08.09.2021			
b	Drawn	Siller			
a	Released	Fischer C.			
DM Change	Date	Name			
			Circuit diagram MOBILAIR M125.3/M171.3 Control board EMR 4		
			-SK +		
			SFA125.2.SK-03030.03		
			page 14 17 Str.		



Function:		Heating Feed module	Heating Throttle line	Heating Pressure line	Heating valve	Hest / Signal horn	Relay Heating Feed module	Relay Heating Inlet line	Relay Heating Throttle line	Relay Heating Pressure line	SCR Pump	
Group of functions:		SCR System										
c	Date	08.09.2021										
a	Drawn	Siller										
b	Released	Fischer C.										
DM Change	Date	Name										
Circuit diagram		MOBILAIR M125.3/M171.3					SFA125.2.SK-03030.03					
Control board EMR 4												
-SK												
+												
page		15										
17 SHL												



1	2		3	4	5	6	7	8						
A Stück- zahl Qty.	B Benennung und Verwendung Description and function		C Fabrikatsbezeichnung Typ, notwendige techn. Daten (z.B. Steuerspannung, Frequenz, Einstellbereich); Bestell-Nr.; Hersteller Identification data Type, basic technical data (e.g. control voltage, frequency, adjustable range); order No., manufacturer		D Lfd. Nr. Item	E Betriebsmittel-Kennz. nach DIN 40719, Teil 2 Identifying symbol of device	F Stromlaufplan Planabschnitt Circuit diagram sheet No.; section No.	G Einbauort Location	Concerns only the manufacturer					
									H Schabl. Nr.	I BZ- Pos.	J VA (Kz. *)	K Eingangs- vermerk		
1	Control cabinet		400x300x155	228077.0	Wagner									
1	Control cabinet door			228011.00020	Wagner									
1	Control			7.9200.00010	ifm	-K20								
1	LOAD-DUMP-Modul			24 VDC	ifm	-R1								
4	Relay			20 401 100	Wehle	-K85, -K86, -K87, -K88								
4	Relay socket			10 485 008	Wehle	-K85, -K86, -K87, -K88								
2	Relay			24V, 1S, 40A	FTM	-K39, -K64								
2	Relay socket			7.3411.00010	FTM	-K39, -K64								
1	Coupling relay			7.3172.00310	Phoenix	-K67								
5	lined terminals			WK1.5E/35	Wieland	-X1								
26	Terminal			WKFN2.5D2/235	Wieland	-X1								
2	Terminal			WKFN4/35	Wieland	-X1								
2	Terminal			WKFN16/35 PV/WKFN	Wieland	-X1								
14	Fuse terminal			7.3149.02160	Wieland	-X1								
1	Fuse UNIVAL			7.6411.00110	FTM	-F11								
1	Fuse UNIVAL			2 A	FTM	-F27								
2	Fuse UNIVAL			5 A	FTM	-F69, -F100								
2	Fuse UNIVAL			7.5 A	FTM	-F15, -F20								
1	Fuse UNIVAL			10 A	FTM	-F22								
5	Fuse UNIVAL			15 A	FTM	-F12, -F13, -F16, -F17, -F66								
2	Fuse UNIVAL			40 A	FTM	-F10, -F39								
3	Resistor			120 Ω	Burklin	-R11, -R12, -R13								
1	Resistor			68 Ω	Burklin	-R3								
1	Diode			BY550-500	Burklin	-R2								
1	Control board EMR 4			Equipment supplied by the user Motor	DEUTZ	-K22								
1	diagnostics plug			Equipment supplied by the user Motor	DEUTZ	-X22								
4	plug connection 12-pole			1604941-1	TYCO	-X24, -X25, -X31, -X33								
1	diagnostics plug			14-pole	Boersig	-X100								
1	Rotary control switch			16mm/P65/3-St.	Schlegel	-S100								
1	Switching element			4 S, getr. Bet.	Schlegel	-S100								

Bei Nachbestellung von Geräten und Maschinen sind alle in den stark. ummandeln
anzuführen. Die Daten in den Spalten D bis G sind zusätzlich unter Nennung
anzugeben, soweit sie die Benennung technischer Rückfragen erleichtern.
die Angabe der Seriennummer erforderlich, falls diese auf dem Typenschild des
in Zweifelsfällen gilt die deutsche Fassung.

Spalten B und C angegebenen Daten
dieser Gerätebestell-Nummer
Für Ersatzbestellung ist zusätzlich
Ergebnis des Genehmigt.

When reordering the equipment, all data endorsed by the heavy lines of columns
addition, the data in columns D to G should be given together with the No. of
they are helpful in answering technical enquiries. When ordering spare parts,
product if stated on the rating plate.

The German version applies in cases of doubt.

B and C should be stated. In
this list of equipment, insofar as
also quote the serial No. of the

c	Date	08.09.2021
a	Drawn	Siller
b	Released	Fischer C.
f	Date	01.12.21
f	Name	



Equipment parts list
MOBILAIR M125.3/M171.3
Control cabinet

=		
+		
GFA125.2-03030.03		page 2 Str.

1	2	3	4	5	6	7	8										
A Stück- zahl Qty.	B Benennung und Verwendung Description and function		C Fabrikatsbezeichnung Typ, notwendige techn. Daten (z.B. Steuerspannung, Frequenz, Einstellbereich); Bestell-Nr.; Hersteller Identification data Type, basic technical data (e.g. control voltage, frequency, adjustable range); order No., manufacturer		D Lfd. Nr. Item	E Betriebsmittel-Kennz. nach DIN 40719, Teil 2 Identifying symbol of device	F Stromlaufplan Planabschnitt Circuit diagram sheet No.; section No.	G Einbauort Location	Concerns only the manufacturer								
	H Schabl. Nr.	I BZ- Pos.	J VA (Kz. *)	K Eingangs- vermerk													
	Control panel																
1	Operating unit		CF9022	7.9200.00020	ifm	-K21											
1	Display fuel level			8.6476.0	VDO	-P9											
1	switch Control voltage ON/OFF		RKIWA	7.9027.10050	Schlegel	-S10											
1	Switching element		BTLS	24VDC, 2A	Schlegel	-S10											
1	EMERGENCY STOP		GRUV+MHT00	7.3217.0+7.3218.0	Schlegel	-S1											
2	plug connection 12-pole		350735-1	7.6589.00500	TYCO	-X24, -X25											
	unit components																
1	Pressure transducer			0...16 bar	Huba	-B10											
1	Pressure transducer			-1...5 bar	Huba	-B11											
1	Temperature probe			-30...130 °C	Bedia	-B40											
1	sensor fuel level				Bedia	-B37											
1	sensor coolant level			1S, T=7sec	Bedia	-B30											
2	Pressure switch filter clogging			55mbar	Mann+Hummel	-B5-B6											
1	Control valve inlet valve			24VDC G3/8 2/2-Wege	Bürkert	-K1											
1	Venting valve			24VDC 3/2-Wege	Bürkert	-K7											
1	Power supply unit			Equipment supplied by the user/Motor	DEUTZ	-X23											
	model-dependent components																
6	Coupling relay			24V DC 1W	Phoenix	-K61...K66											
1	Fuse terminal			WKFN 4FSI	Wieland	-X1											
1	Fuse UNIVAL			5 A	FTM	-F9											
2	Solenoid valve			24V DC G1/8 3/2-W	Bürkert	-K10.1,-K10.2											
1	GPS Modem			model 3651	Proemton	-K27											
1	GPS antenna				Proemton	-T27											

Bei Nachbestellung von Geräten und Maschinen sind alle in den stark umrandelten
anzuführen. Die Daten in den Spalten D bis G sind zusätzlich unter Nennung
anzugeben, soweit sie die Benennung technischer Rückfragen erleichtern.
die Angabe der Seriennummer erforderlich, falls diese auf dem Typenschild des
in Zweifelsfällen gilt die deutsche Fassung.

When reordering the equipment, all data enclosed by the heavy lines of columns
addition, the data in columns D to G should be given together with the No. of
they at height in answering technical enquiries. When ordering spare parts,
product if stated on the rating plate.
The German version applies in cases of doubt.

Spalten B und C angegebenen Daten
dieser Gerätebestell-Nummer
Für Ersatzbestellung ist zusätzlich
Ergebnisse genannt ist.

*) Versandschrift - Kennzeichen

c	Date	08.09.2021
b	Drawn	Siller
a	Released	Fischer C.
F. Change	Date	Name

Equipment parts list
MOBILAIR M125.3/M171.3



= +
GFA125.2-03030.03
page 2
2 SIN

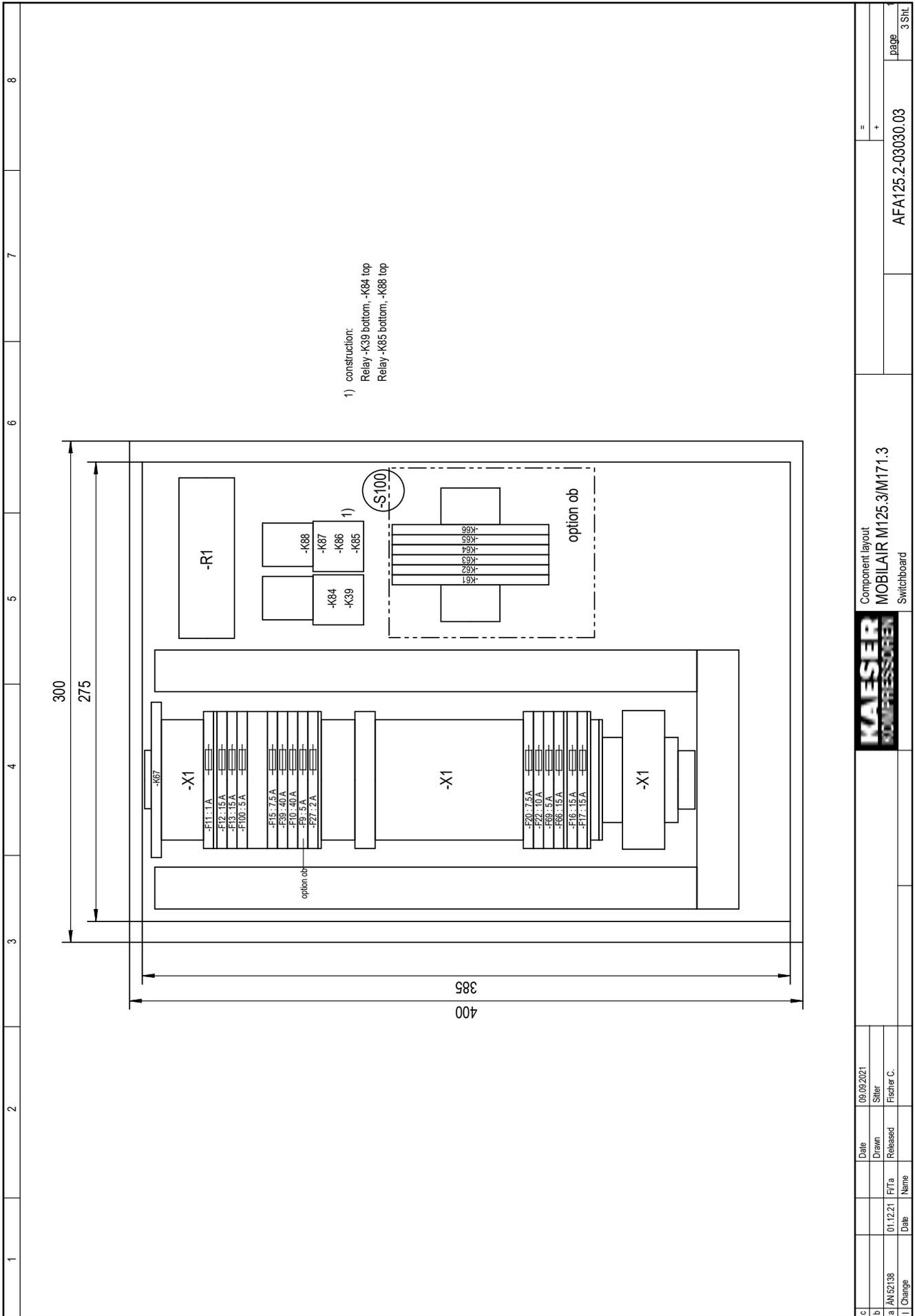
Cable identification		Destination internal		Terminal strip		Destination external		Cable identification	
Connection number	Component identification	Location	Wire link	Terminal legend Link	Terminal number	Connection number	Component identification	Connection number	Component identification
					1				
					2				
					3	/14.2	-B60	2	
					4	/14.3	-B61	2	
					5	/14.3	K3		
					6				
					7				
					8				
					9				
					10				
					11	/15.8	-XA.2	21	
					12				
					13	/13.4	-B67	1	
					14	/14.4	-B57	1	
					15	/14.4	-B57	3	
					16	/14.6	-X45.1	11	
					17				
					18	/14.5	-B64	2	
					19	/14.4	-B64	1	
					20	/15.7	-XA.2	19	
					21	/15.6	-XA.2	18	
					22	/14.7	-K81	1	
					23	/15.5	-XA.2	20	
					24	/14.5	-X45.1	2	
					25	/15.4	-X35.2	7	
					26				
					27				
					28	/14.7	-K81	2	
					29	/14.5	-X45.1	3	
					30	/14.7	-X45.1	12	
					31	/15.5	-XA.2	16	
					32	/15.6	-XA.2	17	
					33	/14.6	-X45.1	4	
					34	/15.7	K7		
					35	/15.7	-X45.1	10	
					36	/15.7	-X45.1	8	
					37	/13.4	-B67	2	
					38	/13.2	-B67	1	
					39	/13.2	-B67	2	

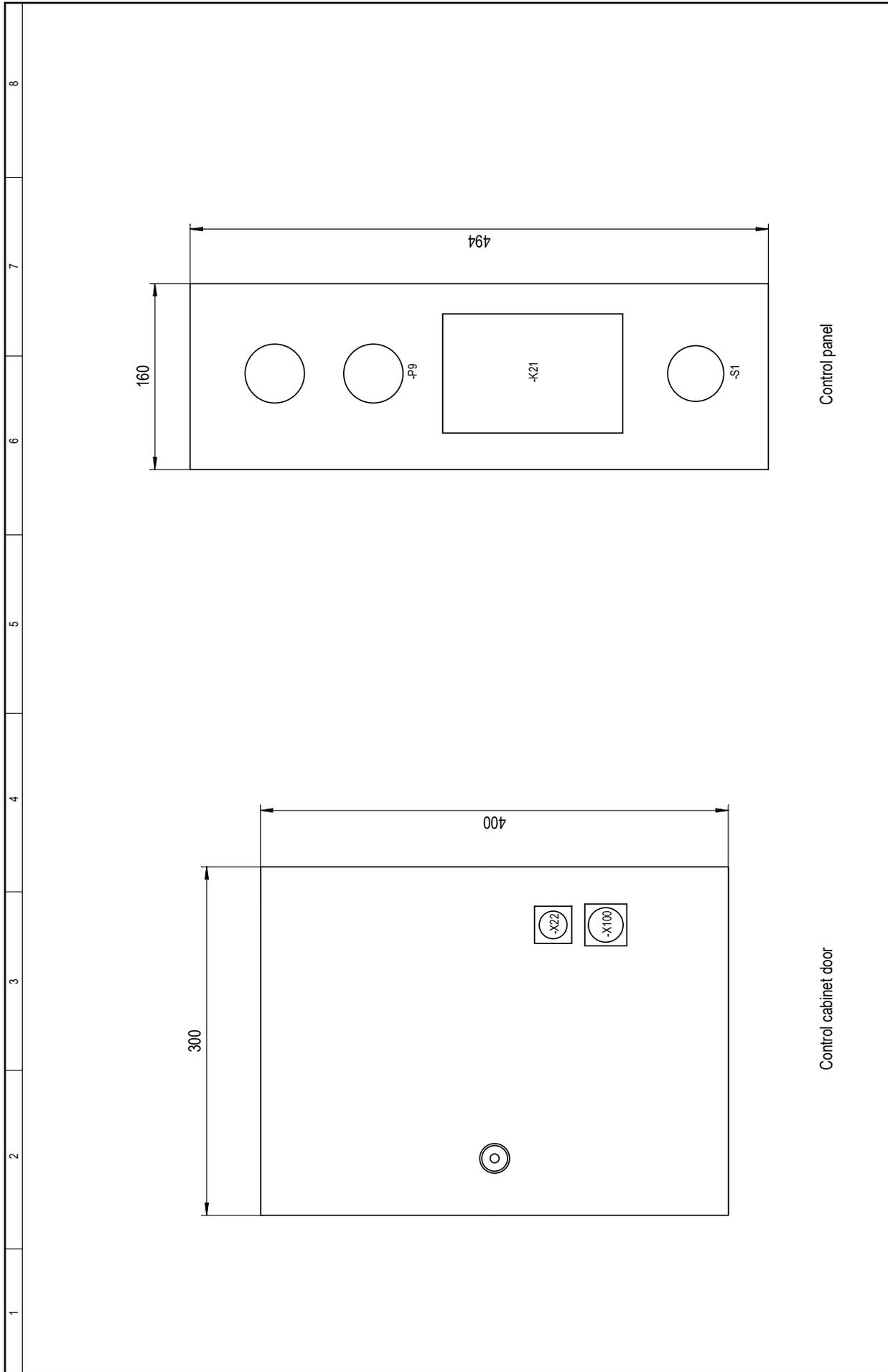
total 39 Terminals
Plug connection: -X39.2

c	Date	08.09.2021	Sitter			Terminal schedule MOBILAIR M125.3/M171.3 Plug connection: -X39.2	-SK + KFA125.2-03030.03	page 11 Sht
b	Drawn							
a	Released		Fischer C.					
H	Change	Date	Name					

Cable identification		Terminal strip		Destination external		Destination internal	
Connection number	Component identification	Location	Wire link	Terminal legend Link	Terminal number	Connection number	Component identification
Plug connection: -X45.1 total 12 Terminals							
24	-X39.2	/14.5			1		
29	-X39.2	/14.5			3		
33	-X39.2	/14.6			4		
K6		/15.2			5		
22	-X4.2	/15.2			6		
36	-X39.2	/15.7			7		
K7		/15.7			8		
35	-X39.2	/15.7			9		
16	-X39.2	/14.6			10		
30	-X39.2	/14.7			11		
					12		
Plug connection: -X45.2 total 12 Terminals							
1	-B58	/14.5			1		
2	-B58	/14.5			2		
3	-B58	/14.5			3		
4	-B58	/14.6			4		
5	-E85	/15.2			5		
6	-E85	/15.2			6		
7		/15.7			7		
8	-M20	/15.7			8		
3	-M20	/15.7			3		
1	-M20	/15.7			1		
9	-M20	/15.7			9		
10	-M20	/15.7			10		
11	-K82	/14.6			11		
12	-K82	/14.7			12		

c	Date	08.09.2021	Siller	Fischer C.
	Drawn			
b	Released		Date	Name
	Released			
a	Terminal schedule			
H Change	MOBILAIR M125.3/M171.3			
	Plug connection -X45			
-SK		KFA125.2-03030.03		
+		page 2		
		11 Str.		

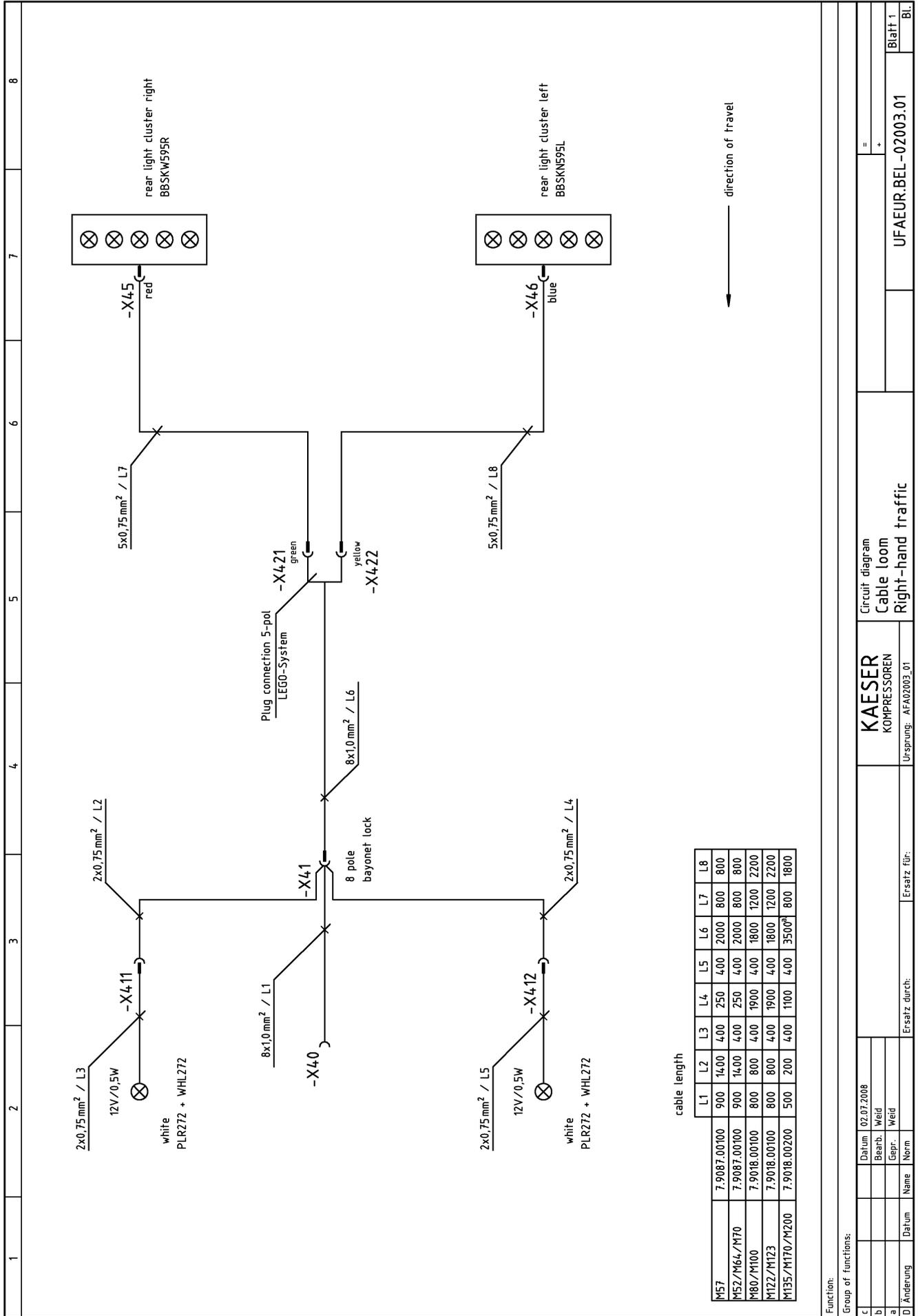




c	Date	08.09.2021		
b	Drawn	Siller		
a	Released	Fischer C.		
I	Change			
	Date	01.12.21	Fir/a	Neue
Component layout			= +	
MOBILAIR M125.3/M171.3			AFA125.2-03030.03	
Control cabinet door / Control panel			page 3 Sitr.	

**13.4.2 Option tc
Lighting and signaling system connection**

1	2	3	4	5	6	7	8	
<div style="border: 1px solid black; padding: 20px; margin: 0 auto; width: 80%;"> <p>Electrical diagrams MOBILAIR Lighting equipment connection 12V/13-pole</p> </div> <p style="text-align: center; margin-top: 20px;"> Manufacturer: Kaeser Kompressoren GmbH Postfach 2143 96410 Coburg </p>								
<p>The drawings remain our exclusive property. They are entrusted only for the agreed purpose. Copies or any other reproductions, including storage, treatment and dissemination by use of electronic systems must not be made for any other than the agreed purpose. Neither originals nor reproductions must be forwarded or otherwise made accessible to third parties.</p>								
c	Datum	02.07.2008	E	KAESER KOMPRESSOREN <small>Ursprung: AFA02003_01</small>				Cover page MOBILAIR Lighting equipment
b	Bearb.	Weld						=
a	Gepr.	Weld						+
D	Änderung	Datum	Name	Norm	Ersatz durch:			DFAEUR.BEL-02003.01 Blatt 1 Bl.



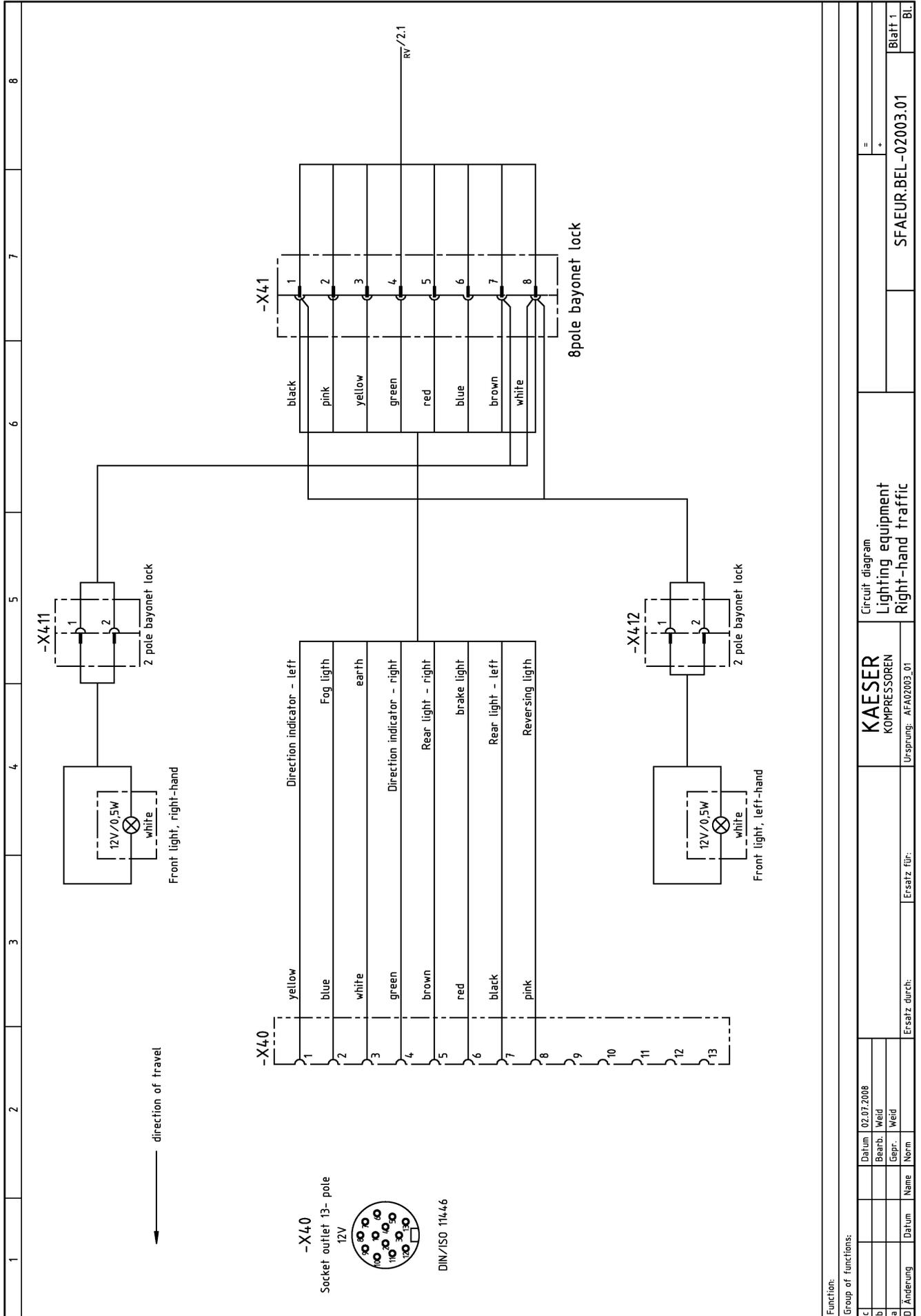
Function:
Group of functions:

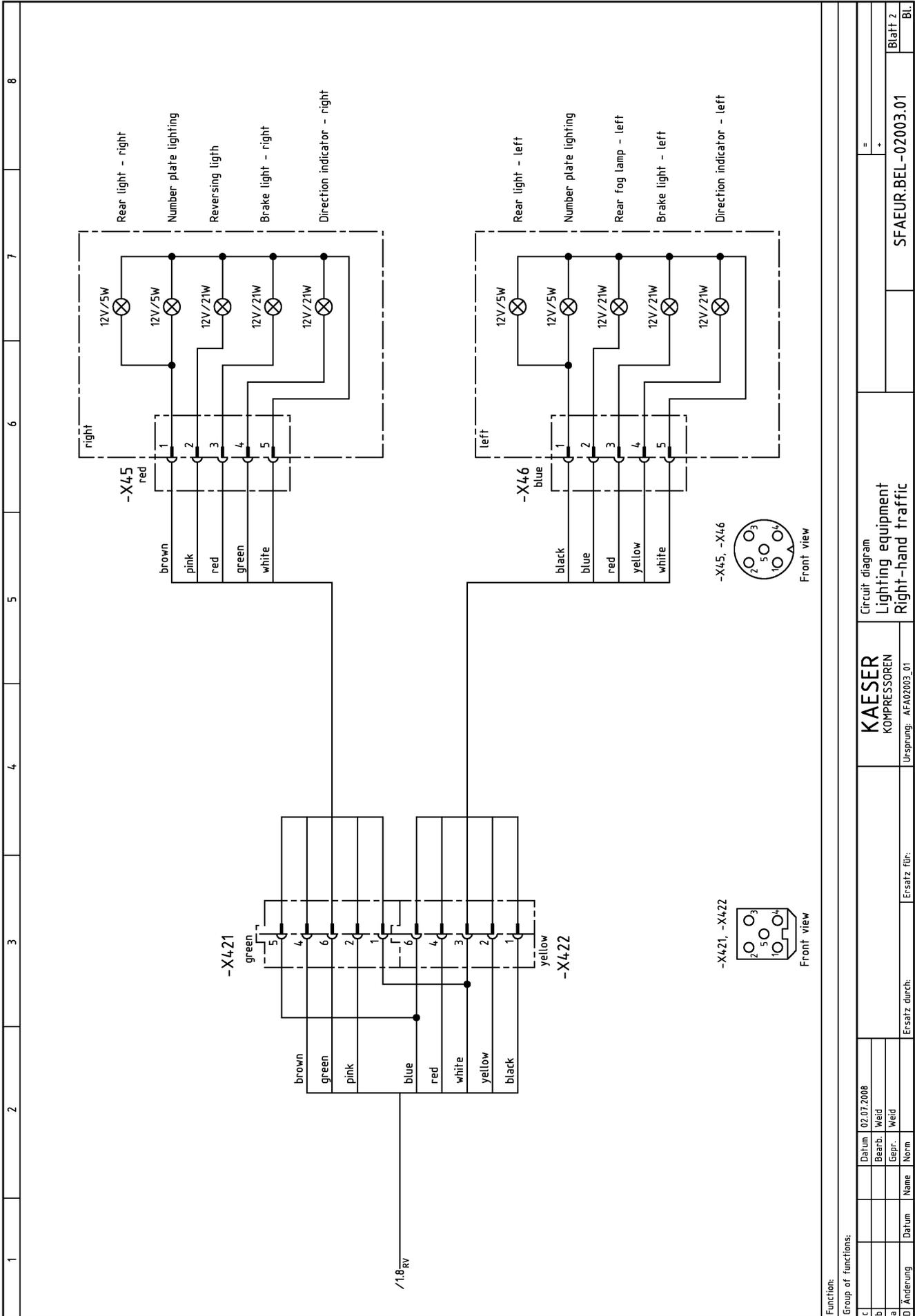
c	Datum	02.07.2008
b	Bearb.	Weld
a	Gepr.	Weld
D	Anderung	Datum Name Norm
	Ersatz durch:	Ersatz für:

KAESER
KOMPRESSOREN
Ursprung: AFA02003_01

Circuit diagram
Cable loom
Right-hand traffic

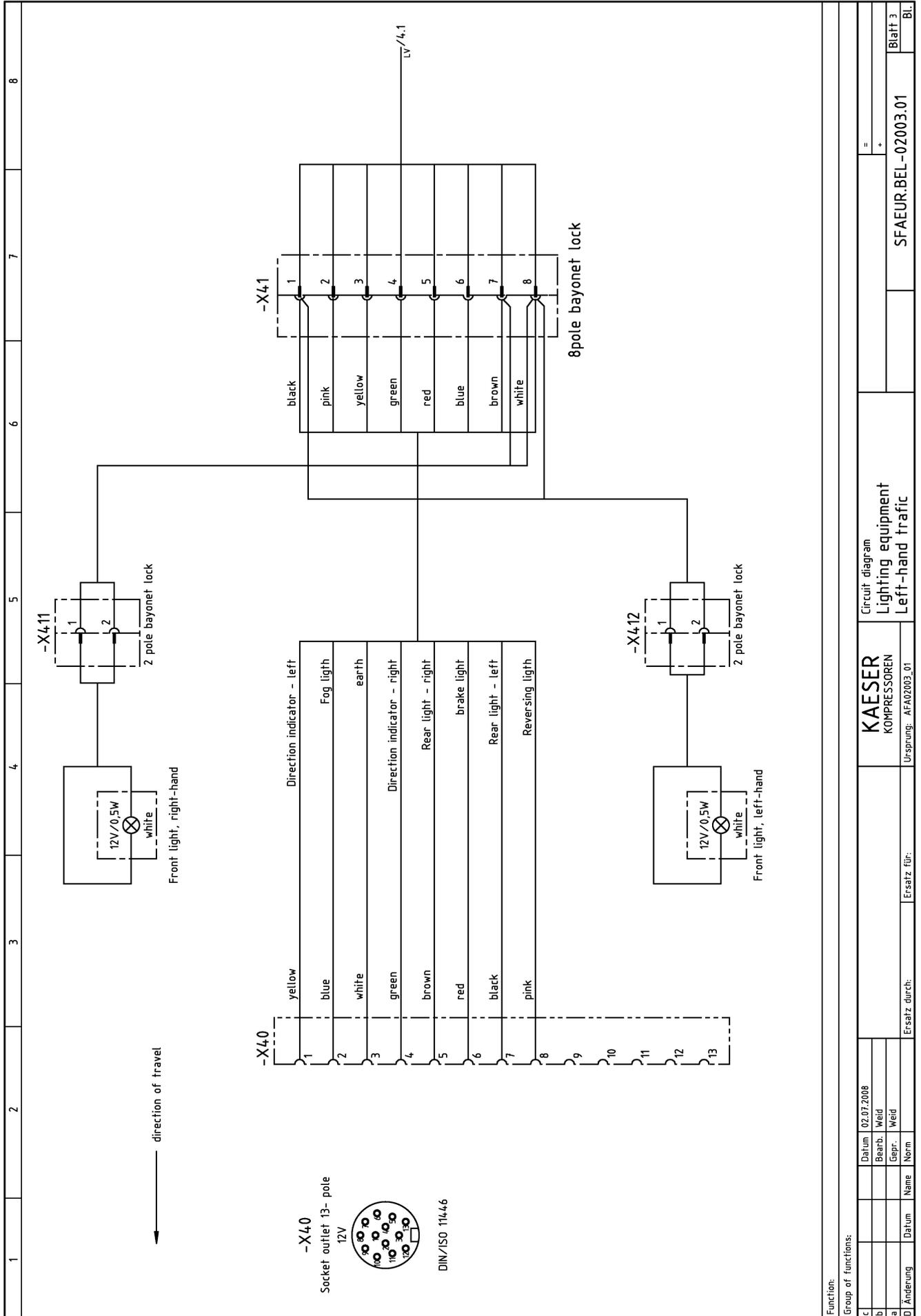
UFAEUR.BEL-02003.01
Blatt 1
Bl.





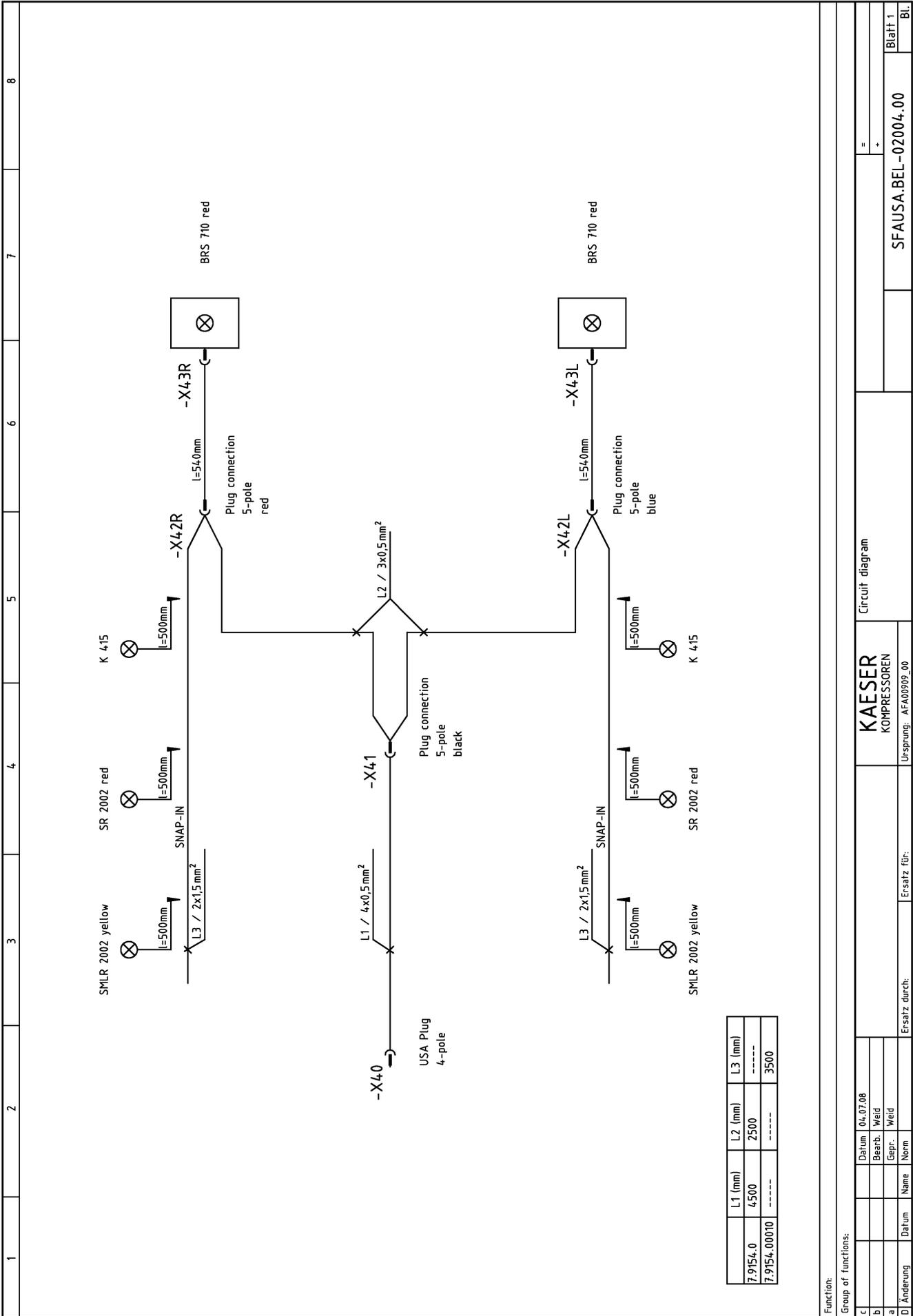
Function:
Group of functions:

c	Datum	02.07.2008	Circuit diagram		SF AEUR.BEL-02003.01	Blatt 2
b	Bearb.	Weid	Lighting equipment			
a	Gepr.	Weid	Right-hand traffic			
D	Änderung	Datum	Name	Norm	Ersatz durch:	
				Ersatz für:		
				Ursprung: AFA02003_01		
				KAESER KOMPRESSOREN		



**13.4.3 Option te
Lighting and signaling system connection**

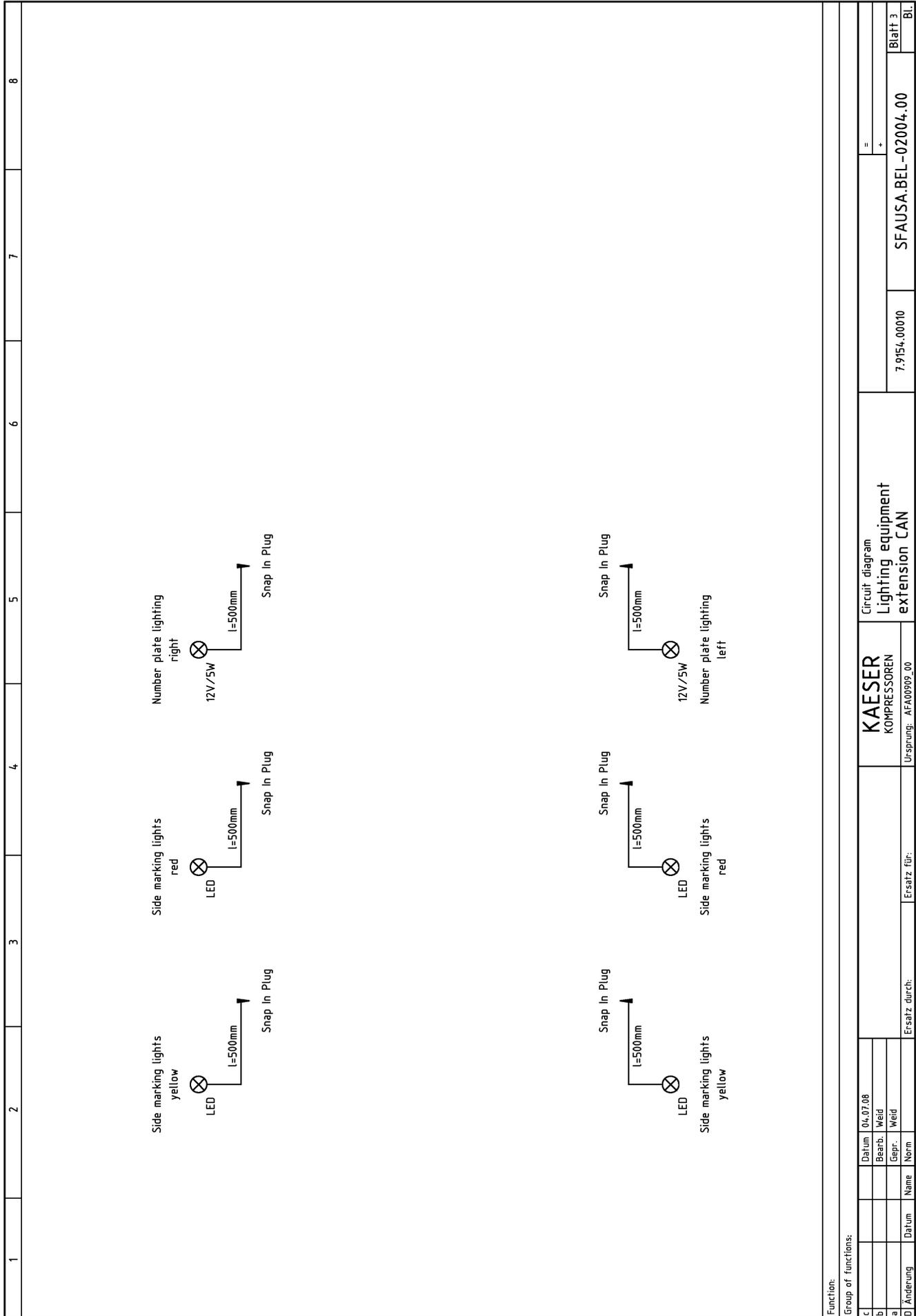
1	2	3	4	5	6	7	8	
<p>Electrical diagrams MOBILAIR Lighting equipment for USA / CAN</p>								
<p>Manufacturer: Kaeser Kompressoren GmbH Postfach 2143 96410 Coburg</p>								
<p>The drawings remain our exclusive property. They are entrusted only for the agreed purpose. Copies or any other reproductions, including storage, treatment and dissemination by use of electronic systems must not be made for any other than the agreed purpose. Neither originals nor reproductions must be forwarded or otherwise made accessible to third parties.</p>								
c	Datum	04.07.08	E					=
b	Bearb.	Weid						+
a	Gepr.	Weid						
D	Änderung	Datum	Name	Norm	Ersatz durch:			
					KAESER KOMPRESSOREN			
					Cover page MOBILAIR Lighting equipment			
					Ursprung: AFA00902_00			
					DFAUSA.BEL-02004.00			Blatt 1
								Bl.



Function:

Group of functions:

Kaeser KOMPRESSOREN		Circuit diagram	
Ersatz für:		Ursprung: AFA00902_00	
Ersatz durch:		SFAUSA.BEL-02004.00	
Datum		04.07.08	
Name		Bearb. Weld	
Norm		Gepr. Weld	
Blatt 1		Bl.	

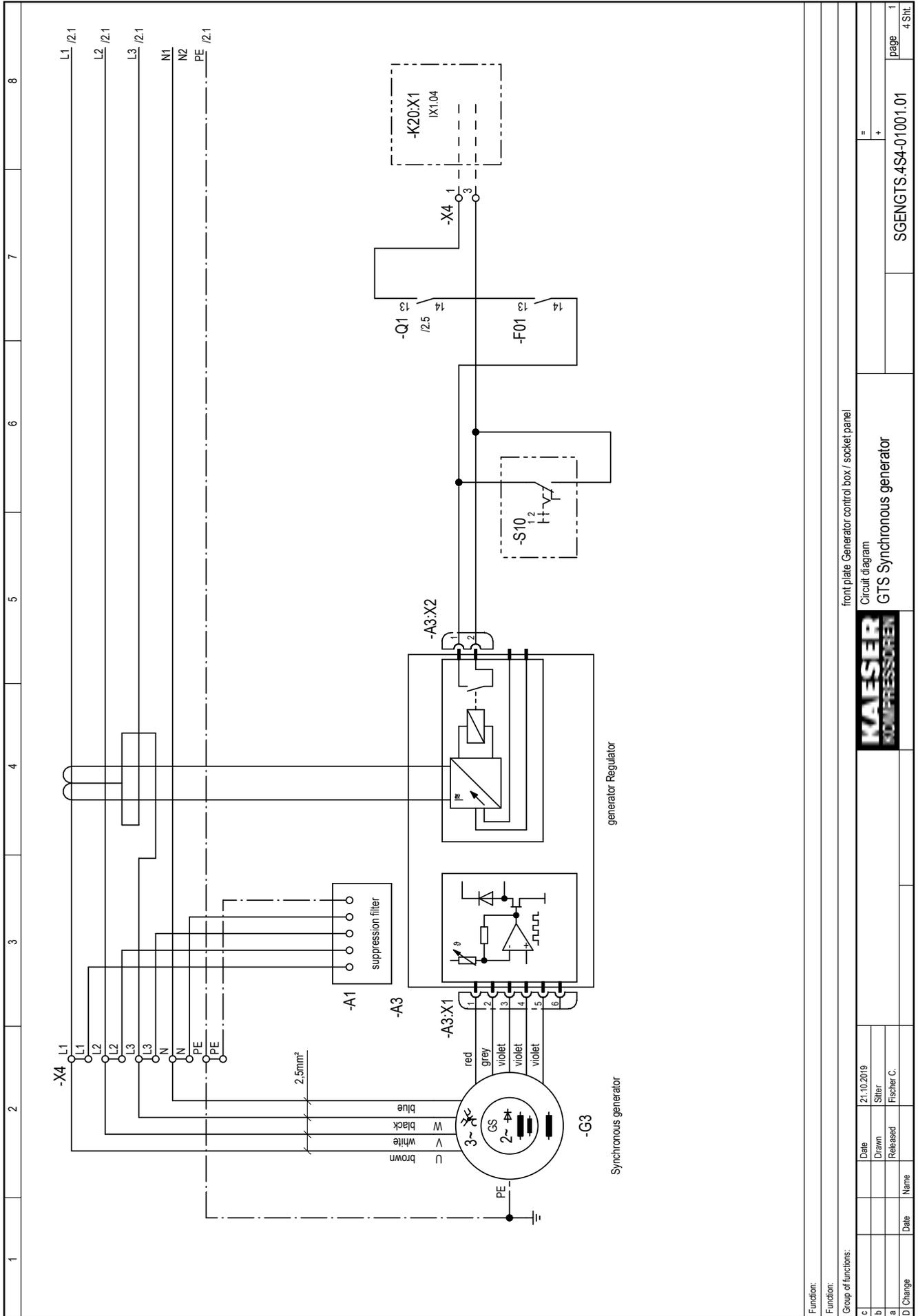


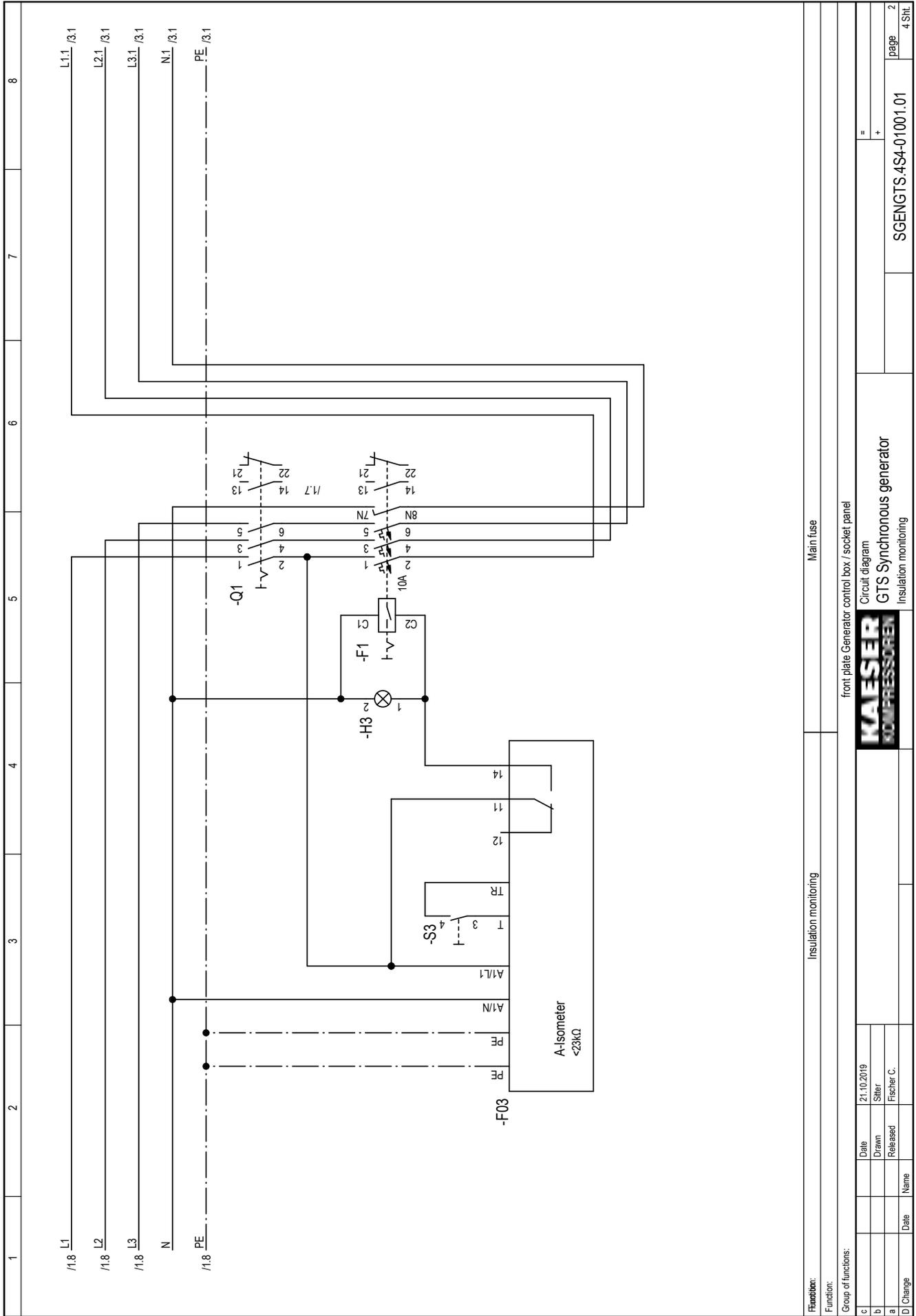
13.4.4 Option ga
Generator electrical diagram 400/230 V/3~

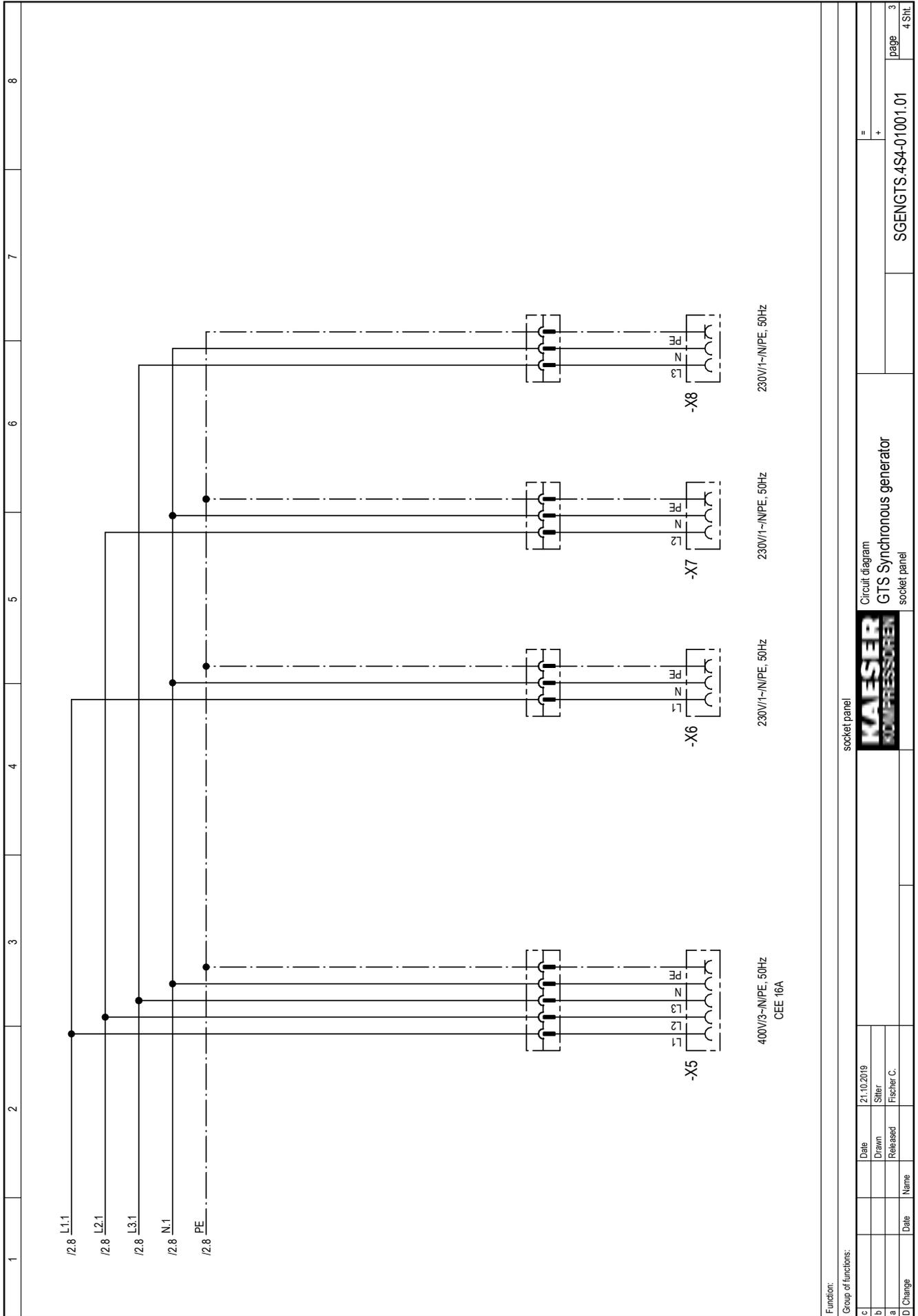
1	2	3	4	5	6	7	8
<div style="border: 1px solid black; padding: 20px; margin: 0 auto; width: 80%;"> <p>Electrical diagrams</p> <p>Synchronous generator</p> <p>400V/3~/50Hz, 8,5/13 kVA</p> <p>with Insulation monitoring</p> </div>							
<p>Manufacturer: KAESER KOMPRESSOREN SE Postfach 2143 96410 Coburg</p>							
<p>The drawings remain our exclusive property. They are entrusted only for the agreed purpose. Copies or any other reproductions, including storage, treatment and dissemination by use of electronic systems must not be made for any other than the agreed purpose. Neither originals nor reproductions must be forwarded or otherwise made accessible to third parties.</p>							
c		Date	21.10.2019		E		
b		Drawn	Siller				
a		Released	Fischer C.				
A. Change		Date	Name				
					Cover page GTS Synchronous generator		
					= +		page 1
					DGENGTS 4S4-01001.01		1 SHL

Lfd. Nr. No.	Benennung Name	Zeichnungsnummer (Kunde) Drawing No. (customer)	Zeichnungsnummer (Hersteller) Drawing No. (manufacturer)	Blatt Page	Anlagenkennzeichen Unit designation
1	Cover page		DGENGTS 4S4-01001.01	1	
2	List of contents		ZGENGTS.4S4-01001.01	1	
3	Circuit diagram		SGENGTS.4S4-01001.01	1	
4	Circuit diagram	Insulation monitoring socket panel	SGENGTS.4S4-01001.01	2	
5	Circuit diagram		SGENGTS.4S4-01001.01	3	
6	electrical equipment identification		SGENGTS.4S4-01001.01	01	
7	Equipment parts list		GGENGTS.4S4-01001.01	1	
8	Component layout	front plate	AGENGTS.4S4-01001.01	1	

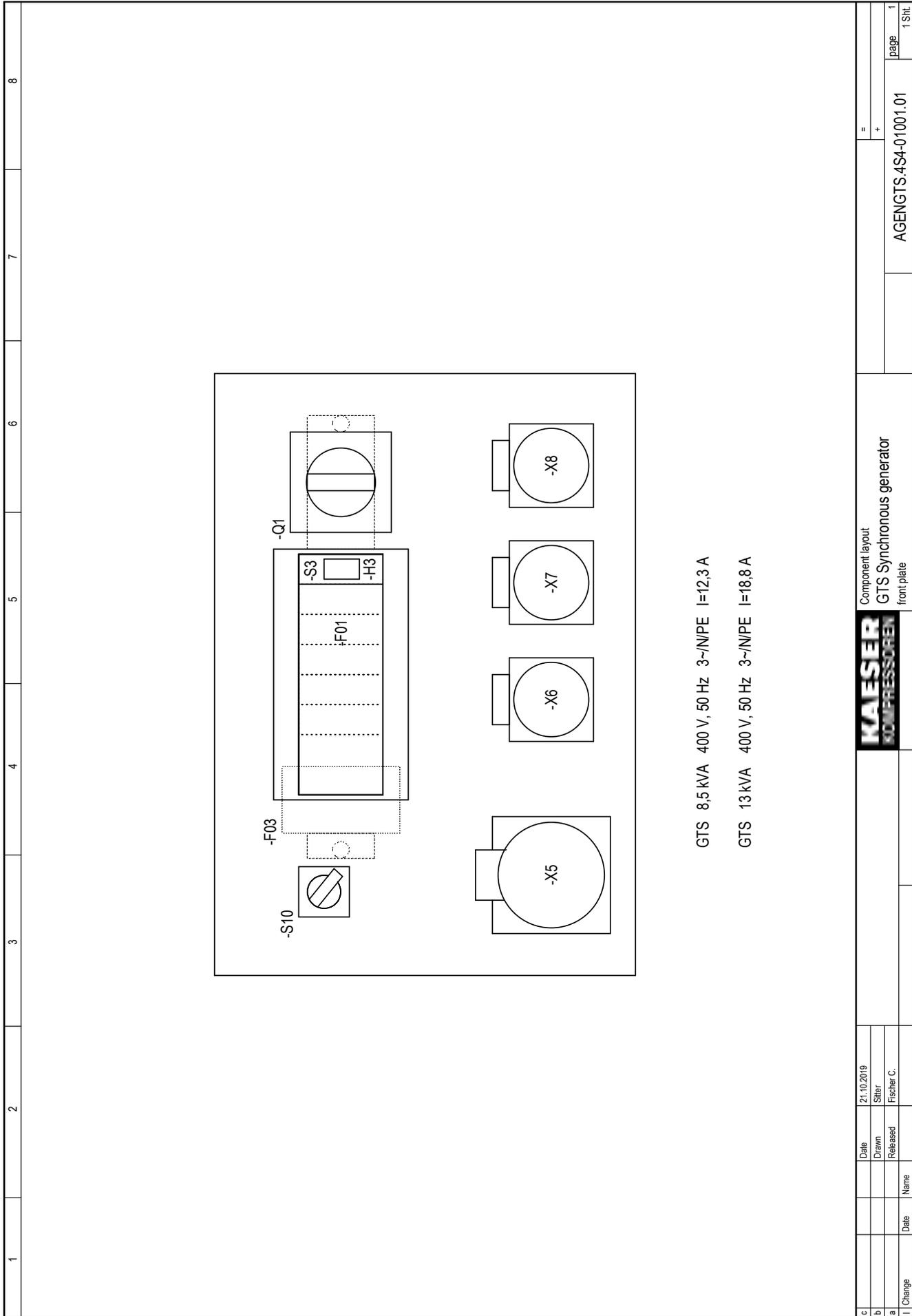
List of contents		=	
GTS Synchronous generator		+	
KAESER KOMPRESSOREN			ZGENGTS 4S4-01001.01
			page 1
			1 Stk.







1	2	3	4	5	6	7	8
		-A1 suppression filter					
		-A3 generator-Regulator					
		-F01 Cut-out with overcurrent release					
		-F03 Insulation monitoring					
		-G3 generator					
		-H03 earth leakage lamp					
		-Q1 Main switch					
		-S3 Test button, Insulation monitoring					
		-S10 Selector switch					
		-X4 connection generator					
		-X5 Socket outlet 400V/3~/N/PE, 50Hz					
		-X6,-X7,-X8 Socket outlet 230V/1~/N/PE,50Hz					
		-X42 Terminal strip, Valve interference suppression					
c	Date	21.10.2019	electrical equipment identification				
b	Drawn	Siller	GTS Synchronous generator				
a	Released	Fischer C.					
E	Change	Date	Name				
			SGENGTSA4-01001.01		= +		page .01
							4 Sht.



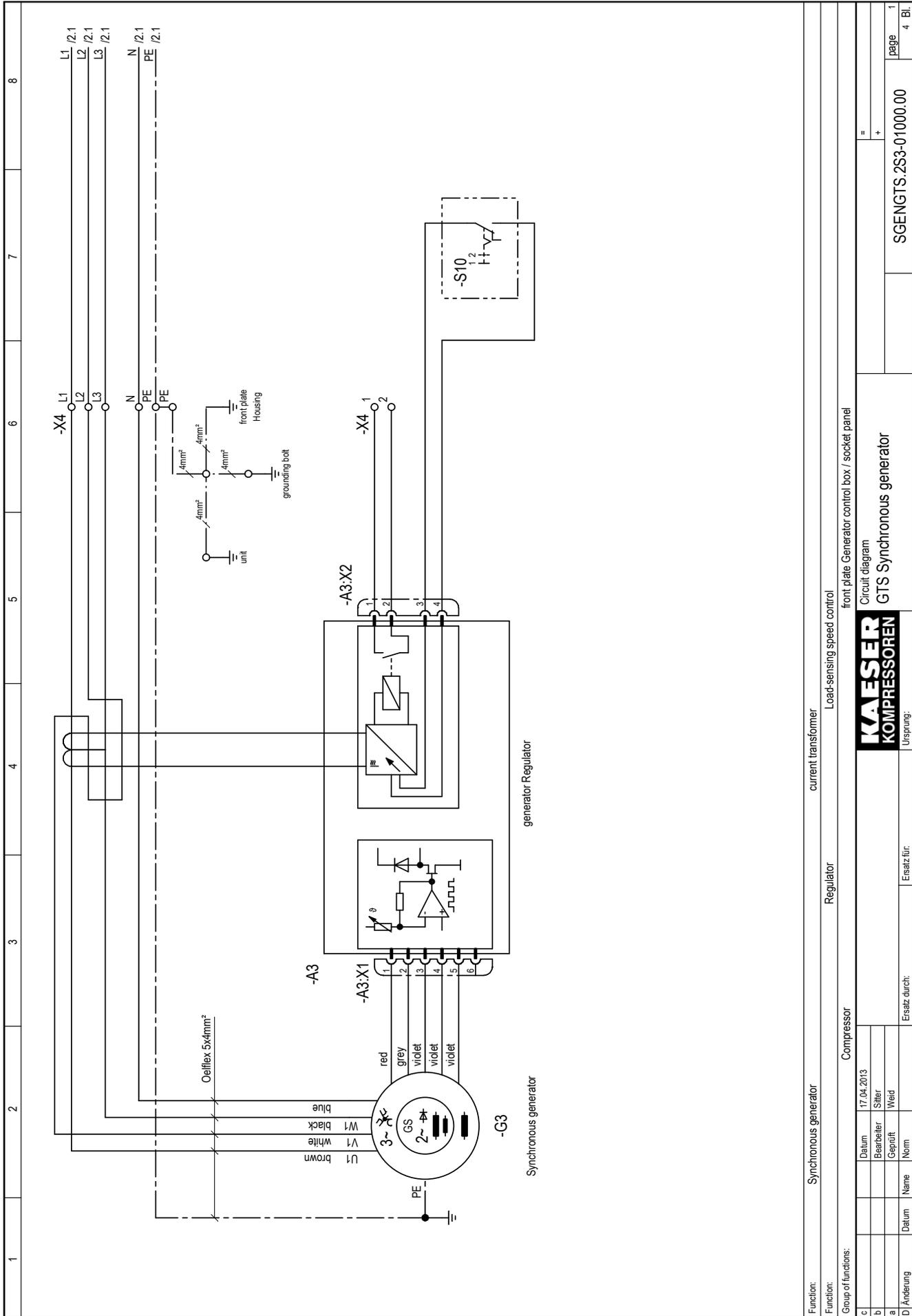
c	Date	21.10.2019	Component layout		=	
b	Drawn	Siller	GTS Synchronous generator		+	
a	Released	Fischer C.	front plate			
l	Change					AGENGTS 4S4-01001.01
	Date					page 1
	Name					1 SHL

13.4.5 Option ga
Generator electrical diagram, 230V, 3-ph

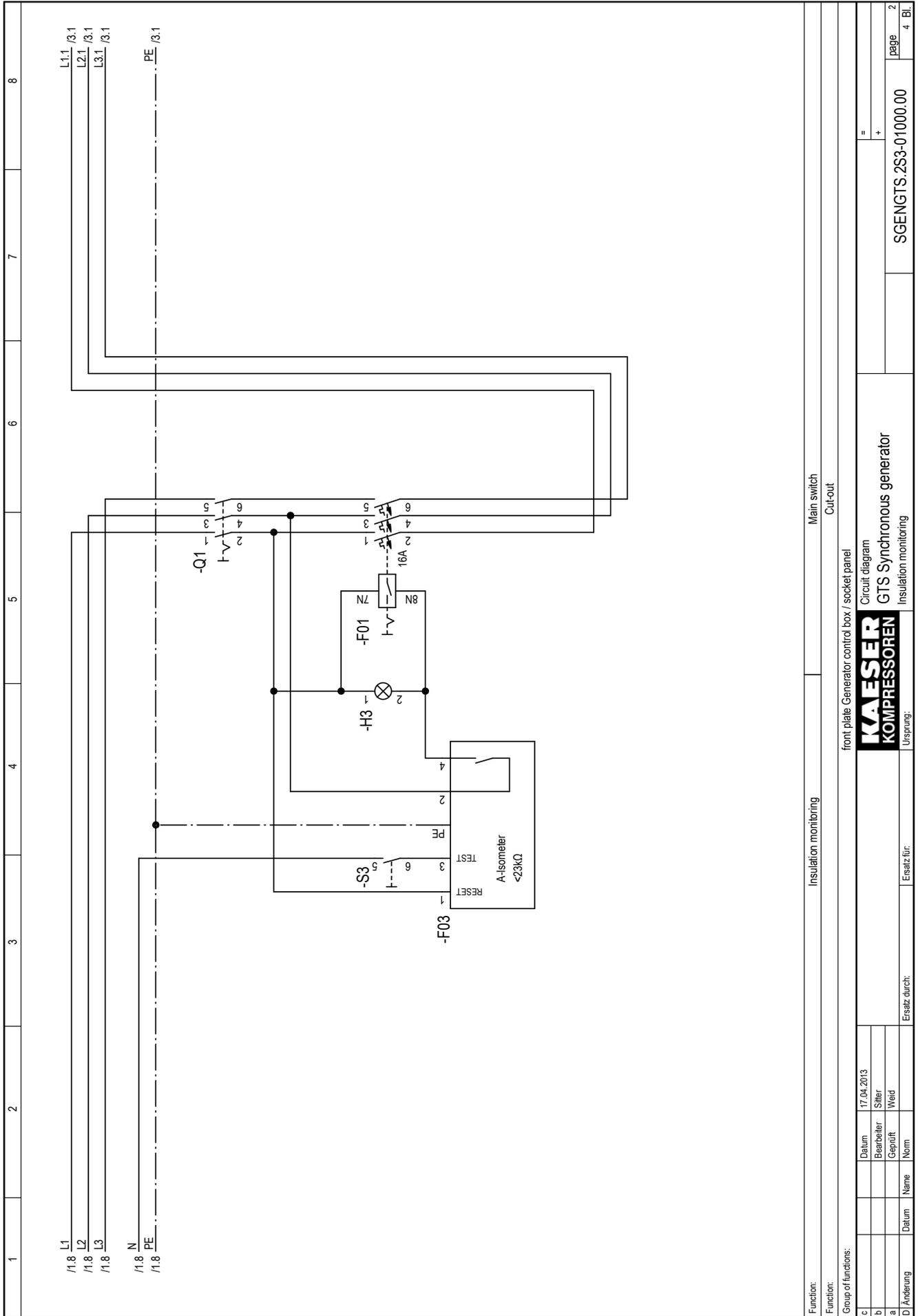
1	2	3	4	5	6	7	8	
<p>Electrical diagrams</p> <p>Synchronous generator</p> <p>230V/3~/50Hz, 8,5/13 kVA</p> <p>with Insulation monitoring</p>								
<p>Manufacturer: KAESER KOMPRESSOREN SE Postfach 2143 96410 Coburg</p>								
<p>The drawings remain our exclusive property. They are entrusted only for the agreed purpose. Copies or any other reproductions, including storage, treatment and dissemination by use of electronic systems must not be made for any other than the agreed purpose. Neither originals nor reproductions must be forwarded or otherwise made accessible to third parties.</p>								
c	Datum	17.04.2013	E	Cover page				=
b	Bearbeiter	Silber		GTS Synchronous generator				+
a	Geprüft	Wied		DGENGTS.2S3-01000.00				page 1
A	Änderung	Datum	Name	Ersatz durch:				1 Bl.
				Ersatz für:				
				Ursprung:				

Lfd. Nr. No.	Benennung Name	Zeichnungsnummer (Kunde) Drawing No. (customer)	Zeichnungsnummer (Hersteller) Drawing No. (manufacturer)	Blatt Page	Anlagenkennzeichen Unit designation
1	Cover page		DGENGTS.2S3-01000.00	1	
2	List of contents		ZGENGTS.2S3-01000.00	1	
3	Circuit diagram		SGENGTS.2S3-01000.00	1	
4	Circuit diagram	Insulation monitoring	SGENGTS.2S3-01000.00	2	
5	Circuit diagram	socket panel	SGENGTS.2S3-01000.00	3	
6	electrical equipment identification		SGENGTS.2S3-01000.00	01	
7	Equipment parts list		GGENGTS.2S3-01000.00	1	
8	Component layout	front plate	AGENGTS.2S3-01000.00	1	

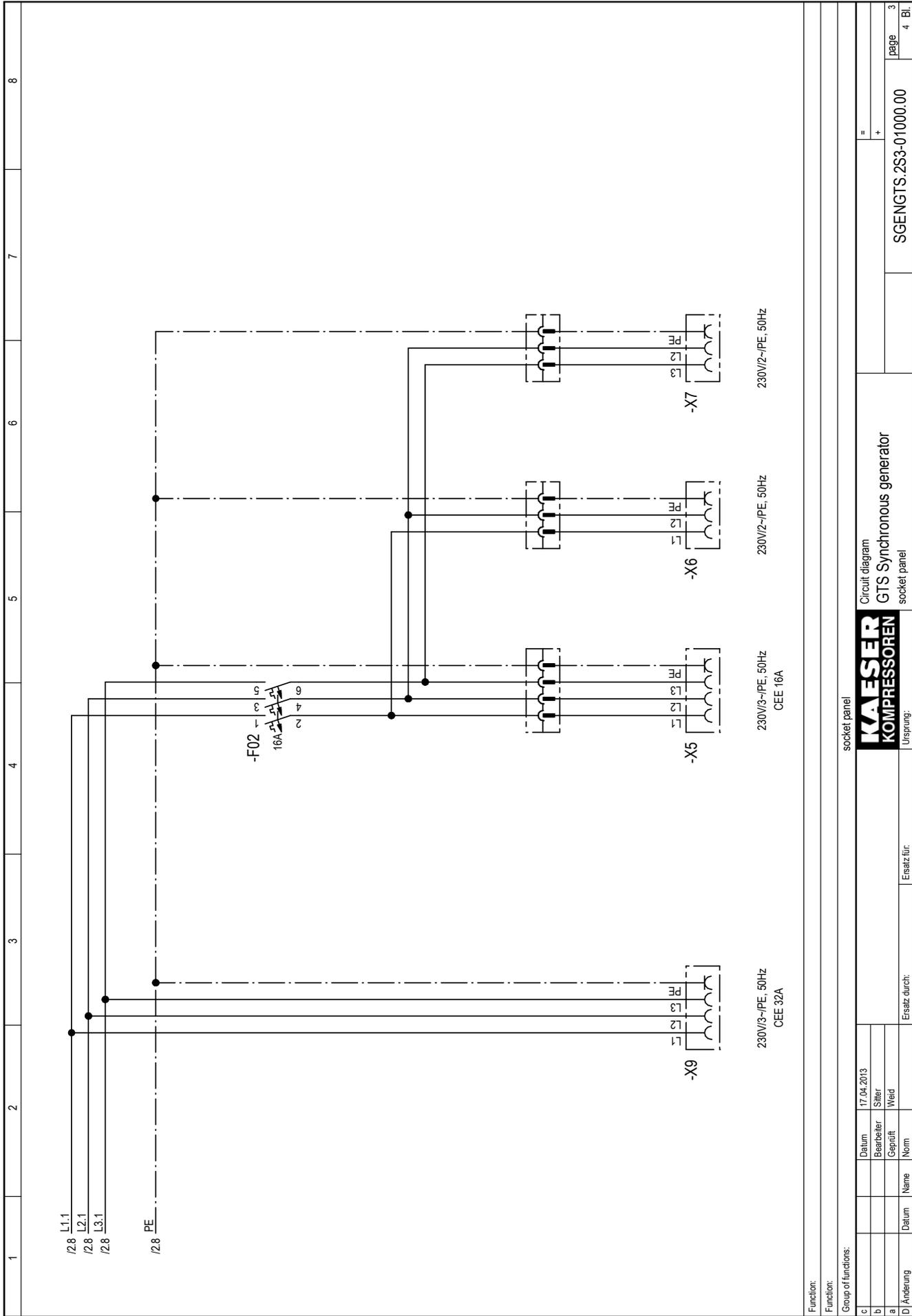
List of contents		=	
GTS Synchronous generator		+	
Kaeser logo		ZGENGTS.2S3-01000.00	
Ursprung:		page 1	
Ersatz durch:		1 Bl.	
Ersatz für:			



Function:		Synchronous generator	
Function:		Regulator	
Group of functions:		Load-sensing speed control	
c		front plate Generator control box / socket panel	
b		Circuit diagram	
a		GTS Synchronous generator	
D/Änderung		Ersatz durch:	
Datum	Name	Ersatz für:	Ursprung:
17.04.2013	Silber		
Geprüft	Wied		
Datum		Name	
Ersatz durch:		Ursprung:	
SGENGTS.2S3-01000.00		SGENGTS.2S3-01000.00	
page 1		4 Bl.	



Function:		Insulation monitoring		Main switch		Cut-out	
Group of functions:		front plate Generator control box / socket panel		Circuit diagram		GTS Synchronous generator	
Insulation monitoring		Kaeser KOMPRESSOREN		Insulation monitoring		SGENGTS.2S3-01000.00	
Date:		17.04.2013		=		page 2	
Operator:		Siller		+		4 Bl.	
Checked:		Wied		-			
Ersatz durch:		Ersatz für:		Ursprung:			

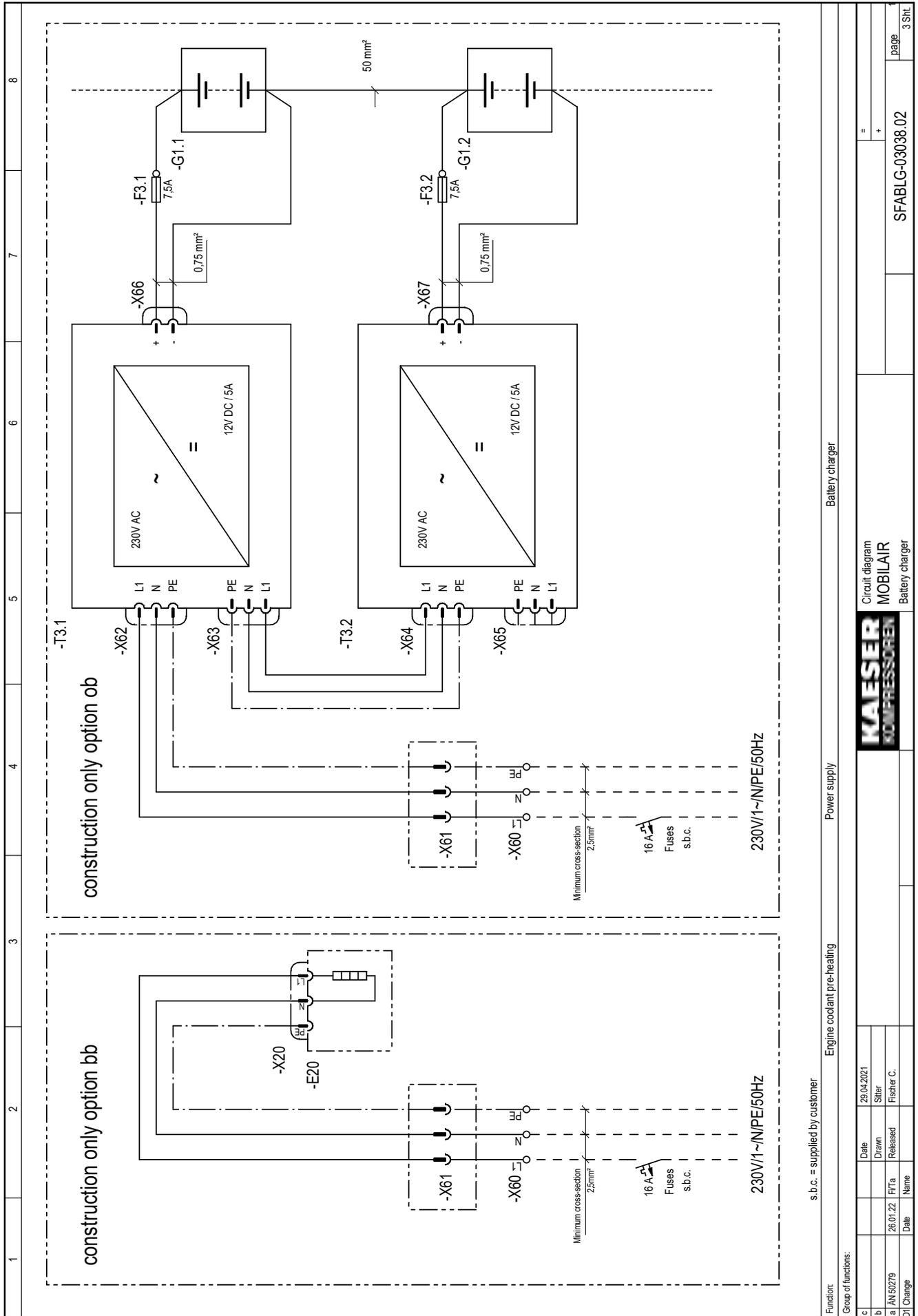


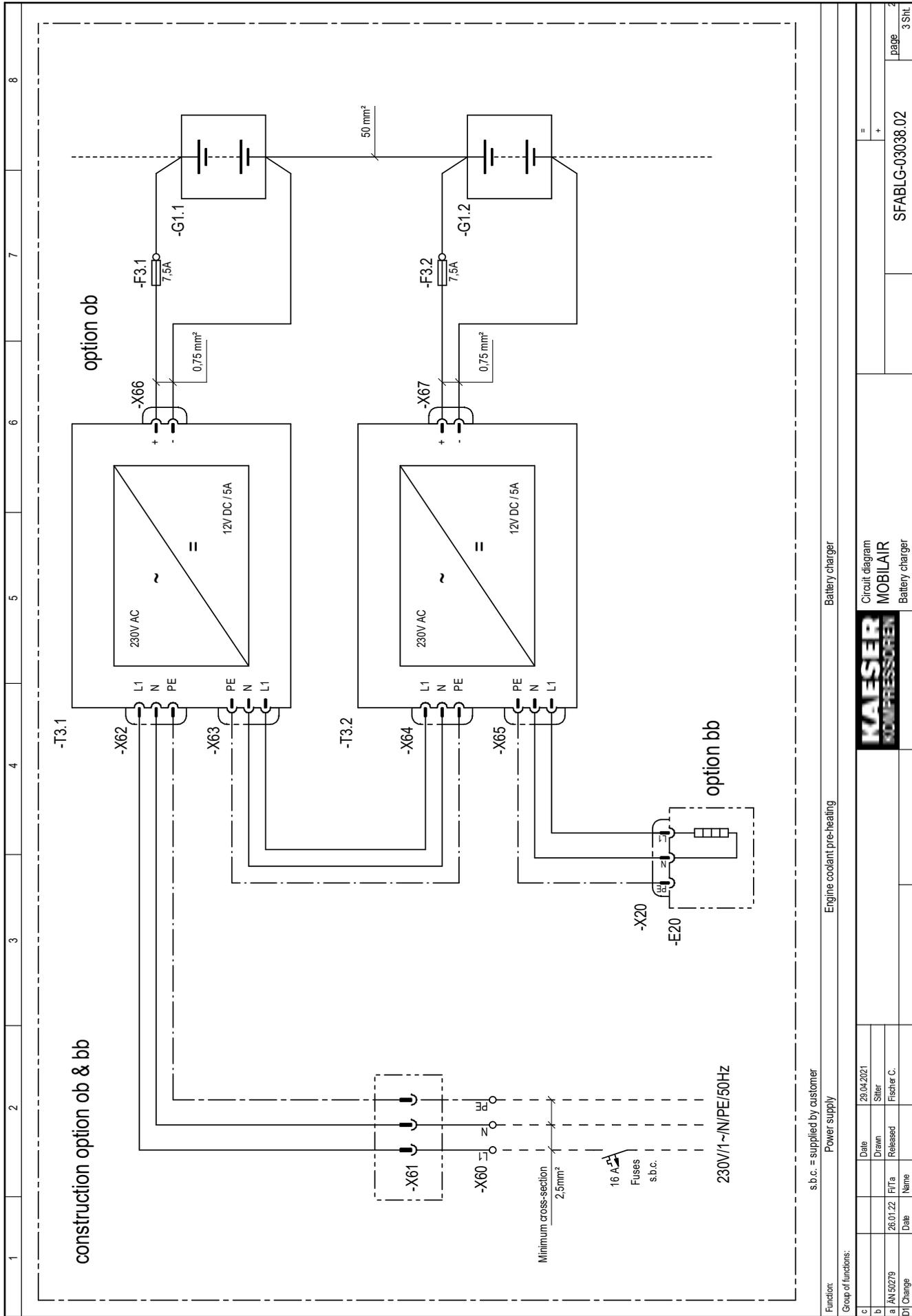
1	2	3	4	5	6	7	8	
		-A3 generator-Regulator						
		-F01 Cut-out with overcurrent release						
		-F03 Insulation monitoring						
		-G3 generator						
		-H03 earth leakage lamp						
		-Q1 Main switch						
		-S3 Test button, Insulation monitoring						
		-S10 Selector switch						
		-X4 connection generator						
		-X5,-X9 Socket outlet 230V/3~/PE, 50Hz						
		-X6,-X7 Socket outlet 230V/2~/PE,50Hz						
c	Datum	17.04.2013						
b	Bearbeiter	Silber						
a	Geprüft	Wied						
E/Anderung	Datum	Name	Ersatz durch:		Ersatz für:			
							SGENGT.S.2S3-01000.00	
							page 01	
							4 Bl.	
				KAESER KOMPRESSOREN				
				electrical equipment identification				
				GTS Synchronous generator				
				Ursprung:				

13.4.6 Option od
Battery charger electrical diagram

1	2	3	4	5	6	7	8	
<div style="border: 1px solid black; padding: 20px; margin: 0 auto; width: 80%;"> <p>Electrical diagrams</p> <p>Battery charger 12V DC / 5A</p> <p>Power supply:</p> <p>230V / 1~ / N / PE / 50Hz</p> <p>24V - System</p> </div>								
<p>Manufacturer: KAESER KOMPRESSOREN SE Postfach 2143 96410 Coburg</p>								
<p>The drawings remain our exclusive property. They are entrusted only for the agreed purpose. Copies or any other reproductions, including storage, treatment and dissemination by use of electronic systems must not be made for any other than the agreed purpose. Neither originals nor reproductions must be forwarded or otherwise made accessible to third parties.</p>								
c		Date	29.04.2021		E			=
b		Drawn	Siller					+
a		Released	26.01.22	Firra	Fischer C.			DFABLG-03038.02
A		Change	Date	Neue				page 1
					Cover page			1 Str.
					MOBILAIR			
					Battery charger			

1	2	3	4	5	6	7	8	
<p>general instructions Control voltage : 230V AC</p>								
<p>option ob = Automatic-start-stop option bb = Engine coolant pre-heating</p>								
<p>components option Battery charger</p> <ul style="list-style-type: none"> -T3.1,-T3.2 Battery charger -F3.1,-F3.2 Fuse -G1.1,-G1.2 Battery -X60...-X67 plug connection 								
<p>components option Engine coolant pre-heating</p> <ul style="list-style-type: none"> -E20 Heating Engine coolant pre-heating -X20 plug connection -X68,-X69 plug connection 								
<p>KAESER KOMPRESSOREN</p>								
<p>Block diagram general instructions</p>								
<p>UFABLG-03038.02</p>								
<p>page 1 Str.</p>								
c	Date	29.04.2021	Date	29.04.2021				
b	Drawn	Sillier	Released	Fischer C.				
a								
C/ Change								





s.b.c. = supplied by customer

Power supply

Engine coolant pre-heating

Battery charger

Function:
Group of functions:

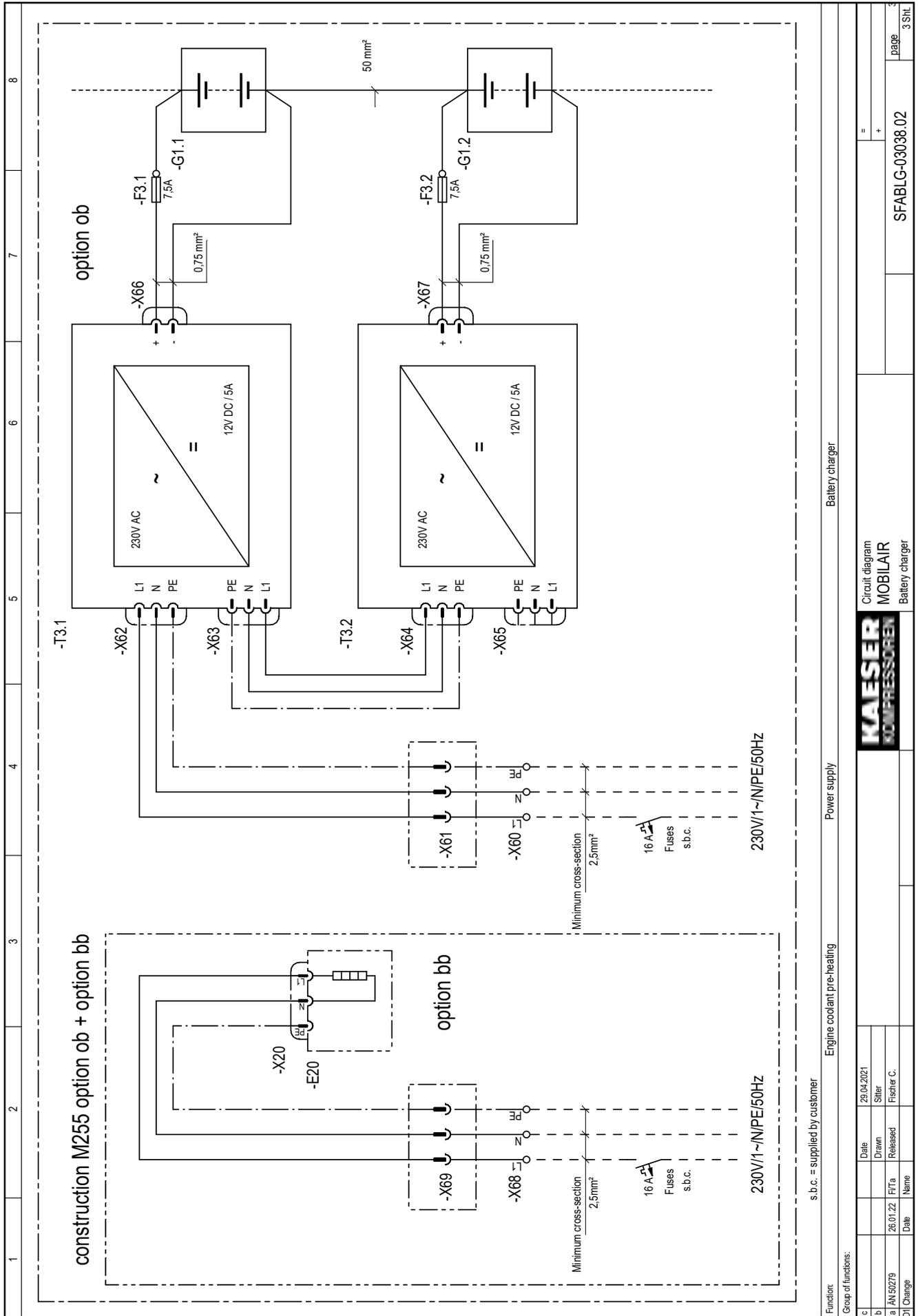
c	Date	29.04.2021
b	Drawn	Sillier
a	Released	Fischer C.
DI Change	Date	Name

Circuit diagram
MOBILAIR
Battery charger

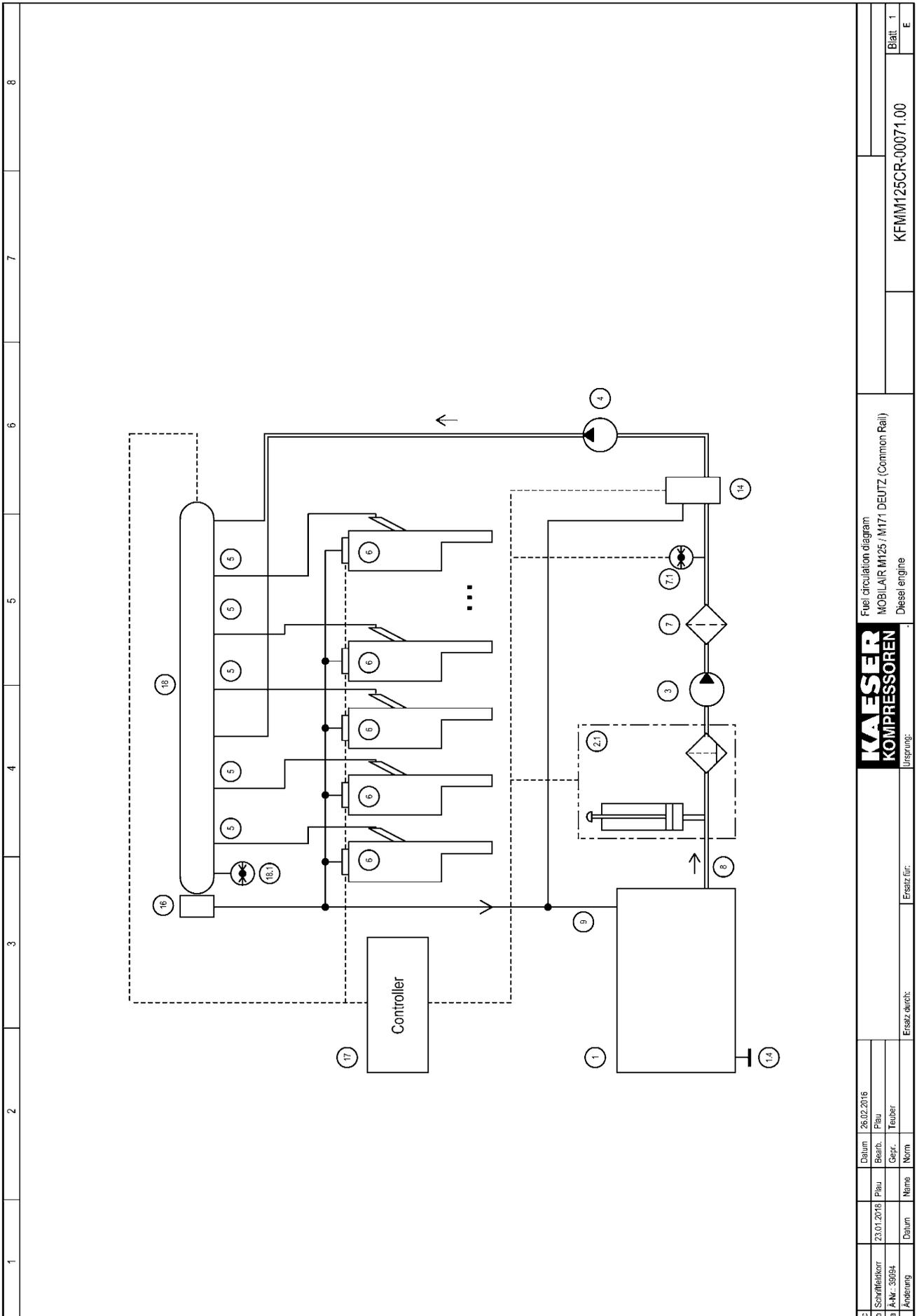


SFABLG-03038-02

page 2
3 Sht.

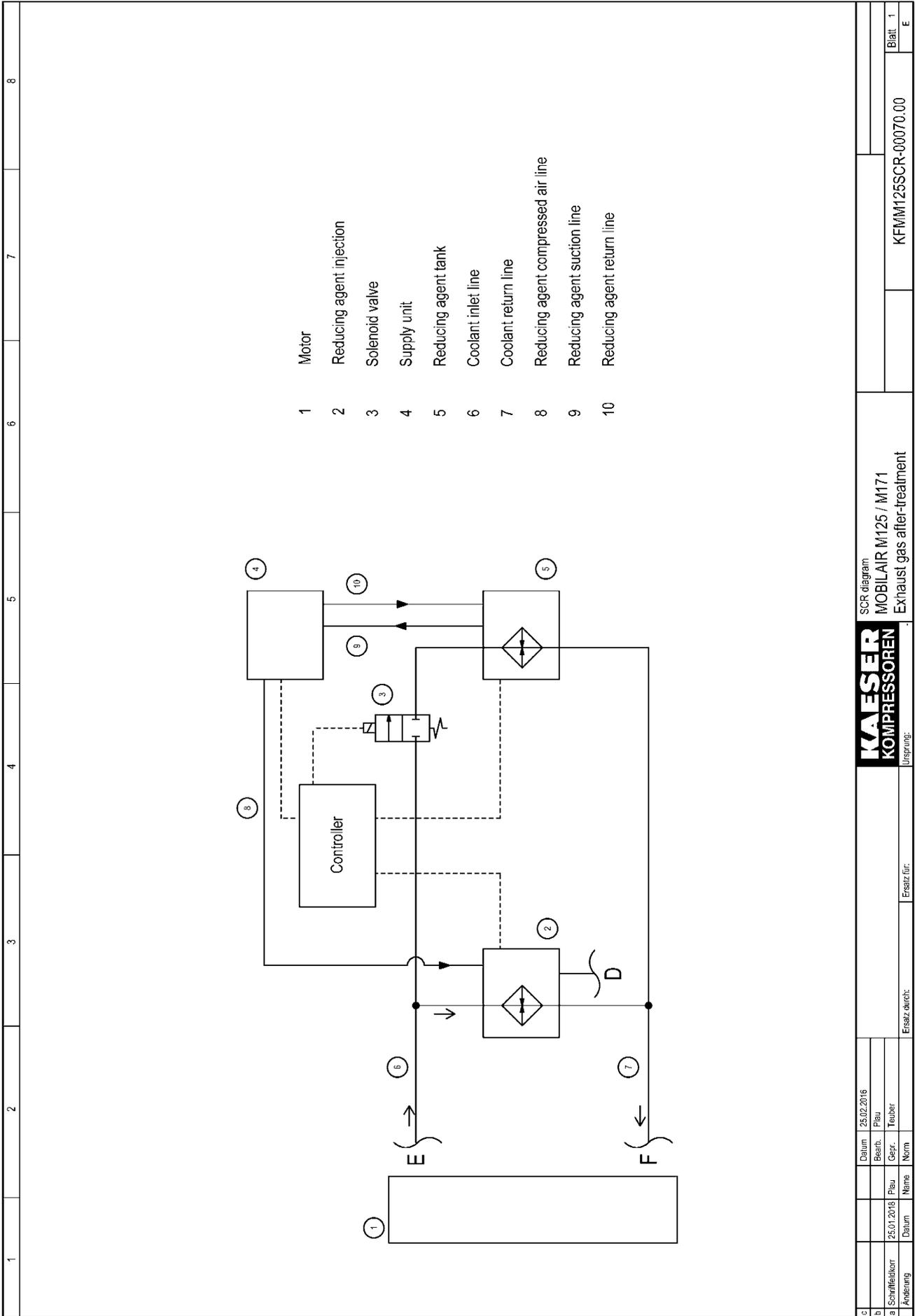


13.5 Fuel circulation diagram



c	Datum	26.02.2016	Ersatz für:		Ersatz durch:		Ursprung:		Fuel circulation diagram MOBILAIR M125 / M171 DEUTZ (Common Rail) Diesel engine		KFMM125CR-00071.00		Blatt: 1		
b	Schriftlektor	23.01.2016	Plau	Bearb.	Plau	Ersatz für:		Ersatz durch:		Ursprung:		KFMM125CR-00071.00		Blatt: 1	
a	Änderung	30.03.04	Plau	Bearb.	Teuber	Ersatz für:		Ersatz durch:		Ursprung:		KFMM125CR-00071.00		Blatt: 1	
			Plau	Bearb.	Teuber	Ersatz für:		Ersatz durch:		Ursprung:		KFMM125CR-00071.00		Blatt: 1	
			Plau	Bearb.	Teuber	Ersatz für:		Ersatz durch:		Ursprung:		KFMM125CR-00071.00		Blatt: 1	

13.6 Option Id Pipeline and instrument flow diagram (exhaust treatment)



c	Datum	25.02.2016
b	Bearb.	Pfau
a	Schaffli/Korr	25.01.2018 Pfau
Änderung	Datum	Name
		Norm
		Trauber

ESBZ durch:	ESBZ für:

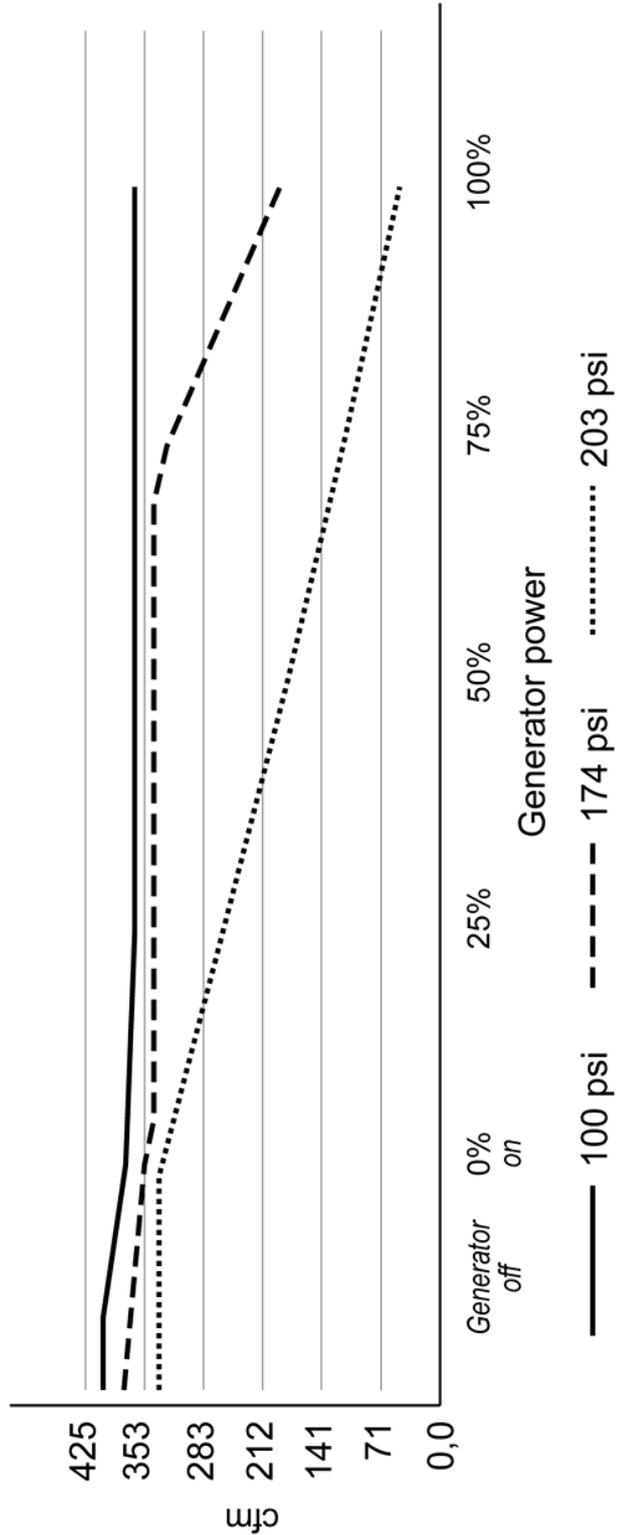
SCR diagram
MOBILAIR M125 / M171
Exhaust gas after-treatment

KFM/M125SCR-00070.00
Blatt 1
E

13.7 Compressed air flow rate in generator mode

Generator 13kVA

Generator	off	on	0%	25%	3,3 kVA	50%	6,5 kVA	75%	9,8 kVA	100%	13 kVA
100 psi	406	406	367	367	364	364	364	364	364	364	364
174 psi	378	378	353	350	350	350	350	350	293	261	198
203 psi	343	343	343	290	272	251	233	215	180	162	145



M125 Generator Option



M125 GEN 13kVAuse

13.8 Option dd
Operating instructions for compressed air filter (combination filter)



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



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.
- Fremhæver 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.
- Tőstáb 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.
- Uzsvēr darbības vai procedūras, kuru rezultātā, ja tās neveic pareizi, var izraisīt ievainojumus vai nāvi.
- Žymi veiksmus ar procedūras, kuriuos atlikus neteisingai, galima susižeisti ar mirtį.
- 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 korrimnt 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.
- Fremhæver 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.
- Tőstáb 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.
- Uzsvēr 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 hsara 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 giyimelidir
- Este necesară purtarea unor mănuși 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 použiť vhodné rukavice.
- Viseljen megfelelő védőkesztyűt.
- Reikia mūvēti tinkamas pirštines.
- Uporabiti je treba ustrezne rokavice.
- Ghandhom jintlibsu ingwanti adatti



- Highlights the requirements for disposing of used parts and waste.
- Benadrukt de vereisten voor het weggoeien 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.
- Fremhæver 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.
- Tőstáb esile kasutatud osade ja jääkide utiliseerimisele esitatavad nõuded
- A használt alkatrészek és a hulladék megfelelő módon történő elhelyezésére hívja fel a figyelmet.
- Uzsvēr 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 wiehed jarmi l-partijiet uzati u l-iskart
- Evidențiază cerințele pentru depunerea la deșeurii a pieselor uzate și a reziduurilor.

	<ul style="list-style-type: none"> • Pressure. • Paine. • Πίεση • Ciśnienie • Nyomás alatt. • Tlak 	<ul style="list-style-type: none"> • Druk • Tryck • Presión. • Tlak.. • Spiediëns. • Basınç 	<ul style="list-style-type: none"> • Druck. • Trykk • Pressão. • Tlak. • Slëgis. • Pressjoni 	<ul style="list-style-type: none"> • Pression. • Tryk • Pressione. • Surve. • Давление • Presiune.
	<ul style="list-style-type: none"> • Release Pressure. • Évacuacion de pression. • Avlast trykk • Despresurizar. • Ciśnienie spustowe • Surve väljalase • Išleiskite slëgį. • Basıncı Kaldırın 	<ul style="list-style-type: none"> • Druk aflaten. • Vapauta paine. • Aflast tryk • Liberta Pressão. • Uvolnëní tlaku. • Engedje ki a nyomást. • Кравить давление • Nehhi l-pressjoni 	<ul style="list-style-type: none"> • Druck ablassen. • Tryckutsläpp. • Εκτόνωση πίεσης • Scaricare la pressione. • Uvolnëní tlaku. • Pazeminiet spiedienu. • Sprostitev tlaka. • Depresurizare. 	
	<ul style="list-style-type: none"> • Replace every year • Remplacer tous les ans. • Skift ut hvert år • Sustituir anualmente • Należy wymieniać raz w roku • Asendage igal aastal • Keiskite kartä per metus • Her yıl deđiştirin 	<ul style="list-style-type: none"> • Elk jaar vervangen • Vaihda vuosittain. • Udskift en gang om året • Substituir todos os anos • Každý rok vymieňajte • Evente cserélje • Заменять каждый год. • Ibdel kull sena 	<ul style="list-style-type: none"> • Jährlich austauschen • Byt varje år • Αντικατάσταση κάθε χρόνου • Sostituire ogni anno • Nutná výměna každý rok. • Nomainiet reizi gadā • Zamenjajte vsako leto. • Inlocuire anuală 	
	<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • Filterhuis / Model • Suodatintokelo/-malli • Filterhus/modell • Caixa / Modelo do filtro • Kryt filtra / Model • Szűrőház / típus • Корпус фильтра / модель • Kontenitur tal-filtru - Mudell 	<ul style="list-style-type: none"> • Filtergehäuse / Modell • Filterhus/modell • Υποδοχή/μοντέλο φίλτρου • Corpo del filtro / Modello • Kryt filtru / Model • Filtra korpus / modelis • Ohísje filtra / Model • Carcasă filtru / Model 	
	<ul style="list-style-type: none"> • High efficiency filter element • Hochleistungsfiltrelement • 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 	<ul style="list-style-type: none"> • Zeer efficiënt filterelement • Cartouche filtrante haute efficacité. • Høgeffektivt filterelement • Høgeffektivt 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 eficiență ridicată 		
	<ul style="list-style-type: none"> • 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 • Uistíte sa, že používate správny nástroj • Tagage õige tööriista kasutamine • Izmantojiet tikai atbilstošus darbarīkus • Убедитесь, что используется правильный инструмент • Doğru alet kullanılması sağlayın 	<ul style="list-style-type: none"> • Stellen Sie sicher, dass Sie das richtige Werkzeug verwenden. • Käyttävä oikeaa työkalua • Pass på at korrekt verktoy 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 • Ísitikinkite, kad naudojamas reikiamas įrankis • Poskrbite, da boste uporabili ustrezno orodje • Kun žgur li tintuža l-ghodda t-tajba • Asigurați-vă că este utilizată scula corectă 		
	<ul style="list-style-type: none"> • 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 (mėnuo / metai) • Datum naslednjega servisa (mesec / leto) • Id-data tas-servis li jmiss (xahar / sena) 	<ul style="list-style-type: none"> • 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

AO, AA, ACS, AR, AAR 005 - 055

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 výrobek musí být 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 pooblašteni 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 ghandu jiġi installat u jinghata l-manutenzjoni minn personal kompetenti u awtorizzat biss, taht sorveljanza stretta ta' dawn l-istruzzjonijiet tat-thaddim, u kwalunkwe standards u htigijiet legali rilevanti fejn hu xieraq.

Erfä' 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
Model	BSPT/NPT poortafmeting	Stroom snelheid	Afmetingen	Gewicht	Bedrijfs parameters	Filter kwaliteitsgraad	Filter modellen	Maximale bedrijfs temperatuur	Maximale bedrijfs temperatuur	Minimale bedrijfs temperatuur
Modell	BSPT/NPT Anschlussgröße	Durchflussrate	Abmessungen	Gewicht	Betriebsparameter	Filterklasse	Filtermodell	Max. Betriebsdruck	Max. Betriebstemperatur	Min. Betriebstemperatur
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.
Maili	BSPT NPT- portin koko	Virtausnopeus	Mitat	Paino	Käyttöparametrit	Suodatinluokka	Suodatinmallit	Suurin käyttöpainne	Suurin käyttölämpötila	Pienin käyttölämpötila
Modell	BSPT NPT- öppningsstorlek	Flödes-hastighet	Mått	Vikt	Driftsparametrar	Filter-klass	Filter-modeller	Högsta driftstryck	Högsta drifts-temperatur	Lågsta drifts-temperatur
Modell	BSPT NPT- Portstørrelse	Strømnings-hastighet	Mål	Vekt	Driftsparametere	Filter-type	Filter-modeller:	Maks. drifts-trykk	Maks. drifts-temperatur	Min. drifts-temperatur
Modell	BSPT NPT- portstørrelse	Flow-hastighed	Mål	Vægt	Driftsparametre	Filter-kvalitet	Filter-modeller	Maks. drifts-tryk	Maks. drifts-temperatur	Min. drifts-temperatur
Μοντέλο	Μέγεθος θύρας BSPT/NPT	Ρυθμός παροχής	Διαστάσεις	Βάρος	Παράμετροι λειτουργίας	Κατηγορία φίλτρου	Μοντέλα φίλτρων	Μέγ. πίεση λειτουργίας	Μέγ. θερμοκρασία λειτουργίας	Ελάχισ. θερμοκρασία λειτουργίας
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
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
Modello	Dimensioni collegamento BSPT/NPT	Portata	Dimensioni	Peso	Parametri di esercizio	Grado di filtrazione	Filtri	Pressione di esercizio massima	Temperatura di esercizio massima	Temperatura di esercizio minima
Model	Wielkość otworu BSPT/NPT	Prędkość przepływu	Wymiary	Ciężar	Parametry pracy	Klasa filtra	Typy filtrów	Maks. ciśnienie robocze	Maks. temperatura pracy	Min. temperatura pracy
Model	BSPT/NPT Prietoková veľkosť portu	Prietoková rýchlosť Rate	Rozměry	Hmotnost	Prevádzkové parametre	Trieda filtra	Typy filtrov	Max. prevádzkový tlak	Max. prevádzková teplota	Min. prevádzková teplota
Model	BSPT/NPT Velikost závitů	Rychlost průtoku	Rozměry	Hmotnost	Provozní parametry	Klasifikace filtru	Modely filtru	Maximální provozní tlak	Maximální provozní teplota	Minimální provozní teplota
Model	BSPT/NPT portin suurus	Voolukulu	Mõõtmed	Kaal	Talitusparameetrid	Filtratsiooniaste	Filtri mudelid	Maksimaalne töösurve	Maksimaalne töötemperatuur	Minimaalne töötemperatuur
Tipus	BSPT/NPT Csőcsomok mérete	Áramlási sebesség	Méretek	Tömeg	Üzemi paraméterek	Szűrő fokozat	Szűrő típusa	Max. üzemi nyomás	Max. üzemi hőmérséklet	Min. üzemi hőmérséklet
Modelis	BSPT/NPT porta lielums	Plūsmas ātrums	Izmēri	Svars	Darbības parametri	Filteru kategorija	Filteru modeļi	Maks. darbības spiediens	Maks. darbības temperatūra	Min. darbības temperatūra
Modelis	BSPT/NPT Prievado dydis	Srauto tekmgreitėsis	Matmenys	Svoris	Darbiniai parametrai	Filtro klasė	Filtro modeliai	Maks. darbinis slėgis	Maks. darbinė temperatūra	Min. darbinė temperatūra
Модель	Диаметр отверстия BSPT/NPT	Скорость потока	Габариты	Вес	Рабочие параметры	Качество фильтра	Модели фильтров	Макс. рабочее давление	Макс. рабочая температура	Мин. рабочая температура
Model	BSPT/NPT Velikost vrat	Hitrost pretoka	Mere	Teža	Delovni parametri	Razred filtra	Modeli filtrov	Maks. delovni tlak	Maks. delovna temperatura	Min. delovna temperatura
Model	BSPT/NPT Port Boyu	Akım Hızı	Boyutlar	Ağırlık	İşletim Parametreleri	Filtre Derecesi	Filtre Modelleri	Azami İşletme Basıncı	Azami İşletme Isısı	Asgari İşletme Isısı
Mudell	Daçs tal-Port BSPT/NPT	Rata tal-Fluss	Dimensjonijiet	Piż	Parametri ta l-Operat	Grad tal-Filtro	Mudelli tal-Filtro	Pressjoni Massima ta' l-Operat	Temperatura Massima ta' l-Operat	Temperatura Minima ta' l-Operat
Mode	Dimensione port BSPT/NPT	Debi	Dimensioni	Greutate	Parametri de func.ionar	Gradul filtrului	Modele de filtr	Presiune maxim., de func.ionar	Temperatur., maxim., de func.ionar	Temperatur., minim., de func.ionar

- (EN)
- (NL)
- (DE)
- (FR)
- (F)
- (SV)
- (NO)
- (DA)
- (EL)
- (ES)
- (PT)
- (T)
- (PL)
- (SK)
- (CS)
- (ET)
- (HU)
- (LV)
- (LT)
- (RU)
- (SL)
- (TR)
- (MT)
- (RO)

AO, AA, ACS, AR, AAR 005 - 055

1. Technical Specification

- Technische specificaties • Technische Angaben • Caractéristiques techniques • Tekniset tiedot • Tekniska specifikationer
- Tekniske spesifikasjoner • Tekniske specifikationer • Τεχνικές προδιαγραφές • Especificaciones técnicas • Especificações Técnicas
- Caratteristiche tecniche • Dane techniczne • Technická špecifikácia • Technická specifikace • Tehnilised andmed • Műszaki adatok
- Tehniskā specifikācija • Tehninē specifikācija • Технические характеристики • Tehnične specifikacije • Teknik Spesifikasyon
- Specifikazzjoni Teknika • **Specificație tehnică**

Model	Pipe Size	L/s	m ³ /min	m ³ /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

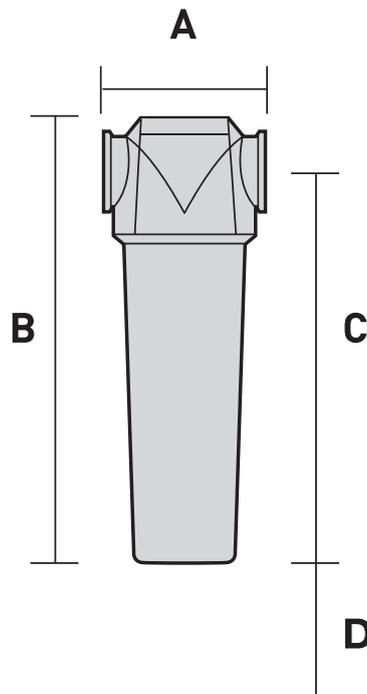
— N = NPT

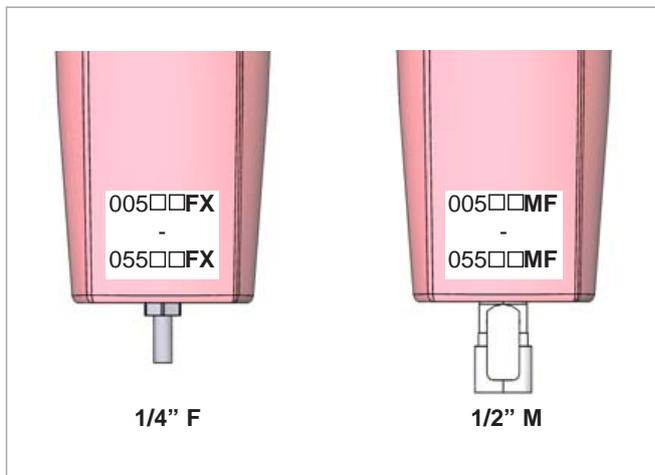
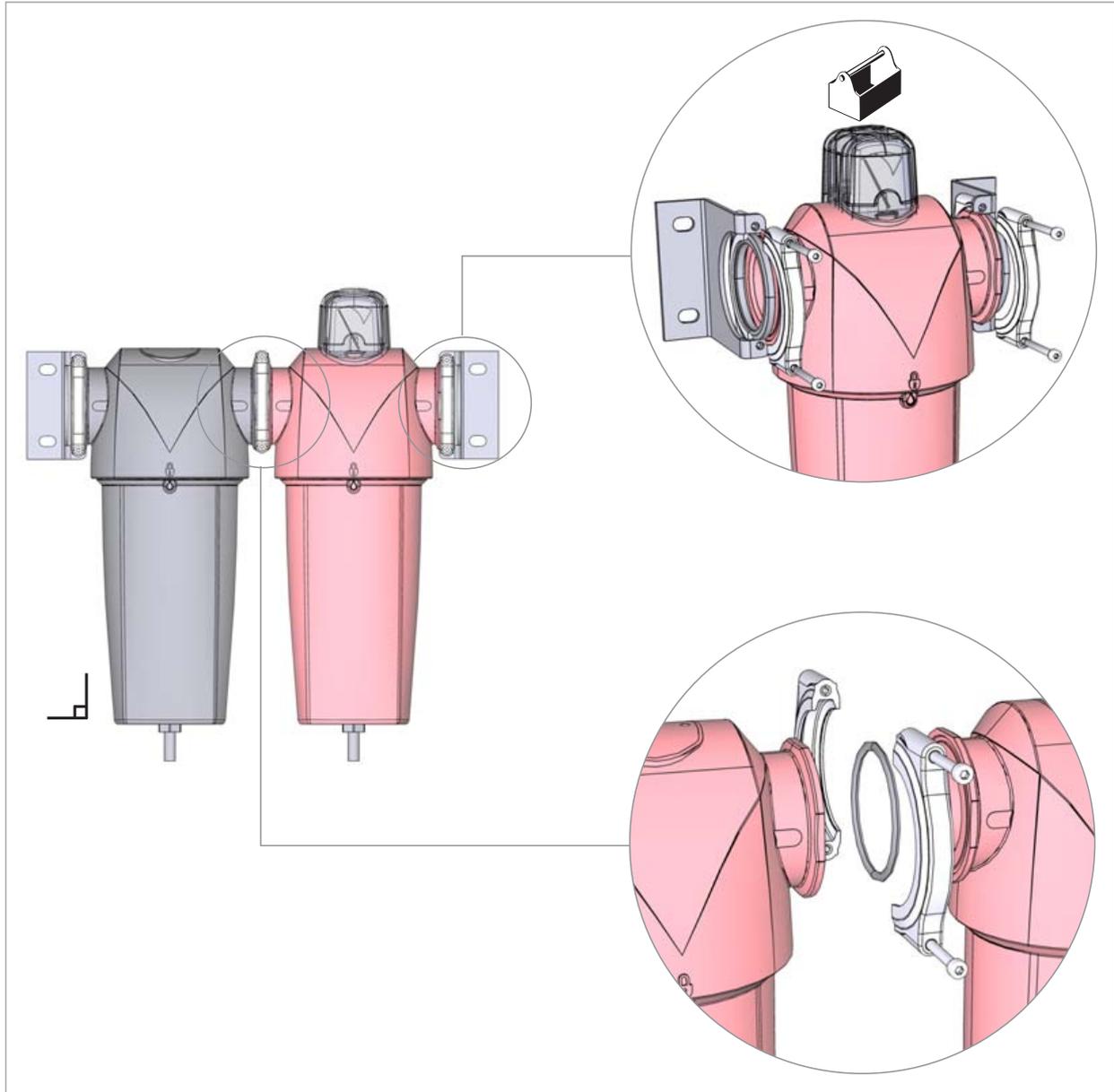
Filter Grade	Models	Max Operating Pressure		Max Recommended Operating Temperature		Min Recommended Operating Temperature	
		bar g	psi g	Temperature		Temperature	
AO	005 □□ F □ -055 □□ F □	16	232	80°C	176°F	1.5°C	35°F
AO	005 □□ M □ -055 □□ M □	20	290	100°C	212°F	1.5°C	35°F
AA	005 □□ F □ -055 □□ F □	16	232	80°C	176°F	1.5°C	35°F
AA	005 □□ M □ -055 □□ M □	20	290	100°C	212°F	1.5°C	35°F
AR	005 □□ M □ -055 □□ M □	20	290	100°C	212°F	1.5°C	35°F
AAR	005 □□ M □ -055 □□ M □	20	290	100°C	212°F	1.5°C	35°F
ACS	005 □□ M □ -055 □□ M □	20	290	50°C	122°F	1.5°C	35°F

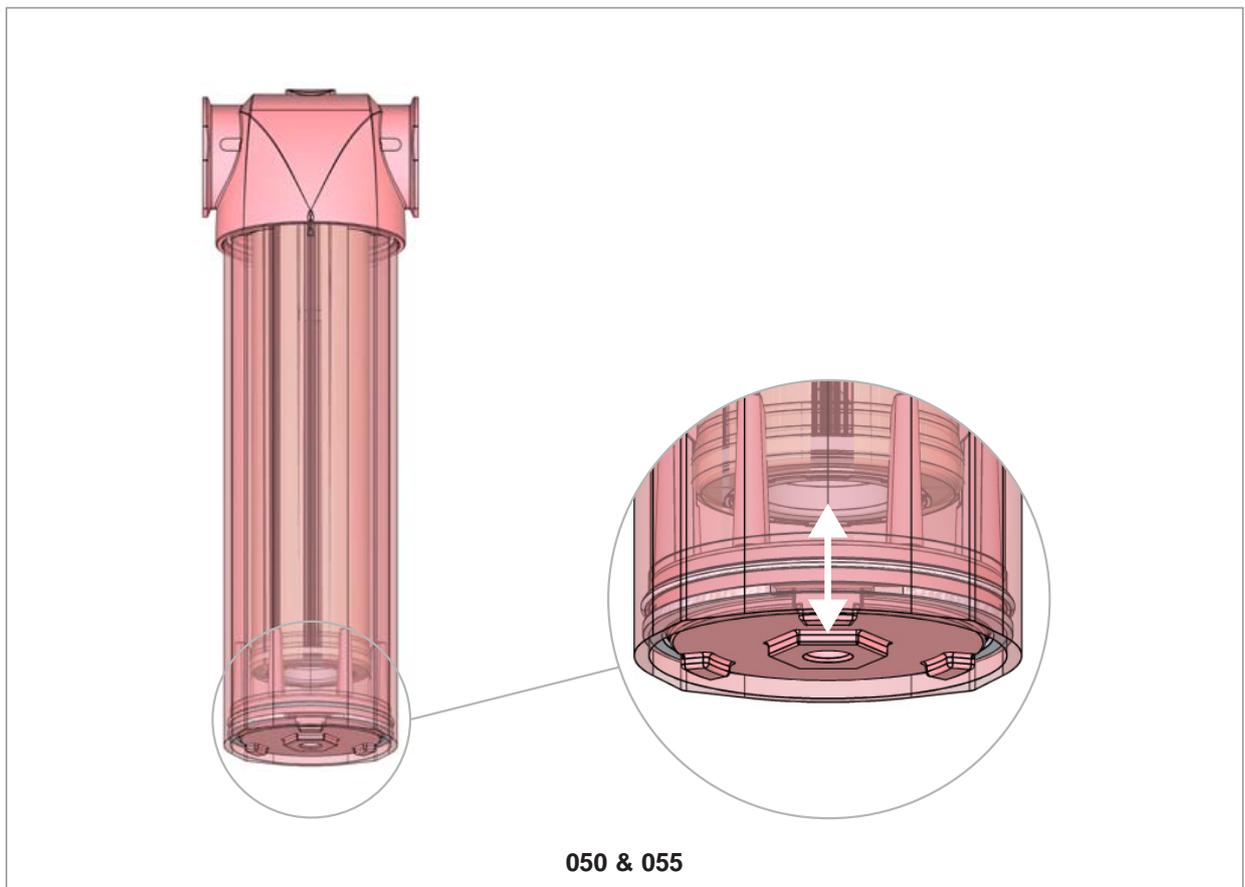
Weights and Dimensions

- 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 a rozměry • Kaalud ja mõõtmed • Tömeg és méretek • Svarts un izmēri • Svoris ir matmenys • Вес и габариты • Teže in mere
- Ağırlıklar ve Boyutlar • Pizijiet u Dimensjonijiet • **Greutäti ši 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	¾"	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	¾"	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	¾"	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







- (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.

AO, AA, ACS, AR, AAR 005 - 055

- 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 filtrė 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 gżandhom 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.

AO, AA, ACS, AR, AAR 005 - 055

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. Aprete lentamente la valvola di mandata per aumentare gradualmente la pressione nell'unità.
2. Aprete 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 povolna 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 surveangu, 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.

AO, AA, ACS, AR, AAR 005 - 055

(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 выпускной 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. Počasni 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 açır 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)

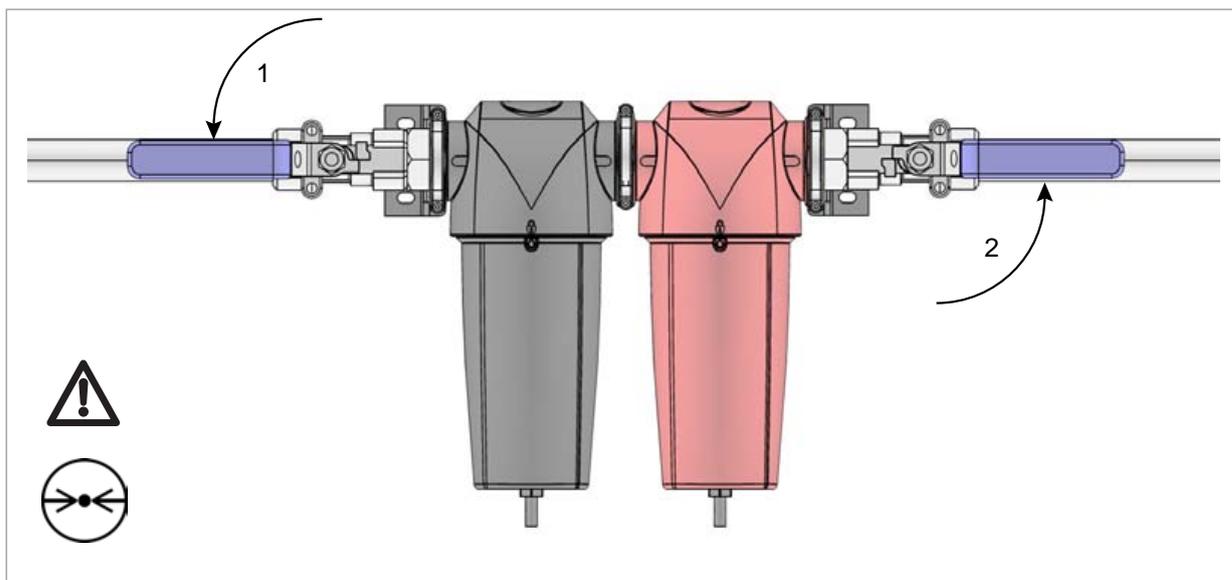
1. Ifтах il-valv tad-dhul bil-mod, biex bil-mod tiżdid il-pressjoni fit-tagħmir.
2. Ifтах il-valv tal-hruġ bil-mod biex terġa' tibni l-pressjoni fil-pajps li jwasslu 'l isfel

Ara li ma tiftaħx il-valvs tad-dhul jew tal-hruġ f'daqqa jew b'xi mod tikkawza differenza eċċessiva fil-pressjoni tat-tagħmir għax tista' tagħmel il-hsara.

(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

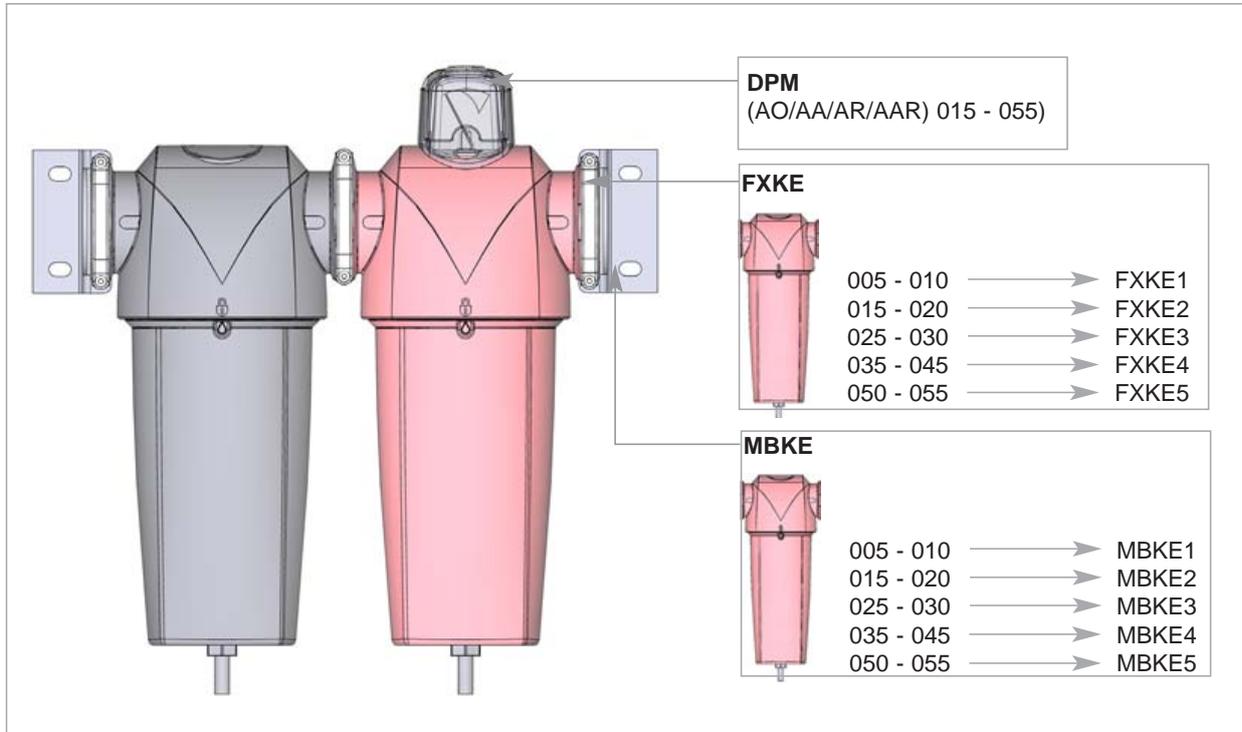
Nu deschide, i rapid supapele de admisie sau de evacuare și nu supune, i aparatul la o diferen, „ excesiv, „ de presiune; Őn caz contrar, aparatul poate suferi deterior, ri



AO, AA, ACS, AR, AAR 005 - 055

4. Accessories

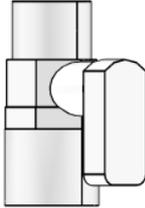
- Toebehoren • Zubehör • Accessoires • Lisävarusteet • Tillbehör • Tilbehør • Tilbehør • Εξαρτήματα • Accesorios • Acessórios • Accessori
- Wyposażenie • Príslušenstvo • Příslušenství • Tarvikud • Tartozékok • Piederumi • Priedai • Принадлежности • Dodatna oprema
- Aksesuarlar • Accessorji • Accesorii

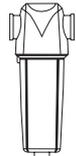
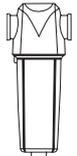
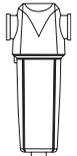
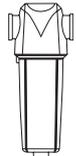
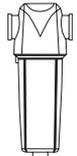


AO, AA, ACS, AR, AAR 005 - 055

5. Spare Parts (Service Kits)

- Reserve-onderdelen (servicekits) • Ersatzteile (Service-Kits) • Pièces de rechange (nécessaires d'entretien) • Varaosat (Huoltopakkausset)
- Reservdelar (servicesatser) • Reservdeler (service-sett) • Reservedele (Servicekit) • Ανταλλακτικά (Πακέτο 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) • Rezerwes części (apkopes komplekti) • Atsarginės dalys (priežiros detalių komplektai)
- Запасные части (ЗИП) • Nadomestni deli (servisni kompleti) • Yedek parça (Servis kitleri) • Partijet Ghat-Tibdil (Kitts tas-Servizz) • Piese de schimb (Truse de service)

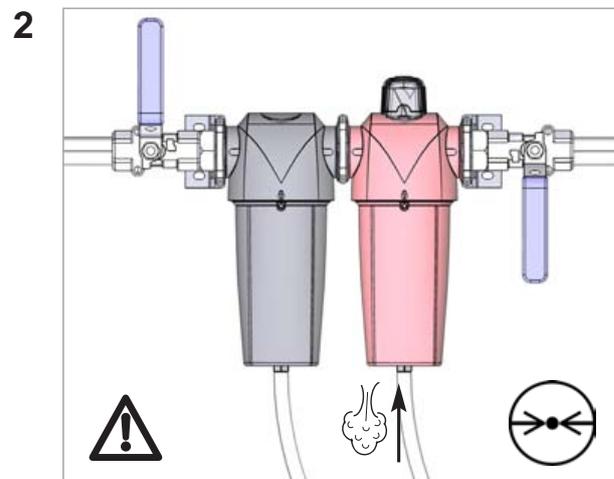
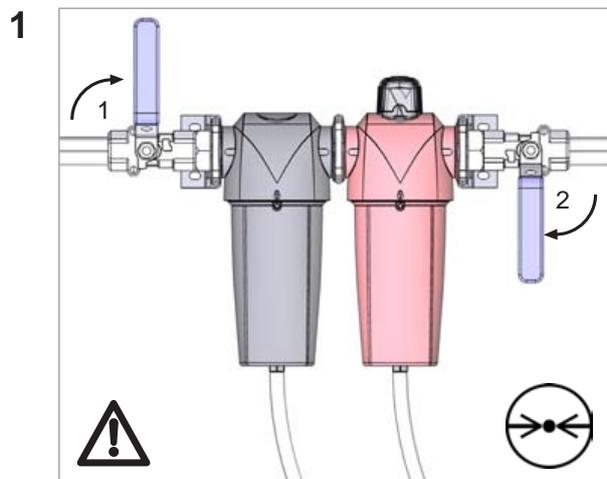
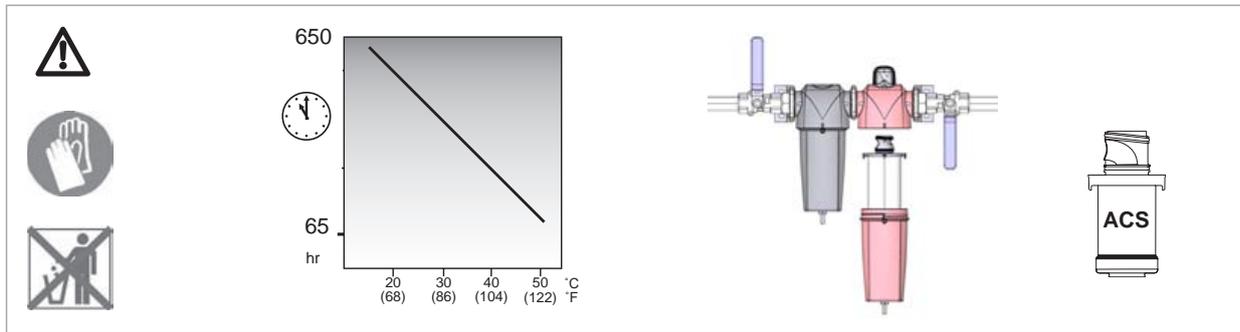
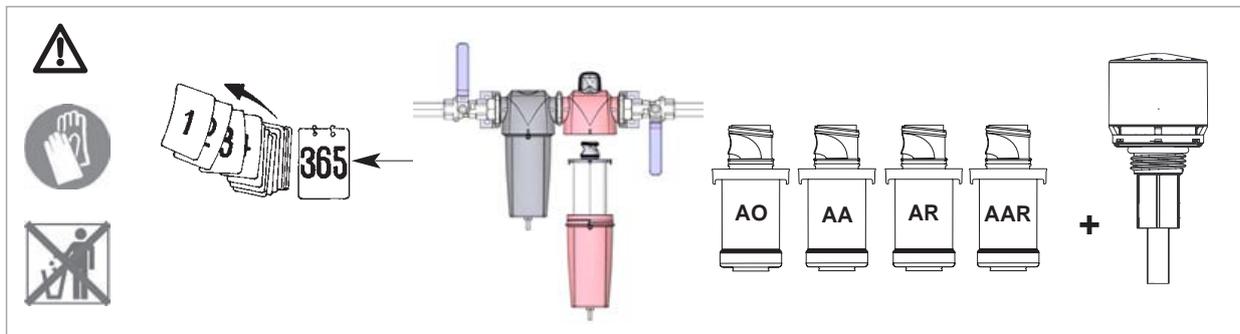
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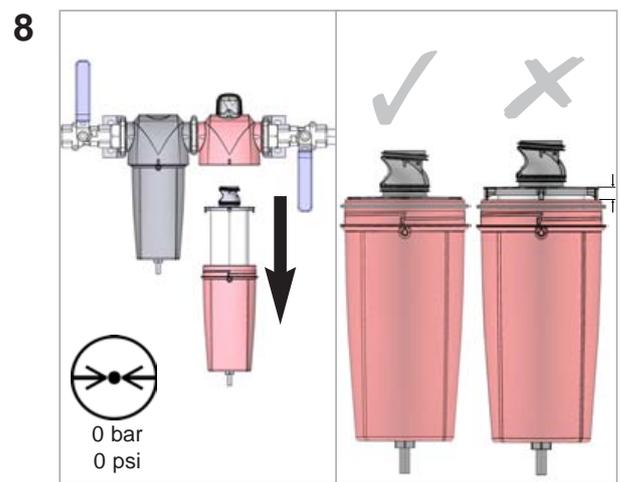
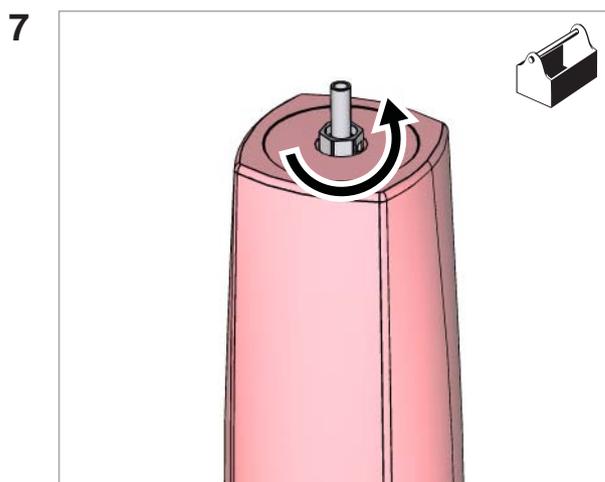
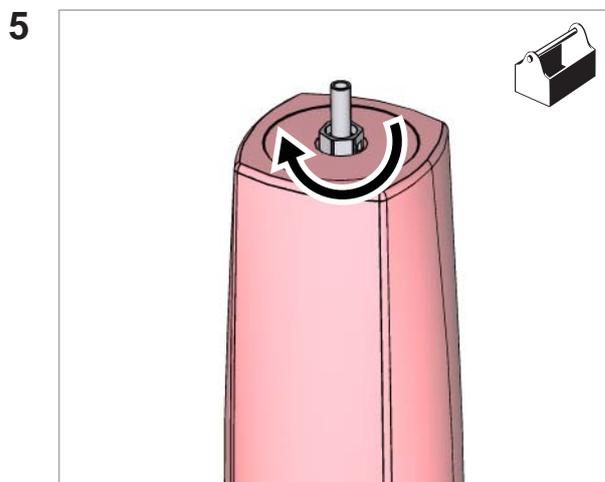
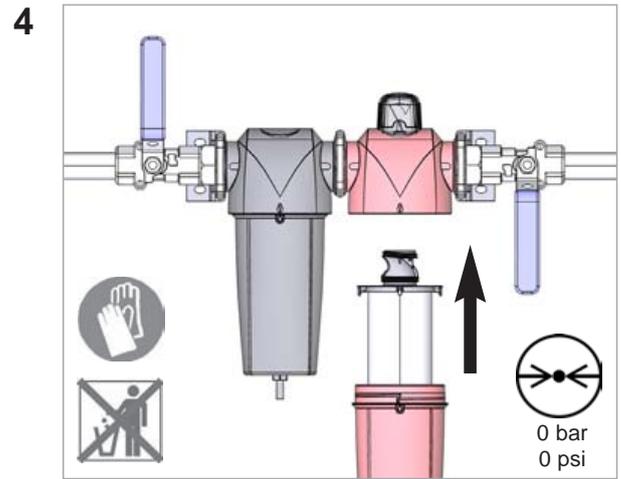
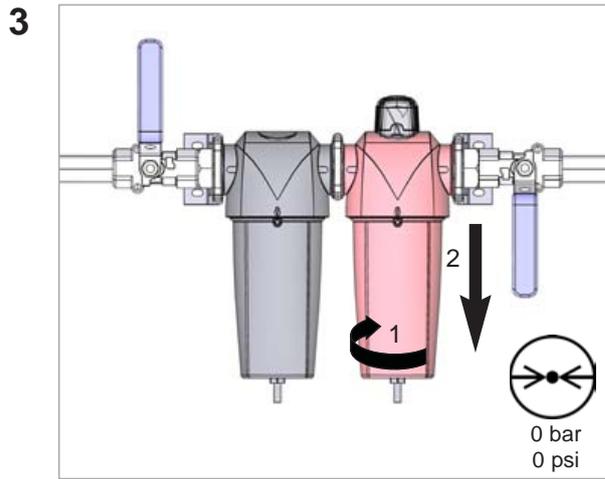
									
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AO020D	020AO	AA020D	020AA	ACS020D	020ACS	AR020D	020AR	AAR020D	020AAR
AO020E	020AO	AA020E	020AA	ACS020E	020ACS	AR020E	020AR	AAR020E	020AAR
AO025D	025AO	AA025D	025AA	ACS025D	025ACS	AR025D	025AR	AAR025D	025AAR
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AO030E	030AO	AA030E	030AA	ACS030E	030ACS	AR030E	030AR	AAR030E	030AAR
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AO030G	030AO	AA030G	030AA	ACS030G	030ACS	AR030G	030AR	AAR030G	030AAR
AO040G	040AO	AA040G	040AA	ACS040G	040ACS	AR040G	040AR	AAR040G	040AAR
AO040H	040AO	AA040H	040AA	ACS040H	040ACS	AR040H	040AR	AAR040H	040AAR
AO045H	045AO	AA045H	045AA	ACS045H	045ACS	AR045H	045AR	AAR045H	045AAR
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AO050J	050AO	AA050J	050AA	ACS050J	050ACS	AR050J	050AR	AAR050J	050AAR
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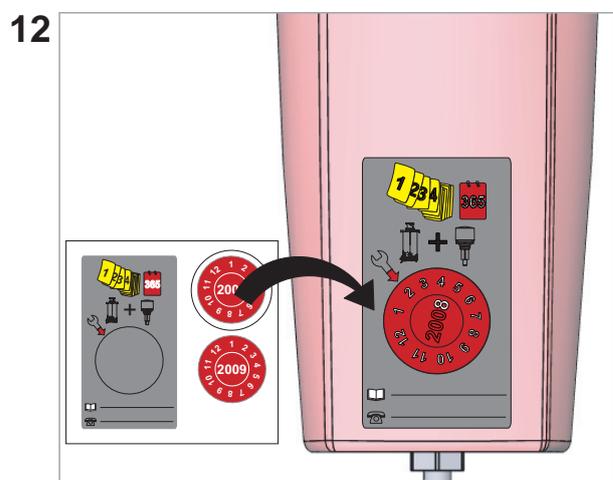
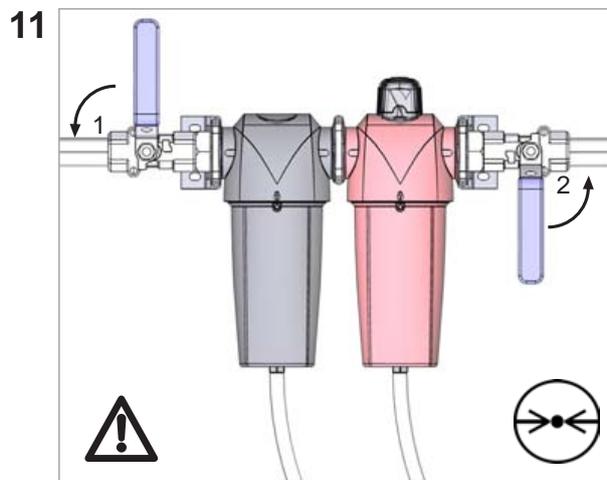
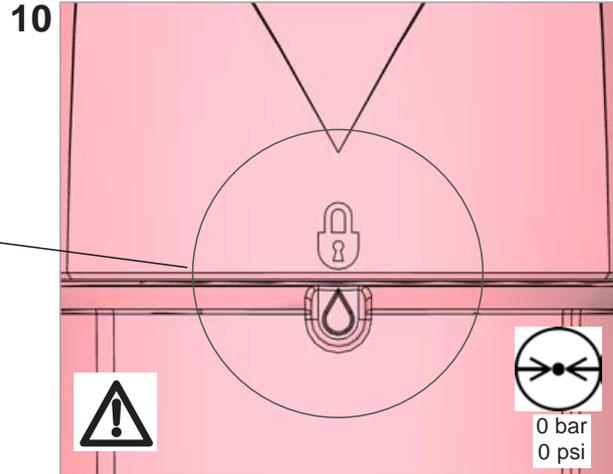
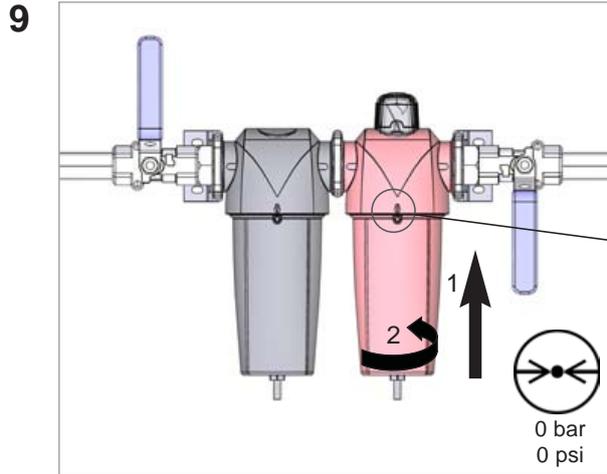
EMA K1	005 - 010		
EMA K2	015 - 020		
EMA K3	025 - 030		
EMA K4	035 - 045		
EMA K5	050 - 055		

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 • İntreținere



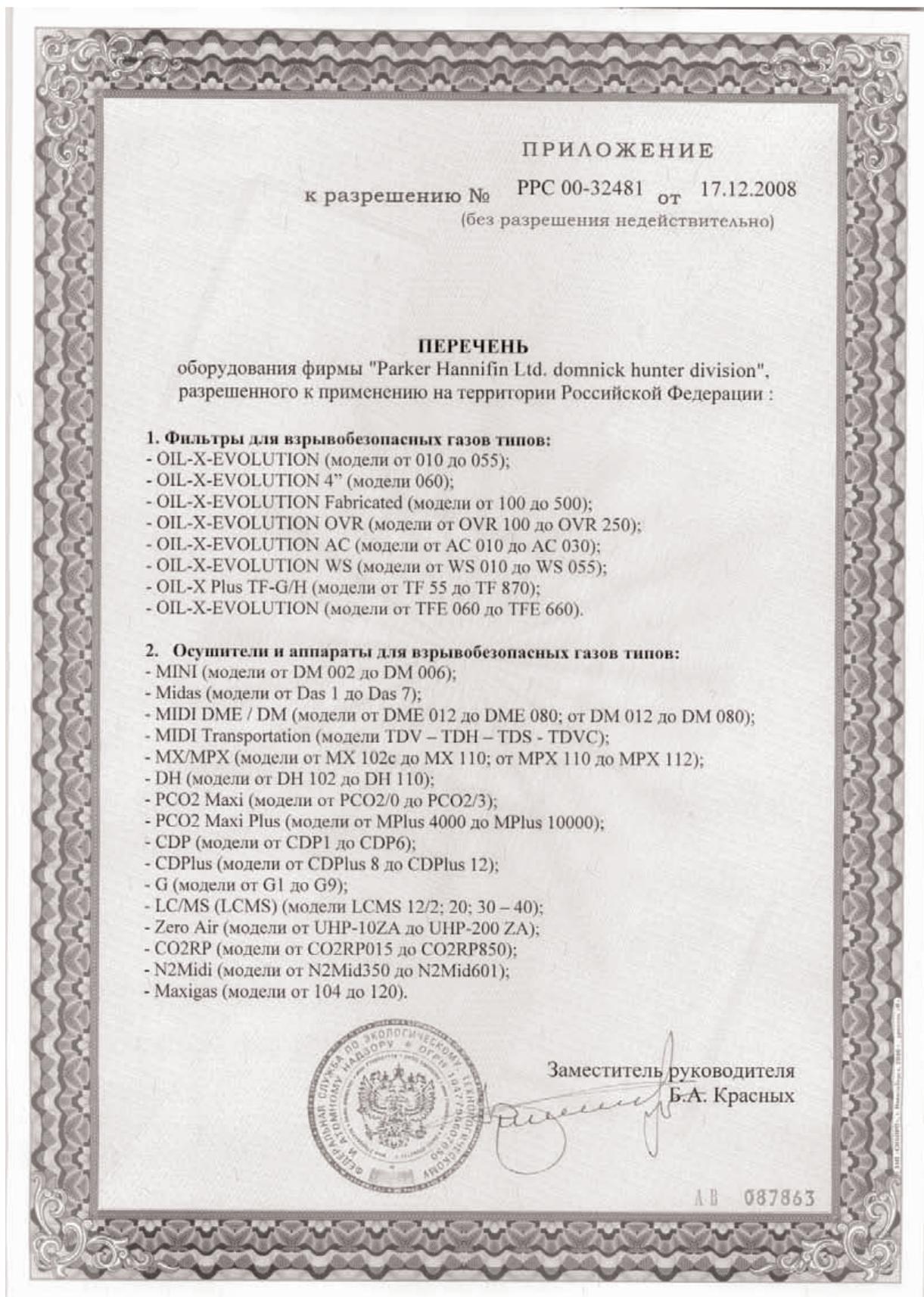




(EN) Align the arrow to the month and year of the next service
 (NL) Breng de pijl op een lijn met de maand en het jaar van de volgende onderhoud beurt
 (DE) Stellen Sie den Pfeil auf Monat und Jahr der nächstten Wartungstermin. Aligned la flèche sur
 (FR) le mois et l'année de la prochaine révision
 (FI) Kohdi ta nuoli seuraavan huollon kuukauteen ja vuoteen
 (SV) Rikta pilen mot månaden och året för nästa service
 (NO) Ju ter pilen til måneden og året for neste service
 (DA) Stil pilen på måneden og år for næste service
 (EL) Ευθυγραμμίστε το βέλος με το μήνα και έτος του επόμενου σέρβις
 (ES) Alinee la flecha con el mes y año de la siguiente revisión
 (PT) Alinhe a seta com o mês e o ano da próxima intervenção técnica
 (IT) Allineare la freccia in corrispondenza del mese e anno del prossimo intervento di assistenza
 (PL) Należy ustawić strzałkę na miesiąc i rok daty następnego serwisu
 (SK) Šípku nasmerujte na mesiac a rok nasledujúcej opravy
 (CS) Umístěte šípku na měsíc a rok příští prohlídky
 (ET) Joondage nool järgmise hoolduse kuuga ja aastaga
 (HU) Irányítsa a nyílát a következő szerviz hónapjára és évére
 (LV) Irányítsa a nyílát 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 yılını 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



FILTER DH-OIL-X EVO AO AA_01-



FILTER DH-OIL-X EVO AO AA_01-

Declaration of Conformity		EN
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	
Standards used	Generally in accordance with 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) Lloyds Register Verification 71 Fenchurch St. London EC3M 4BS COV0413459/TEC	
Notified body for PED	Lloyds Register Verification 71 Fenchurch St. London EC3M 4BS COV0413459/TEC	
EC Type exam nat on Certificate	Derek Bankier Divisional Quality Manager Parker Hannifin Ltd domn ck hunter d v s on	
Authorized Representative	Derek Bankier Divisional Quality Manager Parker Hannifin Ltd domn ck hunter d v s on	
Declaration		
I declare that as the authorised representative I have above information in relation to the supply / manufacture of this product in conformity with the standards and other related documents following the provisions of the above Directives		
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	Généralité conforme à ASMEVIII d v 1 2004	
Méthode 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) Lloyds Register Verification 71 Fenchurch St. London EC3M 4BS COV0413459/TEC	
Organisme de notification pour la directive d'équipement sous pression	Lloyds Register Verification 71 Fenchurch St. London EC3M 4BS COV0413459/TEC	
Certificat d'examen de type CE	Derek Bankier Divisional Quality Manager Parker Hannifin Ltd domn ck hunter division	
Représentant agréé	Derek Bankier Divisional Quality Manager Parker Hannifin Ltd 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 liés de ce produit et des dispositions des directives susmentionnées		
Signature		Date 8/8/2007
N° de déclaration 0002/8807		

Verklaring van Conformiteit		NL
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		
Richtlijnen	97/23/EC	
Gehanteerde normen	Gewoonlijk volgens ASMEVIII Div 1 2004	
PED beoordelingsroute	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) Lloyds Register Verification 71 Fenchurch St. London EC3M 4BS COV0413459/TEC	
Aangemelde instantie voor PED	Lloyds Register Verification 71 Fenchurch St. London EC3M 4BS COV0413459/TEC	
EC Type onderzoekcertificaat	Derek Bankier Divisional Quality Manager Parker Hannifin Ltd domn ck hunter d v s on	
Bevoegde vertegenwoordiger	Derek Bankier Divisional Quality Manager Parker Hannifin Ltd domn ck hunter d v s on	
Verklaring		
Als bevoegde vertegenwoordiger verklaar ik dat bovenstaande informatie met betrekking tot de levering / vervaardiging van dit product overeenstemt met de normen en andere behorende documentatie volgens de bepalingen van bovengenoemde richtlijnen		
Handtekening		Datum 8/8/2007
Verklaringnummer 0002/8807		

Vaastimustenmukaisuusvakuutus		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		
Direktiivit	97/23/EC	
Käytetyt standardit	Yleensä seuraavan standardin mukaisesti ASMEVIII Div 1 2004	
PED arviointimenetelmä	Artikla 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) Lloyds Register Verification 71 Fenchurch St. London EC3M 4BS COV0413459/TEC	
PED säännösten ilmoitettu laitos	Lloyds Register Verification 71 Fenchurch St. London EC3M 4BS COV0413459/TEC	
EY tyyppilyäkysnän sertifikaatti	Derek Bankier Divisional Quality Manager Parker Hannifin Ltd domn ck hunter d v s on	
Valtuutettu edustaja	Derek Bankier Divisional Quality Manager Parker Hannifin Ltd domn ck hunter d v s on	
Vakuutus		
Vakuutuslupaus edustajana vakuuttaa, että yllä olevat tiedot, jotka liittyvät tämän tuotteen toimintaan, täsmäisesti vastaavat standardien ja muiden osien liittyvien asiakirjojen mukaisia ja noudattavat yllä mainittua direktiiviä		
Allekirjoitus		Päiväys 8/8/2007
Vakuutuksen numero 0002/8807		

Konformitätserklärung		DE
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		
Richtlinien	97/23/EC	
Angewandte Normen	Allgemein in Übereinstimmung mit ASMEVIII Div 1 2004	
Beurteilungsrouten der Druckgeräterichtlinie	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) Lloyds Register Verification 71 Fenchurch St. London EC3M 4BS COV0413459/TEC	
Benannte Stelle für die Druckgeräterichtlinie	Lloyds Register Verification 71 Fenchurch St. London EC3M 4BS COV0413459/TEC	
EG Baumusterprüfbescheinigung	Derek Bankier Divisional Quality Manager Parker Hannifin Ltd domn ck hunter d v s on	
Bevollmächtigter Vertreter	Derek Bankier Divisional Quality Manager Parker Hannifin Ltd domn ck hunter d v s on	
Erklärung		
Hiermit erkläre ich als bevollmächtigter Vertreter die Konformität der oben aufgeführten Informationen in Bezug auf die Lieferung/Herstellung dieses Produkts mit den Normen und anderen zugehörigen Dokumenten gemäß den Bestimmungen der oben genannten Richtlinien		
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	Generellt i enlighet med ASMEVIII Div 1 2004	
Fastställningsväg för PED	Artikel 3.3 (AO AA ACS AAR 005 010 015 020 025 030) Modul B (AO AA ACS AAR 035 040 045) Modul A (AO AA ACS AR AAR 050 055) Lloyds Register Verification 71 Fenchurch St. London EC3M 4BS COV0413459/TEC	
Anmält organ för PED	Lloyds Register Verification 71 Fenchurch St. London EC3M 4BS COV0413459/TEC	
EG intyg om typprovning	Derek Bankier Divisional Quality Manager Parker Hannifin Ltd domn ck hunter division	
Auktoriserad representant	Derek Bankier Divisional Quality Manager Parker Hannifin Ltd domn ck hunter division	
Försäkran		
Jag försäkras i egenskap av auktoriserad representant att ovanstående information avseende leverans tillverkningsväg för denna produkt överensstämmer med standarder och övriga relevanta dokument enligt vilka denna är överensstämmande med direktivet		
Underskrift		Datum 8/8/2007
Försäkrans nummer 0002/8807		

Konformitetserklæring		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	
Route for vurdering av PED (d rett vet for trykkplågt 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 AAR 050 055) Lloyds Register Verificalion 71 Fenchurch St London	
Underrettet organ for PED	EC3M 4BS COV0413459/TEC	
EC typegodkjenningsattest	Derek Bankier Divisional Quality Manager Parker Hannifin Ltd domn ck hunter d v s on	
Autorisert representant		
Erklæring		
Jeg erklærer som autorisert representant at informasjonen ovenfor med hensyn til levering/produksjon av dette produktet er i overensstemmelse med standardene og andre relaterte dokumenter følge bestemmelsene i direktivene ovenfor		
Signatur	Dato	8/8/2007
Erklæringsnr 00028807		

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 utilizadas	Generalmente de conformidad con ASMEVIII Div 1 2004	
Route 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 AAR 050 055) Lloyds Register Verificalion 71 Fenchurch St London EC3M 4BS COV0413459/TEC	
Organismo notificado para la normativa PED	Derek Bankier Divisional Quality Manager Parker Hannifin Ltd domn ck hunter division	
Certificado de examen CE de tipo		
Representante autorizado		
Declaración		
Como representante autorizado declaro que la información anterior expuesta en relación con el sumo y/o fabricado de este producto cumple las normativas indicadas y otros documentos afines según las disposiciones de las Directivas citadas anteriormente.		
Firma	Dato	8/8/2007
Número de declaración 00028807		

Overensstemmelseerklæring		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 AAR 050 055) Lloyds Register Verificalion 71 Fenchurch St London	
Notificeret organ for PED	EC3M 4BS COV0413459/TEC	
EF typeprøvningsattest	Derek Bankier Divisional Quality Manager Parker Hannifin Ltd domn ck hunter division	
Autoriseret repræsentant		
Erklæring		
Jeg erklærer hermed som autoriseret repræsentant at ovenstående oplysninger vedrørende levering/produktet af dette produkt er i overensstemmelse med de anførte standarder og øvrige tilknyttede dokumenter i henhold til bestemmelserne i ovenstående direktiv		
Underskrift	Dato	8/8/2007
Erklæringsnummer 00028807		

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 concordância com ASMEVIII Div 1 2004	
Percurso de Avaliação 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 AAR 050 055) Lloyds Register Verificalion 71 Fenchurch St London EC3M 4BS COV0413459/TEC	
Notificado para o PED	Derek Bankier Divisional Quality Manager Parker Hannifin Ltd domn ck hunter division	
Certificado de Inspeção Tipo CE		
Revendedor Autorizado		
Declaração		
Declaro na qualidade de representante autorizado que as informações acima contidas referentes ao fornecimento/fabricação deste produto estão em conformidade com as normas e outros documentos relacionados de acordo com as disposições das Directivas anteriores.		
Assinatura	Dato	8/8/2007
Número da Declaração 00028807		

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	Γενικά σε συμφωνία με το ASMEVIII Div 1 2004	
Διορθωμένη αξιολόγηση για κανονισμούς PED	Άρθρο 3.3 (AO AA ACS AAR 005 010 015 020 025 030) Ενότητα Α (AO AA ACS AAR 035 040 045) Ενότητα Β (AO AA ACS AAR 050 055) Lloyds Register Verificalion 71 Fenchurch St London EC3M 4BS COV0413459/TEC	
Ενήμερος οργανισμός για κανονισμούς PED	Derek Bankier Divisional Quality Manager Parker Hannifin Ltd domn ck hunter division	
Πιστοποιητικό εξέλιξης τύπου EK		
Εξουσιοδοτημένος αντιπρόσωπος		
Δήλωση		
Δηλώνω ως εξουσιοδοτημένος αντιπρόσωπος ότι οι παραπάνω πληροφορίες σε σχέση με τη δοκιμή/κατασκευή αυτού του προϊόντος συμμορφώνονται ως προς τα πρότυπα και ως προς τα άλλα σχετικά έγγραφα που συνοδεύουν τις οδηγίες των πιο πάνω σελών.		
Υπογραφή	Ημερομηνία	8/8/2007
Αριθμός δήλωσης 00028807		

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		
Directive	97/23/EC	
Norme utilizzate	Generalmente conforme a ASMEVIII Div 1 2004	
Procedura di valutazione PED	Articolo 3.3 (AO AA ACS AAR 005 010 015 020 025 030) Modulo A (AO AA ACS AAR 035 040 045) Modulo B (AO AA ACS AAR 050 055) Lloyds Register Verificalion 71 Fenchurch St London EC3M 4BS COV0413459/TEC	
Organismo accreditato per PED	Derek Bankier Divisional Quality Manager Parker Hannifin Ltd domn ck hunter division	
Attestato di certificazione tipo CE		
Rappresentante autorizzato		
Dichiarazione		
In qualità di rappresentante autorizzato dichiaro che le informazioni di cui sopra in merito alla fornitura/fabbricazione del prodotto in oggetto sono conformi alle norme, indicate e a qualsiasi altro documento correlato e la fornitura basata su quanto prescritto dalle dirette linee menzionate.		
Firma	Dato	8/8/2007
Dichiarazione numero 00028807		

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		
Dyrektwy	97/23/EC	
Stosowane standardy	Ogólnie zgodny z ASMEVIII dział 1 2004	
Ścieżka potwierdzenia zgodności z PED	Artykuł 3.3 (AO AA ACS AAR 005 010 015 020 025 030) Moduł A (AO AA ACS AAR 035 040 045) Moduł B (AO AA ACS AAR 050 055)	
Organ/instytucja powiadamiana na mocy PED	Lloyds Register Ver fication 71 Fenchurch St. London EC3M 4BS	
Certyfikat badań a typu WE	COVD413459/TEC	
Autoryzowany przedstawiciel	Derek Bankier D v s onal Quality Manager Parker Hannifin Ltd domn ck hunter division	
Deklaracja		
Oświadczam jako auto zowany przedstawiciel że powyższe informacje dotyczące dostawy / wytworzenia niniejszego produktu są zgodne ze standardami i innymi dokumentami powiązanymi z zgodą i z postanowieniami powyższych dyrektyw		
Podpis	Data	8/8/2007
Numer deklaracji 0002/8807		

Vastavuseklaratsioon		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		
Direktiivid	97/23/EC	
Kasutatud standardid	Üld seel vastavuses standardga ASMEVI I D v 1 2004	
PED vastavushinnangu jaotus	A lükkel 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 AAR 050 055)	
PEDIst (surveedmete direktiivist) teav tatud asutus	Lloyds Register Ver fication 71 Fenchurch St. London EC3M 4BS	
EÜ tüübüh ndamistõend	COVD413459/TEC	
Volitatud es ndaja	Derek Bankier D v s onal Quality Manager Parker Hannifin Ltd domn ck hunter division	
Deklaratsioon		
Volitatud esindajana kinnitan et ülaltoodud teave seoses antud toote tarim seeloomisega on vastavuses standardite ja muude seotud dokumentidega vastava l ülaltoodud direktiivis sätestatule		
Allkiri	Kuupäev	8/8/2007
Deklaratsiooni number 0002/8807		

Vyhlasenie 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	
Použí 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 AAR 050 055)	
Obznanený orgán podľa smernice PED	Lloyds Register Ver fication 71 Fenchurch St. London EC3M 4BS	
Osvedčenie typovej skúšky ES	COVD413459/TEC	
Spinomocný zástupca	Derek Bankier D v s onal Quality Manager Parker Hannifin Ltd domn ck hunter d v s on	
Vyhlasenie		
Ako spinomocný zástupca vyhlasujem že informácie uvedené vyššie sú v súlade s dodatky / výrobou tohto produktu v zhode s normami a njm svisiacimi dokumentmi podľa ustanovení uvedených smernic		
Podpis	Dátum	8/8/2007
Číslo vyhlásenia 0002/8807		

Megfelelősségi nyilatkozat		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	Általában a következők alapján ASMEVI I D v 1 2004	
PED értékelési irányvonal	3.3-as cikkely (AO AA ACS AAR 005 010 015 020 025 030) Modul A (AO AA ACS AAR 035 040 045) Modul B (AO AA ACS AAR 050 055)	
PED del kapcsolatban értesített testület	Lloyds Register Ver fication 71 Fenchurch St. London EC3M 4BS	
EC típusvizsgálati bizonyítvány	COVD413459/TEC	
Hivatalos képviselő	Derek Bankier Divisional Quality Manager Parker Hannifin Ltd domn ck hunter division	
Nyilatkozat		
Hivatalos képviselőként kijelentem hogy a termék szállításával / gyártásával kapcsolatos fenti olvasható információk megfelelnek a fenti Direktívák előírásai szerinti szabványoknak és egyéb kapcsolódó dokumentumoknak		
Alíráás	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		
Smern ce	97/23/EC	
Použí té normy	Obecně v souladu ASMEVIII Dv 1 2004	
Metoda stanovení shody pro tlaková zařízení (PED)	Článek 3.3 (AO AA ACS AAR 005 010 015 020 025 030) D íl část A (AO AA ACS AAR 035 040 045) D íl část B (AO AA ACS AAR 050 055)	
Notifikovaný orgán pro PED	Lloyds Register Ver fication 71 Fenchurch St. London EC3M 4BS	
Osvědčení o zkoušce typu ES	COVD413459/TEC	
Oprávněný zástupce	Derek Bankier Divisional Quality Manager Parker Hannifin Ltd domn ck hunter d v s on	
Prohlášení		
Jako oprávněný zástupce prohlašuji že výše uvedené informace týkající se dodatky výrobou tohoto produktu jsou v souladu s normami a njm souvisejícími dokumenty vyplývajícími z ustanovení výše uvedených smernic		
Podpis	Datum	8/8/2007
Číslo prohlášení 0002/8807		

Atbilatības 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	
Izmantojie standarti	Parasti saskaņā ar ASMEVI I D v 1 2004	
PED novērtējums	Pants 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 AAR 050 055)	
Par PED informētā organizācija	Lloyds Register Ver fication 71 Fenchurch St. London EC3M 4BS	
EK sertificēta eksaminācijas sertifikāts	COVD413459/TEC	
Pilnvarotais pārstāvis	Derek Bankier D v s onal Quality Manager Parker Hannifin Ltd domn ck hunter d v s on	
Deklarācija		
Es kā pilnvarotais pārstāvis ar šo paziņoju ka iepriekšminētā informācija kas saistīta ar šo produkta piegādi / izgatavošanu atbilst standartiem un citiem ar būvniecības dokumentiem saistītiem ar šo iekārtu ražošanu		
Paraksts	Datums	8/8/2007
Deklarācijas numurs 0002/8807		

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 bendrijas ASMEVIII Div 1: 2004 nuostatas

PED įvertinimo pakopa: 3.3 straipsnis (AO, AA, ACS, AAR - 005, 010, 015, 020, 025, 030)
Modulis A (AO, AA, ACS, AAR - 035, 040, 045)
Modulis B (AO, AA, ACS, AAR - 050, 055)

PED notifikuoti institucija Lloyds Register Verification
71 Fenchurch St. London
EC3M 4BS

EB tipo 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 techninio pagrinimo informacija atitinka aukščiau nurodytus standartus ir kitą su nurodytu direktyvų nuostatomis susijusią dokumentaciją.

Parasas  **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

Kullanilan standartlar Genelde ASMEV II Div 1 2004'e uygun

PED (Basınçlı Ekipman Direktifi) Değerlendirilmesi 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, AAR - 050, 055)

Yolu Modül A (AO, AA, ACS, AAR - 035, 040, 045)
Modül B (AO, AA, ACS, AAR - 050, 055)

PED için bildirimde bulunulan kuruluş: Lloyds Register Verification
71 Fenchurch St. London
EC3M 4BS

AT Tipi İncelemesi Sertifikası: COV0413459/TEC

Yetkilil Temsilcisi Derek Bankier
D v s onal Quality Manager
Parker Hannifin Ltd domn ck hunter division

Beyan

Yetkilil temsilci olarak beyan ederim ki bu ürünün teminine / üretimine ilişkin olarak yukarıda verilen bilgiler yukarıda anılan Direktiflerin hükümlerine uygun 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, Paisten 1: 2004.

Система обеспечения качества PED Статья 3.3 (AO, AA, ACS, AAR - 005, 010, 015, 020, 025, 030)
Модуль А (AO, AA, ACS, AAR - 035, 040, 045)
Модуль В (AO, AA, ACS, AAR - 050, 055)

Уполномоченный орган для PED: Lloyds Register Verification
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 конструкции/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 l-konformità ma' ASMEVIII Div 1: 2004

Rotta ta' l-Assessorjat 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, AAR - 050, 055)

Korp notifikat għall-PED: Lloyds Register Verification
71 Fenchurch St. London
EC3M 4BS

Certifikat tal-KE ta' l-eżaminazzjoni tal-Tip: COV0413459/TEC

Rappreżentant Awtorizzat Derek Bankier
D v s onal Quality Manager
Parker Hannifin Ltd domn ck hunter division

Dikjarazzjoni

Niddikjara li bħala r-rappreżentanti awtorizzati, l-informazzjoni tal-hawn fuq, f'dak li għandu j-qasam mal-formimint/manifattura ta' dan il-prodott, hija konformità ma' l-istandards u d-dokumenti l-oħra relatati li jsewgu 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 pol 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, AAR - 050, 055)

Priglašeni organ za PED Lloyds Register Verification
71 Fenchurch St. London
EC3M 4BS

Certifikat o tipskem pregledu ES COV0413459/TEC

Pooblaščen zastopnik Derek Bankier
D v s onal Quality Manager
Parker Hannifin Ltd domn ck hunter division

Izjava

Kot pooblaščen zastopnik izjavljam, da so zgorajni podatki glede dobave/prozvodnje tega zefeka skladni s standardi in ostalimi sorodnimi dokumenti, ki sicerj določam zgorajnih direktiv.

Podpis  **Datum** 8/8/2007

Štev ilka izjave 0002/8807

Declarație de conformitate RO

Parker Hannifin Ltd domn ck 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 lizate 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, AAR - 050, 055)

Organism no ificat pentru PED Lloyds Register Verification
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 Hannifin Ltd domn ck hunter division

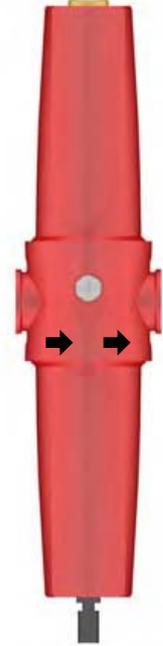
Declarație

În calitate de reprezentant autorizat, declar că informațiile de mai sus, referitoare la furnizarea / fabricarea acestui produs, sunt în conformitate cu standardele și alte documente conexe care respectă prevederile Directivei de mai sus.

Semnătura:  **Data:** 8/8/2007

Număr declarație: 0002/8807

13.9 Option dc**Operating instructions for compressed air filter (fresh air filter)**

**domnick hunter**

AC010 - AC030

OIL-X
EVOLUTIONOriginal Language **EN** OIL VAPOUR & ODOUR REMOVAL FILTERS

NL OLIEDAMP & GEUR VERWIJDERINGSFILTERS	DE FILTER ZUM ENTFERNEN VON ÖLNEBEL UND GERÜCHEN
FR FILTRES D'ÉLIMINATION DES ODEURS ET DES VAPEURS D'HUILE	FI ÖLJYHÖYRYN JA HAJUN POISTOSUODATTIMET
SV FILTER FÖR AVLÄGSNING AV OLJEÅNGOR OCH LUKT	NO OLJEDAMP- OG OLJELUKTFJERNINGSFILTRE
DA FILTER FÖR AVLÄGSNING AV OLJEÅNGOR OCH LUKT	EL ΦΙΛΤΡΑ ΑΦΑΙΡΕΣΗΣ ΑΤΜΩΝ & ΟΣΜΩΝ ΛΑΔΙΟΥ
ES FILTROS DE ELIMINACIÓN DE OLORES Y VAPORES DE ACEITE	PT VAPOR DO ÓLEO E FILTROS DE REMOÇÃO DOS CHEIROS
IT FILTRI PER L'ELIMINAZIONE DEGLI ODORI E DEI VAPORI D'OLIO	PL FILTRY DO USUWANIA OPARÓW I ZAPACHU OLEJU
SK FILTRE NA ODSTRAŇOVANIE OLEJOVÝCH VÝPAROV A ZÁPACHU	CS OLEJOVÉ A PROTIPACHOVÉ FILTRY
ET ÖLISUDU JA -HAISU EEMALDUSFILTRID	HU OLAJGŐZ- ÉS SZAGELTÁVOLÍTÓ SZŰRŐK
LV EĻĻAS TVAIKU UN AROMĀTA NOVĒRŠANAS FILTRI	LT ALYVOS GARŲ IR KVAPO ŠALINIMO FILTRAI
RU ФИЛЬТРЫ ДЛЯ УСТРАНЕНИЯ ЗАПАХА И ПАРОВ МАСЛА	SL FILTRI ZA ODSTRANJEVANJE OLJNIH HLAPOV IN VONJAV
TR YAĞ BUHARI VE KOKUSU GİDERİCİ FİLTRELER	MT FILTRI LI JNEHHU L-FWAR TAŻ-ŻJUT U L-IRWEJJAĦ

AC010 - AC030



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.
- Fremhæver 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.
- Tóstab esile toimingud või protseduurid, mis väärta teostamise korral võivad põhjustada kehavigastusi või surma.
- Olyan műveleteket vagy eljárásokat jelöl, amelyek nem megfelelő módon történő végrehajtása súlyos vagy végzetes személyi sérülést okozhat.
- Uzsvēr darbības vai procedūras, kuru rezultātā, ja tās neveic pareizi, var izraisīt ievainojumus vai nāvi.
- Żymi veiksmus ar procedūras, kuriuos atlikus neteisingai, galima susižeisti ar mirtį.
- 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 korrimnt jew mewt



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.
- Fremhæver 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.
- Tóstab esile toimingud või protseduurid, mis väärta teostamise korral võivad kaesolevat toodet kahjustada.
- Olyan műveleteket vagy eljárásokat jelöl, amelyek nem megfelelő módon történő végrehajtása a termék károsodásához vezethet.
- Uzsvēr darbības vai procedūras, kuru rezultātā, ja tās neveic pareizi, var sabojāt šo izstrādājumu.
- Żymi 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 hsara lil dan il prodott

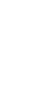


- Suitable gloves must be worn.
- Geeignete Schutzhandschuhe tragen.
- Käytettävä asianmukaisia käsineitä.
- Bruk egnete hansker.
- Απαιτείται να φοράτε κατάλληλα γάντια
- Devem ser utilizadas luvas adequadas.
- Należy założyć odpowiednie rękawice
- Kohustuslik kanda sobivaid kaitsekindaid
- Jävalkā piemēroti cimdi.
- Работы должны проводиться в соответствующих перчатках
- Uyğun eldiven giymelidir
- Altijd geschikte handschoenen dragen.
- Le port de gants adaptés est obligatoire.
- Använd lämpliga handskar.
- Der skal anvendes egnete handsker.
- Se deben llevar puestos guantes apropiados.
- Indossare guanti di protezione.
- Je nutné použít vhodné rukavice.
- Viseljen megfelelő védőkesztyűt.
- Reikia mūvēti tinkamas pirštines.
- Uporabiti je treba ustrezne rokavice.
- Ghandhom jintlibsu ingwanti adatti



- Highlights the requirements for disposing of used parts and waste.
- Benadrukt de vereisten voor het weggoeien 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.
- Fremhæver 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.
- Tóstab esile kasutatud osade ja jääkide utiliseerimisele esitatavad nõuded
- A használt alkatrészek és a hulladék megfelelő módon történő elhelyezésére hívja fel a figyelmet.
- Uzsvēr prasības tam, kā atbrīvoties no lietotajām detaļām un atkritumiem.
- Żymi panaudotą dalių ir atliekų išmetimo reikalavimus.
- Указывает на требования по уничтожению использованных деталей и отходов
- Označuje zahteve za odlaganje rabljenih delov in odpadkov.
- Kullaniilmiş parçaların ve atıkların atılmasına ilişkin gereklilikleri vurgular
- Tissottolinea l-kundizzjonijiet biex wiehed jarmi l-partijiet uzati u l-iskart

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	<ul style="list-style-type: none"> • Pressure. • Paine. • Πίεση • Ciśnienie • Nyomás alatt. • Tlak 	<ul style="list-style-type: none"> • Druk • Trykk • Presión. • Tlak. • Spiediensi. • Basınc 	<ul style="list-style-type: none"> • Druck. • Trykk • Pressão. • Tlak. • Sléigis. • Pressjoni 	<ul style="list-style-type: none"> • Pression. • Tryk • Pressione. • Surve. • Давление
	<ul style="list-style-type: none"> • Release Pressure. • Evacuation de pression. • Avlast trykk • Despresurizar. • Ciśnienie spustowe • Surve väljalase • Ísleiskite sléigj. • Basıncı Kaldırın 	<ul style="list-style-type: none"> • Druk aflaten. • Vapauta paine. • Aflast tryk • Liberta Pressão. • Uvolnite tlak. • Engedje ki a nyomást. • Стравить давление • Nehhi l-pressjoni 	<ul style="list-style-type: none"> • Druck ablassen. • Tryckutsläpp. • Εκτόνωση πίεσης • Scaricare la pressione. • Uvolnění tlaku. • Pazeminiet spiedienu. • Sprostitev tlaka. 	
	<ul style="list-style-type: none"> • Replace every year • Remplacer tous les ans. • Skift ut hvert år • Sustituir anualmente • Należy wymieniać raz w roku • Asendage igal aastal • Keiskite kartä per metus • Her yıl değiştirin 	<ul style="list-style-type: none"> • Elk jaar vervangen • Vaihda vuosittain. • Udskift en gang om året • Substituir todos os anos • Každý rok vymieňajte • Evente cserélje • Заменять каждый год. • İbdel kull sena 	<ul style="list-style-type: none"> • Jährlich austauschen • Byt varje år • Αντικατάσταση κάθε χρόνο • Sostituire ogni anno • Nutná výměna každý rok. • Nomainiet reizi gadā • Zamenjajte vsako leto. 	
	<ul style="list-style-type: none"> • Filter housing / Model • Logement du filtre/modèle. • Filterhus/-modell • Caja de filtro/modelo. • Obudowa filtra / model. • Filtri korpus/mudel • Filtró korpusas / modelis • Filtre muhafazası / Model 	<ul style="list-style-type: none"> • Filterhuis / Model • Suodatinkotelo/-malli • Filterhus/modell • Caixa / Modelo do filtro • Kryt filtra / Model • Szűrőház / típus • Корпус фильтра / модель • Kontenitur tal-filtru - Mudell 	<ul style="list-style-type: none"> • Filtergehäuse / Modell • Filterhus/modell • Υποδοχή/μοντέλο φίλτρου • Corpo del filtro / Modello • Kryt filtra / Model • Filtra korpus / modelis • Ohišje filtra / Model 	
	<ul style="list-style-type: none"> • High efficiency filter element • Hochleistungsfiltrelement • 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 	<ul style="list-style-type: none"> • Zeer efficiënt filterelement • Cartouche filtrante haute efficacité. • Høgeffektivt filterelement • Høgeffektivt 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 		
	<ul style="list-style-type: none"> • Adsorption filter cartridge - Granular carbon • Adsorptionsfiltereinsatz - Granulatkohle • Adsorptiosuodatinelementti - rakeinen hiili • Adsorpsjonsfilterpatron - Karbon i kornform • Φασιγγιό φίλτρου προσρόφησης - Κοκκώδης άνθρακας • Cartucho do filtro de absorção - Carvão granular • Adsorpcyjny wkład filtrujący z węgla ziamistego • Adsorpcni filtračni prvek - granulovaný uhlik • Adsorpciószűrőbetét - granulált szén • Adsorbicinio filtro kasetė - anglies granulės 	<ul style="list-style-type: none"> • Adsorptiefilter cartridge - korrelvormige actieve kool • Cartouche filtrante d'adsorption - Charbon en granulés. • Adsorptionsfilterkassett - Kornigt kol • Adsorptionsfilterkassett - Kornigt kol • Cartucho filtrante de adsorción, granulos de carbón. • Filtro a cartuccia ad adsorbimento - granuli di carbone • Adsorpcná filtračná kasetza - Granulovaný uhlik • Adsorpciofiltri kassett - teraline süsi • Absorbėjoša filtra kasetne - graudains ogleklis • Адсорбционный фильтрующий элемент - гранулированный уголь • Adsorpsiyon filtersi kartuşu - Taneli karbon 		
	<ul style="list-style-type: none"> • Kaseta adsorpcyjna filtra - zrnasti ogjik • Kaxxa assorbenti tal-filtru - Karbonju mrammel 			
	<ul style="list-style-type: none"> • Adsorption filter element - Wrapped carbon cloth • Adsorptie filterelement - gewikkelde koolstofdoek • Adsorptionsfilterelement - eingewickeltes Filtertuch aus Kohlenstoff • Cartouche filtrante d'adsorption - Charbon entouré de tissu. • Adsorptiosuodatinelementti - käärittö hiilikangas • Adsorptionsfilterelement - Veckad kolfiberduk • Adsorpsjonsfilterelement - Innpakket karbonstoff • Adsorptionsfilterelement - Veckad kolfiberduk • Φίλτρο προσρόφησης - Τυλιγμένο ύφασμα άνθρακα • Elemento filtrante de adsorción, capas de tejido de carbón. • Elemento do filtro de absorção - Pano revestido de carvão • Elemento filtrante ad adsorbimento - tessuto al carbone con struttura ad avvolgimento • Wkład adsorpcyjny filtra ze zwijanej tkaniny z włókna węglowego • Adsorpcni filtrační článok - Zabalená uhliková tkanina • Adsorpcni filtrační prvek - zabalená uhliková tkanina • Adsorpciofiltri element - isoleeritud süsinikriie • Adsorpciószűrőelem - göngyölt szénszövet • Absorbėjošs filtra elements - saīta oglekļa drāniņa • Adsorbicinis filtravimo elementas - susuktas anglies audinys • Адсорбционный фильтрующий элемент - ткань из углеродистого волокна • Adsorpcijski filtrirni element - navita ogjikova krpa • Adsorpsiyon filtersi öğesi - Sarılı karbon kumaş • Element tal-filtru li jassorbixxi - Xoqqa tal-karbonju mgezwra 			
	<ul style="list-style-type: none"> • 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 öge tööriista kasutamine • Izmantojiet tikai atbilstošus darbarīkus • Убедитесь, что используется правильный инструмент • Doğru alet kullanılmazını sağlayın 	<ul style="list-style-type: none"> • Stellen Sie sicher, dass Sie das richtige Werkzeug verwenden. • Käyttävää oikeaa työkalua • Pass på at korrekt værktøj bruges • 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 • Isitinkite, kad naudojamas reikiamas įrankis • Poskrbite, da boste uporabili ustrezno orodje • Kun zgur li tintuza l-ghodda t-tajba 		

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**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

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MT

Rakkomandazzjonijiet għall-Installazzjoni

Nirakkomandaw li l-arja kumpressata tiġi trattata qabel ma tidhol fis-sistema ta' distribuzzjoni kif ukoll fil-punti ċ l-applikazzjonijiet kritiċi ta' l-użu.

L-installazzjoni ta' tagħmir li jnixxef l-arja kumpressata fuq sistema li kienet imxarbra jista' jirriżulta f'aktar tagħbija ta' hmieg għall-filtri li jintużaw f'punt wiehed, għall-perjodu sakemm is-sistema ta' distribuzzjoni tinxef. L-elementi tal-filtri jista' jkollhom bżonn li jinbidlu aktar spiss matul dan il-perjodu.

Għal installazzjonijiet fejn jintużaw kumpressuri mingħajr żejt, xorta jkun hemm prezenti ajrusols u partijiet ta' l-ilma, għalhekk xorta għandhom jintużaw gradi bi skop ġenerali u b'effiċjenza kbira.

Filtru għal skopijiet ġenerali għandu dejjem jiġi installat biex jiproteġi l-filtru ta' effiċjenza kbira mill-volum kbir ta' ajrusols likwidi u partijiet solidi.

Installa tagħmir ta' purifikazzjoni fl-aktar temperatura baxxa possibbli imma b'mod li ma jkunx hemm iffrizar, preferibbilment aktar 'l isfel mill-aftercoolers u mir-riċevituri ta' l-arja.

Tagħmir tal-purifikazzjoni fil-punt ta' l-użu għandu jiġi installat kemm jista' jkun qrib tal-post fejn għandu japplika.

It-tagħmir ta' purifikazzjoni m'għandux jiġi installat aktar 'l isfel mill-valvs li jifflu malajr u għandu jkun protett minn possibbiltà ta' fluss b'lura jew kundizzjonijiet oħra stressanti.

Naddaf il-pajps kollha li jwasslu għat-tagħmir ta' purifikazzjoni qabel tinstalla u l-pajps kollha wara li tinstalla t-tagħmir ta' purifikazzjoni u qabel ma tqabbad ma' l-applikazzjoni finali.

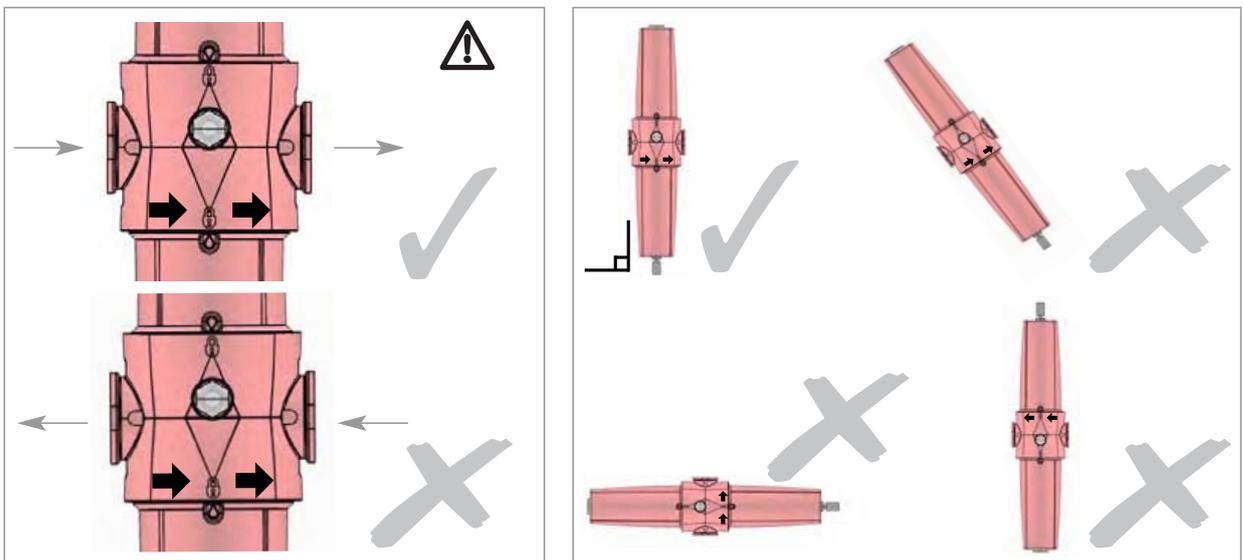
Jekk tiffittja linji ta' by-pass madwar it-tagħmir ta' purifikazzjoni, kun żgur li hemm biżżejjed filtrazzjoni f'fittjata mal-linja tal-by-pass biex ma thallix li jkun hemm kontaminazzjoni tas-sistema aktar 'l isfel.

Ipprovdni faċilità biex tiddrejnja l-likwidi li jingabru mit-tagħmir tal-purifikazzjoni. Il-likwidi li jingabru għandhom jiġu trattati u mormija b'mod responsabbli.

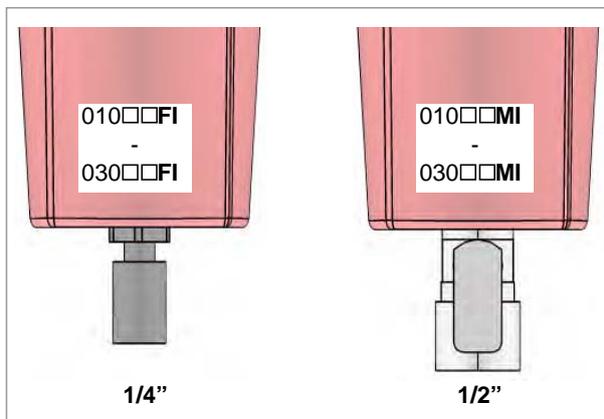
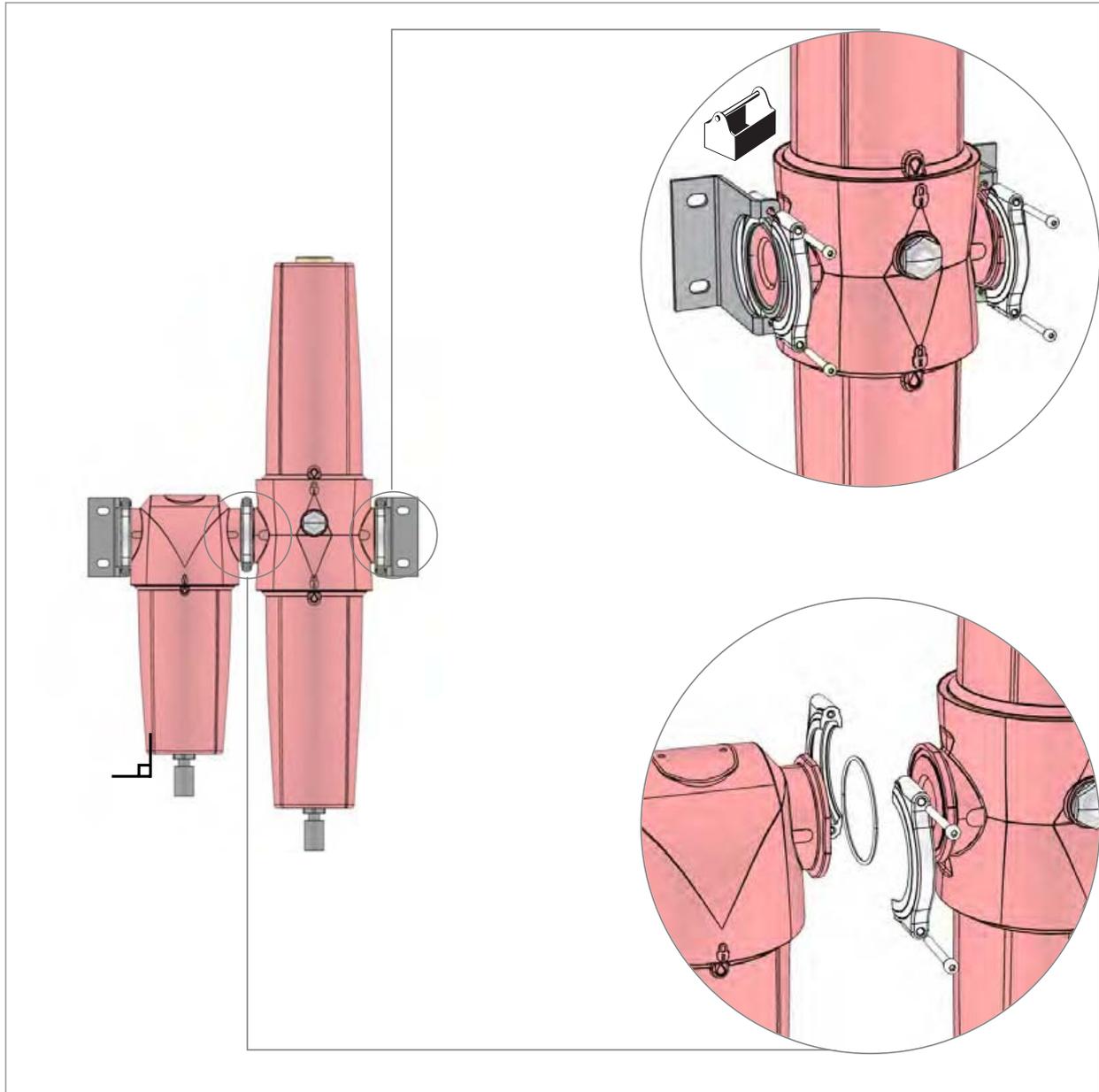
Iż-żmien kemm idumu jersvu l-elementi tal-filtru li jneħhi l-fwar taż-żjut huwa affettwat mill-koncentrazzjoni taż-żejt tad-dhul, l-umdità relattiva u t-temperatura tas-sistema ta' l-arja kumpressata. L-elementi li jneħhu l-fwar taż-żjut ikollhom bżonn jinbidlu aktar ta' sikwit mill-element shih ekwivalenti.

Mudelli AC010□□□□ - AC030□□□□ huma f'fittjata b'indikatur tal-volum taż-żejt. Kemm l-elementi tal-filtru kif ukoll l-indikatur għandhom jinbidlu jekk l-indikatur isir ta' kulur blu.

Jekk Joghġbok Innota - Dan hu indikatur tal-volum taż-żejt u ma jindikax iż-żmien li jdum iservi l-element tal-filtru.



AC010 - AC030



6

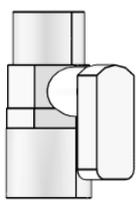
FILTER-DH-OIL-XEVOLUTION 01

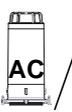
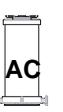
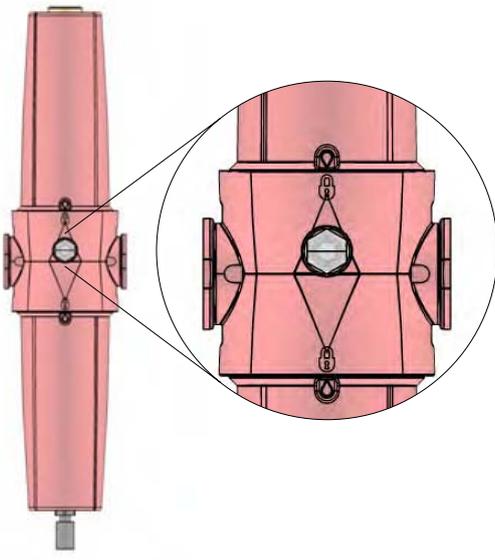
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AC010 - AC030

5. Spare Parts (Service Kits)

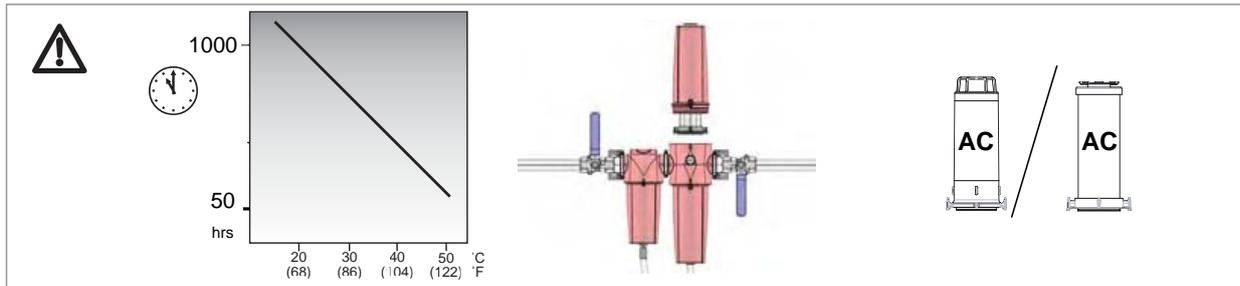
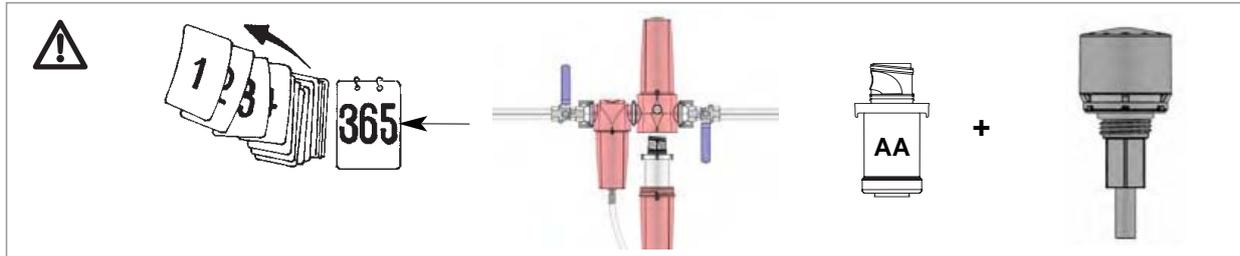
- Reserve-onderdelen (servicekits) • Ersatzteile (Service-Kits) • Pièces de rechange (nécessaires d'entretien) • Varaosat (Huoltopakkausset)
 • Reservdelar (servicesatser) • Reservedeler (service-sett) • Reservedele (Servicekit) • Ανταλλακτικά (Πακέτα τεχνικής υποστήριξης)
 • Piezas de repuesto (kits 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) • Rezerwes części (apkopes komplekti) • Atsarginės dalys (priežiros detalių komplektai)
 • Запасные части (ЗИП) • Nadomestni deli (servisni kompleti) • Yedek parça (Servis kitleri) • Partijiet Ghat-Tibdil (Kitts tas-Servizz)

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 010 A 010 B 010 C 015 B 015 C 020 C 020 D 020 E 025 D 025 E 030 E 030 F 030 G	 AA 010AA 015AA 020AA 025AA 025AA 030AA	 AC 010AC 015AC 020AC 025DAC 025EAC 030AC	 AC      	 BOIE1 AC010 □□□ I - AC030 □□□ I
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AC010 - AC030
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**



Models AC010□□□□ - AC030□□□□ are fitted with a bulk oil indicator. Both filter elements and indicator should be changed if indicator is blue in colour.

Please Note - This is a bulk oil indicator, it does not indicate filter element life.

Modellen AC010□□□□ - AC030□□□□ zijn uitgerust met een bulk olie indicator. Zowel de filterelementen als de indicator moeten vervangen worden als de indicator blauw van kleur is.

N.B. - Dit is een bulk olie indicator, het is geen indicator voor de levensduur van het filterelement.

Die Modelle AC010□□□□ - AC030□□□□ sind mit einer Ölanzeige ausgestattet. Sowohl die Filterelemente also auch die Anzeige sollte ausgetauscht werden, wenn sich die Anzeige blau färbt.

Bitte beachten - Es handelt sich hier um eine Ölanzeige. Diese gibt keinen Hinweis auf die Lebensdauer des Filterelements.

Les modèles AC010□□□□ - AC030□□□□ sont fournis avec un indicateur de présence massive d'huile. Lorsque l'indicateur est bleu, il est nécessaire de remplacer les cartouches et l'indicateur.

Remarque : Il s'agit d'un indicateur de présence massive d'huile, et non pas de la durée de vie des cartouches.

Malleissa AC010□□□□ - AC030□□□□ on öljynilmais. Sekä suodatinelementit että ilmaisin on vaihdettava, jos ilmaisin on sininen.

Huomautus - Tämä on öljynilmais. Se ei ilmaise suodatinelementin ikää.

Modell AC010□□□□ - AC030□□□□ har en indikator för större mängder olja. Både filterelement och indikator ska bytas om indikatorn har blå färg.

Observera — indikatorn visar oljeförekomst, den indikerar inte filterelementets livslängd.

Modell AC010□□□□ - AC030□□□□ er monteret med bulkvolum oljeindikator. Både filterelementer og indikator skal skiftes når indikatoren er blå.

Merk - Dette er en bulkvolum oljeindikator, den indikerer ikke filterelementets levetid.

Modell AC010□□□□ - AC030□□□□ har en indikator för större mängder olja. Både filterelement och indikator ska bytas om indikatorn har blå färg.

Observera — indikatorn visar oljeförekomst, den indikerar inte filterelementets livslängd.

Τα μοντέλα AC010□□□□ - AC030□□□□ διαθέτουν ένα δείκτη παρουσίας λαδιού. Όταν ο δείκτης είναι μπλε πρέπει να αλλάζονται τόσο τα φίλτρα όσο και οι δείκτες.

Παρακαλούμε σημειώστε ότι - Αυτός είναι ένας δείκτης παρουσίας λαδιού, δεν υποδεικνύει τη διάρκεια ζωής του φίλτρου.

Los modelos AC010□□□□ - AC030□□□□ disponen de un indicador de presencia de aceite. Si el indicador se vuelve azul deben cambiarse tanto los elementos filtrantes como el indicador.

Nota importante: se trata de un indicador de presencia de aceite. No indica la vida del elemento filtrante.

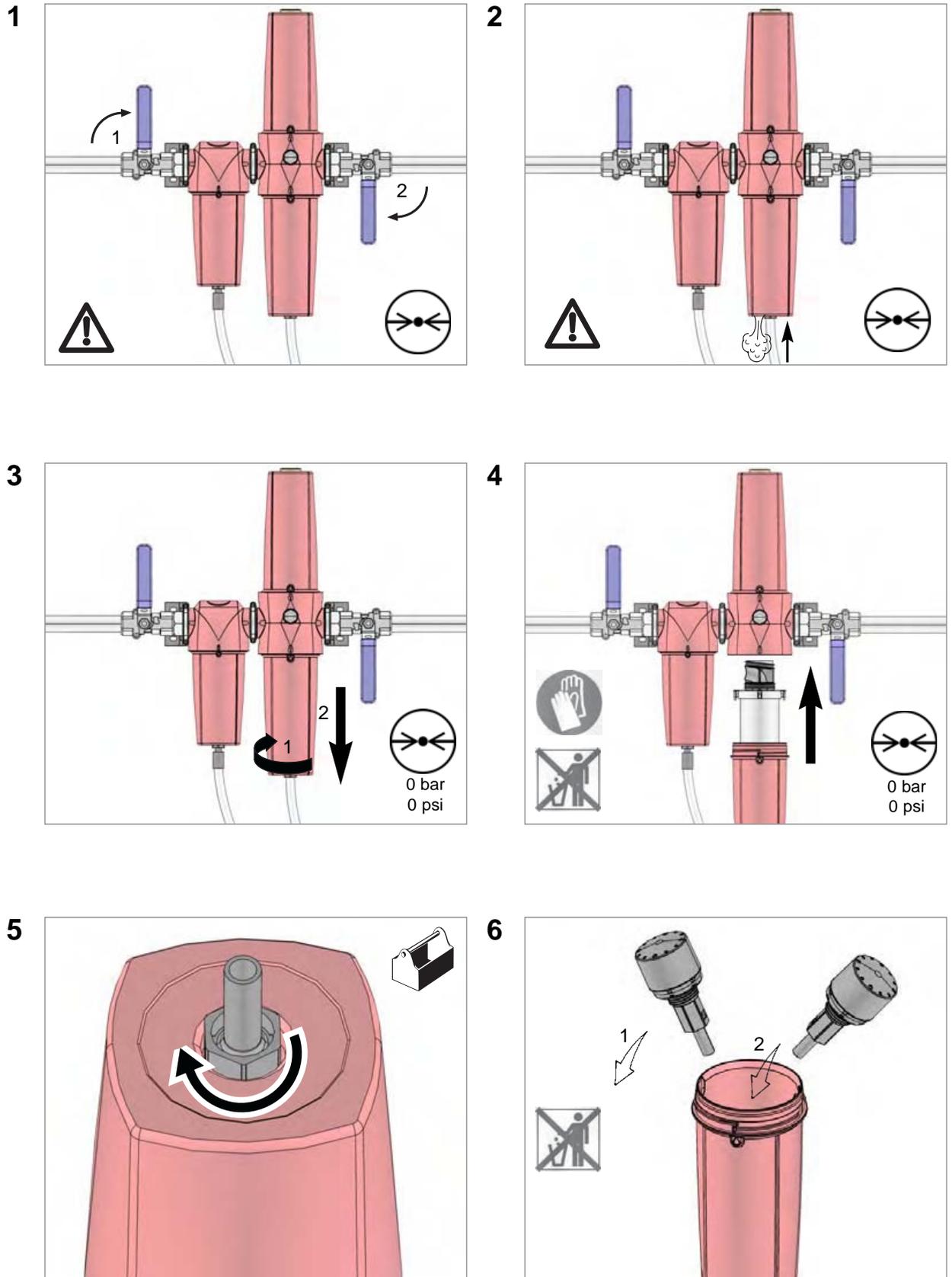
Modelos AC010□□□□ - AC030□□□□ são instalados com um indicador do óleo em bruto. Ambos os elementos do filtro e o indicador deverão ser mudados se o indicador estiver azul.

Nota - Este é um indicador do óleo em bruto, não indica a vida útil do elemento do filtro.

I modelli AC010□□□□ - AC030□□□□ sono provvisti di un indicatore degli oli misti. Sostituire gli elementi filtranti e l'indicatore quando il secondo assume una colorazione blu.

Nota - L'indicatore segnala la presenza di oli misti, ma non la durata dell'elemento filtrante.

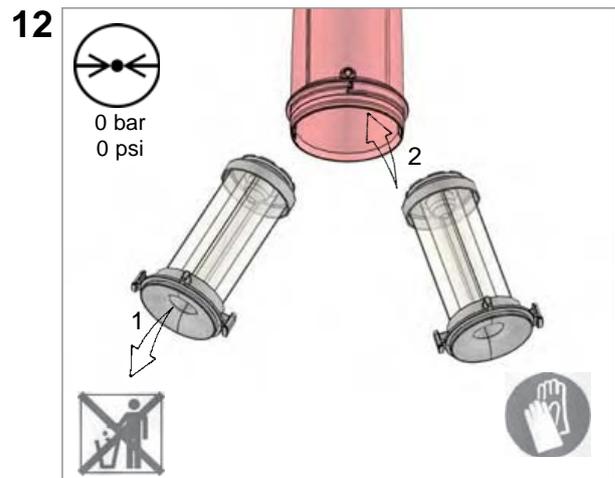
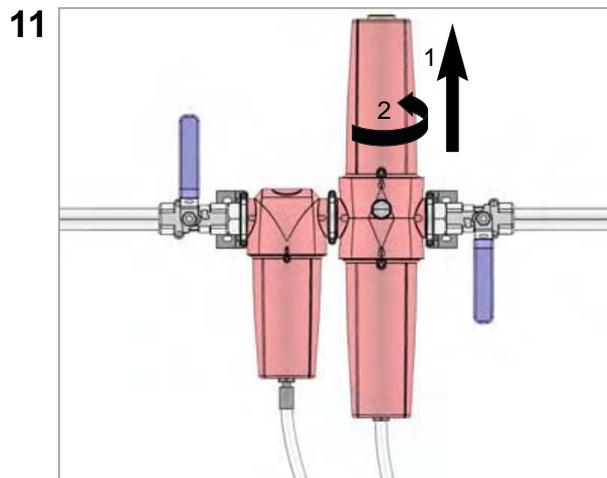
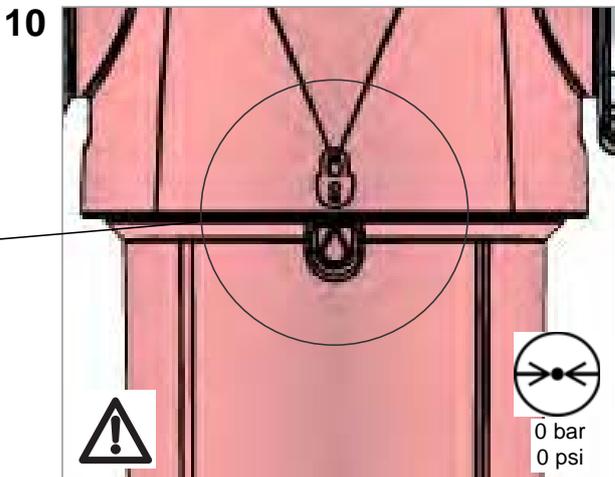
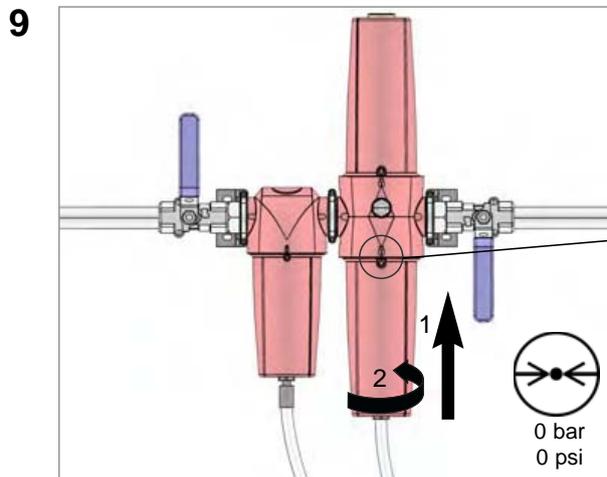
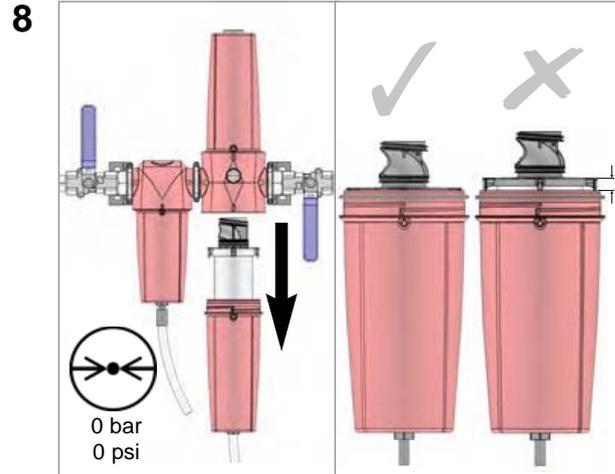
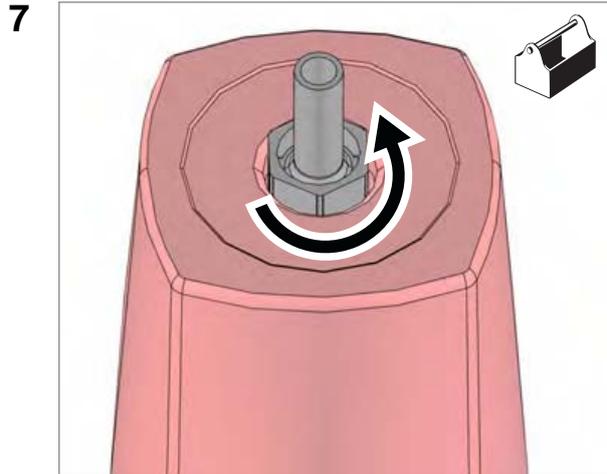
AC010 - AC030



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FILTER-DH-OIL-XEVOLUTION 01

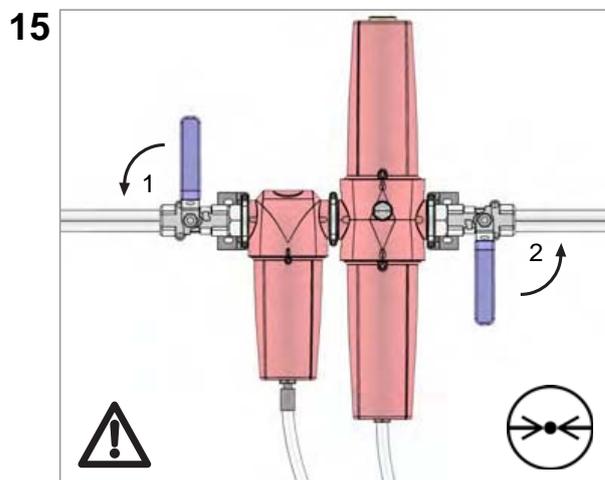
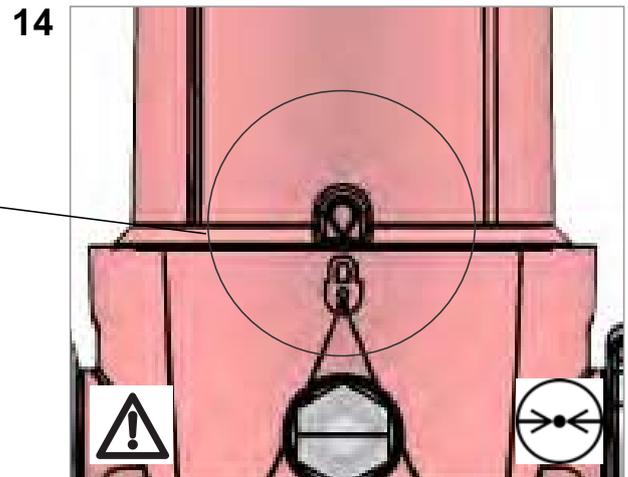
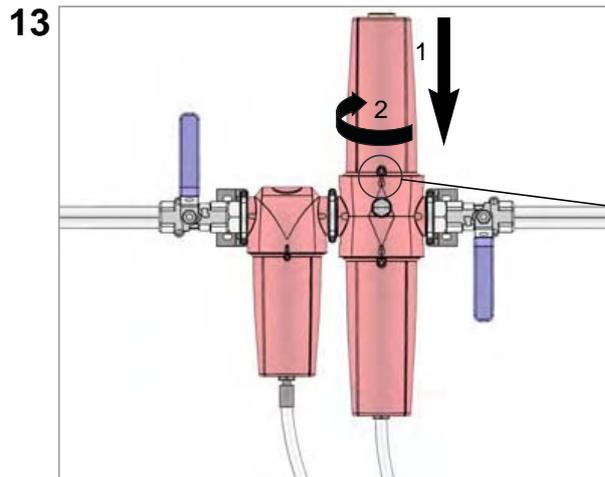
AC010 - AC030



10

FILTER-DH-OIL-XEVOLUTION 01

AC010 - AC030



AC010 - AC030

Konformitätserklärung		DE
domnick hunter Dukesway, TVTE, Gateshead, Tyne & Wear, NE11 0PZ, UK AC010, 015, 020 025, 030 97/23/EC.		
Richtlinien	Allgemein in Übereinstimmung mit ASMEVIII Div 1 : 2004.	
Angewandte Normen	Artikel 3.3 (AC 010, 015, 020, 025) Modul A (AC030)	
Beurteilungsrouten der Druckgeräterichtlinie:	N/A	
Benannte Stelle für die Druckgeräterichtlinie:	N/A	
EG-Baumusterprüfbescheinigung:	Barry Wade Business Systems Improvement Manager domnick hunter ltd	
Bevollmächtigter Vertreter	Barry Wade Business Systems Improvement Manager domnick hunter ltd	
Erklärung Hiermit erkläre ich als bevollmächtigter Vertreter die Konformität der oben aufgeführten Informationen in Bezug auf die Lieferung/Herstellung dieses Produkts mit den Normen und anderen zugehörigen Dokumenten gemäß den Bestimmungen der oben genannten Richtlinien.		
Unterschrift:		Datum: 28 / 09 / 05
Nummer der Erklärung: 0001/280905		

Försäkran om överensstämmelse		SV
domnick hunter Dukesway, TVTE, Gateshead, Tyne & Wear, NE11 0PZ, Storbritannien AC010, 015, 020 025, 030 97/23/EC.		
Direktiv	Generellt i enlighet med ASMEVIII Div 1: 2004.	
Använda standarder	Artikel 3.3 (AC010, 015, 020, 025, 030) Modul A (AC030)	
Fastställningsväg för PED:	N/A	
Ansatt organ för PED:	N/A	
EG-intyg om typprovning:	N/A	
Auktoriserad representant	Barry Wade Business Systems Improvement Manager domnick hunter ltd	
Försäkran Jag försäkrar, i egenskap av auktoriserad representant, att ovan nämnda information avseende överensstämmelse med denna produkt överensstämmer med standarder och övriga relevanta dokument enligt Villkoren i ovanstående direktiv.		
Underskrift:		Datum: 28 / 09 / 05
Försäkran nummer: 0001/280905		

Verklaring van Conformiteit		NL
domnick hunter Dukesway, TVTE, Gateshead, Tyne & Wear, NE11 0PZ, GB AC010, 015, 020 025, 030 97/23/EC.		
Richtlijnen	Gewoonlijk volgens ASMEVIII Div 1: 2004.	
Gehanteerde normen	Artikel 3.3 (AC 010, 015, 020, 025) Module A (AC 030)	
PED-beoordelingsstraject:	N/A	
Aangemelde instantie voor PED:	N/A	
EC Type onderzoekscertificaat:	N/A	
Bevoegde vertegenwoordiger	Barry Wade Manager Bedrijfsysteemverbetering domnick hunter ltd	
Verklaring Als bevoegde vertegenwoordiger verklaar ik dat bovenstaande informatie met betrekking tot de levering / vervaardiging van dit product overeenstemt met de normen en andere bijbehorende documentatie volgens de bepalingen van bovengenoemde richtlijnen.		
Handtekening:		Datum: 28 / 09 / 05
Verklaringnummer: 0001/280905		

Vaatim�nnetmukausvakuutus		FI
domnick hunter Dukesway, TVTE, Gateshead, Tyne & Wear, NE11 0PZ, ISO-BRITANNIA AC010, 015, 020 025, 030 97/23/EC.		
Direktiivit	Yleensä seuraavaan standardin mukaisesti: ASMEVIII Div 1: 2004.	
Käytetyt standardit	Artikla 3.3 (AC010, 015, 020, 025, 030) Moduul A (AC030)	
PED-arviointimenetely:	N/A	
PED-säännösten ilmoitettu laitos:	N/A	
EY-tyyppihyväksynnän sertifikaatti:	N/A	
Valtuutettu edustaja	Barry Wade Yhtisjärjestelmien kehityspäällikkö domnick hunter ltd	
Vakuutus Valtuutettuna edustajana vakuutan, että yllä olevat tiedot, jotka liittyvät tämän tuotteen toimittamiseen tai valmistamiseen, ovat standardien ja muiden asiaan liittyvien asiakirjojen mukaisia ja noudattavat yllä mainittuja direktiivejä.		
Allekirjoitus:		Päiväys: 28 / 09 / 05
Vakuutuksen numero: 0001/280905		

Declaration of Conformity		EN
domnick hunter Dukesway, TVTE, Gateshead, Tyne & Wear, NE11 0PZ, UK AC010, 015, 020 025, 030 97/23/EC.		
Directives	Generally in accordance with ASMEVII Div 1: 2004.	
Standards used	Article 3.3 (AC 010, 015, 020, 025) Module A (AC 030)	
PED Assessment Route :	N/A	
Notified body for PED:	N/A	
EC Type-examination Certificate:	N/A	
Authorised Representative	Barry Wade Business Systems Improvement Manager domnick hunter ltd	
Declaration I declare that as the authorised representative, the above information in relation to the supply / manufacture of this product, is in conformity with the standards and other related documents following the provisions of the above Directives.		
Signature:		Date: 28 / 09 / 05
Declaration Number: 0001/280905		

Déclaration de conformité		FR
domnick hunter Dukesway, TVTE, Gateshead, Tyne & Wear, NE11 0PZ, GB AC010, 015, 020 025, 030 97/23/EC.		
Directives	Généralement conforme à ASMEVII div. 1 : 2004.	
Normes utilisées	Article 3.3 (AC010, 015, 020, 025, 030) Module A (AC030)	
Méthode d'évaluation de la directive d'équipements de pression :	N/A	
Organisme de notification pour la directive d'équipement sous pression :	N/A	
Certificat d'examen de type CE :	N/A	
Représentant agréé	Barry Wade Business Systems Improvement Manager domnick hunter ltd	
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 liés déclarés selon les dispositions des directives susmentionnées.		
Signature :		Date : 28 / 09 / 05
N° de déclaration : 0001/280905		

13.10 Option ga Maintenance tasks for the generator

In order to ensure a safe operation of the machine, the generator must be inspected once every year by a trained and authorized electrician.

Have the following tasks performed by a specialist electrician or an authorized KAESER service representative:

- Inspection of the generator and generator control cubicle for mechanical damages.
- Inspection of the protective conductor.
- Measurement of the dielectric resistance.
- Measurement of the substitute leakage current.
- Inspection of generator functionality.
- Inspection of the proper functioning of the generator fan and cleaning, if required.
- Cleaning the cooling air apertures.
- Check all screwed connections on the generator and control box and tighten if necessary.
- Check covers and power socket caps for damage and good sealing.
- Check that all warning and other labels are complete and undamaged.

13.11 Oil-injected MOBILAIR service intervals

Maintenance strategy 000510 (1x service per year):

Package sequence	A	B	A	B	A	C	from the beginning
Years	1	2	3	4	5	6	

Tab. 110 Service maintenance package - (1x service per year)



Change intervals apply to favourable ambient conditions, such as good fuel quality, cool to medium ambient temperatures, low humidity and low to medium dust exposure.

Group	Item Parts list	Change intervals and maintenance packages				Note
		A 1 year	B 2 years	C 6 years	Operating hours max.	
Part (with mounting location)	Filter SET (compressor and engine):	X	X	X	1	The composition of the sets may vary depending on the machine type.
	Compressor oil filter					
	Engine oil filter					
	Intake air filter, compressor					
	Intake air filter, engine					
	Fuel prefilter					
	Fuel filter					
	Water separator filter element					

Tab. 111 Service intervals for MOBILAIR parts, Filter SET group (compressor and engine)

Compressor group Part (with mounting location)	Item Parts list	Change intervals and maintenance packages				Note
		A 1 year	B 2 years	C 6 years	Operating hours max.	
Cooling oil	1600, 1601	X	X	X	1 1000	
Compressor oil filter	1210	X	X	X	1 1000	
Intake air filter, compressor	1260	X	X	X	1 1000	
Oil separator cartridge	1450		X	X	2 2000	
Drive belt, fan wheel, cooler	1801		X	X	2 2000	
Generator belt	9125		X	X	2 2000	
Service kit for dirt trap	9416	X			1	in extraction line for oil separator tank <i>Option da:</i> to compressed air aftercooler
Service kit, dirt trap, control valve	2148	X	X	X	1	
Service kit for dirt trap	9420	X	X	X	1	<i>Option da:</i> to compressed air aftercooler
Compressed air pre-filter filter element	1550	X	X	X	1 500	<i>Option dd</i>
Compressed air micro-filter element	1551	X	X	X	1 500	<i>Option dd</i>
Pre-/micro-filter element seal	1548	X	X	X	1 500	<i>Option dd</i>
Fresh-air filter element set	1549	X	X	X	1 500	<i>Option dc</i>
Fresh air extraction line	9439, 9440			X	6	<i>Option dc</i>
Insert for condensate drain	9475	X	X	X	1 1000	<i>Option dd</i>
Service kit for condensate drain compressed air filter	9601	X	X	X	1 500	<i>Option dd</i>

Compressor group	Item	Change intervals and maintenance packages				Note
		A 1 year	B 2 years	C 6 years	Operating hours max.	
Part (with mounting location) Pressure hoses - oil, compressed air, condensate and control air	Parts list 7110, 7120, 7130, 7140, 7160, 7170, 7172, 7180, 7190, 7195, 7200, 7205, 7230, 7250, 7360, 7560 - 7566, 7580, 7590, 9450, 9485, 9886			X	6	The type and quantity depends on the machine model.

Tab. 112 Service intervals for MOBILAIR parts, compressor group

Group	Part (with mounting location)	Item Parts list	Change intervals and maintenance packages				Note
			A 1 year	B 2 years	C 6 years	Operating hours max.	
Engine filter SET:		551	X				The composition of the sets may vary depending on the machine type.
Engine oil filter		1905					
Fuel prefilter		1910, 1915					
Fuel filter		1920					
Water separator filter element		1985					

Tab. 113 Service intervals for MOBILAIR parts, Filter SET group Engine

Engine group Part (with mounting location)	Item Parts list	Change intervals and maintenance packages				Note
		A 1 year	B 2 years	C 6 years	Operating hours max.	
Engine oil	1925	X				
Engine oil filter	1905	X	X	1	500	
Intake air filter, engine	1280	X	X	1	500/1000	
Fuel prefilter	1910; 1915 – 1919	X	X	1	500/1000	The type and quantity depends on the machine model.
Fuel filter	1920	X	X	1	500/1000	The type and quantity depends on the machine model.
Water separator filter element	1985	X	X	1	500	in fuel supply line
Engine coolant	5195	X	X	3; 6	2000; 12000	Glysantin; CAT ELC
Engine coolant addition	5197	X	X	2; 3		SCA additive; CAT ELC refresher
Engine drive belt (for engine fan and engine units)	1800, 4470	X	X	1	500/1000	The type and quantity depends on the machine model.
		X	X	2	2000	
		X	X		3000	
Crankcase ventilation filter element	1216	X	X	1	1000	Oil separator element
Air filter element	1250	X	X	1	1000	M235 Add-on filter, tank venting
Fuel return line	7975	X	X	2		
Fuel hoses	5193, 7960 - 7962, 9350		X	6		The type and quantity depends on the machine model.

Engine group Part (with mounting location)	Item Parts list	Change intervals and maintenance packages				Note
		A 1 year	B 2 years	C 6 years	Operating hours max.	
Pressure hoses - coolant , charge air and oil	4511 - 4513, 5620 5621, 5664 - 5667, 5670 - 5672, 7100, 7120, 7400, 7402, 7404, 7500, 7502, 7504, 7510, 7600, 7907			X	6	The type and quantity depends on the machine model.

Tab. 114 Service intervals for MOBILAIR parts, Engine group

