Operator manual

Portable compressor

MOBILAIR M 118 SIGMA CONTROL MOBIL pV

No.: 901822 03 E

Manufacturer:

KAESER KOMPRESSOREN SE

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KAESER KOMPRESSOREN

Contents

1 Regarding this document
- 1.1 Using this document 1
- 1.2 Further documents 1
- 1.3 Copyright 1
- 1.4 Symbols and labels 1
  - 1.4.1 Warnings 1
  - 1.4.2 Potential damage warnings 2
  - 1.4.3 Other alert notes and their symbols 3

2 Technical Specifications
- 2.1 Nameplate 4
- 2.2 Options – options label 4
  - 2.2.1 Air treatment 5
  - 2.2.2 Compressed air distributor 5
  - 2.2.3 Low temperature equipment 5
  - 2.2.4 Automatic engine start/stop 6
  - 2.2.5 GSM/GPS unit 6
  - 2.2.6 Lighting 6
  - 2.2.7 Sealed floor pan 6
  - 2.2.8 Pedestrian protection 6
- 2.3 Machine (without options) 7
  - 2.3.1 Noise emission 7
  - 2.3.2 Tightening torques for screws 7
  - 2.3.3 Tightening torques for oil separator tank cover fixing screws 7
  - 2.3.4 Tightening torques for lifting eye 7
  - 2.3.5 Ambient conditions 8
  - 2.3.6 Additional specifications according to the machine's operating licence 8
- 2.4 Chassis 8
  - 2.4.1 Chassis options 8
- 2.5 Machines with stationary frame design 8
  - 2.5.1 Mass of machines with stationary frame design 8
- 2.6 Compressor 9
  - 2.6.1 Variable pressure flow rate control (pV control) 9
  - 2.6.2 Compressed air outlet 11
  - 2.6.3 Safety valve 11
  - 2.6.4 Temperature 11
  - 2.6.5 Cooling oil recommendation 12
  - 2.6.6 Cooling oil charge 13
- 2.7 Engine 13
  - 2.7.1 Engine specification 13
  - 2.7.2 Oil recommendation 13
  - 2.7.3 Fuel recommendation 14
  - 2.7.4 Engine coolant recommendation 15
  - 2.7.5 Reduction agent 16
  - 2.7.6 Fill quantities 17
  - 2.7.7 Batteries 17
- 2.8 Options 18
  - 2.8.1 Air treatment options 18
  - 2.8.2 Low temperature equipment 19
  - 2.8.3 Auxiliary electrical systems 19
  - 2.8.4 GSM/GPS unit 20

3 Safety and Responsibility
- 3.1 Basic instructions 21
- 3.2 Specified use 21

3.3 Incorrect Use 21
3.4 User's responsibilities 21
3.4.1 Observe statutory and universally accepted regulations 21
3.4.2 Determining personnel 22
3.4.3 Complying with inspection schedules and accident prevention regulations 22
3.4.4 Taking the machine for general inspection 23
3.4.5 Documenting the mileage of the machine as trailer 24
3.4.6 Attachment of a "Hazardous goods" label 24
3.5 Dangers 24
3.5.1 Safely dealing with sources of danger 24
3.5.2 Save handling of the AdBlue® reduction agent 27
3.5.3 Safe machine operation 28
3.5.4 Organisational Measures 32
3.5.5 Danger areas 32
3.6 Safety devices 32
3.7 Safety signs 32
3.8 Emergencies 36
3.8.1 Correct actions in the event of a fire 36
3.8.2 Treating injuries from handling operating fluids/materials 36
3.9 Warranty 37
3.10 Identifying the effects of improper modifications 37
3.11 Environment protection 38

4 Design and Function
4.1 Bodywork 39
4.2 Machine layout 40
4.3 Machine function 43
4.4 Operating modes and control mode 45
4.4.1 Machine operating modes 45
4.4.2 MODULATING control 45
4.5 Safety devices 46
4.5.1 Monitoring functions with shut-down 46
4.5.2 Further safety devices 46
4.6 SIGMA CONTROL MOBIL control panel 47
4.7 Variable pressure flow rate control (pV control) 48
4.8 Exhaust gas after-treatment 49
4.8.1 Engine optimisation 49
4.8.2 Reduction of nitrogen oxide emissions 50
4.9 Options 52
4.9.1 Air treatment options 52
4.9.2 Auxiliary electrical systems 55
4.9.3 Low temperature equipment options 55
4.9.4 Automatic start/stop options 55
4.9.5 GSM/GPS unit 57
4.9.6 Transport options 57
4.9.7 Frame design options for stationary machines 57
4.9.8 Closed floor pan option 57
4.9.9 Pedestrian protection option 58

5 Installation and Operating Conditions
5.1 Ensuring safety 59
5.2 Installation conditions 59
5.3 Machine with stationary frame structure 61

6 Installation
6.1 Ensuring safety 62

6.2 Reporting Transport Damage 62
6.3 Perform regular maintenance on the chassis: 62
6.4 Installing a machine with stationary frame superstructure on a truck platform 62
6.5 Connect automatic start/stop externally 63

7 Initial Start-up
7.1 Ensuring safety 64
7.2 Before Initial Start-up (or Recommissioning) 64
7.2.1 Note when commissioning 64
7.2.2 Special measures for re-commissioning after storage or de-commissioning 65
7.3 Checking installation and operating conditions 65
7.4 Low-temperature operation (winter) 66
7.4.1 Jump starting the machine 66
7.4.2 Starting up low-temperature equipment 68
7.5 Commissioning electrical equipment 69

8 Operation
8.1 Ensuring safety 70
8.2 Starting and stopping 71
8.2.1 Follow the brief instructions 71
8.2.2 Commissioning the machine 72
8.2.3 Starting the machine 73
8.2.4 Setting the compressed air discharge pressure 74
8.2.5 Switching the machine to the run-on phase 76
8.2.6 Shutting down the machine 76
8.2.7 Shutting down in an emergency 77
8.3 Acknowledging alarm, warning and maintenance messages 77
8.3.1 Confirming alarm messages 77
8.3.2 Acknowledging warning and maintenance messages 78
8.4 Operating the options 78
8.4.1 Operating the machine with the “Automatic start/stop" option 78
8.4.2 Using the low-temperature equipment 80
8.4.3 Bypassing and activating the heat exchanger 81
8.5 Cleaning the machine after operation 84

9 Fault Recognition and Rectification
9.1 Basic instructions 86
9.2 Analysing SIGMA CONTROL MOBIL messages 86
9.2.1 Alarm messages on the controller (machine off) 86
9.2.2 Warning messages on the controller 91
9.3 Evaluating engine faults and alarms 93
9.3.1 Engine refuses to start or does not turn over 93
9.3.2 Engine does not reach full speed 94
9.4 Analysing compressor faults and alarms 95
9.4.1 Working pressure too high 95
9.4.2 Working pressure too low 95
9.4.3 Safety valve blows off 96
9.4.4 Machine overheating 96
9.4.5 Too much oil residue in the compressed air 97
9.4.6 Oil flows from the compressor air filter after shutdown 97
9.4.7 High moisture content in the compressed air 97

10 Maintenance
10.1 Ensuring safety 98
10.2 Note the maintenance messages on the controller 99
10.2.1 Evaluating the maintenance message 99

10.2.2 Concluding the maintenance ... 100
10.3 Following the maintenance plans ... 100
10.3.1 Logging maintenance work ... 100
10.3.2 Maintenance tasks after commissioning ... 100
10.3.3 Regular maintenance tasks ... 101
10.4 Engine maintenance ... 106
10.4.1 Maintaining the coolant cooler ... 106
10.4.2 Engine air filter maintenance ... 113
10.4.3 Fuel system maintenance ... 115
10.4.4 Checking the engine oil level ... 121
10.4.5 Engine oil filling and topping up ... 122
10.4.6 Changing the engine oil ... 123
10.4.7 Replacing the engine oil filter ... 126
10.4.8 Engine belt maintenance ... 127
10.4.9 Battery maintenance ... 132
10.4.10 Checking the fastening of the fuel tank ... 135
10.4.11 Replace the filter insert for the reduction agent pump ... 136
10.5 Compressor Maintenance ... 139
10.5.1 Check the cooling oil level ... 139
10.5.2 Cooling oil filling and topping up ... 140
10.5.3 Changing the cooling oil ... 141
10.5.4 Replacing the compressor oil filter ... 145
10.5.5 Oil separator tank dirt trap maintenance ... 147
10.5.6 Changing the oil separator cartridge ... 148
10.5.7 Compressor air filter maintenance ... 150
10.5.8 Fit the flexible pipe connection ... 153
10.6 Cleaning the cooler ... 154
10.6.1 Cleaning the compressor cooler and engine radiator ... 155
10.6.2 Cleaning the compressed air after-cooler ... 156
10.7 Check/replace hose lines ... 157
10.7.1 Replace the fuel lines of the drive engine. ... 157
10.7.2 Replace the pressure hoses of the drive engine. ... 157
10.7.3 Replace the pressure hoses of the compressor ... 157
10.8 Check sound proofing material ... 158
10.9 Maintenance of rubber sealing strips ... 158
10.10 Check safety functions ... 158
10.10.1 Check the EMERGENCY STOP device ... 158
10.10.2 Have the activating pressure of the relief valve checked ... 159
10.10.3 Having excessive temperature shut-down function checked ... 160
10.11 Maintenance of Optional Items ... 160
10.11.1 Centrifugal separator maintenance ... 160
10.11.2 Combination filter maintenance ... 162
10.11.3 Fresh air filter maintenance ... 165
10.11.4 Draining liquid accumulation within the machine ... 168
10.12 Documenting maintenance and service work ... 170

11 Spares, Operating Materials, Service
11.1 Note the nameplate ... 171
11.2 Ordering consumable parts and operating fluids/materials ... 171
11.3 KAESER AIR SERVICE ... 172
11.4 Replacement parts for service and repair ... 172

12 Decommissioning, Storage and Transport
12.1 De-commissioning ... 245
12.1.1 Temporary de-commissioning ... 245

12.1.2 Long-term de-commissioning and storage ... 246
12.2 Transport ... 247
12.2.1 Safety ... 247
12.2.2 Transporting the machine as trailer ... 247
12.2.3 Transport by crane ... 248
12.2.4 Transport with a forklift truck ... 249
12.2.5 Transporting the machine as load ... 249
12.3 Storage ... 251
12.4 Disposal ... 251

13 Annex
13.1 Marking ... 252
13.2 Pipeline and instrument flow diagram (P+I diagram) ... 252
13.2.1 Pipeline and instrument flow diagram (exhaust treatment) ... 258
13.3 Dimensional drawings ... 260
13.3.1 Dimensional drawing – chassis ... 260
13.3.2 Dimensional drawing – chassis ... 262
13.3.3 Dimensional drawing – chassis ... 264
13.3.4 Drawing chassis ... 266
13.3.5 Dimensional drawing – chassis ... 268
13.3.6 Dimensional drawing – chassis ... 270
13.3.7 Dimensional drawing, stationary version ... 272
13.3.8 Dimensional drawing, stationary version ... 274
13.4 Wiring diagrams ... 276
13.4.1 Electrical Diagram ... 276
13.4.2 Lighting and signalling system connection ... 320
13.4.3 Lighting and signalling system connection ... 328
13.4.4 Battery charger electrical diagrams ... 333
13.5 Fuel circulation diagram ... 337
13.6 Pipeline and instrument flow diagram (exhaust treatment) ... 340
13.7 Operating instructions for compressed air filter (combination filter) ... 342
13.8 Operating instructions for compressed air filter (fresh air filter) ... 370
13.9 Oil-injected MOBILAIR service intervals ... 384

Contents

List of Illustrations

Fig. 1 Engine speed/flow rate depending on the nominal system pressure 10
Fig. 2 Engine speed depending on the nominal system pressure 11
Fig. 3 Location of safety signs (outside) 33
Fig. 4 Location of safety signs (inside) 35
Fig. 5 Overview of bodywork 39
Fig. 6 Right-hand door opened 40
Fig. 7 Left-hand door opened 41
Fig. 8 Machine from above, roof removed 42
Fig. 9 View from beneath 43
Fig. 10 Machine overview 44
Fig. 11 Stepless regulation of volumetric flow (standstill) 46
Fig. 12 SIGMA CONTROL MOBIL main display – overview 47
Fig. 13 Exhaust gas treatment – Reduction of particle emissions 49
Fig. 14 Exhaust gas treatment – Reduction of nitrogen oxide emissions 51
Fig. 15 Compressed air options 53
Fig. 16 Automatic start/stop, external connections 56
Fig. 17 Position of service openings in the closed floor pan 58
Fig. 18 Drain points for oil and coolant from engine and compressor 58
Fig. 19 Minimum distance from excavations/slopes and walls 60
Fig. 20 Connect automatic start/stop externally 63
Fig. 21 Jumper cable connection diagram 67
Fig. 22 Connect auxiliary electrical systems 69
Fig. 23 Starting instruments 71
Fig. 24 Brief instructions on starting procedure 72
Fig. 25 Brief instructions on stopping procedure 72
Fig. 26 Select menu option "set pressure in the oil separator tank" 75
Fig. 27 Setting the output pressure 75
Fig. 28 Preparing readiness to start of the "Automatic start/stop" 79
Fig. 29 Waiting for start command 79
Fig. 30 Heat exchanger without bypass operation (with compressed air heating) 82
Fig. 31 Heat exchanger with bypass operation (no compressed air heating) 83
Fig. 32 Checking coolant level 107
Fig. 33 Checking the coolant 108
Fig. 34 Draining the coolant from the engine coolant cooler 111
Fig. 35 Draining the coolant from the engine coolant cooler (closed floor pan/stationary machine) 112
Fig. 36 Warning messages: Air filter engine intake maintenance 114
Fig. 37 Engine air filter maintenance 114
Fig. 38 Clean the filter element (air filter) 114
Fig. 39 Fuel system maintenance 116
Fig. 40 Warning message: Fuel filter water level 117
Fig. 41 Emptying the fuel pre-filter and water separator 118
Fig. 42 Change the fuel prefilter cartridge 119
Fig. 43 Fuel filter maintenance 120
Fig. 44 Checking the engine oil level 121
Fig. 45 Engine oil filling and topping up 122
Fig. 46 Draining the engine oil 124
Fig. 47 Draining the engine oil (closed floor pan - stationary machine) 125
Fig. 48 Change the oil filter 126
Fig. 49 Belt guard attachment 127
Fig. 50 Check that engine belts sit correctly 128
Fig. 51 Check belt tension by hand 129
Fig. 52 Tightening/changing engine belt 130
Fig. 53 Safety signs - warning labels on the battery 132
Fig. 54 Reduction agent pump 137

List of Illustrations

Fig. 55 Remove reduction agent pump 137
Fig. 56 Changing the filter insert for the reduction agent pump 138
Fig. 57 Check the cooling oil level 139
Fig. 58 Draining the compressor cooling oil 142
Fig. 59 Draining the cooling oil (closed floor pan - stationary machine) 144
Fig. 60 Change the oil filter 146
Fig. 61 Oil separator tank dirt trap maintenance 147
Fig. 62 Changing the oil separator cartridge 149
Fig. 63 Warning messages: Compressor air filter maintenance 151
Fig. 64 Compressor air filter maintenance 152
Fig. 65 Clean the filter element (air filter) 152
Fig. 66 Fit the flexible pipe connection 154
Fig. 67 Cleaning the compressor cooler and engine radiator 155
Fig. 68 Cleaning the compressed air after-cooler 156
Fig. 69 Cleaning the condensate drain 161
Fig. 70 Filter combination 162
Fig. 71 Combination filter maintenance 163
Fig. 72 Fresh air filter maintenance 166
Fig. 73 Transporting using a forklift truck 249
Fig. 74 Guys to secure the freight 250
Fig. 75 Marking 252

List of Tables

Tab. 1	Danger levels and their definition (personal injury)	1
Tab. 2	Danger levels and their definition (damage to property)	2
Tab. 3	Nameplate	4
Tab. 4	Extract from the options label	5
Tab. 5	Air treatment options	5
Tab. 6	Compressed air distributor option	5
Tab. 7	Low temperature equipment options	5
Tab. 8	Automatic engine start/stop	6
Tab. 9	GSM/GPS unit	6
Tab. 10	Lighting options	6
Tab. 11	Closed floor pan option	6
Tab. 12	Pedestrian protection option	6
Tab. 13	Guaranteed sound power level	7
Tab. 14	Emission sound pressure level	7
Tab. 15	Tightening torques for screws (property class 8.8, coefficient of friction μ = 0,12)	7
Tab. 16	Tightening torques for oil separator tank cover fixing screws	7
Tab. 17	Torques for lifting eye screws	7
Tab. 18	Ambient conditions	8
Tab. 19	Mass of the machine	9
Tab. 20	Maximum working pressure	9
Tab. 21	Flow rate depending on the nominal system pressure	9
Tab. 22	Engine speed depending on the nominal system pressure	10
Tab. 23	Compressed air distributor	11
Tab. 24	Safety valve actuating pressure	11
Tab. 25	Required temperatures readiness to switch to LOAD mode	11
Tab. 26	Airend discharge temperature	11
Tab. 27	Cooling oil recommendation	12
Tab. 28	Cooling oil recommendation (food processing)	12
Tab. 29	Cooling oil charge	13
Tab. 30	Engine specification	13
Tab. 31	Engine oil recommendation	14
Tab. 32	Initial engine oil quantity	14
Tab. 33	Water quality parameters for cooling water	15
Tab. 34	Initial filling of engine coolant cooler	16
Tab. 35	Reduction agent	16
Tab. 36	Fill quantities	17
Tab. 37	Batteries	17
Tab. 38	Fresh air filter conditions	18
Tab. 39	Interrelation between compressed air treatment and compressed air quality	18
Tab. 40	Ambient conditions, low temperature equipment	19
Tab. 41	Batteries, low-temperature equipment	19
Tab. 42	Power supply details	19
Tab. 43	Technical data – Coolant pre-heating device	19
Tab. 44	Battery charger specification	20
Tab. 45	GSM/GPS unit	20
Tab. 46	Inspection intervals according to Ordinance on Industrial Health and Safety	23
Tab. 47	General inspection intervals	23
Tab. 48	Danger areas	32
Tab. 49	Safety signs	33
Tab. 50	Safety signs	35
Tab. 51	Instrument panel keys and displays	47
Tab. 52	Compressed air quality with/without heat exchanger	54
Tab. 53	Stationary machines	57

List of Tables

Tab. 54	Measures for re-commissioning the compressor after a long period of storage or de-commissioning	65
Tab. 55	Installation conditions checklist	65
Tab. 56	Shut-off valve position and selected compressed air quality	81
Tab. 57	Shut-off valve position and selected compressed air quality	84
Tab. 58	Alarm messages and actions concerning the engine.	86
Tab. 59	Alarm messages and actions concerning the compressor unit	89
Tab. 60	Fault messages and actions concerning the controller	89
Tab. 61	Alarm messages and troubleshooting in "General faults"	90
Tab. 62	Warning messages and measures relating to the engine	91
Tab. 63	Warning messages and measures relating to the compressor	93
Tab. 64	Fault: engine refuses to start or comes to a stop.	93
Tab. 65	Alarm: "engine does not reach full speed".	94
Tab. 66	Fault: working pressure too high	95
Tab. 67	Fault: working pressure too low	95
Tab. 68	Fault: safety valve blowing off	96
Tab. 69	Fault: machine overheating	96
Tab. 70	Alarm: "Too much oil residue in the compressed air"	97
Tab. 71	Alarm: "Oil flows from the compressor air filter after shutdown"	97
Tab. 72	Fault: high moisture content in the compressed air	97
Tab. 73	Advise others that the machine is being serviced.	98
Tab. 74	Maintenance messages and required actions	99
Tab. 75	Maintenance tasks on the machine after commissioning	101
Tab. 76	Maintenance intervals and regular maintenance tasks	101
Tab. 77	Regular machine maintenance tasks	102
Tab. 78	Regular maintenance task options	105
Tab. 79	Coolant mixture table	109
Tab. 80	Starter batteries charge level	133
Tab. 81	Dimensions of the flexible pipe connection	154
Tab. 82	Relief valve activating pressure	159
Tab. 83	Safety shut-down at excessive airend discharge temperature	160
Tab. 84	Maintenance log	170
Tab. 85	Compressor consumables	171
Tab. 86	Consumable engine parts	171
Tab. 87	Replacement parts, combination filter	172
Tab. 88	Replacement parts, fresh-air filter	172
Tab. 89	"Temporarily decommissioned" information notice	245
Tab. 90	"Long-term decommissioning and storage" checklist	246
Tab. 91	Notice text: "Long-term decommissioned and storage"	247
Tab. 92	Service maintenance package - (1x service per year)	384
Tab. 93	Service intervals for MOBILAIR parts, Filter SET group (compressor and engine)	385
Tab. 94	Service intervals for MOBILAIR parts, compressor group	386
Tab. 95	Service intervals for MOBILAIR parts, Filter SET group Engine	388
Tab. 96	Service intervals for MOBILAIR parts, Engine group	389

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 operating manual is protected by copyright. Any queries regarding the use or duplication of this 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

Warnings 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 non-compliance
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

Signal word	Meaning	Consequences of non-compliance
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 sub-sections.

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 sub-section or the subsequent action are integrated into the procedure and numbered as an action.

Example:



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

1.4.2 Potential damage warnings

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

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

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

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

Example:



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

➢ The protective measures against the damages are shown here.

➢ Carefully read and fully comply with warnings against damages.

1.4.3 Other alert notes and their symbols



This symbol indicates particular important information.

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

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

- ➢ This symbol is placed by lists of actions comprising one step of a task.
1. In process instructions with several steps ...
2. ... the sequence of steps is numbered.

Result — Shows the expected conclusion of the previous action.

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



Information referring to potential problems is identified by a question mark.
The cause is named in the help text ...
➢ ... as is a solution.



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

Further information — Further subjects are introduced here.

2 Technical Specifications

2.1 Nameplate

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

➢ Enter here the nameplate data as a reference:

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

Tab. 3 Nameplate

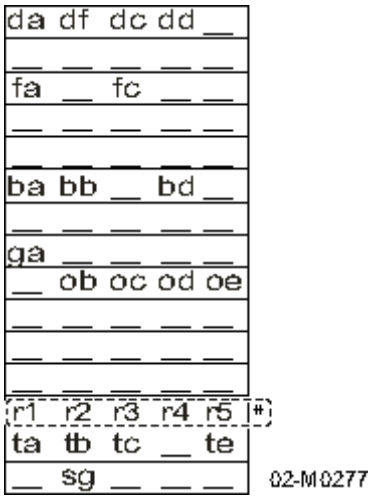
2.2 Options – options label

A list of the options fitted to your machine helps to correlate the information in this operating 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.



* r1 - r5 = place holders for chassis options:
- r1 = rb; rc; rd
- r3 = rm; ro
- r4 = rr; rs; rt
- r5 = rw; rx

Tab. 4 Extract from the options label

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

2.2.1 Option da, df, dc, dd Air treatment

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

Tab. 5 Air treatment options

2.2.2 Option fa, fc Compressed air distributor

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

Tab. 6 Compressed air distributor option

2.2.3 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

2.2.4 Option ob, od Automatic engine start/stop

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

Tab. 8 Automatic engine start/stop

2.2.5 Option oc GSM/GPS unit

Option	Option code	Available?
GSM/GPS unit	oc	

Tab. 9 GSM/GPS unit

2.2.6 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. 10 Lighting options

2.2.7 Option oe Sealed floor pan

Option	Option code	Available?
Sealed floor pan	oe	

Tab. 11 Closed floor pan option

2.2.8 Option sg Pedestrian protection

Option	Option code	Available?
Pedestrian protection	sg	

Tab. 12 Pedestrian protection option

2.3 Machine (without options)

2.3.1 Noise emission

Guaranteed sound power level:

Type	M118
Guaranteed sound power level(1), (2) [dB(A)]	99
(1) in accordance with Machinery Directive 2000/14/EC, (2) applies exclusively to machines lined with sound proofing material.	

Tab. 13 Guaranteed sound power level

Emission sound pressure level

Type	M118
Emission sound pressure level(3) [dB(A)] (according to EN ISO 11203)	81.0
Measurement distance: d = 1 m Logarithmic surface ratio: Q2 = 18 dB(A) (3) Calculated from the guaranteed sound power level (2000/14/EC Directive, Sound Emission Standard ISO 3744)	

Tab. 14 Emission sound pressure level

2.3.2 Tightening torques for screws

Recommended values for screws of property class 8.8

Thread	M4	M5	M6	M8	M10	M12	M14	M16	M18	M20
Torque [Nm]	3.0	5.9	10.0	24.5	48.0	84.0	133.0	206.0	295.0	415.0
Information provided according to VDI 2230.										

Tab. 15 Tightening torques for screws (property class 8.8, coefficient of friction μ = 0,12)

2.3.3 Tightening torques for oil separator tank cover fixing screws

Recommended values for screws by strength class:

Screws	Strength class	Thread	Torque [Nm]
Hex-head bolt	8.8	M20	200

Tab. 16 Tightening torques for oil separator tank cover fixing screws

2.3.4 Tightening torques for lifting eye

Recommended values for screws by strength class:

Screws	Strength class	Thread	Torque [Nm]
Hex-head bolt	8.8	M12	70

Screws	Strength class	Thread	Torque [Nm]
Hex-head bolt	8.8	M16	200

Tab. 17 Torques for lifting eye screws

2.3.5 Ambient conditions

Positioning	Limit value
Maximum altitude amsl* [m]	1000
Minimum ambient temperature [°C]	−10
Maximum ambient temperature [°C]	+45
* Higher altitudes are permissible only after consultation with the manufacturer.	

Tab. 18 Ambient conditions

2.3.6 Additional specifications according to the machine's operating licence

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

- dimensions,
- track width,
- footprint,

are to be found in the dimensioned drawing 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

2.4 Chassis

2.4.1 Chassis options

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

2.5 Machines with stationary frame design

2.5.1 Option rw, rx
Mass of machines with stationary frame design

Actual mass of individual machines are dependent on equipment fitted (see machine nameplate).

➢ Enter the actual overall weight* from the nameplate as reference.

Option	rw	rx
Type stationary frame design	Skids	Frame
Actual total weight [kg]*		
* Enter here for reference, the actual total weight taken from the nameplate.		

Tab. 19 Mass of the machine

2.6 Compressor

2.6.1 Variable pressure flow rate control (pV control)

Maximum machine working pressure:

Maximum working pressure [bar]	10.3
SIGMA airend	27-G
Setting range, nominal system pressure [bar(g)]	6 - 10

Tab. 20 Maximum working pressure

Flow rate and nominal system pressure:

Measuring point	Maximum working pressure (Nominal pressure) [bar]	Flow rate [m³/min]	Application example
a1	6	11.5	Hammer application
a2	7		Blasting application
a3	8.6	10.8	Cable injection
a4	10	10.2	Drilling application

Tab. 21 Flow rate depending on the nominal system pressure



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

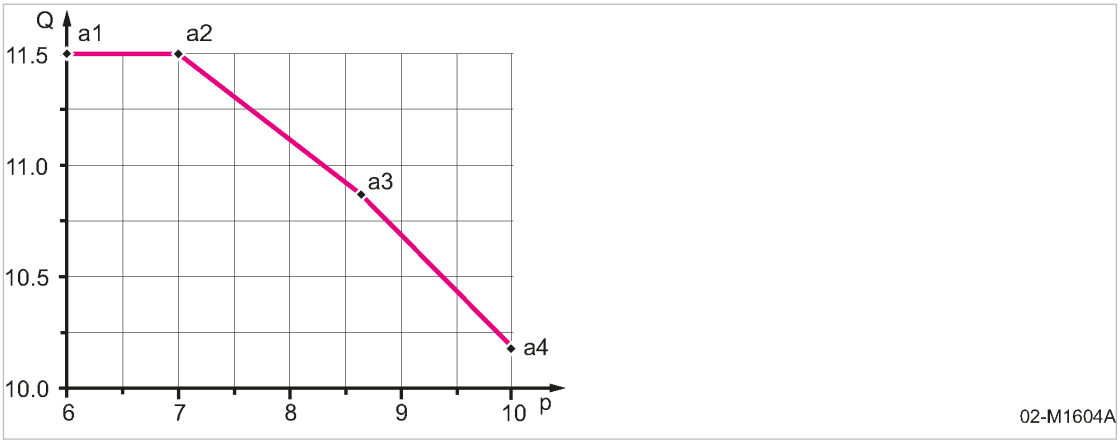


Fig. 1 Engine speed/flow rate depending on the nominal system pressure

Q Flow rate [m³/min]
p Nominal pressure [bar(g)]

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

Engine speed depending on the nominal system pressure:

Measuring point	Pressure stage (nominal pressure) [bar]	Speed rpm
a1	6–7	2200
a2	7	2200
a3	8.6	2125
a4	10	2050

Tab. 22 Engine speed depending on the nominal system pressure

Example, by way of illustration:
Maximum nominal system pressure at SIGMA CONTROL MOBIL controller set to:→ 6.5bar (in graphic marked as B)

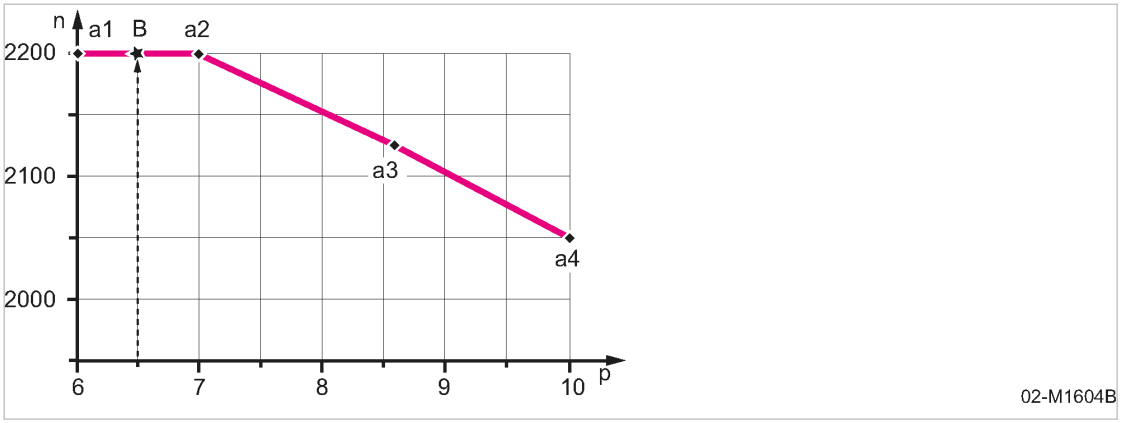


Fig. 2 Engine speed depending on the nominal system pressure

(n) Engine speed [min^{-1}]
(p) Nominal pressure [bar(g)]
(B) Example

2.6.2 Compressed air outlet

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

Tab. 23 Compressed air distributor

2.6.3 Safety valve

Maximum working pressure [bar]	Activating pressure [bar]
10	11.5

Tab. 24 Safety valve actuating pressure

2.6.4 Temperature

Required temperatures readiness to switch to LOAD mode	Values
Airend discharge temperature (ADT) [°C]	30
The engine coolant temperature (ECT) [°C]	20

Tab. 25 Required temperatures readiness to switch to LOAD mode

Airend discharge temperature	Values
Typical airend discharge temperature during operation [°C]	75 100
Maximum airend discharge temperature (automatic safety shut-down) [°C]	117

Tab. 26 Airend discharge temperature

2.6.5 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 foodstuffs. Particularly suitable for machines with a low duty cycle.	Standard oil for all applications except in connection with processing of foodstuffs. 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 40°°C	46 mm^2/s (ASTM D445)	46 mm^2/s (ASTM D445)	53 mm^2/s (ASTM D445)
Viscosity at 100 °C	6.9 mm^2/s (ASTM D445)	7.2 mm^2/s (ASTM D445)	8.0 mm^2/s (ASTM D445)
Flash point	230 °C (ASTM D92)	251 °C (ASTM D92)	258 °C (ASTM D92)
Density at 15 °C	0.868 g/cm^3 (ASTM D1298)	0.860 g/cm^3 (ASTM D1298)	0.869 g/cm^3 (ASTM D1298)
Pour point:	−30 °C (ASTM D97)	−27 °C (ASTM D97)	−54 °C (ASTM D97)

Tab. 27 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.
Approval	USDA H1, NSF approved for applications where contact with foodstuffs may sporadically or incidentally be possible.	USDA H1, NSF approved for applications where contact with foodstuffs may sporadically or incidentally be possible.
Viscosity at 40° °C	46 mm^2/s (ASTM D445)	68 mm^2/s (ASTM D445)

	SIGMA FLUID	
	FG-460	FG-680
Viscosity at 100 °C	8.0 mm^2/s (ASTM D445)	10.5 mm^2/s (ASTM D445)
Flash point	246 °C (ASTM D92)	238 °C (ASTM D92)
Density at 15 °C	0.842 g/cm^3 (ASTM D1298)	0.854 g/cm^3 (ASTM D1298)
Pour point:	−39 °C (ASTM D97)	−39 °C (ASTM D97)

Tab. 28 Cooling oil recommendation (food processing)

2.6.6 Cooling oil charge

Cooling oil	Fluid volume [l]
Machine	35.0
Machine + heat exchanger (Option db)	37.0

Tab. 29 Cooling oil charge

2.7 Engine

2.7.1 Engine specification

Feature	Specification
Make/Model	Deutz / TCD 3.6 L4
Engine control	Electronic
Fuel injection	Common rail system
Rated engine power [kW]	85
Speed at LOAD operation [min^{-1}]	2200
Speed at IDLE operation [min^{-1}]	approx. 1600
Type of fuel	Diesel
Fuel consumption under LOAD operation [l/h]	20.5
Oil consumption relative to fuel consumption [%]	approx. 0.5
Reducing agent consumption relative to fuel consumption [%]	approx. 3 – 7

Tab. 30 Engine specification

2.7.2 Oil recommendation

The engine oil must meet the following classification:

- DEUTZ DQC IV LA
- ACEA, class E9
- API, class CJ-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 authorisation by KAESER.

➢ Please contact the authorised KAESER SERVICE.

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 viscosity that is too low 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 [°C]	Viscosity class
−30 30	SAE 5W−30
−30 40	SAE 5W−40
−20 30	SAE 10W−30
−20 40	SAE 10W−40
−15 35	SAE 15W−30
−15 40	SAE 15W−40

Tab. 31 Engine oil recommendation

Initial engine oil filling:

The engine is filled initially with the following engine oil:

Ambient temperatures [°C]	Viscosity class
−20 40	SAE 10W−40

Tab. 32 Initial engine oil quantity

2.7.3 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
  - (≤0.0010% Sulphur – EU: Level IIIB and higher)
- Diesel fuels according to ASTM D975
  - (≤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.

2.7.4 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, as soft as possible, complying with the following analysis values must be used:

Characteristic		Value
pH value		6.5-8.0
Chloride	[mg/l]	max. 80
Chloride + sulphate	[mg/l]	max. 160
Alkaline earth ions	mmol/l	2.7
Hardness	°dH	15
1°dH = 0.1783 mmol/l; alkaline earth ions = 7.147 mg/l Ca^{2+} or 4.336 mg/l Mg^{2+}		

Tab. 33 Water quality parameters for cooling water

Contact the local water utilities for information regarding water quality. If the water does not meet the parameters above, it must be treated.

If no suitable water is available, distilled or demineralised water shall be used for preparing the coolant. Seawater, brackish water, brines and industrial wastewater are not suitable. Salts may promote corrosion or disruptive deposits.

Coolant quality:

Within the scope of further technical development, new corrosion inhibitors/antifreeze have been approved by the engine manufacturer.

Compared to the previously approved corrosion inhibitors/antifreeze, they feature the following advantages:

- Less residue in the engine cooling system
- Improved heat flow
- Higher environmental sustainability

The coolant (cooling fluid) is treated by adding anti-freeze with corrosion protection additives on the basis of ethylene glycol to the water.

Coolant must meet the operating instructions of the engine manufacturer DEUTZ.

➢ Do not use a corrosion inhibitor/antifreeze that has not been approved by the engine manufacturer.

➢ Do not use any impermissible mixing ratios of corrosion inhibitor/antifreeze and water.

Further information See chapter 10.4.1.3 for information on preparing/mixing the coolant to be used.

Initial filling of corrosion inhibitor/antifreeze:

For the initial filling, the engine coolant cooler is filled with a mixture of the following liquid components:

Components	Description	Percentages [% vol.]
Corrosion inhibitor/antifreeze	Glysantin® G40®	50
Water		50

Tab. 34 Initial filling of engine coolant cooler

Miscibility with other corrosion inhibitors/antifreeze agents:

We do not recommend mixing with different corrosion inhibitors/antifreeze agents even if from the same manufacturer. This can result in significantly reduced corrosion protection/antifreeze and may damage the engine cooling system and consequently the engine. Mixtures of different corrosion inhibitors/antifreeze agents generally provide a lower performance than the specially balanced active components of one coolant type.

Therefore, the use of different corrosion inhibitors/antifreeze agent is only allowed after consulting with and approval from the engine manufacturer!

2.7.5 Reduction agent

Feature	Specification
Type	Urea solution AUS 32
Description	AdBlue® DEF (Diesel Exhaust Fluid)
Quality	according to EN 70070/ISO 22241 or ATSTM D 7821
Application temperature [°C]	−11 ... 45

Feature	Specification
Switching point for engine torque reduction (Fuel level of the fuel tank) [%]	approx. 14

Tab. 35 Reduction agent

Reduction agent consumption:

The injected quantity of reduction agent is not a fixed set 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 EN 590 and ASTM D975)
- Quality of the reduction agent (standard EN 70070/ISO 22241)
- Weather (temperature/humidity)
- frequent change between LOAD/IDLE
- frequent switching the machine on and off

2.7.6 Fill quantities

Description	Fill quantity [l]
Engine oil	9.0
Fuel	170.0
Coolant	18.0
Reduction agent	10.0

Tab. 36 Fill quantities

2.7.7 Batteries

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

Tab. 37 Batteries

2.8 Options

2.8.1 Air treatment options

2.8.1.1 Option dc
Fresh air filter

Feature	Value
Maximum working pressure [bar]	16
Minimum ambient temperature [°C]	1.5
Maximum ambient temperature [°C]	30

Tab. 38 Fresh air filter conditions

2.8.1.2 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	■ Aftercooler ■ Centrifugal separator	cool and condensate-free	A
da + df	■ Aftercooler ■ Centrifugal separator ■ Heat exchanger	dry and warmed	W
da + dd	■ Aftercooler ■ Centrifugal separator ■ Filter combination	dry and technically oil-free	F
da + dd + df	■ Aftercooler ■ Centrifugal separator ■ Filter combination ■ Heat exchanger	technically oil-free and warmed	G

Tab. 39 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.

2.8.2 Option ba
Low temperature equipment

2.8.2.1 Ambient conditions

Installation	Limit value
Maximum elevation ASL* [m]	1000
Minimum ambient temperature [°C]	−25
Maximum ambient temperature [°C]	+45
* Higher altitudes are permissible only after consultation with the manufacturer	

Tab. 40 Ambient conditions, low temperature equipment

2.8.2.2 Option bb
Engine coolant pre-heating

Further information Section 2.8.3 provides the data for the coolant pre-heating system of the diesel engine.

2.8.2.3 Option bd
Batteries

Characteristic	Value
Voltage [V]	24 (2 x 12)
Capacity [Ah]	2 x 135
PTC testing current [A] (according to EN 50342)	1000

Tab. 41 Batteries, low-temperature equipment

2.8.3 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 [mm^2] (Cu multi-core)	3 x 1.5
User's fusing [A]	16

Tab. 42 Power supply details

Option bb **Diesel engine coolant pre-heating:**

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

Tab. 43 Technical data – Coolant pre-heating device

Option od **Battery charger:**

Battery charger	Value
Type	2 x 12V DC / 4A
Charging voltage [V]	24.0
Charging current [A]	>0.5
Maximum charging current [A]	4
Protection class	IP 54

Tab. 44 Battery charger specification

2.8.4 Option oc GSM/GPS unit

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

Tab. 45 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.

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 of explosive gases or vapours.
- ➢ Do not operate the machine in areas in which specific requirements with regard to explosion protection are in force.

3.4 User's responsibilities

3.4.1 Observe statutory and universally accepted regulations

These are, for example, nationally implemented European directives and/or applicable national legislation, safety and accident prevention regulations.

- ➢ Observe relevant statutory and accepted regulations during transport, operation, 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.

Authorised operators possess the following qualifications:

- are of legal age,
- are conversant 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.

Authorised maintenance personnel possess the following qualifications:

- are of legal age,
- are conversant with and adhere to the safety instructions and sections of the service manual relevant to maintenance,
- are fully conversant with the safety concepts and regulations of motor vehicle, electrical and compressed air engineering,
- are able to recognise 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.

Authorised transport personnel possess the following qualifications:

- are of legal age,
- are conversant with and adhere to the safety instructions and sections of the service manual relevant to transporting,
- are trained and authorised in safe vehicle transporting,
- are conversant with the safety regulations relating to handling motor vehicles and transport goods,
- are able to recognise the possible dangers of motor vehicles and take appropriate measures to safeguard persons and property.

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

3.4.3 Complying with inspection schedules and accident prevention regulations

The machine is subject to local inspection schedules.

Examples of operation in Germany

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

➢ Carry out recurring inspections to *DGUV Regel 100–500*, chapter 2.11:
The user must ensure that the machine's safety devices are checked for function as required or at least annually.

➢ Carry out oil changes to *DGUV Regel 100–500*, chapter 2.11:
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	Competent person (e. g. KAESER SERVICE technician)
Strength test	Every 10 years after commissioning or the last inspection	Competent person (e. g. KAESER SERVICE technician)

Tab. 46 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 eye checked.

Lifting eye 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 for roadworthiness and compliance 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 mass of the trailer

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

General inspection intervals:

Machine mass [kg]	≤ 750	< 3500	> 3500
1. Inspection interval after initial registration:			
Interval [months]	36	24	12
Further inspection intervals:			
Interval [months]	24	24	12

Tab. 47 General inspection intervals

3.4.5 Documenting the mileage of the machine as trailer

The kilometres 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 kilometres, we recommend that you maintain a logbook for the machine. This allows you document the actually travelled kilometres 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.

3.4.6 Attachment of a "Hazardous goods" label

The special regulation 363 "Transport of machines and equipment with liquid fluids" of the European regulations for the hazardous goods transport (ADR) has taken effect.

This regulation requires that machines filled with more than 1 litre petrol or 5 litres diesel (in the fuel tank) during transport must be identified with hazardous goods labels on the machine's exterior.

Number of labels per machine:

- *Fuel tank content 60l - 450l*
  - ➢ Attach one label to the exterior.
- *Fuel tank content 450l - 1500l*
  - ➢ Attach one label on every exterior side.

The operator of the machine but also the authorised users and transport personnel are responsible for compliance with this requirement. Please instruct your employees accordingly.

A violation of this regulation will be punished with a fine and the further machine transport will be forbidden.

➢ Have a "Hazardous goods" label attached.

Further information Chapter 3.7 “Safety signs” indicates the suggested position(s) for the hazardous goods label(s).

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 colour- and odour-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.

- ➢ Allow no open flames or sparks at the place of use.
- ➢ Do not smoke while refuelling.
- ➢ 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 the operation in combustible environment, fit the machine with a spark arrestor (Option Ia).

Hot coolant

The cooling system of a liquid-cooled engine at running temperature is under high pressure. If the filler cap is unscrewed, hot coolant can spray out under pressure and cause severe scalding.

- ➢ 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 even death.

- ➢ Allow only qualified and authorised electricians or trained personnel under the supervision of a qualified and authorised electrician to carry out work on electrical equipment according to electrical engineering rules.
- ➢ Regularly check that all electrical connections are tight and in proper condition.
- ➢ Switch off any external power sources.
  For example, the connection to the electrical engine coolant pre-heater.

Compressive forces

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

- ➢ Wait until the compressor has automatically vented (check the pressure gauge: it must read 0 bar)
- ➢ 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 pressurised components (e.g. pipes and vessels) as this influences the components' 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 comestibles.
- ➢ Use comestibles-compatible cooling oil whenever compressed air is to come into contact with comestibles.

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 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 service doors or panels while the machine is running.
- ➢ Prior to opening the service doors or the enclosure, switch off the engine, disconnect from power source and secure against unintended reactivation.
- ➢ Wear close-fitting clothes and a hair net if necessary.
- ➢ Ensure that all covers and safety guards are in place and secured before re-starting.

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 combustion engine, 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 external compressed air hoses to the outlet valves.
- ➢ 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 vapours or parts of the machine.

Noise

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

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

Operating fluids/materials

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

- ➢ Strictly forbid fire, open flame and smoking.
- ➢ Follow safety regulations when dealing with fuel, oils, lubricants, antifreeze and chemical substances.
- ➢ Avoid contact with skin and eyes.
- ➢ Do not inhale fumes or aerosols from fuel or oil.
- ➢ Do not eat or drink while handling fuel, oil, 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 original KAESER spare parts on pressure bearing parts.

Conversion or modification of the machine

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

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

3.5.2 Save handling of the AdBlue® reduction agent



WARNING
Ammonia fumes!
When AdBlue® is heated beyond 50° C for some time, it may decompose resulting in Ammonia fumes.
Ammonia fumes can cause severe health damage.

- ➢ Replenish AdBlue® only when the machine has cooled down.
- ➢ Do not inhale AdBlue® fumes.

Handling AdBlue® contaminated with foreign matter:

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

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

Handling fluids contaminated with AdBlue®:

Fluids contaminated with AdBlue® may cause damage to the machine's components.
For example, a small amount of AdBlue® in the coolant circuit will damage thermostats and sensors.

- ➢ Ensure that AdBlue® 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 AdBlue®. 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 bar!

➢ 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>7 bar, 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 Organisational 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 3 m radius of the machine.	Operating personnel to prepare for transport. No personnel during transport.
	Beneath the lifted machine.	No personnel!
Commissioning	Within the machine. Within a 1 m radius of the machine.	Maintenance personnel
Operation	Within a 1 m radius of the machine.	Operating personnel
Maintenance	Within the machine. Within a 1 m radius of the machine.	Maintenance personnel

Tab. 48 Danger areas

3.6 Safety devices

Various 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 location of the safety signs on the machine, inside and outside.



During cleaning or maintenance work it must be ensured that the attached safety signs are not damaged or removed. Have missing or illegible signs replaced!

Safety signs outside:

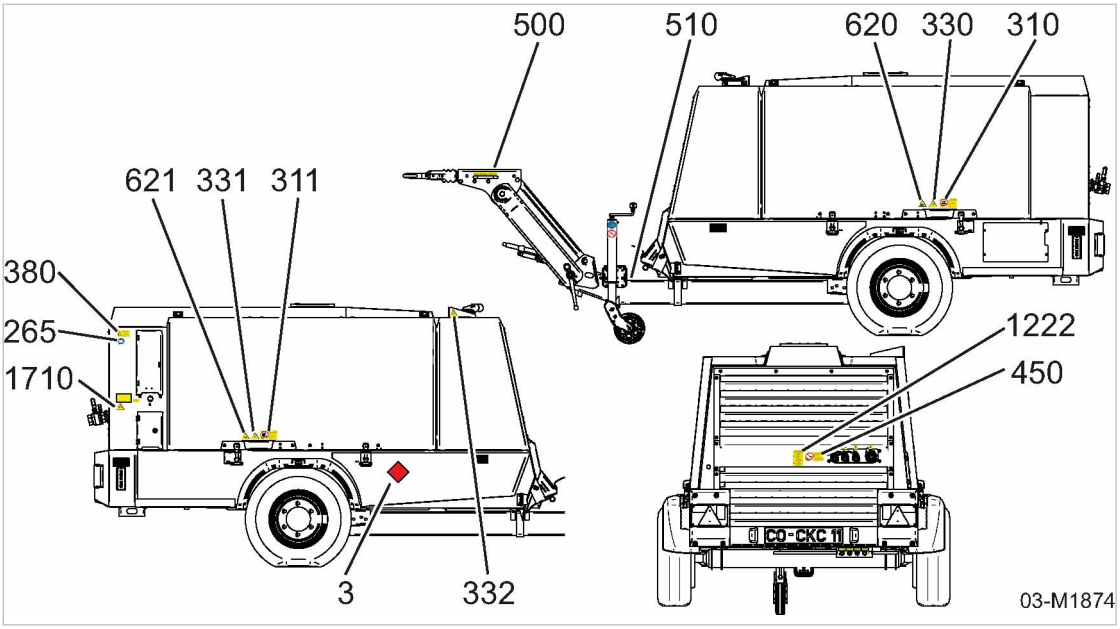


Fig. 3 Location of safety signs (outside)

Location	Symbol	Meaning
3		Hazardous good! Identifies machines filled with fuel during transport as a hazardous good.
265		Caution! Risk of personal injury or damage to the machine due to incorrect operation! ➢ Read and understand the operating manual and all safety information before switching on this machine.
310 311		Warning! It is forbidden to operate the machine with open doors or enclosure! Personal injury or machine damage can result from an open machine enclosure. ➢ Operate only with the enclosure fully closed. ➢ Transport only with the enclosure fully closed.
330 331		Warning! Hot surface! Risk of burns caused by contact with hot components! ➢ Do not touch the surface. ➢ Wear long-sleeved garments (no synthetics such as polyester) and protective gloves.

(1) only mobile machines
(2) only machines with option dc,
(3) only machines with option ob

Location	Symbol	Meaning
332		Warning Hot surfaces and dangerous gases! Burns from contact with hot components or gases. ➢ Do not touch the surface. ➢ Wear long-sleeved garments (no synthetics such as polyester) and protective gloves. ➢ Do not inhale noxious gases.
380		Danger! Toxic exhaust gases in areas of work! ➢ Never use the machine in enclosed spaces, only in the open. ➢ Direct the exhaust fumes to the open air. ➢ Do not inhale noxious gases.
450		Warning! Loud noise and compressed air blast! Damage to hearing and injury if ball valve is opened without a compressed air hose being connected. ➢ 1. Connect a compressed air hose. ➢ 2. Open the ball valve.
500(1)		Caution! Danger of accident from unstable towing! Injury and machine damage possible. ➢ The compressor tow-bar must be parallel with the ground when coupled to the towing vehicle. ➢ Note instructions in the Operating Manual regarding transporting.
510(1)		Warning! Malfunction due to deficient maintenance. Accidents and machine damage possible. ➢ Regularly service the chassis. ➢ Note the instructions in the Operating Manual regarding the chassis.
620 621		Warning! Risk of serious injuries (to the hands, in particular) or even severing of extremities from rotating components! ➢ Operate the machine only with closed safety guards, maintenance doors and panels. ➢ Shut down the machine before opening a door or enclosure and prevent from restarting.

(1) only mobile machines
(2) only machines with option dc,
(3) only machines with option ob

Location	Symbol	Meaning
1222[2]		Danger! Danger to life from CO, CO_2, or toxic gases. ➢ Draw in only ambient air in fresh air quality.
		Danger! Danger to health from discharge of oily compressed air! ➢ Maintain ambient air temperatures between 1.5 °C and 30 °C. ➢ Check the oil indicator at least once a day.
1710[3]		Warning Risk of injury caused by an automatic machine start. ➢ Prior to performing any work on the machine: ■ Shut down the machine. ■ Turn off the «battery isolating switch». ➢ Operate the machine only with closed doors.

[1] only mobile machines
[2] only machines with option dc,
[3] only machines with option ob

Tab. 49 Safety signs

Safety signs inside:

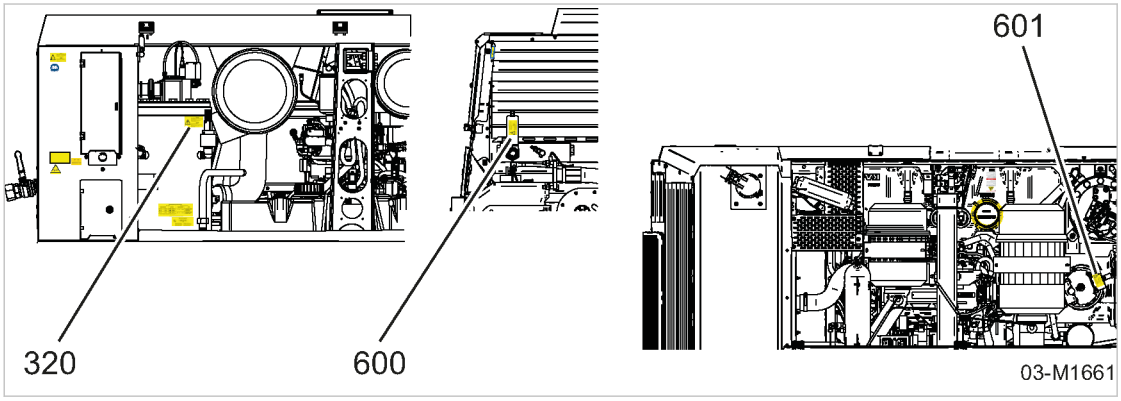


Fig. 4 Location of safety signs (inside)

Location	Symbol	Meaning
320		Warning Loud noise and oil mist! Hearing damage and burns from safety valve blow off. ➢ Wear ear protection and protective clothing. ➢ Close the enclosure or doors. ➢ Work with caution.

Location	Symbol	Meaning
600 601		Danger! Risk of fatal injury when dismantling valves (spring-loaded or under pressure)! ➢ Do not open or dismantle valves. ➢ Call an authorised service technician in the event of a fault.

Tab. 50 Safety signs

3.8 Emergencies

3.8.1 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. Report fire.
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.

3.8.2 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.

3.9 Warranty

This operating manual does not contain any independent warranty commitment. Our general terms and conditions apply with regard to warranty.

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

Furthermore, we do not assume any warranty obligation for damages caused by:

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

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

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

3.10 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:

- Compressor drive 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 equipment 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.

3.11 Environment protection

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

➢ Do not allow operating materials to escape to the environment or into the sewage system.

➢ Store and dispose of operating materials and replaced parts in accordance with local environment protection regulations.

➢ Observe national regulations.
This applies particularly to parts contaminated with fuel, oil, coolants and acids.

4 Design and Function

4.1 Bodywork

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

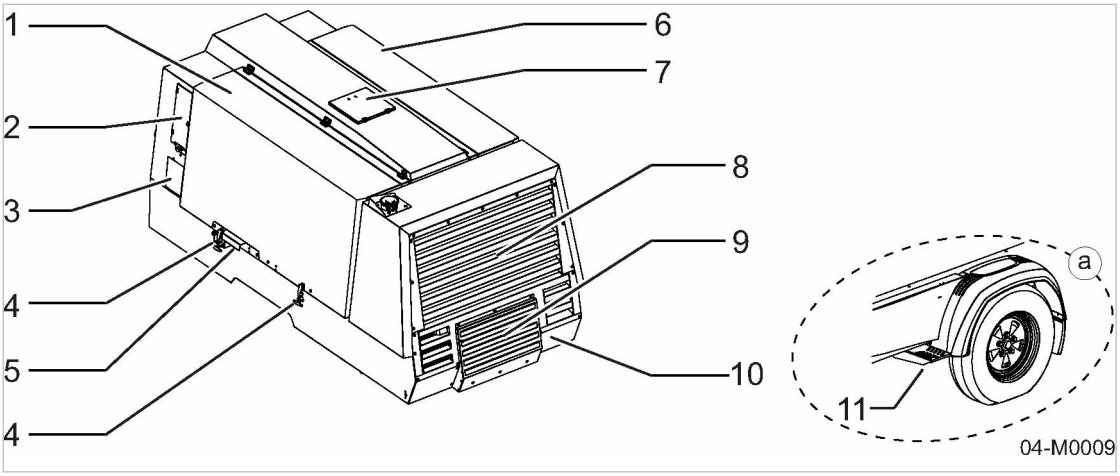


Fig. 5 Overview of bodywork

[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	[a]	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
- Protection against touching
- Cooling air flow

The bodywork is not suitable for the following uses:

- Walking on, standing on or sitting on.
- 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 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

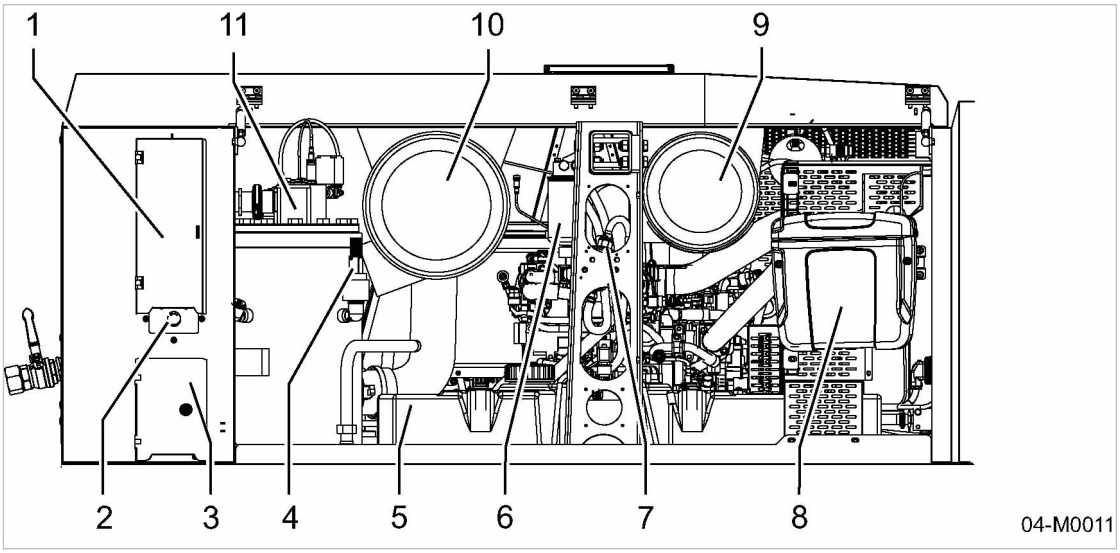


Fig. 6 Right-hand door opened

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

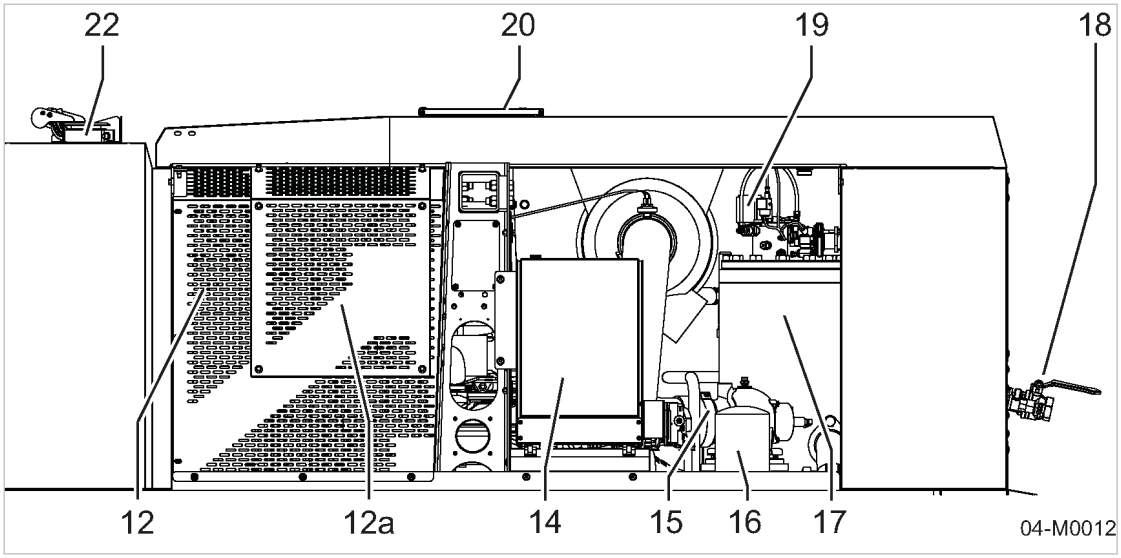


Fig. 7 Left-hand door opened

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

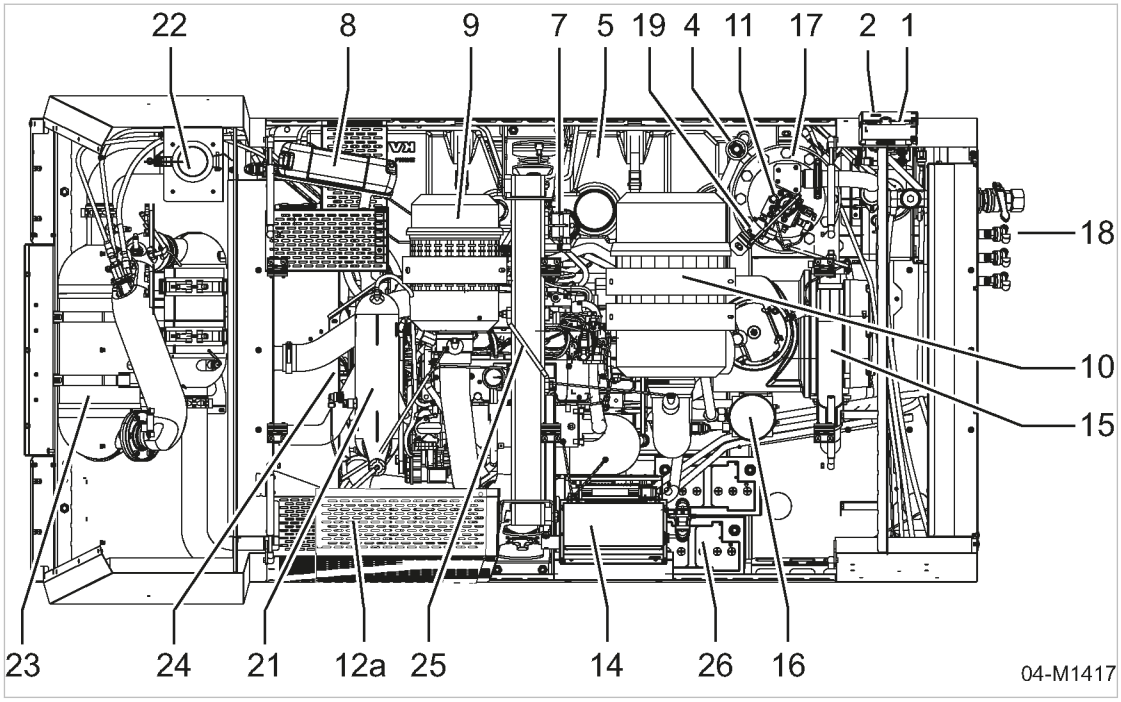


Fig. 8 Machine from above, roof removed

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

Machine from beneath, drain ports for operating fluids:

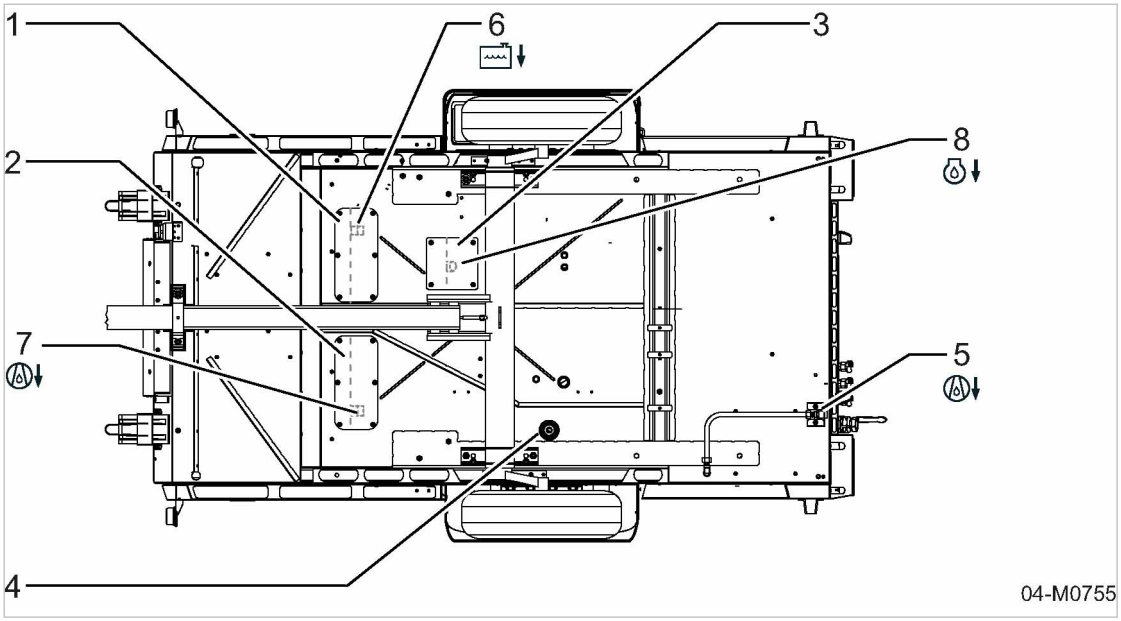


Fig. 9 View from beneath

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

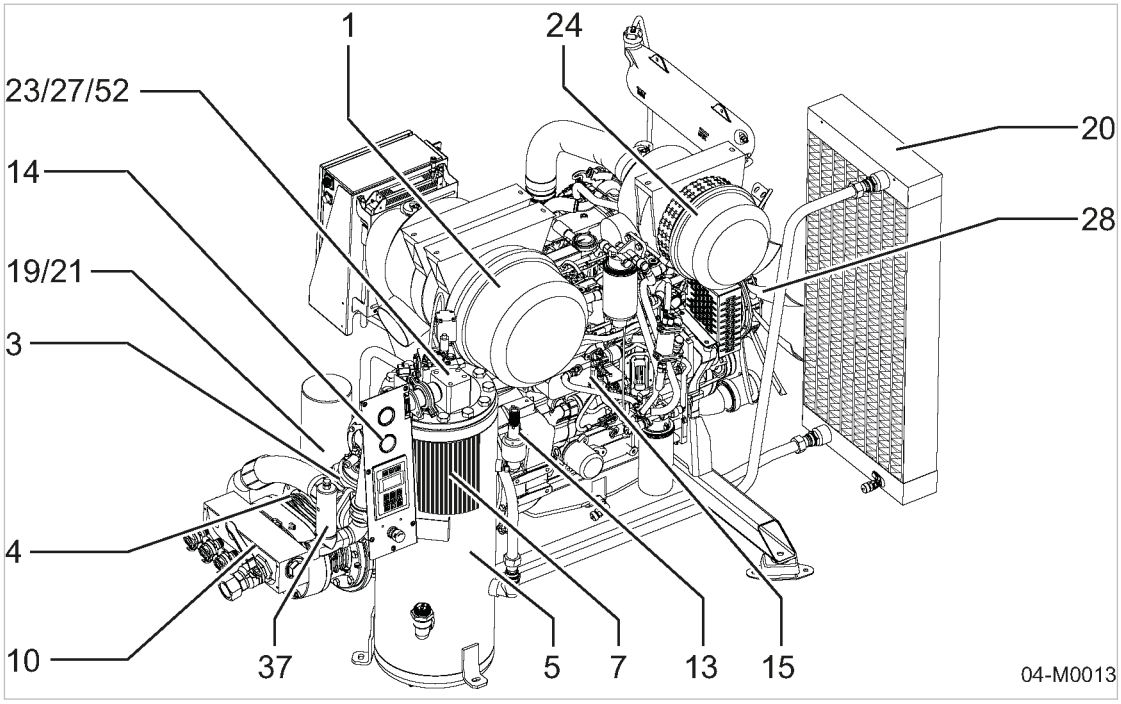


Fig. 10 Machine overview

[1] Compressor air filter
[3] Inlet valve
[4] Airend
[5] Oil separator tank
[7] Oil separator cartridge
[10] Air distributor
[13] Safety valve
[14] Pressure gauge (on the instrument panel)
[15] Drive engine
[19] Thermostatic valve (oil temperature control)
[20] Oil cooler
[21] Oil filter
[23] Proportional controller
[24] Engine air filter
[27] Venting valve
[28] Fan
[37] Minimum pressure check valve
[52] 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 and between the rotors and the housing. 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. The internal machine pressure keeps the oil circulating. A separate pump is not necessary. A thermostatic valve [19] regulates and optimises the cooling oil temperature.

The compressed air is released from the cooling oil in the oil separator tank [5] and then passes through the minimum pressure check valve [37] air distributor [10]. The minimum pressure check valve always maintains a minimum system pressure to ensure continuous cooling oil flow in the machine.

The cooling fan [28] 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 steplessly 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 de-pressurise 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 minimises the fuel consumption of the engine. The load and fuel consumption of the engine rises and falls with the air demand.

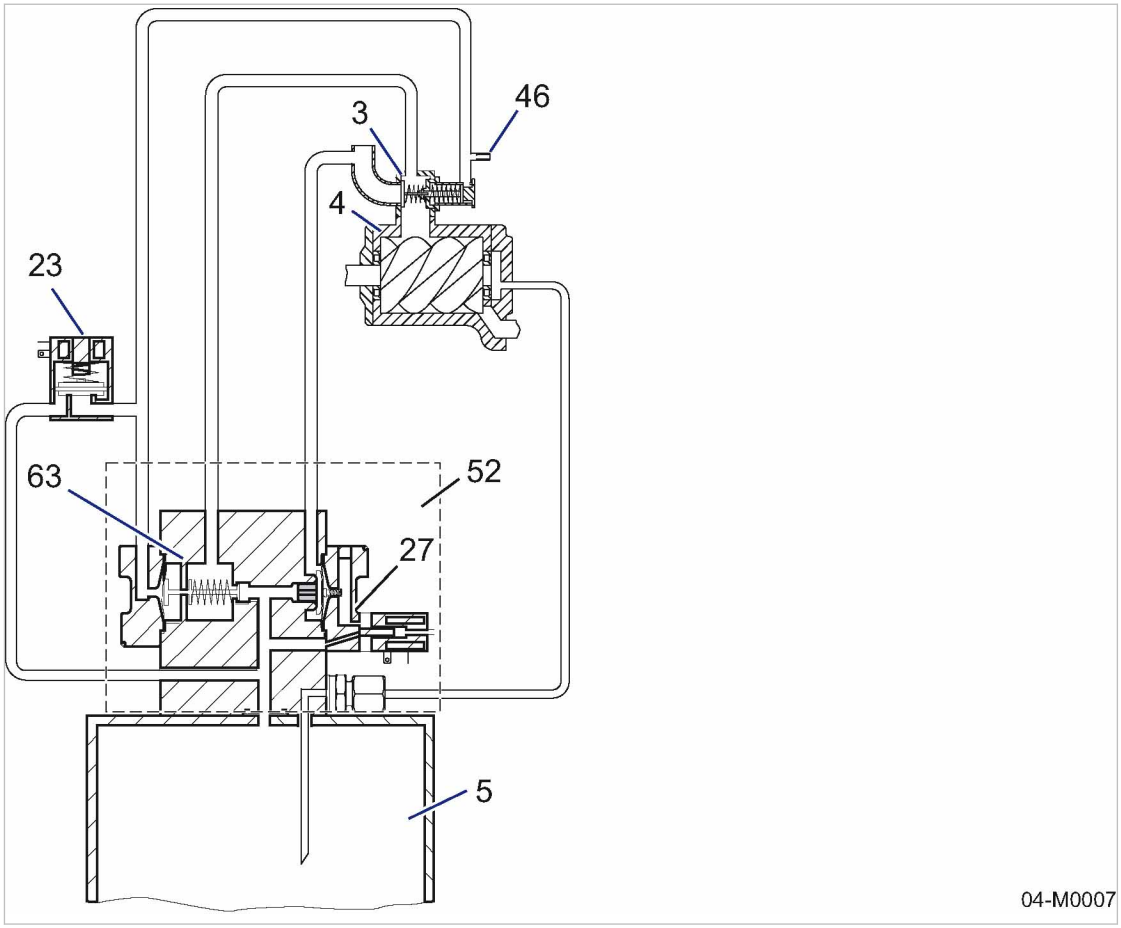


Fig. 11 Stepless regulation of volumetric flow (standstill)

3	Inlet valve	27	Venting valve
4	Airend	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 shut-down

The SIGMA CONTROL MOBILE 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» pushbutton is for immediate shut-down of the machine. The motor/engine comes to a stop. The pressure system is vented.

- Safety valves:
  Safety valves protect the system against unacceptable pressure rise. They are factory set.
- Housing and covers for moving parts and electrical connections:
  Protect against unintentional contact.

4.6 SIGMA CONTROL MOBIL control panel

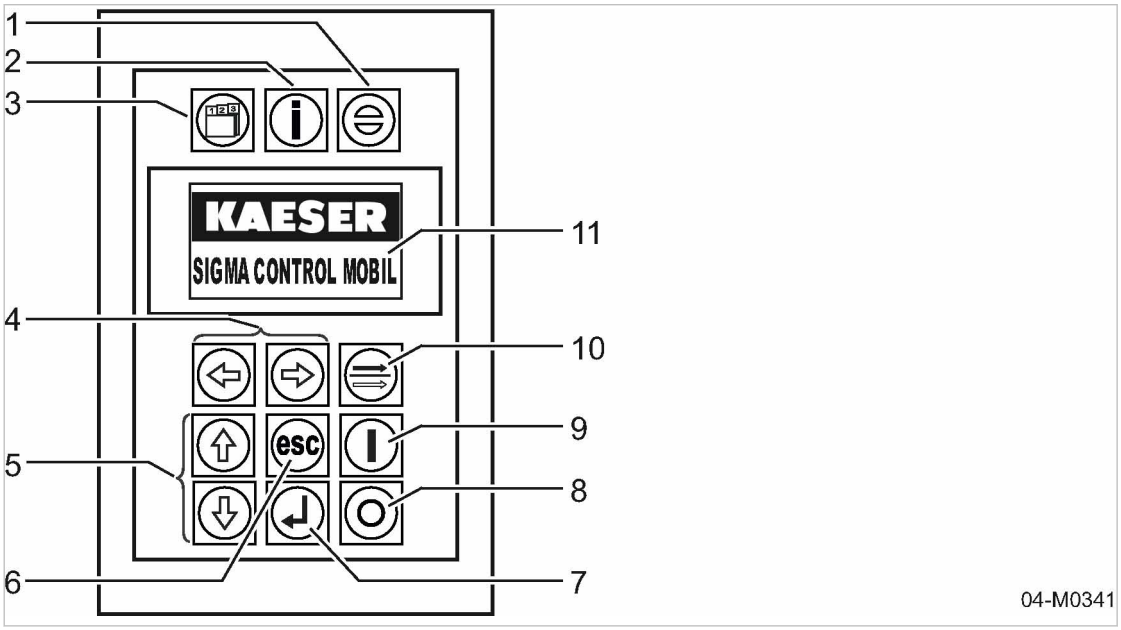
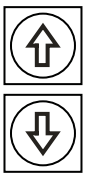


Fig. 12 SIGMA CONTROL MOBIL main display – overview

Location	Symbol	Description	Function	Background LED indicator
1		«Acknowledge» key	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	To change a parameter value, move cursor left or right.	–

Location	Symbol	Description	Function	Background LED indicator
5		«Up» key and «down» key	Scrolls upwards or downwards through the menu options.	–
6		«ESC» key	Jumps back to next higher menu level. Exits the edit mode without saving.	–
7		«Enter» key	Jump into the selected submenu. Accepts an input.	–
8		«STOP» key	Stops the machine.	Continuous light when a fault has occurred.
9		«START» key	Starts 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 LOAD. Continuous light when the machine is running under LOAD.
11	–	Indicator field or display	Graphical display.	–

Tab. 51 Instrument panel keys and displays

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

4.7 Variable pressure flow rate control (pV control)

The machine is fitted with a variable pressure flow rate 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 the minimum pressure to the maximum working pressure.

Limiting 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 User Manual of the SIGMA CONTROL MOBIL controller, Section "Set maximum nominal pressure".

▸ Further information about the variable flow rate control can be found in chapter 2.6.1.

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.

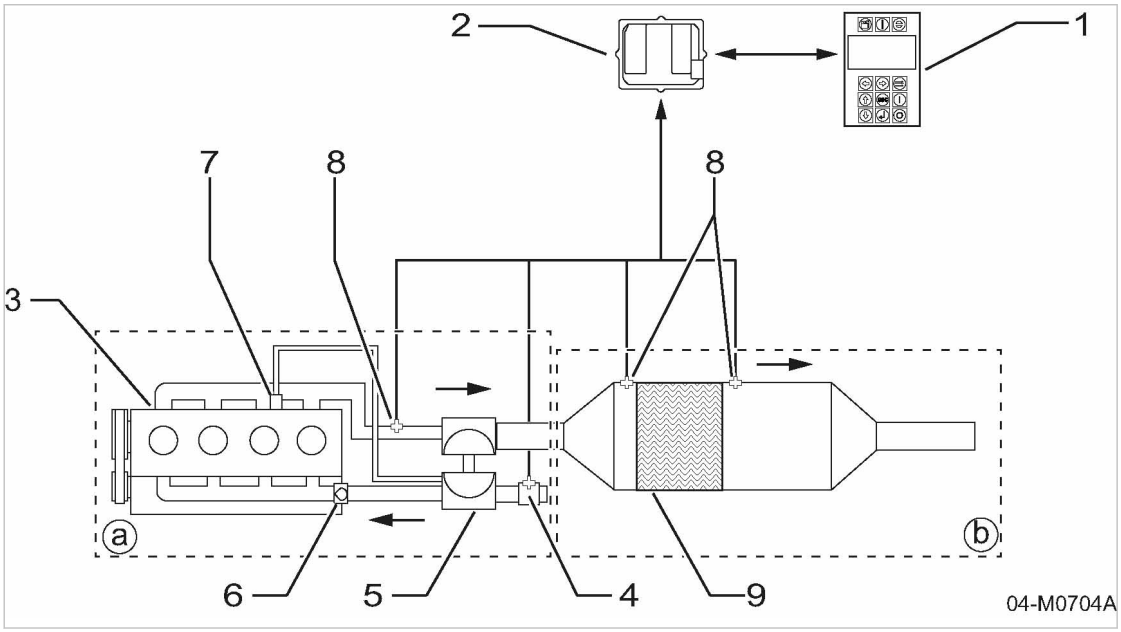


Fig. 13 Exhaust gas treatment – Reduction of particle emissions

1 SIGMA CONTROL MOBILE controller
2 Engine control unit (ECU)
a Common rail system
3 Engine
4 Air flow meter
5 Turbocharger
6 Inlet throttle
7 Exhaust gas return valve (EGR)
8 Sensors
b Exhaust gas treatment system:
9 Diesel oxidation catalytic converter (DOC)

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 MOBILE 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 MOBILE 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 a measure to reduce the emissions of nitrogen oxides. At high combustion temperatures, damaging nitrogen oxides (NO_x) increasingly 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 turbocharger 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.

Diesel oxidation catalytic converter (DOC):

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 250 °C.

4.8.2 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).

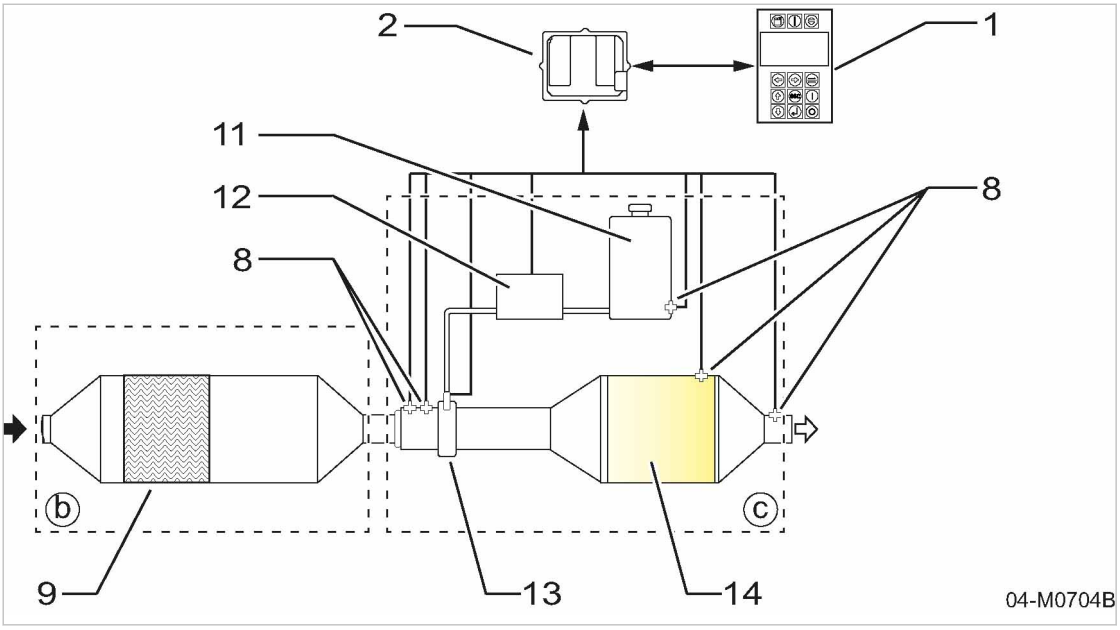


Fig. 14 Exhaust gas treatment – Reduction of nitrogen oxide emissions

1	SIGMA CONTROL MOBILE controller	8	Sensors
2	Engine control unit (ECU)	11	Reduction agent tank
b	Exhaust gas treatment system: Reduction of particle emissions	12	Reduction agent pump
		13	Dosing module
9	Diesel oxidation catalytic converter (DOC)	14	SCR catalytic converter
c	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 (AdBlue®) 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 (NOx) 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 (AdBlue® freezes at −11,5 °C), 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 AdBlue®, 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).

AdBlue® 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. AdBlue® 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.

AdBlue® – a non-toxic and odour-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 AdBlue® 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 MOBILE 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.

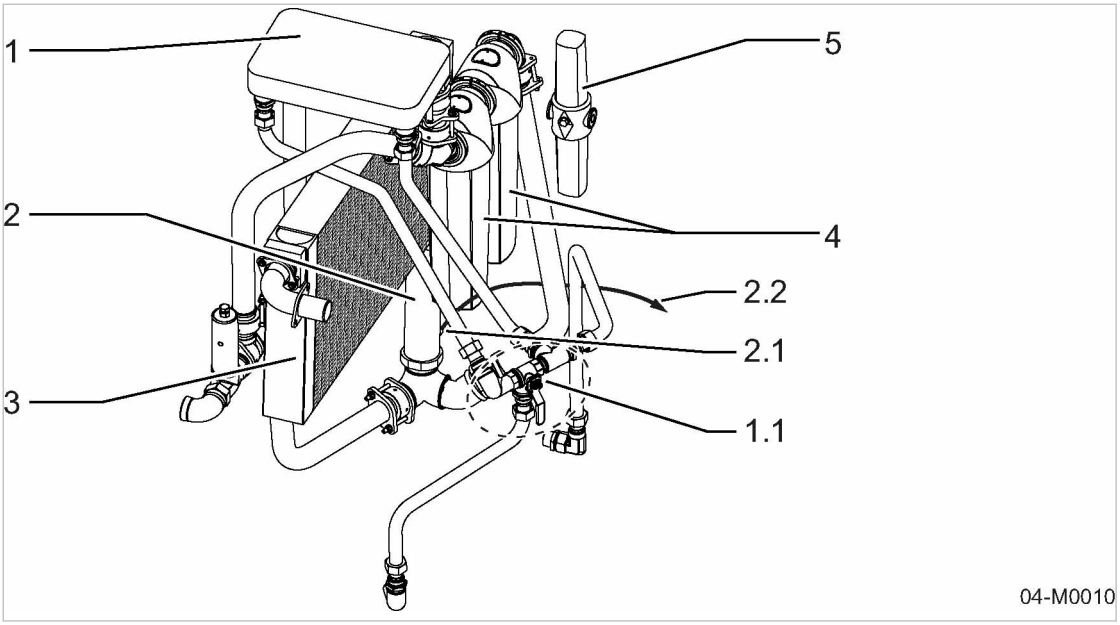


Fig. 15 Compressed air options

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

4.9.1.1 Option da
Compressed air after-cooler

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 contained in the compressed air, as well as the oil mist 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 cooled 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. 52 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 on the bottom of the machine body.



DANGER
Danger from toxic air!
Danger of respiratory arrest because the filter does not remove CO/CO_2, 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 2.8.1.1 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:

- Coolant pre-heating for diesel engine
- Battery charger for automatic start/stop

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 **Coolant pre-heating for diesel engine:**

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

Option od **Battery charger for automatic start/stop:**

The automatic start/stop option 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 -25 °C to +50 °C. The electrical system starts the engine without problem at ambient temperatures down to -20 °C.

Option bb **Coolant pre-heating:**

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

4.9.4 Option ob, od
Automatic start/stop options

Option ob **Automatic start/stop**

The automatic start/stop function 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.

4.9.4.1 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
  - *Engine running* message
  - *LOAD operation* message

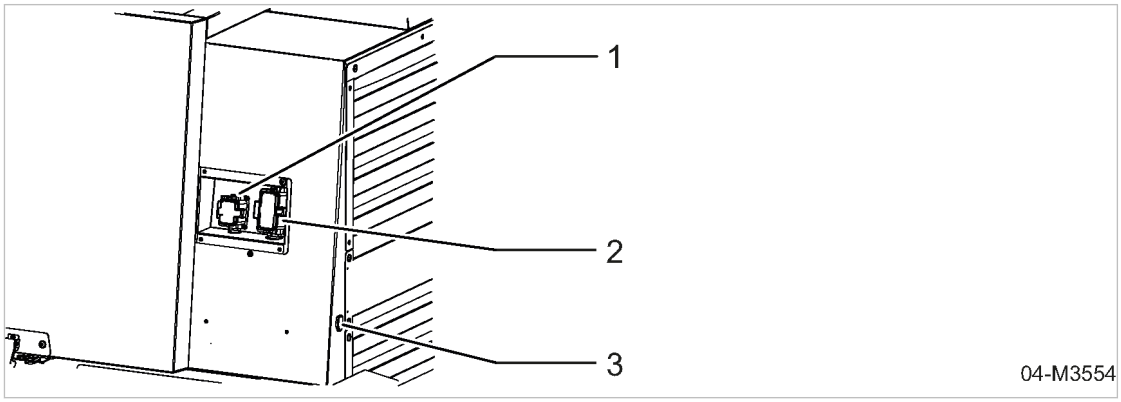


Fig. 16 Automatic start/stop, external connections

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.

4.9.5 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 2.8.4.

4.9.6 Transport options

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

4.9.7 Frame design options for stationary machines

4.9.7.1 Option rw; rx Frame types of stationary machines

Option	Designation	Characteristics
rw	Skid	■ Frame designed as skid ■ Use as stationary machine ■ Mounted on truck/trailer platform
rx	Frame	■ The mounting assembly is designed as a frame. ■ Use as stationary machine ■ Mounted on truck/trailer platform

Tab. 53 Stationary machines

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

4.9.8 Option oe Closed 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 closed 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:

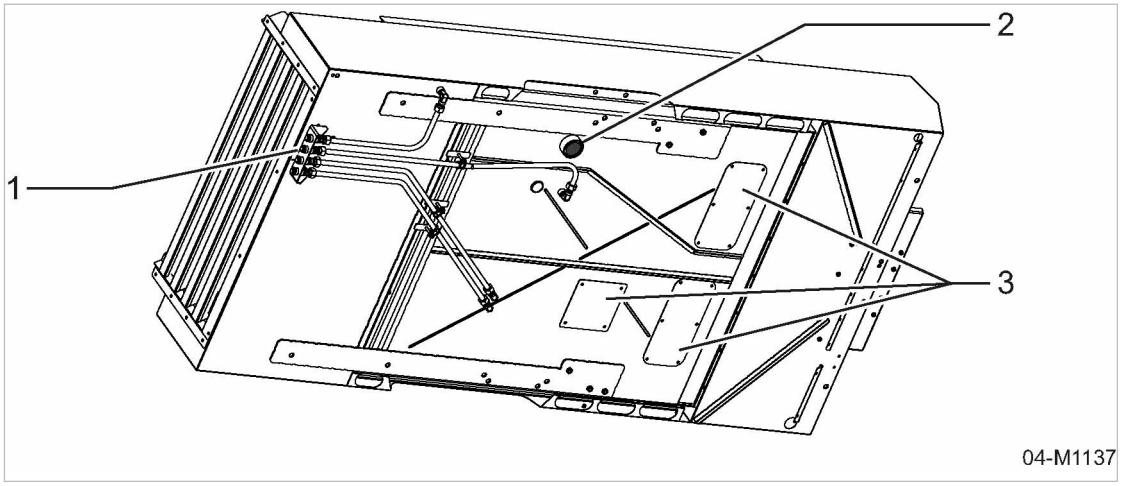


Fig. 17 Position of service openings in the closed floor pan

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:

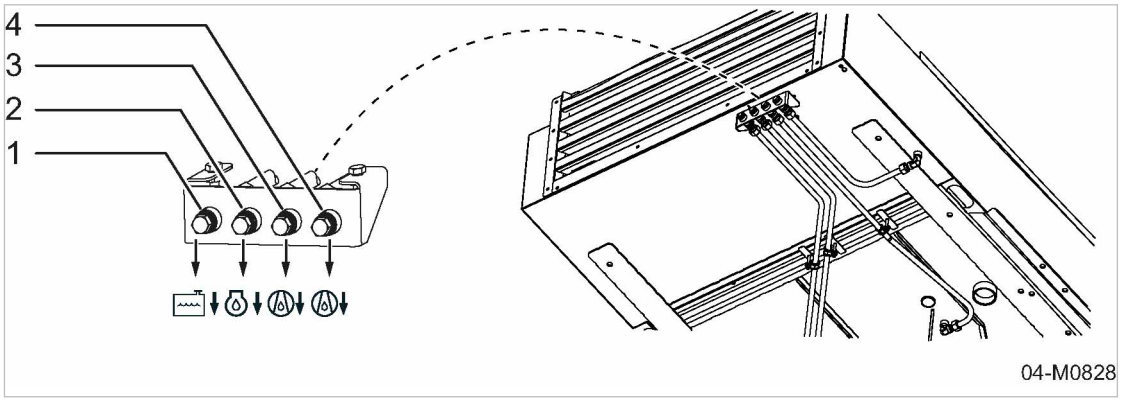


Fig. 18 Drain points for oil and coolant from engine and compressor

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

4.9.9 Option sg
Pedestrian protection option

The machine is provided with pedestrian protection that functions both as a deflector and against pedestrians being run-over.

5 Installation and Operating Conditions

5.1 Ensuring safety

The conditions in which the machine is installed and operated have a decisive effect on safety.

Warning instructions are located before a potentially dangerous task.



Disregard of warning instructions can cause serious injuries!

Complying with safety notes

Disregard of safety notes 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 vapours or parts of the machine.
- ➢ Do not store inflammable material in the vicinity of the machine.
- ➢ The machine is not explosion-proof!
  Do not operate in areas in which specific requirements with regard to explosion protection are applied.
  For instance, the requirements of ATEX directive 94/9/EC "Equipment and Protective Systems intended for use in Potentially Explosive Atmospheres".
- ➢ Suitable fire extinguishing material must be to hand.
- ➢ Ensure that required ambient conditions are maintained.

Required ambient conditions may be:

- Ambient temperature
- Air composition at the installation site:
  - clean with no damaging contaminants (e.g., dust, fibres, fine sand)
  - free of explosive or chemically unstable gases or vapours
  - 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 mass of the machine.

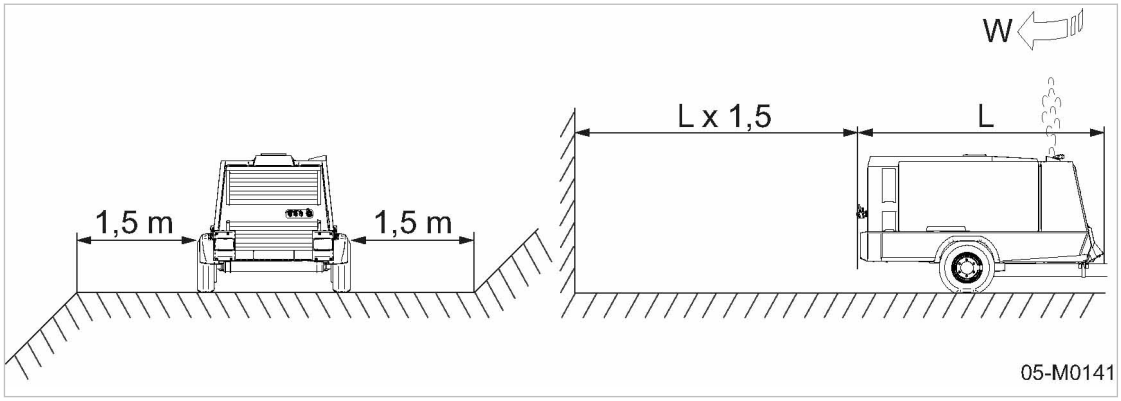


Fig. 19 Minimum distance from excavations/slopes and walls
Ⓦ Wind direction

1. Keep sufficient distance (at least 1.5 m) 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°.

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» button must be accessible and within reach at any time.
4. *NOTICE!*
   Fire hazard from build-up of heat and hot exhaust system!
   Insufficient clearance above the machine may well cause heat build-up that could damage the machine.
   - ➢ Do not position the machine directly under a low roof or covering.
   - ➢ Ensure always 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. Install the machine ensuring 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 19)
   - 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 0 °C, 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 «EMERGENCY STOP» pushbutton 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.

Prior to transporting the machine, check whether the hazardous goods label is attached to the machine. (See chapter 3.4.6) Renew if necessary.

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 notes

Disregard of safety notes can cause unforeseeable dangers!

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

Further information

Details of authorised 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

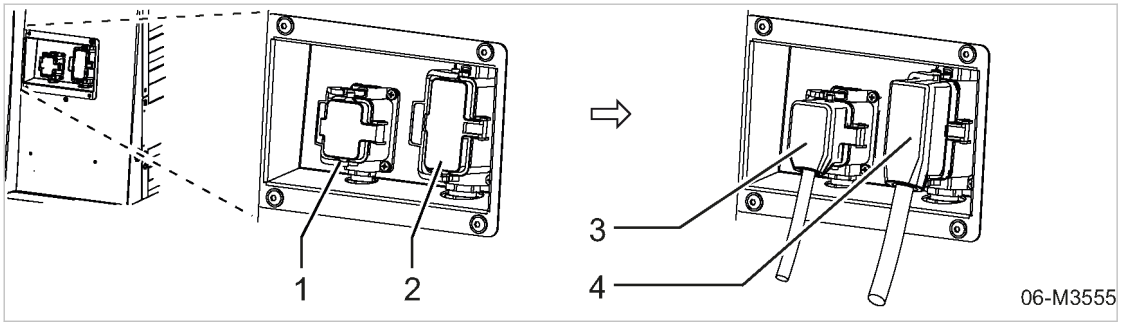


Fig. 20 Connect automatic start/stop externally

[1] Socket 1 (cover closed)
[2] Socket 2 (cover closed)
[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.

7 Initial Start-up

7.1 Ensuring safety

Here you will find instructions for a 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 notes

Disregard of safety notes can cause unforeseeable dangers!

- ➢ Follow the instructions in chapter 3 'Safety and Responsibility'.
- ➢ Commissioning tasks may only be carried out by authorised personnel!
- ➢ Make sure that no one is working on the machine.
- ➢ Ensure that all service doors and panels are locked.

Further information

Details of authorised 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 Note when commissioning



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 authorised 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 re-commissioning after storage or de-commissioning

➢ Carry out the following before every start-up after long period of storage or de-commissioning:

Storage/de-commissioning period longer than:	Remedy
5 months	➢ 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 up with engine oil. ➢ Check the engine coolant level. ➢ 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 tyre pressures.
36 months	➢ Have the overall technical condition checked by an authorised KAESER SERVICE Technician.

Tab. 54 Measures for re-commissioning the compressor after a long period of storage or de-commissioning

7.3 Checking installation and operating conditions

➢ Check and confirm all the items in the check list before first start-up of the machine.

To be checked	See chapter	Complied with?
➢ Are operating personnel fully conversant with the applicable safety regulations?	–	
➢ Have all of the installation 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 reduction agent tank?	–	
➢ Are all access doors closed and all body panels in place?	–	

To be checked	See chapter	Complied with?
➢ Are the tyre pressures OK?	–	

Tab. 55 Installation conditions checklist

7.4 Low-temperature operation (winter)

The machine's electric system is designed for starting at ambient temperatures as low as −10 °C.

➢ In temperatures below 0 °C, use the following operating materials/components:
- Winter grade engine oil
- Low viscosity cooling oil for the compressor
- Winter grade diesel fuel
- Stronger batteries

Use compressed 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.

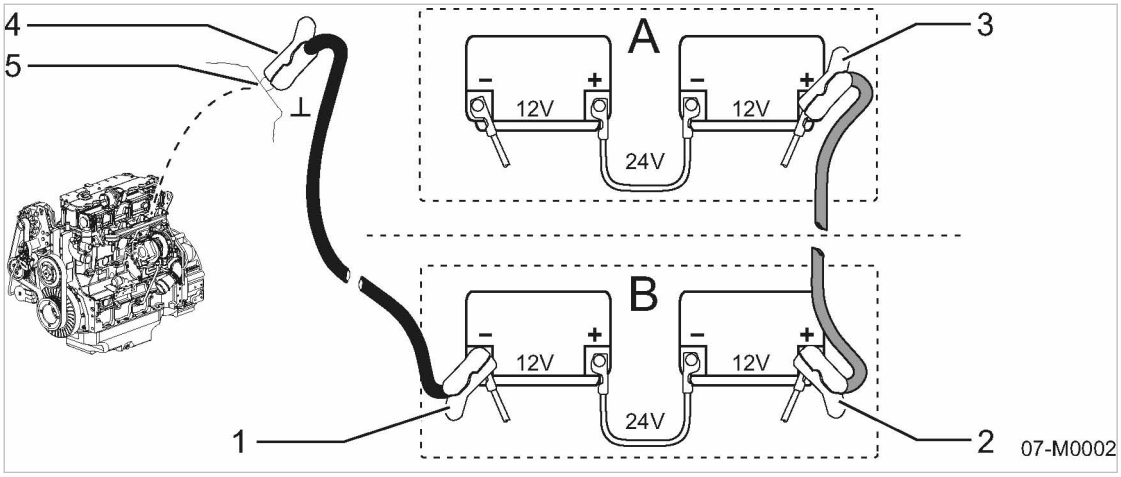


Fig. 21 Jumper cable connection diagram

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

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 run 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 mains power 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 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.

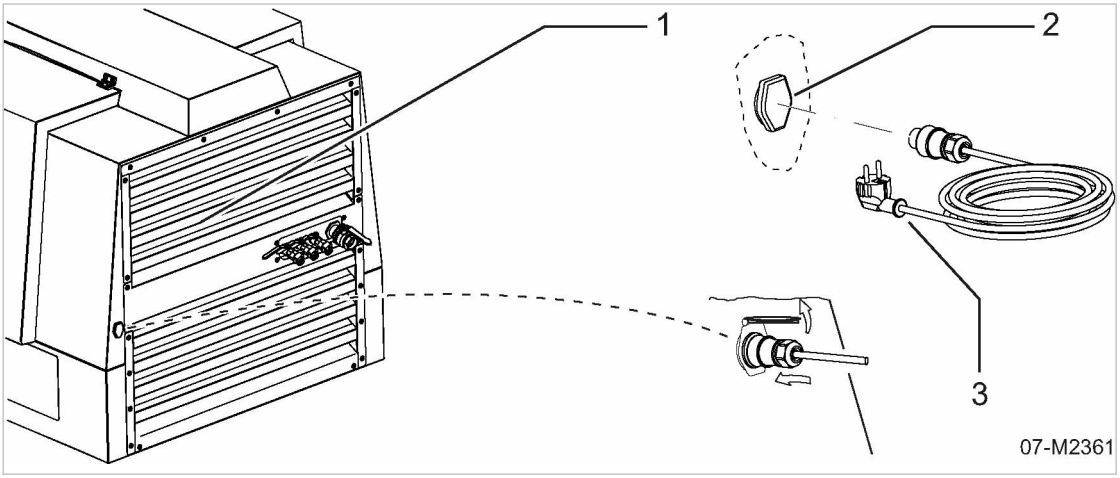


Fig. 22 Connect auxiliary electrical systems

[1] Operating panel
[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 earth.
   - ➢ 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.

8 Operation

8.1 Ensuring safety

Here you will find instructions for a safe operation of the machine.

Warning instructions are located before a potentially dangerous task.



Disregard of warning instructions can cause serious injuries!

Complying with safety notes

Disregard of safety notes can cause unforeseeable dangers!

- ➢ Follow the instructions in chapter 3 'Safety and Responsibility'.
- ➢ Make sure that no one is working on the machine.

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.

Safe working with compressed air tools and hoses

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

- ➢ Pressurise compressed air hoses only after the tool has been connected.
- ➢ Do not pressurise open compressed air hoses.
- ➢ Detach compressed air hoses only after the hose has been purged of compressed air.
- ➢ At working pressures >7 bar, 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 minimise 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 authorised 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.

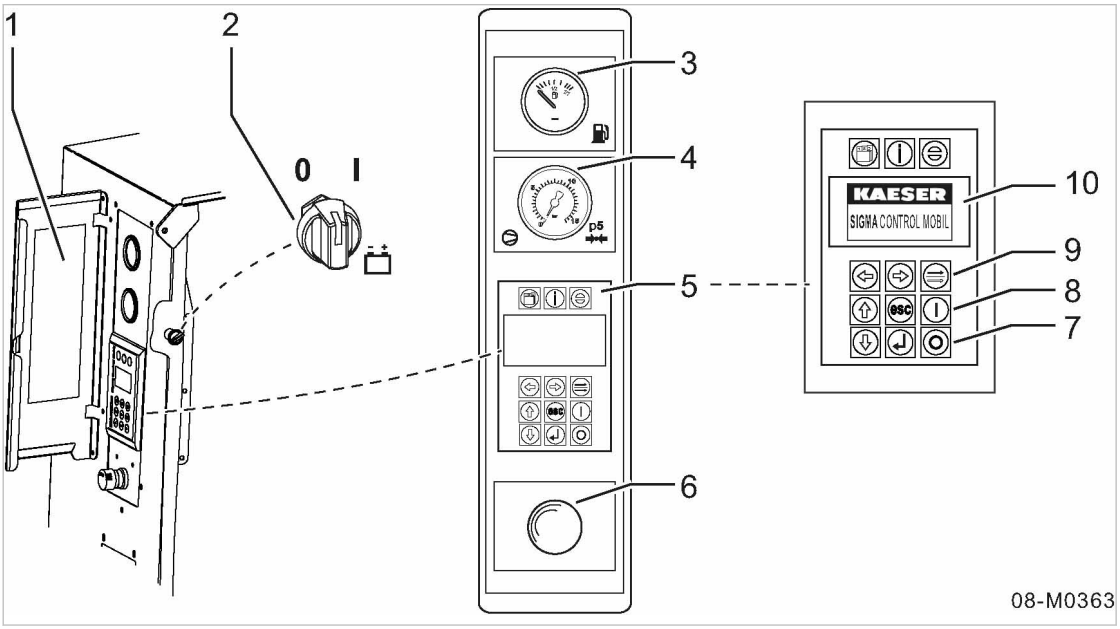


Fig. 23 Starting instruments

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 MOBILE controller
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:

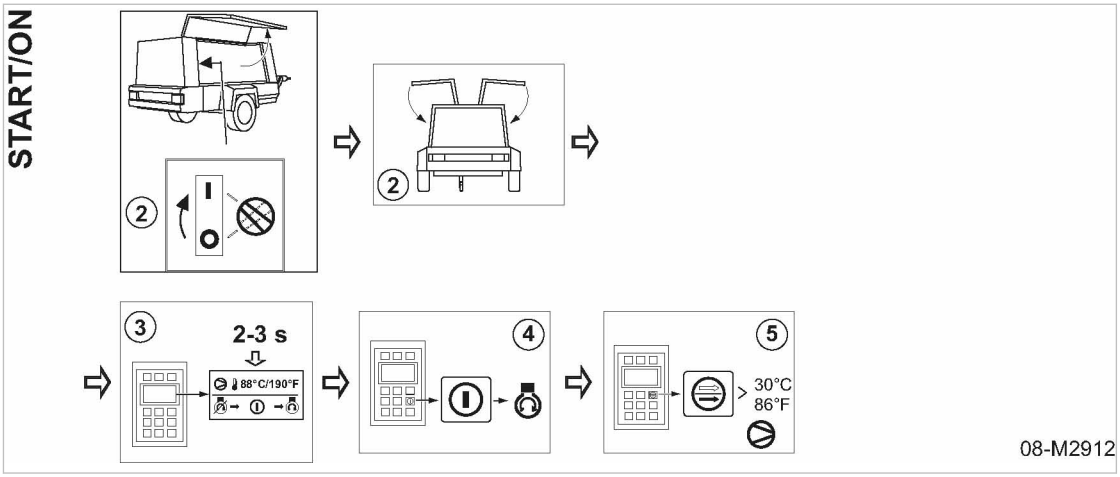


Fig. 24 Brief instructions on starting procedure

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

Shut-down sequence:

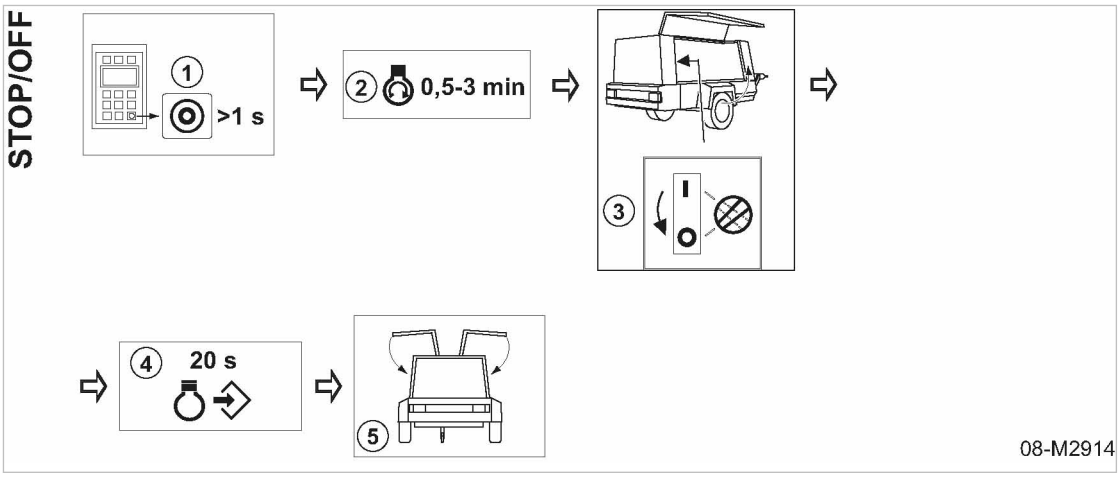


Fig. 25 Brief instructions on stopping procedure

➢ Open the instrument panel cover and follow the brief instructions on the stopping procedure attached at the inside.

The individual steps are fully explained below.

8.2.2 Commissioning 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» pushbutton.
   - ➢ Do not operate the machine if the «EMERGENCY STOP» pushbutton 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 0 °C, the engine control unit will automatically switch on engine pre-heating.
   - If the controller does not display any unacknowledged messages (see separate SIGMA CONTROL MOBILE 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 2.6.4 "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 MOBILE 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 bar 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 sub-menu "set pressure in oil separator tank"

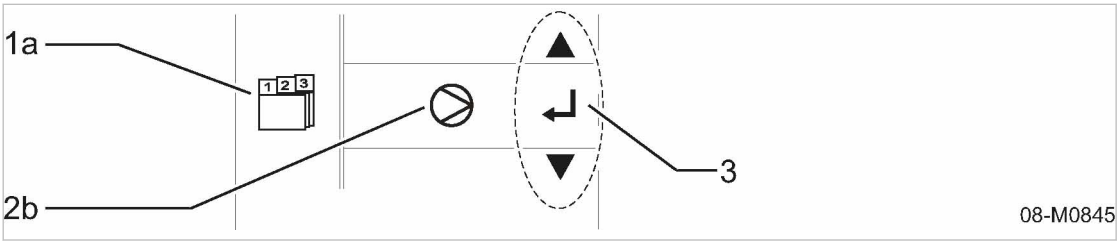


Fig. 26 Select menu option "set pressure in the oil separator tank"

[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.

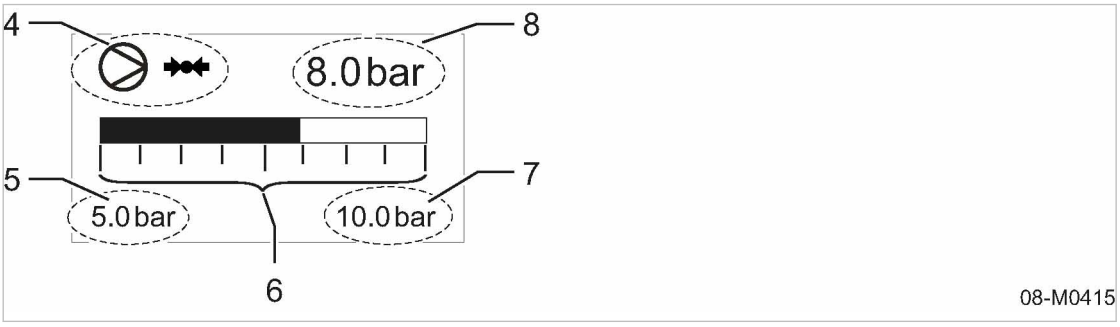


Fig. 27 Setting the output pressure

[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 «Esc».
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 bar.
- 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» pushbutton.

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

Quick shut-down:

➢ Actuate the «EMERGENCY STOP» pushbutton.
  - The engine stops immediately.
  - The «EMERGENCY STOP» pushbutton 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.

Put 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 fault 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 MOBILE

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 trickle 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 0 °C, 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 28 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. 28 Preparing readiness to start of the "Automatic start/stop"

➢ Press the «START» button.

Wait for start command:

The display image 29 appears on the controller display and signals *Waiting for start command*.



Fig. 29 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 motor/engine is automatically started.
- The controller switches the machine to LOAD as soon as the required airend 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 2.6.4

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 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 bar, 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 coolant:**

➢ Start the engine coolant pre-heating as described in chapter 7.4.2.

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 bypass realised 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. 56 Shut-off valve position and selected compressed air quality

Precondition Machine shut down

Activating the heat exchanger:

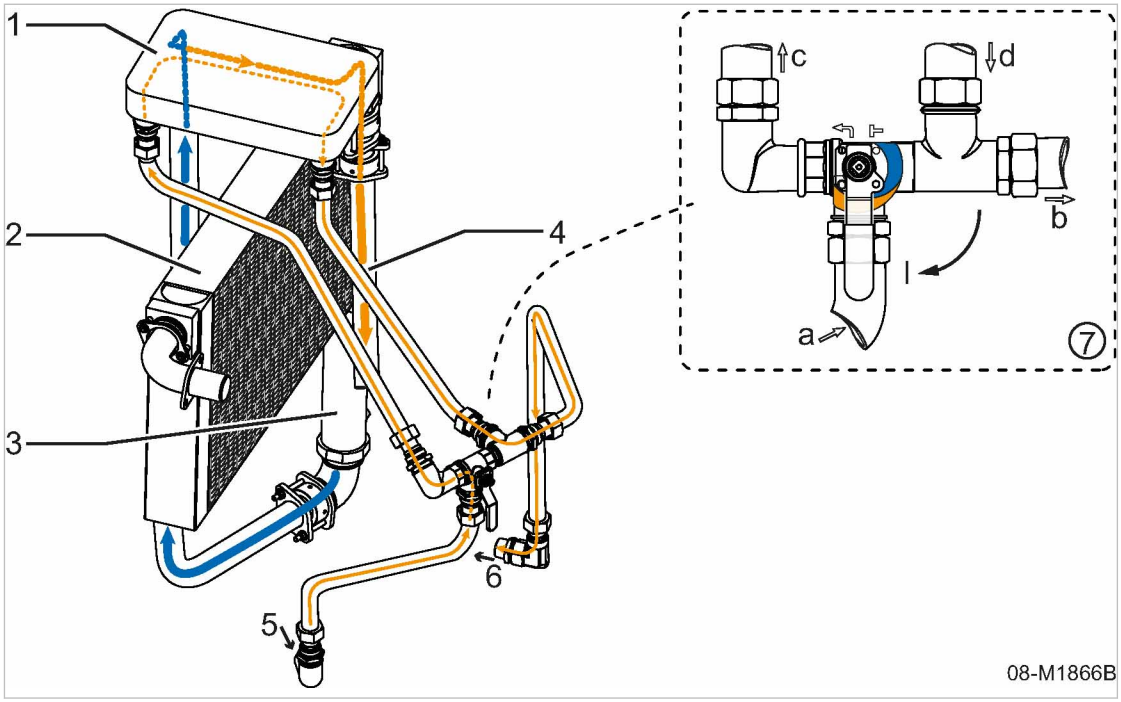


Fig. 30 Heat exchanger without bypass operation (with compressed air heating)

1	Heat exchanger	7	Shut-off valve (3–way cock) "I" - Open position (red marking)
2	Aftercooler	a	Oil from the oil separator tank
3	Centrifugal separator	b	Oil to thermostatic valve/oil filter
4	Air pipe (to compressed air outlet)	c	Oil to heat exchanger (open)
5	Connection for oil separator tank (cooling oil inlet)	d	Oil from heat exchanger
6	Connection for thermostatic valve (cooling oil outlet)		

➢ 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 from a to 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. "Condensate-free and heated compressed air" is available at the compressor air distributor.

Deactivating the heat exchanger:

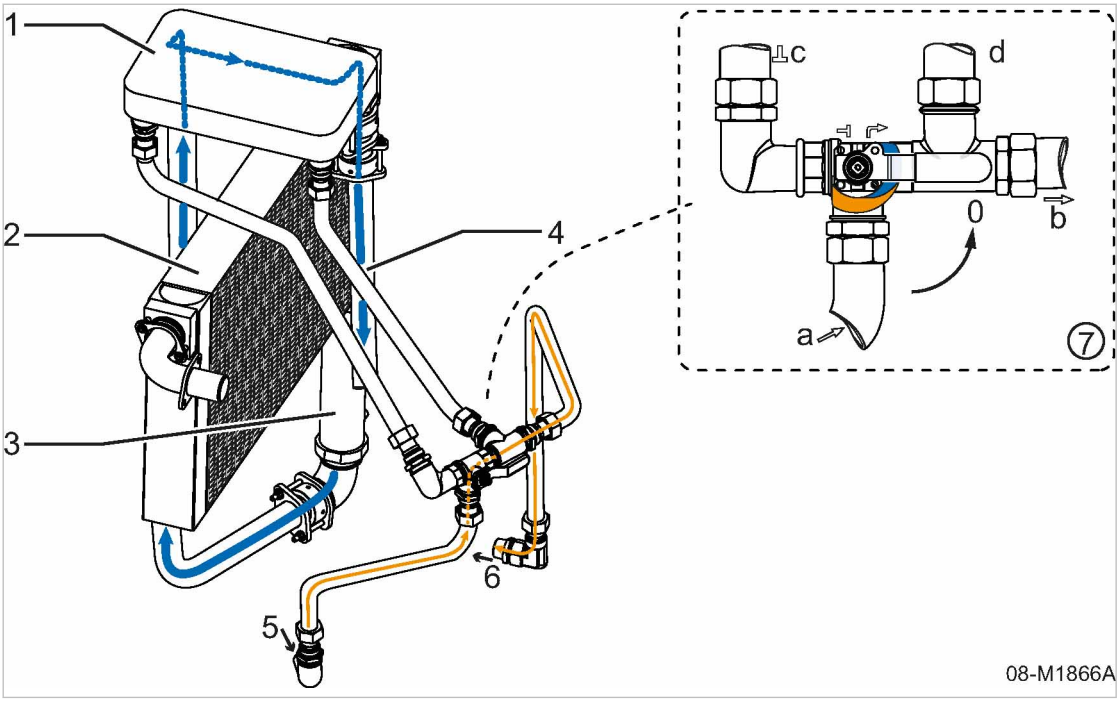


Fig. 31 Heat exchanger with bypass operation (no compressed air heating)

[1]	Heat exchanger	[7]	Shut-off valve (3–way cock) “0” - Closed position (blue marking)
[2]	Aftercooler	[a]	Oil from the oil separator tank
[3]	Centrifugal separator	[b]	Oil to thermostatic valve/oil filter
[4]	Air pipe (to compressed air outlet)	[c]	Oil to heat exchanger (closed)
[5]	Connection for oil separator tank (cooling oil inlet)	[d]	Oil from heat exchanger
[6]	Connection for thermostatic valve (cooling oil outlet)		

➢ 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. 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. 57 Shut-off valve position and selected compressed air quality

Activating the heat exchanger:

For details about the directional control valve, see Fig. 30, 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 from [a] to [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. 31, 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.

8.5 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 bar.

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 70 cm
- Fan jets: approximately 30 cm
- Dirt blasters: approximately 30 cm



Keep the water jet in permanent motion during the cleaning process. You prevent thus 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 sealed floor pan.

- ➢ Drain the water.



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

Further information See chapter 10.11.4 for information to the draining of liquids within the machine.

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 authorised 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 also with local applicable safety provisions!

9.2 Analysing 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 “Motor/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 = Specialised workshop; KS = KAESER SERVICE

SCM - SIGMA CONTROL MOBILE; 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 it checked.	–	X	X
1110	Fault – coolant temperature (T70) high.	Check the coolant level.	10.4.1	–	–
		Clean the cooler.	10.6	–	–
		Have the coolant cooling checked.	–	X	X
1111	Fault – coolant level too low.	Check the coolant level.	10.4.1	–	–
1112	Fault – sensor coolant temperature.	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 setup conditions. Allow the machine to cool down.	5.2	–	–
		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 - motor/engine fault air flow meter.	Have checked.	–	X	X
1130	Fault – 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.	10.11.4	–	–
1140	Fault – motor/engine generator does not load.	Have it checked.	–	X	X
1141	Fault – ECU power supply.	Battery maintenance.	10.4.9	–	–
		Check battery charging system.	–	X	X

SW = Specialised workshop; KS = KAESER SERVICE

SCM - SIGMA CONTROL MOBILE; ECU - Engine Control Unit

DPF = Diesel particulate filter; SCR - Selective Catalytic Reduction

Code	Meaning	Remedy	See chapter	Where can I get help?	
				SW	KS
1150	Fault – ECU other faults.	Have checked.	–	X	X
1151	Fault – ECU-SCM communication.	Have it checked.	–	X	X
1160	Fault – rail pressure sensor.	Have checked.	–	X	X
1161	Fault – speed sensor.	Have checked.	–	X	X
1165	Fault - drive motor/engine speed low.	Have checked.	–	X	X
1170	Fault – automatic start mode fault.	Have it checked.	–	–	X
1171	Fault – manual stop automatic mode.	Unblock.	8.2.7	–	–
		Have checked.	–	–	X
1180	Fault – DPF fault.	Check DPF.	–	–	X
1181	Fault – AdBlue 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 it checked.	–	X	X
1191	Fault – AdBlue quality deficient.	Have it checked. Have it changed if necessary.	–	X	X

SW = Specialised workshop; KS = KAESER SERVICE

SCM - SIGMA CONTROL MOBILE; ECU - Engine Control Unit

DPF = Diesel particulate filter; SCR - Selective Catalytic Reduction

Tab. 58 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 - OST temperature high at the air outlet.	Check the cooling oil level.	10.5.1	–	–
		Clean the cooler.	10.6	–	–
		Change oil separator cartridge.	10.5.6	–	–

SW = specialised workshop; KS = KAESER SERVICE

ADT = Airend discharge temperature; OST - Oil separator cartridge

Tab. 59 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 it checked.	–	–	X
1302	Fault PLC – HMI communication.	Have it checked.	–	–	X
1303	Fault PLC – temperature high.	Check setup 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 = Specialised 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. 60 Fault 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 - EMERGENCY STOP.	Disengage «EMERGENCY STOP» push button.	8.2.7	–	–
		Have it 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 = Specialised workshop; KS = KAESER SERVICE

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

Tab. 61 Alarm messages and troubleshooting in "General faults"

9.2.2 Warning messages on the controller

The machine is not shut down.
The «Acknowledgement» key flashes. The «Information» key illuminates.

- In the case of an overheating warning, the machine switches automatically to IDLE to cool down.
- The warning message must be confirmed after remedying 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 motor/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 motor/engine oil.	10.4.5	–	–
3103	Warning – oil level high.	Check the motor/engine oil level and drain, if necessary.	10.4.4	–	–
3104	Warning - oil temperature high.	Have it checked.	–	X	X
3105	Warning – oil quality poor.	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	–	–
		Have the coolant cooling checked.	–	X	X
3121	Warning – charge air temperature (T73) high.	Check setup conditions. Allow the machine to cool down.	5.2	–	–
		Clean the cooler.	10.6	–	–
		Have the charge air pressure sensor checked.	–	X	X
3130	Warning – fuel level low.	Refuel.	–	–	–

SW = Specialised 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 setup conditions. Allow the machine to cool down.	5.2	–	–
		Have it checked.	–	X	X
3132	Warning – fuel pressure (T75) high.	Have it checked.	–	X	X
3133	Warning - fuel temperature sensor (T75) faulty.	Have it checked.	–	X	X
3134	Warning - fuel pressure sensor (p75) faulty.	Have it checked.	–	X	X
3135	Warning - fuel pump.	Have it checked.	–	X	X
3136	Warning – fuel filter water level.	Empty the fuel filter (water trap)	10.4.3	–	–
3154	Warning - drive engine sensor fault.	Have it checked.	–	X	X
3155	Warning - drive engine actuator fault.	Have it checked.	–	X	X
3165	Warning – engine speed low.	Have it checked.	–	X	X
3181	Warning – AdBlue level low.	Fill AdBlue tank.	–	–	X
3182	Warning – torque reduction active.	Fill AdBlue tank.	–	–	X
3183	Warning – torque reduction next start.	Fill AdBlue tank.	–	–	X
3184	Warning – fault in ambient temperature sensor.	Check/repair.	–	–	X
3185	Warning - fault in exhaust gas treatment.	Have the exhaust gas treatment checked.	–	–	X
3186	Warning – exhaust gas treatment – temperature high.	Have the exhaust gas treatment checked.	–	–	X
3187	Warning – exhaust gas treatment – regeneration.	Have the exhaust gas treatment checked.	–	–	X
3188	Warning - standstill regeneration required.	Start the standstill regeneration.	UM SCM	–	–
3189	Warning – SCR catalytic converter system error.	Have it checked.	–	X	X
3190	Warning - DPF exchange required.	Have the DPF replaced.	–	X	–

SW = Specialised 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
3191	Warning – AdBlue quality insufficient.	Have it checked. Have it changed if necessary.	–	X	X

SW = Specialised workshop; KS = KAESER SERVICE

SCR - Selective Catalytic Reduction; DPF - Diesel Particulate Filter

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

Tab. 62 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 setup 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 it checked.	–	–	X

SW = Specialised workshop; KS = KAESER SERVICE

OST = oil separator tank; ADT = Airend discharge temperature

Tab. 63 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	Measure	Where can I get help?	
		SW	KS
«EMERGENCY STOP» control device activated.	Unlatch the «EMERGENCY STOP» control device, 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	–	–
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.	–	–

SW = Specialised workshop; KS = KAESER SERVICE

Possible cause	Measure	Where can I get help?	
		SW	KS
Fuel line broken.	Have changed.	X	–
Defective control fuse or relay.	Have repaired or replaced if necessary.	X	X
Discharge temperature too high.	Have it 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 10.9.	–	–
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. 64 Fault: engine refuses to start or comes to a stop.

9.3.2 Engine does not reach full speed

Possible cause	Measure	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
Torque reduction active.	Check/top up the reducing agent in the tank.	X	X
	Have the exhaust system checked.	X	X
SW = Specialised workshop; KS = KAESER SERVICE			

Tab. 65 Alarm: "engine does not reach full speed".

9.4 Analysing compressor faults and alarms

9.4.1 Working pressure too high

Possible cause	Measure	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, control line and inlet valve and replace if necessary.	–	X
Pressure gauge indicating incorrect reading.	Have it repaired or replaced if necessary.	–	X
Venting valve does not blow off.	Check the connections and function and have it repaired or replaced as necessary.	–	X
SW = Specialised workshop; KS = KAESER SERVICE			

Tab. 66 Fault: working pressure too high

9.4.2 Working pressure too low

Possible cause	Measure	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 it replaced if necessary.	–	X
Pressure gauge indicating incorrect reading.	Have it repaired or replaced if necessary.	–	X
Safety valve maladjusted and/or leaking.	Have it repaired or replaced if necessary.	–	X
Venting valve blowing off.	Check the connections and function and have it repaired or replaced as necessary.	–	X
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 = Specialised workshop; KS = KAESER SERVICE			

Tab. 67 Fault: working pressure too low

9.4.3 Safety valve blows off

Possible cause	Measure	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, control line and inlet valve and replace if necessary.	–	X
Safety valve maladjusted and/or leaking.	Adjust or have it replaced if necessary.	–	X
SW = Specialised workshop; KS = KAESER SERVICE			

Tab. 68 Fault: safety valve blowing off

9.4.4 Machine overheating

Possible cause	Measure	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 it repaired or replaced if necessary.	–	X
Working pressure too high (proportional controller maladjusted).	Reset to the permissible value or have it replaced.	–	X
Oil separator cartridge heavily clogged.	Measure the pressure differential and change the cartridge if greater than 1 bar. Change, see chapter 10.5.6.	–	X
Compressor oil filter cartridge clogged.	Change, see chapter 10.5.4.	–	–
Compressor cooling oil level too low.	Replenish, see chapter 10.5.2.	–	–
Oil pipes leaking.	Seal leaks or have pipes changed.	X	X
Engine coolant cooling or engine cooling fan defective.	Have it repaired.	X	X
Ambient temperature too high.	See installation conditions in chapter 5.2.	–	–
SW = Specialised workshop; KS = KAESER SERVICE			

Tab. 69 Fault: machine overheating

9.4.5 Too much oil residue in the compressed air

Possible cause	Measure	Where can I get help?	
		SW	KS
Oil separator cartridge oil return line of compressor clogged.	Clean the oil separator cartridge dirt trap or replace the strainer and nozzle if necessary. See chapter 10.5.5	–	X
Cracked 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 = Specialised workshop; KS = KAESER SERVICE			

Tab. 70 Alarm: "Too much oil residue in the compressed air"

9.4.6 Oil flows from the compressor air filter after shutdown

Possible cause	Measure	Where can I get help?	
		SW	KS
Defective non-return function of the inlet valve.	Repair or have it replaced if necessary.	–	X
SW = Specialised workshop; KS = KAESER SERVICE			

Tab. 71 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	Measure	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 10.11.1	–	X
SW = Specialised workshop; KS = KAESER SERVICE			

Tab. 72 Fault: high moisture content in the compressed air

10 Maintenance

10.1 Ensuring safety

Follow the instructions below to ensure safe machine maintenance.

Warning instructions are displayed prior to a potentially dangerous task.



Disregarding warning instructions can cause serious injuries!

Compliance with safety instructions

Ignoring safety instructions can cause unforeseeable dangers.

- ➢ Follow the instructions in chapter 3 'Safety and Responsibility'.
- ➢ Allow maintenance work to be carried out only by authorised 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:

Symbol	Meaning
	Do not switch on the machine.
	Warning: The machine is being serviced.

Tab. 73 Advise others that the machine is being serviced.

- ➢ Before switching on, make sure that:

- nobody is 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.
- ➢ De-pressurise 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 bar!

➢ Do not open or dismantle any valves.

When working on the drive system

Touching rotating, very hot or current-carrying components can cause severe injuries.

➢ 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 authorised personnel are found in chapter 3.4.2.
Information regarding dangers and their avoidance can be 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 hours before the interval will expire.

When the machine is switched on, the «Information» key on the controller illuminates. In addition the «Acknowledgement» 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 10.3.3.1.

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

h - operating hours

Code	Meaning	Remedy	See chapter
2201	Maintenance message compressor - change the cooling oil.	Replace the compressor cooling oil. (every 1000 hours)	10.5.3
h - operating hours			

Tab. 74 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 User Manual for the SIGMA CONTROL MOBIL controller, chapter “Reset maintenance timer”.

10.3 Following the maintenance plans

10.3.1 Logging maintenance work

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

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

Adverse conditions are, e.g.:

- poor fuel quality
- high/low temperatures
- much 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 10.12.

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	E50	see Chapter	Note
Engine:			
Check engine belt tension; adjust tension if necessary.	X	10.4.8	KS; SW
E50 = after the first 50 operating hours KS = Contact KAESER SERVICE; SW = Contact specialised workshop			

Tab. 75 Maintenance tasks on the machine after commissioning

10.3.3 Regular maintenance tasks

The following table lists the various maintenance intervals for the machine.

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 3 years	A3000
Every 4000 operating hours	A4000
Every 6000 operating hours	A6000
Every 36000 h, at least every six years.	A36000

Tab. 76 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.

10.3.3.1 Machine maintenance schedule

➢ 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.

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 the engine oil level.	X										10.4.4	
Clean the engine air filter.			X								10.4.2	
Replace the engine oil(*).			X								10.4.6	
Replace the engine oil filter(*).			X								10.4.7	KS; SW
Check/adjust belt tension.			X								10.4.8	KS; SW
Have the V-ribbed belt / jockey wheel checked.				X								KS; SW
Replace the engine air filter.				X							10.4.2	
Have intercooler maintained.				X								KS; SW
Have turbocharger checked and cleaned.									X			KS; SW
Check the engine mounts.				X								KS; SW
Have the valves adjusted.						X						KS; SW
Replacing the engine belt						X					10.4.8	KS; SW
Have the V-ribbed belt / jockey wheel checked/replaced.								X				KS; SW
Check the engine coolant level.	X										10.4.1	
Clean the cooler.		X									10.6	
Check the coolant frost protection.			X								10.4.1	KS; SW
Change the coolant.							X				10.4.1	KS; SW
Fill up the fuel tank.	X											
Empty the fuel prefilter (water separator).	X										10.4.3	
Clean/change the fuel filter.			X								10.4.3	KS; SW
Have the fuel pump cleaned.				X								KS; SW

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

SCM = SIGMA CONTROL MOBIL controller

SCR - Selective Catalytic Reduction

Assembly: Task	Daily	A250	A500	A1000	A1500	A2000	A3000	A4000	A6000	A36000	See chapter	Note
Clean the tank fuel strainer.			X									
Clean the fuel tank.			X									
Replace the fuel prefilter(*).				X							10.4.3	
Replace the fuel filter(*).				X							10.4.3	KS; SW
Check the fuel return line for leakage and firm seat.			X									
Have the injector nozzles checked.								X				KS; SW
Have the fuel injection pump checked.								X				KS; SW
Check the battery electrolyte level and maintain the 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 and the components of the exhaust gas treatment system for leaks.	X											
Have the exhaust return line checked.						X						KS; SW
Exhaust gas treatment with SCR catalytic converter:												
Fill the reduction agent tank.	X											
Have the SCR system checked/ serviced.			X									KS; SW
Replace the filter insert for the reduction agent pump.				X							10.4.11	KS; SW
Compressor:												
Check the compressor air filter maintenance indicator.	X										10.5.7	
Check the cooling oil level.	X										10.5.1	
Clean the compressor air filter.		X									10.5.7	
Clean the compressor oil cooler.		X									10.6	

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

SCM = SIGMA CONTROL MOBIL controller

SCR - Selective Catalytic Reduction

Assembly: Task	Daily	A250	A500	A1000	A1500	A2000	A3000	A4000	A6000	A36000	See chapter	Note
Check/clean the oil separator tank dirt trap(*).			X								10.5.5	
Change the compressor air filter.				X							10.5.7	
Change the cooling oil.				X							10.5.3	
Change the compressor oil filter.				X							10.5.4	
Change the oil separator cartridge in the oil separator tank.						X					10.5.6	
Safety functions:												
Check the EMERGENCY STOP device.	X										10.10.1	
Check the EMERGENCY STOP device for correct functioning.			X									KS; SW
Have the safety valve(s) checked.			X								10.10.2	KS
Have the function of the safety shut-down at excessive temperature checked.			X								10.10.3	KS
Bodywork/chassis:												
Check all screw connections, hinges, locks, handles and snap fasteners of the doors for wear and secure seat.		X										KS
Clean the gas struts of the wing doors and check for correct functioning.			X									KS
Check sound insulation material.		X									10.8	KS
Grease the door hinges.			X									
Service rubber sealing strips.			X								10.9	
Have lifting eye and fixings checked.			X									KS; SW
Pipes and hose lines (fuel hoses, pressure hoses):												
Check all pipes and hose lines of machine for proper seating, leaks and wear; have them replaced if necessary.			X								10.7	KS; SW

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

SCM = SIGMA CONTROL MOBIL controller

SCR - Selective Catalytic Reduction

Assembly: Task	Daily	A250	A500	A1000	A1500	A2000	A3000	A4000	A6000	A36000	See chapter	Note
Have the fuel lines of the drive engine replaced.										X	10.7.1	KS; SW
Have the pressure hoses of the drive engine replaced.										X	10.7.2	KS; SW
Have the pressure hoses of the compressor replaced.										X	10.7.3	KS; SW
Other maintenance tasks:												
Check that all electrical connections are tight.			X									
KS = Contact KAESER SERVICE, SW = Contact specialised workshop, DEUTZ = Contact engine manufacturer DEUTZ SCM = SIGMA CONTROL MOBIL controller SCR - Selective Catalytic Reduction												

Tab. 77 Regular machine maintenance tasks

10.3.3.2 Maintenance schedule 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	See chapter	Note
Option da, df, dc, dd – Centrifugal separator:					
Clean and check the dirt trap (*).			X	10.11.1	
Options da, df, dc, dd – compressed air aftercooler:					
Clean the cooler.		X		10.6.2	
Option dd – Filter combination:					
Drain condensate.	X			10.11.2	
Change the filter elements (*).			X	10.11.2	
Option dc – Fresh air filter:					
Drain condensate.	X			10.11.3	
Check the oil level indicator.	X			10.11.3	
Change the filter elements (*).			X	10.11.3	
Option bb; od – Auxiliary electric devices:					
EL = qualified electrician KS = Contact KAESER SERVICE; SW = Contact specialised workshop					

Option: Task	Daily	A250	A500	See chapter	Note
Have the coolant pre-heating, battery charger and connection cable checked.			X		EL KS; SW
Option oe – sealed floor pan:					
Check the machine interior for liquid accumulations and drain, if required.	X			10.11.4	
EL = qualified electrician KS = Contact KAESER SERVICE; SW = Contact specialised workshop					

Tab. 78 Regular maintenance task options

10.4 Engine maintenance

➢ Perform maintenance tasks according to the schedule in chapter 10.3.3.1.

10.4.1 Maintaining the coolant cooler

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 bar.
The machine has cooled down.
All compressed air consumers are disconnected and the air outlet valves are open.



WARNING
Danger 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 can damage the machine!
Insufficient coolant will cause the engine to overheat. Overheating can cause serious 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.

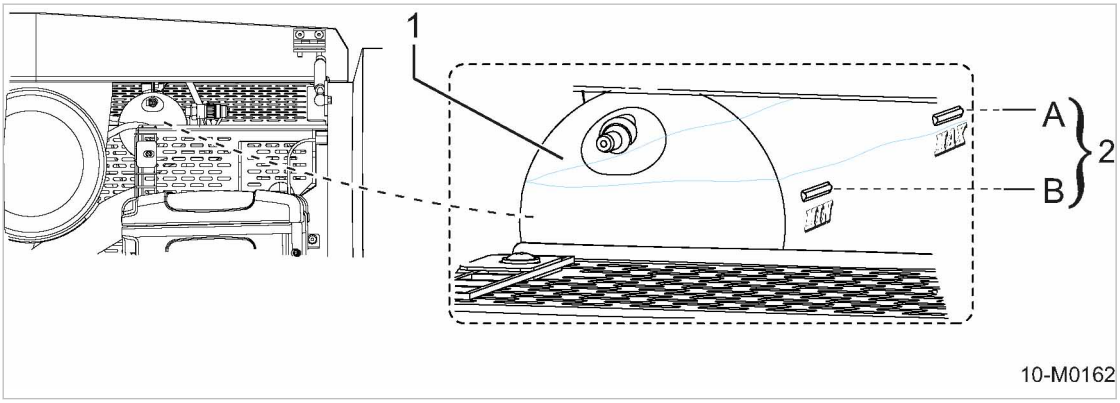


Fig. 32 Checking coolant level

[1] Coolant expansion tank
[2] Coolant level
[A] *Maximum mark* (FULL)
[B] *Minimum check mark* (LOW)

1. Check the level of coolant in the expansion tank.
   Top up when the coolant level falls below the *minimum check 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
- Measuring the concentration of the antifreeze

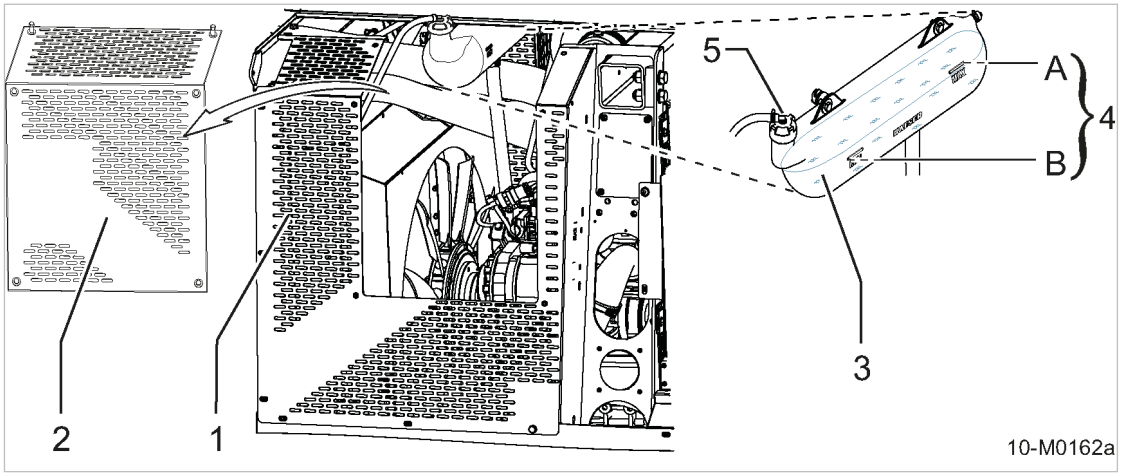


Fig. 33 Checking the coolant

1 Safety screen
2 Grille access door
3 Coolant expansion tank
4 Coolant level
A (*maximum mark*)
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 its colour and any particles or sediments floating in it.

➢ Take a coolant sample and analyse it.
If the coolant is badly discoloured and/or contains floating particles: Change the coolant.

Measuring the concentration of the antifreeze:

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

Maximum frost protection is ensured with an antifreeze concentration of 55% volume, as frost protection and heat transfer properties deteriorate beyond this point. Higher concentrations also lead to higher operating temperature.

1. *NOTICE!*
The engine can be damaged if the antifreeze concentration is insufficient.
Corrosion.
Damage to the cooling system.
Engine casing fracture.
   ➢ Check coolant.
   ➢ Protect the coolant against freezing.
   ➢ Top up 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.

Performing final work steps:

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 coolant additive. Water alone is corrosive at engine operating temperatures. Water alone does not offer sufficient protection from boiling or freezing.

The coolant is a mixture of clean, fresh water and antifreeze with corrosion inhibitor.

For reasons of corrosion protection and the need to raise the boiling point, the coolant must remain in the cooling system throughout the year.
The maximum permissible coolant life is 3 years.

➢ Follow coolant recommendations in chapter 2.7.4!

Preparing the coolant:

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

➢ The coolant should be mixed in the ratio specified by the manufacturer.

Coolant mixture table:

Percentages [% vol.]		Frost protection up to approx. [°C]
Corrosion inhibitor/anti-freeze	Water	
50	50	–37

Tab. 79 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. –45°C.

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 and topping up the coolant

The percentage of antifreeze in the coolant should not fall below 33% to ensure optimal frost and corrosion protection and prevent the build-up of deposits (sludge) in the cooling circuit. Topping up with water alone dilutes the antifreeze concentration and is forbidden.

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 according to the table and replenish to the mark.
   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. Stop the engine.
8. Open the left-hand door.
9. Check the coolant level.
   If the coolant level in the coolant expansion tank has decreased: Top up 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.

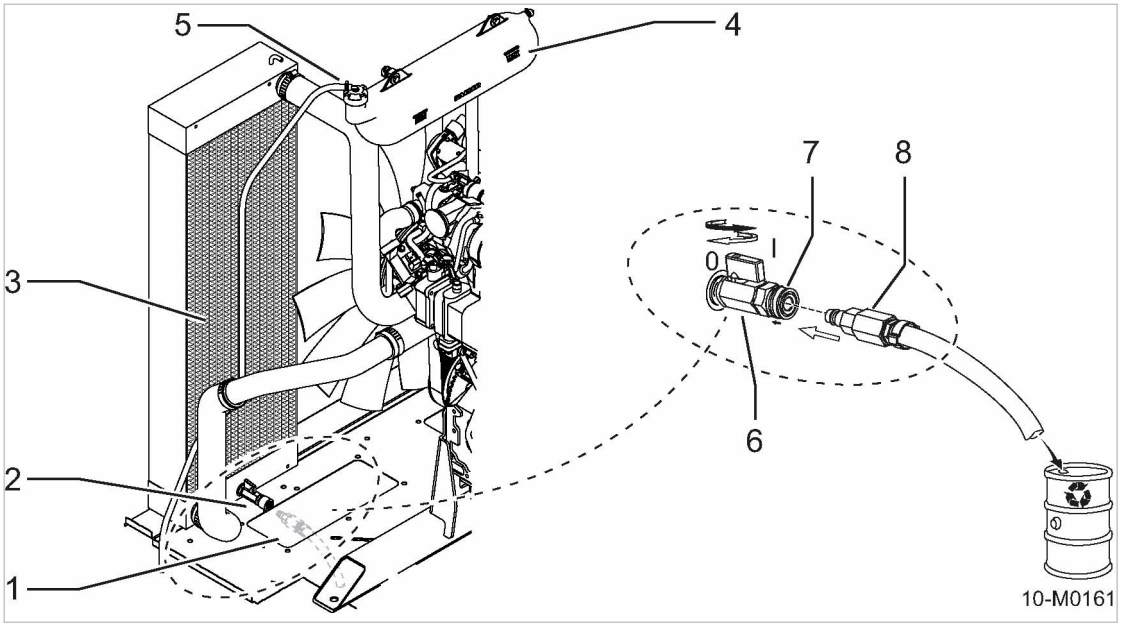


Fig. 34 Draining the coolant from the engine coolant cooler

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

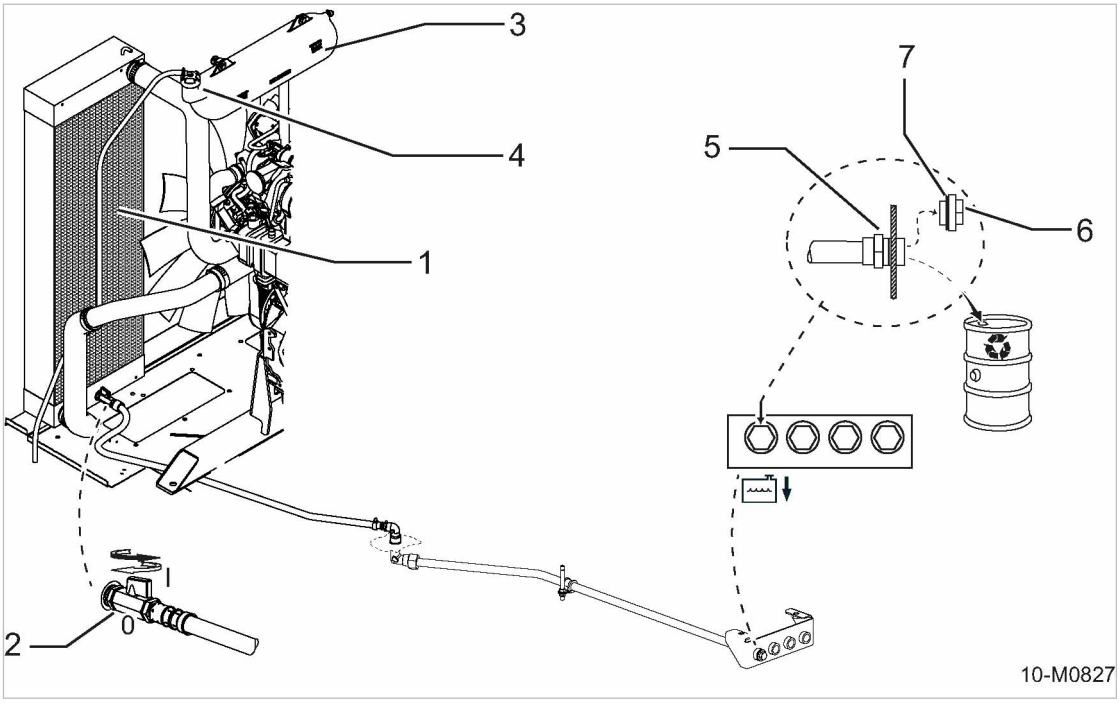


Fig. 35 Draining the coolant from the engine coolant cooler (closed floor pan/stationary machine)

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

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 environmental protection regulations.

Removing scaling within the coolant cooler

After extended periods of use, scale may form in the cooling circuit and within the coolant cooler in particular. 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 cooler cleaning agent to remove scaling in the coolant cooler.
2. Read and follow the manufacturer's instructions regarding the use of cooler cleaning agent.
3. After draining the coolant, use a coolant cleaning agent to descale the coolant cooler.



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

10.4.2 Engine air filter maintenance

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

Renew the air filter after 2 years at the latest 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 bar.
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.

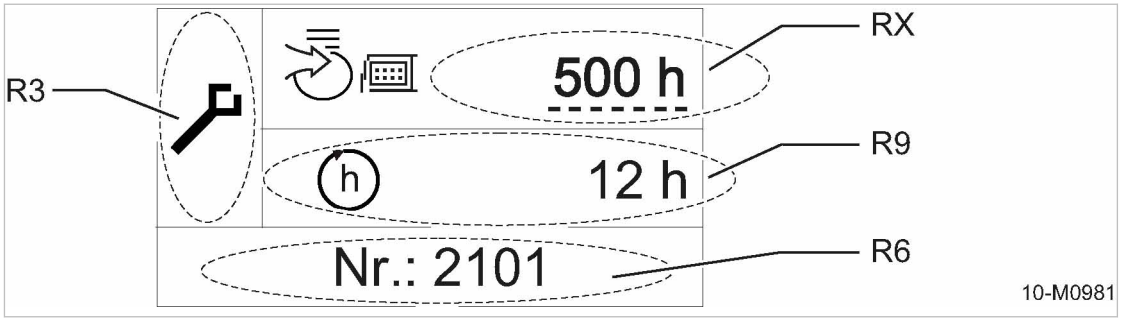


Fig. 36 Warning messages: Air filter engine intake maintenance

[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:

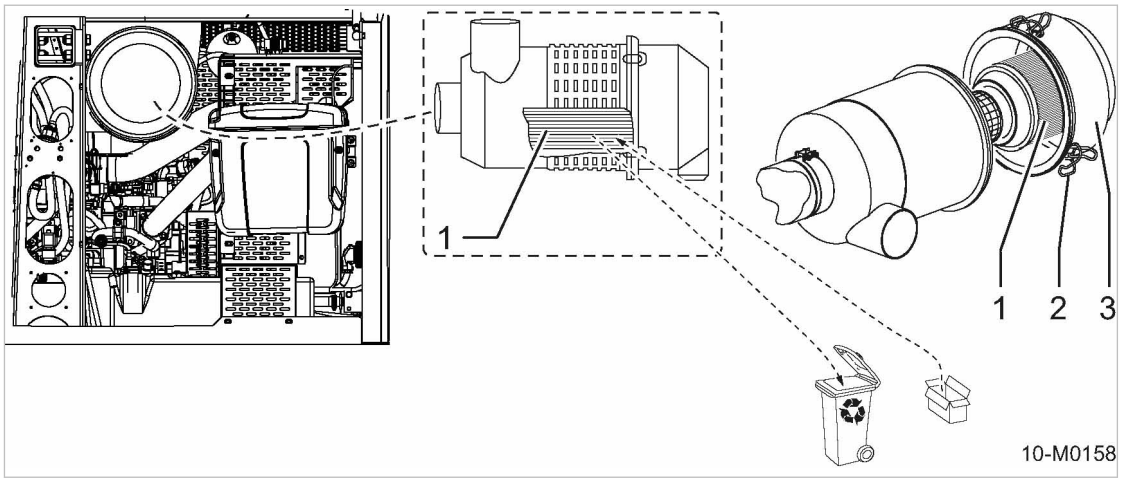


Fig. 37 Engine air filter maintenance

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

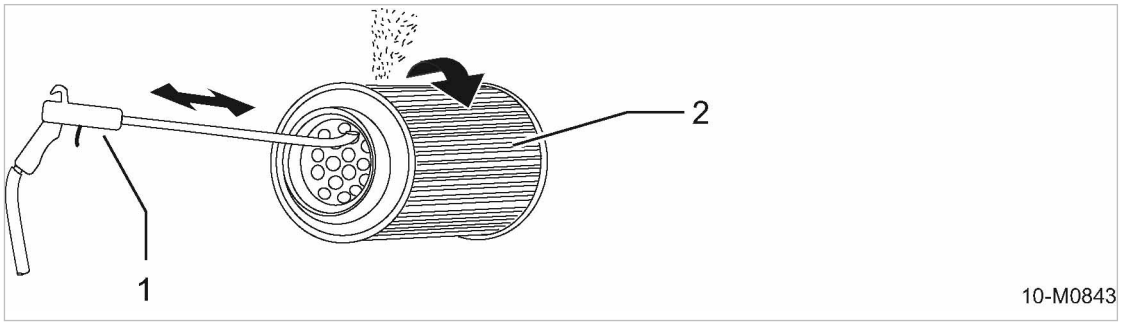


Fig. 38 Clean the filter element (air filter)

[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 an extract the air filter.
2. Carefully clean the inside of the filter housing, the cap and sealing faces with a damp cloth.
3. Cleaning the filter element:
   - Use dry compressed air (≤ 5 bar!) 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 filter 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 MOBILE

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

Ensure utmost cleanliness when refuelling and working on the fuel system!

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



Do not fill the fuel prefilter and fuel filter with fuel. The fuel is unfiltered and may be contaminated. Fuel system components may be damaged as a result!

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 bar.
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.
- ➢ Stop the engine.
- ➢ Wipe up escaped fuel.
- ➢ Keep fuel away from hot machine parts.

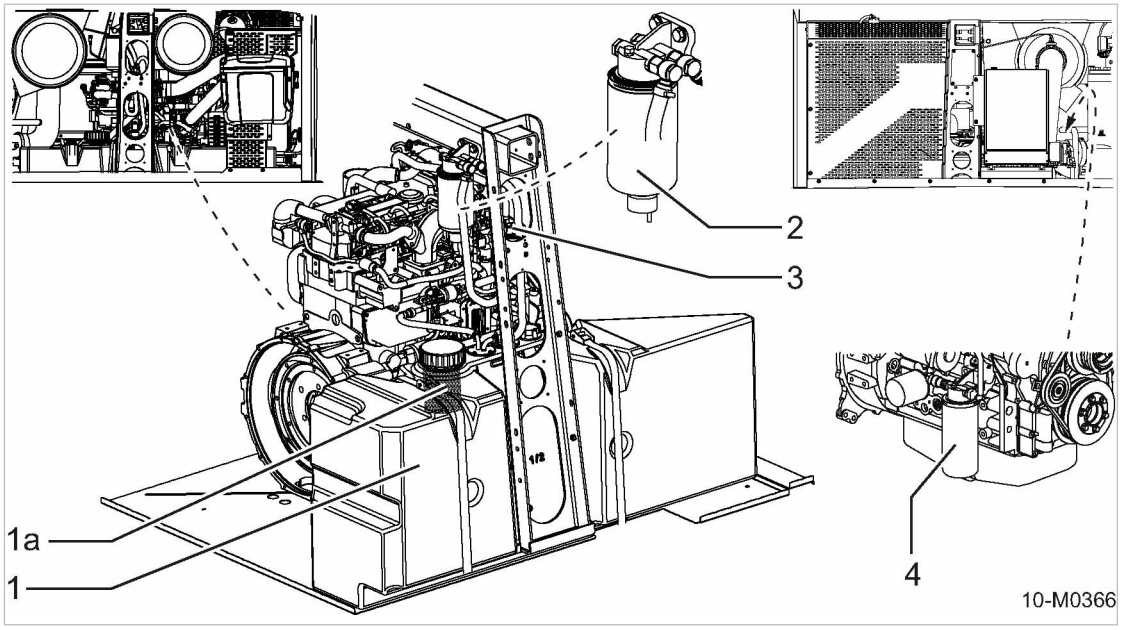


Fig. 39 Fuel system maintenance

[1] Fuel tank
[1a] Fuel strainer
[2] Fuel prefilter with integrated water separator
[3] Fuel pump
[4] 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.

To prevent the generation of a fault message, never attempt to start the machine during the bleeding process!

Precondition Batteries connected.

1. Switch the «Controller ON/OFF» switch to ON.
   The electric fuel pump switches on for approx. 20 seconds in order to bleed the fuel system and build up the fuel pressure.
2. Wait until the fuel pump has been switched off by the control unit.
3. Switch off the «controller ON/OFF» switch.
4. Repeat the process at least two times until the fuel system has been bled.

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

5. Open the right-hand access door.
6. Visually check the fuel system for leaks. If required, re-tighten all screw connections.
7. Close the door.

10.4.3.2 Fuel pre-filter maintenance

Empty 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 trap reaches a set level, the controller displays a warning message.

- 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.

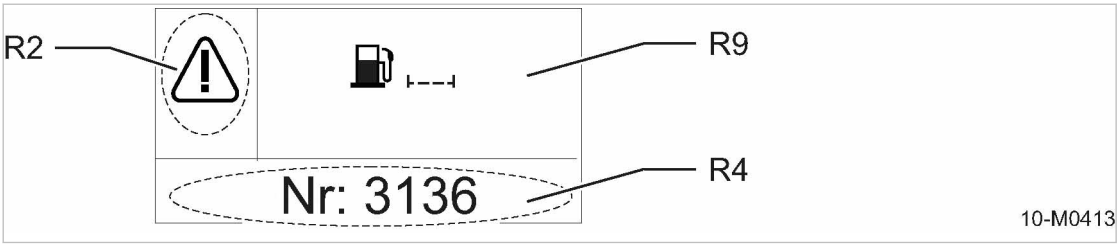


Fig. 40 Warning message: Fuel filter water level

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

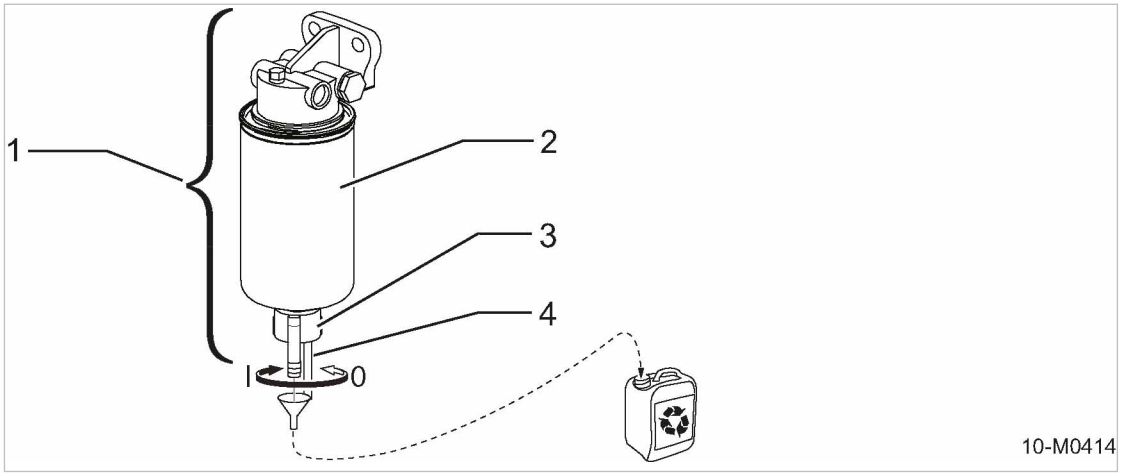


Fig. 41 Emptying the fuel pre-filter and water separator

[1] Fuel prefilter
[2] Filter cartridge with integrated water receptacle
[3] Water draining stopper with integrated level sensor
I - open
0 - close
[4] Electrical outlet for water level sensor

1. Place a receptacle beneath the fuel prefilter housing.
2. Disconnect the water level sensor cable at the electrical connection.
3. Open the drainage stopper in the bottom of the filter cartridge and drain water and contamination.
4. Connect the water level sensor cable at the electrical connection.
5. Reconnect the negative cable to the batteries.
6. 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 «Acknowledgement» and «Information» keys are extinguished.

Dispose of fuel and any materials and components contaminated with it in accordance with environmental protection regulations. Do not allow fuel to penetrate into the ground.

Changing the filter cartridge:

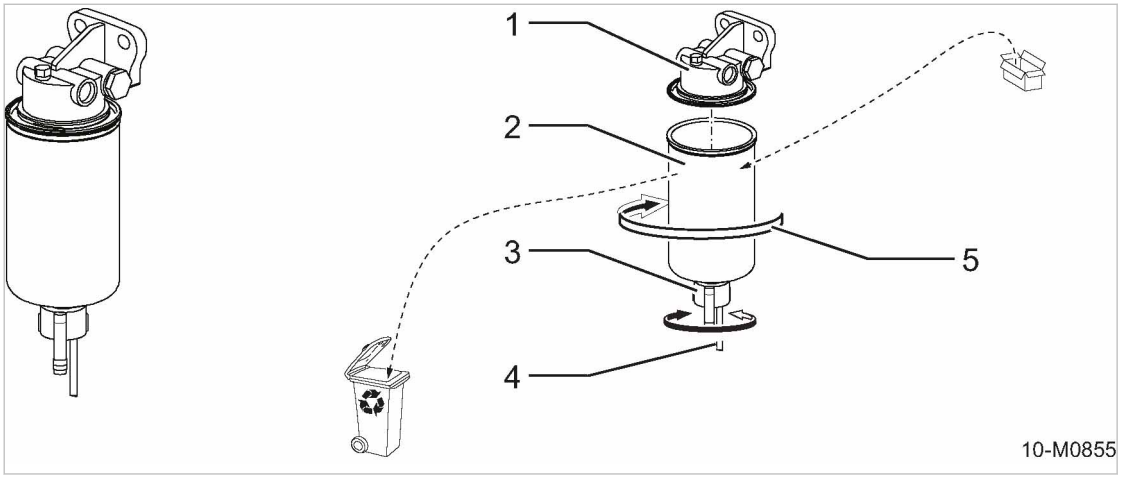


Fig. 42 Change the fuel prefilter cartridge

[1] Filter head
[2] Filter cartridge with integrated water receptacle
[3] Draining stopper with integrated level sensor
[4] Electrical connection for water level sensor
[5] Direction of rotation to unscrew the filter cartridge and the draining stopper

1. Place a receptacle beneath the fuel prefilter housing.
2. Disconnect the water level sensor cable at the electrical connection.
3. Open the drainage stopper in the bottom of the filter cartridge and drain water and contamination.
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 (1.6 ± 0.3 Nm).
9. Clean the sealing faces of the filter cartridge and opposite side of the 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.
      – ½ to ¾ turn approximately
      – 17–18 Nm
11. Connect the water level sensor cable at the electrical connection.
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. Do not allow fuel to penetrate into the ground.

10.4.3.3 Fuel filter maintenance

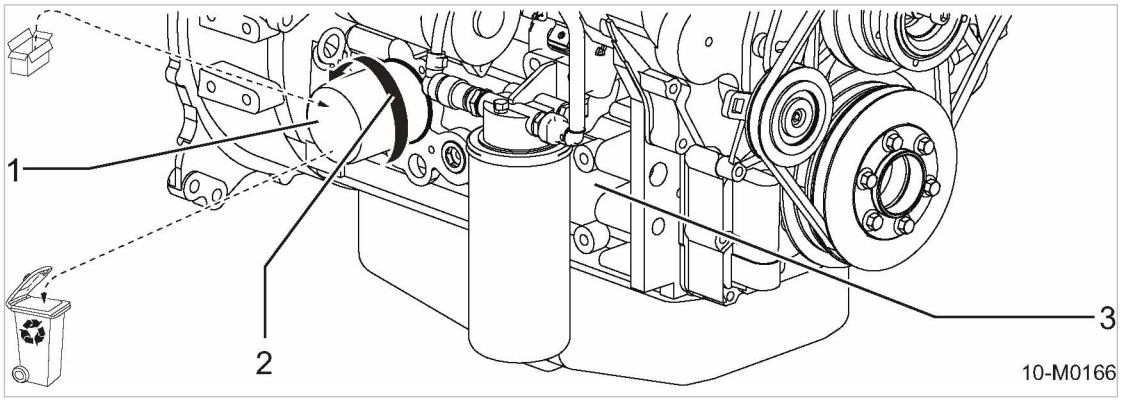


Fig. 43 Fuel filter maintenance

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

1. Place a receptacle beneath the fuel filter housing.
2. Use a filter wrench to loosen then unscrew the filter cartridge. Collect any escaping fuel.
3. Clean the sealing faces of the new filter cartridge and the opposite side of the filter holder with a lint-free cloth.
4. Mount the filter cartridge to the filter holder:
   - Moisten the rubber seals of the filter holder and the sealing faces of the new filter cartridge with some fuel.
   - Manually screw the filter cartridge to the filter holder (clockwise), until seal is tight.
   - Continue to manually turn until the filter cartridge is seated tightly.
     - ½ to ¾ turn approximately
     - 10-12 Nm
5. Reconnect the negative cable to the batteries.
6. 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. Do not allow fuel to penetrate into the ground.

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 cloths

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

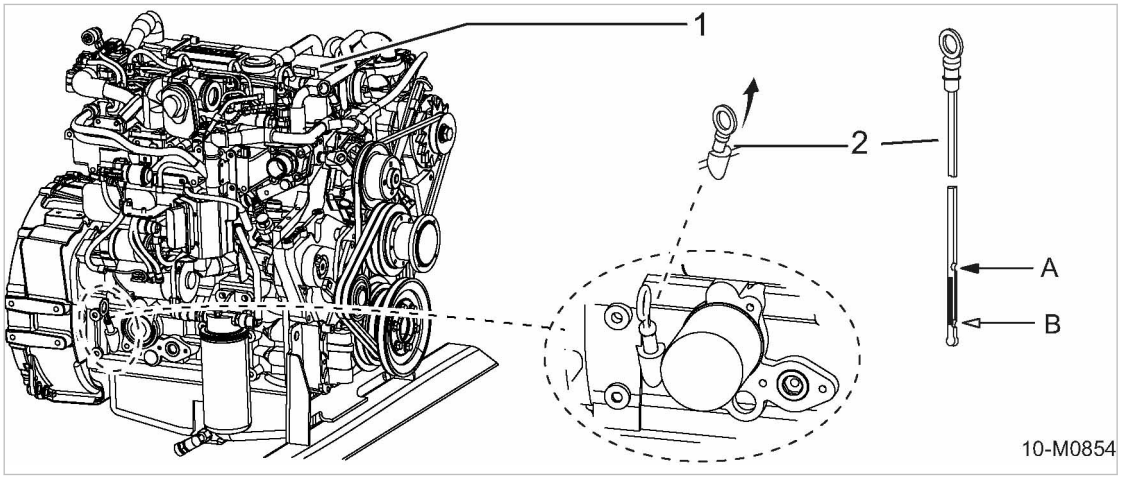


Fig. 44 Checking the engine oil level

[1] Oil filler neck cover, engine oil
[2] Oil dipstick
[A] Mark for *maximum oil level*
[B] Mark for *minimum oil level*

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 up

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 bar.
All compressed air consumers are disconnected and the air outlet valves are open.
Negative cable to the batteries disconnected.

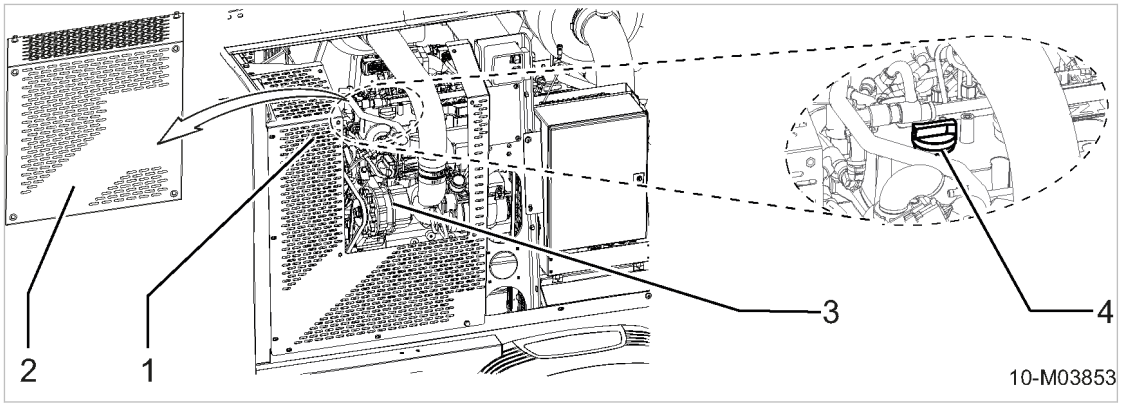


Fig. 45 Engine oil filling and topping up

[1] Safety screen
[2] Grille access door
[3] Engine
[4] Oil filler neck cover

Creating access:

For maintenance purposes, the safety screen of the left machine side is provided with an opening. This opening is closed with a cover, a grille access door. This cover must be removed for filling in engine oil. The screw connections of this grille access door are securely attached to prevent losing them.

1. Open the left-hand door.
2. Unscrew the screw connection of the grille access door.
3. Remove the grille access door.

Filling with engine oil:



See chapter 2.7.6 for the engine oil filling quantity.
The oil dipstick is marked with the «maximum oil level».

1. Remove the filler cap and fill with fresh oil.
2. Wait 5 minutes then check the oil level.



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

Low oil level: Replenish engine oil.

3. Replace the plug in the filler port.

4. Insert the grille access door and attach.
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 bar!
4. Open the right-hand access door.
5. After approximately 5 minutes: Check the engine oil level.
   Low oil level: Replenish engine oil.
6. Visually inspect for leaks.
7. Close the doors.

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 bar.
Engine 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 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.

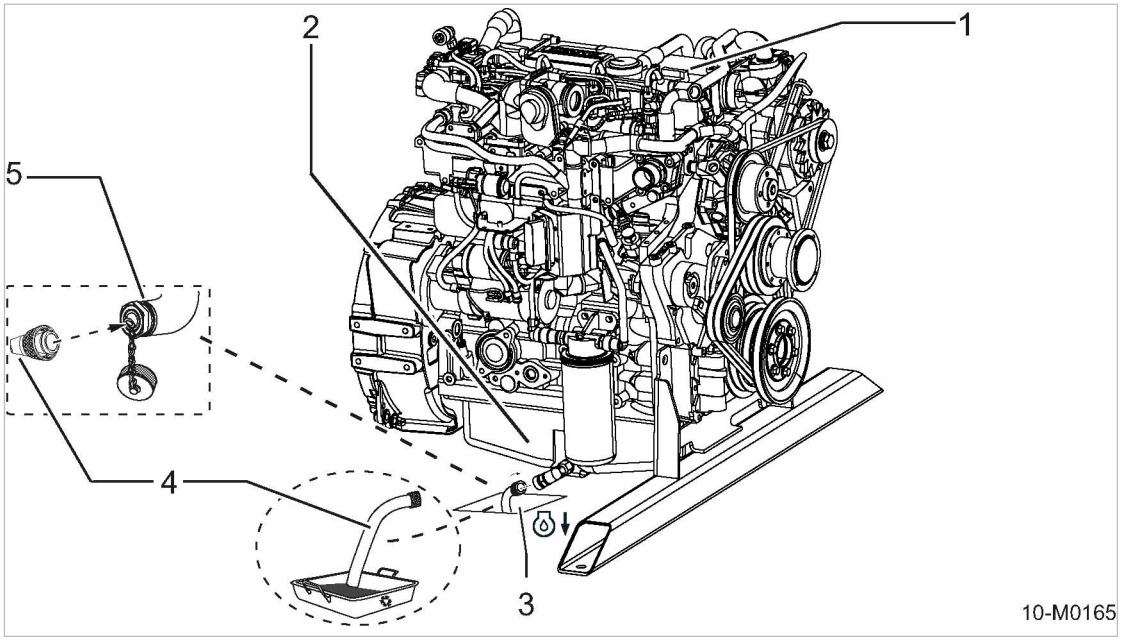


Fig. 46 Draining the engine oil

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

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 (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 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.

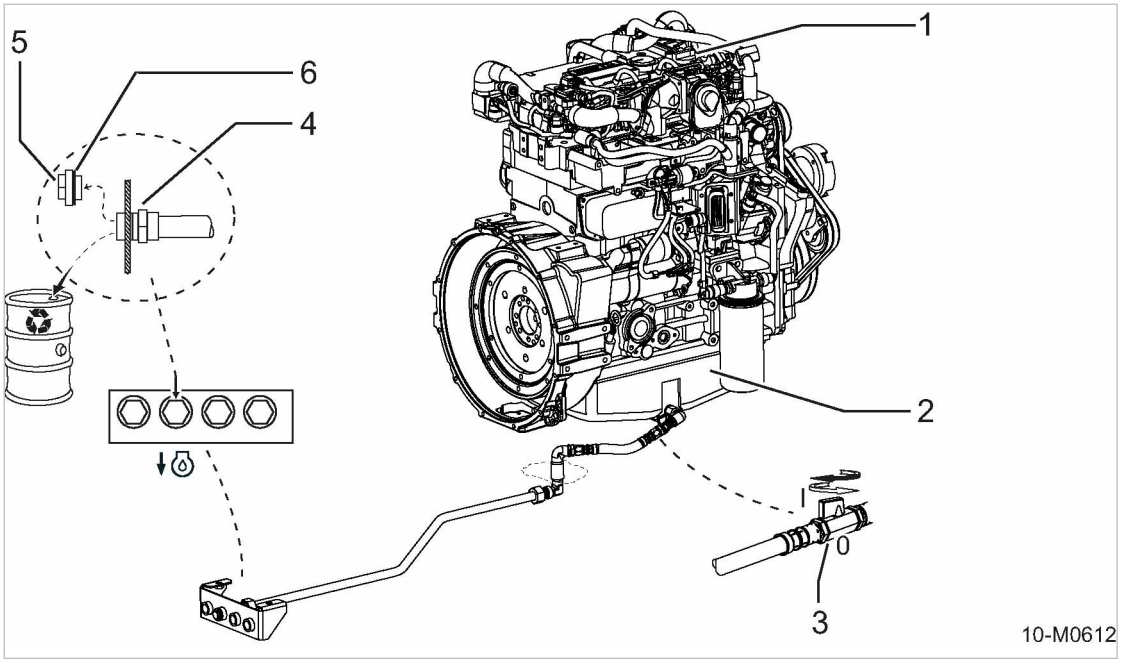


Fig. 47 Draining the engine oil (closed floor pan - stationary machine)

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

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
Filter wrench
Cleaning cloth
Receptacle

Precondition
The machine is switched off.
The machine is fully vented, the pressure gauge reads 0 bar.
Engine 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 gloves.

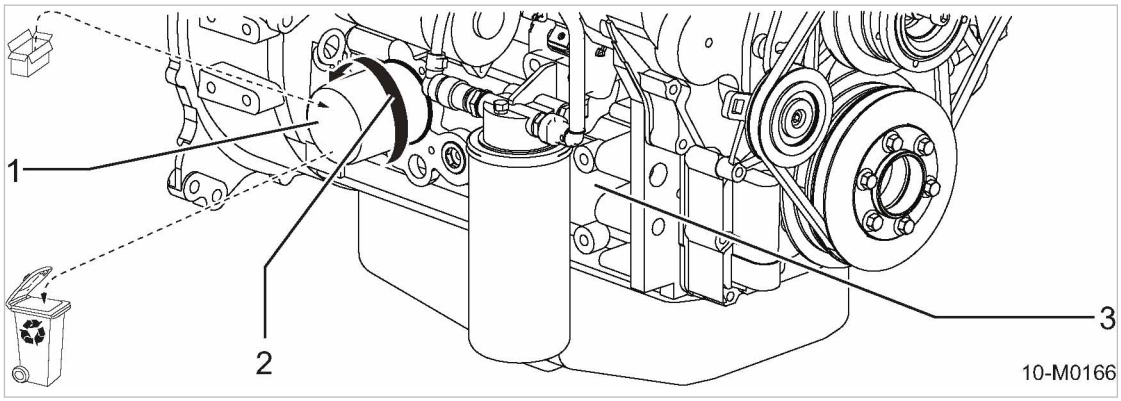


Fig. 48 Change the oil filter
[1] Oil filter
[2] Direction of rotation to unscrew the filter
[3] Airend

1. Open the right-hand access door.
2. Prepare a receptacle.
3. Use a filter wrench to loosen and unscrew the filter. 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.
   Low oil level: Replenish engine oil.
8. Open the left-hand door.
9. Reconnect the negative cable to the batteries.
10. Close the doors.

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

10.4.8 Engine belt maintenance

The engine is fitted with two belts. The larger belt (I) drives the coolant pump and the alternator. The other engine belt (II) consist of a belt pair, arranged parallel next to each other. This pair is used for the fan drive.

Defective engine belts may tear. A torn engine belt no longer drives the coolant pump and the alternator or the fan. The engine may overheat and be damaged.

Material
Wrench
Pliers
Spare part

Precondition
The machine is switched off.
The machine is fully vented, the pressure gauge reads 0 bar.
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 engine belt!
There is risk of serious injury from pinching.
- ➢ Never check the belt unless the engine is at standstill.
- ➢ Never operate the machine without a belt guard.

➢ Open both doors.

Removing the belt guard:

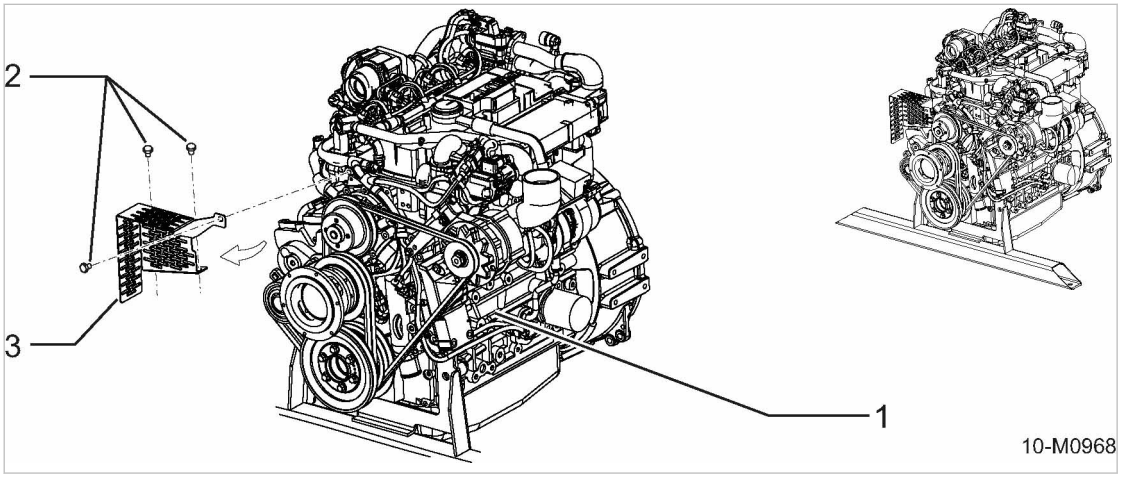


Fig. 49 Belt guard attachment
[1] Engine
[2] Hexagon screws (belt guard attachment)
[3] Belt guard

➢ Unscrew the securing screws of the belt guard and remove the belt guard.

10.4.8.1 Carry out visual check

Visual inspection for damages:

➢ Check the engine belts thoroughly for cracks, fraying or stretching.
When damaged or worn: Replace the engine belt immediately.

Check the belt seating

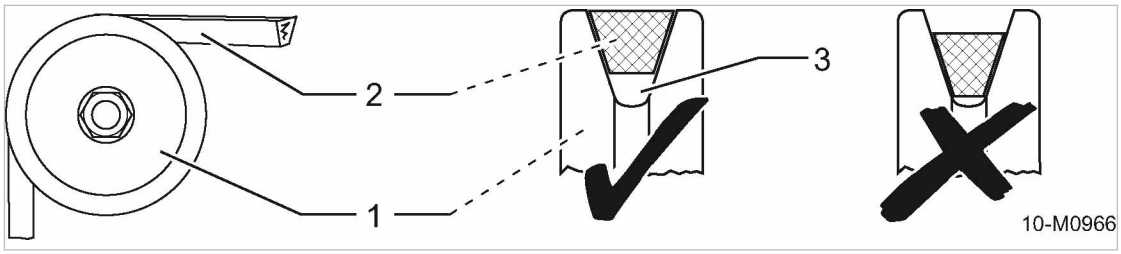


Fig. 50 Check that engine belts sit correctly

[1] Belt pulley
[2] Engine belt
[3] Pulley guidance groove

➢ Check that engine belts sit correctly.
Belt is positioned too deeply in the guidance groove: Replace the engine belt immediately.

1. Replace the belt guard.
2. Reconnect the negative cable to the batteries.
3. Close the doors.

10.4.8.2 Checking belt tension

Check belt tensions only when engine belts are warm, not hot, to avoid length differences due to temperature differences.

The belt tension can be checked by hand: To check the tension, press the belt inwards with the thumb at the mid-point between pulleys.

The service life of the engine 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.

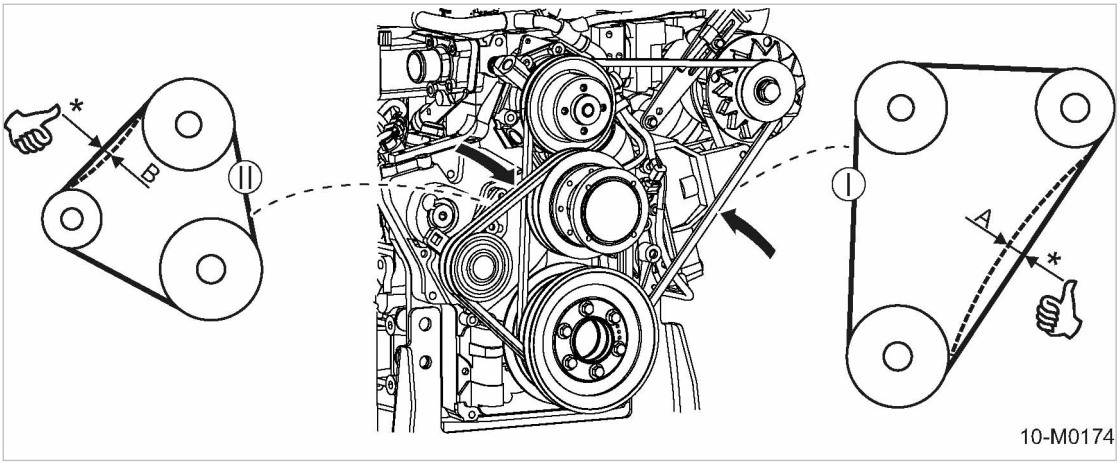


Fig. 51 Check belt tension by hand

Ⓘ **Engine belt I**
(Testing position A)
* pressure load approximately: 10 Kg
Play approximately: 10 – 12 mm

Ⓘⓘ **Engine belt II**
(2 belts)
(Testing position B)
* Pressure load approximately: 10 Kg
Play approximately: 6 – 8 mm

1. Check belt tension by hand (see Fig. 51).
   Engine belt tension insufficient: Tighten the engine belt.
2. Replace the belt guard.
3. Reconnect the negative cable to the batteries.
4. Close the doors.

10.4.8.3 Tightening/changing engine belt

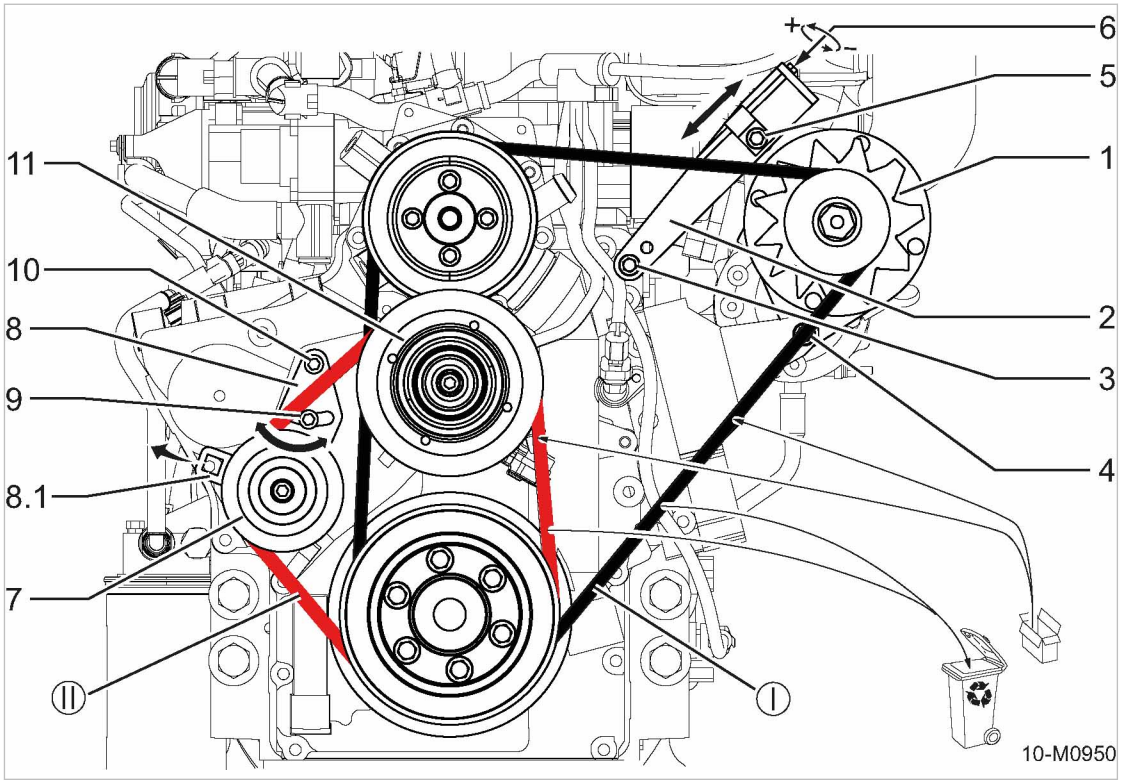


Fig. 52 Tightening/changing engine belt

- [I] Three-phase alternator engine belt
- [1] Three-phase alternator
- [2] Tensioning device
- [3] Hexagon screw (securing screw)
- [4] Hexagon screw (securing screw)
- [5] Hexagon screw (securing screw)
- [6] Hexagon screw (setting screw)
  + Increase tension
  – Reduce tension
- [II] Fan engine belt
- [7] Tension disk
- [8] Tensioning rocker
- [8.1] Tensioning frame eye
- [9] Hexagon screw (tensioning screw)
- [10] Hexagon screw (securing screw)
- [11] Fan disk

Tensioning the fan engine belt:

1. Loosen the tensioning frame securing screw and clamping screw.
2. Use a suitable tool to pull the tensioning frame at its eye outward until the belt is tensioned.
3. Re-tighten the securing screw and clamping screw.
4. Check the belt tension (see Fig. 51, II).

   Belt tension too low: Pull the towing eye further outward.
   Belt tension too high: Slightly turn the tensioning frame inward.

Tightening the three-phase alternator engine belt:

The engine belt is tightened via the screw fastening of the three-phase alternator.

1. Loosen the securing screws of the three-phase alternator.
2. Use the setting screw to move the three-phase alternator outward (↷+) until the drive belt is tightened.

3. Tighten the securing screws.
4. Check the belt tension (see Fig. 51, II).

   Belt tension too low: Pull the alternator further outward (↷+).
   Belt tension too high: Slightly move the alternator inward (–↶).

Replacing the fan engine belt:

(Two identical engine belts next to each other on pulley with two grooves.)

1. Loosen the tensioning frame securing screw and clamping nut until the engine belt can be taken off the pulleys.
2. Remove both engine belts.
3. Check the pulleys for dirt and/or wear.

   Dirty pulley: Clean pulley.
   Worn pulley: Have the pulley replaced.
4. Manually route the new engine belt over the pulleys without using force.
5. Tighten the engine belt. Ensure that the engine belts are correctly positioned in their guide.
6. Check the belt tension (see Fig. 51, II) and re-tension, if required.

A belt that has been removed may not be used again.
After running for two to three hours, check the belt tension again.

Replacing the three-phase alternator engine belt:

You must remove the fan engine belt before you can replace the three-phase alternator engine belt.

1. Loosen the securing screws of the three-phase alternator.
2. Move the three-phase alternator inward until the engine belt is slack and can be removed from the pulleys.
3. Remove the engine belt.
4. Check the pulleys for dirt and/or wear.

   Dirty pulley: Clean pulley.
   Worn pulley: Have the pulley changed.
5. Manually route the new engine belt over the pulleys without using force.
6. Tighten the engine belt.
   - Ensure that the engine belt is correctly positioned in its guide.
   - Use the setting screw to move the three-phase alternator outward (↷+) until the drive belt is tightened.
   - Tighten the securing screws:
     - Screw [4] = 30 Nm
     - Screw [5] = 42 Nm
     - Screw [6] = 30 Nm
7. Check the belt tension (see Fig. 51, I) and re-tighten, if required.

Install and tighten the fan engine belt.
A belt that has been removed may not be used again.
After running for two to three hours, check the belt tension again.

Putting in operation:

1. Replace the belt guard.
2. Reconnect the negative cable to the batteries.
3. Close the doors.

The removed belts must be disposed of in accordance with the applicable environmental regulations.

10.4.9 Battery maintenance

➢ Check the charging system if the batteries discharge without obvious reason.

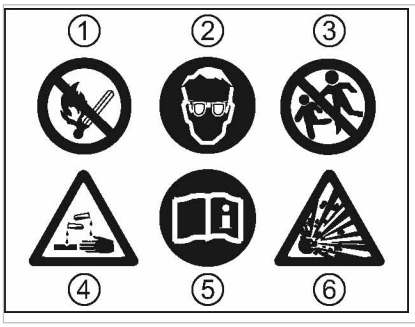
10.4.9.1 Safety

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. 53 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 acids!
- 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:
Batteries must be recharged after 30 days of storage!

The current charge level of the starter batteries can be read from the *Battery voltage* operating mode display at the SIGMA CONTROL MOBILE.

Starter batteries charge level:

Charge level [%]		Voltage display [V]		Electrolyte density [kg/l]	Notes
		12 V	24 V		
100		12.7 - 12.85	25.4 - 25.7	1.27	Battery OK, fully charged.
75		12.5	25.0	1.24	Recharging required!
65		12.4	24.8	1.22	
50		12.3	24.6	1.21	Limit of starting capacity!
25		12.0	24.0	1.16	Battery discharged below permitted discharge limit.
20		11.9	23.8	1.14	
0		11.6	23.2	1.09	Battery permanently damaged due to total discharge!
Values at 25° C					

Tab. 80 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 bar.
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, 1 cm 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:

The batteries are particularly stressed in winter. 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 −10 °C.
➢ 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 a heavy-duty cold-start battery and/or an additional booster battery 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 bar.
The machine has cooled down.
The «battery isolating switch» is turned off.

1. **CAUTION!**
   There is danger of batteries bursting!
   A short-circuited battery heats up quickly 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.
   - ➢ Perform work at batteries only when the machine is switched off.
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. Turn on the «battery isolating switch».
9. Close the door.

Battery replacement:

Replacement batteries must have the same capacity, current strength and form 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 bar.
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.

Carry 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 (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 mm

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

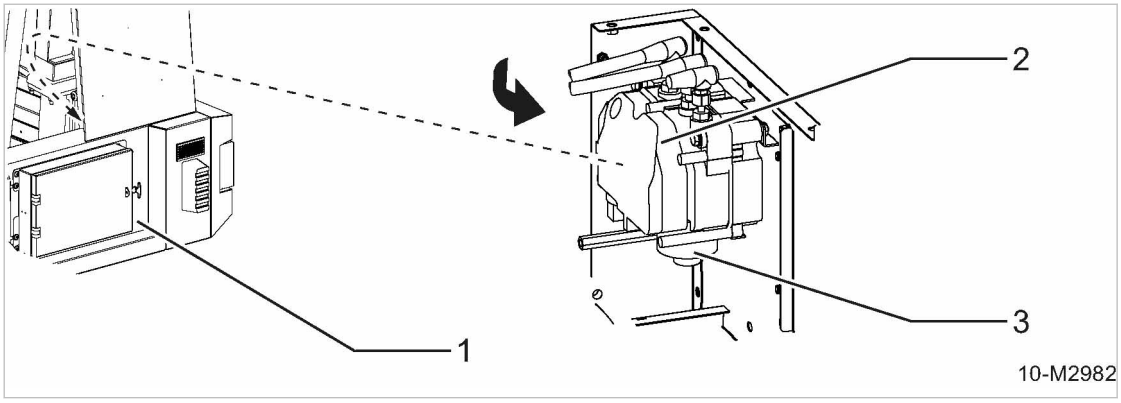


Fig. 54 Reduction agent pump

[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.

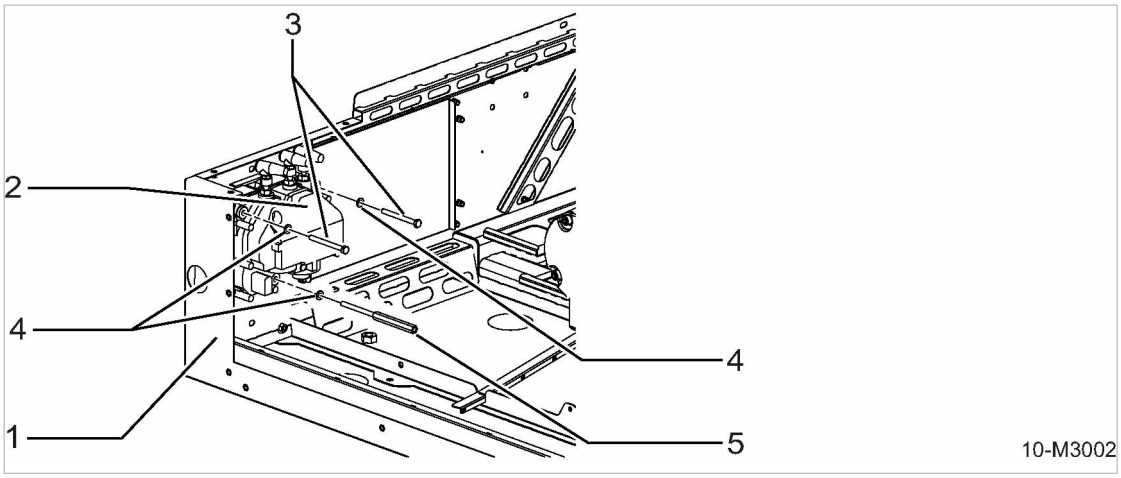


Fig. 55 Remove reduction agent pump

[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:

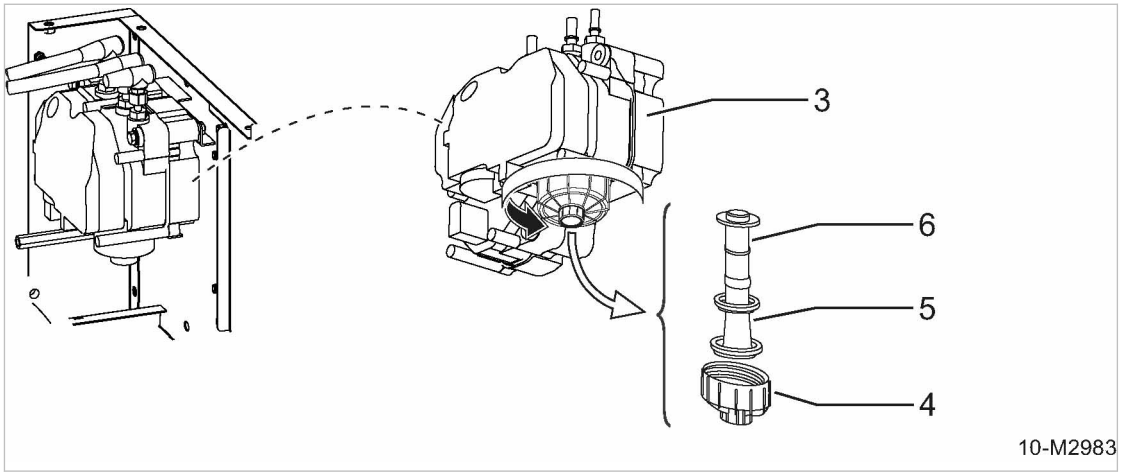


Fig. 56 Changing the filter insert for the reduction agent pump

[3] Reduction agent pump
[4] Filter cap
[5] Compensation material
[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 (22.5 ± 2.5 Nm 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 10.3.3.1.

10.5.1 Check 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 cloths

Precondition
The machine is shut down.
The machine is standing level.
The machine is fully vented, the pressure gauge reads 0 bar.
All compressed air consumers are disconnected and the air outlet valves are open.

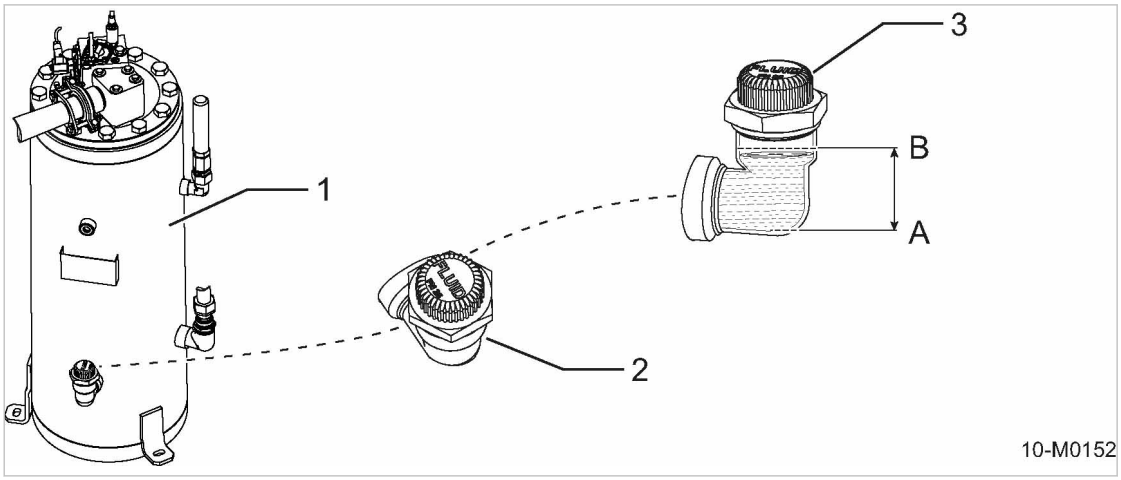


Fig. 57 Check the cooling oil level

[1] Oil separator tank
[2] Oil filler port
[3] Screw plug
[A] Minimum level
[B] Maximum level

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.
   If oil is not visible: Replenish the cooling oil.
4. Replace the plug in the filler port.
5. Close the door.

10.5.2 Cooling oil filling and topping up

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 bar.
The machine has 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 up 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 up the cooling oil to the maximum level (B) 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 bar!
5. Open the outlet valves.
6. Open the right-hand access door.
7. Check the oil level after about 5 minutes.
   Cooling oil level too low: Top up the cooling oil.
8. Visually inspect for leaks.
9. Close the door.

10.5.3 Changing the cooling oil

Always 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 bar.
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 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.

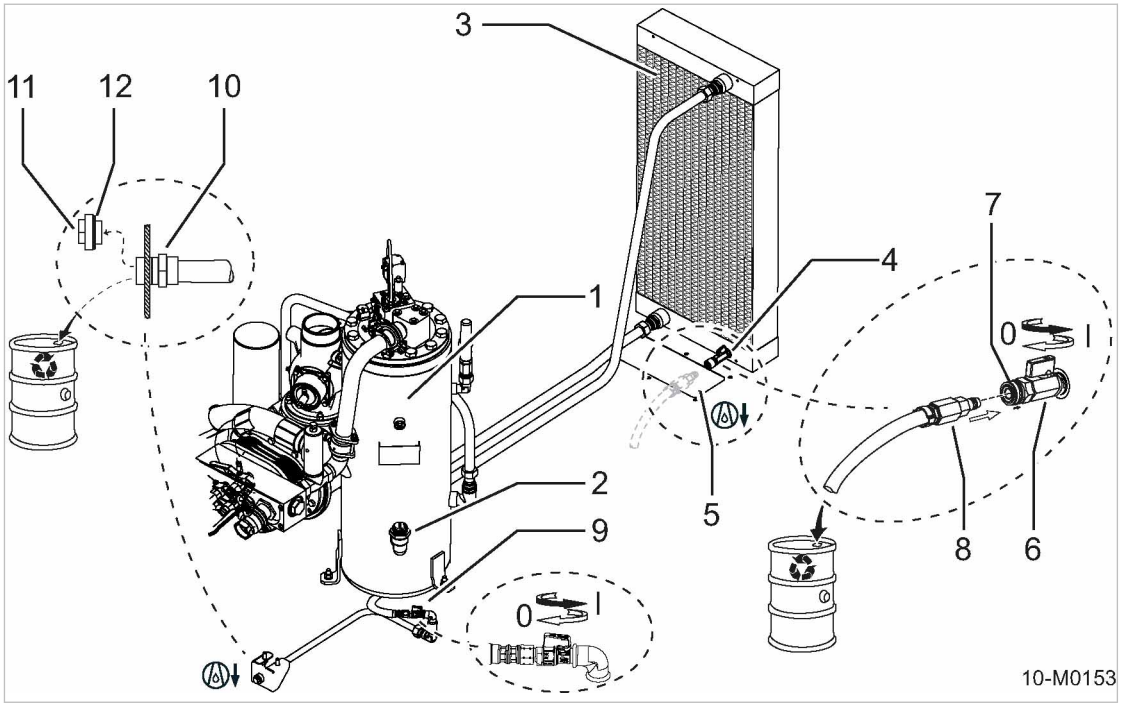


Fig. 58 Draining the compressor cooling oil

[1] Oil separator tank
[2] Screw plug for oil filler port
[3] Oil cooler
[4] Cooling oil drain, oil cooler
[5] Service opening of oil cooler in floor pan (with cover closed)
[6] Shut-off valve (ball valve) oil cooler
I - Open
0 - Closed
[7] Quick-release coupling
[8] Drain hose with male fitting
[9] Shut-off valve (ball valve) oil separator tank
I - Open
0 - Closed
[10] Cooling oil drain, oil separator tank
[11] Screw plug
[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 (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. 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

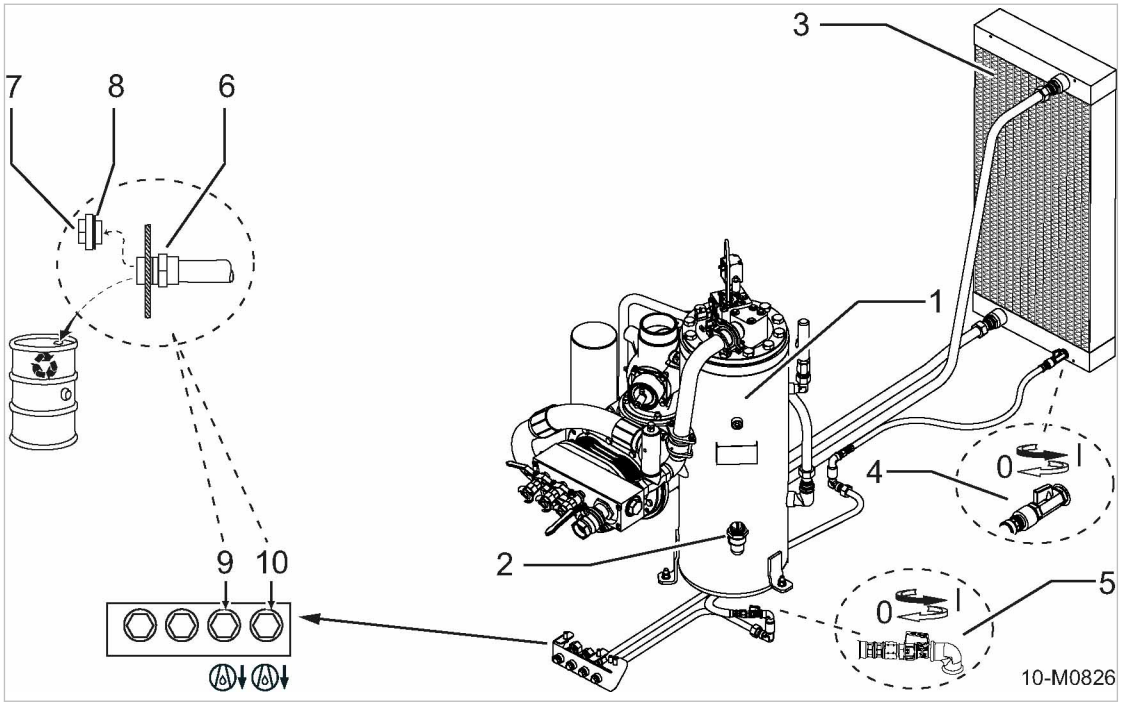


Fig. 59 Draining the cooling oil (closed floor pan - stationary machine)

[1] Oil separator tank
[2] Oil filler plug
[3] Oil cooler
[4] Shut-off valve (ball valve) oil cooler
I - Open
0 - Closed
[5] Shut-off valve (ball valve) oil separator tank
I - Open
0 - Closed
[6] Cooling oil drain
[7] Screwed sealing cap - cooling oil drain
[8] Sealing ring
[9] Oil cooler drain
[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 bar.
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 gloves.

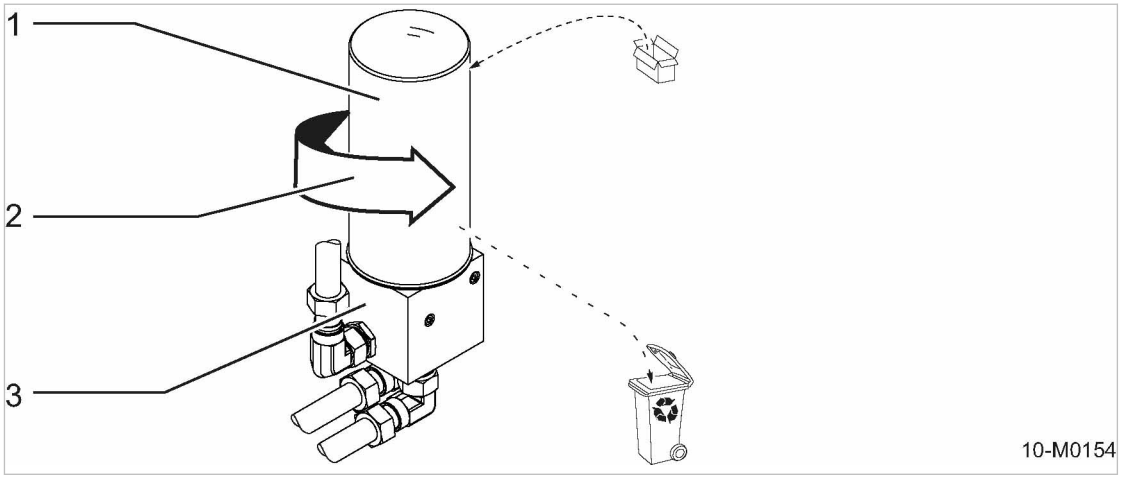


Fig. 60 Change the oil filter

[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.
   Cooling oil level too low: Top up the cooling oil.
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. Switch off the machine.
4. Wait until the machine has automatically vented.
   Pressure gauge reads 0 bar!
5. Open the outlet valves.
6. Open the right-hand access door.
7. After approximately 5 minutes: Check the cooling oil level.
   Cooling oil level too low: Replenish with more cooling oil.
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 bar.
The machine has cooled down.
All compressed air consumers are disconnected and the air outlet valves are open.
Negative cable to the batteries disconnected.

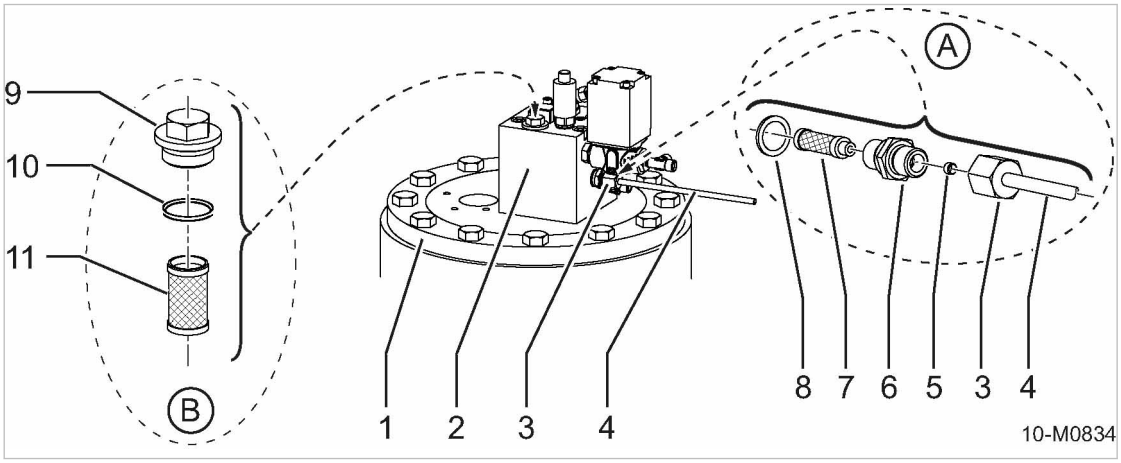


Fig. 61 Oil separator tank dirt trap maintenance

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

➢ Open the right-hand access door.

10.5.5.1 Oil return line dirt trap maintenance

See Fig. 61; 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. 61; 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 bar!
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 inlet air;
- Adherence to the replacement intervals for the:
  - Cooling oil
  - Oil filter
  - Air filter

Material
Spare part
Cleaning cloth
Wrench

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

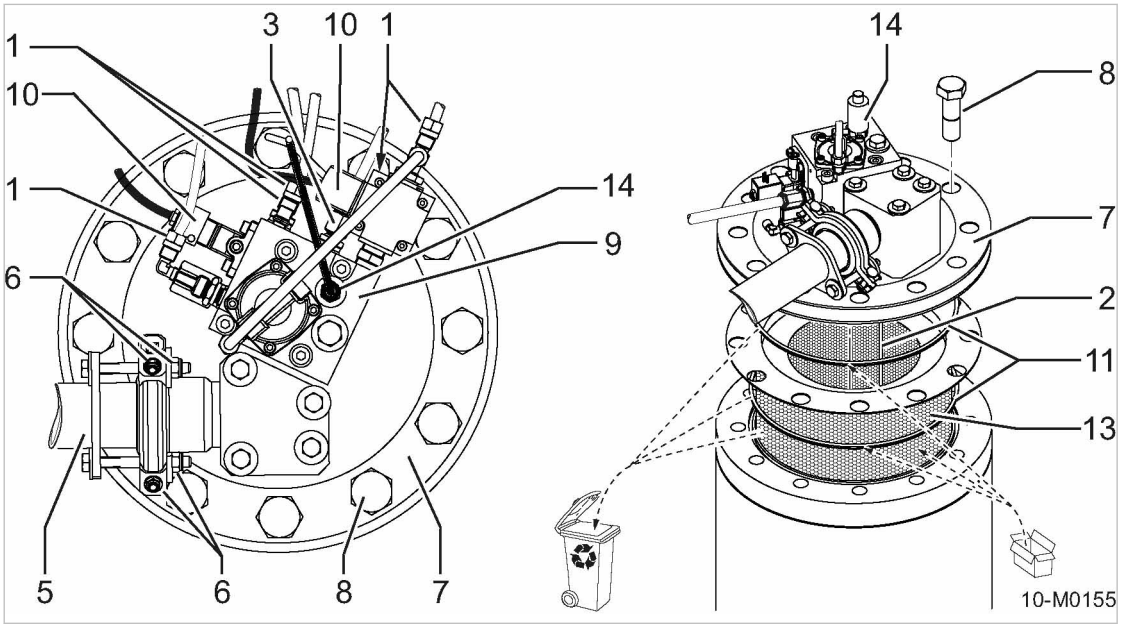


Fig. 62 Changing the oil separator cartridge

1 Control air line clamping nut
2 Oil return line (screwed onto the cover)
3 Oil return line clamping nut (lower connection, screwed into the dirt trap)
5 Air pipe
6 Pipe fitting
7 Cover
8 Fixing screw
9 Control valve
10 Solenoid valve
11 Sealing ring
13 Oil separator cartridge
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 fittings 6 and turn the air pipe 5 to one side.
5. Remove the 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 2.3.3.

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 up 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 bar!
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 up 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 bar.
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.

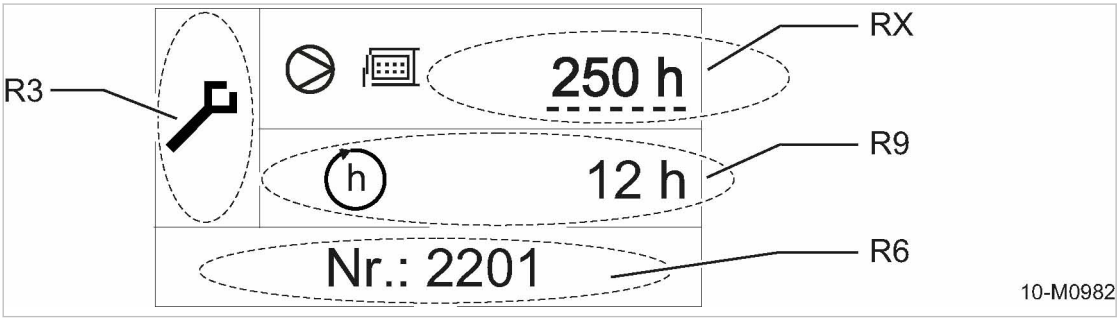


Fig. 63 Warning messages: Compressor air filter maintenance

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:

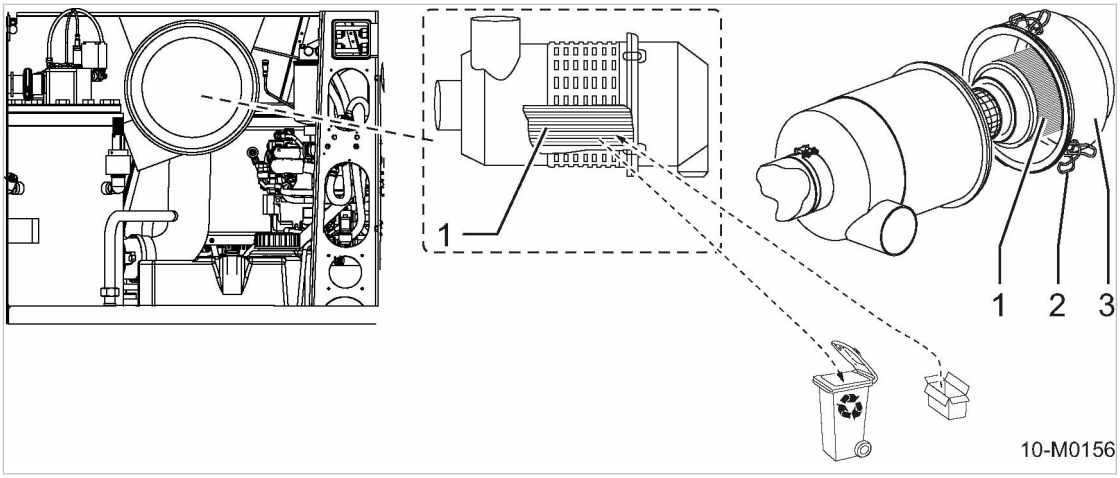


Fig. 64 Compressor air filter maintenance

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

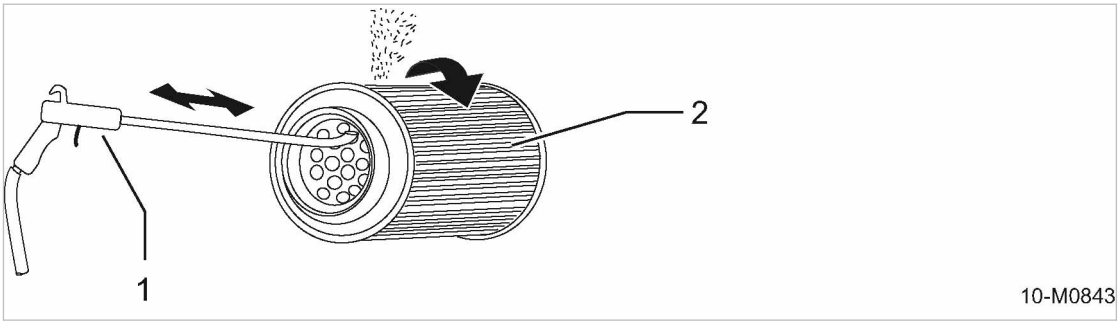


Fig. 65 Clean the filter element (air filter)

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 an extract the air filter.
2. Carefully clean the inside of the filter housing, the cap and sealing faces with a damp cloth.
3. Cleaning the filter element:
   - Use dry compressed air (≤ 5 bar!) 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 filter 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 MOBILE

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.

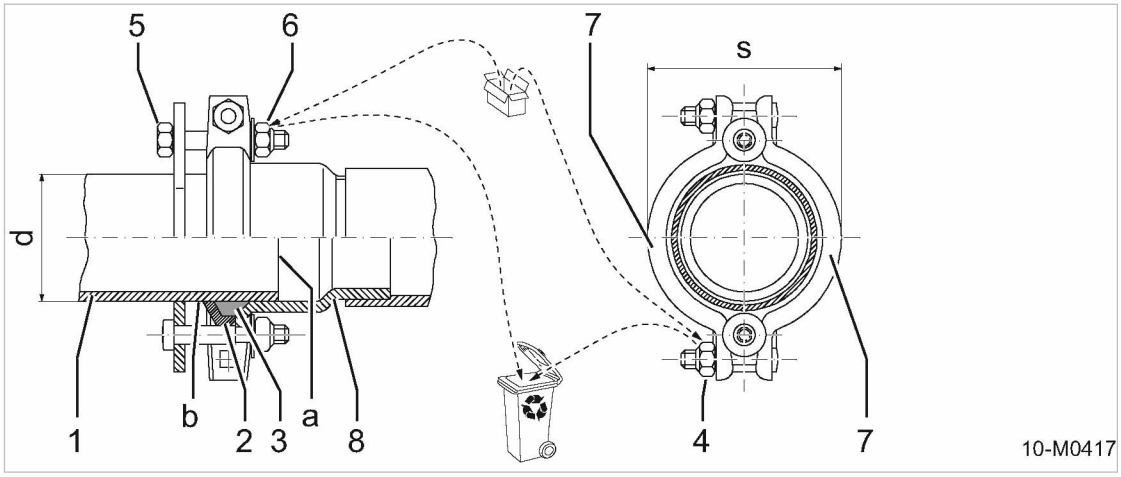


Fig. 66 Fit the flexible pipe connection

1	Pipe	7	Pipe clamp halves
2	Seal holder	8	Sleeve
3	Gasket (seal ring)	a	Pipe cut edge
4	Self-locking nut	b	Pipe sealing surface
5	Clamping screw	d	Pipe diameter (outside)
6	Self-locking nut	s	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 s is reached.

Pipe diameter: d [mm]	Clamp diameter: s [mm]
48.3	81.5

Tab. 81 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 bar.
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.

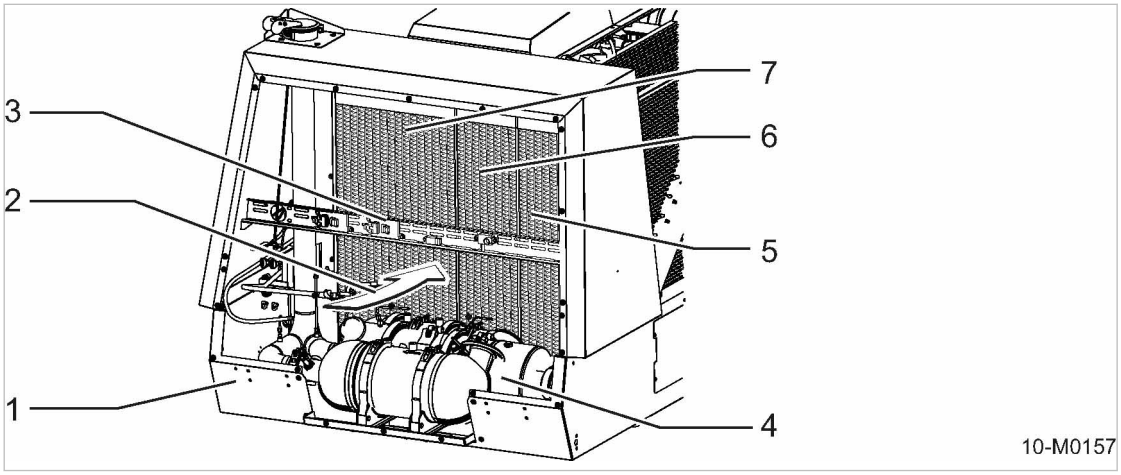


Fig. 67 Cleaning the compressor cooler and engine radiator

[1] Machine front side, sound damping louvres removed
[2] Direction of impacting water or steam jet (from outside to inside).
[3] Strip with sensors
[4] Components with emission after-treatment
[5] Coolant cooler (engine)
[6] Turbo air cooler (engine)
[7] Compressor oil cooler

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

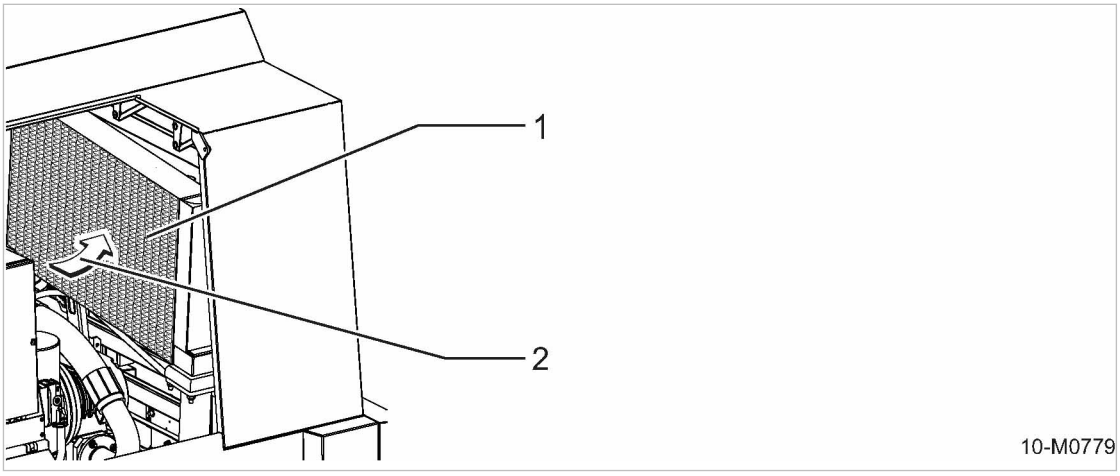


Fig. 68 Cleaning the compressed air after-cooler

[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 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 line are subject to natural ageing regardless of proper storage or permitted utilisation during machine operation. This ageing 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 10.3.3.1

➢ Comply with all instructions!

10.7.1 Replace the fuel lines of the drive engine.

➢ Have a KAESER SERVICE technician replace the fuel lines of the drive engine.

10.7.2 Replace the pressure hoses of the drive engine.



Overview of all pressure hoses at drive engine:

- Engine oil
- Coolant for the coolant cooler
- Charge air (if available)

➢ Have a KAESER SERVICE technician replace the pressure hoses of the drive engine.

10.7.3 Replace the pressure hoses of the compressor



Overview of all pressure hoses on the compressor:

- Cooling oil
- Compressed air
- Control air
- Condensate

➢ Have a KAESER SERVICE technician replace the pressure hoses of the compressor.

10.8 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 wing doors must be checked regularly. Damaged sound proofing material must be replaced immediately.

➢ Check sound proofing material inside the wing doors 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 a KAESER SERVICE technician replace the sound proofing material that can no longer be used.

10.9 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 bar.

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.

10.10 Check safety functions

➢ Perform inspection tasks/have them performed according to the maintenance schedule in chapter 10.3.3.1.

10.10.1 Check the EMERGENCY STOP device

In order to shut down the machine in the event of danger, the machine is equipped with an EMERGENCY STOP device. The EMERGENCY STOP device of the machine is referred to as «EMERGENCY» pushbutton

The position of the «EMERGENCY-STOP» pushbutton is shown in Chapter 4.2 "Machine Design".

Use the «EMERGENCY STOP» pushbutton to stop the machine only in emergencies!

Check the mechanical function of the «EMERGENCY STOP» pushbutton daily with the machine shut down.

WARNING
«EMERGENCY STOP» pushbutton locked out!
The machine cannot be stopped quickly in an emergency.
- ➢ Check the function of the «EMERGENCY STOP» pushbutton.
- ➢ Do not operate the machine if the «EMERGENCY STOP» pushbutton does not work.

Precondition The machine is switched off.
The drive engine stands still.

1. Push the «EMERGENCY STOP» pushbutton.
2. Check if «EMERGENCY STOP» pushbutton locks properly and remains locked.
3. Check if the «EMERGENCY STOP» pushbutton unlocks by turning it in the direction of the arrow.

The «EMERGENCY STOP» pushbutton cannot be pressed or does not engage.
- ➢ Do not start the machine.
- ➢ Have the «EMERGENCY STOP» pushbutton replaced.

10.10.2 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 82).

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 [bar]	Activating pressure [bar]
10	11.5

Tab. 82 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.

10.10.3 Having excessive temperature shut-down function checked

The machine should shut down if the discharge temperature reaches a maximum of $T_{max.}$; $T_{max.}$ [°C] see table 83.

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) [°C]	117

Tab. 83 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.

10.11 Maintenance of Optional Items

➢ Perform maintenance tasks according to the schedule in chapter 10.3.3.2.

10.11.1 Option da, df, dc, dd Centrifugal separator maintenance

Clean the cyclone 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 bar.
All compressed air consumers are disconnected and the air outlet valves are open.
Negative cable to the batteries disconnected.

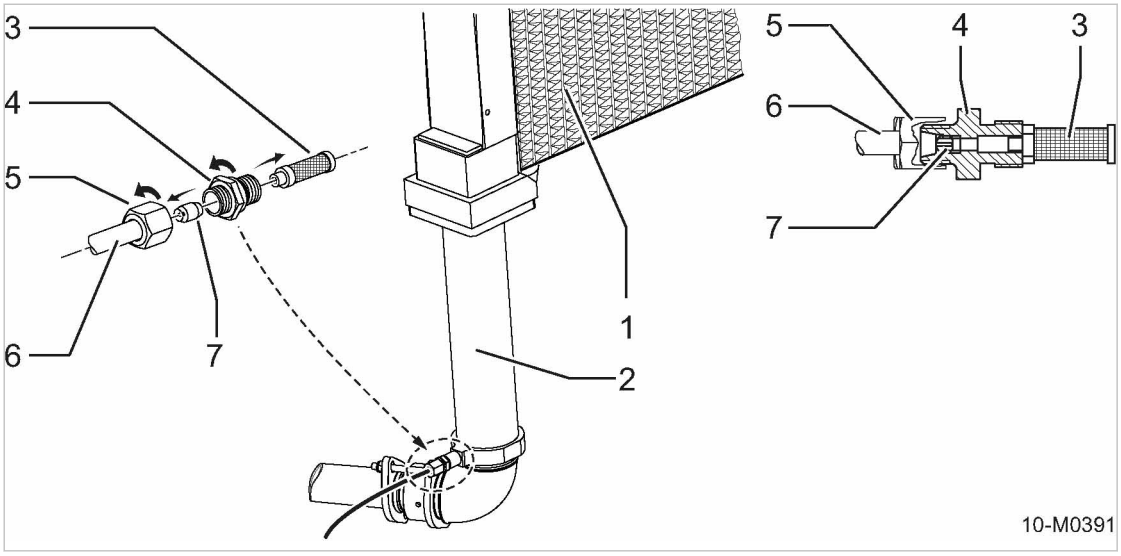


Fig. 69 Cleaning the condensate drain

[1] Aftercooler
[2] Centrifugal separator
[3] Strainer
[4] Pipe fitting
[5] Union nut condensate drain hose
[6] Condensate drain hose
[7] Nozzle

➢ 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 bar!
4. Open the outlet valves.
5. Open the left-hand door.

6. Check the cyclone separator housing and hose line for leaks.
7. Close the door.

10.11.2 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 bar.
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 bar!
- ➢ De-pressurise the combination filter.

Option dd

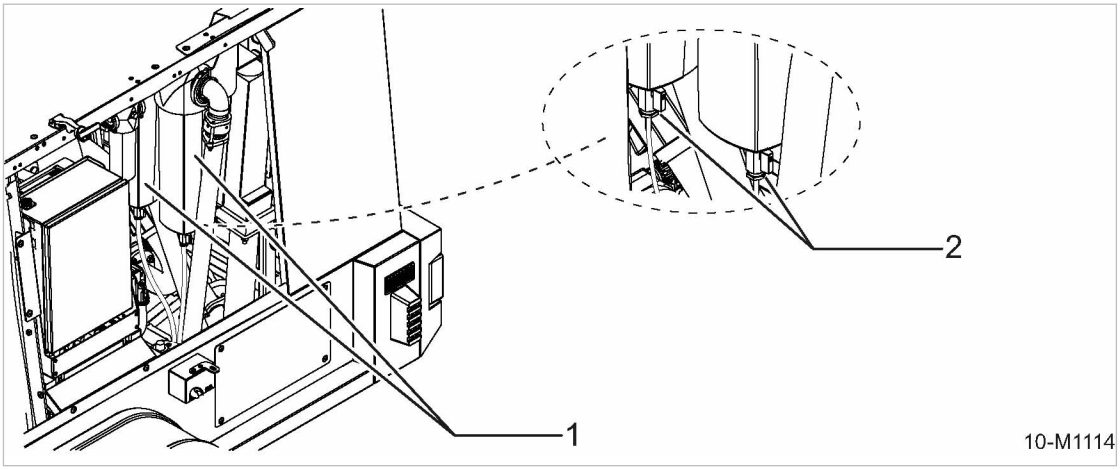


Fig. 70 Filter combination
[1] Filter combination
[2] Shut-off valve condensate drain

Option dd

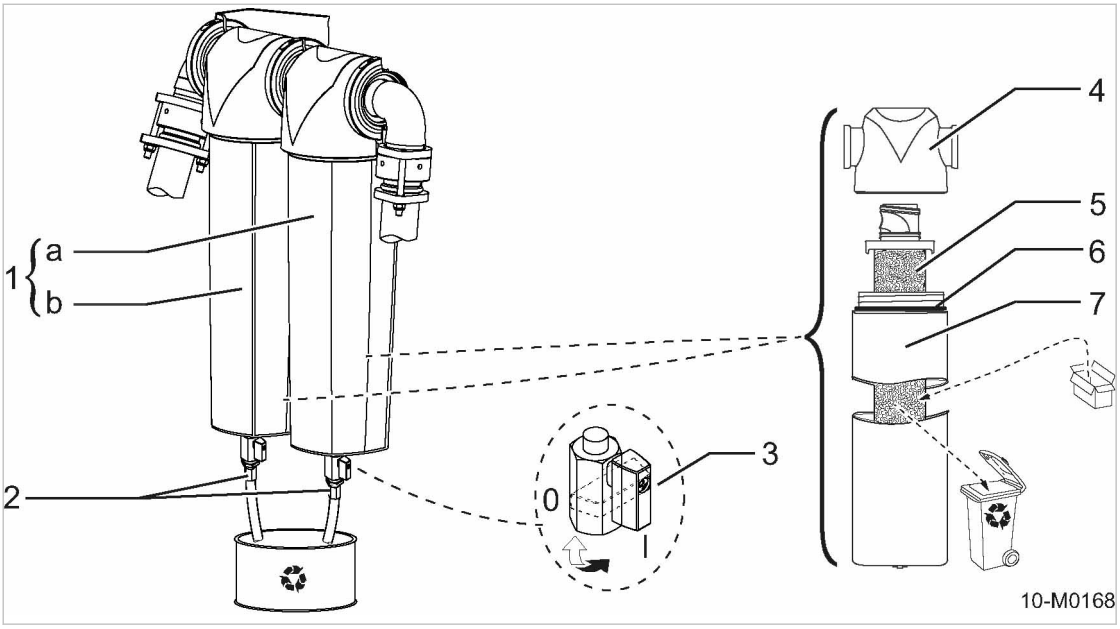


Fig. 71 Combination filter maintenance

[1] Filter combination
[a] Pre-filter
[b] Fine filter (micro-filter)
[2] Screw-in fitting of condensate drain hose (at shut-off valve)
[3] Shut-off valves (ball valve) for condensate drain
0 – Closed
I – Open
[4] Filter head
[5] Filter element
[6] Casing gasket
[7] Filter housing

➢ Open the left-hand door.

10.11.2.1 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 valves.
8. Close the door.

Condensate must be stored in suitable containers and disposed of in accordance with local environmental regulations.

10.11.2.2 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 connection 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 new filter element.

Wear gloves!

6. Screw on the filter housing clockwise.

Changing the pre-filter 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 new filter element.



Wear 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 filter elements can be found in the filter operating manual in chapter 13.7.

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 bar!
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.

10.11.3 Option dc
Fresh air filter maintenance

Before commencing work on the fresh air filter, read and understand the operating instructions given in chapter 13.8.

Precondition

The machine is switched off.

The machine is standing level.

The machine is fully vented, the pressure gauge reads 0 bar.

All compressed air consumers are disconnected and the air outlet valves are open.

Option dc

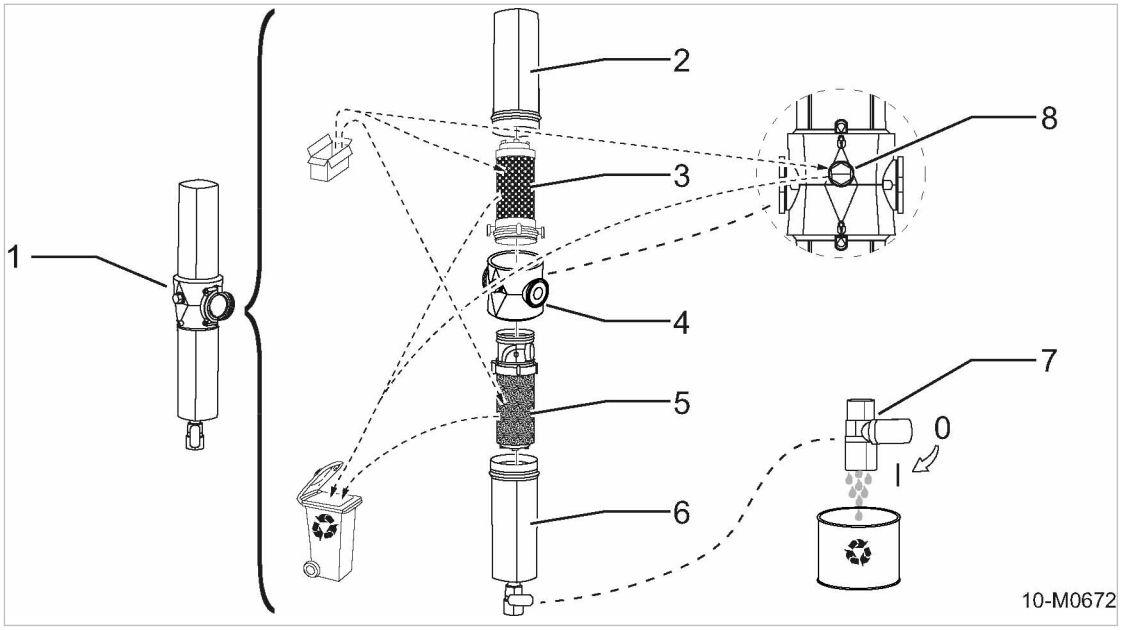


Fig. 72 Fresh air filter maintenance

1 Fresh air filter
2 Upper housing
3 Upper element (adsorption element)
4 Body
5 Lower filter element (high capacity element)
6 Lower housing
7 Drain valve (condensate drain for manual draining)
0 - Closed
I - Open
8 Oil indicator

➢ Open both doors.

10.11.3.1 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.

10.11.3.2 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.

10.11.3.3 Changing consumable 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 de-pressurised:

➢ 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 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 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 doors.



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 13.8.

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 bar!
4. Open the outlet valves.
5. Open both doors.
6. Check the fresh air filter housing and hose line for leaks.
7. Close the doors.

10.11.4 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 4.9.8 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 bar.
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.

10.12 Documenting maintenance and service work

Machine number:

➤ Enter maintenance and service work carried out in the list.

Date	Maintenance task carried out	Operating hours	Signature

Tab. 84 Maintenance log

11 Spares, Operating Materials, Service

11.1 Note the nameplate

The nameplate contains all information to identify your machine. This information is essential to us in order to provide you with optimal service.

➢ Please give the information from the nameplate with every enquiry and order for spares.

11.2 Ordering consumable parts and operating fluids/materials

KAESER consumable parts and operating materials are original products. They are matched to application 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. 85 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. 86 Consumable engine parts

Option dd Filter combination

Name	Number/Quantity	Number
Filter element for pre-filter	1	1550
Filter element for micro-filter	1	1551
Casing gasket	2	1548

Tab. 87 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. 88 Replacement parts, fresh-air filter

11.3 KAESER AIR SERVICE

KAESER AIR SERVICE offers:

- authorised 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 spares,
- Increased legal certainty as all regulations are kept to.

➢ It make sense to sign a maintenance agreement for KAESER AIR SERVICE.
The advantages:
lower costs and higher compressed air availability.

11.4 Replacement parts for service and repair

With the help of the 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.

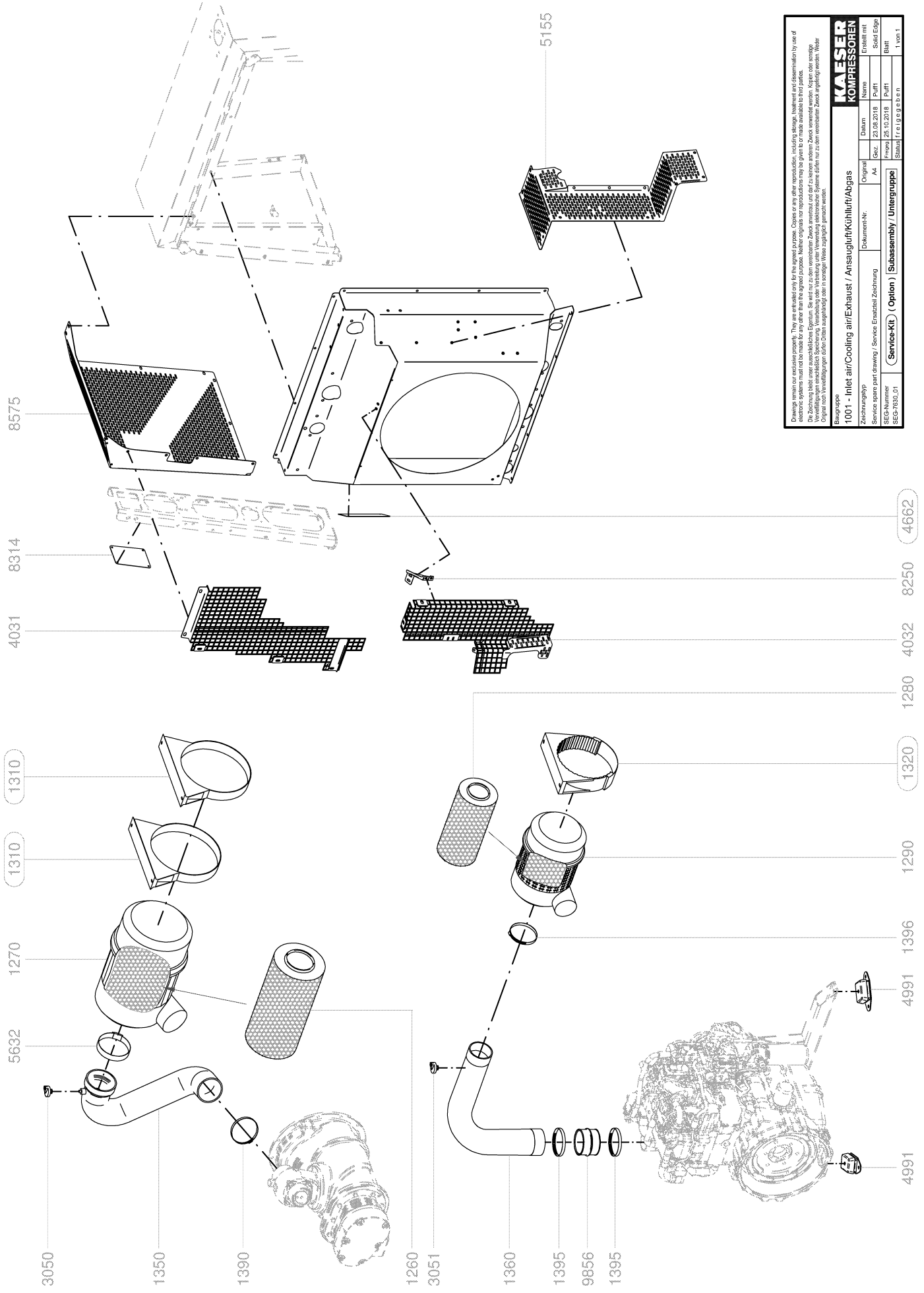


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KAESER KOMPRESSOREN

Baugruppe
Overview / Übersicht

Zeichnungstyp	Dokument-Nr.	Original	Datum	Name	Erstellt mit
Service spare part drawing / Service Ersatzteil Zeichnung		A4	Gez. 31.08.2016	Puff	Solid Edge
SEG-Nummer	Service-Kit (Option)	Subassembly / Untergruppe	Freigabe 08.11.2018	Puff	Blatt
SEG-7627_01			Status freigegeben		1 von 1

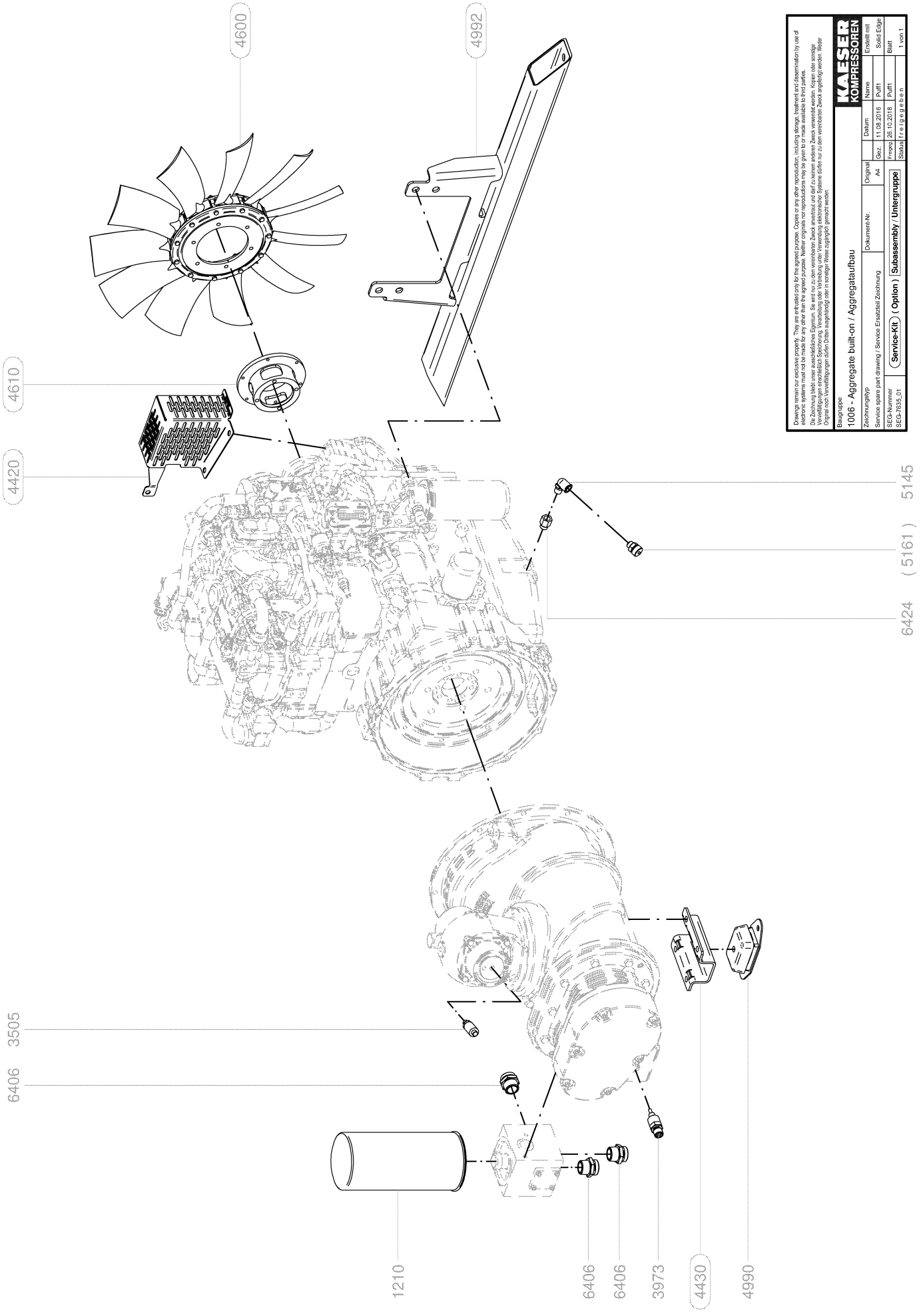


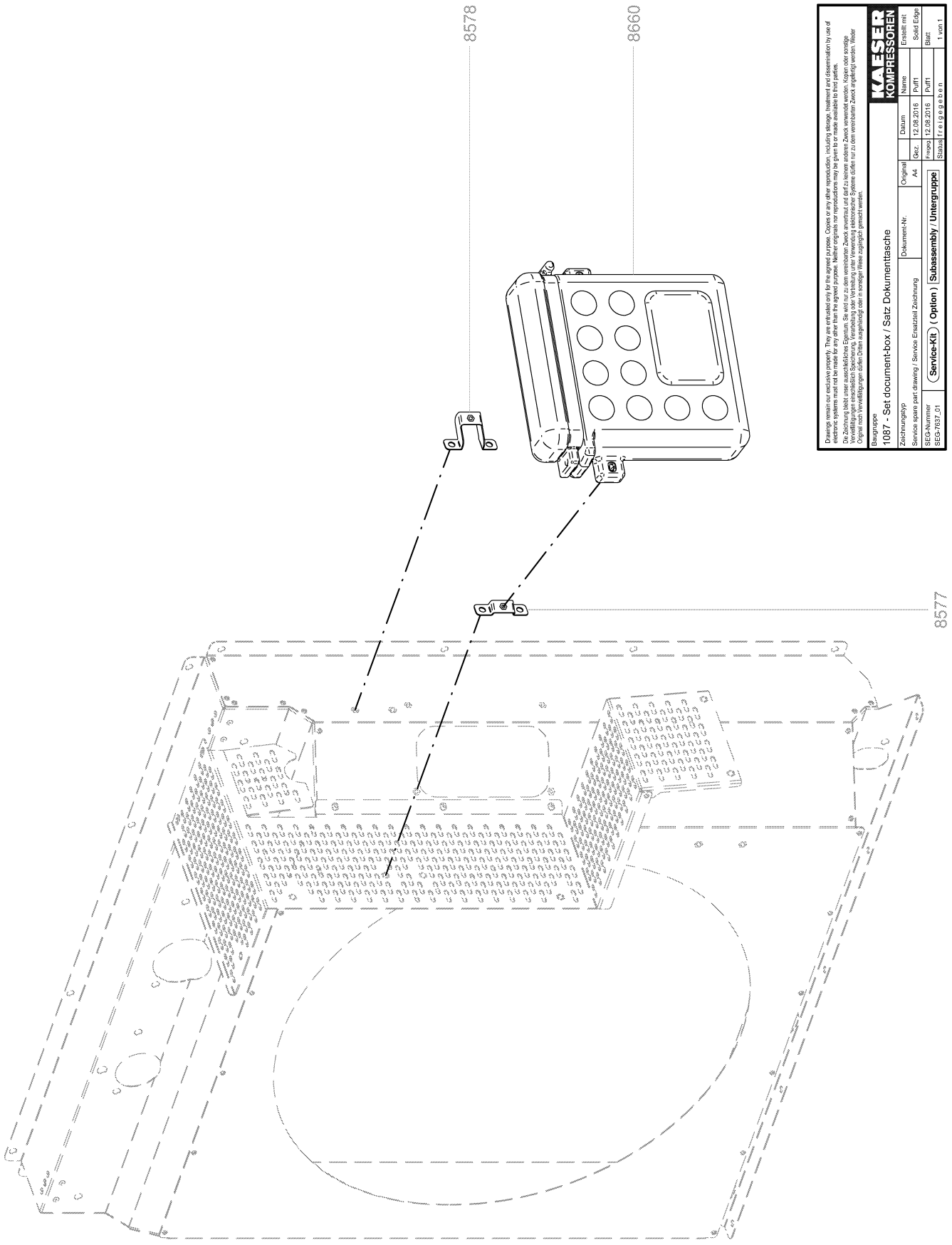
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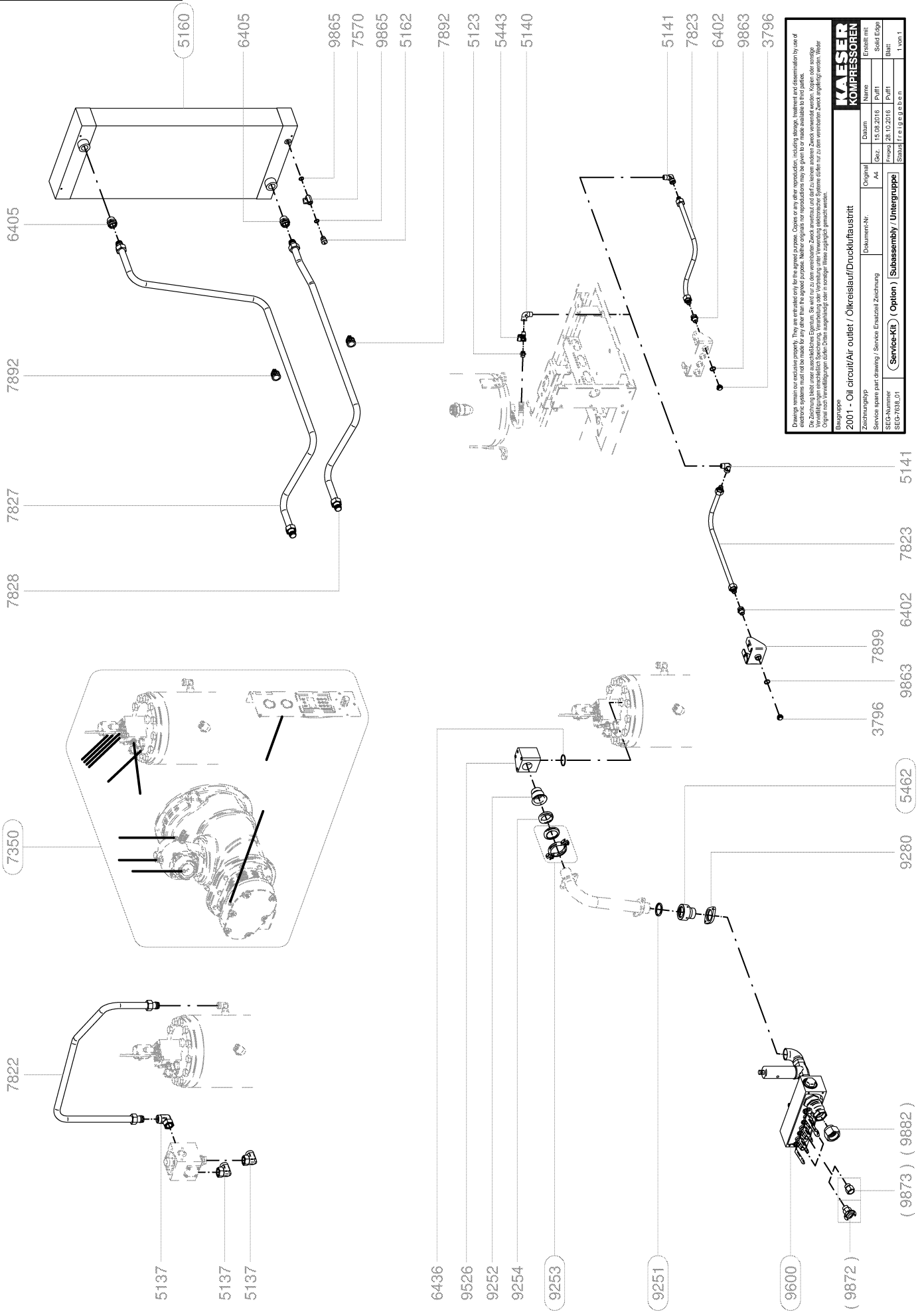
KAESER KOMPRESSOREN

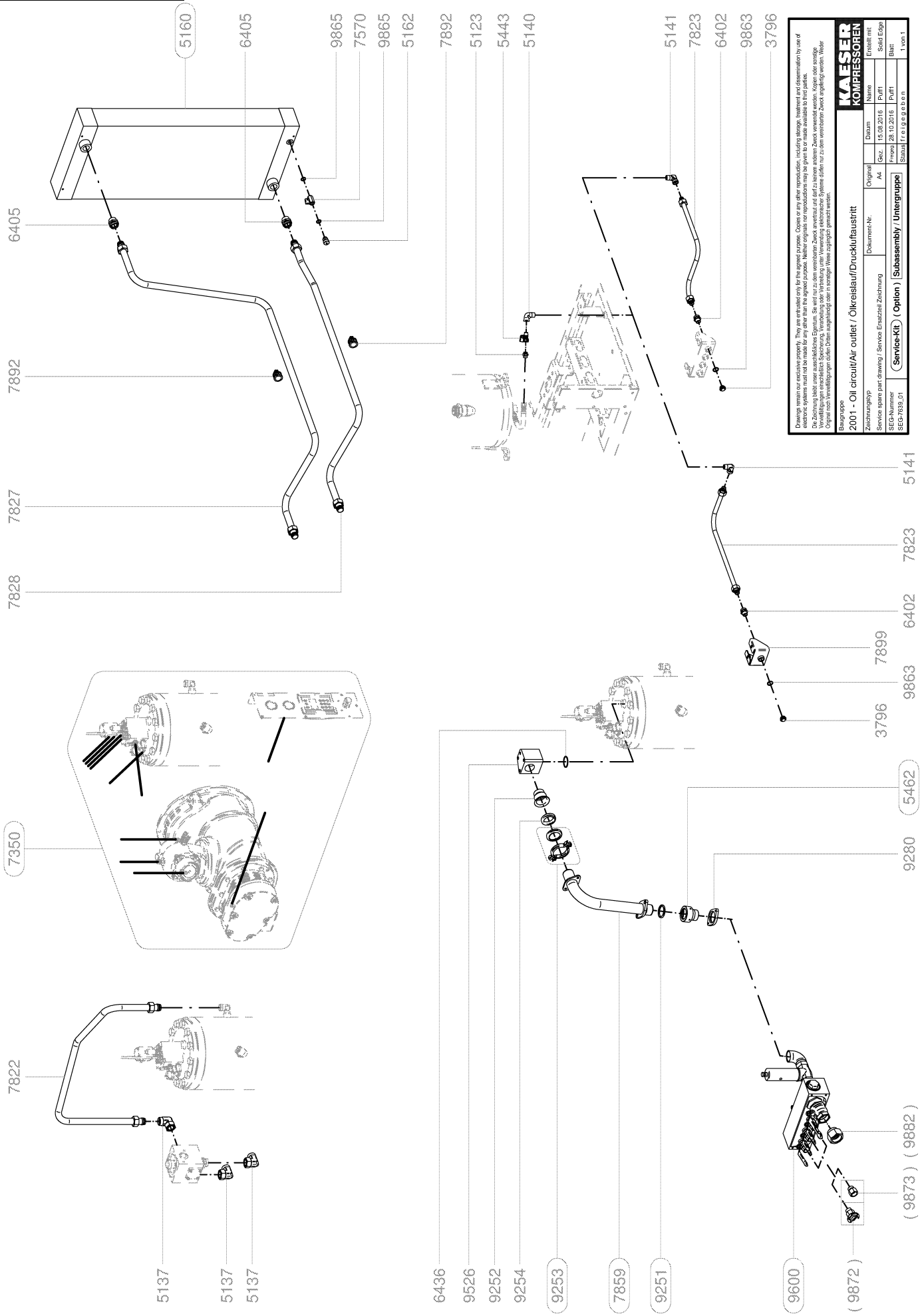
Baugruppe
1001 - Inlet air/Cooling air/Exhaust / Ansaugluft/Kühlluft/Abgas

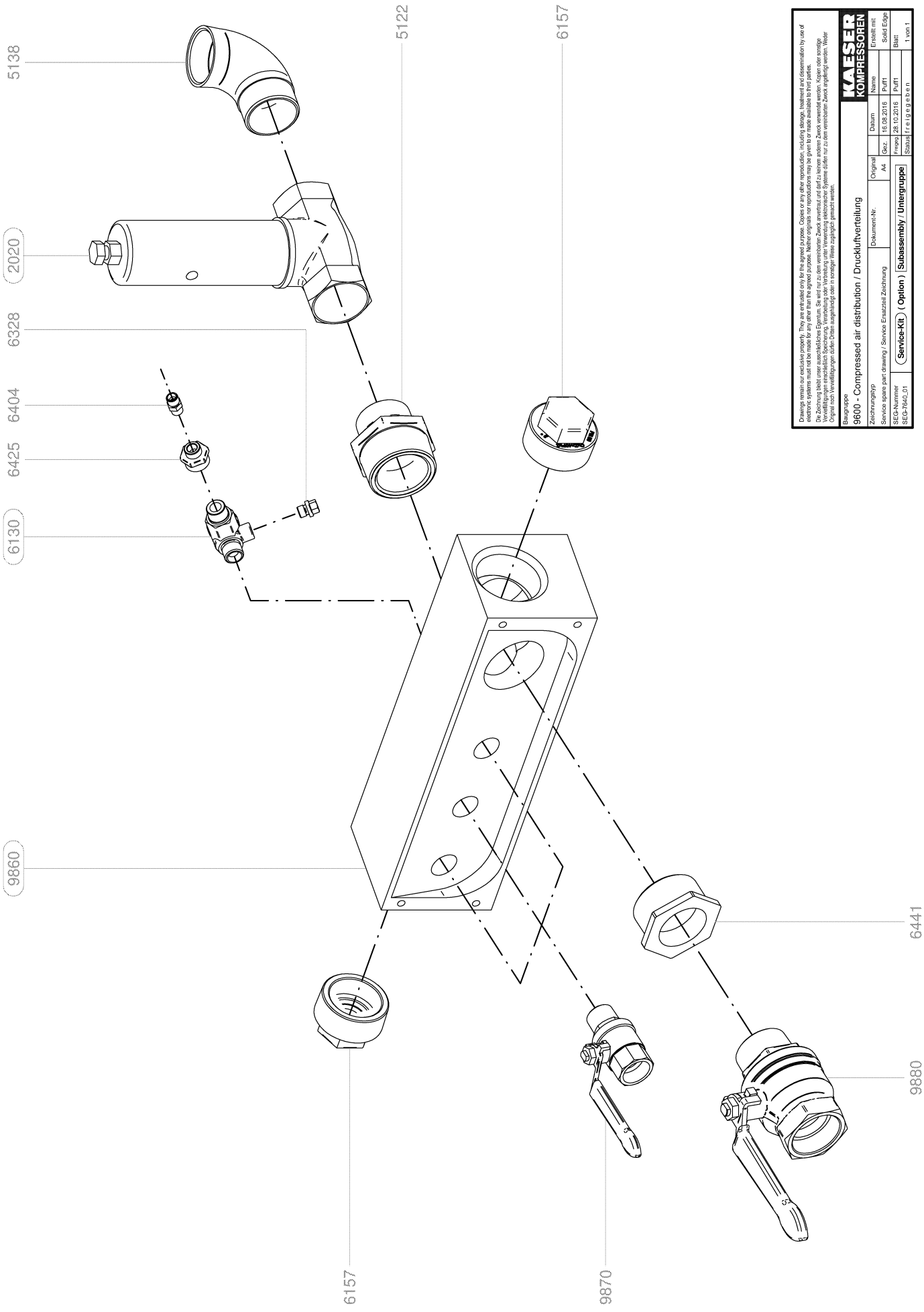
Zeichnungstyp	Dokument-Nr.	Original	Datum	Name	Erstellt mit
Service spare part drawing / Service Ersatzteil Zeichnung		A4	Gez. 23.08.2018	Puff	Solid Edge
SEG-Nummer	Service-Kit (Option)	Subassembly / Untergruppe	Freigg. 25.10.2018	Puff	Blatt
SEG-7930_01			Status freigegeben		1 von 1


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Baugruppe
1006 - Aggregate built-on / Aggregataufbau
Zeichnungstyp
Service spare part drawing / Service Ersatzteil Zeichnung
Dokument-Nr.
SEG-Nummer
SEG-7635_01
Service-Kit (Option) Subassembly / Untergruppe
Original
A4
Datum
Name
Gez. 11.08.2016 Puff
Freigabe 26.10.2018 Puff
Status freigegeben
Erstellt mit
Solid Edge
Blatt
1 von 1


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KAESER KOMPRESSOREN
Baugruppe
1087 - Set document-box / Satz Dokumenttasche
Zeichnungstyp
Service spare part drawing / Service Ersatzteil Zeichnung
Dokument-Nr.
Original
A4
Datum
12.08.2016
12.08.2016
Name
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Erstellt mit
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1 von 1
SEG-Nummer
SEG-7637_01
Service-Kit (Option) Subassembly / Untergruppe
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Baugruppe
2001 - Oil circuit/Air outlet / Ölkreislauf/Druckluftaustritt
Zeichnungstyp
Service spare part drawing / Service Ersatzteil Zeichnung
Dokument-Nr.
SEG-Nummer
SEG-7638_01
Service-Kit (Option) Subassembly / Untergruppe
Original
A4
Datum
Gez. 15.08.2016 Puffl
Freigg. 28.10.2016 Puffl
Status freigegeben
Name
Erstellt mit
Solid Edge
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1 von 1


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Baugruppe
2001 - Oil circuit/Air outlet / Ölkreislauf/Druckluftaustritt
Zeichnungstyp
Service spare part drawing / Service Ersatzteil Zeichnung
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SEG-Nummer
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Service-Kit (Option) Subassembly / Untergruppe
Status
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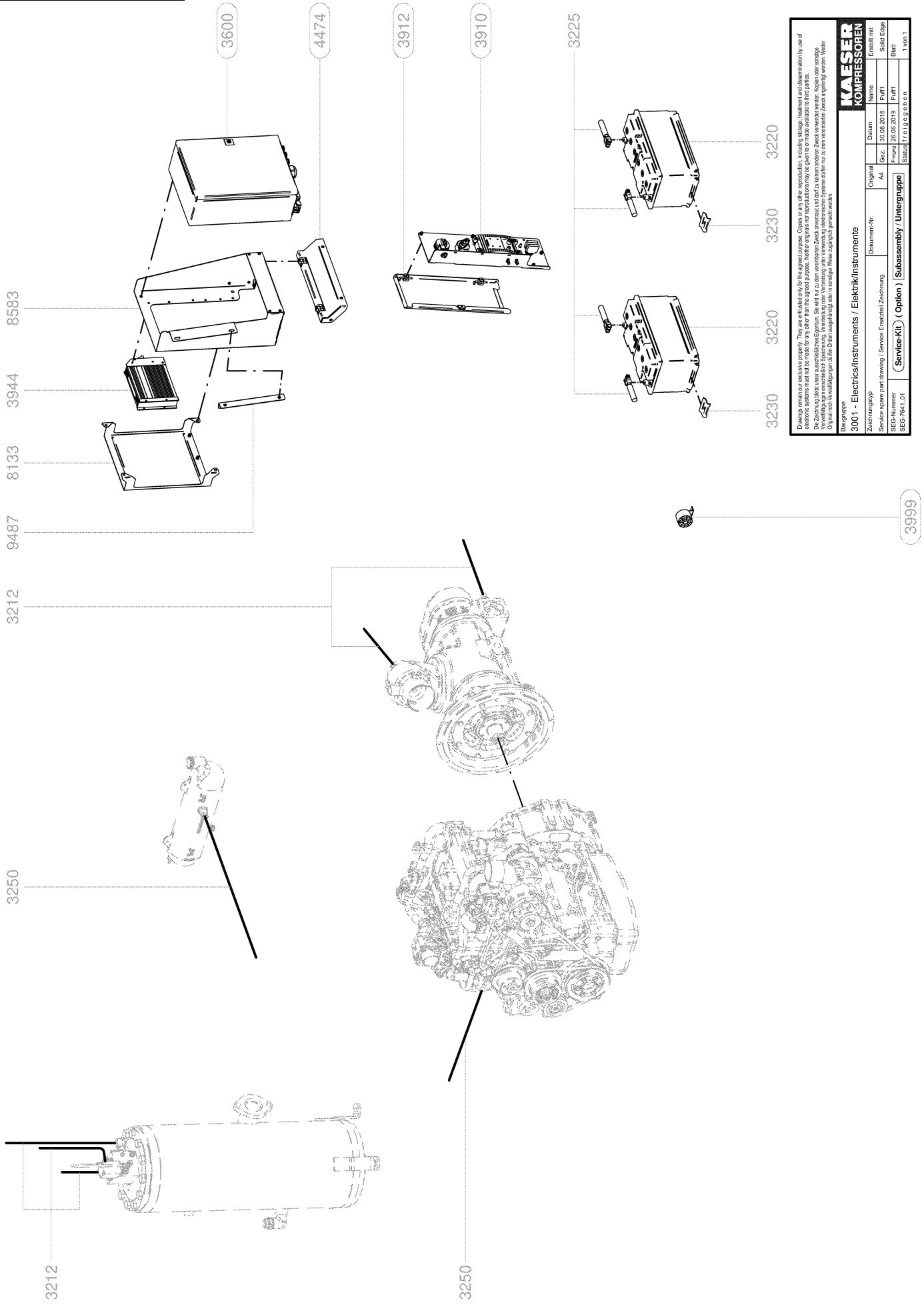


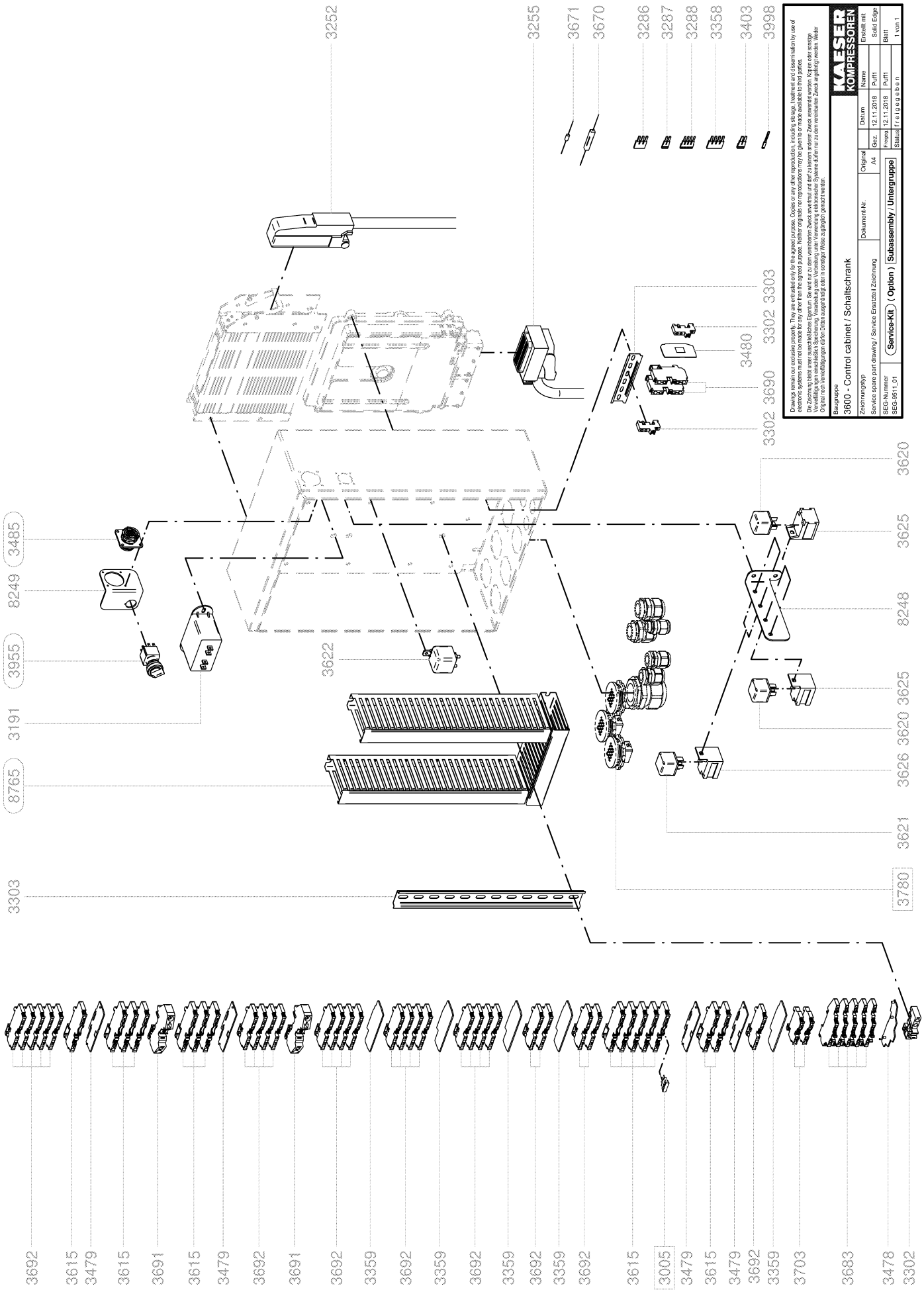
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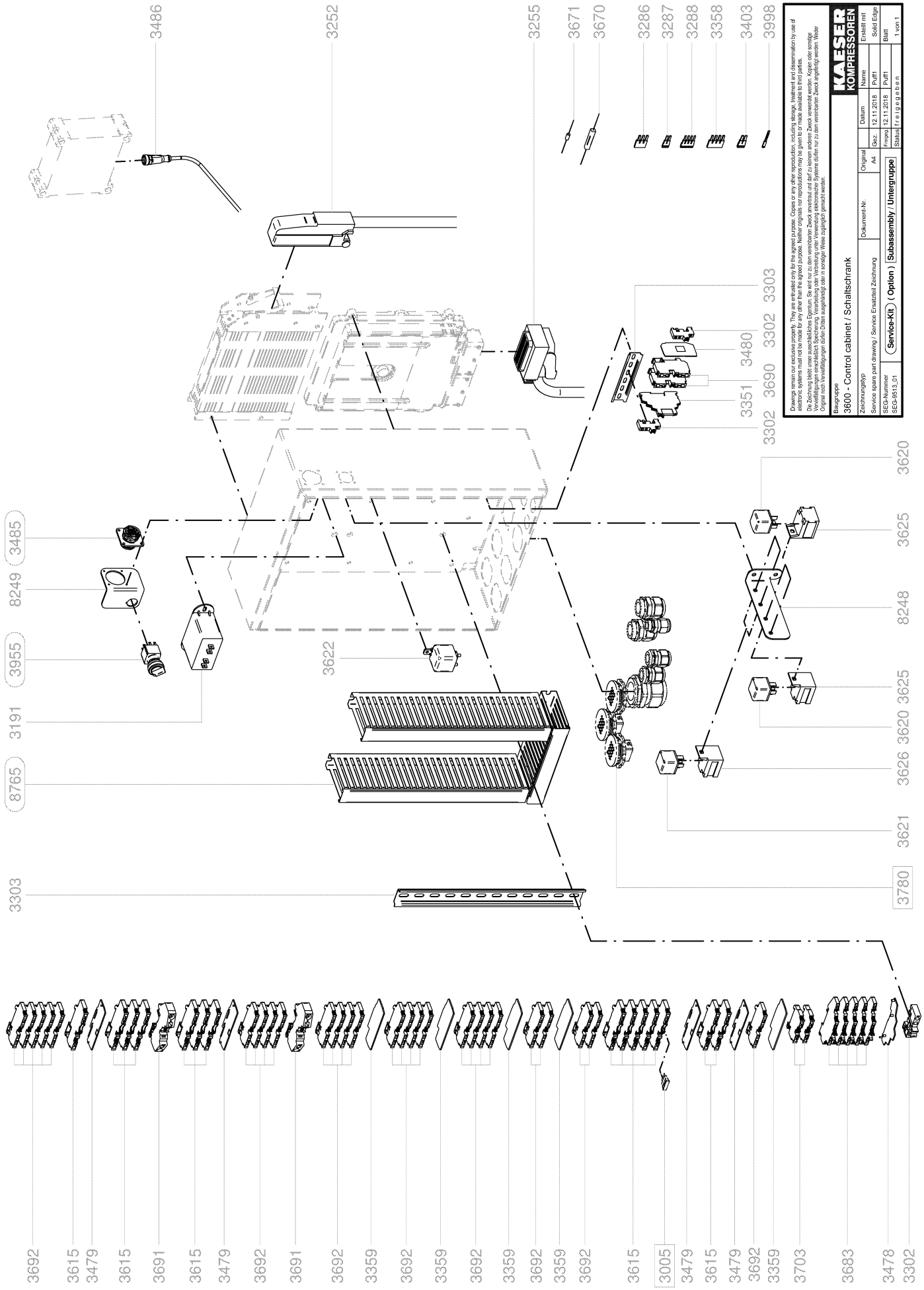
KAESER KOMPRESSOREN

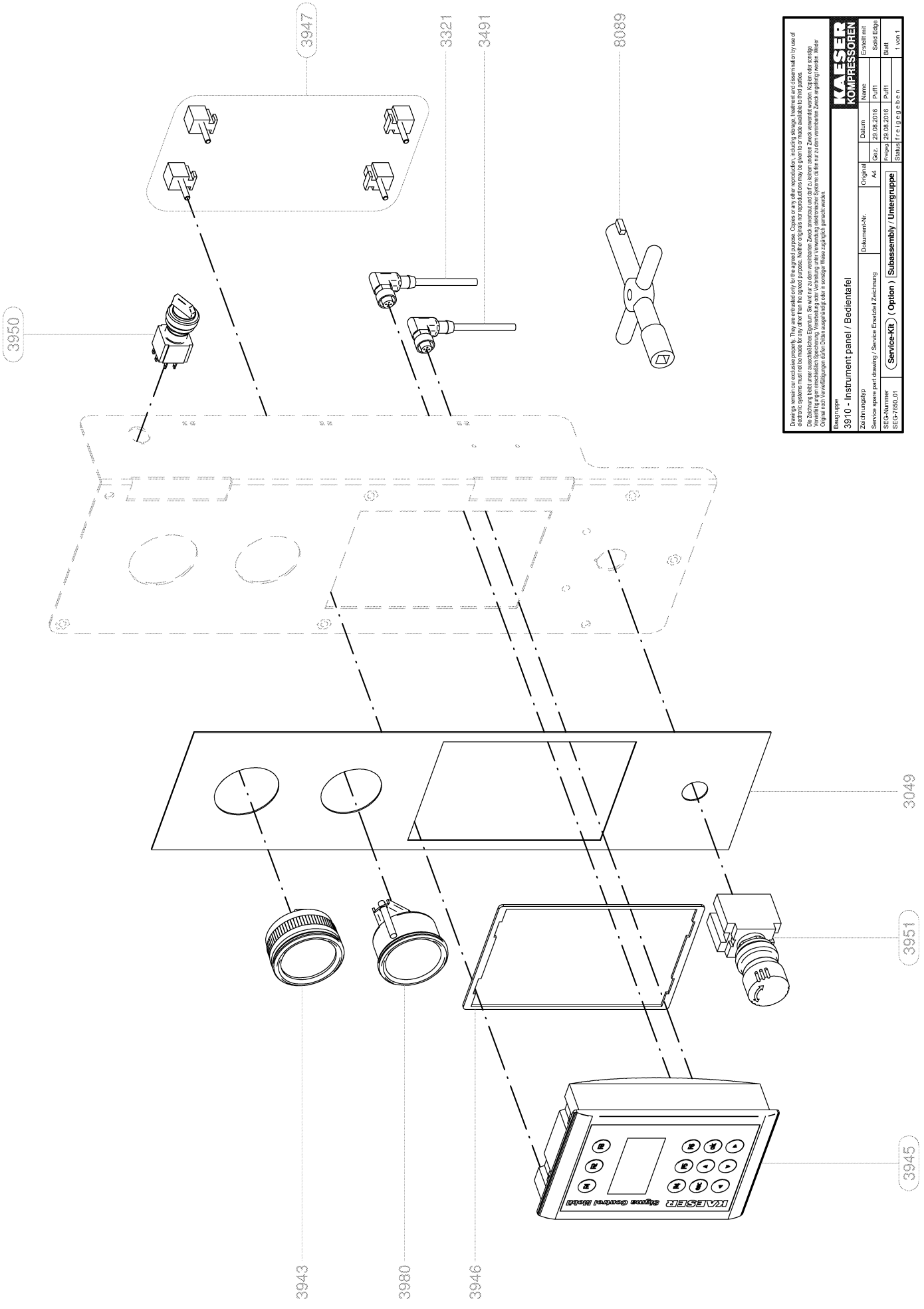
Baugruppe
9600 - Compressed air distribution / Druckluftverteilung

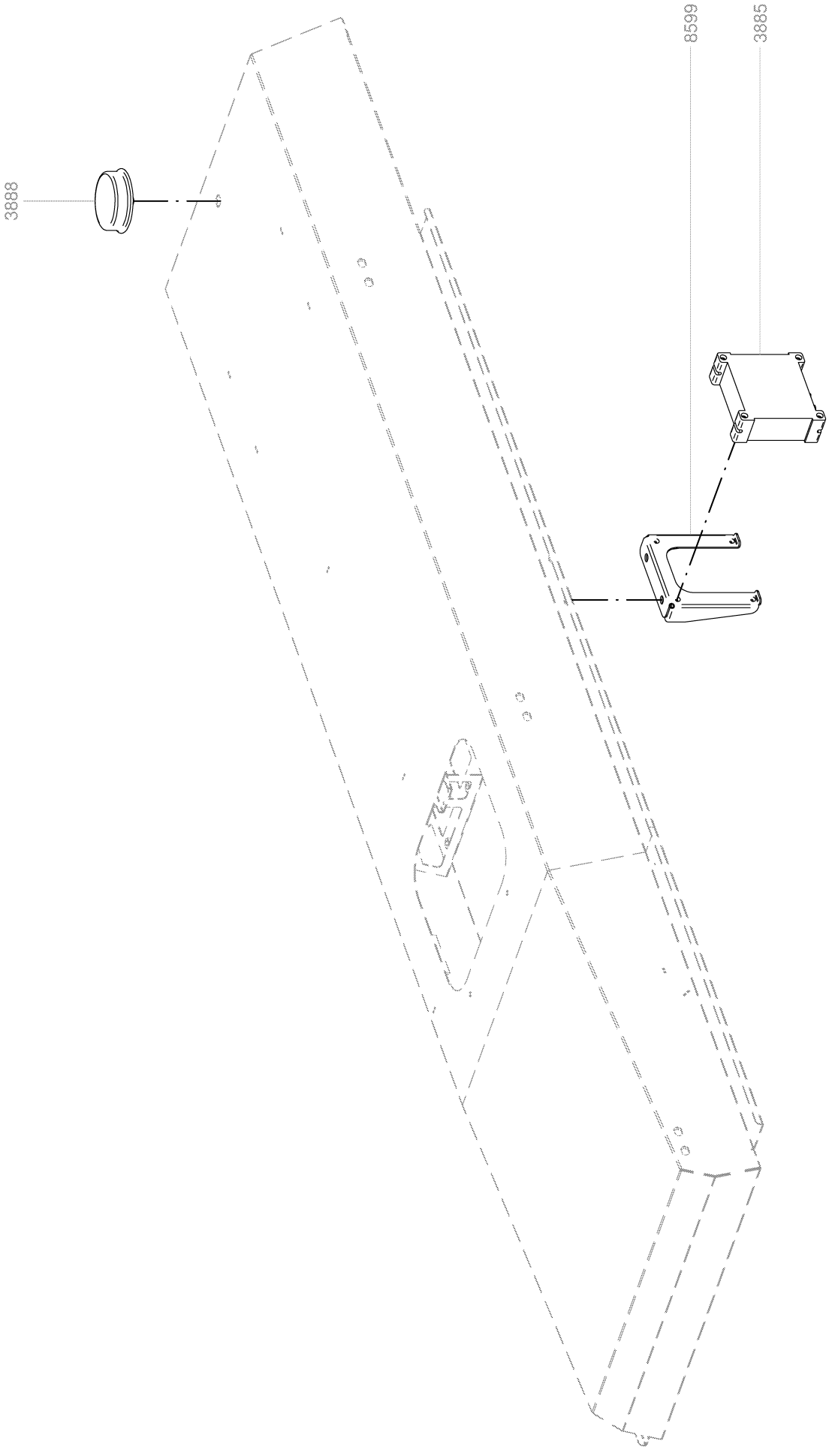
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SEG-Nummer	Service-Kit (Option) Subassembly / Untergruppe		Freigab 28.10.2016	Puff	Blatt
SEG-7640_01			Status freigegeben		1 von 1


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KAESER KOMPRESSOREN
Baugruppe
3001 - Electrics/Instruments / Elektrik/Instrumente
Zeichnungstyp
Service spare part drawing / Service Ersatzteil Zeichnung
Dokument-Nr.
Original
A4
Datum
Name
Erstellt mit
Solid Edge
Sez. 30.08.2016 Puff
Freigab 26.05.2019 Puff
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1 von 1
Status freigegeben
SEG-Nummer
SEG-7041_01
Service-Kit (Option) Subassembly / Untergruppe


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Baugruppe
3600 - Control cabinet / Schaltschrank
Zeichnungstyp
Service spare part drawing / Service Ersatzteil Zeichnung
SEG-Nummer
SEG-0511_01
Service-Kit (Option) Subassembly / Untergruppe
Dokument-Nr.
Original
A4
Datum
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Gez. 12.11.2018 Puffl
Freigb. 12.11.2018 Puffl
Status freigegeben
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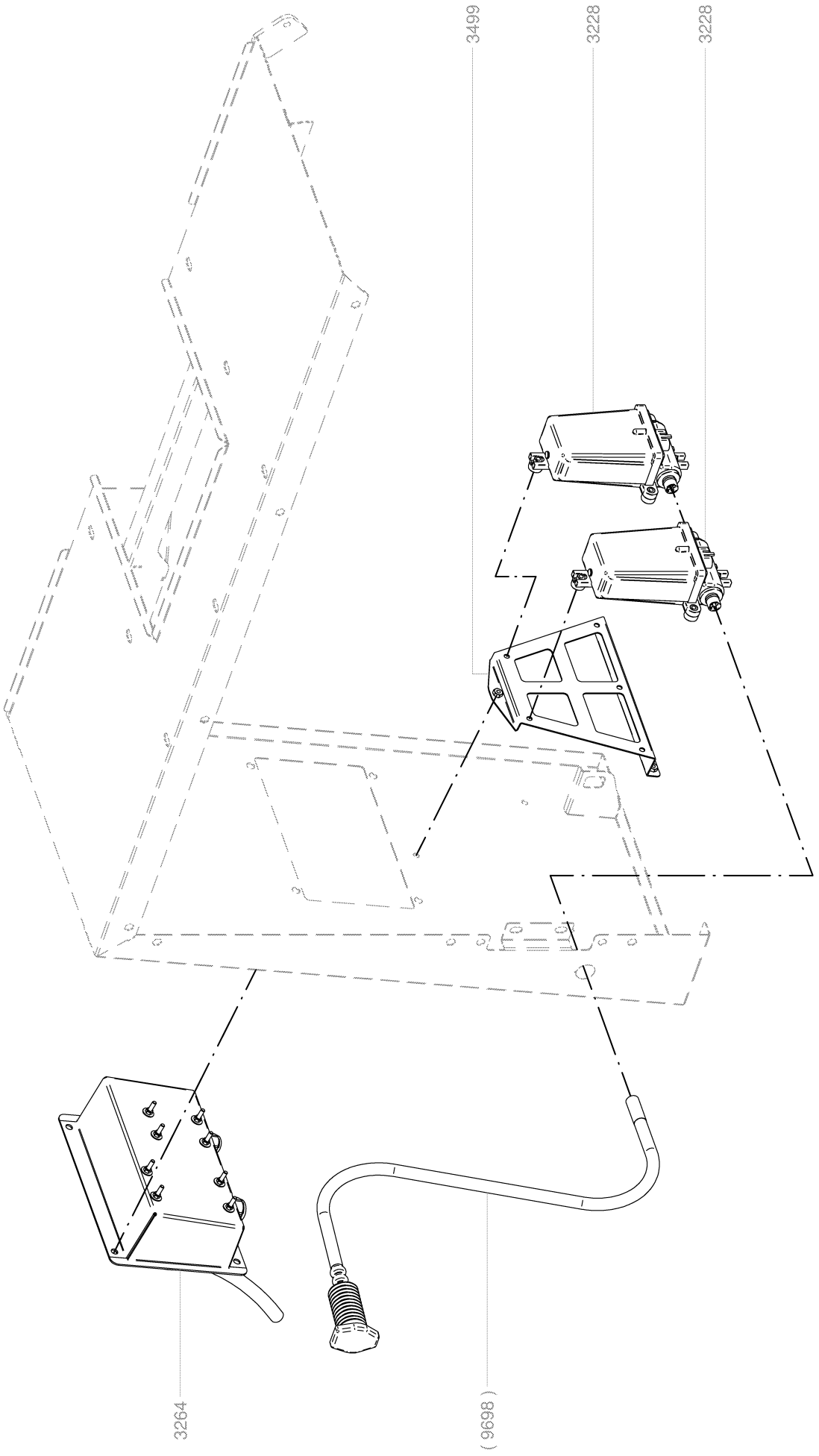

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Baugruppe
3600 - Control cabinet / Schaltschrank
Service spare part drawing / Service Ersatzteil Zeichnung
Service-Kit (Option) Subassembly / Untergruppe
SEG-Nummer
SEG-9913_01
Original
A4
Datum
12.11.2018
Name
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Status freigegeben


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Baugruppe
3910 - Instrument panel / Bedientafel
Zeichnungstyp
Service spare part drawing / Service Ersatzteil Zeichnung
SEG-Nummer
SEG-7650_01
Service-Kit (Option) Subassembly / Untergruppe
Dokument-Nr.
Original
A4
Datum
Name
Erstellt mit
Solid Edge
Gez. 29.08.2016 Puff
Freigb. 29.08.2016 Puff
Blatt
Status freigegeben
1 von 1



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Baugruppe	3008 - GSM modem/GPS receiver / GSM-Modem/GPS-Empfänger				KAESER KOMPRESSOREN
Zeichnungstyp	Dokument-Nr.	Original	Datum	Name	Erstellt mit
Service spare part drawing / Service Ersatzteil Zeichnung			Gez. 16.08.2016	Puff	Solid Edge
SEG-Nummer	Service-Kit (Option)	Subassembly / Untergruppe	Freigep. 16.08.2016	Puff	Blatt
SEG-7051_01			Status freigegeben		1 von 1

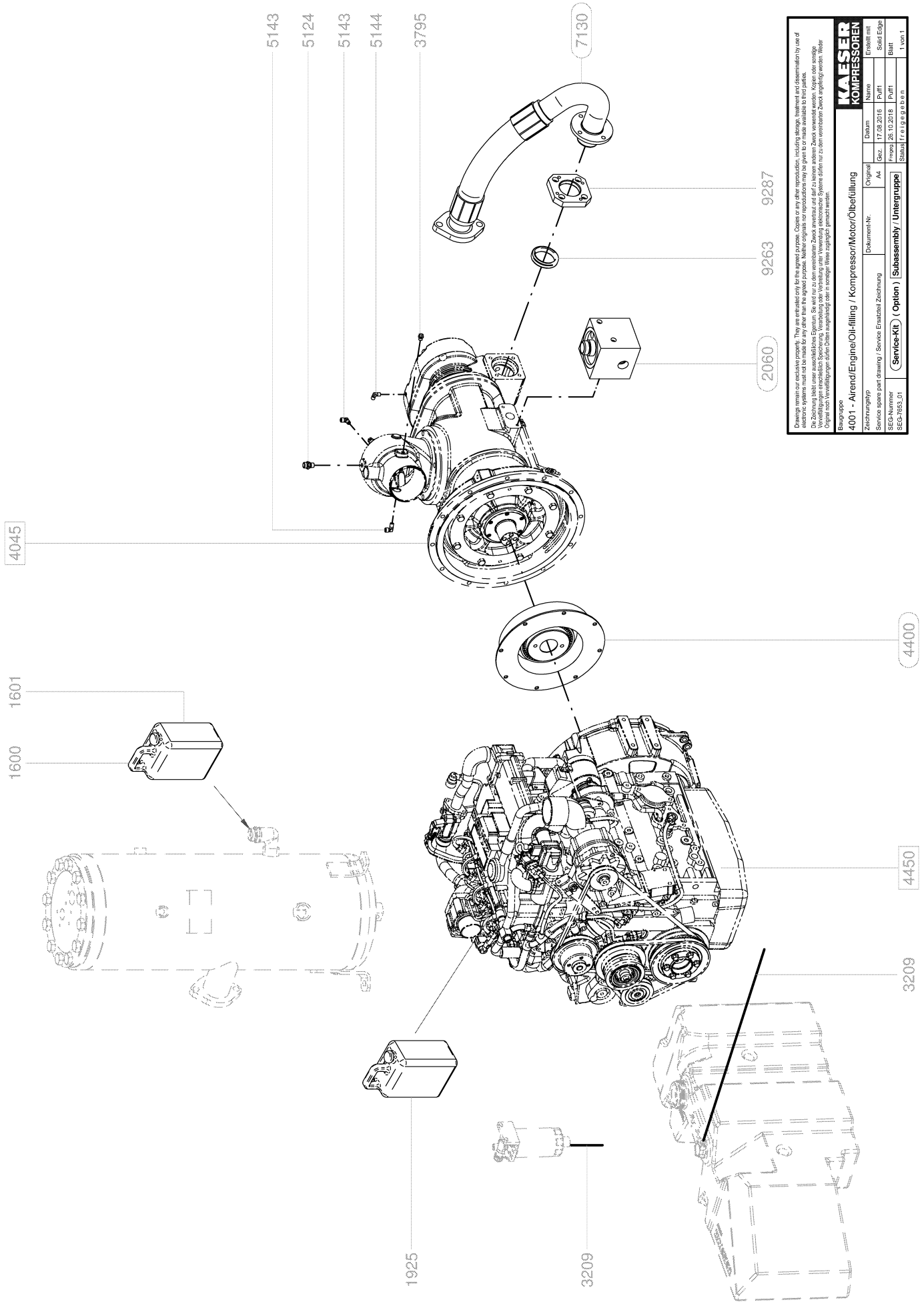


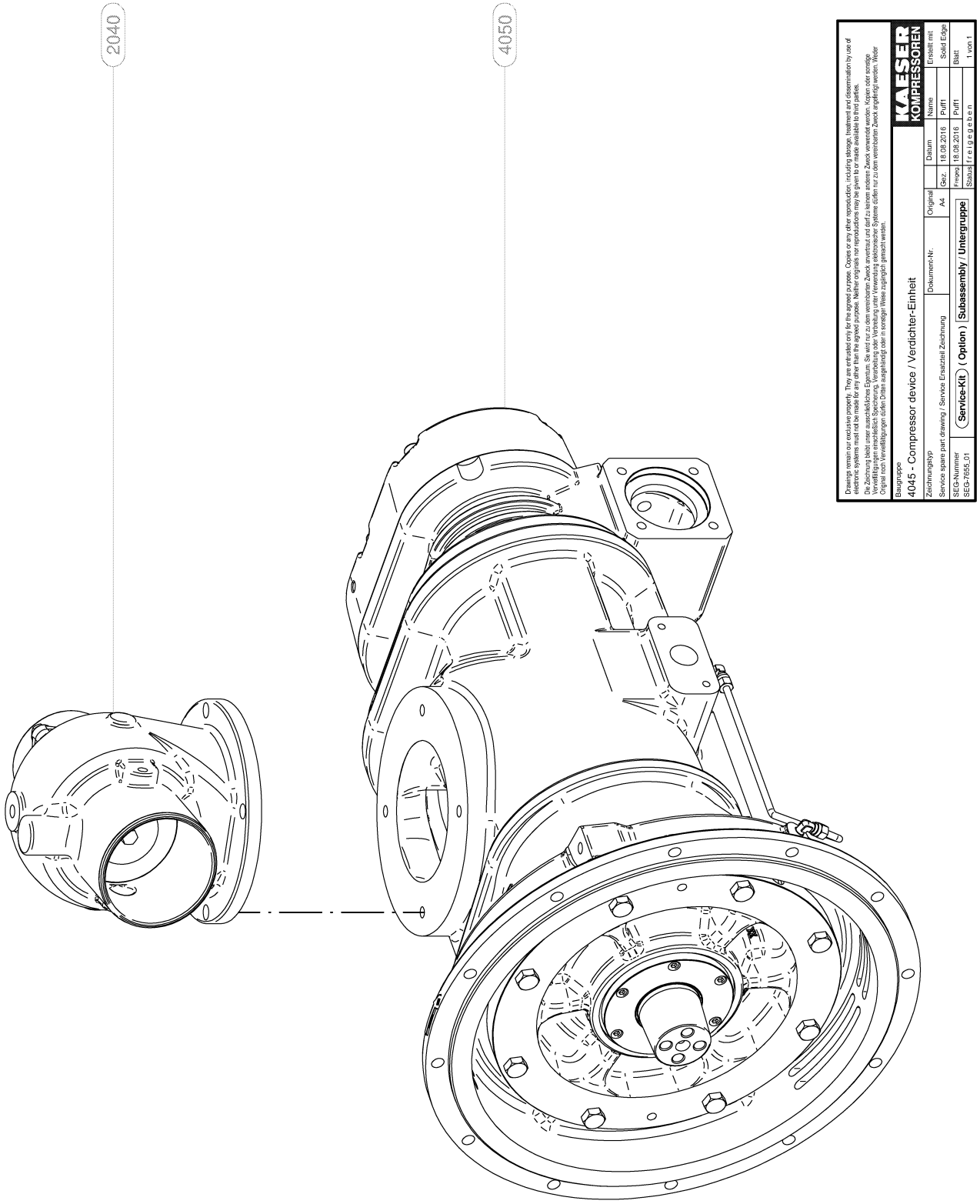
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KAESER KOMPRESSOREN

Baugruppe
3009 - Autom. start-stop assembly / Baugruppe Start Stopp

Zeichnungstyp	Dokument-Nr.	Original	Datum	Name	Erstellt mit
Service spare part drawing / Service Ersatzteil Zeichnung		A4	Gez. 11.08.2016	Puff1	Solid Edge
SEG-Nummer			Freigabe 11.08.2016	Puff1	Blatt
SEG-7652_01	Service-Kit (Option) Subassembly / Untergruppe		Status freigegeben		1 von 1


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Baugruppe
4001 - Airend/Engine/Oil-filling / Kompressor/Motor/Ölbefüllung
Zeichnungstyp
Service spare part drawing / Service Ersatzteil Zeichnung
Dokument-Nr.
Original
A4
Name
Datum
17.08.2016
Erstellt mit
Solid Edge
SEG-Nummer
SEG-7693_01
Service-Kit (Option) Subassembly / Untergruppe
Freigegeben
Blatt
1 von 1



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KAESER KOMPRESSOREN

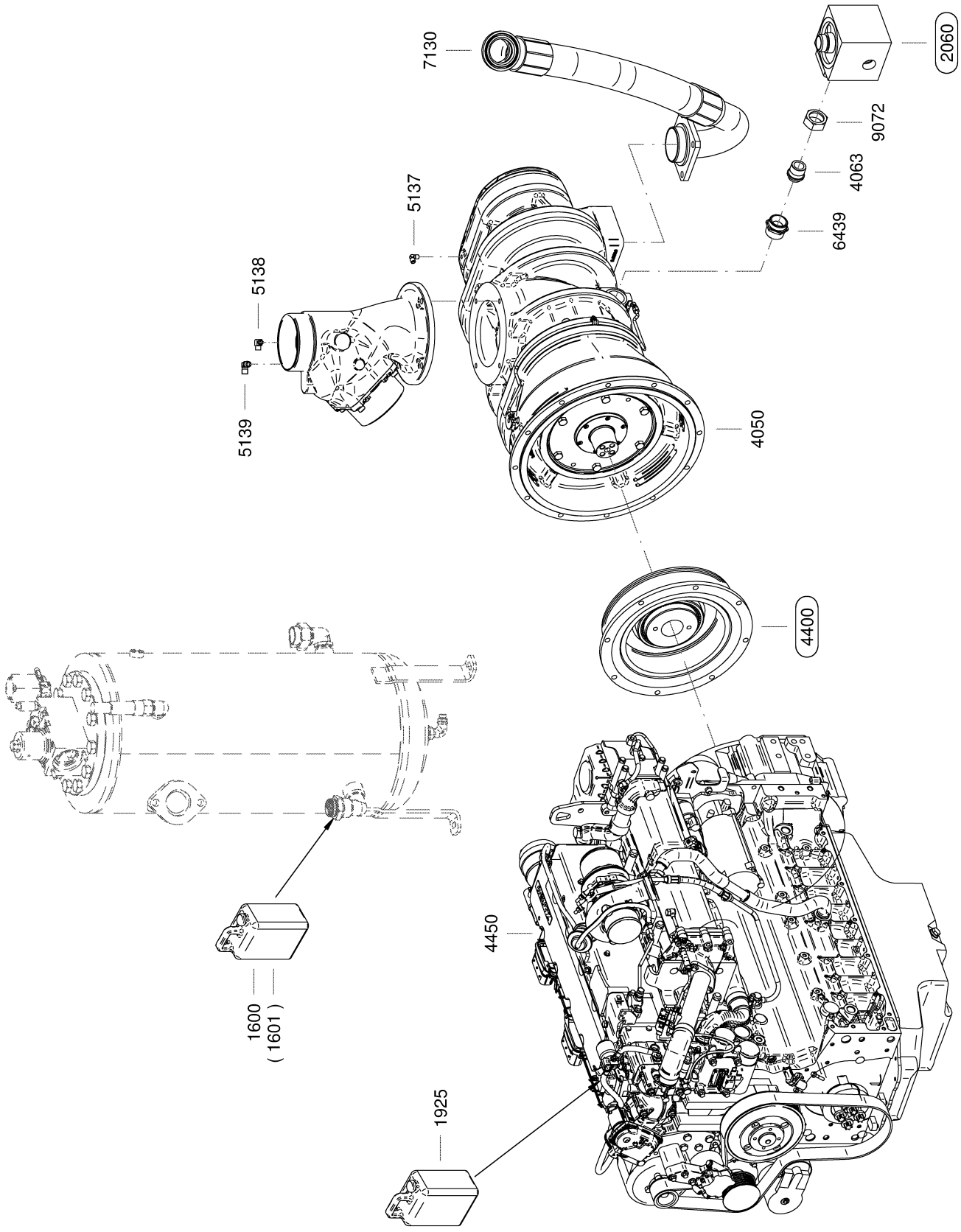
Baugruppe
4045 - Compressor device / Verdichter-Einheit

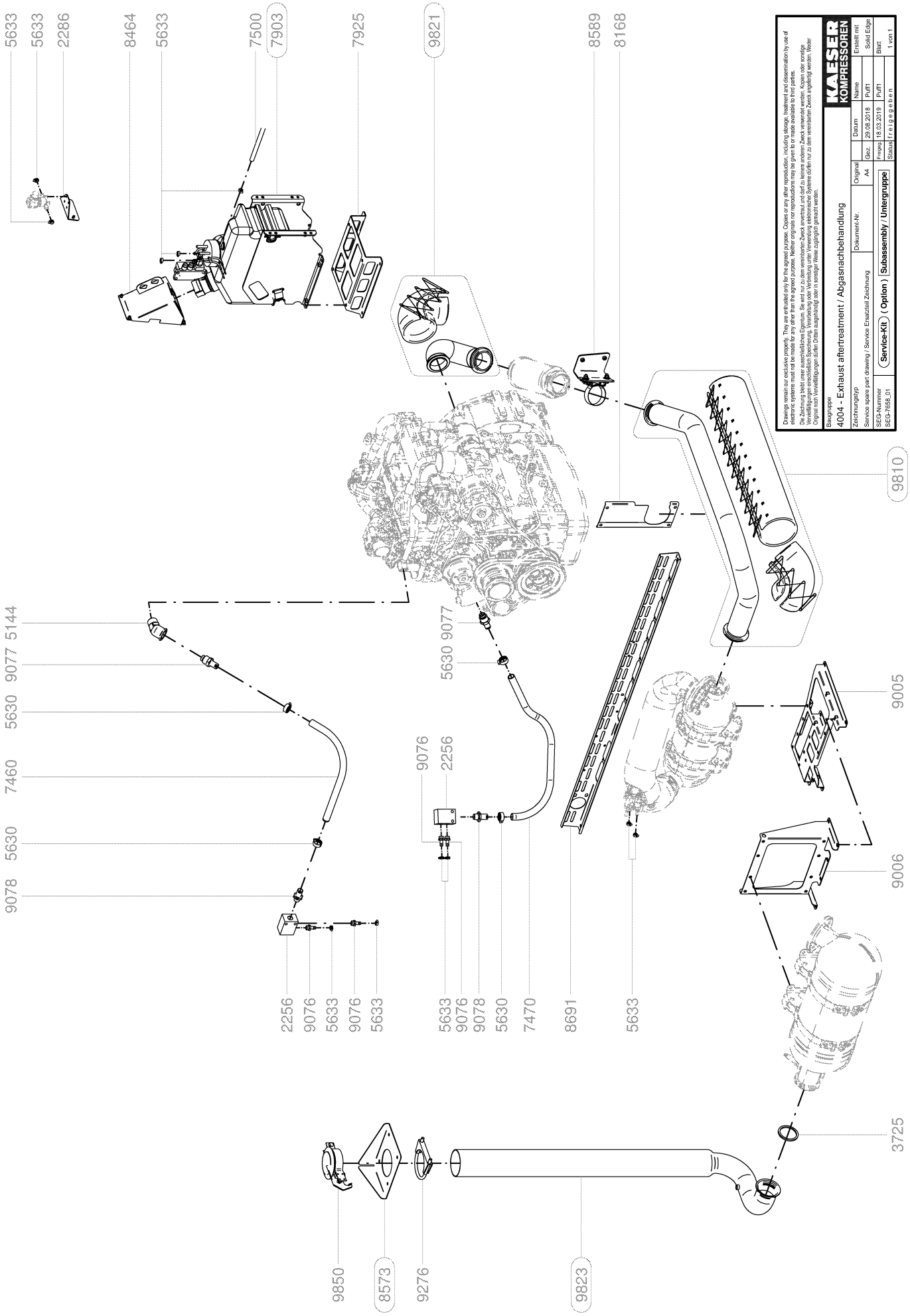
Zeichnungstyp	Dokument-Nr.	Original		Datum	Name	Erstellt mit
Service spare part drawing / Service Ersatzteil Zeichnung		A4	Gez.	18.08.2016	Puff1	Solid Edge
SEG-Nummer	Service-Kit (Option) Subassembly / Untergruppe		Freigab	18.08.2016	Puff1	Blatt
SEG-7655_01			Status	f r e i g e g e b e n		1 von 1

Service-Kit (Option)

4001 Kompressor/Motor/Ölbefüllung / Airend/Engine/Oil-filling

SEG-5756_01



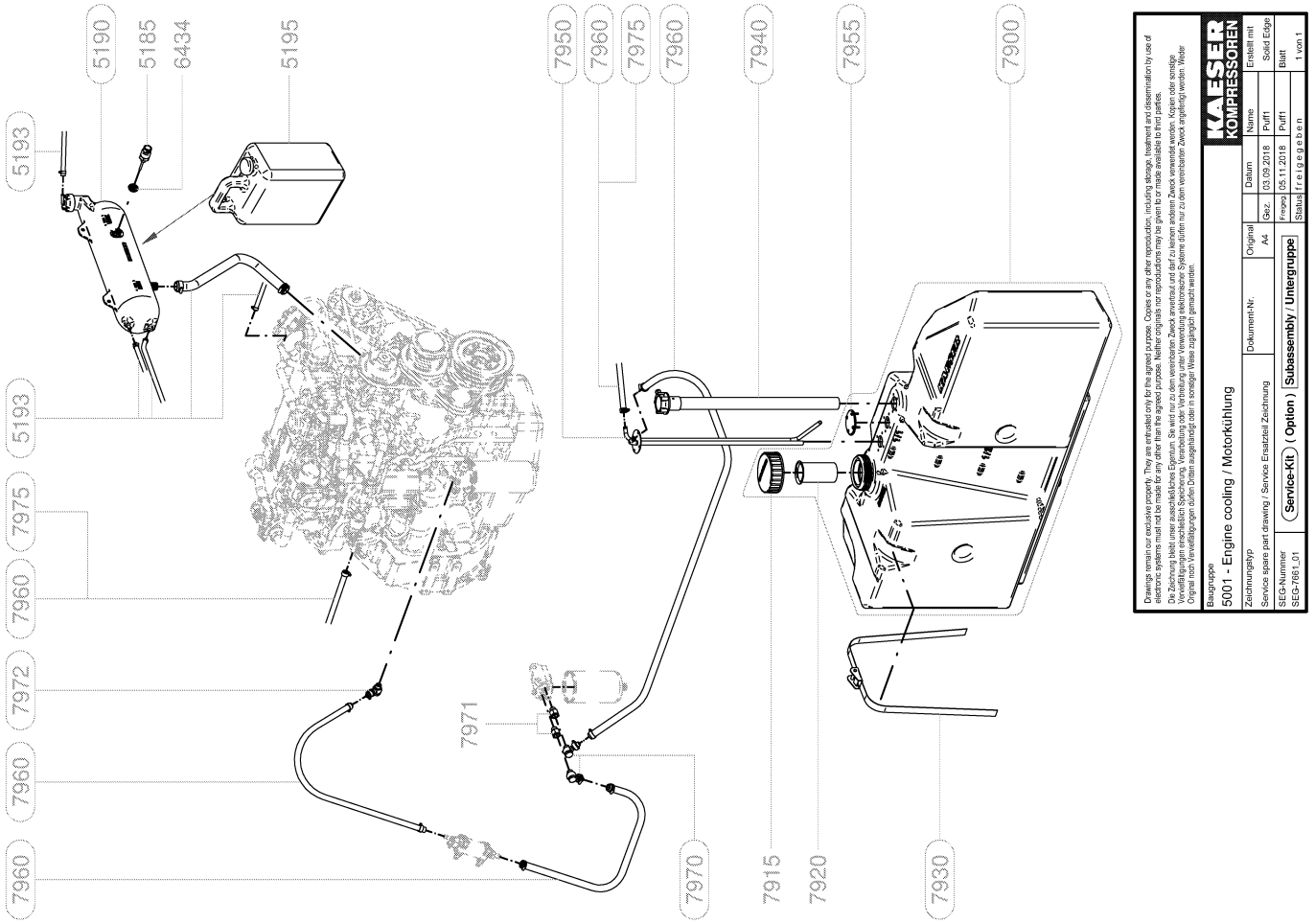


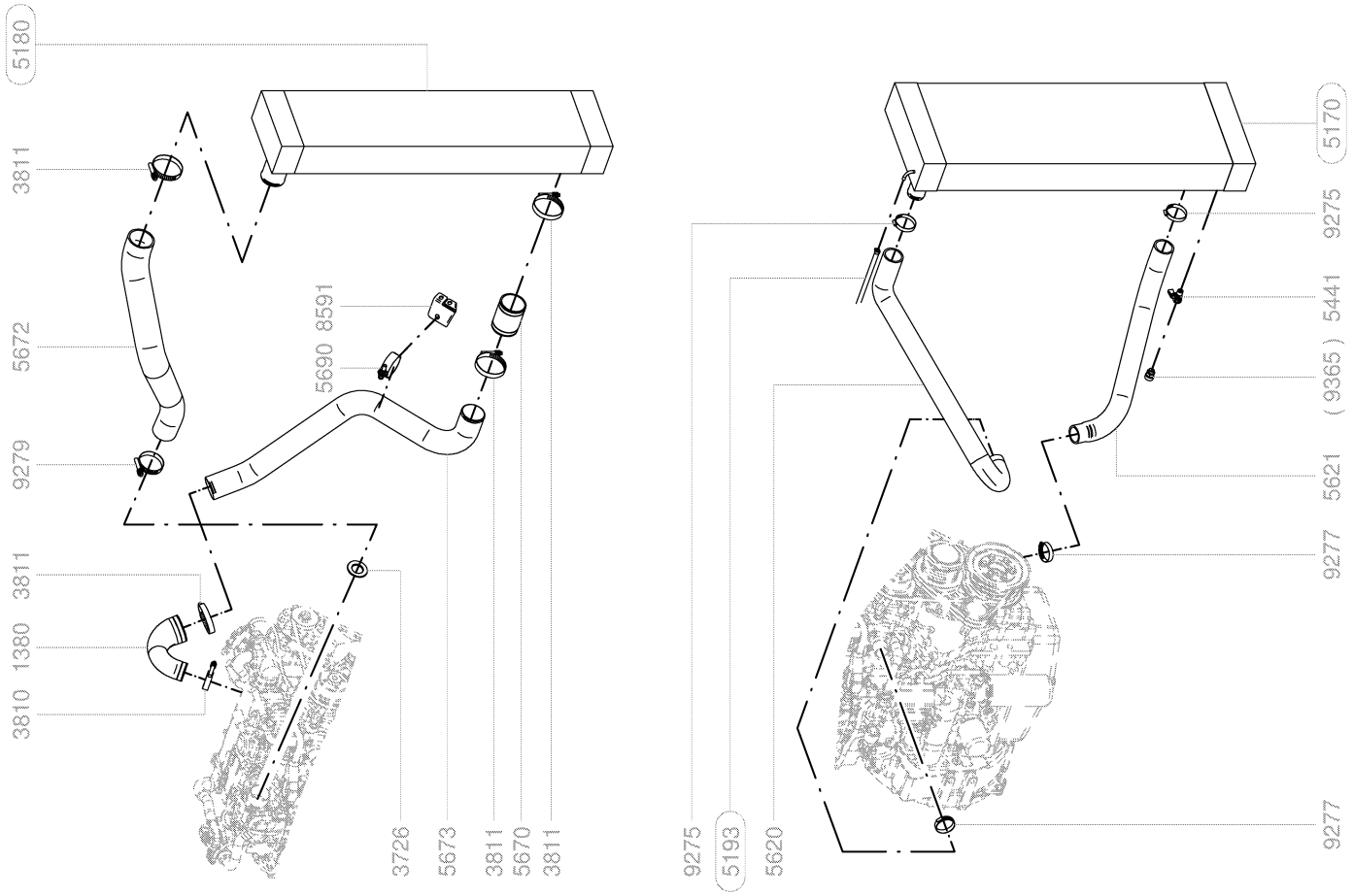
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KAESER KOMPRESSOREN

Baugruppe
4004 - Exhaust aftertreatment / Abgasnachbehandlung

Zeichnungstyp	Dokument-Nr.	Original	Datum	Name	Erstellt mit
Service spare part drawing / Service Ersatzteil Zeichnung		A4	Gez. 29.08.2018	Puff	Solid Edge
SEG-Nummer	Service-Kit (Option) Subassembly / Untergruppe		Freigb. 18.03.2019	Puff	Blatt
SEG-7656_01			Status freigegeben		1 von 1

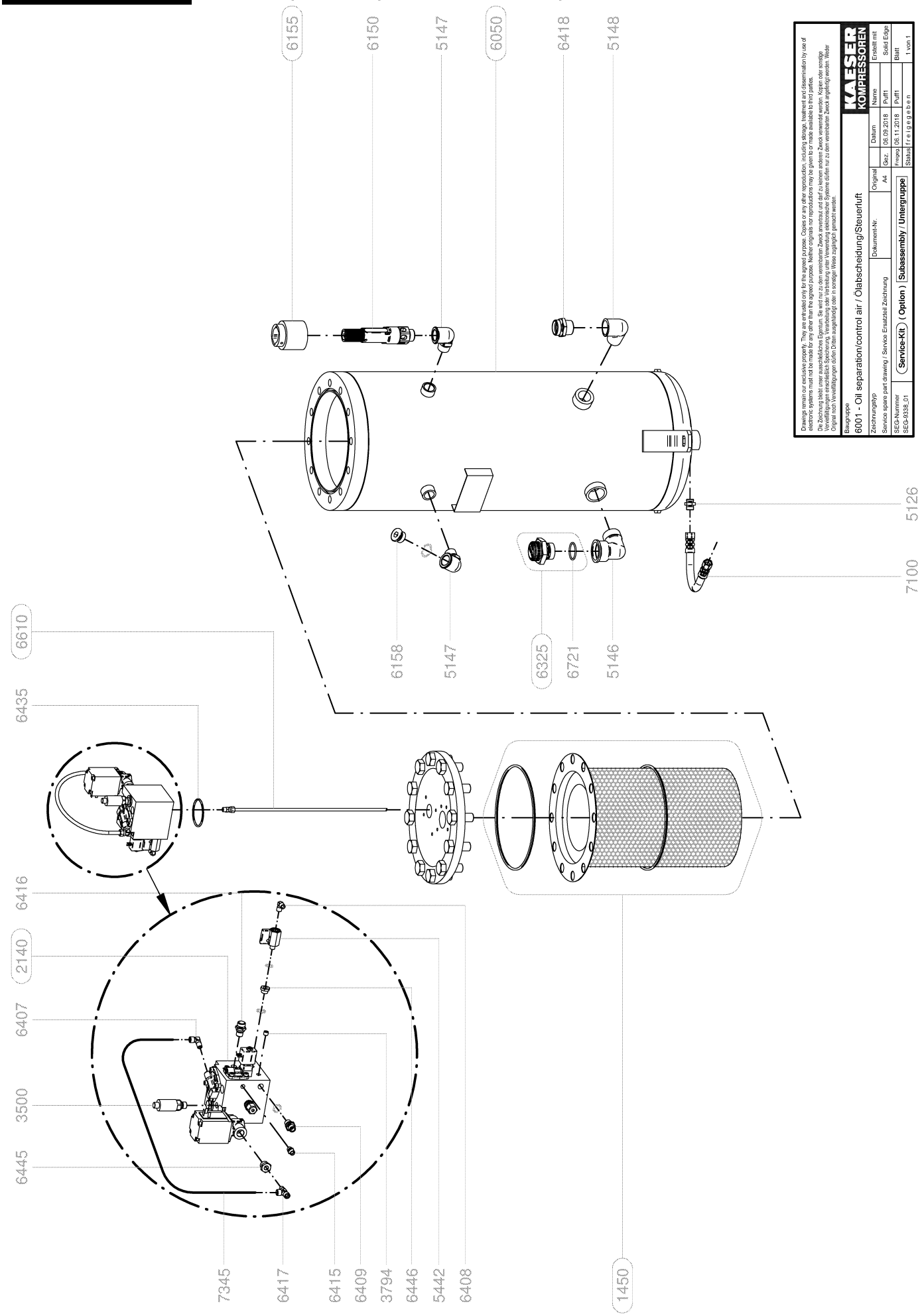


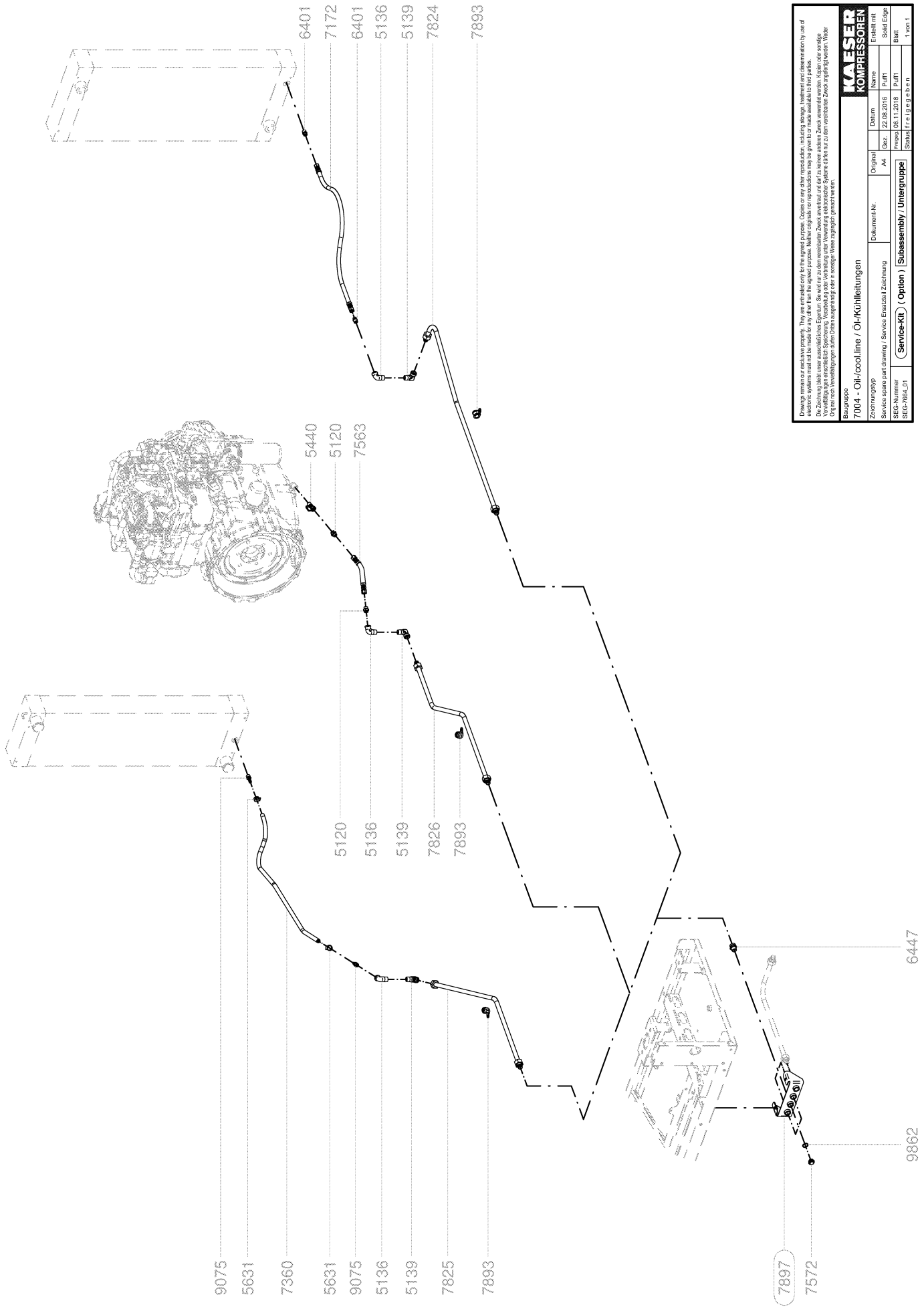


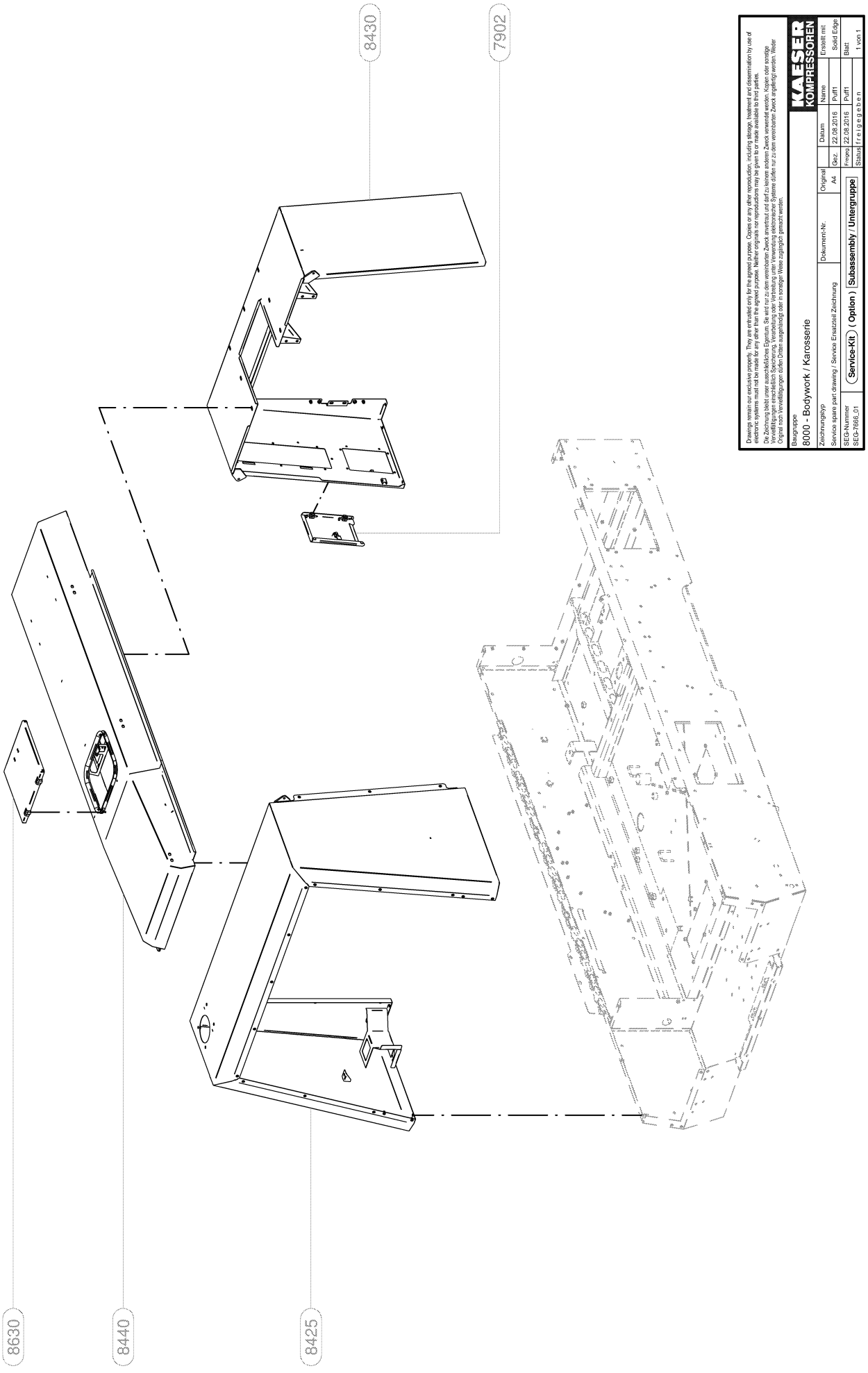
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Baugruppe				Datum	Name	Erstellt mit
5001 - Engine cooling / Motorkühlung				Gez.	03.09.2018	Puff	Solid Edge
Zeichnungstyp	Dokument-Nr.		Original	Freigg.	05.11.2018	Puff	Blatt
Service spare part drawing / Service Ersatzteil Zeichnung			A4	Status	f r e i g e g e b e n		1 von 1
SEG-Nummer	Service-Kit	(Option)	Subassembly / Untergruppe				
SEG-7661_01							


6155
6150
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6418
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7100
6158
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6325
6721
5146
6610
6435
6416
2140
6407
3500
6445
7345
6417
6415
6409
3794
6446
5442
6408
1450
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Baugruppe
6001 - Oil separation/control air / Ölabscheidung/Steuerluft
Zeichnungstyp
Service spare part drawing / Service Ersatzteil Zeichnung
Dokument-Nr.
SEG-Nummer
SEG-0338_01
Service-Kit (Option) Subassembly / Untergruppe
Original
A4
Datum
Name
Erstellt mit
Gez. 06.09.2018 Puffl Solid Edge
Freigb. 06.11.2018 Puffl Blatt
Status freigegeben 1 von 1


6401
7172
6401
5136
5139
7824
7893
5440
5120
7563
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5139
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9075
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7893
7897
7572
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KAESER KOMPRESSOREN
Baugruppe
7004 - Öl-/cool.line / Öl-/Kühlleitungen
Zeichnungstyp
Service spare part drawing / Service Ersatzteil Zeichnung
Dokument-Nr.
Original
A4
Datum
Name
Erstellt mit
Gez. 22.08.2016 Pufft Solid Edge
SEG-Nummer
SEG-7664_01
Service-Kit (Option) Subassembly / Untergruppe
Freigg. 08.11.2018 Pufft Blatt
Status freigegeben 1 von 1

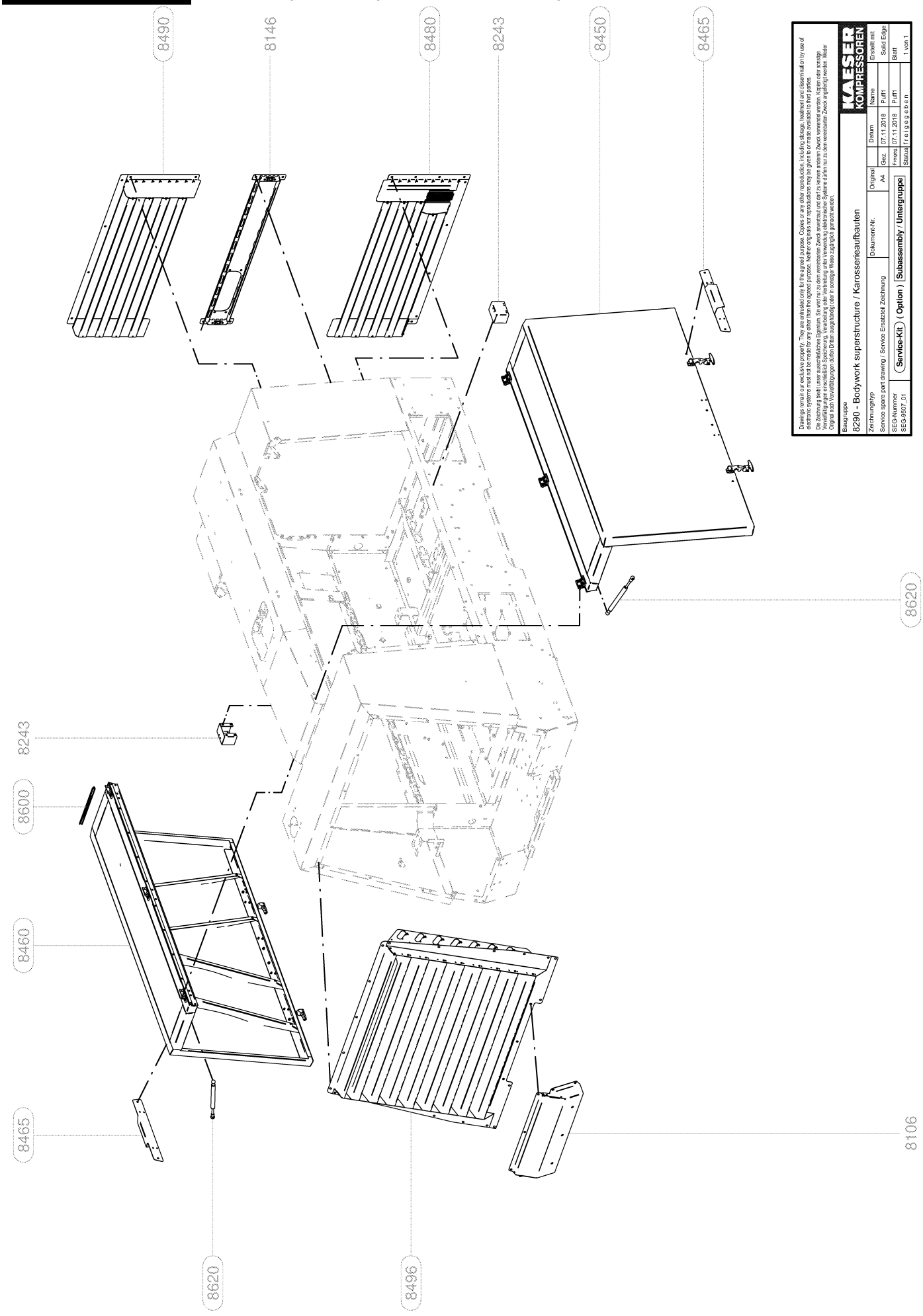


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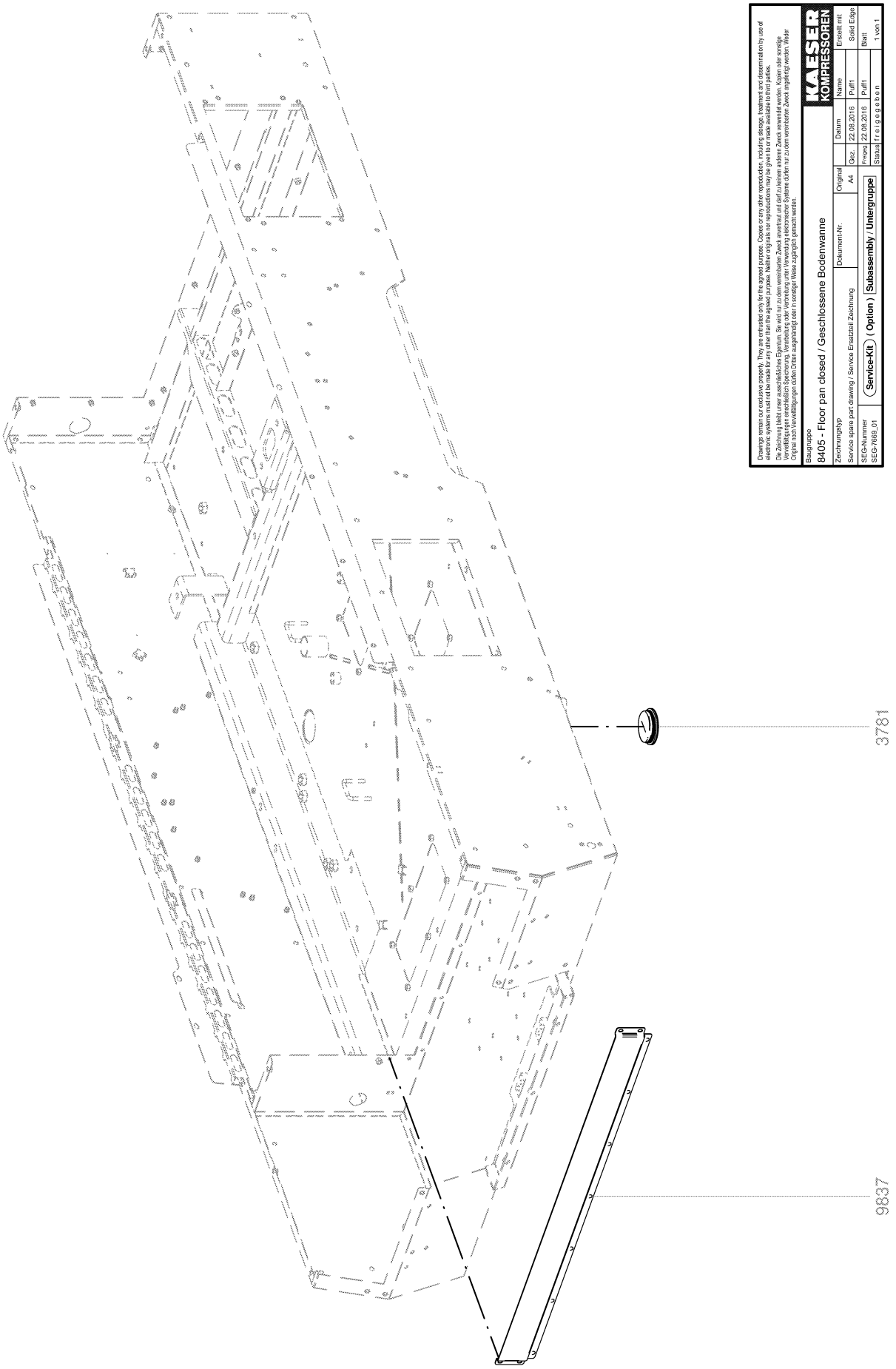
Baugruppe
8000 - Bodywork / Karosserie

Zeichnungstyp	Dokument-Nr.	Original		Datum	Name	Erstellt mit
Service spare part drawing / Service Ersatzteil Zeichnung		A4	Gez.	22.08.2016	Puff	Solid Edge
SEG-Nummer			Freigab	22.08.2016	Puff	Blatt
SEG-7666_01	Service-Kit (Option) Subassembly / Untergruppe		Status	f r e i g e g e b e n		1 von 1



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Baugruppe					KAESER KOMPRESSOREN
8290 - Bodywork superstructure / Karosserieaufbauten			Datum	Name	Erstellt mit
Zeichnungstyp	Dokument-Nr.	Original			
Service spare part drawing / Service Ersatzteil Zeichnung		A4	Gez. 07.11.2018	Puff	Solid Edge
SEG-Nummer	Service-Kit (Option)	Subassembly / Untergruppe	Freigg. 07.11.2018	Puff	Blatt
SEG-9507_01			Status Freigegeben		1 von 1

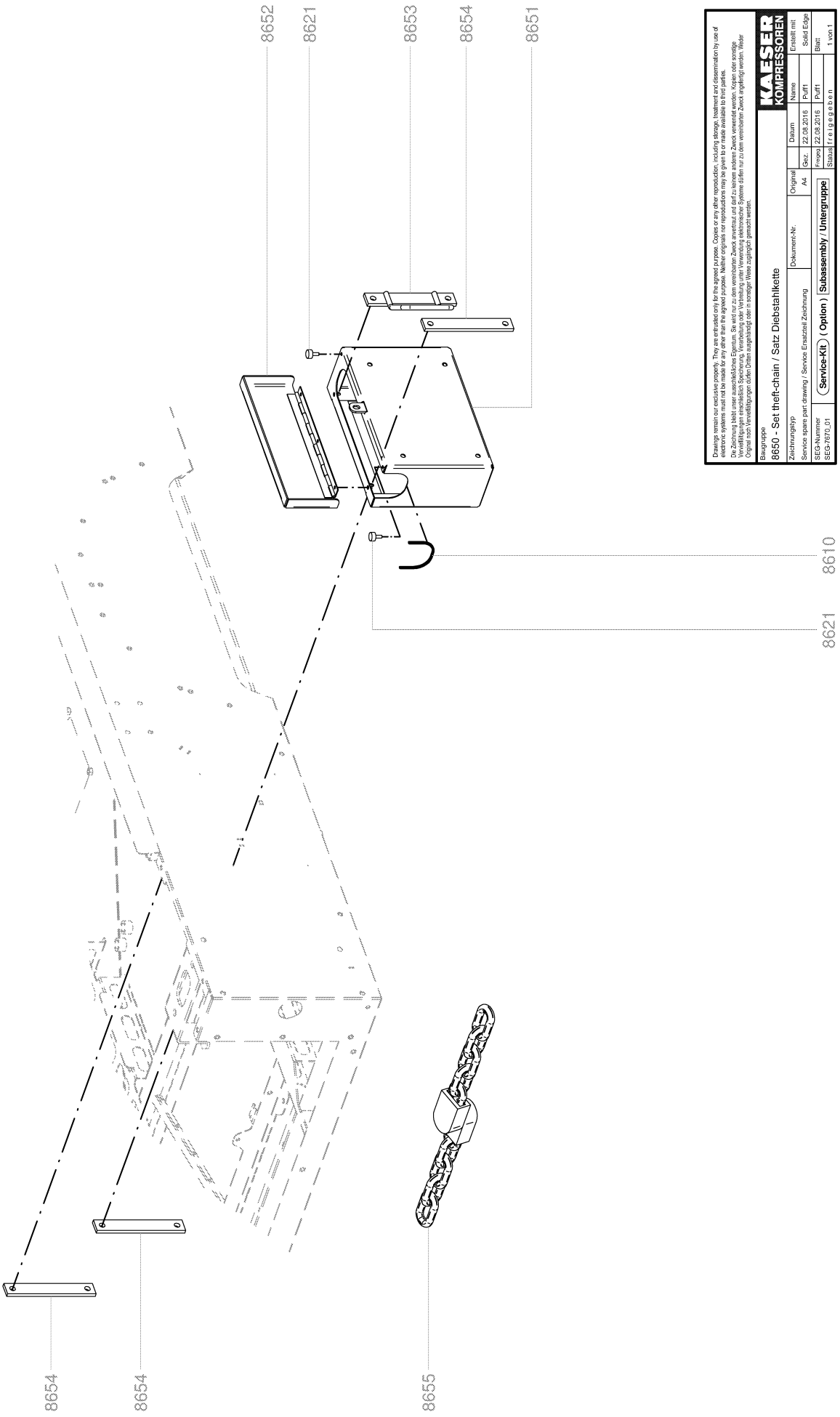


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KAESER KOMPRESSOREN

Baugruppe
8405 - Floor pan closed / Geschlossene Bodenwanne

Zeichnungstyp	Dokument-Nr.	Original		Datum	Name	Erstellt mit
Service spare part drawing / Service Ersatzteil Zeichnung		A4	Gez.	22.08.2016	Puff1	Solid Edge
SEG-Nummer	Service-Kit (Option)	Subassembly / Untergruppe	Freigab	22.08.2016	Puff1	Blatt
SEG-7669_01			Status	f r e i g e g e b e n		1 von 1

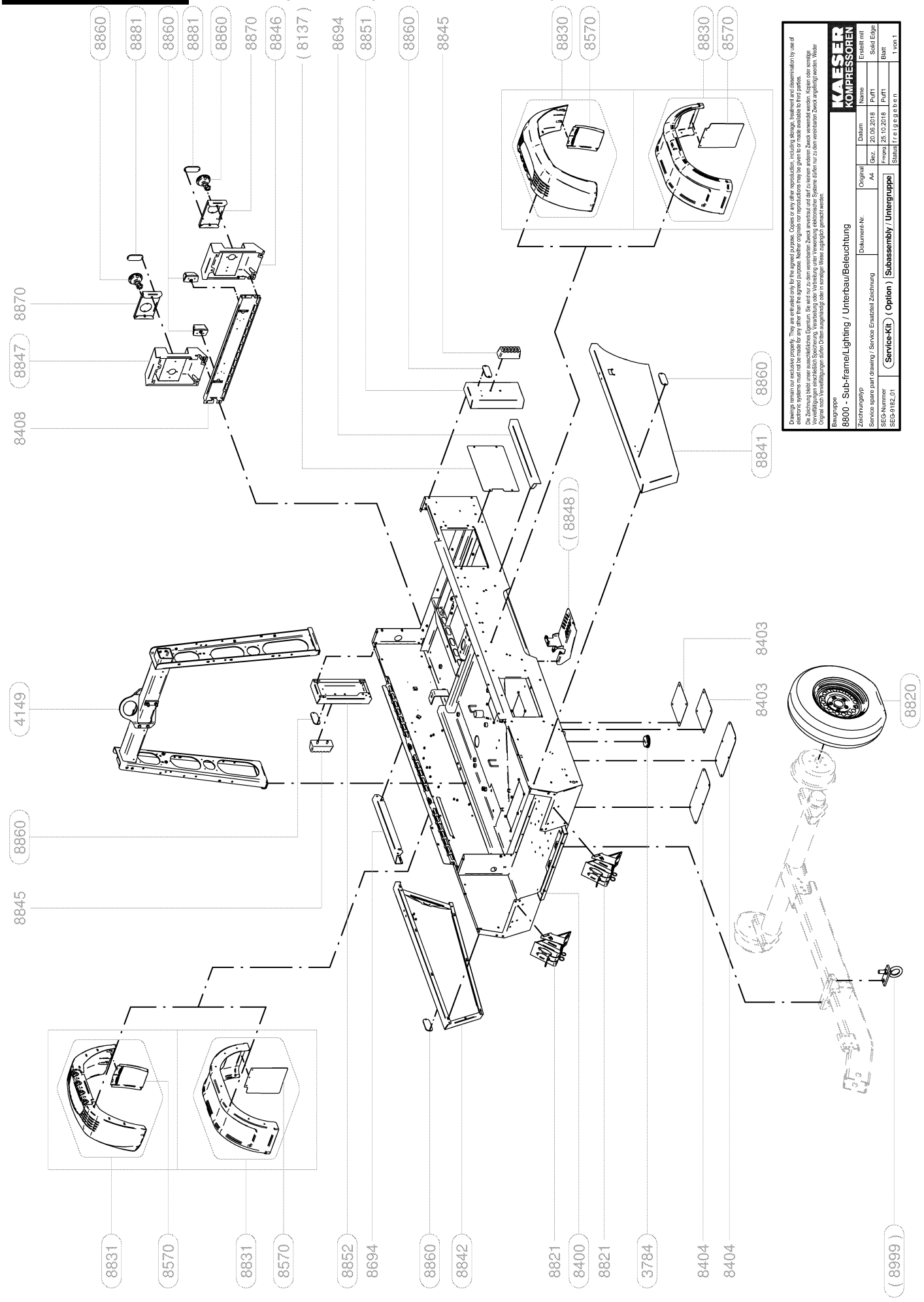


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KAESER KOMPRESSOREN

Baugruppe
8650 - Set theft-chain / Satz Diebstahlkette

Zeichnungstyp	Dokument-Nr.	Original	Datum	Name	Erstellt mit
Service spare part drawing / Service Ersatzteil Zeichnung		A4	Satz 22.08.2016	Puff	Solid Edge
SEG-Nummer	Service-Kit (Option)	Subassembly / Untergruppe	Freigabe 22.08.2016	Puff	Blatt
SEG-7970_01			Status freigegeben		1 von 1

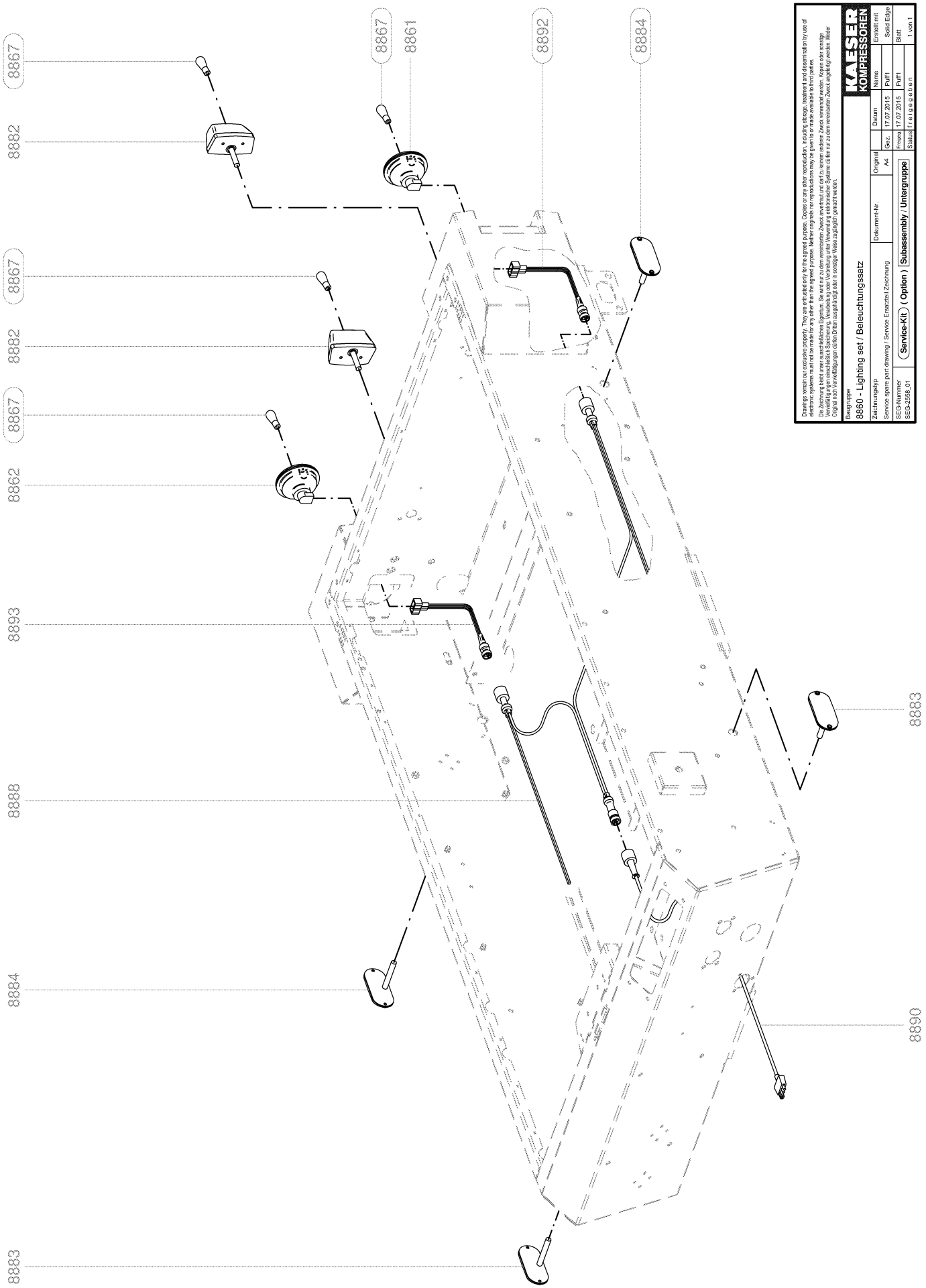


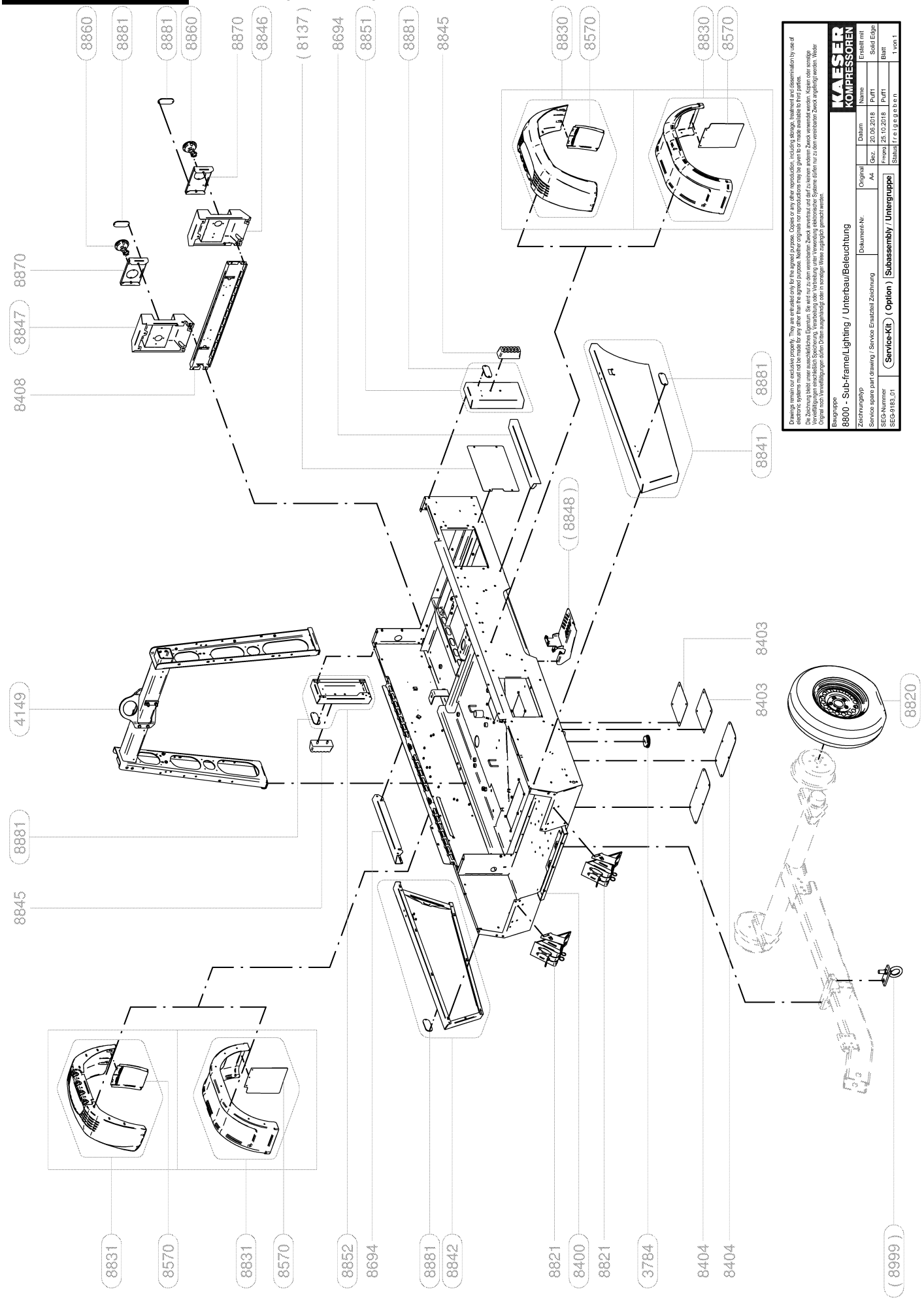
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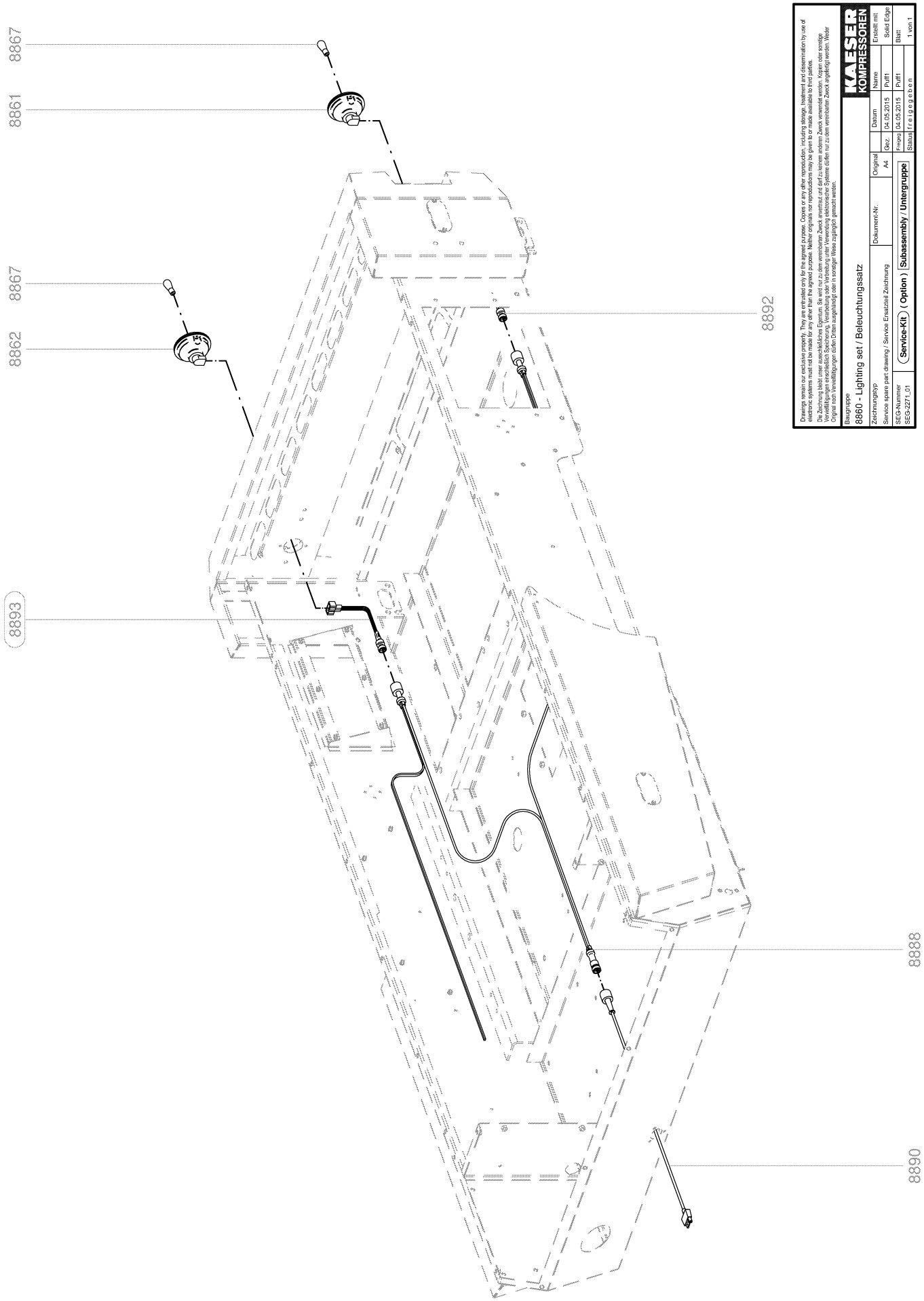
KAESER KOMPRESSOREN

Baugruppe
8800 - Sub-frame/Lighting / Unterbau/Beleuchtung

Zeichnungstyp	Dokument-Nr.	Original	Datum	Name	Erstellt mit
Service spare part drawing / Service Ersatzteil Zeichnung		A4	Gez. 20.06.2018	Puff	Solid Edge
SEG-Nummer SEG-0182_01	Service-Kit (Option) Subassembly / Untergruppe		Freigabe 25.10.2018	Puff	Blatt 1 von 1
			Status freigegeben		


8867
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Baugruppe
8860 - Lighting set / Beleuchtungssatz
Zeichnungstyp
Service spare part drawing / Service Ersatzteil Zeichnung
Dokument-Nr.
Original
A4
Datum
Name
Erstellt mit
Solid Edge
SEG-Nummer
SEG-2568_01
Service-Kit (Option) Subassembly / Untergruppe
Freigegeben
Blatt
1 von 1


8860
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(8137)
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8841
(8848)
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8400
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3784
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8404
(8999)
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KAESER KOMPRESSOREN
Baugruppe
8800 - Sub-frame/Lighting / Unterbau/Beleuchtung
Zeichnungstyp
Service spare part drawing / Service Ersatzteil Zeichnung
Dokument-Nr.
Original
A4
Datum
Name
Erstellt mit
Gez. 20.06.2018 Puff
Solid Edge
Freigabe 25.10.2018 Puff
Blatt
Status freigegeben
1 von 1
SEG-Nummer
SEG-0183_01
Service-Kit (Option) Subassembly / Untergruppe

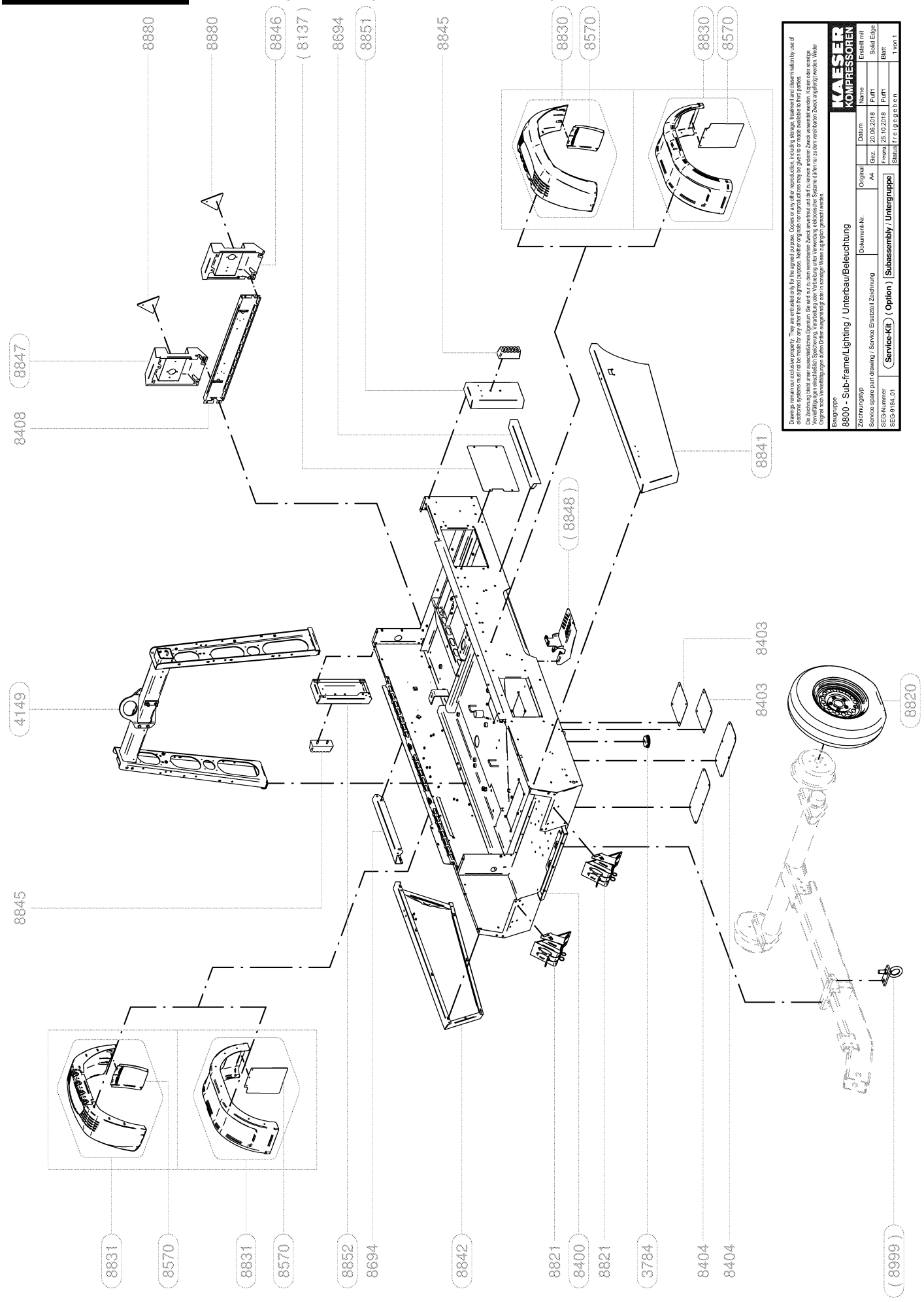


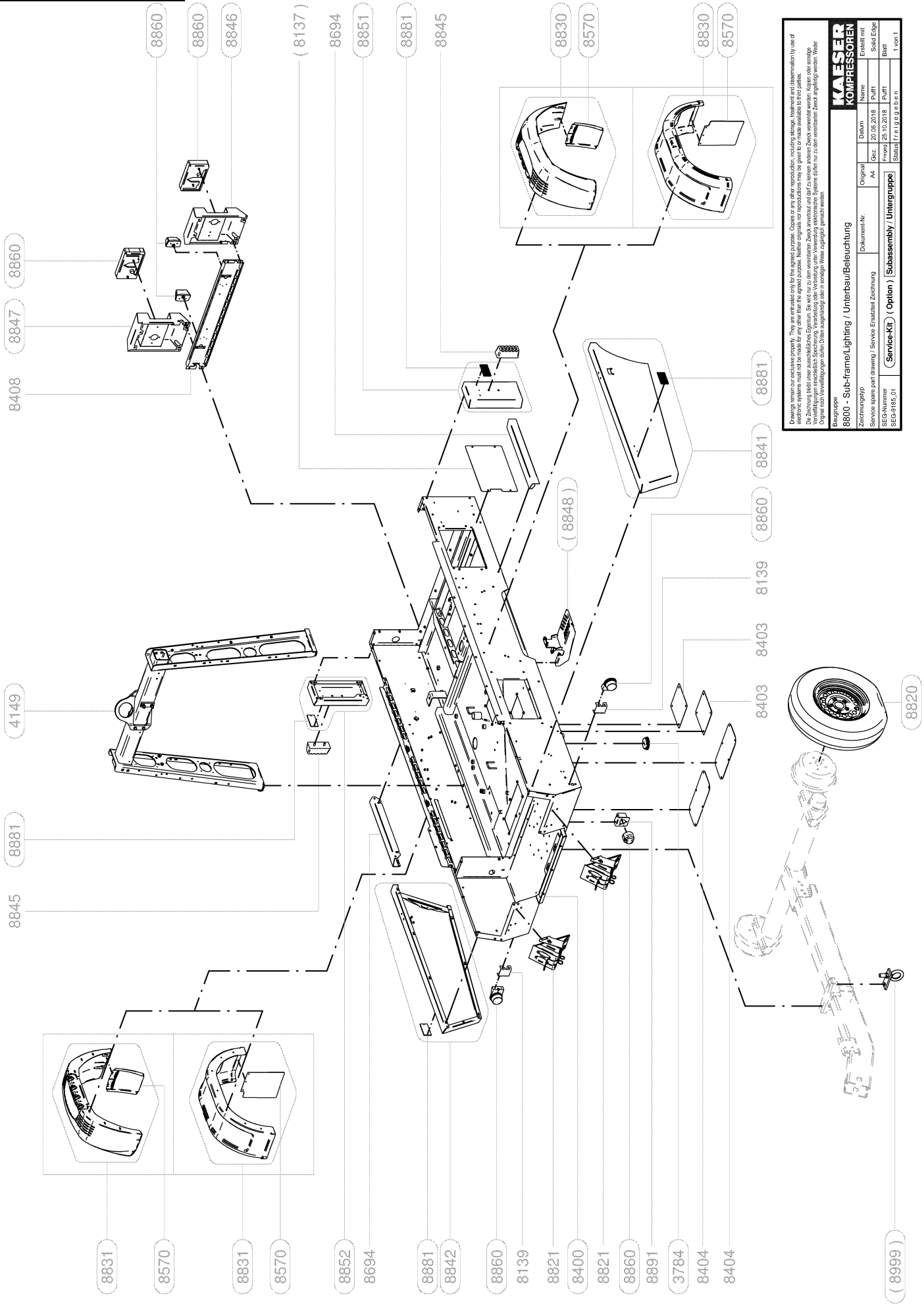
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Baugruppe
8860 - Lighting set / Beleuchtungssatz

Zeichnungstyp	Dokument-Nr.	Original	Datum	Name	Erstellt mit
Service spare part drawing / Service Ersatzteil Zeichnung		A4	Gez. 04.05.2015	Pufft	SolidEdge
SEG-Nummer			Freigeg. 04.05.2015	Pufft	Blatt
SEG-2271_01	Service-Kit (Option) Subassembly / Untergruppe		Status freigegeben		1 von 1


8880
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KAESER KOMPRESSOREN
Baugruppe
8800 - Sub-frame/Lighting / Unterbau/Beleuchtung
Original
Datum
Name
Erstellt mit
Zeichnungstyp
Dokument-Nr.
A4
Gez.
20.06.2018
Puffi
Solid Edge
Service spare part drawing / Service Ersatzteil Zeichnung
Freigabe
25.10.2018
Puffi
Blatt
SEG-Nummer
SEG-0184_01
Service-Kit
(Option)
Subassembly / Untergruppe
Status
f r e i g e g e b e n
1 von 1

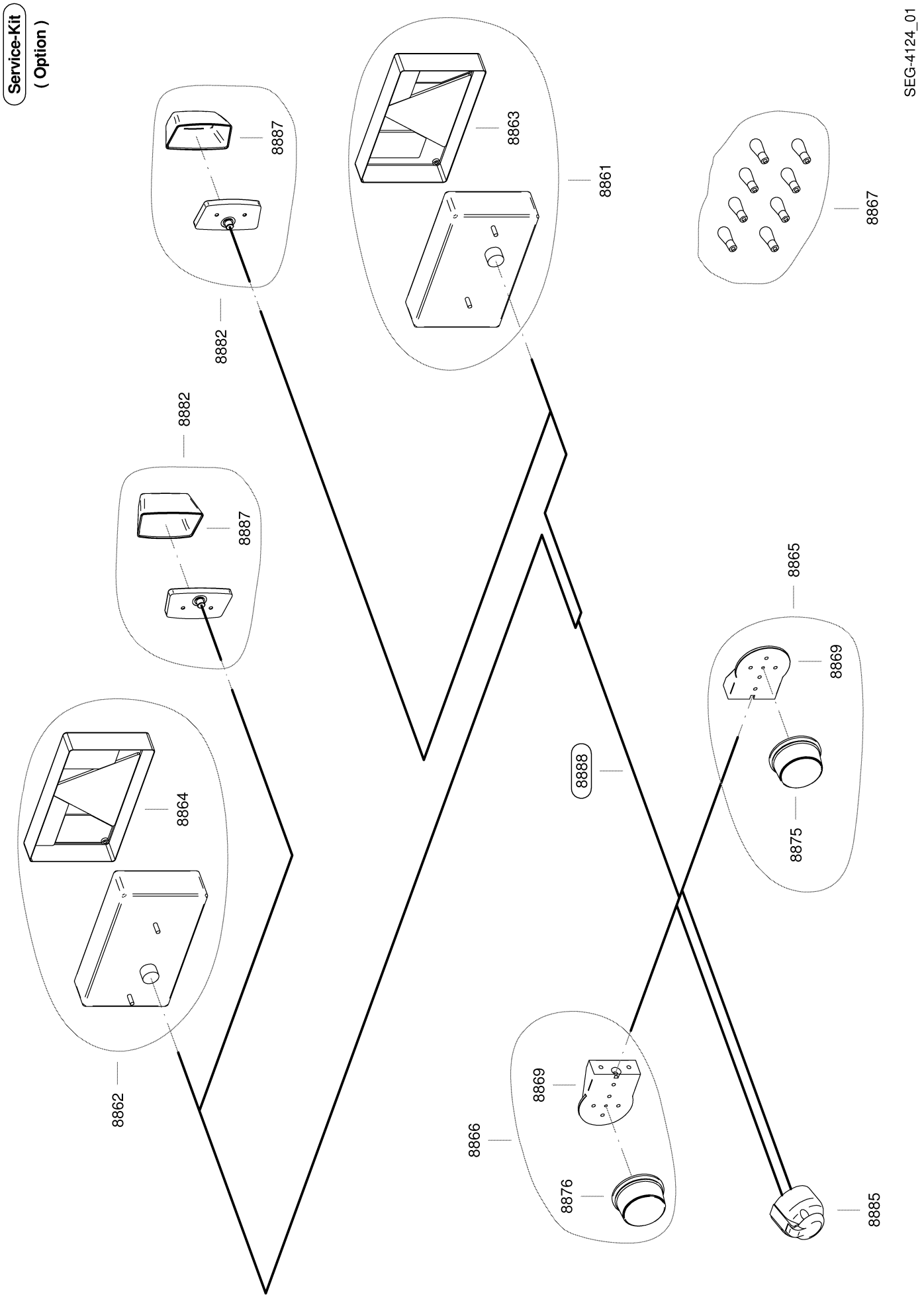


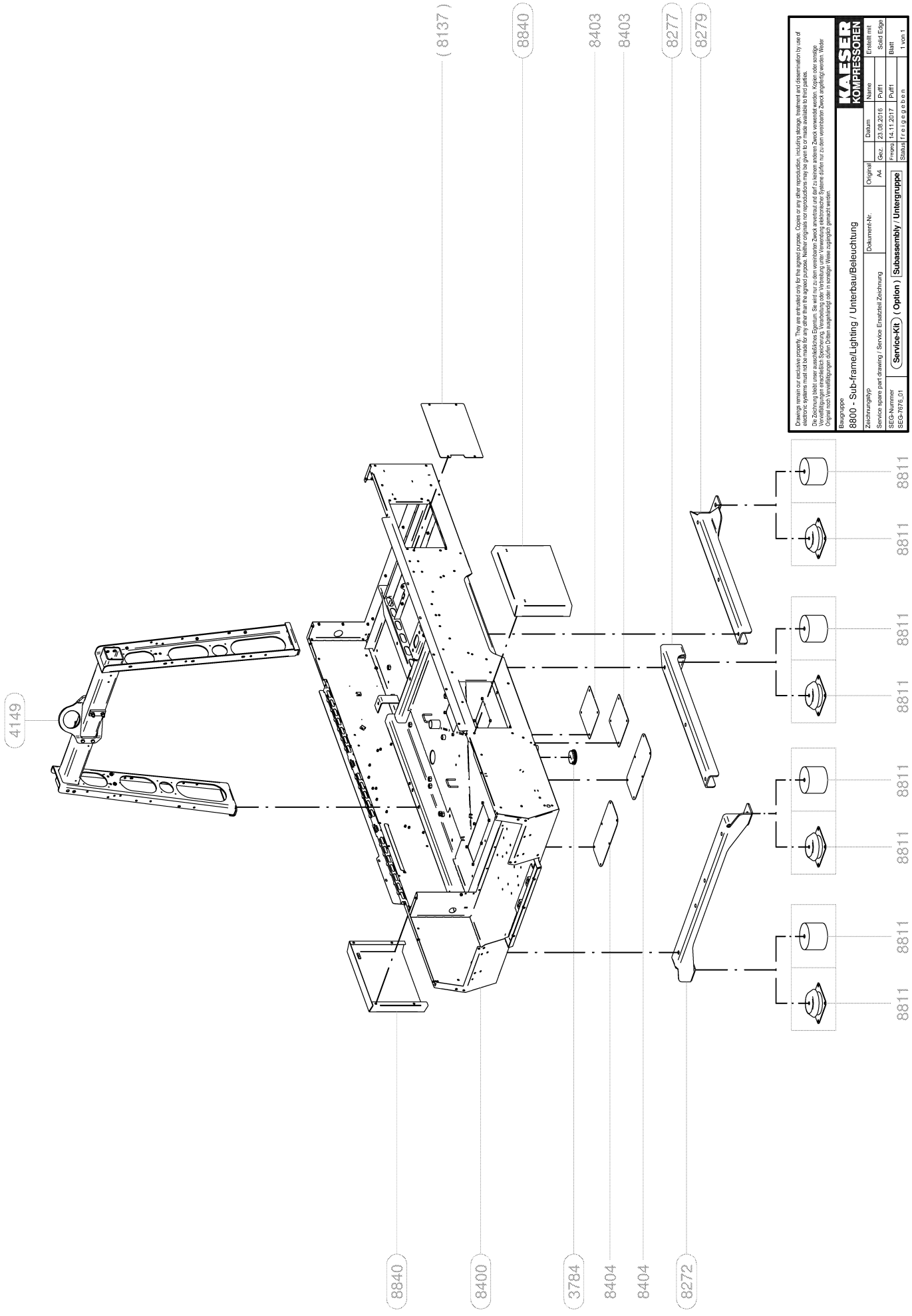
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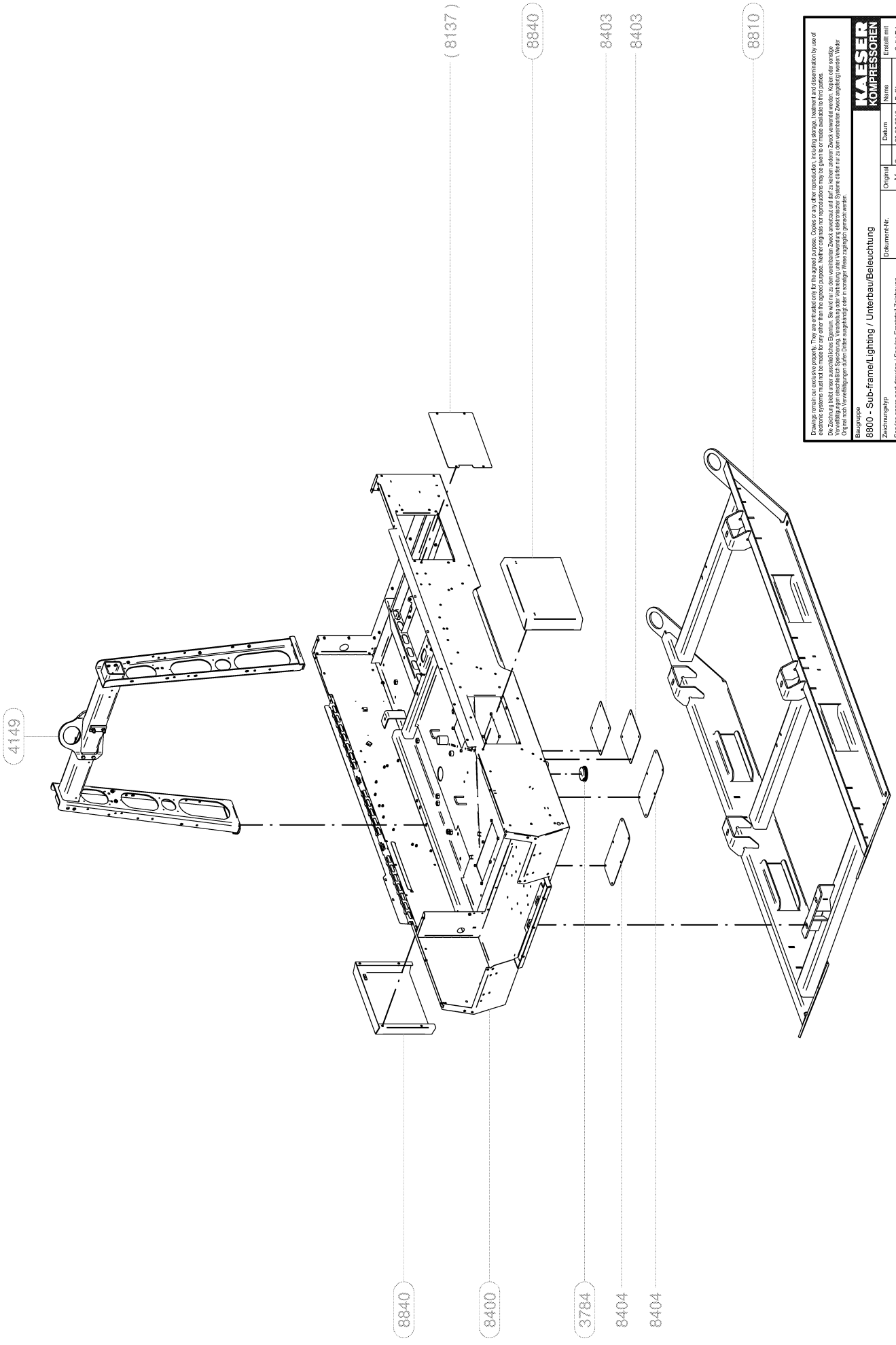
KAESER KOMPRESSOREN

Baugruppe
8800 - Sub-frame/Lighting / Unterbau/Beleuchtung

Zeichnungstyp	Dokument-Nr.	Original	Datum	Name	Erstellt mit
Service spare part drawing / Service Ersatzteil Zeichnung		A4	20.06.2018	Puff	Solid Edge
SEG-Nummer	Service-Kit (Option)	Subassembly / Untergruppe	Freigabe 25.10.2018	Puff	Blatt
SEG-9185_01			Status freigegeben		1 von 1


Service-Kit
(Option)
SEG-4124_01
8887
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8400
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KAESER KOMPRESSOREN
Baugruppe
8800 - Sub-frame/Lighting / Unterbau/Beleuchtung
Zeichnungstyp
Service spare part drawing / Service Ersatzteil Zeichnung
Dokument-Nr.
Original
A4
Datum
Name
Erstellt mit
Solid Edge
SEG-Nummer
SEG-7976_01
Service-Kit (Option) Subassembly / Untergruppe
Freigegeben

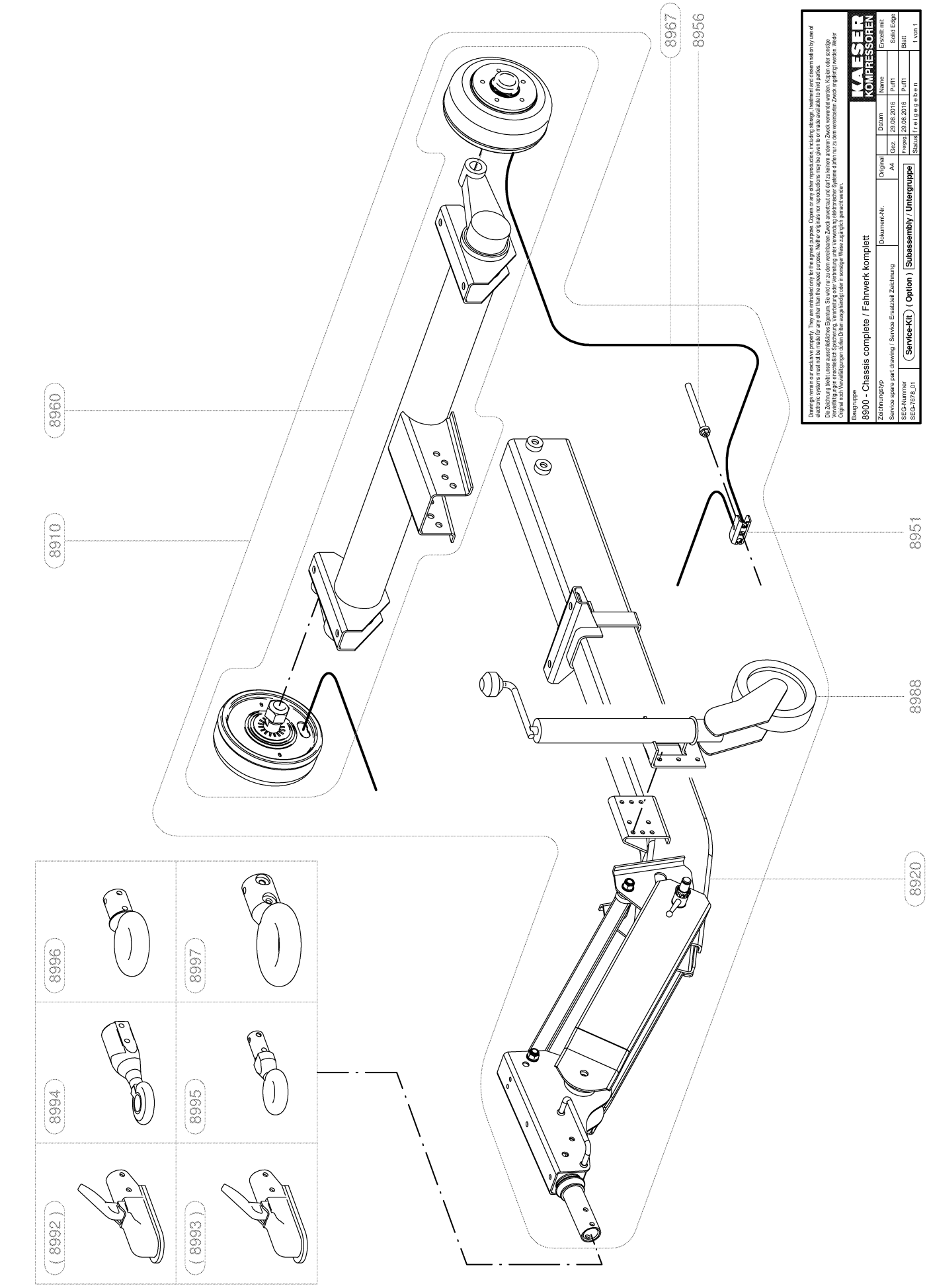


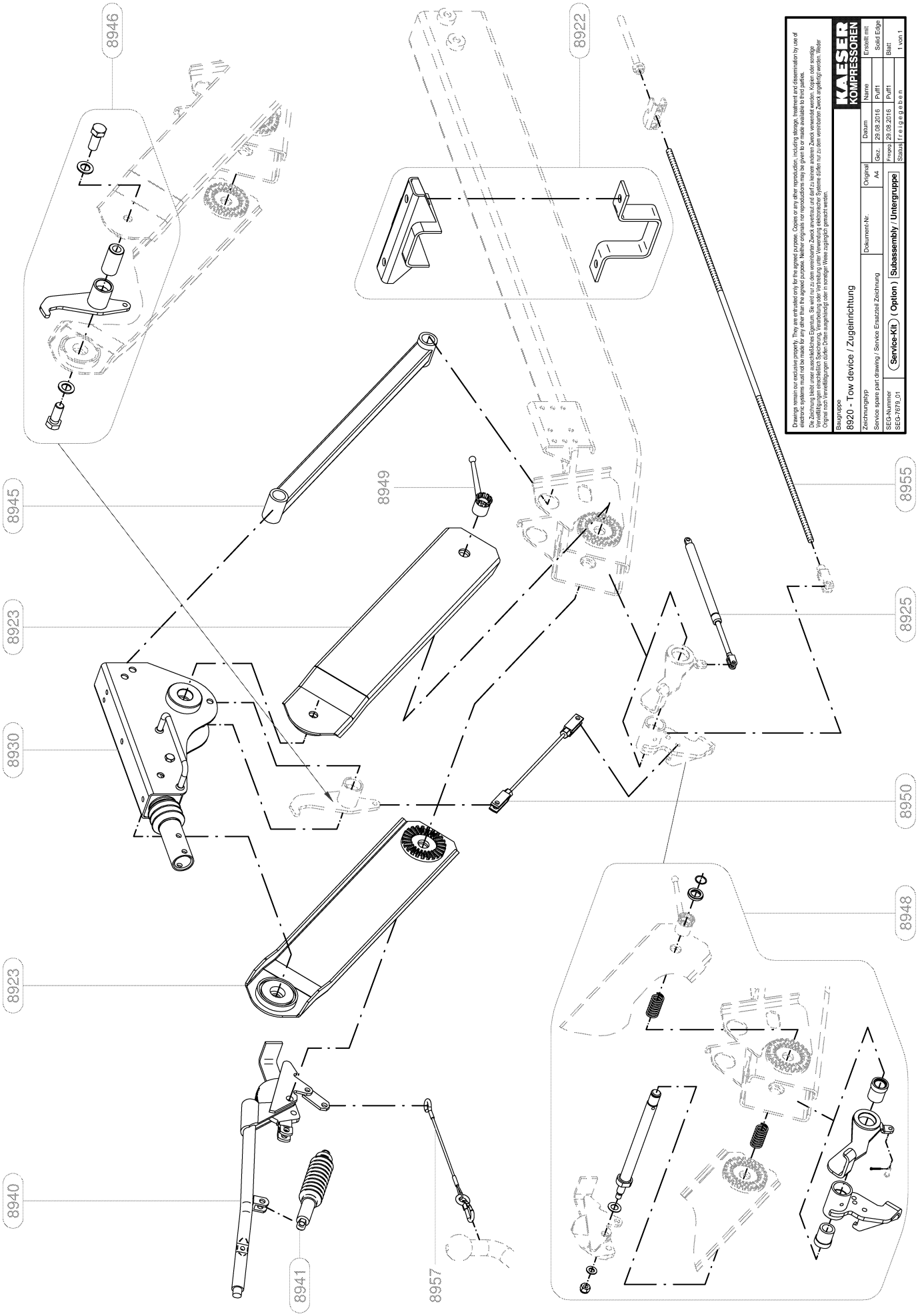
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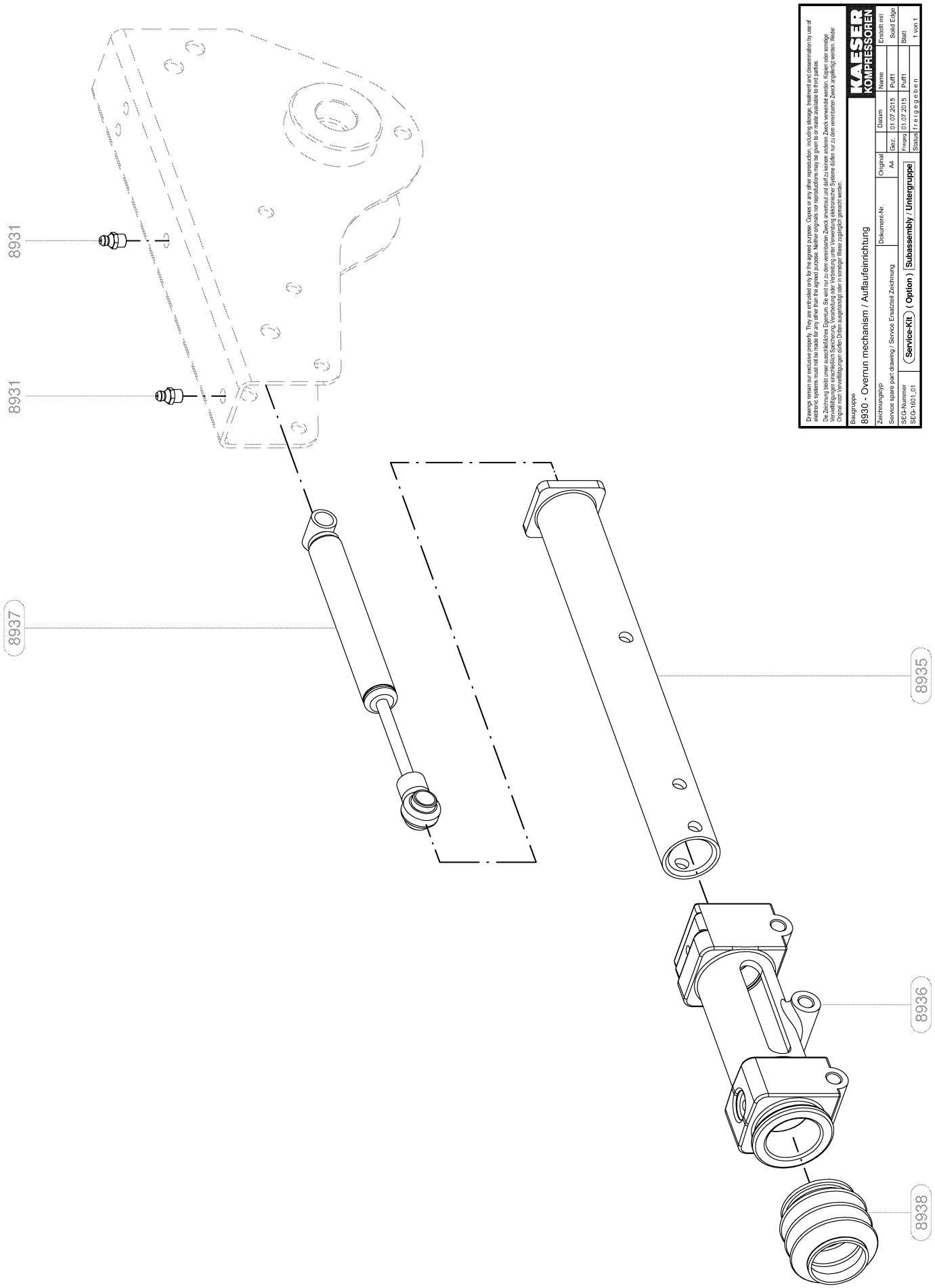
KAESER KOMPRESSOREN

Baugruppe
8800 - Sub-frame/Lighting / Unterbau/Beleuchtung

Zeichnungstyp	Dokument-Nr.	Original		Datum	Name	Erstellt mit
Service spare part drawing / Service Ersatzteil Zeichnung		A4	Gez.	23.08.2016	Puff\	Solid Edge
SEG-Nummer	Service-Kit (Option) Subassembly / Untergruppe		Freigab	14.11.2017	Puff\	Blatt
SEG-7677_01			Status	f r e i g e g e b e n		1 von 1


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KAESER KOMPRESSOREN
Baugruppe
8900 - Chassis complete / Fahrwerk komplett
Zeichnungstyp
Dokument-Nr.
Original
Datum
Name
Erstellt mit
Service spare part drawing / Service Ersatzteil Zeichnung
A4
Skz:
29.08.2016
Puff1
SolidEdge
SEG-Nummer
SEG-7978_01
Service-Kit (Option) Subassembly / Untergruppe
Freigegeben
Status
29.08.2016
Puff1
Blatt
1 von 1

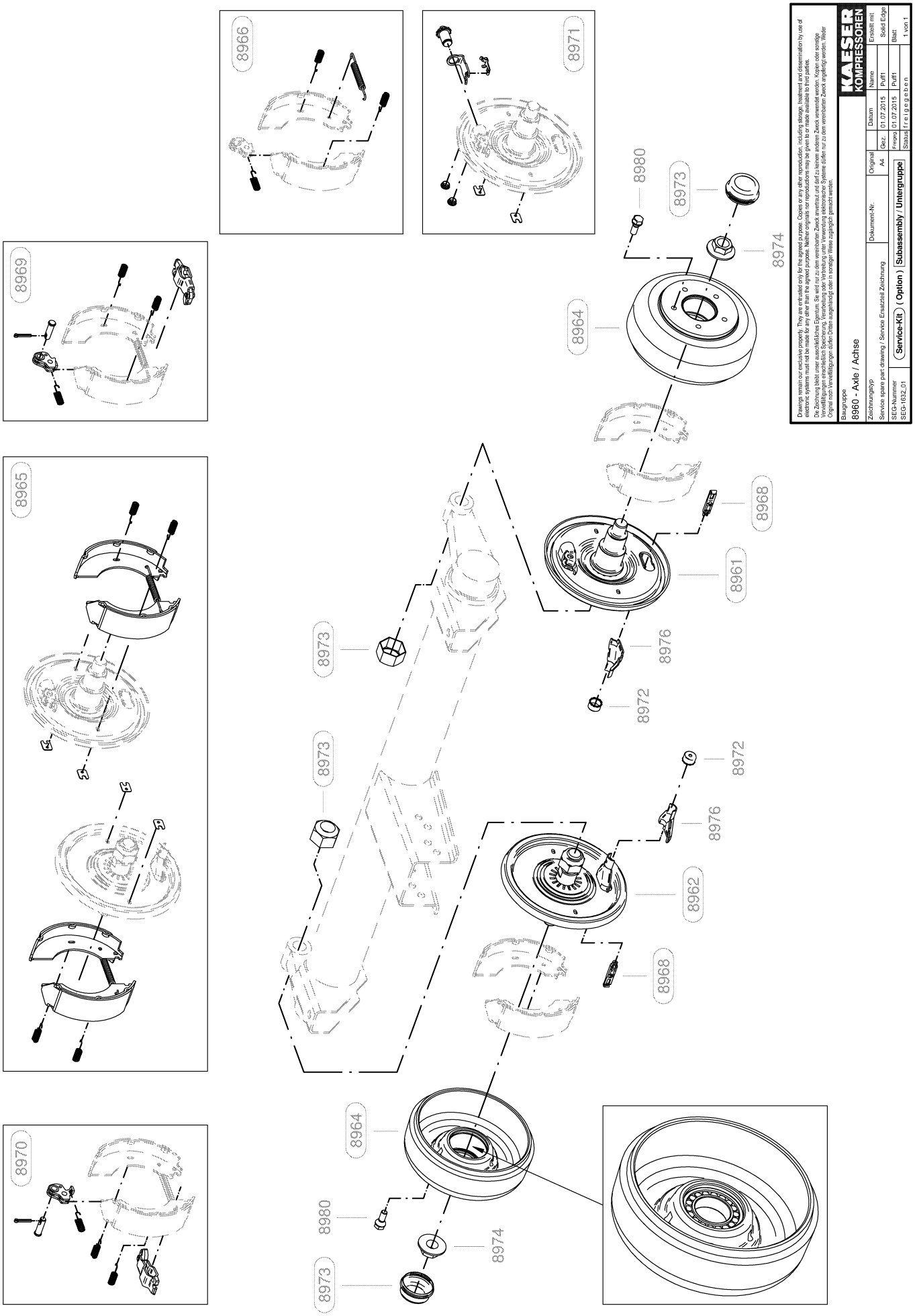

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KAESER KOMPRESSOREN
Baugruppe
8920 - Tow device / Zugeinrichtung
Zeichnungstyp
Service spare part drawing / Service Ersatzteil Zeichnung
SEG-Nummer
SEG-7879_01
Service-Kit (Option) Subassembly / Untergruppe
Dokument-Nr.
Original
A4
Datum
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Gez. 29.08.2016 Puff
Freigegeben 29.08.2016 Puff
Status freigegeben
Ersetzt mit
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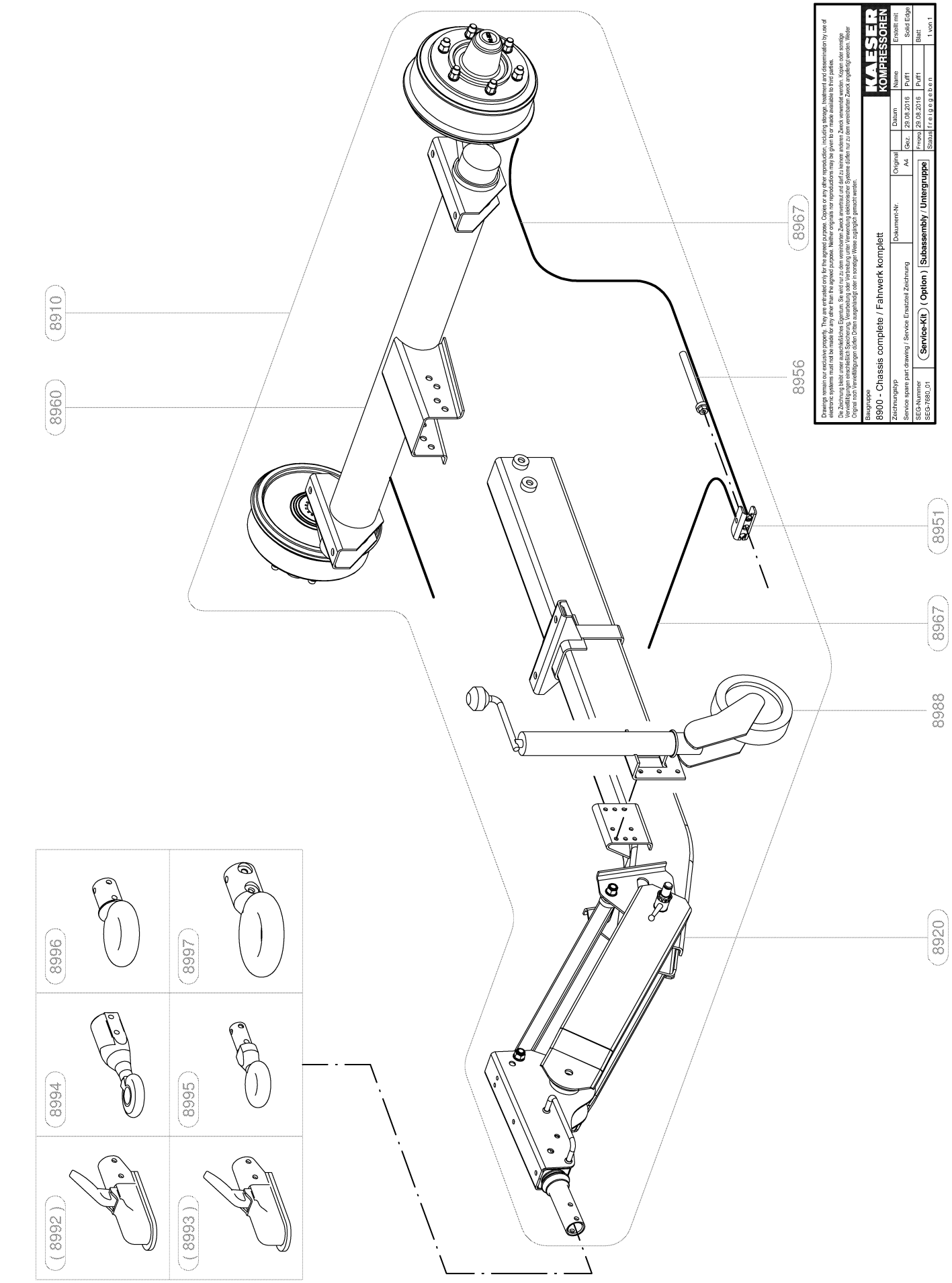


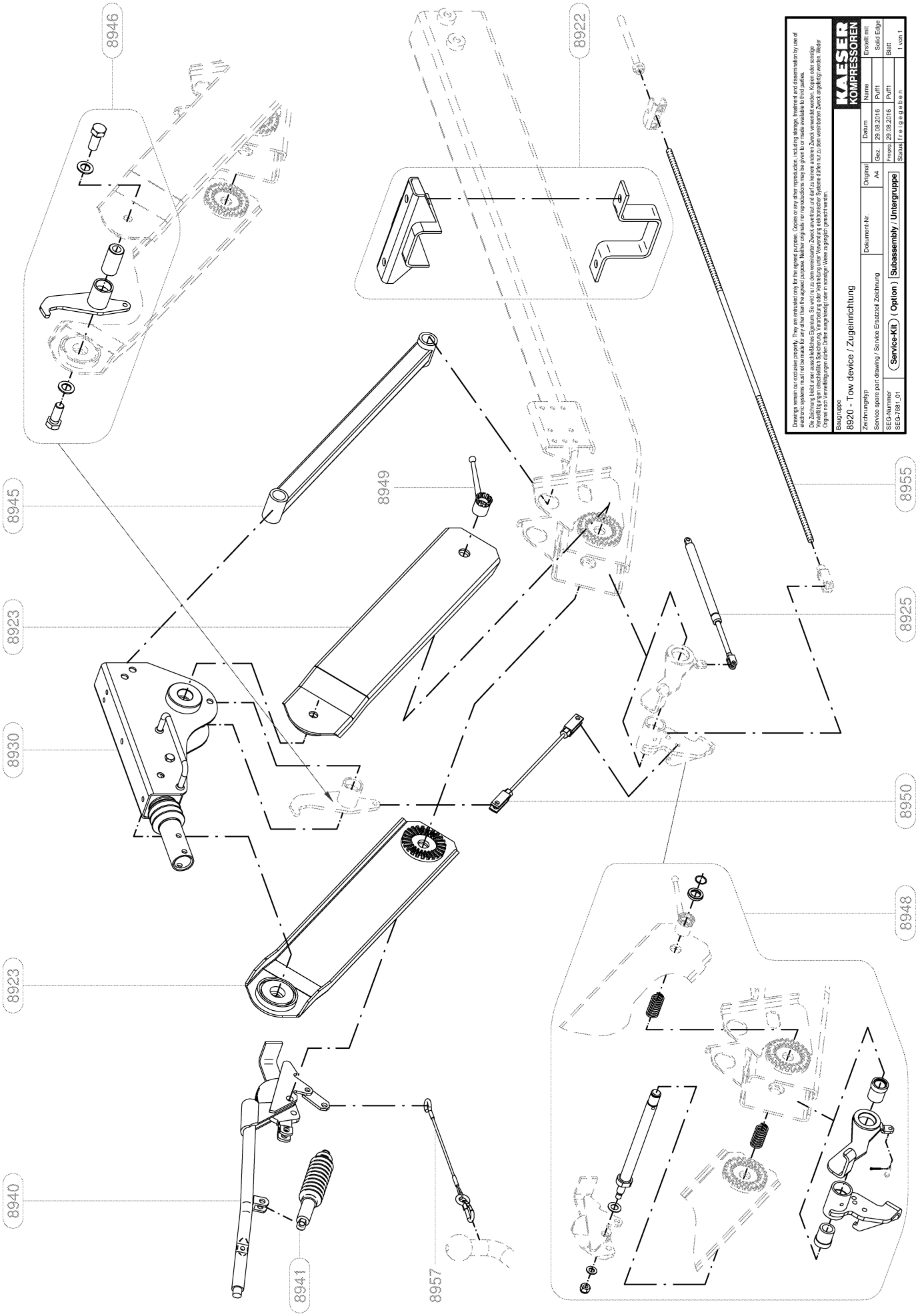
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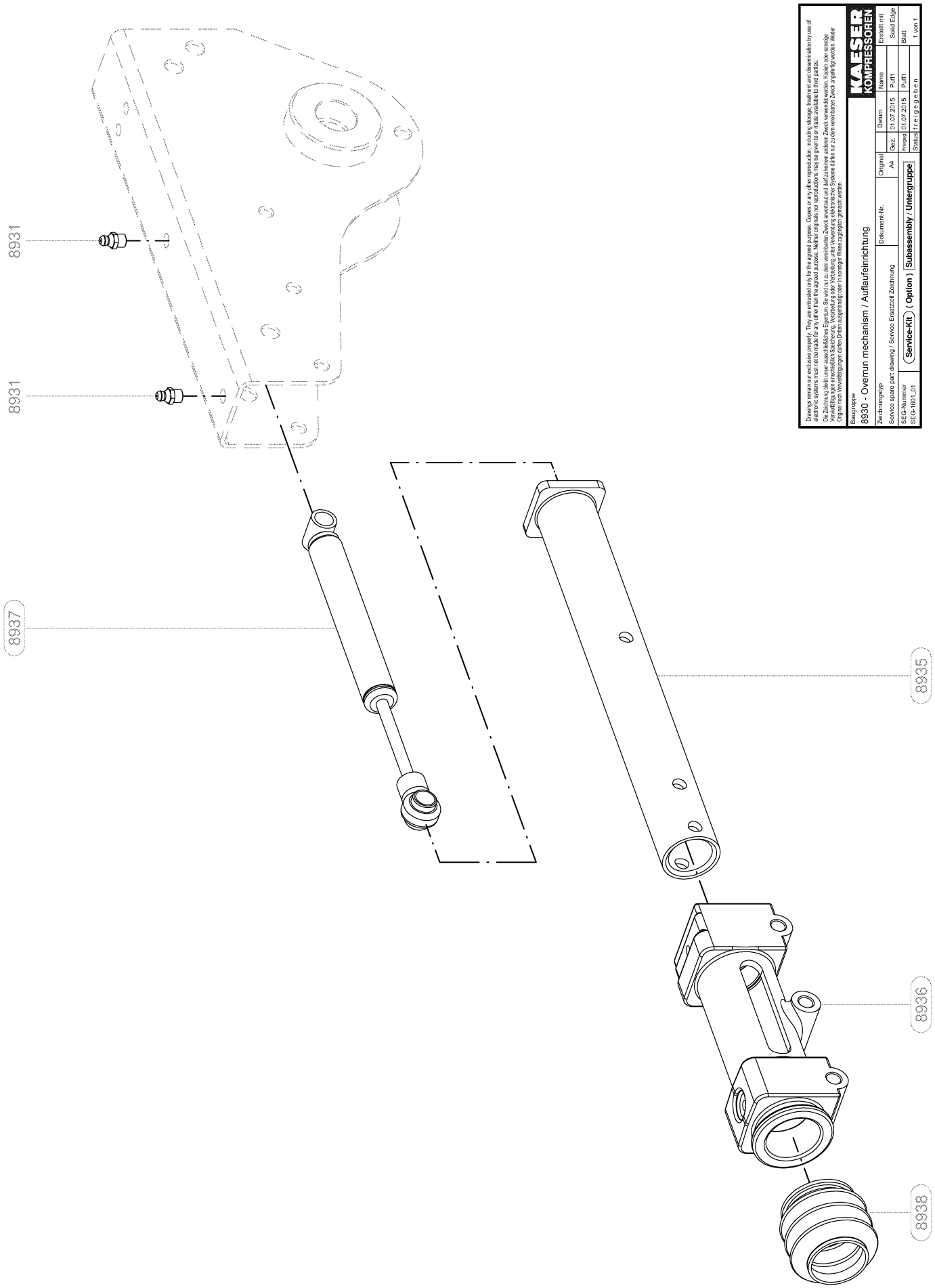
Baugruppe
8930 - Overrun mechanism / Auflaufeinrichtung

Zeichnungstyp	Dokument-Nr.	Original	Datum	Name	Erstellt mit
Service spare part drawing / Service Ersatzteil Zeichnung		A4	Gez. 01.07.2015	Puff	Solid Edge
SEG-Nummer			Freigag. 01.07.2015	Puff	Blatt
SEG-1601_01	Service-Kit (Option)	Subassembly / Untergruppe	Status freigegeben		1 von 1


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KAESER KOMPRESSOREN
Baugruppe
8960 - Axle / Achse
Zeichnungstyp
Service spare part drawing / Service Ersatzteil Zeichnung
SEG-Nummer
SEG-1632_01
Service-Kit (Option) Subassembly / Untergruppe
Dokument-Nr.
Original
A4
Datum
Gez. 01.07.2015
Freigabe 01.07.2015
Status freigegeben
Name
Puffi
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Ersetzt mit
Solid Edge
Blatt
1 von 1


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KAESER KOMPRESSOREN
Baugruppe
8900 - Chassis complete / Fahrwerk komplett
Zeichnungstyp
Service spare part drawing / Service Ersatzteil Zeichnung
Dokument-Nr.
Original
A4
Datum
Name
Erstellt mit
Skiz.
29.08.2016
Puff
Solid Edge
SEG-Nummer
SEG-7660_01
Service-Kit (Option) Subassembly / Untergruppe
Freigeg.
29.08.2016
Puff
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Status
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1 von 1


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KAESER KOMPRESSOREN
Baugruppe
8920 - Tow device / Zugeinrichtung
Zeichnungstyp
Service spare part drawing / Service Ersatzteil Zeichnung
SEG-Nummer
SEG-7681_01
Service-Kit (Option) Subassembly / Untergruppe
Dokument-Nr.
Original
A4
Datum
Name
Gez. 29.08.2016 Puff
Freigegeben 29.08.2016 Puff
Status freigegeben
Ersetzt mit
Solid Edge
Blatt
1 von 1

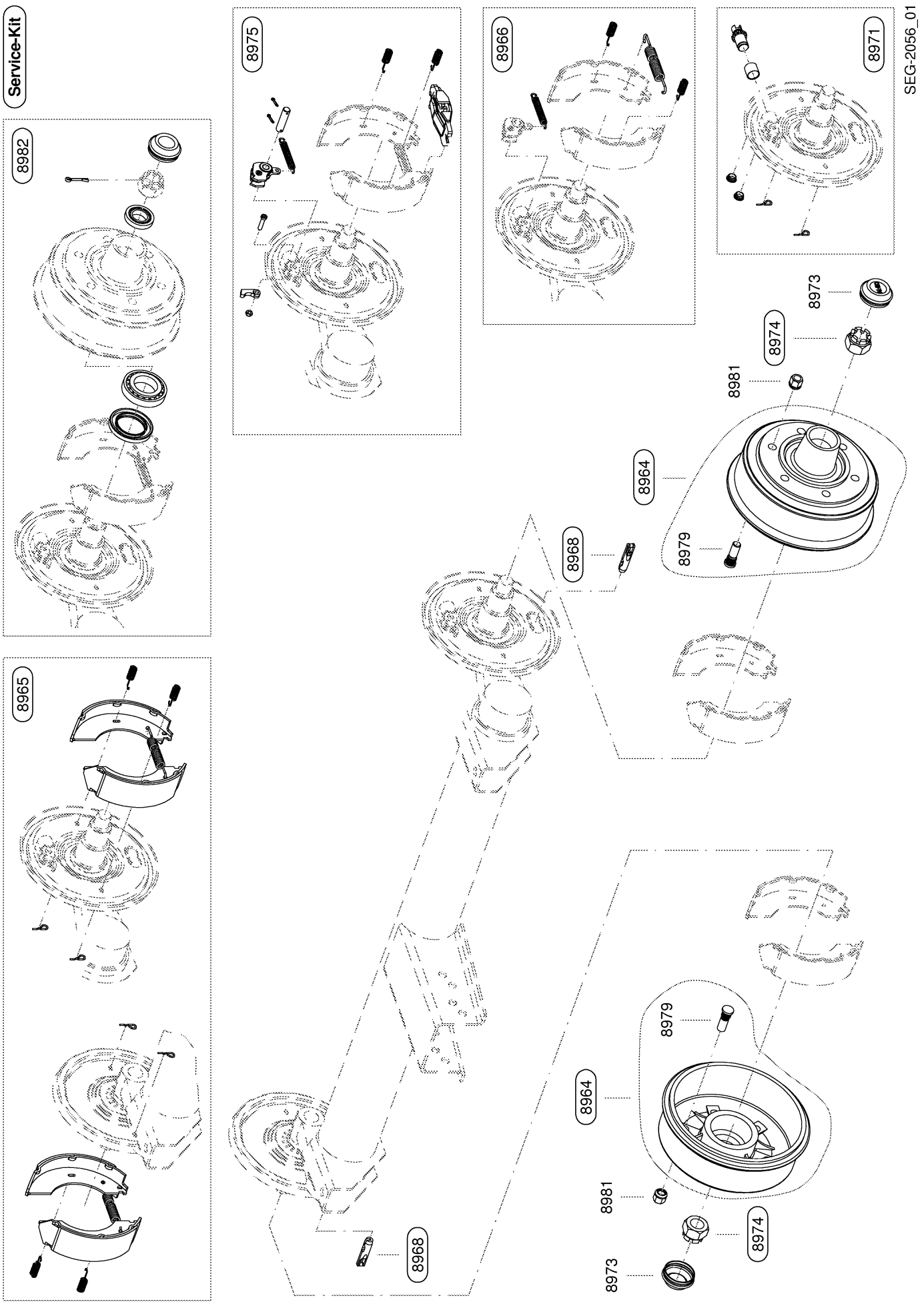


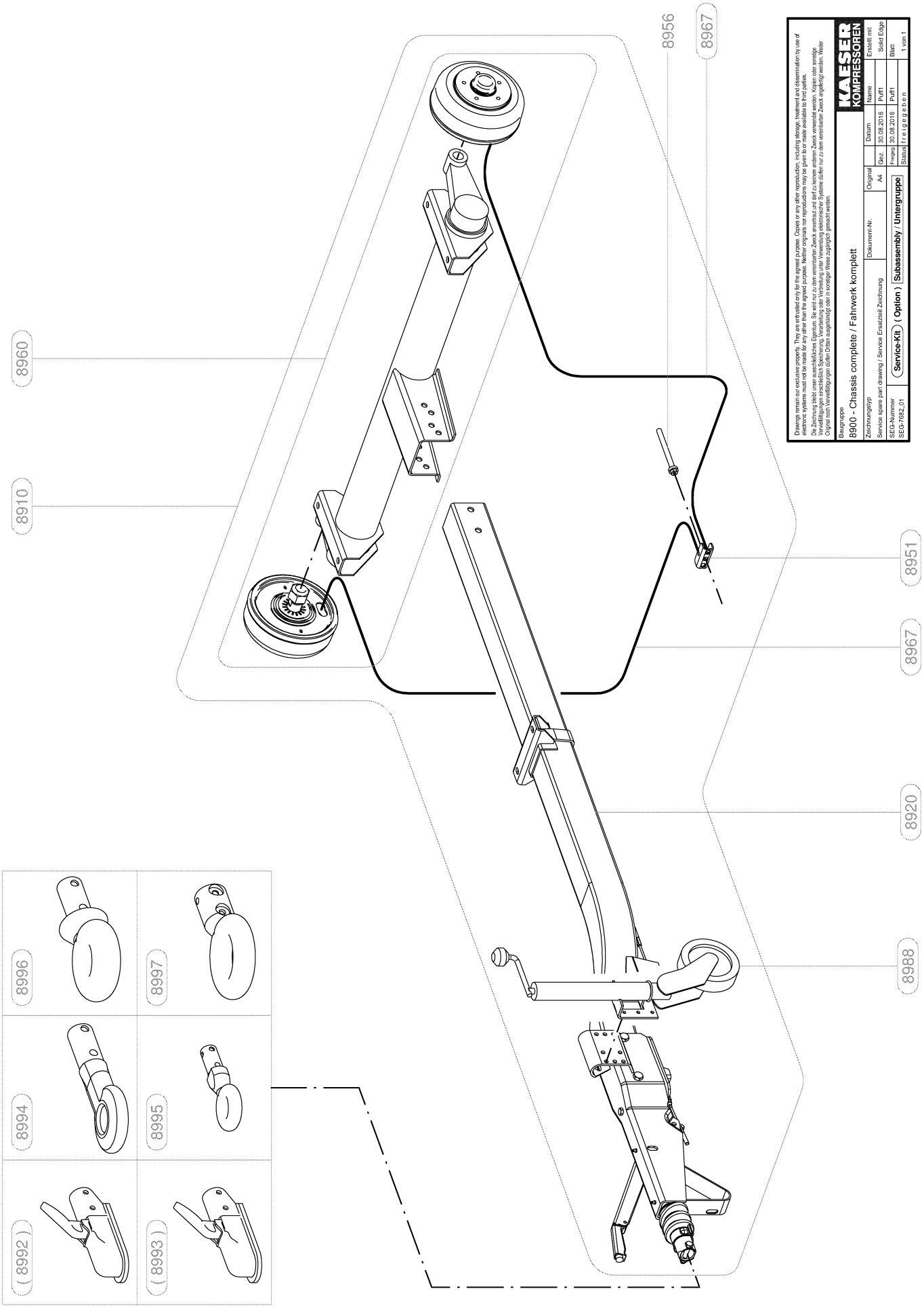
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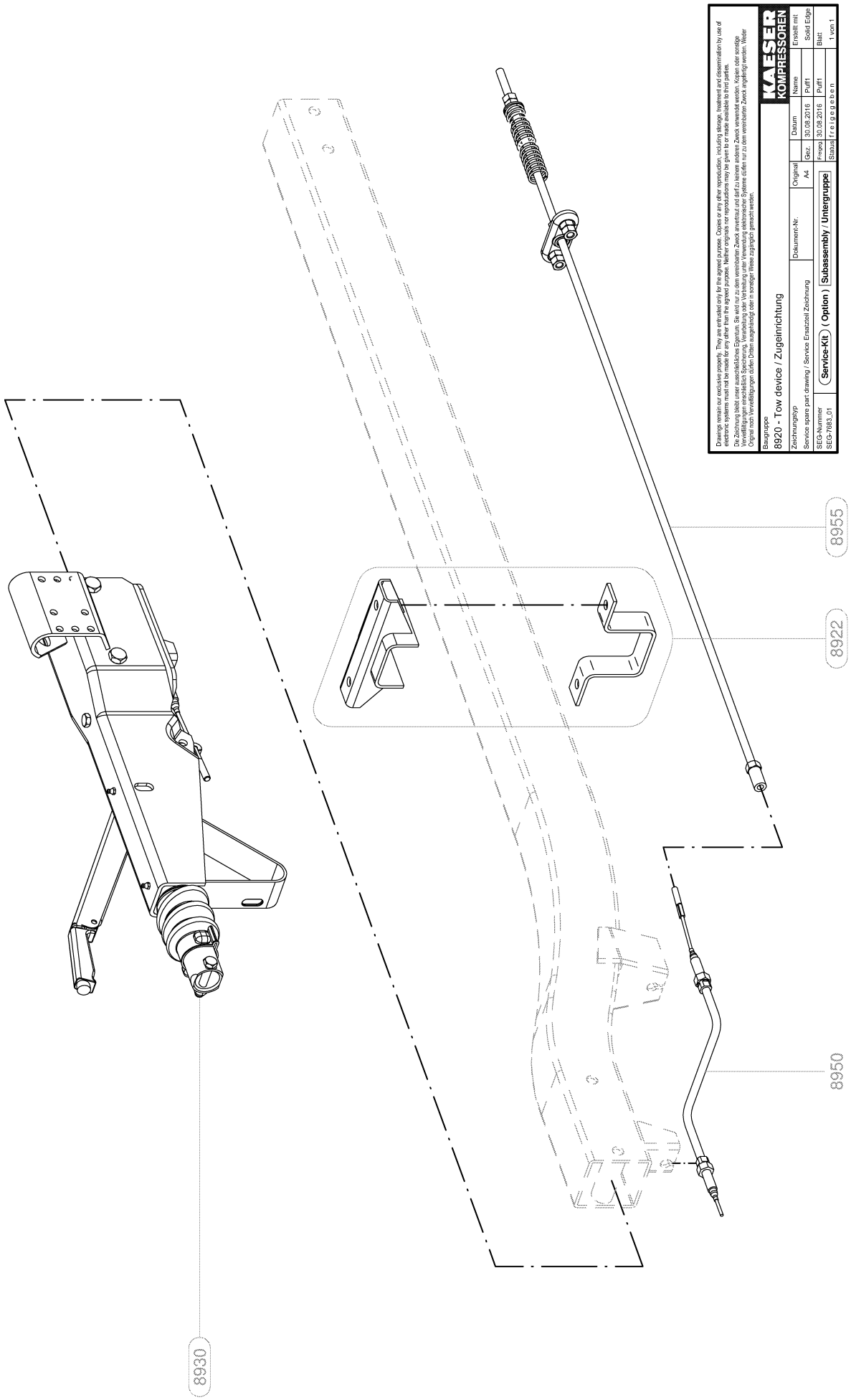
KAESER KOMPRESSOREN

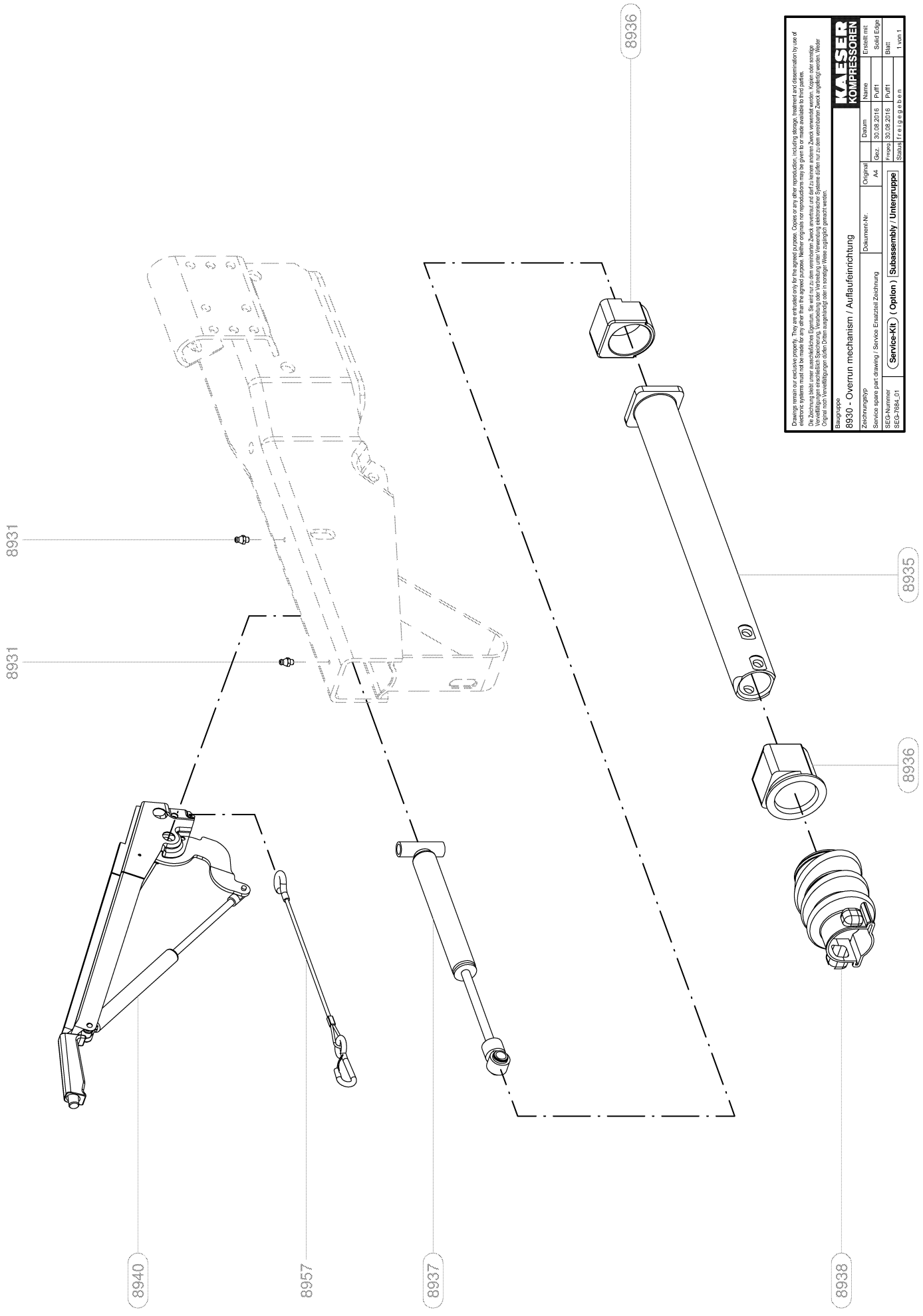
Baugruppe
8930 - Overrun mechanism / Auflaufeinrichtung

Zeichnungstyp	Dokument-Nr.	Original	Datum	Name	Erstellt mit
Service spare part drawing / Service Ersatzteil Zeichnung		A4	Gez. 01.07.2015	Puff	Solid Edge
SEG-Nummer			Freigg. 01.07.2015	Puff	Blatt
SEG-1601_01	Service-Kit (Option)	Subassembly / Untergruppe	Status freigegeben		1 von 1


Service-Kit
8982
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SEG-2056_01
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KAESER KOMPRESSOREN
Baugruppe
8900 - Chassis complete / Fahrwerk komplett
Zeichnungstyp
Service spare part drawing / Service Ersatzteil Zeichnung
Dokument-Nr.
Original
A4
Datum
Name
Erstellt mit
Solid Edge
Gez. 30.08.2016 Puff
Freigag. 30.08.2016 Puff
Blatt
1 von 1
SEG-Nummer
SEG-7662_01
Service-Kit (Option) Subassembly / Untergruppe
Status freigegeben


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KAESER KOMPRESSOREN
Baugruppe
8920 - Tow device / Zugeinrichtung
Zeichnungstyp
Service spare part drawing / Service Ersatzteil Zeichnung
SEG-Nummer
SEG-7683_01
Service-Kit (Option) Subassembly / Untergruppe
Dokument-Nr.
Original
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Datum
Name
Gez. 30.08.2016 Puff
Freigegeben 30.08.2016 Puff
Erstellt mit
Solid Edge
Blatt
1 von 1
Status freigegeben

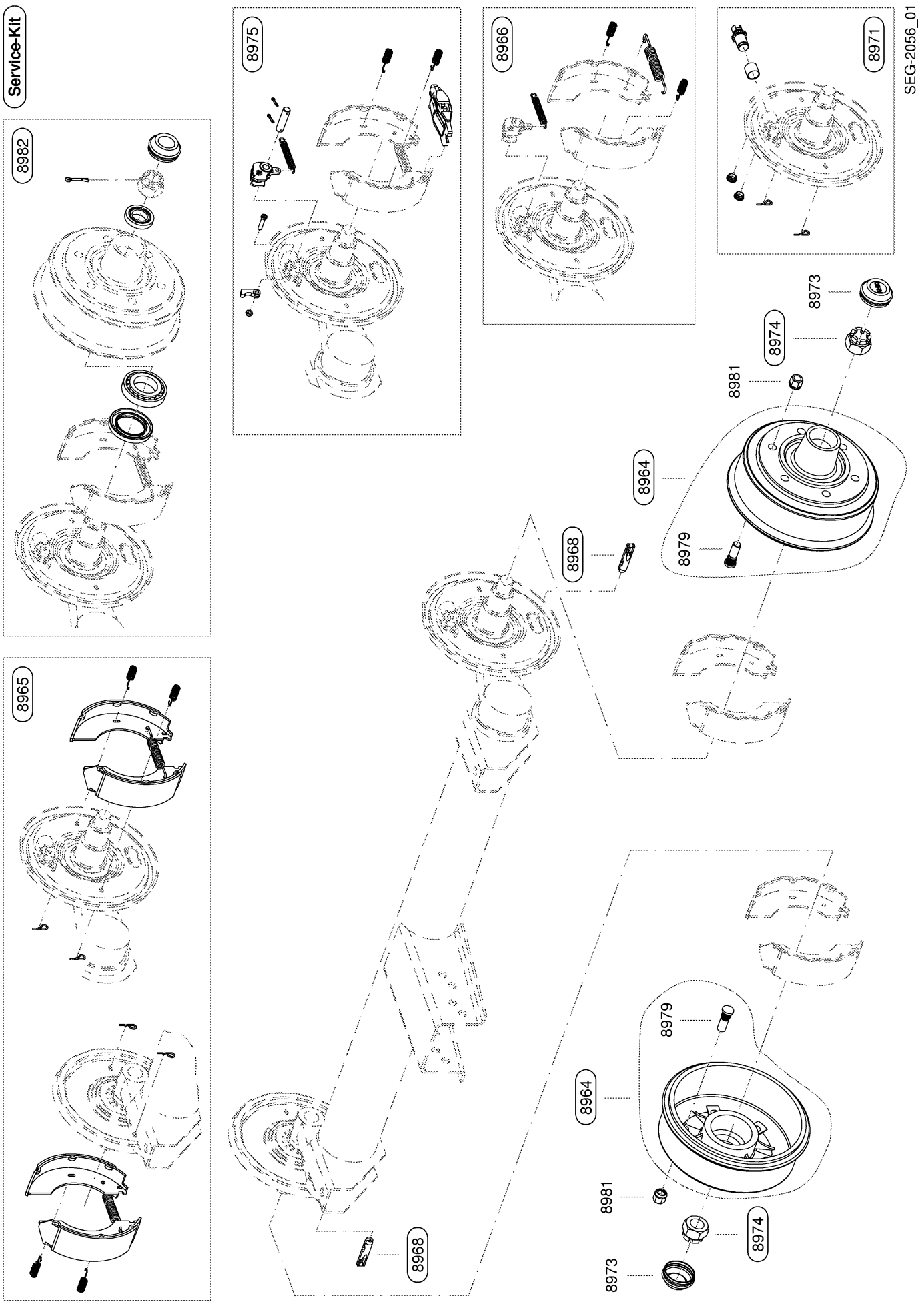


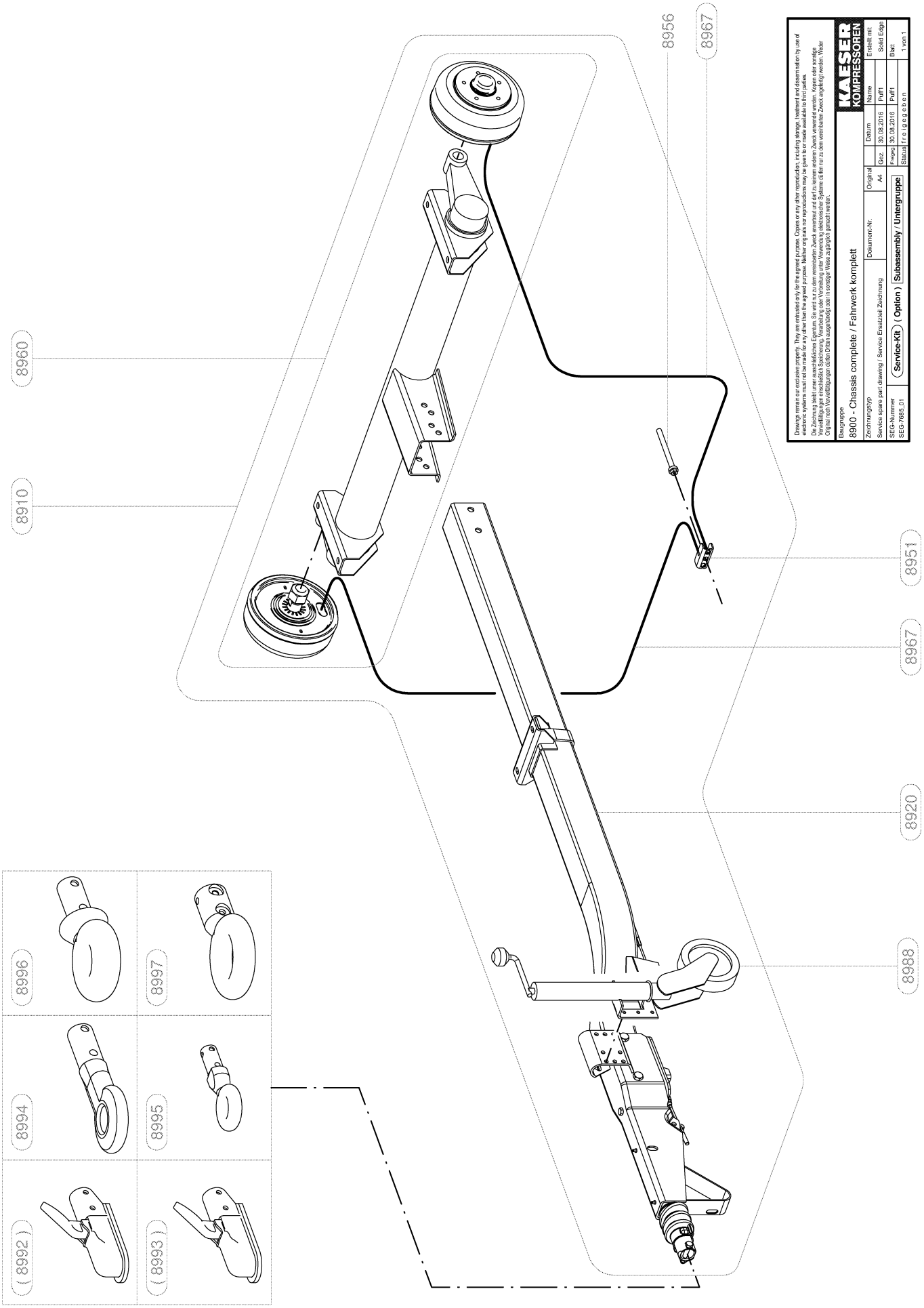
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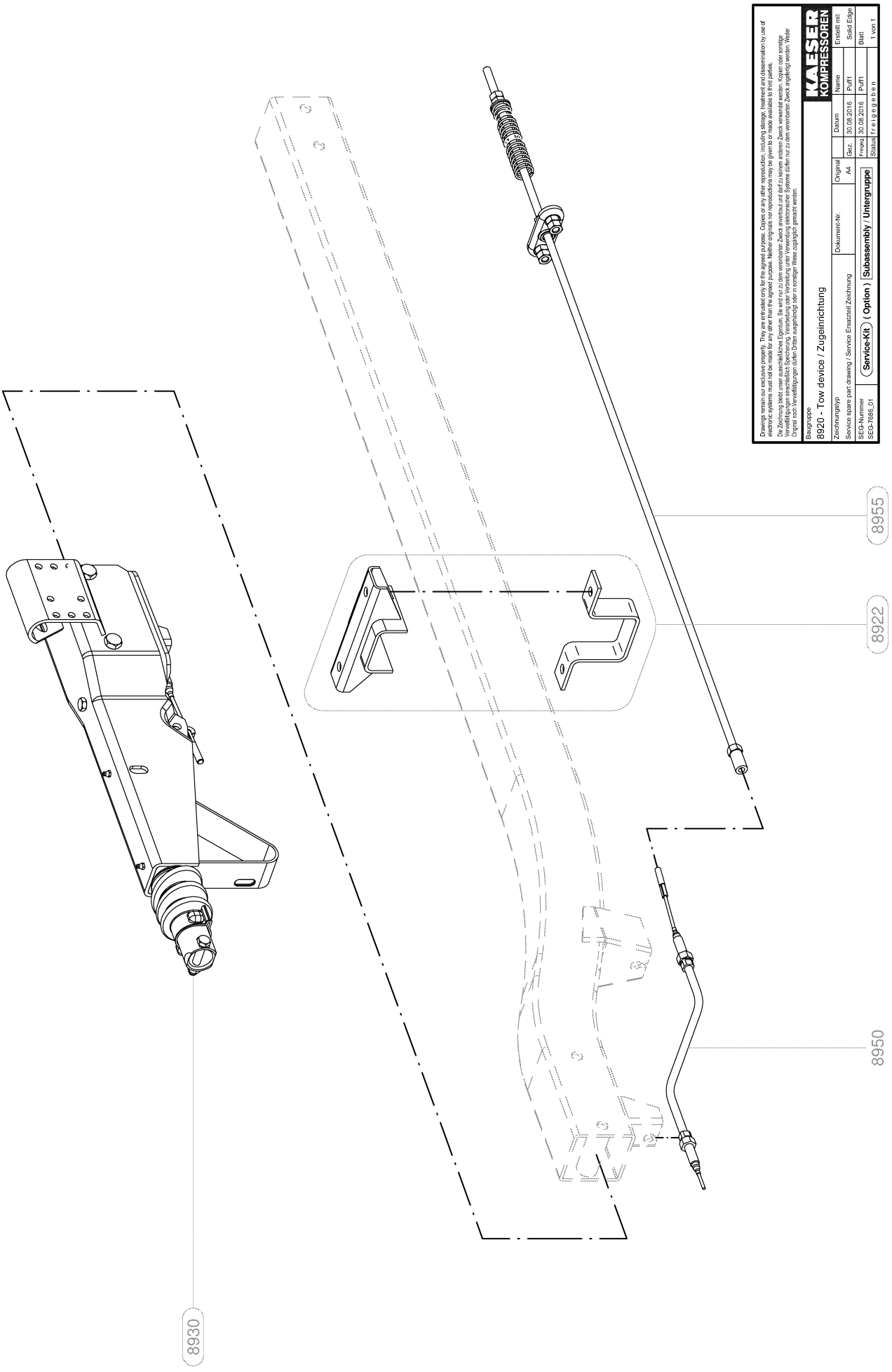
KAESER KOMPRESSOREN

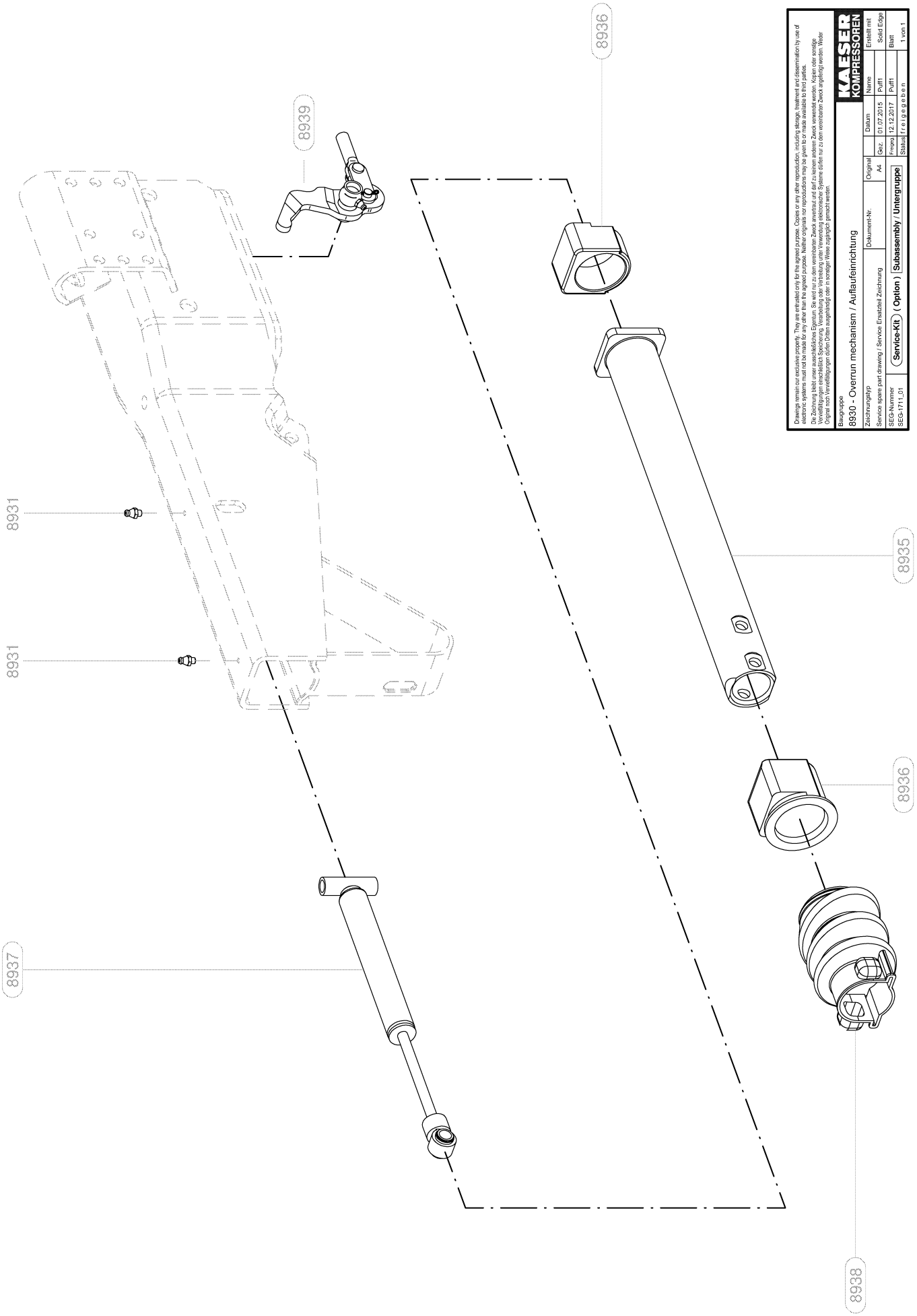
Baugruppe
8930 - Overrun mechanism / Auflaufeinrichtung

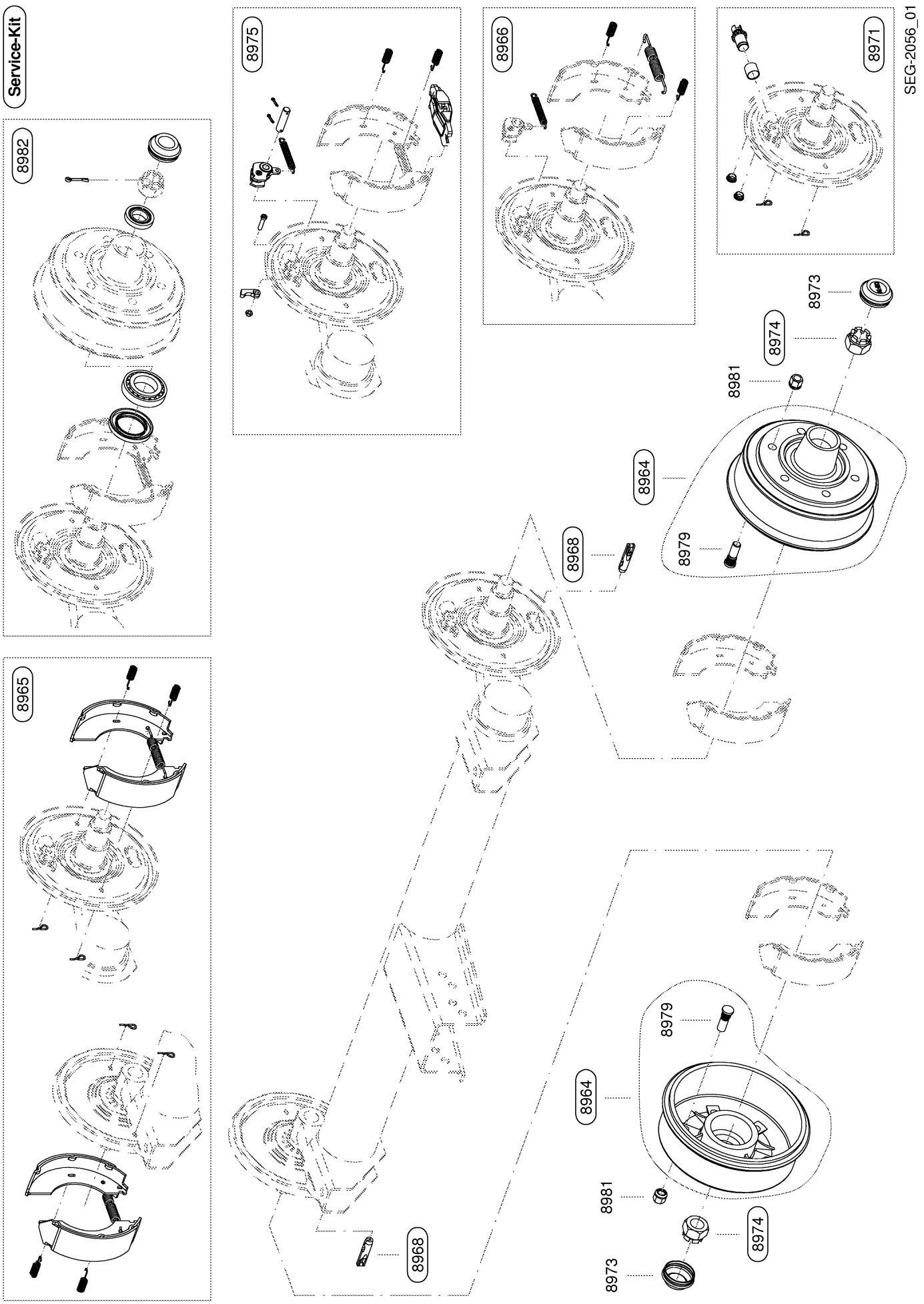
Zeichnungstyp	Dokument-Nr.	Original		Datum	Name	Erstellt mit
Service spare part drawing / Service Ersatzteil Zeichnung		A4	Skiz.	30.08.2016	Puff	Solid Edge
SEG-Nummer	Service-Kit (Option)	Subassembly / Untergruppe	Freigabe	30.08.2016	Puff	Blatt
SEG-7884_01			Status	f r e i g e g e b e n		1 von 1

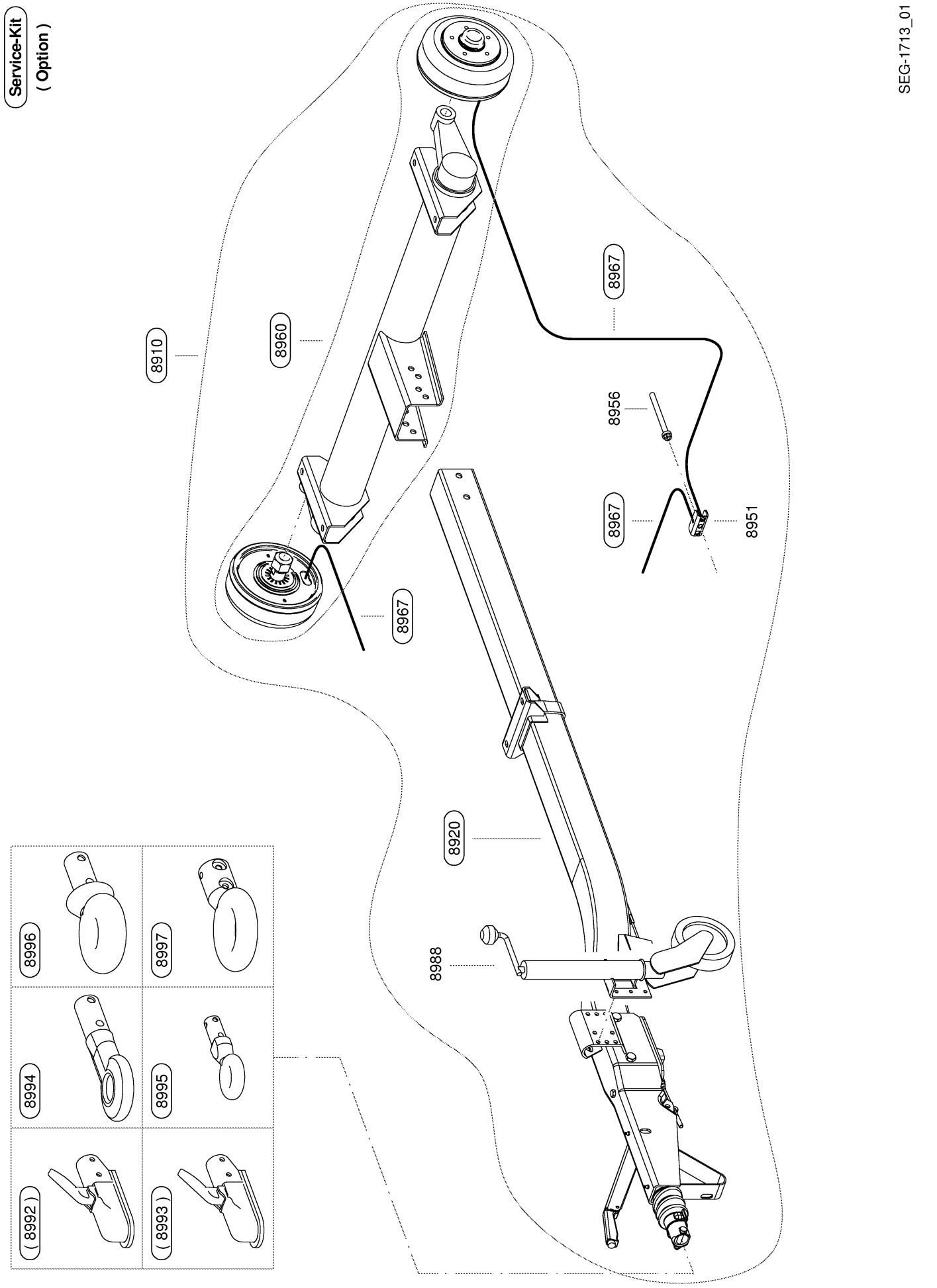

Service-Kit
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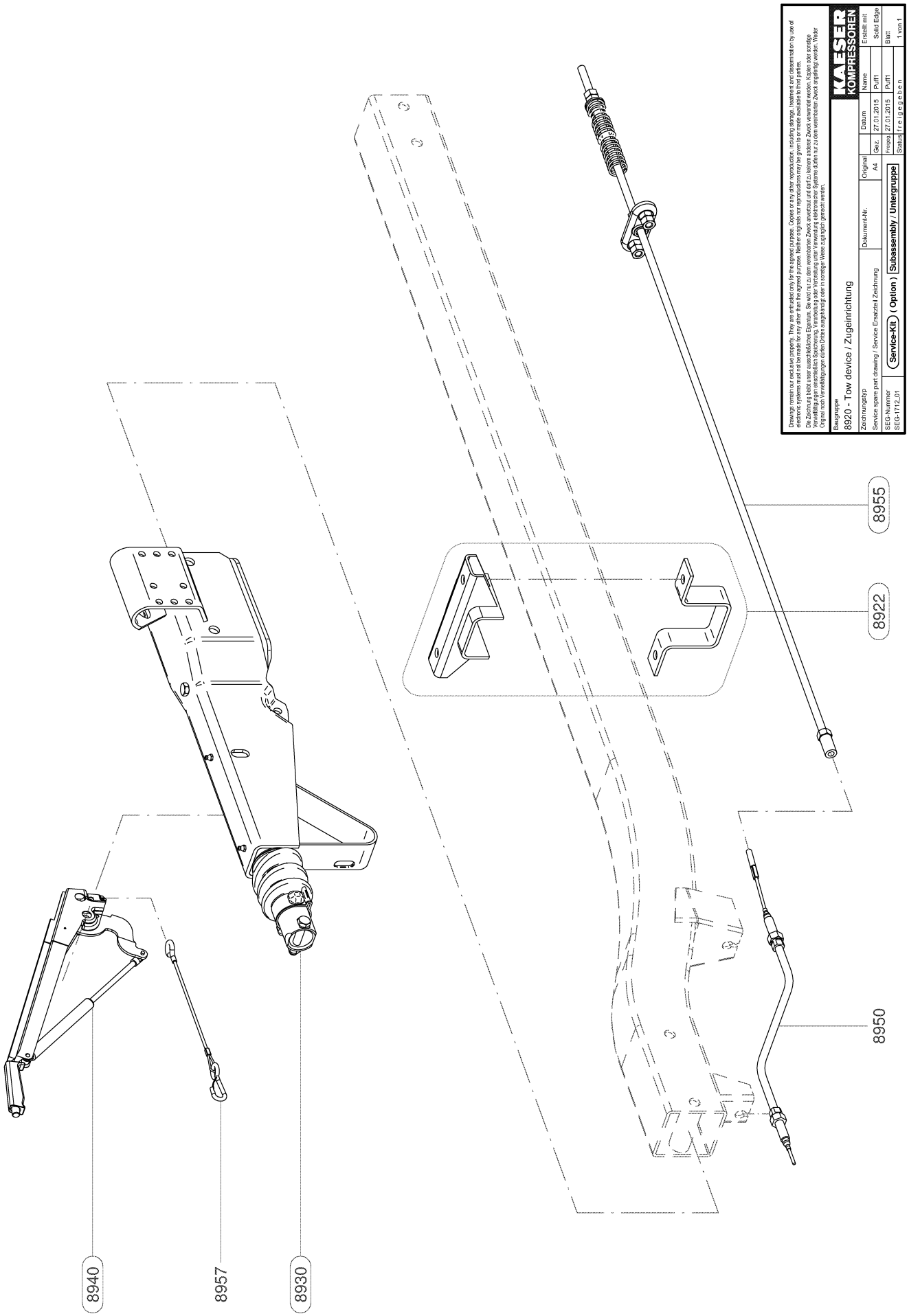

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KAESER KOMPRESSOREN
Baugruppe
8900 - Chassis complete / Fahrwerk komplett
Zeichnungstyp
Service spare part drawing / Service Ersatzteil Zeichnung
Dokument-Nr.
Original
A4
Datum
Name
Erstellt mit
Solid Edge
Gez. 30.08.2016 Puff
Freigag. 30.08.2016 Puff
Blatt 1 von 1
SEG-Nummer
SEG-7685_01
Service-Kit (Option) Subassembly / Untergruppe
Status freigegeben


8955
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KAESER KOMPRESSOREN
Baugruppe
8920 - Tow device / Zugeinrichtung
Zeichnungstyp
Service spare part drawing / Service Ersatzteil Zeichnung
SEG-Nummer
SEG-7686_01
Service-Kit (Option) Subassembly / Untergruppe
Dokument-Nr.
Original
A4
Datum
Name
Erstellt mit
Gez. 30.08.2016 Puff1 Solid Edge
Freigab 30.08.2016 Puff1
Status freigegeben
Blatt
1 von 1


8936
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KAESER KOMPRESSOREN
Baugruppe
8930 - Overrun mechanism / Auflaufeinrichtung
Zeichnungstyp
Service spare part drawing / Service Ersatzteil Zeichnung
Dokument-Nr.
Original
A4
Datum
Name
Erstellt mit
Solid Edge
Ersatz.
01.07.2015
Puff
Puff
SEG-Nummer
SEG-I7/11_01
Service-Kit (Option) Subassembly / Untergruppe
Freigabe
12.12.2017
Puff
Blatt
Status
freigegeben
1 von 1


Service-Kit
8982
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SEG-2056_01
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Service-Kit
(Option)
SEG-1713_01
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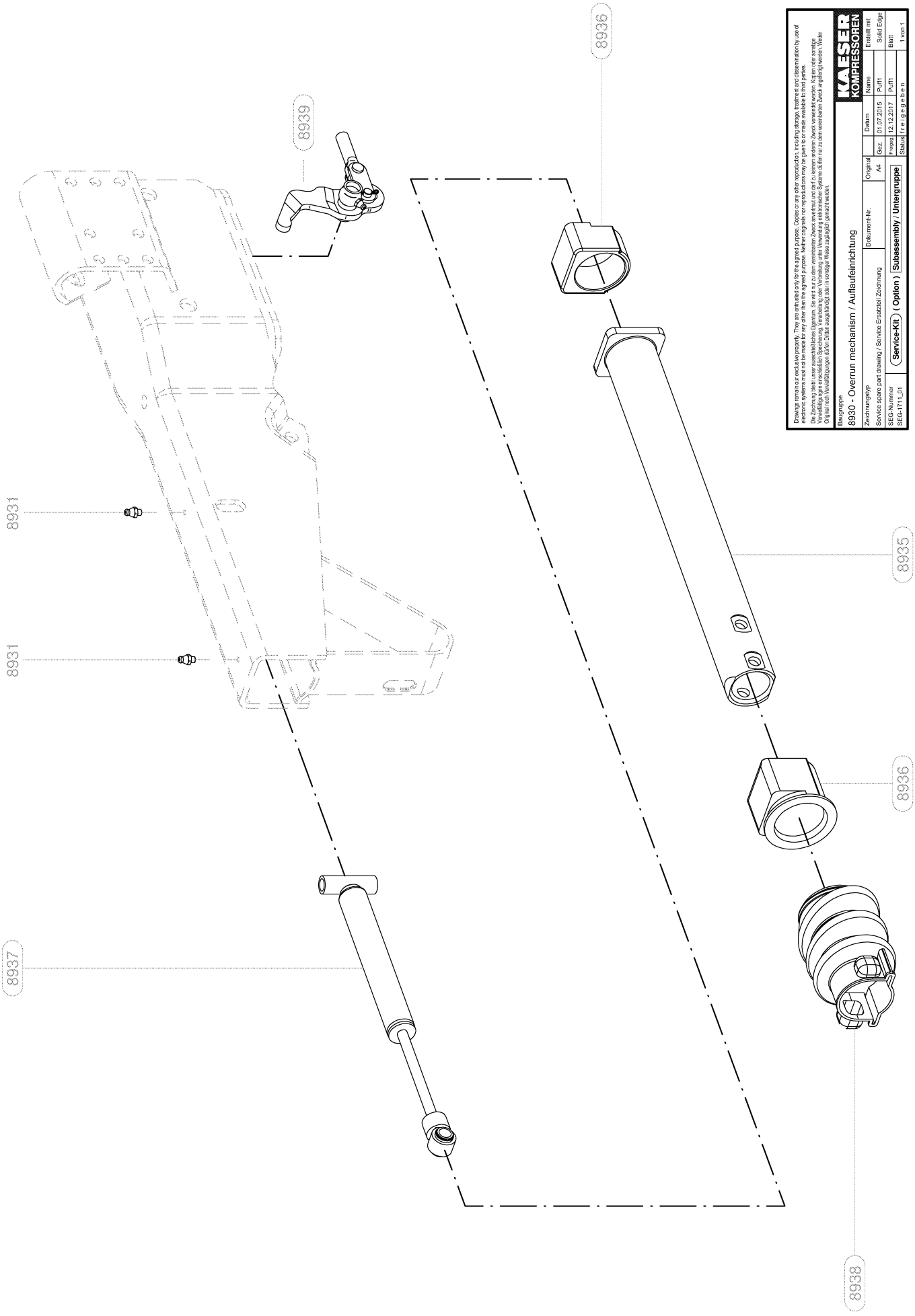


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KAESER KOMPRESSOREN

Baugruppe
8920 - Tow device / Zugeinrichtung

Zeichnungstyp	Dokument-Nr.	Original		Datum	Name	Erstellt mit
Service spare part drawing / Service Ersatzteil Zeichnung		A4	Gez.	27.01.2015	Puff1	Solid Edge
SEG-Nummer	Service-Kit (Option)	Subassembly / Untergruppe	Freigabe	27.01.2015	Puff1	Blatt
SEG-1712_01			Status	freigegeben		1 von 1

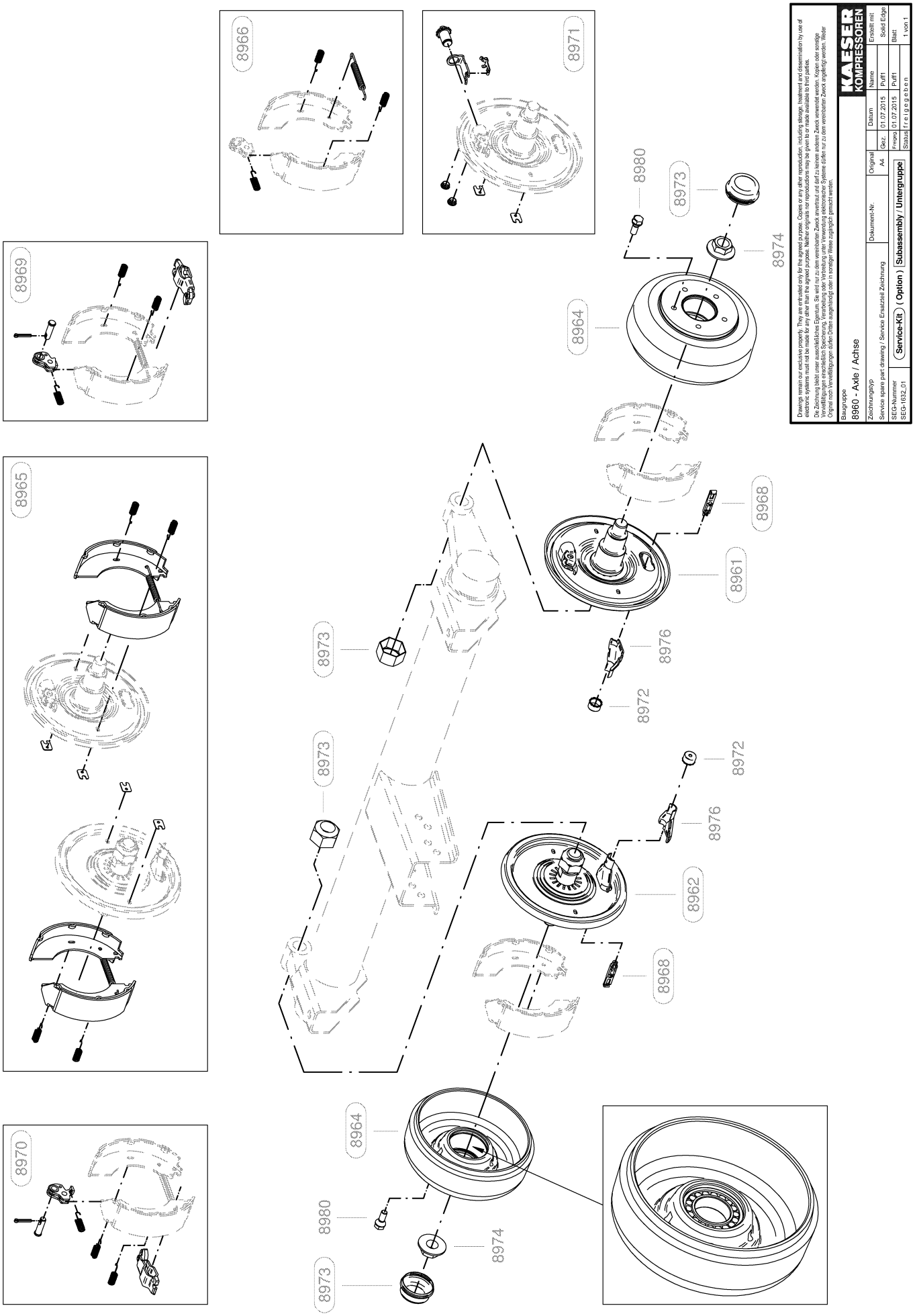


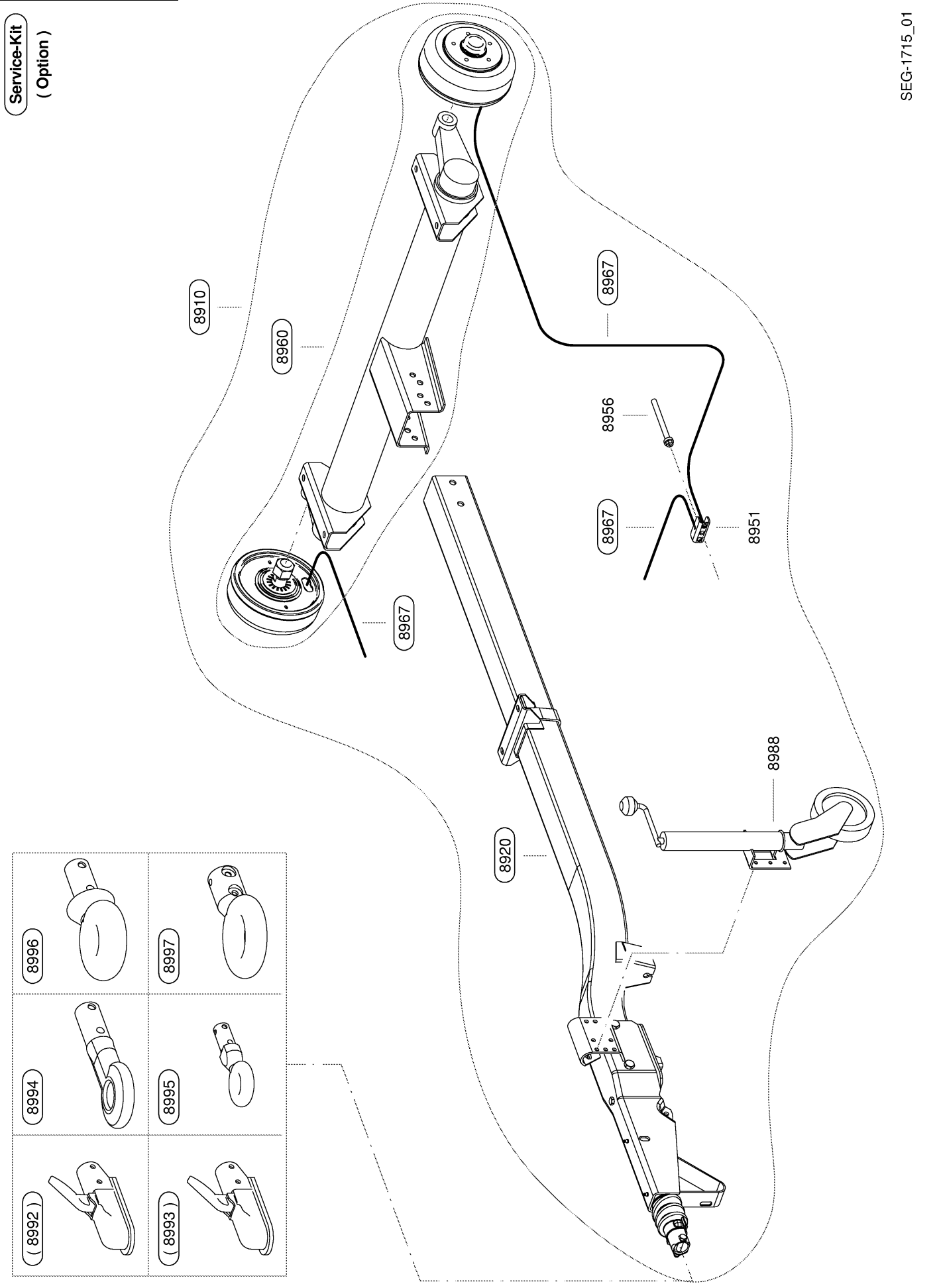
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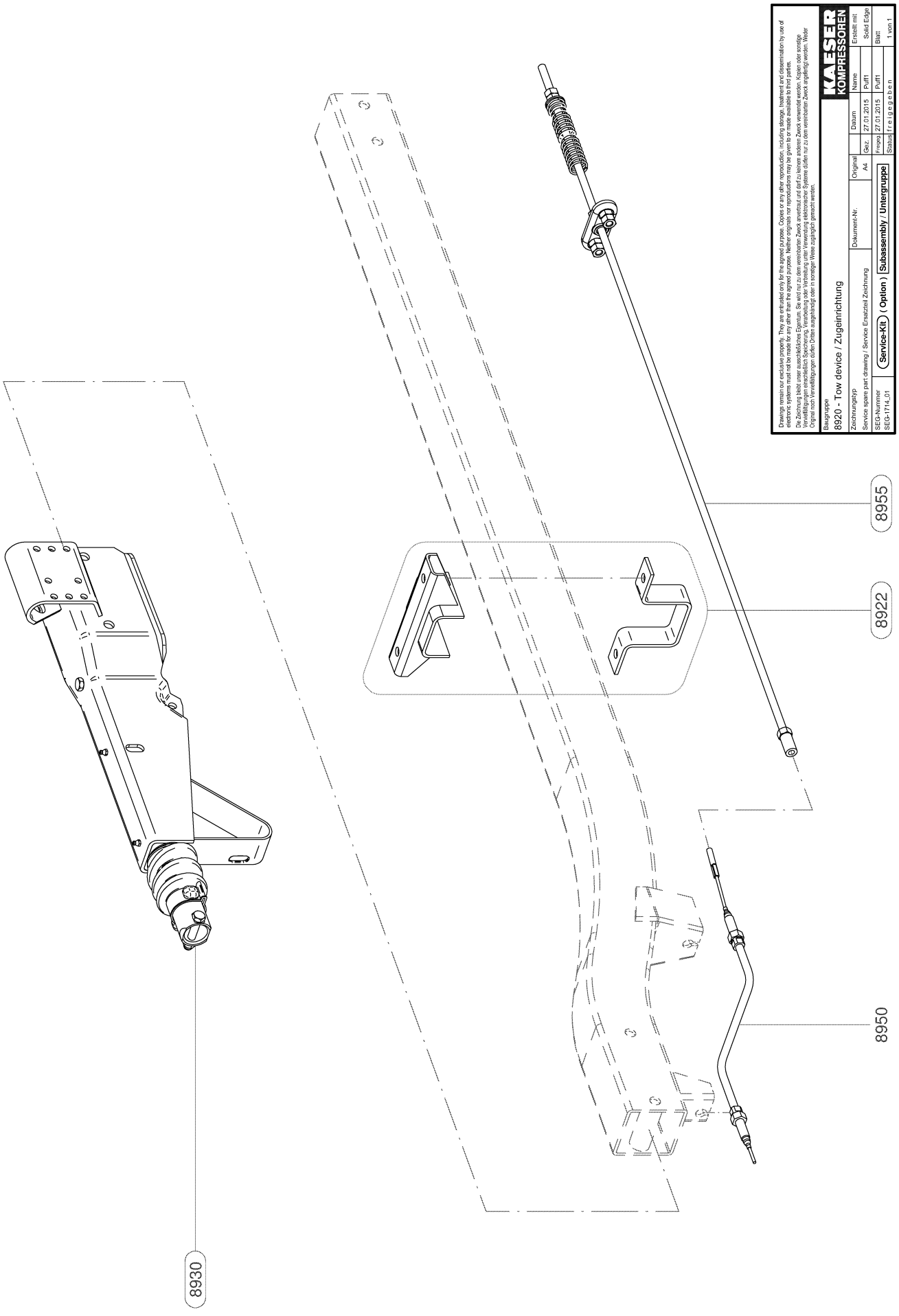
KAESER KOMPRESSOREN

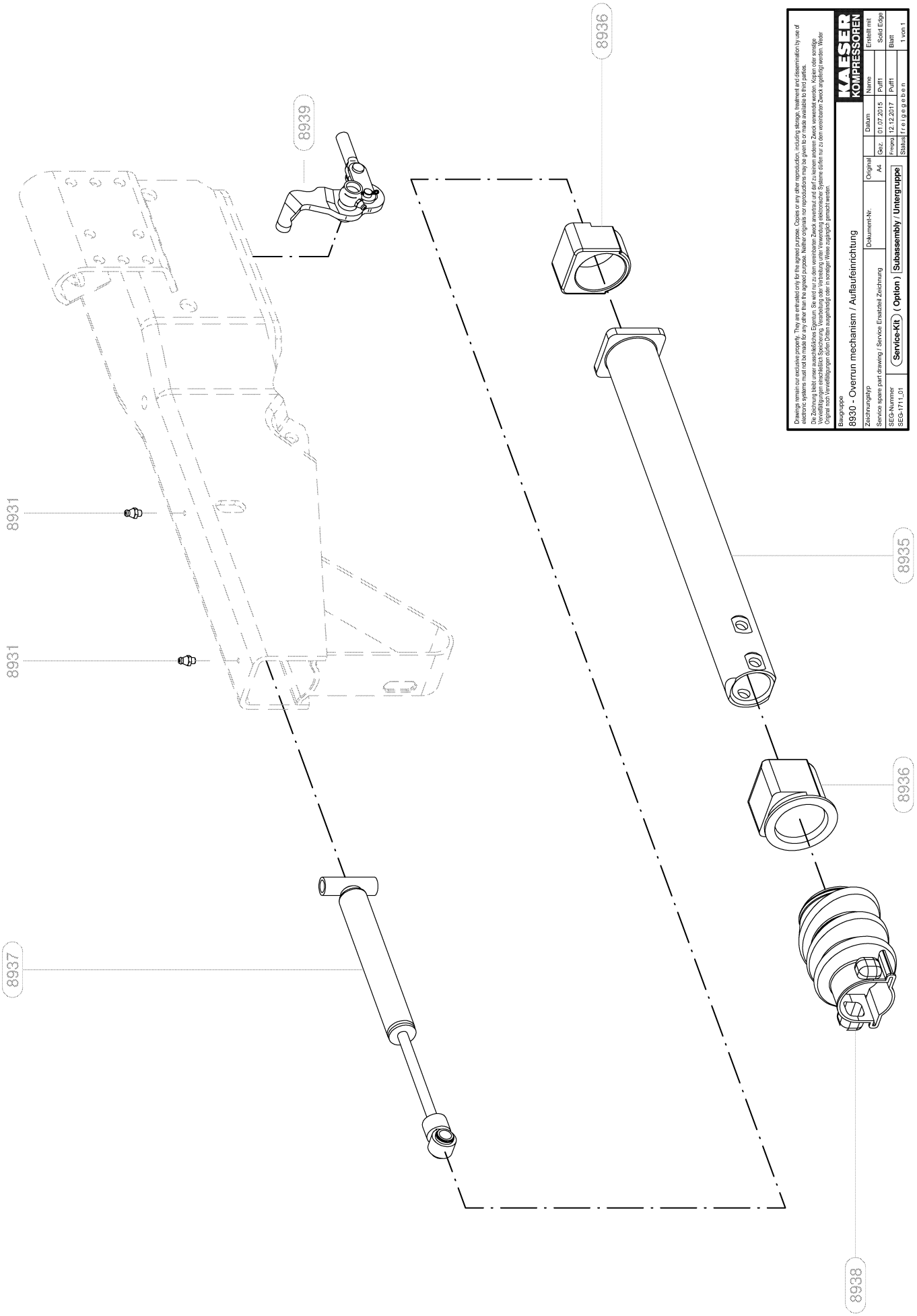
Baugruppe
8930 - Overrun mechanism / Auflaufeinrichtung

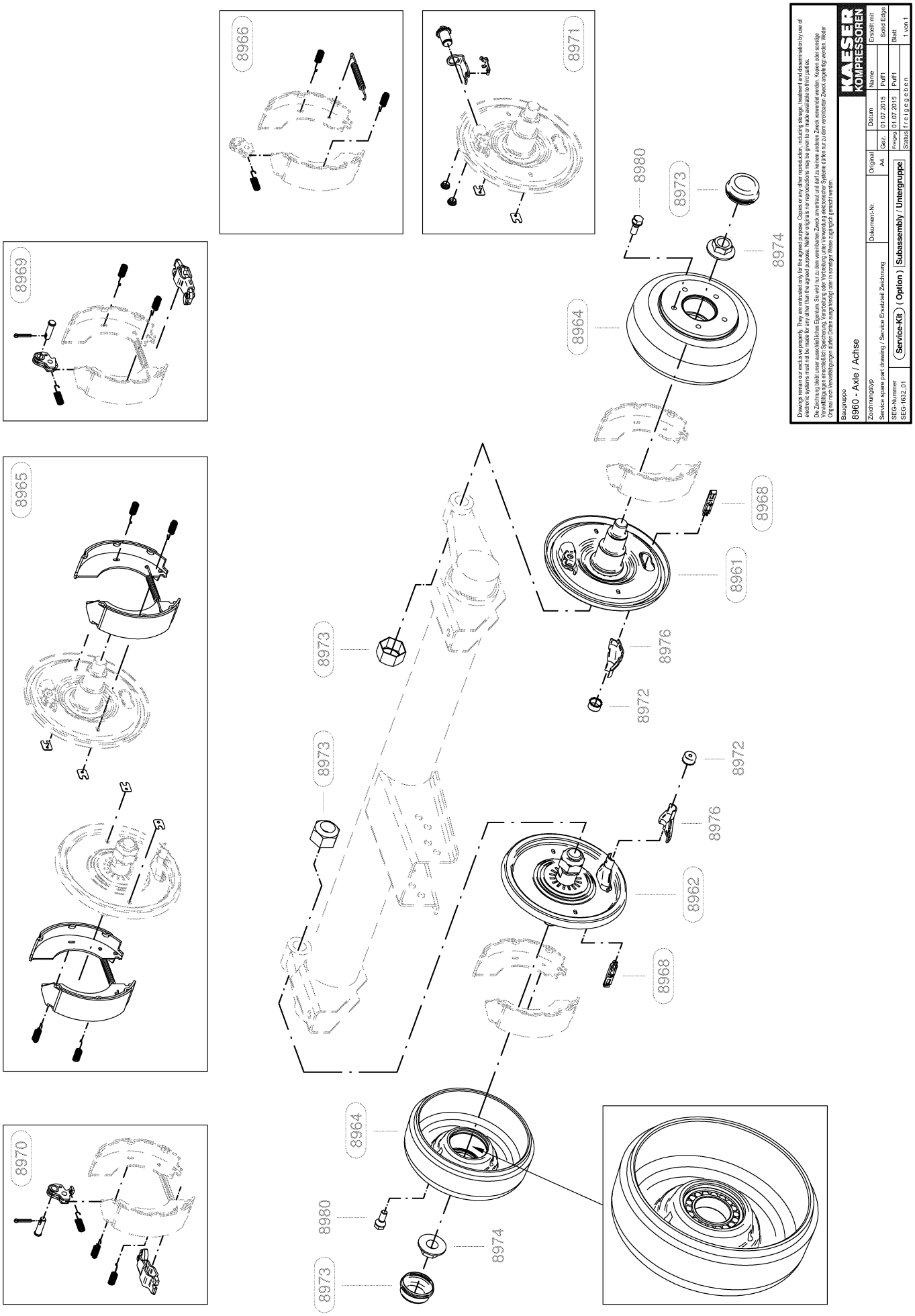
Zeichnungstyp	Dokument-Nr.	Original	Datum	Name	Erstellt mit
Service spare part drawing / Service Ersatzteil Zeichnung		A4	Skiz. 01.07.2015	Puff1	Solid Edge
SEG-Nummer	Service-Kit (Option)	Subassembly / Untergruppe	Freigg. 12.12.2017	Puff1	Blatt
SEG-I7/11_01			Status freigegeben		1 von 1

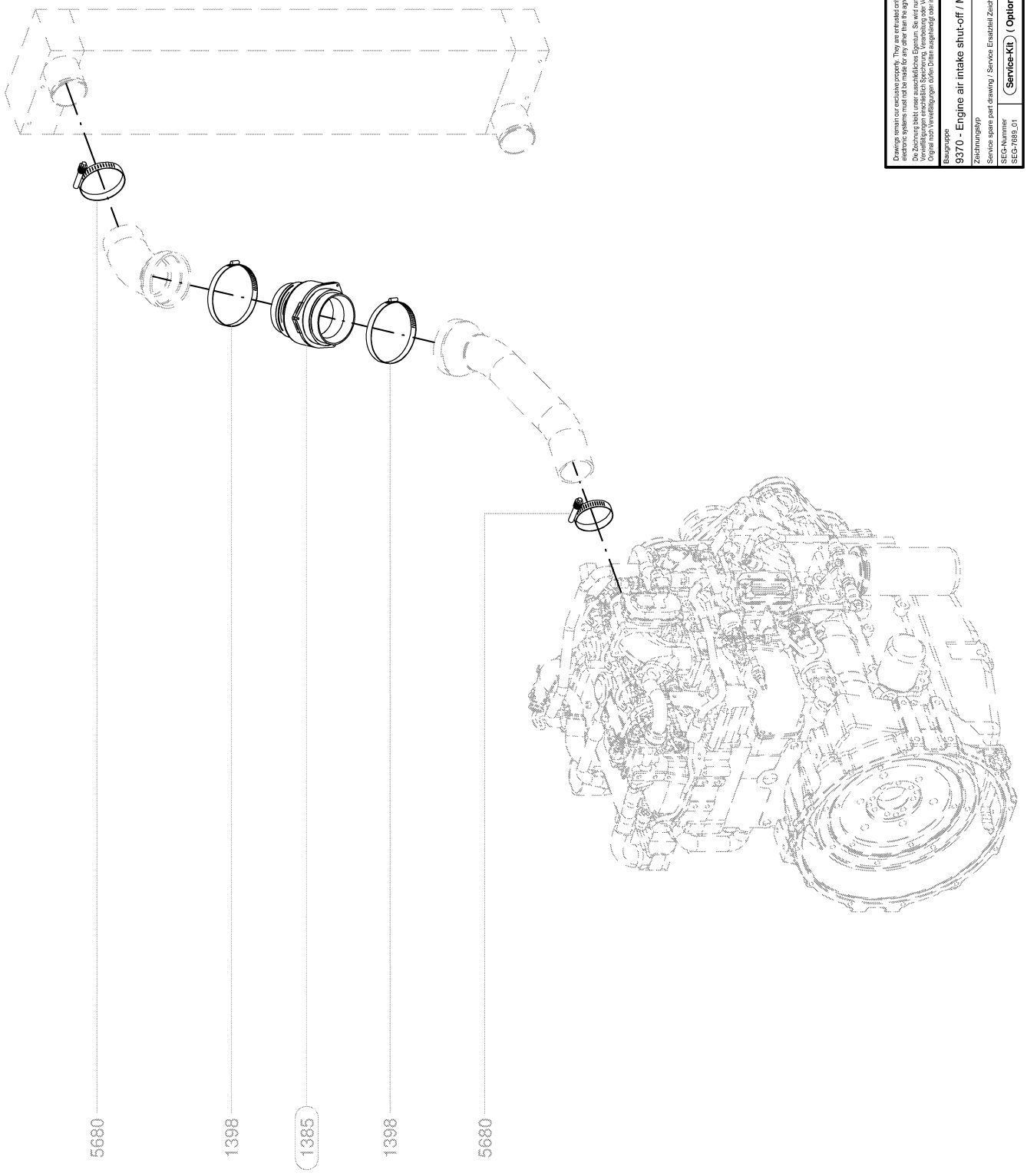

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KAESER KOMPRESSOREN
Baugruppe
8960 - Axle / Achse
Zeichnungstyp
Service spare part drawing / Service Ersatzteil Zeichnung
SEG-Nummer
SEG-1632_01
Service-Kit (Option) Subassembly / Untergruppe
Dokument-Nr.
Original
A4
Datum
Gez. 01.07.2015
Freigabe 01.07.2015
Status freigegeben
Name
Puffi
Puffi
Ersetzt mit
Solid Edge
Blatt
1 von 1


Service-Kit
(Option)
SEG-1715_01
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KAESER KOMPRESSOREN
Baugruppe
8920 - Tow device / Zugeinrichtung
Dokument-Nr.
Original
Datum
Name
Erstellt mit
Zeichnungstyp
Service spare part drawing / Service Ersatzteil Zeichnung
A4
Gez. 27.01.2015 Puffl
Solid Edge
SEG-Nummer
SEG-1714_01
Service-Kit (Option) Subassembly / Untergruppe
Freigabe 27.01.2015 Puffl
Blatt
Status freigegeben
1 von 1


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KAESER KOMPRESSOREN
Baugruppe
8930 - Overrun mechanism / Auflaufeinrichtung
Zeichnungstyp
Service spare part drawing / Service Ersatzteil Zeichnung
Dokument-Nr.
Original
A4
Datum
Name
Erstellt mit
Solid Edge
Ersatz.
01.07.2015
Puff
Puff
Irsatz
12.12.2017
Puff
Blatt
1 von 1
SEG-Nummer
SEG-I7I1_01
Service-Kit (Option) Subassembly / Untergruppe
Status
f r e i g e g e b e n


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KAESER KOMPRESSOREN
Baugruppe
8960 - Axle / Achse
Zeichnungstyp
Service spare part drawing / Service Ersatzteil Zeichnung
SEG-Nummer
SEG-1632_01
Service-Kit (Option) Subassembly / Untergruppe
Dokument-Nr.
Original
A4
Datum
Gez. 01.07.2015
Freigabe 01.07.2015
Status freigegeben
Name
Puffl
Puffl
Ersetzt mit
Solid Edge
Blatt
1 von 1



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Baugruppe
9370 - Engine air intake shut-off / Motorluftabsperrung

Zeichnungstyp	Dokument-Nr.	Original	Datum	Name	Erstellt mit
Service spare part drawing / Service Ersatzteil Zeichnung		A4	Gez. 06.11.2018	Pufft	SolidEdge
SEG-Nummer	Service-Kit (Option)	Subassembly / Untergruppe	Freigg. 06.11.2018	Pufft	Blatt
SEG-7689_01			Status freigegeben		1 von 1

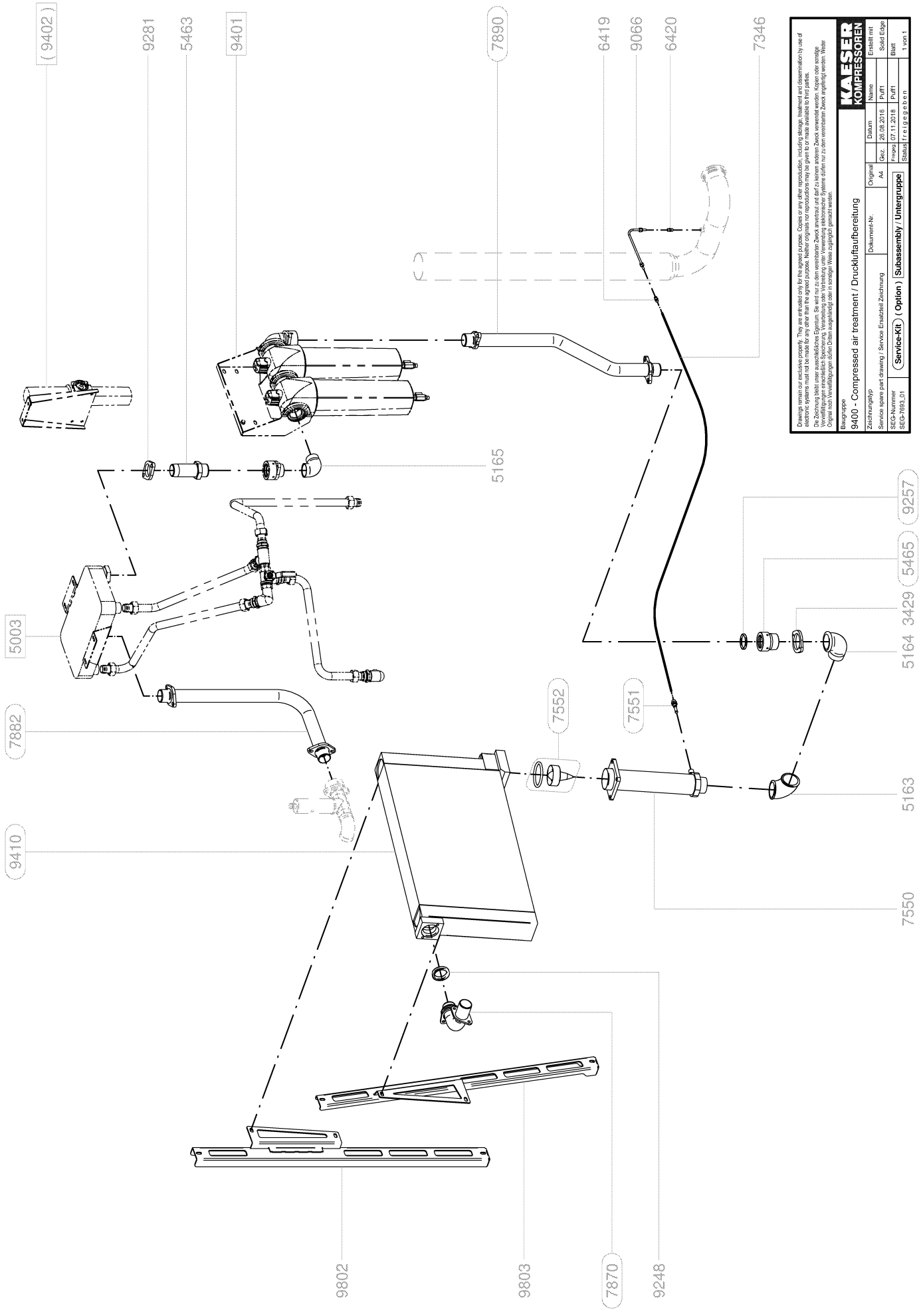


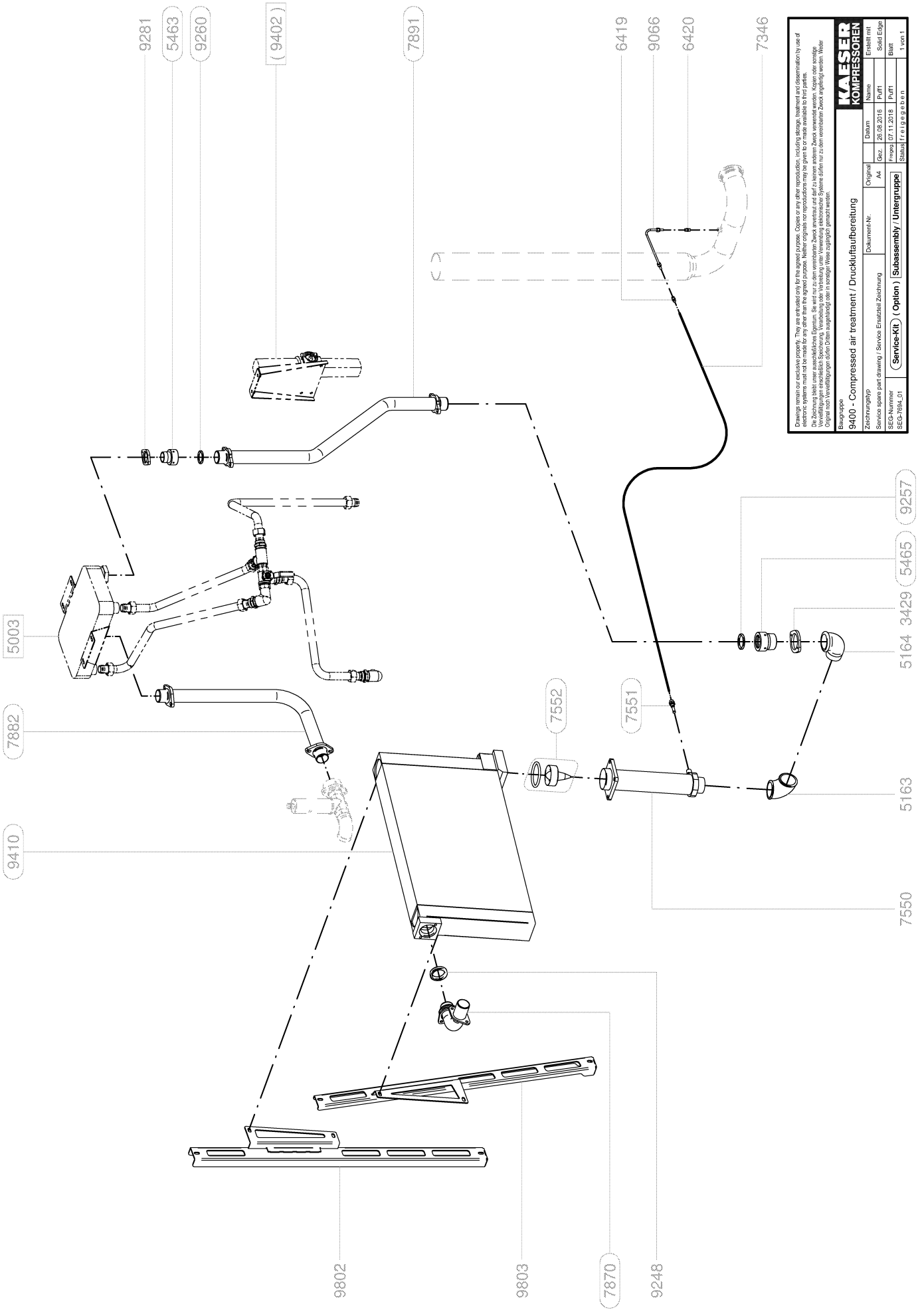
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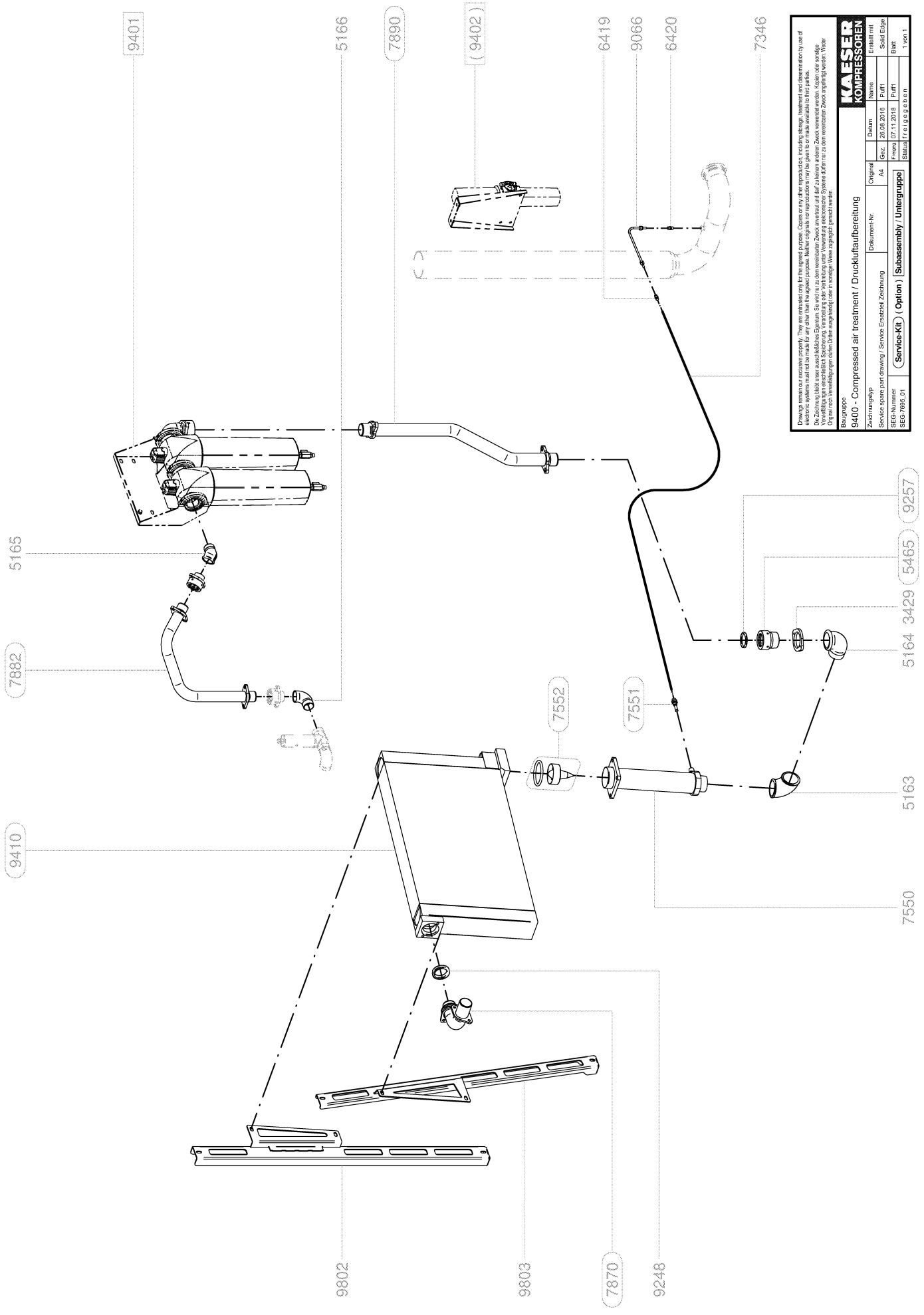
KAESER KOMPRESSOREN

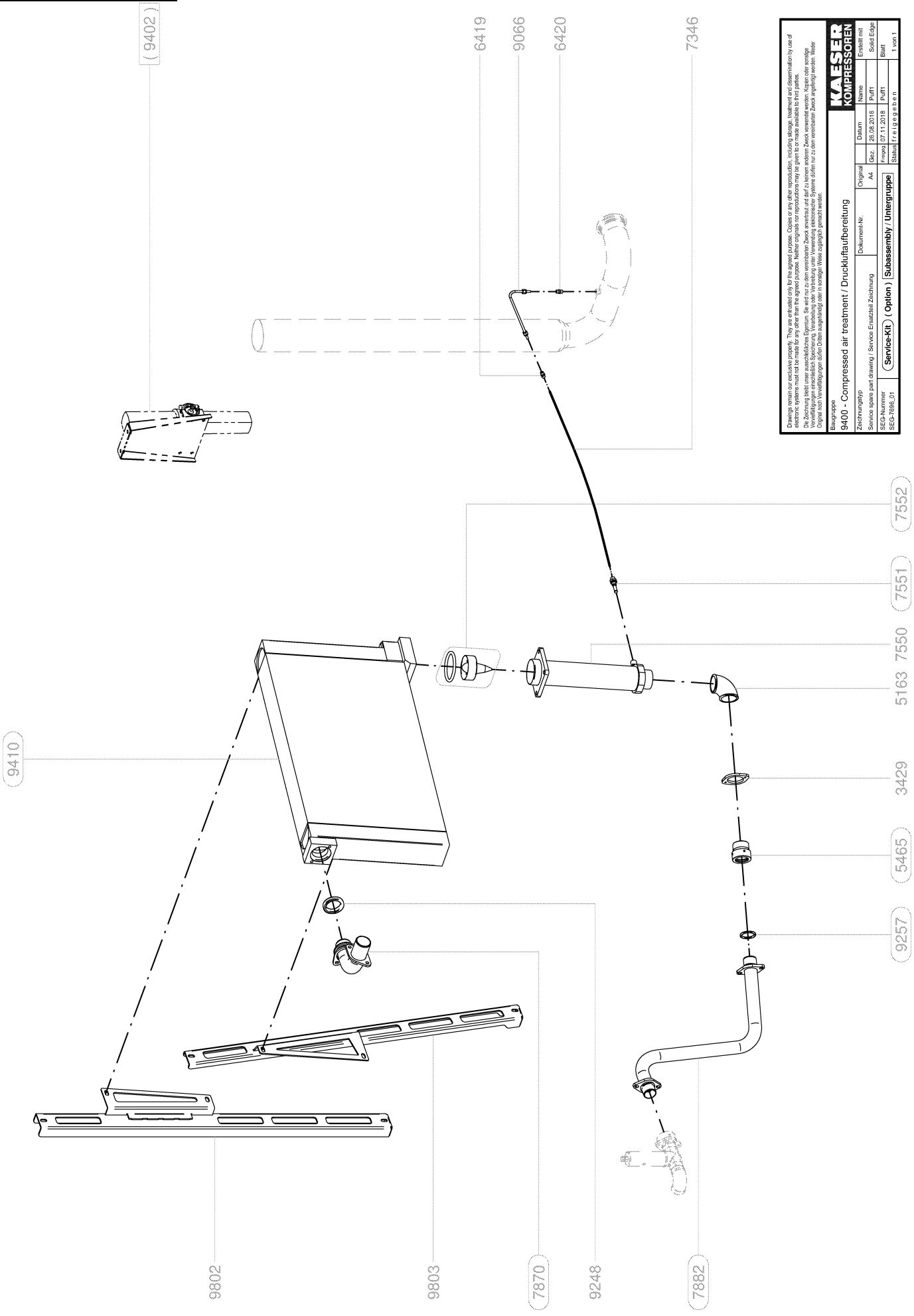
Baugruppe
9380 - Motor preheather / Motorvorwärmung

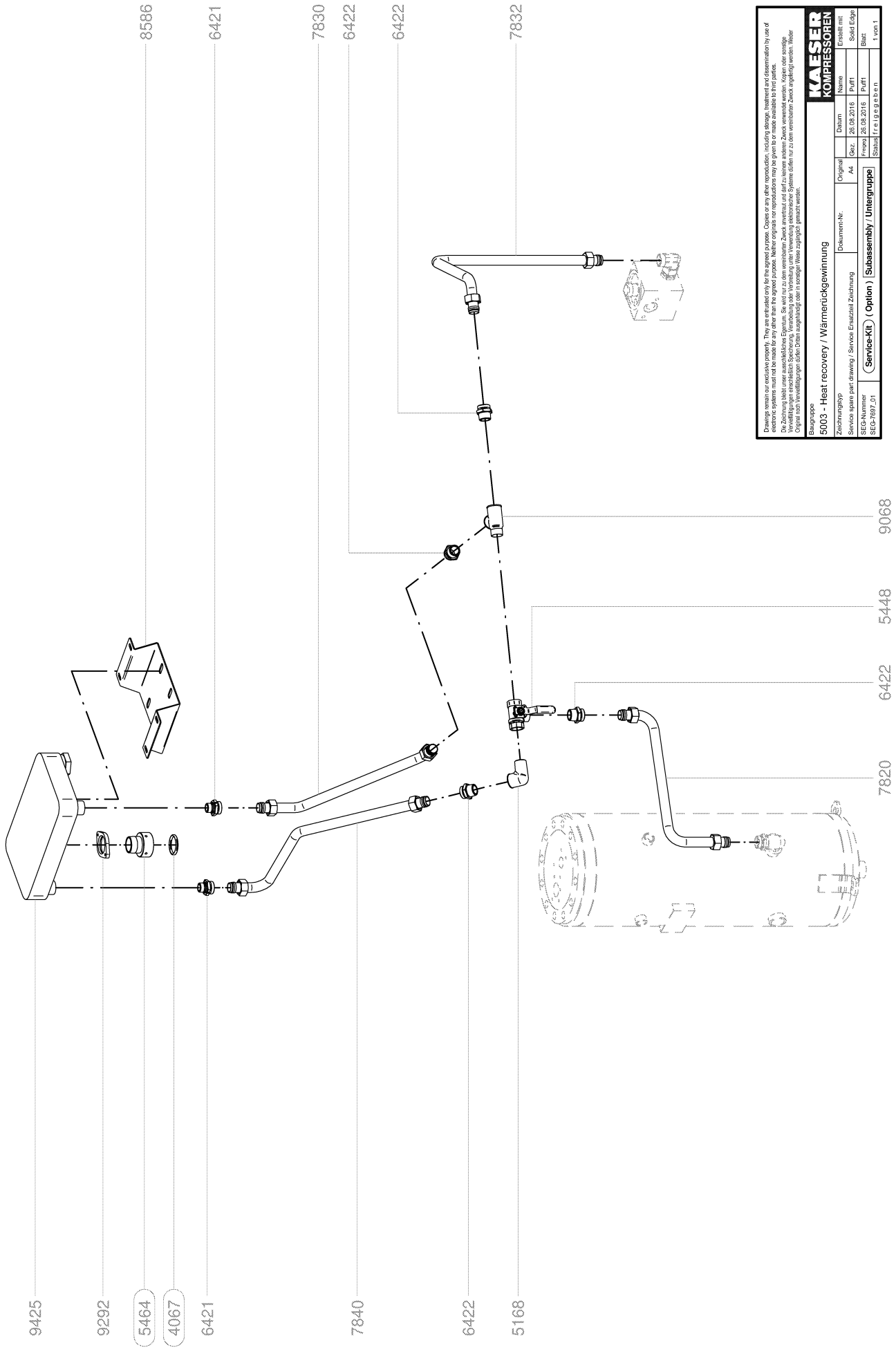
Zeichnungstyp	Dokument-Nr.	Original		Datum	Name	Erstellt mit
Service spare part drawing / Service Ersatzteil Zeichnung		A4	Gez.	12.02.2018	Puff1	Solid Edge
SEG-Nummer	Service-Kit (Option)	Subassembly / Untergruppe	Freigab	12.02.2018	Puff1	Blatt
SEG-7691_01			Status	f r e i g e g e b e n		1 von 1

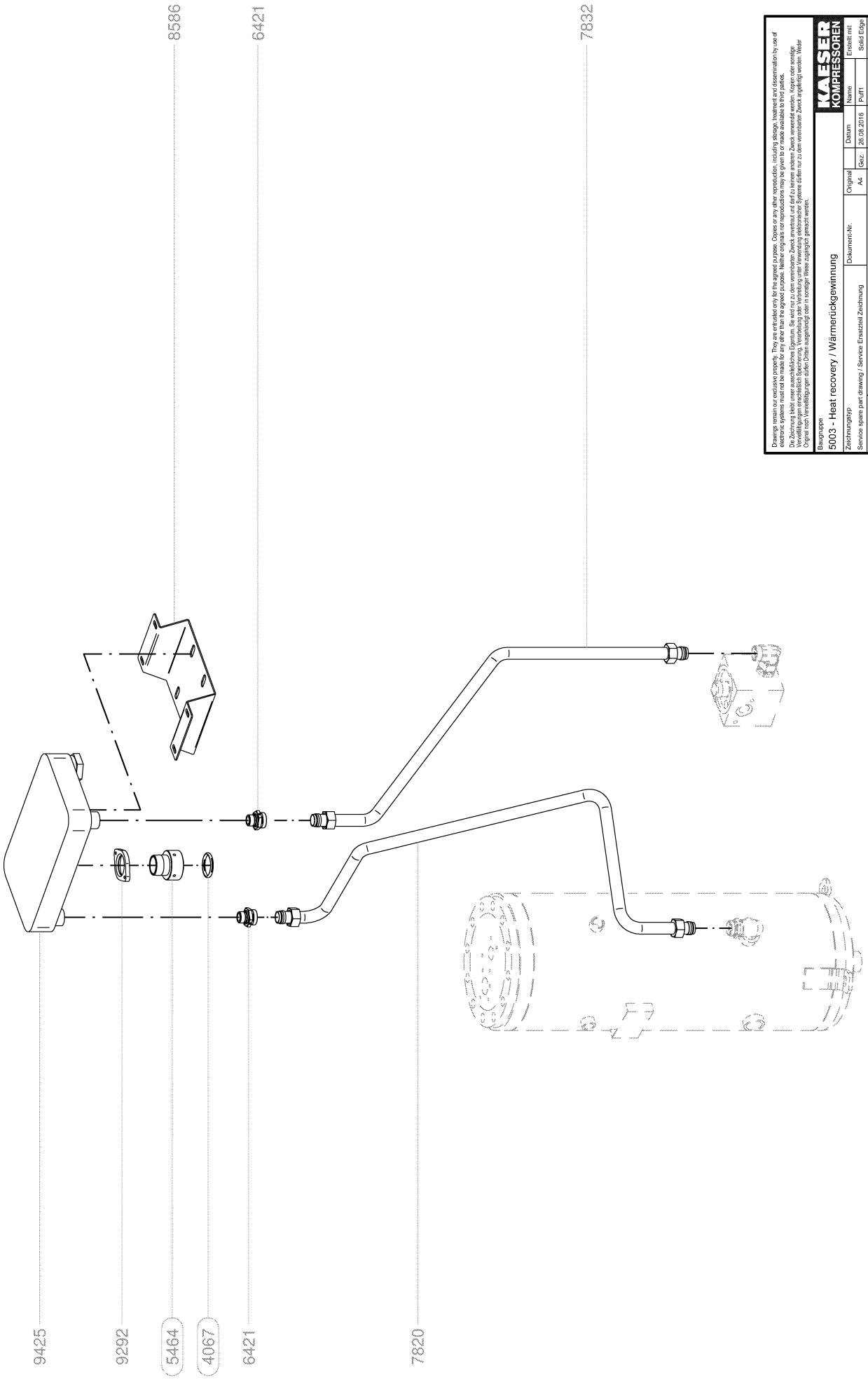

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KAESER KOMPRESSOREN
Baugruppe
9400 - Compressed air treatment / Druckluftaufbereitung
Zeichnungstyp
Service spare part drawing / Service Ersatzteil Zeichnung
Dokument-Nr.
Original
A4
Datum
26.08.2016
Name
Pufft
Erstellt mit
SolidEdge
SEG-Nummer
SEG-7993_01
Service-Kit (Option) Subassembly / Untergruppe
Freigabe 07.11.2018 Pufft
Status freigegeben
Blatt
1 von 1


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KAESER KOMPRESSOREN
Baugruppe
9400 - Compressed air treatment / Druckluftaufbereitung
Zeichnungstyp
Service spare part drawing / Service Ersatzteil Zeichnung
Dokument-Nr.
SEG-Nummer
SEG-7694_01
Service-Kit (Option) Subassembly / Untergruppe
Original
A4
Datum
Name
Gez. 26.08.2016 Puff
Freigg. 07.11.2018 Puff
Status freigegeben
Ersetzt mit
Solid Edge
Blatt
1 von 1


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Baugruppe
9400 - Compressed air treatment / Druckluftaufbereitung
Zeichnungstyp
Service spare part drawing / Service Ersatzteil Zeichnung
Dokument-Nr.
Original
A4
Name
Datum
Erstellt mit
Solid Edge
SEG-Nummer
SEG-7995_01
Service-Kit (Option) Subassembly / Untergruppe
Freigegeben
Blatt
1 von 1


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KAESER KOMPRESSOREN
Baugruppe
9400 - Compressed air treatment / Druckluftaufbereitung
Zeichnungstyp
Service spare part drawing / Service Ersatzteil Zeichnung
Dokument-Nr.
Original
A4
Datum
Gez. 26.08.2016
Freigabe 07.11.2018
Status freigegeben
Name
Puff
Puff
Erstellt mit
Solid Edge
Blatt
1 von 1
SEG-Nummer
SEG-7696_01
Service-Kit (Option) Subassembly / Untergruppe


8586
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KAESER KOMPRESSOREN
Baugruppe
5003 - Heat recovery / Wärmerückgewinnung
Zeichnungstyp
Service spare part drawing / Service Ersatzteil Zeichnung
Dokument-Nr.
Original
A4
Erstellt mit
Name
Datum
Solid Edge
Ersatz
26.08.2016
Puff
Freigab
26.08.2016
Puff
Blatt
1 von 1
Status
freigegeben
SEG-Nummer
SEG-7697_01
Service-Kit
(Option)
Subassembly / Untergruppe

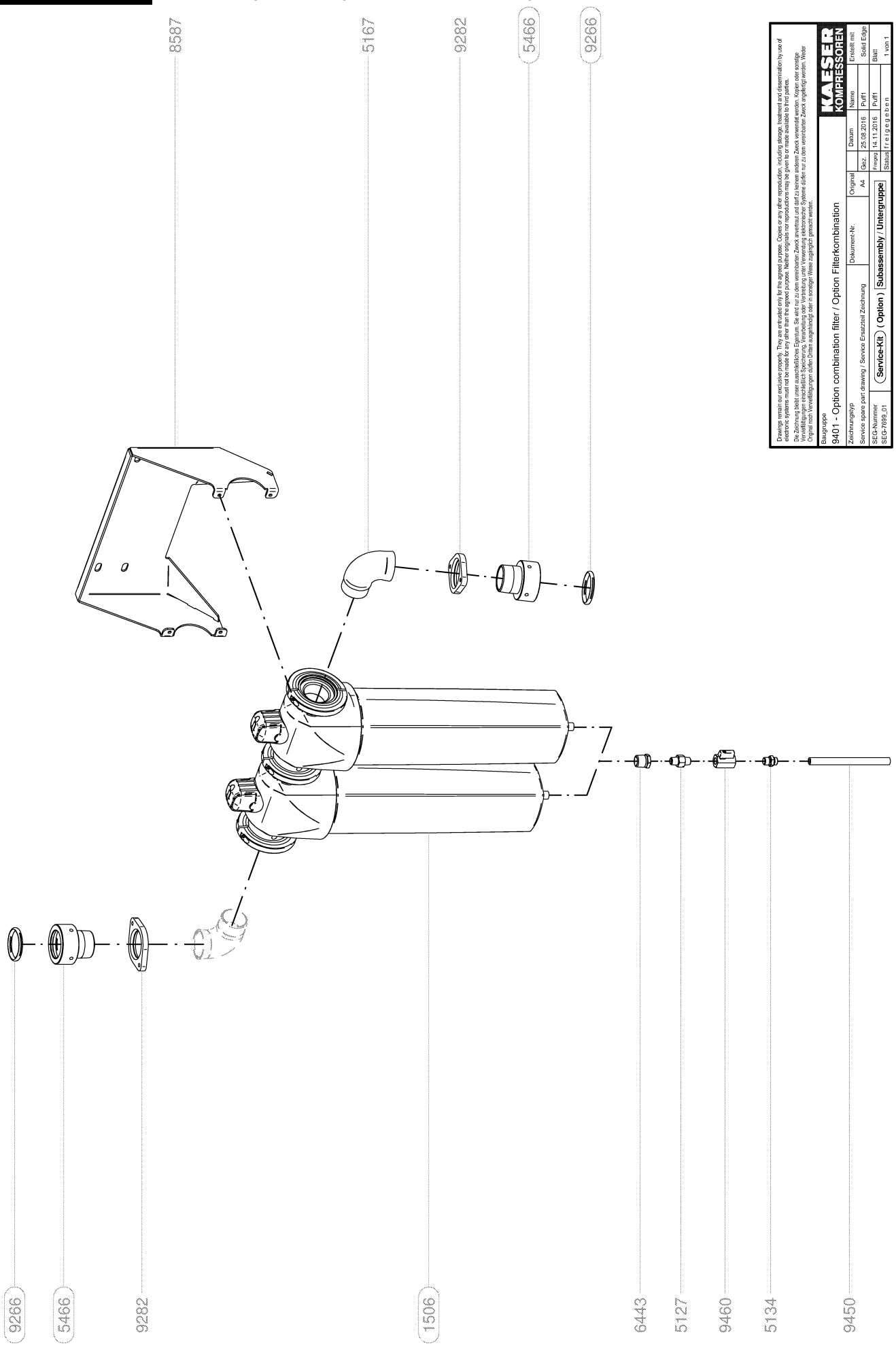


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Baugruppe
5003 - Heat recovery / Wärmerückgewinnung

Zeichnungstyp	Dokument-Nr.	Original	Datum	Name	Erstellt mit
Service spare part drawing / Service Ersatzteil Zeichnung		A4	Gez. 26.08.2016	Puff1	Solid Edge
SEG-Nummer	Service-Kit (Option) Subassembly / Untergruppe		Freigab 26.08.2016	Puff1	Blatt
SEG-7698_01			Status freigegeben		1 von 1



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KAESER KOMPRESSOREN

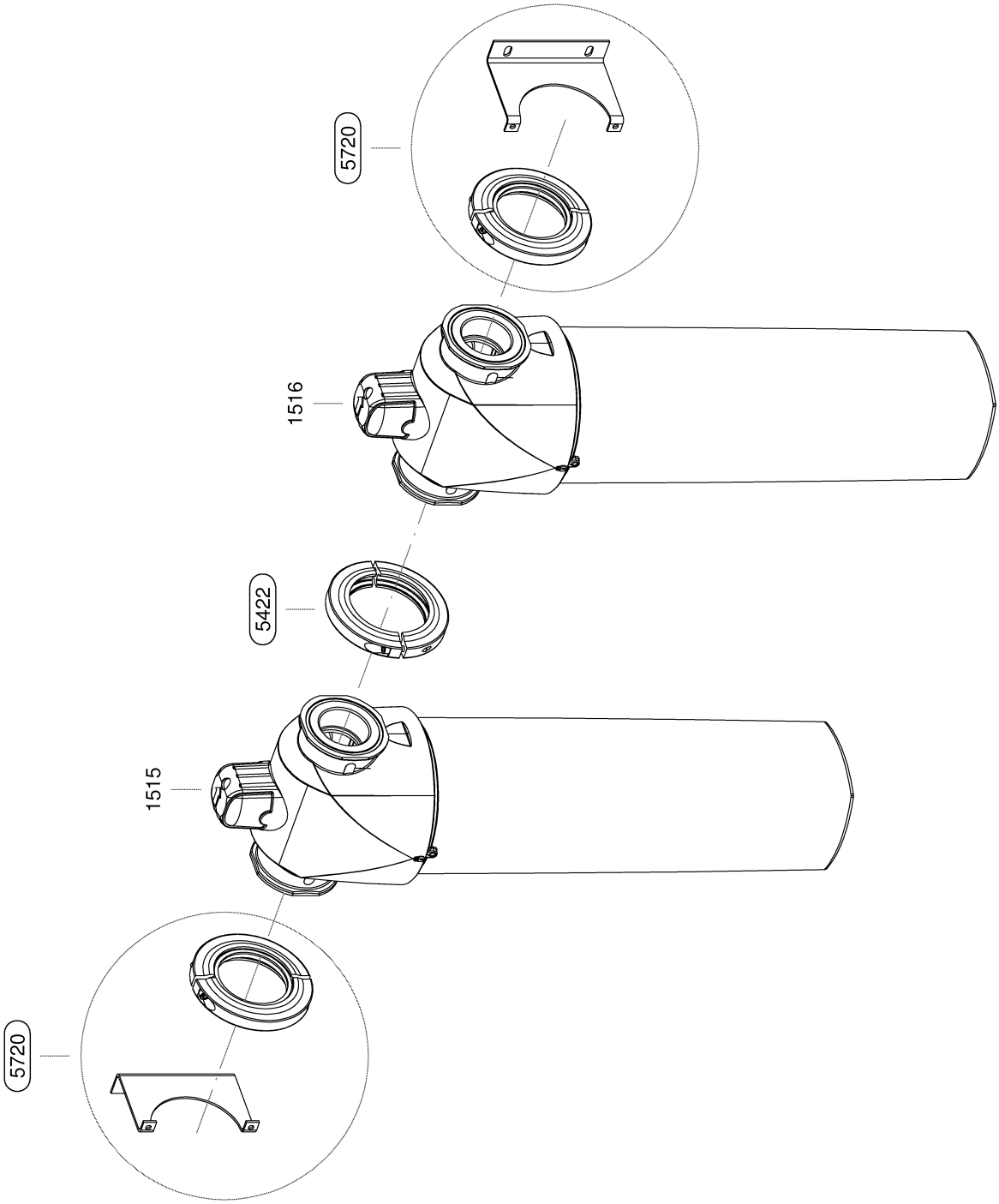
Baugruppe
9401 - Option combination filter / Option Filterkombination

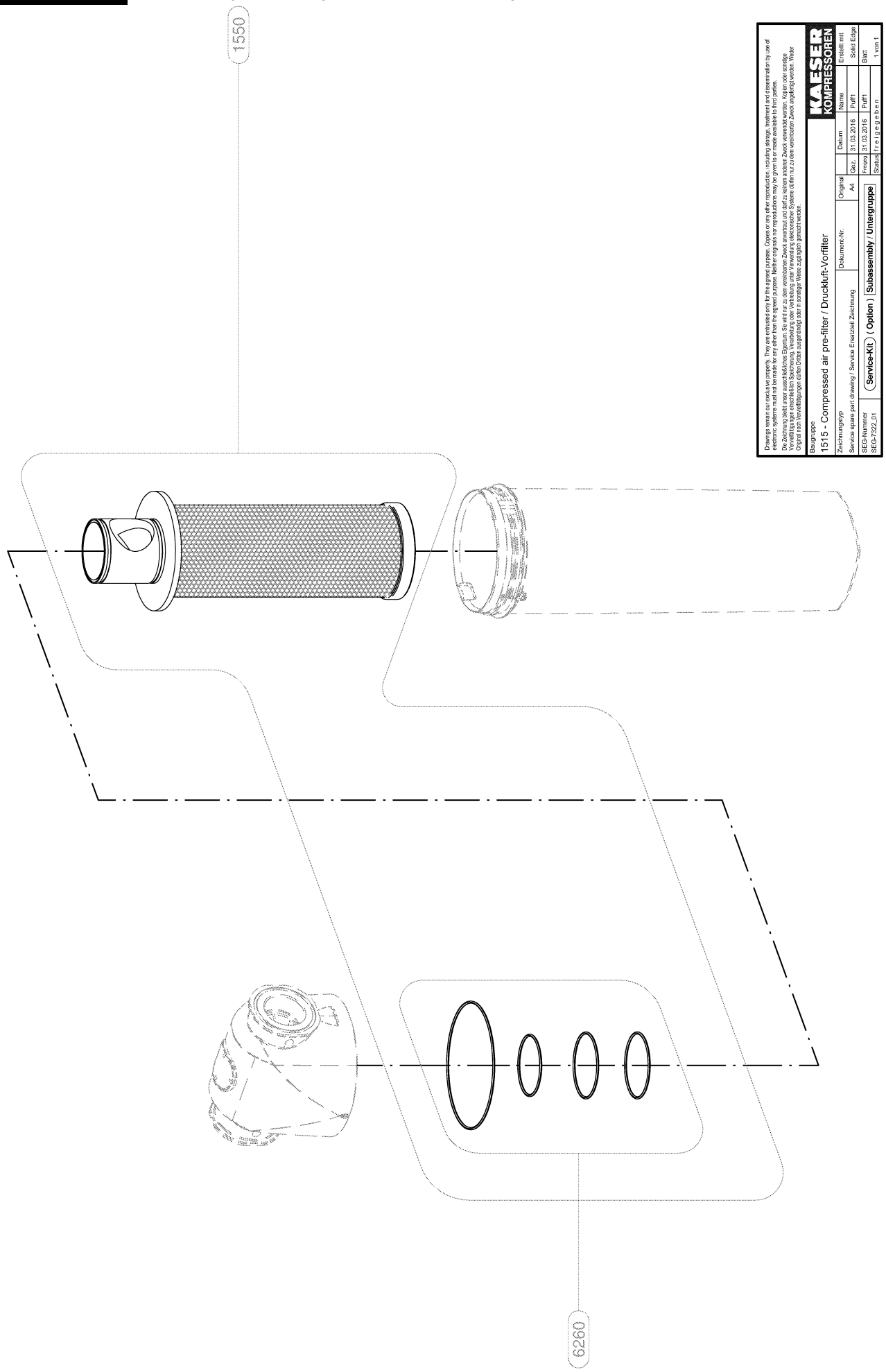
Zeichnungstyp	Dokument-Nr.	Original	Datum	Name	Erstellt mit
Service spare part drawing / Service Ersatzteil Zeichnung		A4	Gez. 25.08.2016	Puff	Solid Edge
SEG-Nummer	Service-Kit (Option)	Subassembly / Untergruppe	Freigabe 14.11.2016	Puff	Blatt
SEG-7999_01			Status freigegeben		1 von 1

Service-Kit (Option)

1506 Druckluftfilter-Kombination / Compr. air filter combination

SEG-5736_01

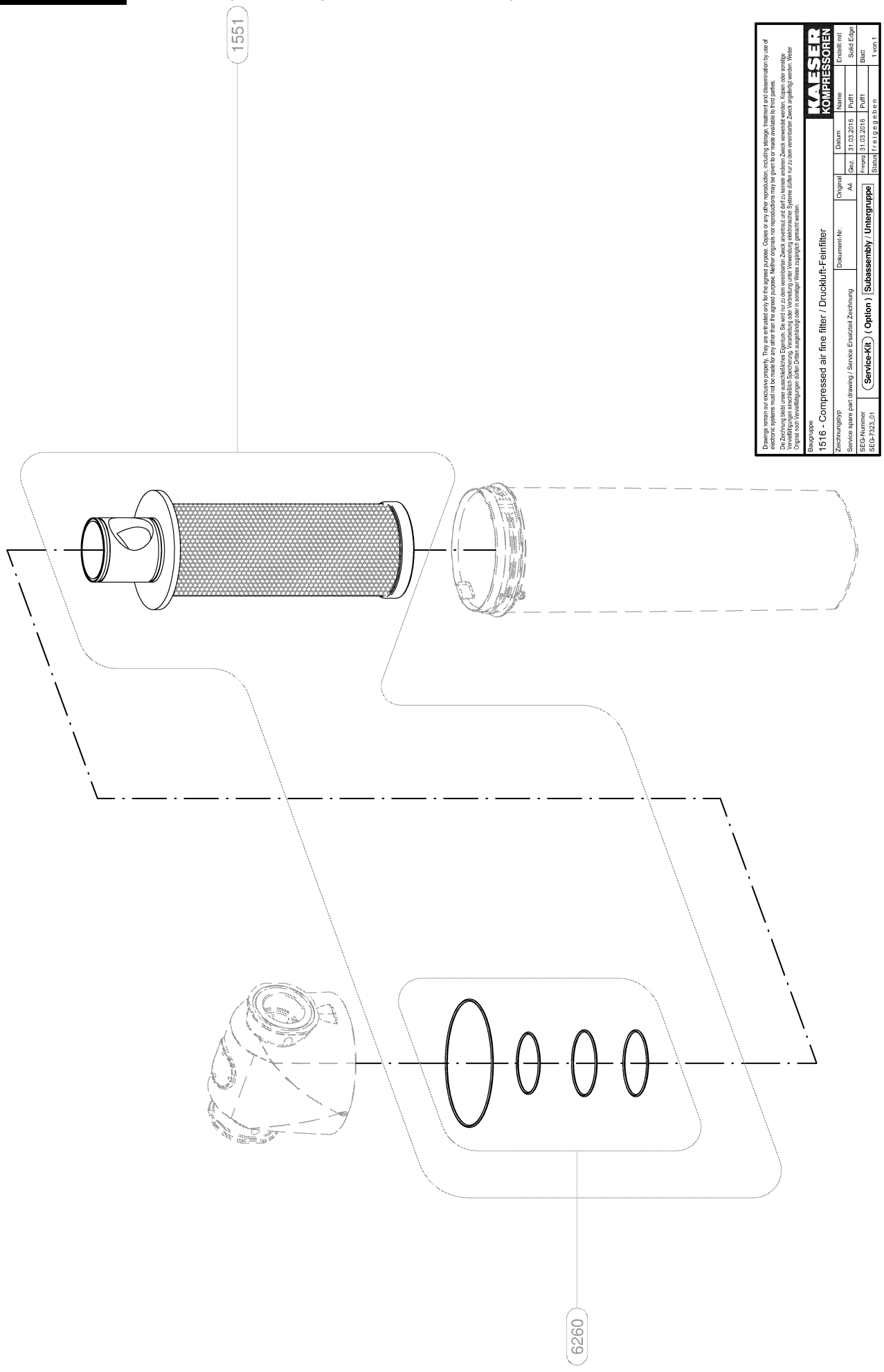


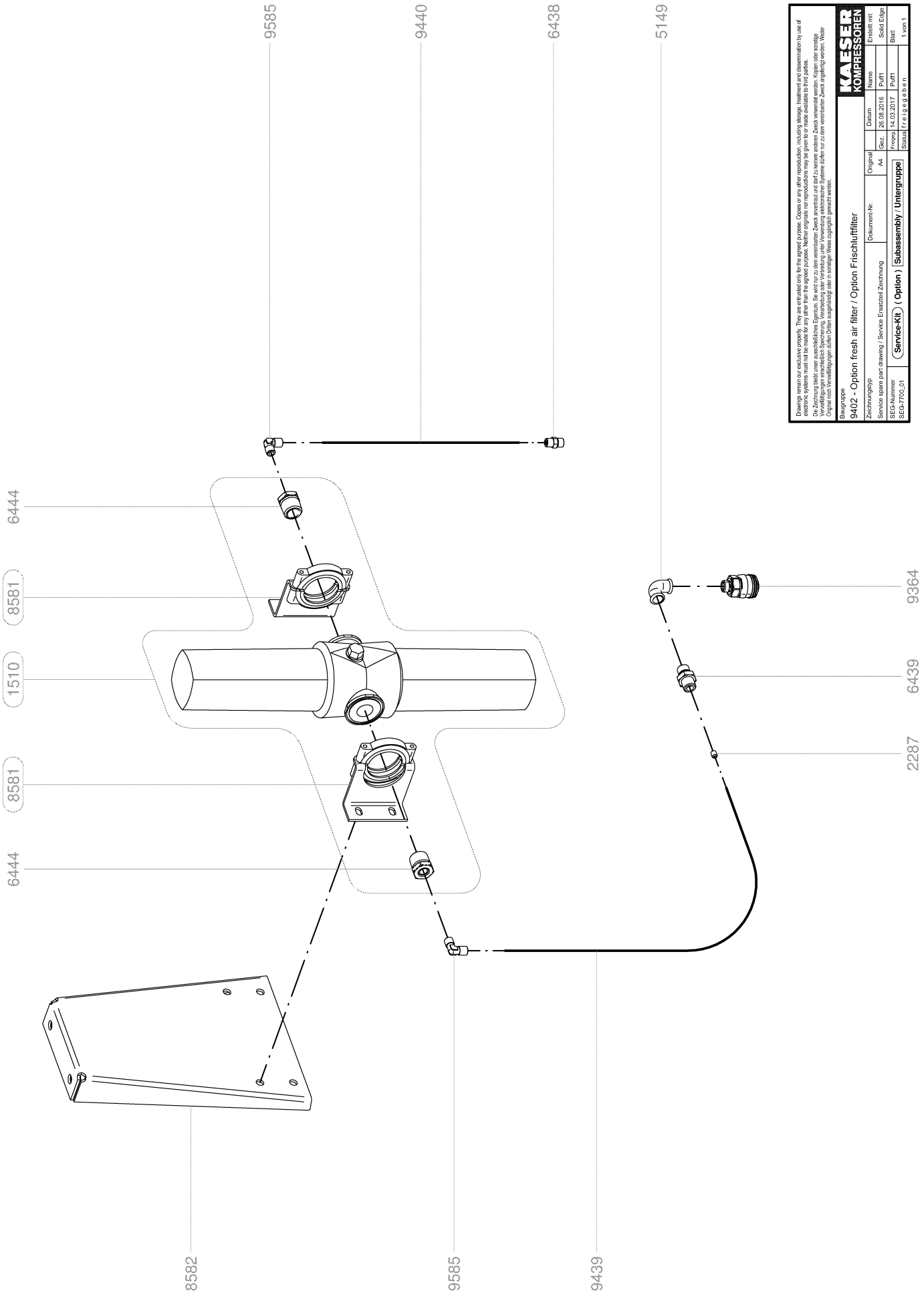


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Baugruppe
1515 - Compressed air pre-filter / Druckluft-Vorfilter

Zeichnungstyp	Dokument-Nr.	Original	Datum	Name	Erstellt mit
Service spare part drawing / Service Ersatzteil Zeichnung		A4	Gez. 31.03.2016	Puff	Solid Edge
SEG-Nummer			Freigag. 31.03.2016	Puff	Blatt
SEG-7222_01	Service-Kit (Option) Subassembly / Untergruppe		Status freigegeben		1 von 1


1551
6260
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Baugruppe
1516 - Compressed air fine filter / Druckluft-Feinfilter
Zeichnungstyp
Service spare part drawing / Service Ersatzteil Zeichnung
Dokument-Nr.
Original
A4
Datum
Name
Erstellt mit
Gez. 31.03.2016 Pulfl
Solid Edge
Freigab 31.03.2016 Pulfl
Blatt
Status freigegeben
1 von 1
SEG-Nummer
SEG-7323_01
Service-Kit (Option) Subassembly / Untergruppe

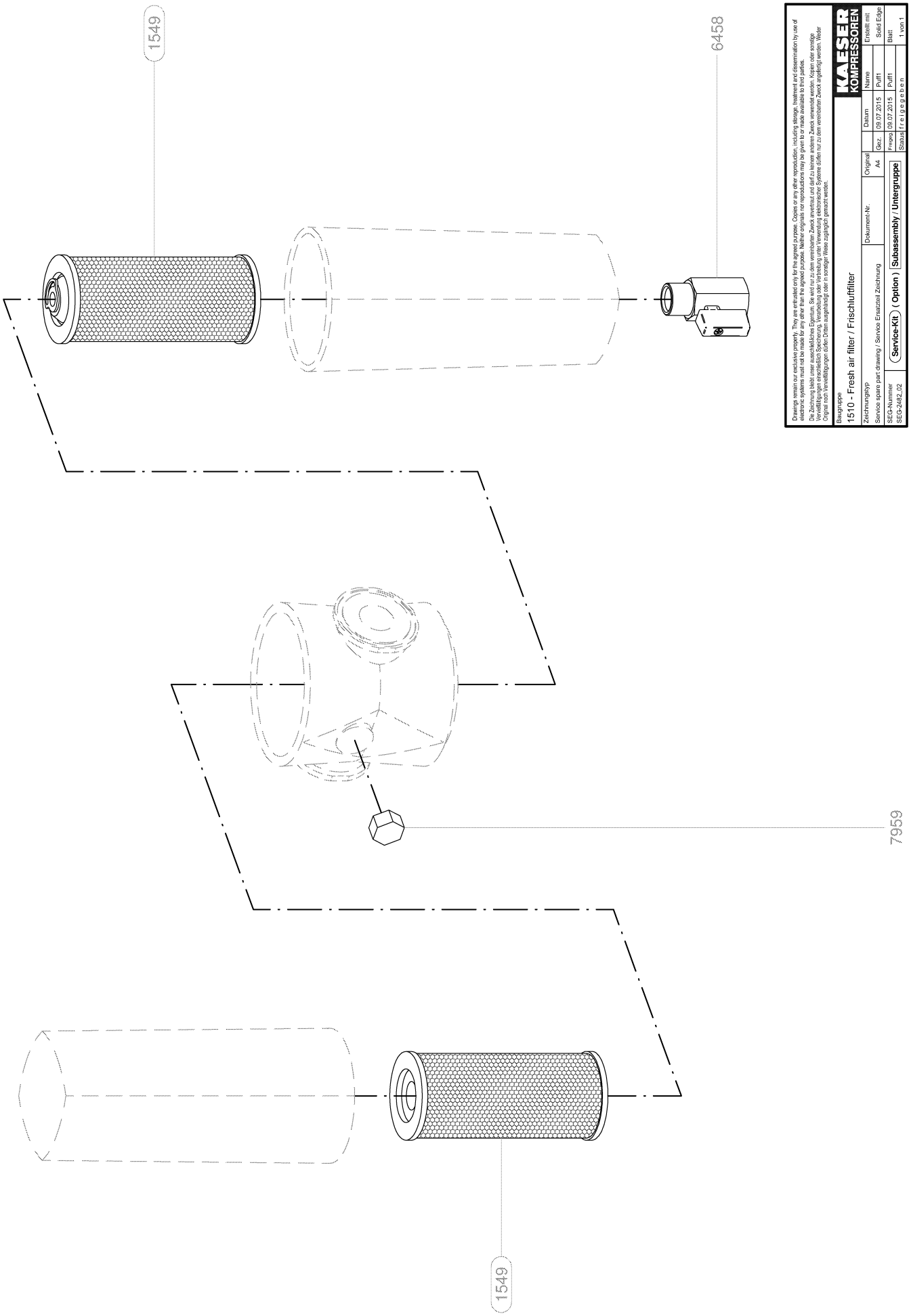


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Baugruppe
9402 - Option fresh air filter / Option Frischluftfilter

Zeichnungstyp	Dokument-Nr.	Original	Datum	Name	Erstellt mit
Service spare part drawing / Service Ersatzteil Zeichnung		A4	Gez. 26.08.2016	Puff	Solid Edge
SEG-Nummer			Freigag 14.03.2017	Puff	Blatt
SEG-7700_01	Service-Kit (Option)	Subassembly / Untergruppe	Status freigegeben		1 von 1



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KAESER KOMPRESSOREN

Baugruppe
1510 - Fresh air filter / Frischluftfilter

Zeichnungstyp	Dokument-Nr.	Original		Name	Erstellt mit
Service spare part drawing / Service Ersatzteil Zeichnung		A4	Gez.	09.07.2015	Pulfl	Solid Edge
SEG-Nummer	Service-Kit (Option)	Subassembly / Untergruppe	Freigab	09.07.2015	Pulfl	Blatt
SEG-2482_02			Status	f r e i g e g e b e n		1 von 1

12 Decommissioning, Storage and Transport

12.1 De-commissioning

De-commissioning 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 de-commissioning procedures.
2. Place a notice on the instrument panel describing the de-commissioning procedures carried out.

12.1.1 Temporary de-commissioning

Decommissioning for about 4 months.

Material Plastic sheeting
Moisture-resistant adhesive tape

1. Disconnect the battery (the minus 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. 89 "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 −10 °C.
   - ➢ 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 de-commissioning and storage

De-commissioning the machine for 5 months or longer.

Material
Oil 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 minus terminal first and then the plus terminal, and store in a frost-free room.	–	
➢ Check the battery fluid level.	10.9	
➢ 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.	–	
➢ Cover the following openings with plastic foil and moisture-proof duct tape: ■ Engine air inlet ■ Compressor air inlet ■ Exhaust silencer	–	
➢ Clean the bodywork and treat with preservative.	–	

Long-term decommissioning and storage tasks	See chapter	Confirmed?
➢ Attach a notice on the instrument panel informing of the decommissioning measurements taken.	–	

Tab. 90 "Long-term decommissioning and storage" checklist

➢ Attach the following notice on the instrument panel showing the de-commissioning measures taken.

Attention!

1. The machine is de-commissioned.
2. It is filled with preserving oil.
3. For re-commissioning:

- Perform actions provided for re-commissioning after a long period of storage.
- Re-commission according to service manual.

Date / signature

Tab. 91 Notice text: "Long-term decommissioned and storage"

➢ Store in a dry place with even temperature.

12.2 Transport

Precondition
Machine switched off and locked off.
The machine is fully vented, the pressure gauge reads 0 bar!
The machine has 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!**
   Risk 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 Transport by crane

Additional precautions for conditions of snow and ice:

Considerable snow or ice may build up on the machine under low temperature conditions.
This may adversely effect the machine's centre of gravity (tilting).
It is possible that the permissible load on the crane or lifting eye is exceeded.

➢ Perform the following tasks in snow and ice conditions:

- Remove any snow and ice from the machine before lifting by a 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 transporting with a crane. The lifting eye is located beneath a lift-up cover in the centre of the enclosure.



Mobile machine:
Use the climbing aid (steps) installed in front of each of the wheel arches to safely reach the lifting eye!
Wear clean safety boots!

Precondition The machine is standing firm and level.

The machine is switched off.

The machine has cooled down.



1. **CAUTION!**
   Hot components in the machine interior!
   ➢ Allow the machine to cool down.



2. **CAUTION!**
   The machine can be damaged by jerky lifting!
   Components may break.
   ➢ Lift the machine carefully.
3. Open one of the two doors.
4. Unlock the cover from the inside by actuating the built-in hand lever and lift up.
5. Close the door.
6. Position the crane hook vertically over the lifting eye.
7. Engage the hook in the eye.
8. Close and lock the access doors.
9. Lift and transport carefully.

Take care 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.
   ➢ Set the machine down carefully.
   ➢ Do not set down unevenly.
2. Set the machine down slowly and carefully.

1. Unhook the crane hook.
2. Press the lifting eye cover down and close. Make sure it locks into place.

12.2.4 Option rw
Transport with a forklift truck

Precondition The machine is switched off.

All connecting lines and hoses disconnected and removed.

CAUTION
Damage to the machine by incorrect lifting with a fork truck.
The machine may fall or be damaged by the forks.
- ➢ Do not use a fork truck to lift towable machines.
- ➢ Only stationary machines with skids may be transported with a fork truck.
- ➢ Pick up the machine only from the side with the forks through the lifting lugs.

Option rw

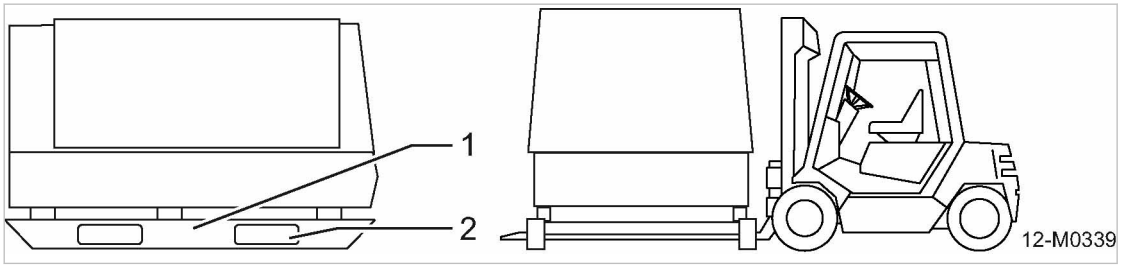


Fig. 73 Transporting using a forklift truck
[1] Skids
[2] Lifting lugs

1. Close and lock the access doors or canopy.
2. Position the fork truck to the side of the machine with the forks lined up with the lifting lugs.
3. Drive the forks fully through the lifting lugs as far as possible.
   The forks are fully under the machine.
4. Lift the machine carefully.

12.2.5 Transporting the machine as load

The medium of transport determines the type of packing and securing.
Packing and securing methods must be such that, assuming proper handling, the goods arrive in perfect condition at the destination.

Additional measures must be taken for the transport of machines by sea or air. Please contact KAESER SERVICE for more information.

Material Chocks

Restraints or timber beams

Straps

Carry out a freight securing:

- National directives and regulations for securing loads should be followed.
- Load securing is taken to mean that, by full braking or sudden turning, the load will not slide, fall, roll or cause unnecessary noise. Generally accepted technical regulations should be observed (e.g., in Germany: the VDI Directive 2700 ff).
- Responsibility for properly secured loads falls on the driver, the vehicle keeper and the carrier.

Use chocks, restrainers or timber balks for securing the load.
If necessary, use straps across the chassis and the towbar.

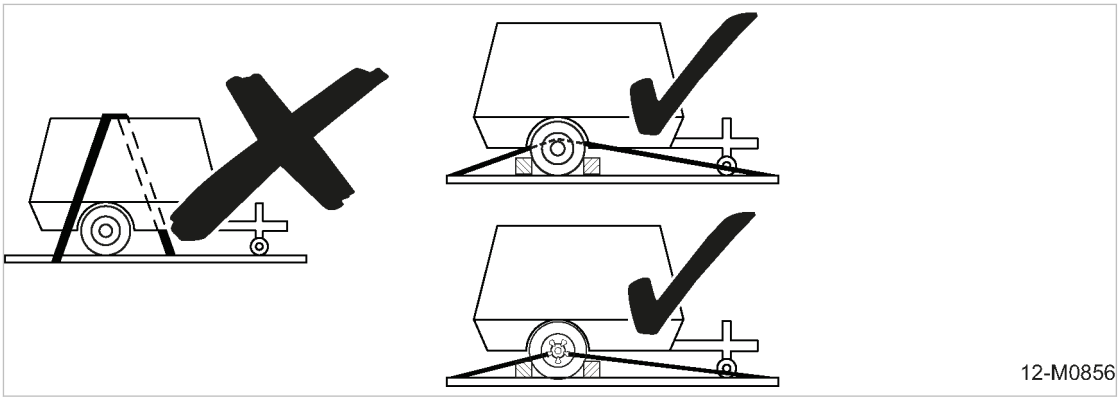


Fig. 74 Guys to secure the freight

1. *NOTICE!*
   Straps can damage the bodywork.
   Movement during transportation can damage the bodywork.
   - ➢ Do not use straps over the bodywork.
   - ➢ Use straps only over the chassis.
2. Always observe valid accident and safety regulations when transporting.
3. The loads must be secured against rolling, tipping, slipping and falling.

Contact KAESER SERVICE with any questions regarding transporting or load securing.

KAESER accepts no liability and provides no guarantee for damage arising from incorrect transport or insufficient or incorrect load securing provisions.

For hire, rental and trade fair plant, any transport safety devices used for the delivery must also be used for the return transport.

Before shipment as air freight

The machine is designated as hazardous goods for air freight purposes; any disregard can result in a heavy fine!

1. **WARNING!**
   Danger of fire or explosion from operating fluids/materials!
   The machine is equipped with a combustion engine.
   - ➢ Any dangerous fluids/materials contained within the machine must be removed before transport by air.

2. Remove all dangerous fluids/materials.
   These include:
   - Residues of fuel or fuel vapours.
   - Lubricants in engine and compressor.
   - Battery electrolyte
   - Residues of reducing agents (Exhaust gas 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 >0 °C.

➢ Store the machine in a dry place, free from frost if possible.

12.4 Disposal

When disposing of a machine, drain out all liquids and remove old filters.

Precondition The machine is decommissioned.

1. Completely drain the fuel from the machine.
2. Completely drain the cooling oil and engine oil from the machine.
3. Remove used filters and the oil separator cartridge.
4. Drain the coolant from water-cooled engines and systems.
5. The battery has been removed.
6. Hand the machine over to an authorised disposal expert.



- ➢ Operating materials and components contaminated with fuel, cooling oil or engine oil must be disposed of in accordance with local environment protection regulations.
- ➢ Old batteries are hazardous waste and must be disposed of correctly in accordance with local environment protection regulations

13 Annex

13.1 Marking

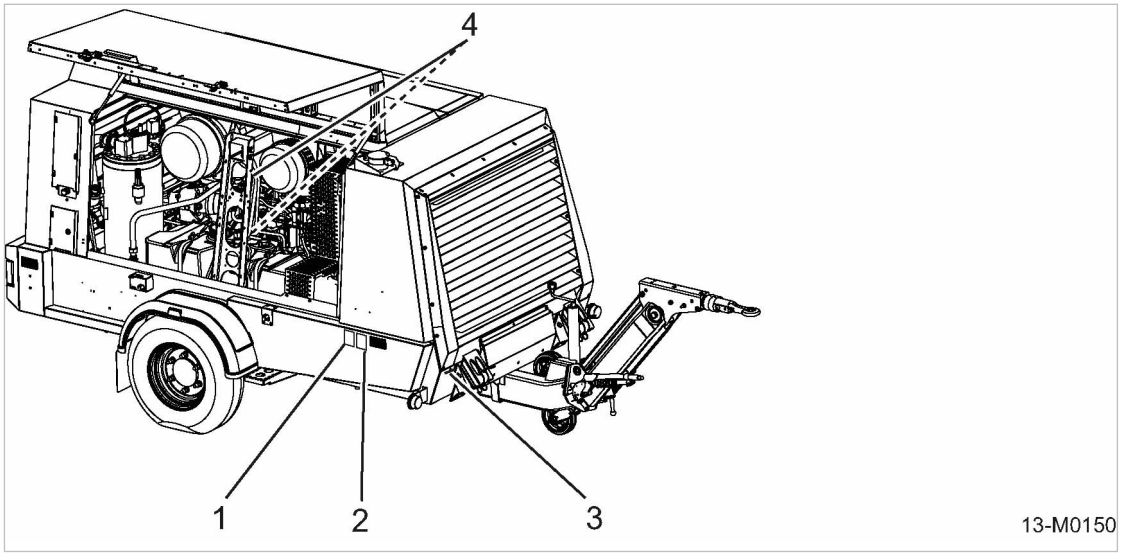
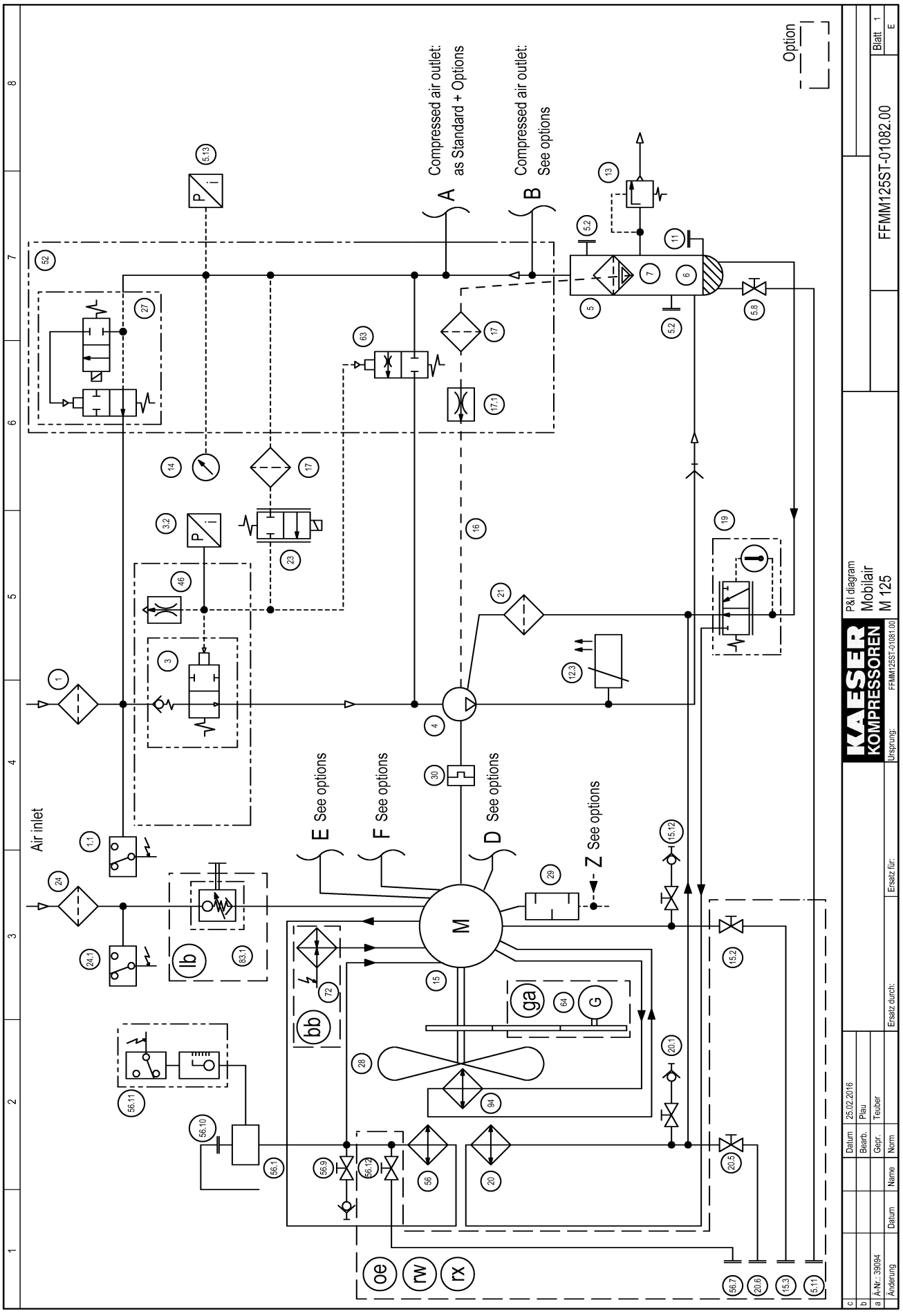


Fig. 75 Marking

[1] Options label
[2] Machine nameplate with system serial number
[3] VIN *) (stamped in the bodywork)
* Vehicle identity number
[4] Engine nameplate with engine serial number

13.2 Pipeline and instrument flow diagram (P+I diagram)


Compressed air outlet: as Standard + Options
Compressed air outlet: See options
Option
A
B
Air inlet
E See options
F See options
D See options
Z See options
M
FFMM125ST-01082.00
P&I diagram
Mobilair
M 125
FFMM125ST-01081.00
Ursprung:
Ersatz für:
Ersatz durch:
Datum
Bearb.
Gepr.
Norm
Name
25.02.2016
Plau
Teuber
A-Nr.: 39094
Änderung
Blatt 1

1	Compressor - Air filter
1.1	Vacuum switch
3	Inlet valve
3.2	Pressure transducer - Control pressure
4	Airend
5	Oil separator tank
5.2	Screw plug
5.8	Shut-off valve - Oil drain device
5.11	Screw plug- Oil drain device
5.13	Pressure transducer - Internal pressure
6	Oil reserve
7	Oil separator cartridge
11	Oil filler port with plug
12.3	Sensor - Airend discharge temperature
13	Pressure relief valve (Blow-off pipe to the open)
14	Pressure gauge Compressed air - Control panel
15	Diesel engine
15.2	Shut-off valve - Oil drain device
15.3	Screw plug- Oil drain device
15.12	Shut-off valve with hose coupling - Oil drain device
16	Oil return line
17	Dirt trap
17.1	Nozzle
19	Thermostatic valve
20	Oil cooler
20.1	Shut-off valve with hose coupling - Oil drain device
20.5	Shut-off valve- Oil drain device
20.6	Screw plug- Oil drain device
21	Oil filter
23	Electric proportional controller
24	Motor - Air filter
24.1	Vacuum switch
27	Venting valve
28	Fan
29	Emission after-treatment with SCR catalytic converter
30	Coupling
46	Nozzle (Secondary end Proportional controller)
52	Control valve

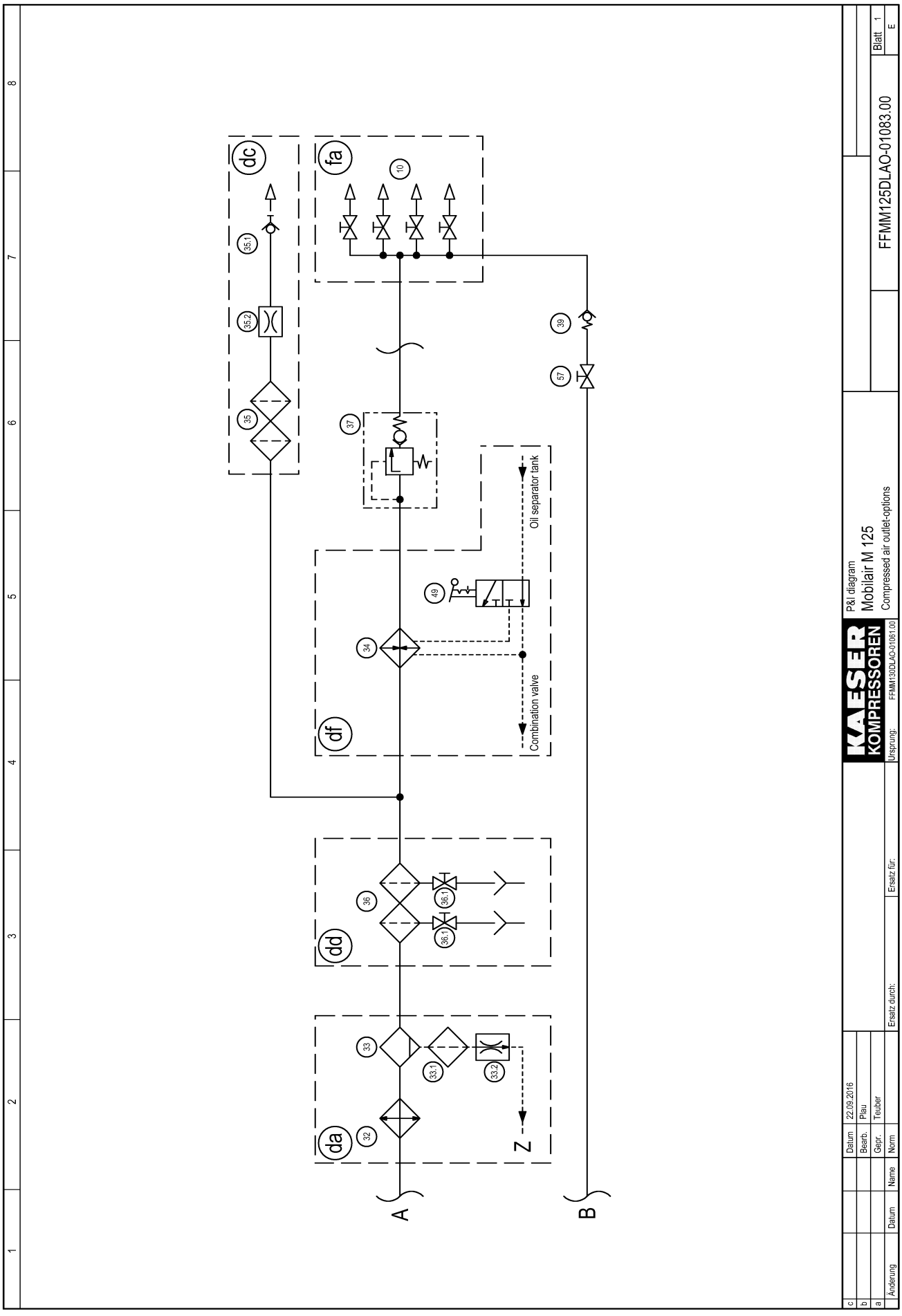
c				Datum	25.02.2016		KAESER KOMPRESSOREN	P&I diagram legend	
b				Bearb.	Plau			Mobilair	
a				Gepr.	Teuber			M 125	
	Änderung	Datum	Name	Norm		Ersatz durch:	Ersatz für:	Ursprung: FFMM125ST-01081.00	FFMM125ST-01082.00	Blatt 2 / E

56	Water cooler
56.1	Cooling water expansion tank
56.7	Screw plug - Water drain device
56.9	Shut-off valve with hose coupling - Water drain device
56.10	Water filling port with plug and pressure relief valve
56.11	Cooling water status indicator (switching)
56.12	Shut-off valve - Water drain device
63	Regulating valve (Directional control valve)
64	Generator
72	Fail-safe heat exchangers
83.1	Engine air intake shut-off valve (automatic and manual shut-off)
94	Intercooler

A	Compressed air outlet:as Standard + Options
B	Venting line:as Standard + Options
D	Reducing agent injection; See options
E	Cooling water inlet; See options
F	Cooling water outlet; See options
Z	See options (Option da)

Option	
bb	Coolant pre-heating
ga	Generator
lb	Engine air intake shut-off valve (automatic and manual shut-off)
oe	Closed floor pan
rw	Stationary, on skids
rx	Stationary, on frame

c				Datum	25.02.2016		KAESER KOMPRESSOREN	P&I diagram legend Mobilair M 125.2	
b				Bearb.	Plau				
a				Gepr.	Teuber				
	Änderung	Datum	Name	Norm		Ersatz durch:	Ersatz für:	Ursprung: FFMM125ST-01081.00	FFMM125ST-01082.00 Blatt 3 E


dc
fa
df
dd
da
10
35.1
35.2
35
37
39
57
49
34
36
36.1
33
33.1
33.2
32
Oil separator tank
Combination valve
Z
A
B
P&I diagram
Mobilair M 125
Compressed air outlet-options
FFMM125DLAO-01083.00
Blatt 1
E
KAESER KOMPRESSOREN
Ursprung: FFMM130DLAO-01061.00
Ersatz durch:
Ersatz für:
Datum 22.09.2016
Bearb. Plau
Gepr. Teuber
Norm
Name
Datum
Änderung

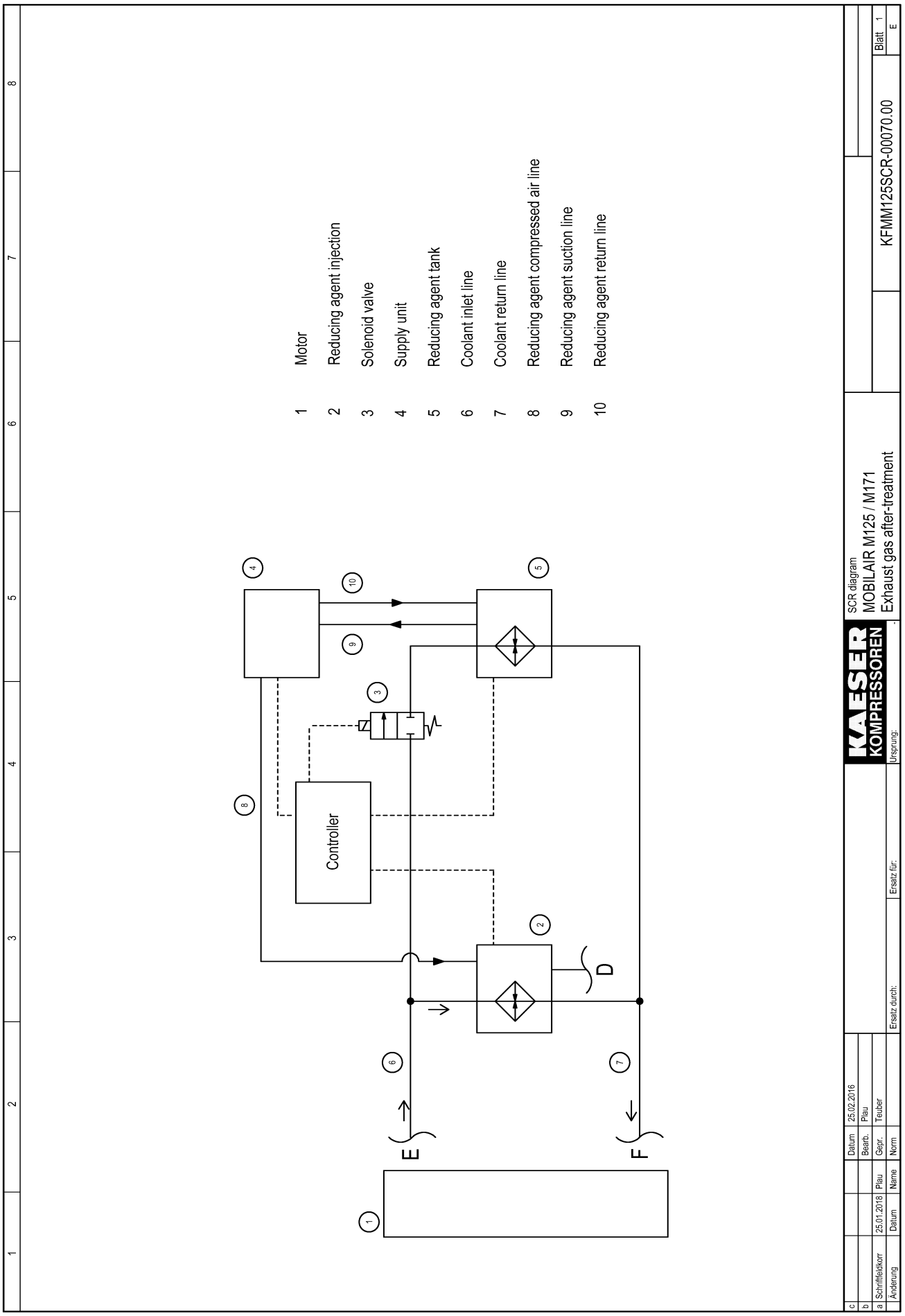
10	Air distributor
32	Compressed air cooler
33	Centrifugal separator
33.1	Dirt trap
33.2	Nozzle
34	Heat exchanger
34.4	Screw plug - Oil drain device
35	Fresh air filter
35.1	Hose coupling
35.2	Nozzle
36	Filter combination
36.1	Condensate drain shut-off valve
37	Minimum pressure check valve
39	Check valve
49	3-2-Directional shut-off valve
57	Shut-off valve - Venting line

Option

da	After-cooler + Centrifugal separator
df	Heat exchanger with bypass
dc	Fresh air filter
dd	Filter combination
fa	Direct air flow

c				Datum	22.09.2016		KAESER KOMPRESSOREN	P&I diagram legend	
b				Bearb.	Plau			Mobilair M 125	
a				Gepr.	Teuber			Compressed air outlet-options	FFMM125DLAO-01083.00 Blatt 2
	Änderung	Datum	Name	Norm		Ersatz durch:	Ersatz für:	Ursprung: FFMM130DLAO-01061.00	E

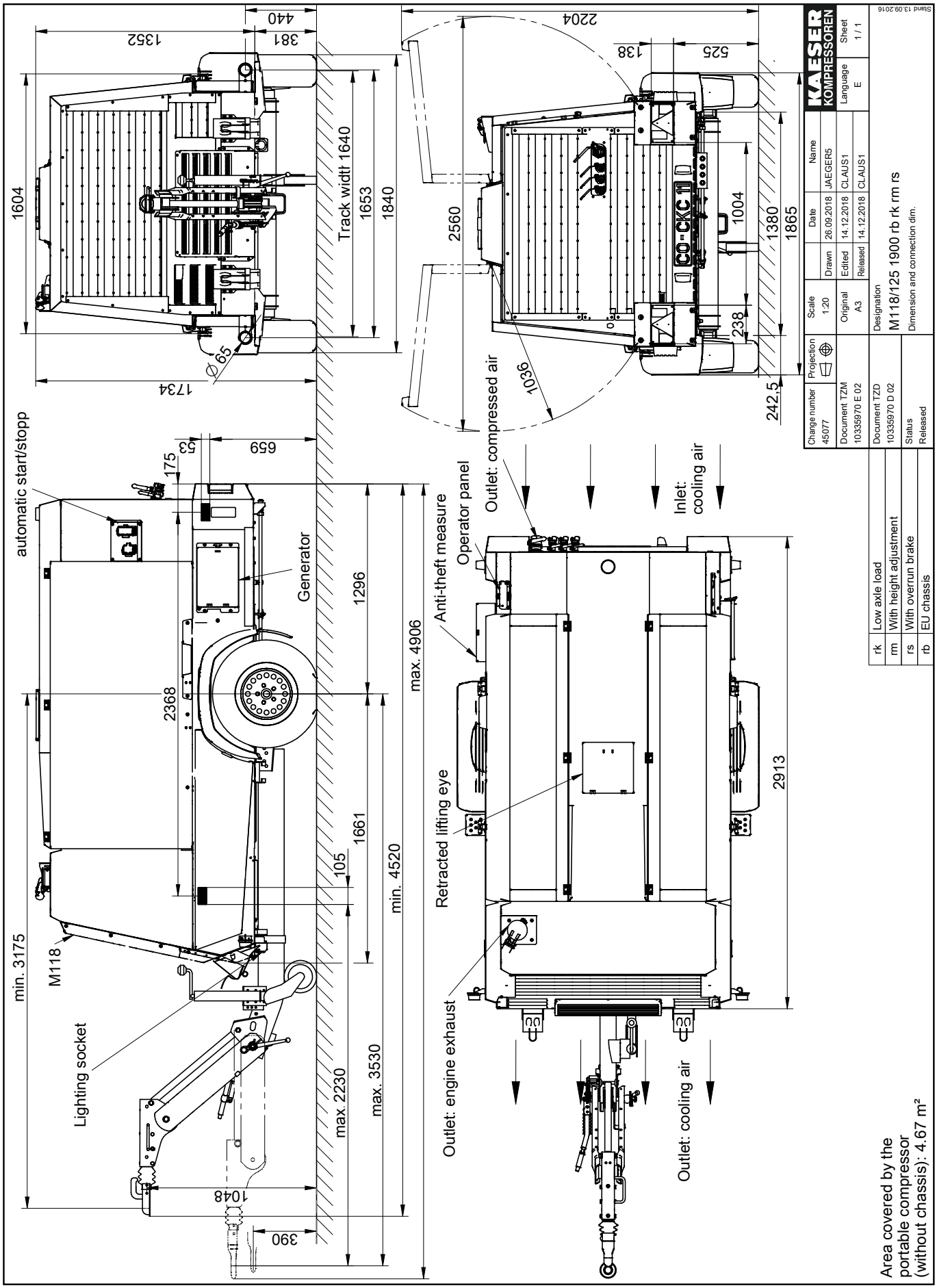
13.2.1 Option Id
Pipeline and instrument flow diagram (exhaust treatment)


1 Motor
2 Reducing agent injection
3 Solenoid valve
4 Supply unit
5 Reducing agent tank
6 Coolant inlet line
7 Coolant return line
8 Reducing agent compressed air line
9 Reducing agent suction line
10 Reducing agent return line
Controller
D
E
F
SCR diagram
MOBILAIR M125 / M171
Exhaust gas after-treatment
KFMM125SCR-00070.00
Blatt 1
E
Datum 25.02.2016
Bearb. Plau
Gepr. Teuber
Norm
Name
Datum
Änderung
Schriftfeldkorr
25.01.2018 Plau
Ersatz durch:
Ersatz für:
Ursprung:

13.3 Dimensional drawings

13.3.1 Option rb/rk/rm/rs Dimensional drawing – chassis

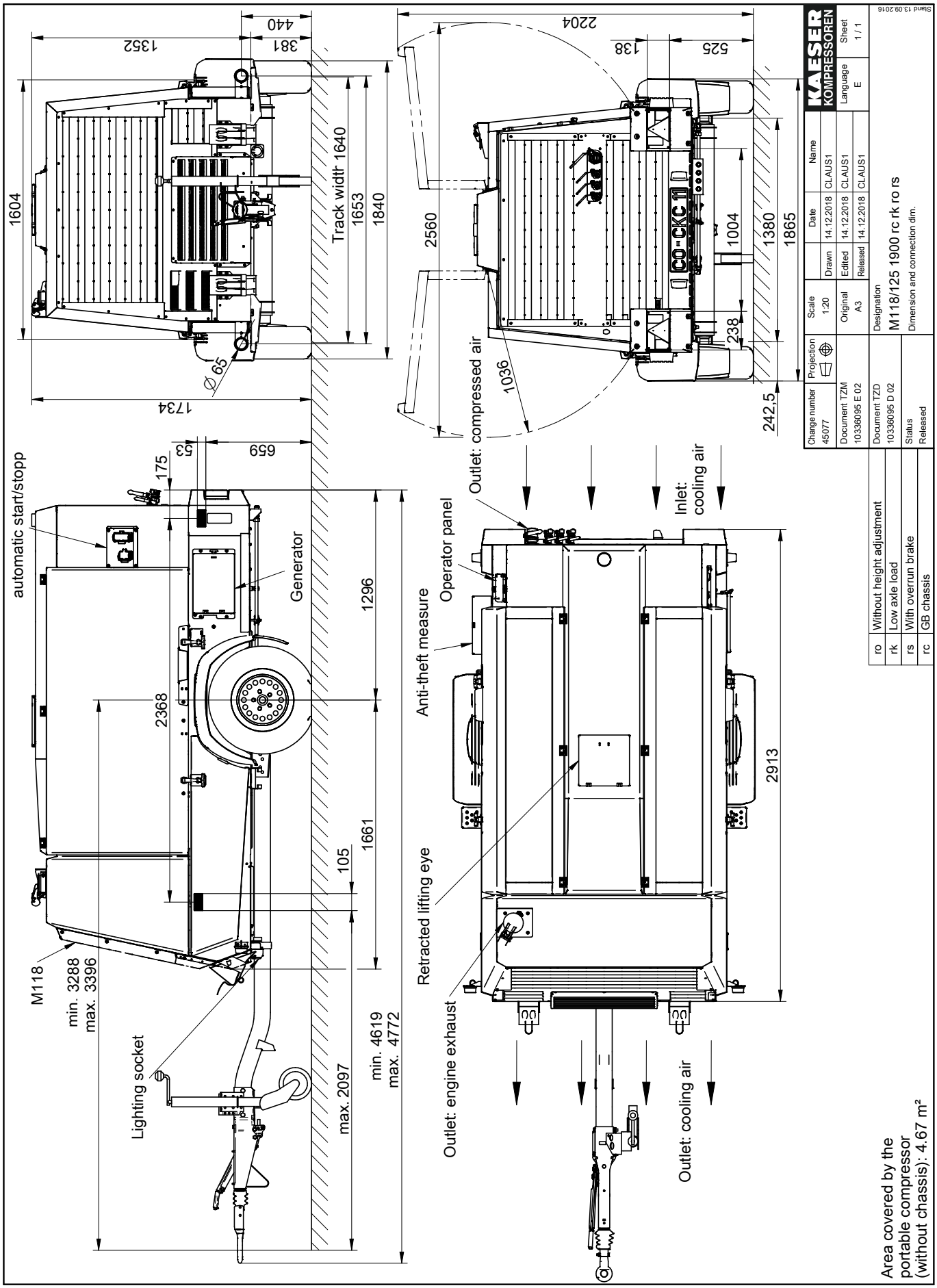
- Option rb - Chassis, EU type
- Option rk - Chassis with low axle load
- Option rm - Chassis with height adjustment
- Option rs - Chassis with overrun brake



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Subject to development-related changes.
Drawing may be altered only via CAD.

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



Charge number 45077	Projection	Scale 1:20		Date	Name	KAESER KOMPRESSOREN	
Document TZM 10336095 E 02		Original A3	Drawn	14.12.2018	CLAUS1	Language E	Sheet 1 / 1
			Edited	14.12.2018	CLAUS1		
			Released	14.12.2018	CLAUS1		
Document TZD 10336095 D 02		Designation M118/125 1900 rc rk ro rs					
Status Released		Dimension and connection dim.					

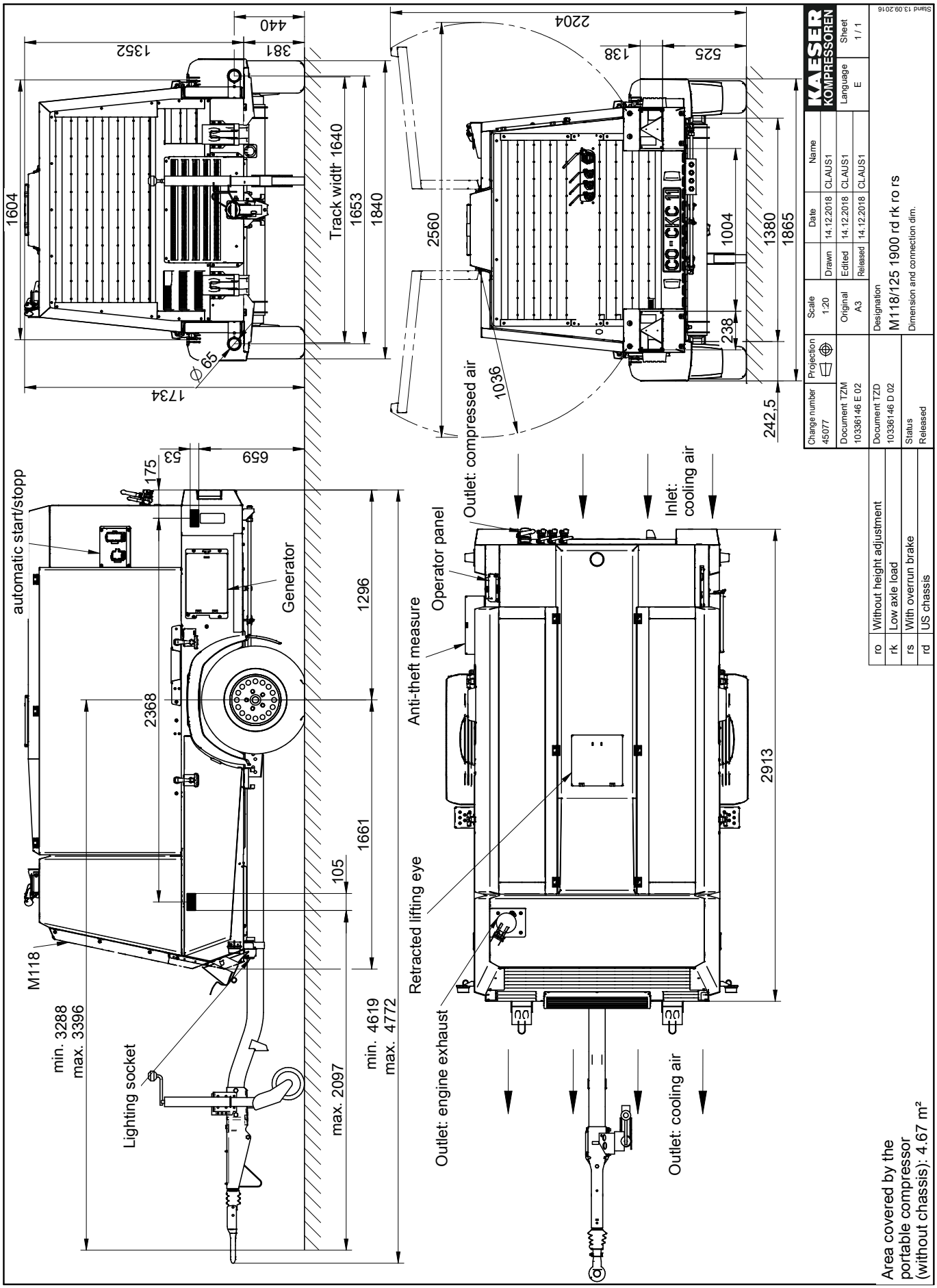
ro	Without height adjustment
rk	Low axle load
rs	With overrun brake
rc	GB chassis

Stand 13.09.2016

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13.3.3 Option rd/rk/ro/rs Dimensional drawing – chassis

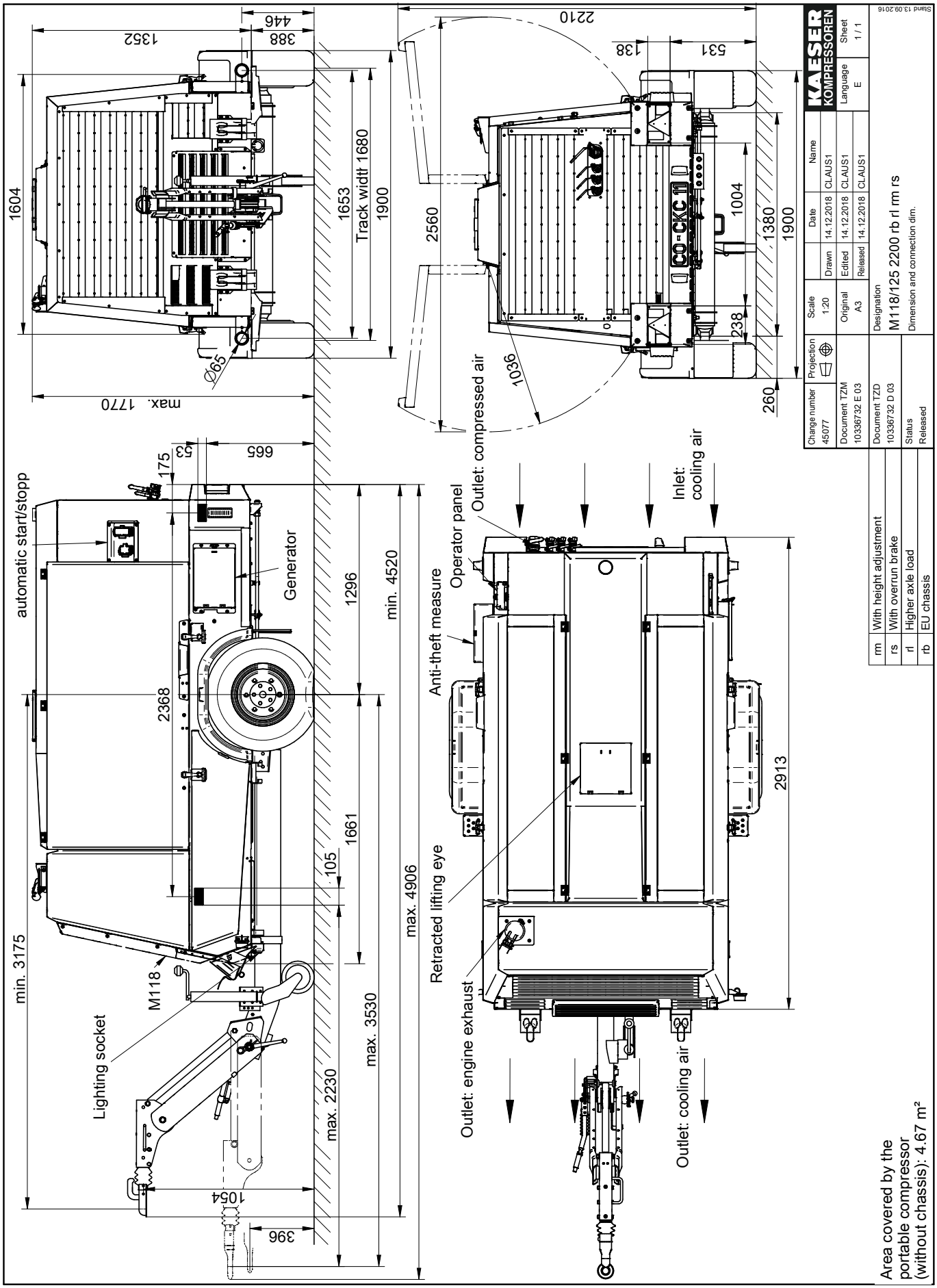
- Option rd - Chassis, US type
- Option rk - Chassis with low axle load
- Option ro - Chassis without height adjustment
- Option rs - Chassis with overrun brake



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13.3.4 Option rb/rl/rm/rs Drawing chassis

- Option rb - chassis EU version
- Option rl - Chassis with higher axle load
- Option rm - chassis with height-adjustable tow bar
- Option rs - chassis with overrun brake



Charge number	Projection	Scale		Date	Name
45077		1:20	Drawn	14.12.2018	CLAUS1
Document TZM		Original	Edited	14.12.2018	CLAUS1
10336732 E 03		A3	Released	14.12.2018	CLAUS1

KAESER KOMPRESSOREN — Language E — Sheet 1 / 1

Stand 13.09.2016

Designation
M118/125 2200 rb rl rm rs
Dimension and connection dim.

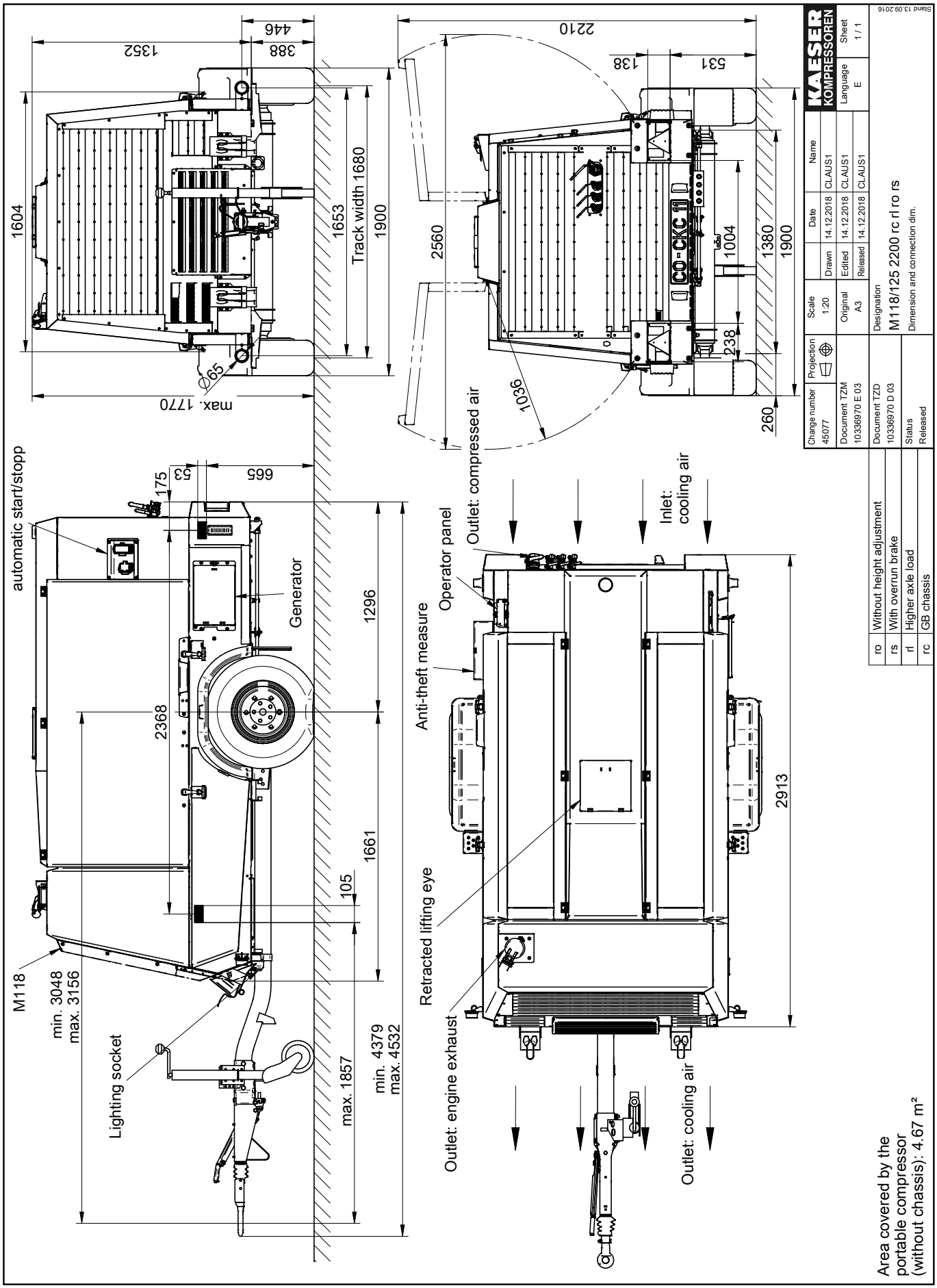
Document TZD	Status
10336732 D 03	Released

rm	With height adjustment
rs	With overrun brake
rl	Higher axle load
rb	EU chassis

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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



Charge number 45077	Projection	Scale 1:20		Date	Name	KAESER KOMPRESSOREN	
Document TZM 10336970 E 03		Original A3	Drawn	14.12.2018	CLAUS1	Language E	Sheet 1 / 1
			Edited	14.12.2018	CLAUS1		
			Released	14.12.2018	CLAUS1		

Stand 13.09.2016

Document TZD 10336970 D 03	Designation	M118/125 2200 rc rl ro rs	
Status Released	Dimension and connection dim.		

ro	Without height adjustment
rs	With overrun brake
rl	Higher axle load
rc	GB chassis

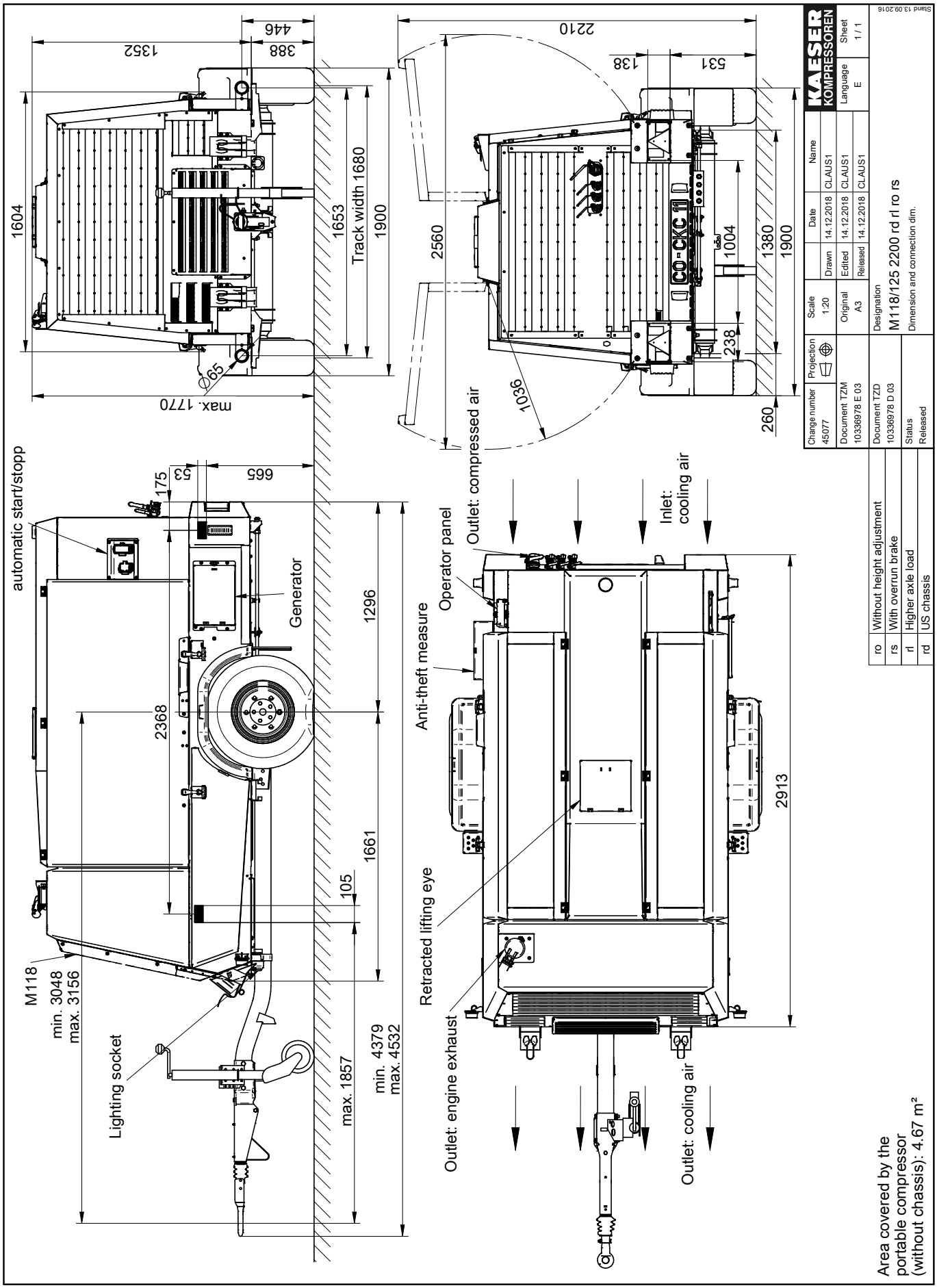
Area covered by the portable compressor (without chassis): 4.67 m²

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Subject to development-related changes.
Drawing may be altered only via CAD.

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



Charge number	Projection	Scale		Date	Name
45077		1:20	Drawn	14.12.2018	CLAUS1
Document TZM		Original	Edited	14.12.2018	CLAUS1
10336978 E 03		A3	Released	14.12.2018	CLAUS1

KAESER KOMPRESSOREN — Language E — Sheet 1 / 1

Stand 13.09.2016

Designation
M118/125 2200 rd rl ro rs
Dimension and connection dim.

Document TZD	Status
10336978 D 03	Released

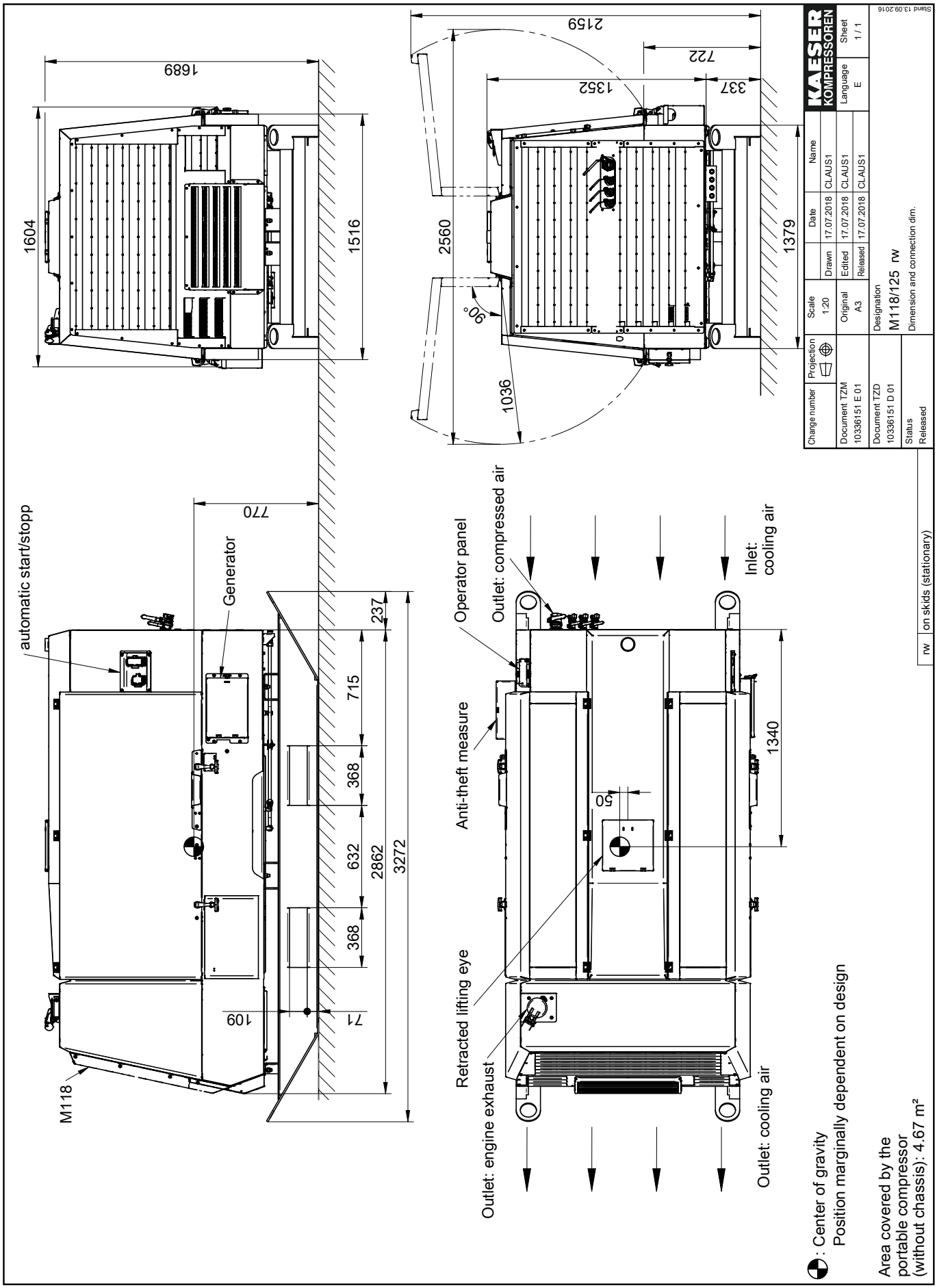
ro	Without height adjustment
rs	With overrun brake
rl	Higher axle load
rd	US chassis

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13.3.7 Option rw
Dimensional drawing, stationary version

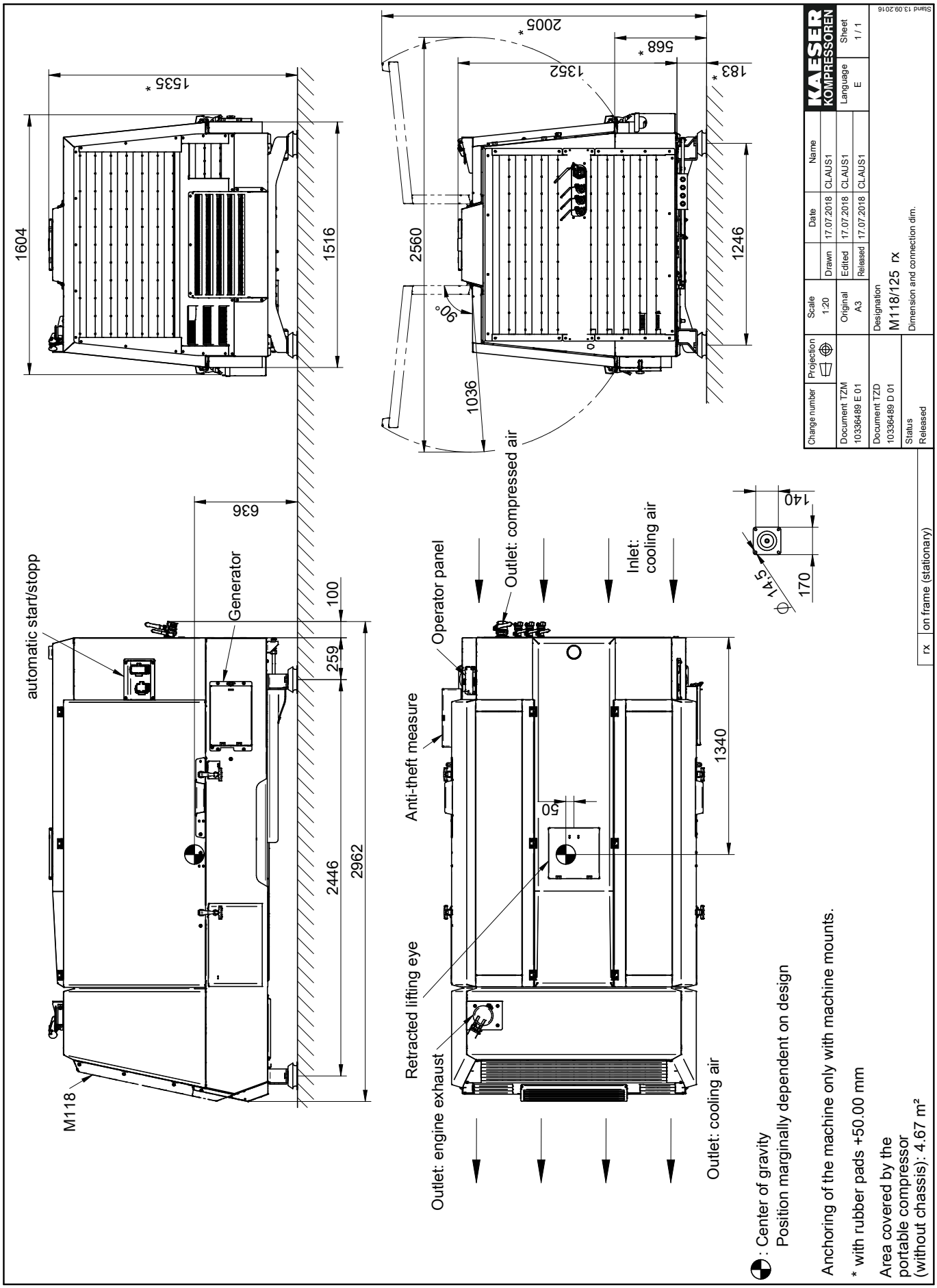
- Option rw - Skid frame on runners



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13.3.8 Option rx
Dimensional drawing, stationary version

- Option rx - Frame



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13.4 Wiring diagrams

13.4.1 Electrical Diagram

Electrical diagrams

MOBILAIR M118

DEUTZ stage IV / Tier 4f Engine with EMR 4

SIGMA CONTROL MOBIL

Manufacturer: KAESER KOMPRESSOREN SE
Postfach 2143
96410 Coburg

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c				Date	27.09.2019 E	KAESER KOMPRESSOREN	Cover page MOBILAIR M118	=	
b				Drawn	Sitter			+	
a				Released	Fischer C.			DFA118-03042.01	page 1
A	Change	Date	Name						1 Sht.

Lfd. Nr. No.	Benennung Name		Zeichnungsnummer (Kunde) Drawing No. (customer)	Zeichnungsnummer (Hersteller) Drawing No. (manufacturer)	Blatt Page	Anlagenkennzeichen Unit designation
1	Cover page			DFA118-03042.01	1	
2	List of contents			ZFA118-03042.01	1	
3	general instructions			UFA118-03042.01	1	
4	electrical equipment identification			UFA118-03042.01	2	
5	Block diagram	cabling		UFA118-03042.01	3	
6	Block diagram	components Cable set Engine XA		UFA118-03042.01	4	
7	Block diagram	Cable set		UFA118-03042.01	5	
8	Circuit diagram	Cable set Battery		SFA118.BK-03042.01	1	=BK
9	Circuit diagram	Control panel		SFA118.BT-03042.01	1	=BT
10	Circuit diagram	switching on		SFA118.SK-03042.01	1	=SK
11	Circuit diagram	Control board EMR 4		SFA118.SK-03042.01	2	=SK
12	Circuit diagram	interface		SFA118.SK-03042.01	3	=SK
13	Circuit diagram	SCM sensors		SFA118.SK-03042.01	4	=SK
14	Circuit diagram	SCM inputs		SFA118.SK-03042.01	5	=SK
15	Circuit diagram	SCM inputs		SFA118.SK-03042.01	6	=SK
16	Circuit diagram	SCM outputs		SFA118.SK-03042.01	7	=SK
17	Circuit diagram	SCM outputs		SFA118.SK-03042.01	8	=SK
18	Circuit diagram	SCM outputs		SFA118.SK-03042.01	9	=SK
19	Circuit diagram	SCM outputs		SFA118.SK-03042.01	10	=SK
20	Circuit diagram	SCM outputs		SFA118.SK-03042.01	11	=SK
21	Circuit diagram	Cable set Engine		SFA118.SK-03042.01	12	=SK
22	Circuit diagram	Control board EMR 4		SFA118.SK-03042.01	13	=SK
23	Circuit diagram	Control board EMR 4		SFA118.SK-03042.01	14	=SK
24	Circuit diagram	Control board EMR 4		SFA118.SK-03042.01	15	=SK
25	Circuit diagram	Volt-free contacts		SFA118.SK-03042.01	16	=SK
26	Circuit diagram	GSM/GPS Modem		SFA118.SK-03042.01	17	=SK
27	Equipment parts list	Control cabinet		GFA118-03042.01	1	
28	Equipment parts list			GFA118-03042.01	2	
29	Equipment parts list			GFA118-03042.01	3	
30	Terminal schedule	Terminal strip -X1		KFA118-03042.01	1	=SK
31	Terminal schedule	Terminal strip -X1		KFA118-03042.01	2	=SK
32	Terminal schedule	Plug connection -X24		KFA118-03042.01	10	
33	Terminal schedule	Plug connection -X25		KFA118-03042.01	11	
34	Terminal schedule	Plug connection -X31		KFA118-03042.01	20	=SK
35	Terminal schedule	Plug connection -X33		KFA118-03042.01	21	=SK
36	Terminal schedule	Plug connection -X35		KFA118-03042.01	22	=SK
37	Terminal schedule	Plug connection -X39.2		KFA118-03042.01	23	=SK
38	Terminal schedule	Plug connection -X45		KFA118-03042.01	24	=SK
39	Terminal schedule	Plug connection -XA.1		KFA118-03042.01	30	=SK
40	Terminal schedule	Plug connection -XA.2		KFA118-03042.01	31	=SK
41	Component layout	Control panel		AFA118-03042.01	1	
42	Component layout	Control cabinet		AFA118-03042.01	2	
43	Component layout	fitting plate		AFA118-03042.01	3	

c				Date	27.09.2019	KAESER KOMPRESSOREN	List of contents	=	
b				Drawn	Sitter		MOBILAIR M118	+	
a				Released	Fischer C.			ZFA118-03042.01	page 1
B	Change	Date	Name						1 Sht.

general instructions

Control voltage: 24VDC

control cabinet wiring for non-designated conductors:

All non-designated conductors 0,75mm² FLRY white
All control lines marked a) are 1,5 mm² FLRY white
All control lines marked b) are 2,5 mm² FLRY white
All control lines marked c) are 0,75 mm² FLRY brown
All control lines marked d) are 4 mm² FLRY white

potentials:

15	switched plus + (unit ON)
19	Preheat with glowplug
30	+ terminal (Battery)
31	- terminal (Battery), earth
50	Starter-Control

wiring colors:

BU	= blue	OG	= orange
BN	= brown	PK	= pink
YE	= yellow	RD	= red
GN	= green	BK	= black
GNYE	= green-yellow	VT	= violet
GY	= grey	WH	= white

option ob = Automatic-start-stop

option oc = GSM/GPS Modem

c				Date	27.09.2019	KAESER KOMPRESSOREN	general instructions	=	
b				Drawn	Sitter		MOBILAIR M118	+	
a				Released	Fischer C.			UFA118-03042.01	page 1
C	Change	Date	Name						5 Sht.

1	2	3	4	5	6	7	8

components Control cabinet

-K20	Control board SIGMA CONTROL MOBIL
-K22	Control board EMR 4
-F10,-F11,-F12,-F13, -F15,-F16,-F17,-F20,-F22, -F32,-F39,-F66,-F69,-F100	Fuse
-F31	Fuse preheat attachment
-K31	Relay preheat attachment
-K32	Relay fuel pump
-K39	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 Sensors/Actuators Compressor
-X22	diagnostics plug EMR 4
-X100	Diagnostic socket KAESER
-XA	Adaptor connector SCM-Deutz-unit

components Drive motor

-G2	Alternator
-G1.1,-G1.2	Battery
-M2	Starter

components Control panel

-K21	Operating unit SIGMA CONTROL MOBIL
-P9	Display fuel level
-S1	EMERGENCY STOP
-S10	Control voltage ON/OFF switch

components unit

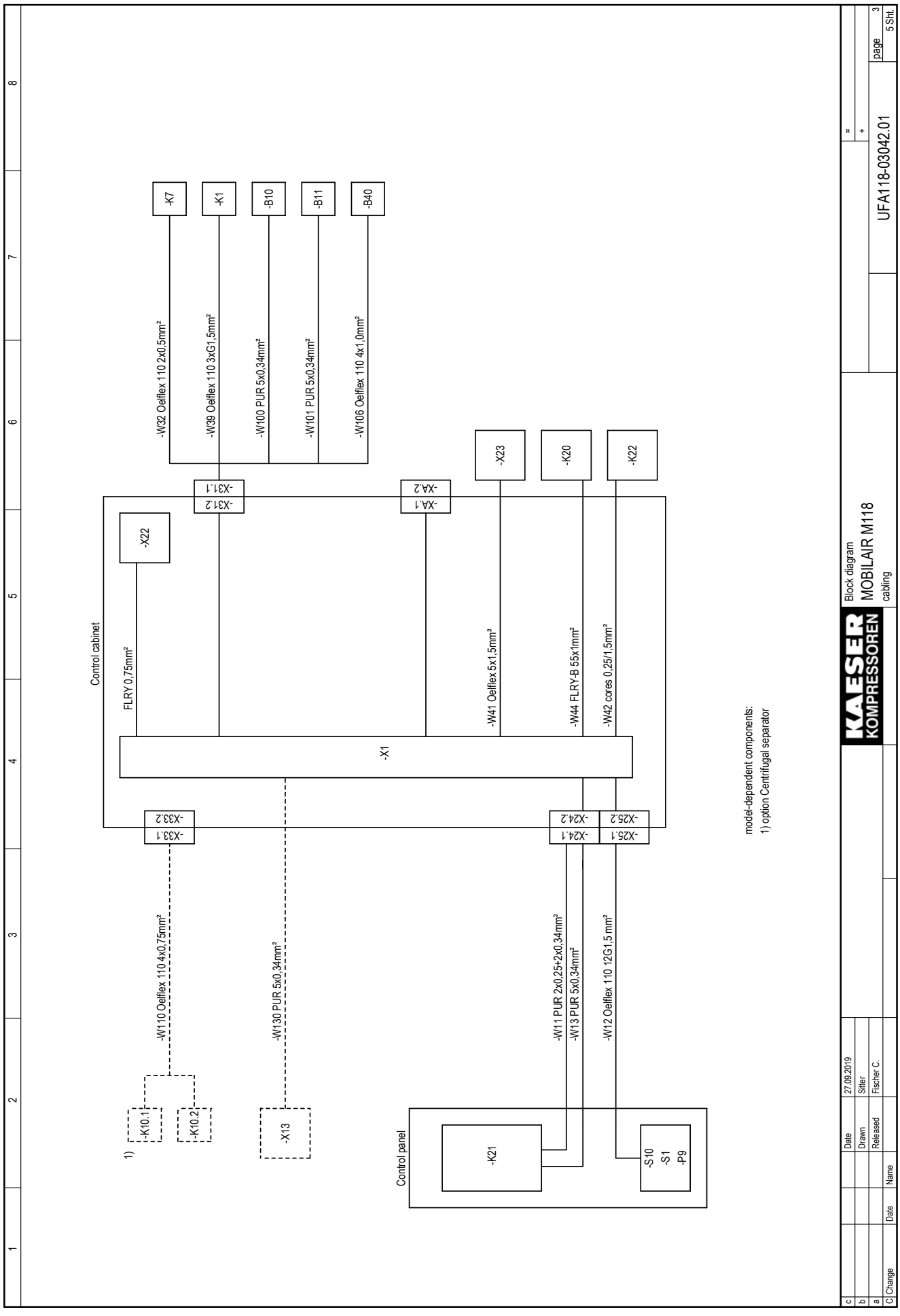
-B10	Pressure transducer system pressure
-B11	Pressure transducer Control pressure
-B40	sensor airend temperature
-E10.1 ... -E10.4	Heating Preheat with glowplug
-K1	Control valve Inlet valve
-K7	Valve Venting
-X23	Power supply unit Deutz-Plug
-R8,-R9	Resistor

model-dependent components:

option Automatic-start-stop

-K61...-K66	Relay Volt-free contacts
-F9	Fuse
-K10.1,-K10.2	Solenoid valve Centrifugal separator
-X50,-X51	Adaptor connector
-K27	GSM/GPS Modem
-T27	GSM/GPS antenna
-X13	GSM/GPS Modem interface

c				Date	27.09.2019	KAESER KOMPRESSOREN	electrical equipment identification	=	
b				Drawn	Sitter		MOBILAIR M118	+	
a				Released	Fischer C.				
C	Change	Date	Name					UFA118-03042.01	page 2 / 5 Sht.

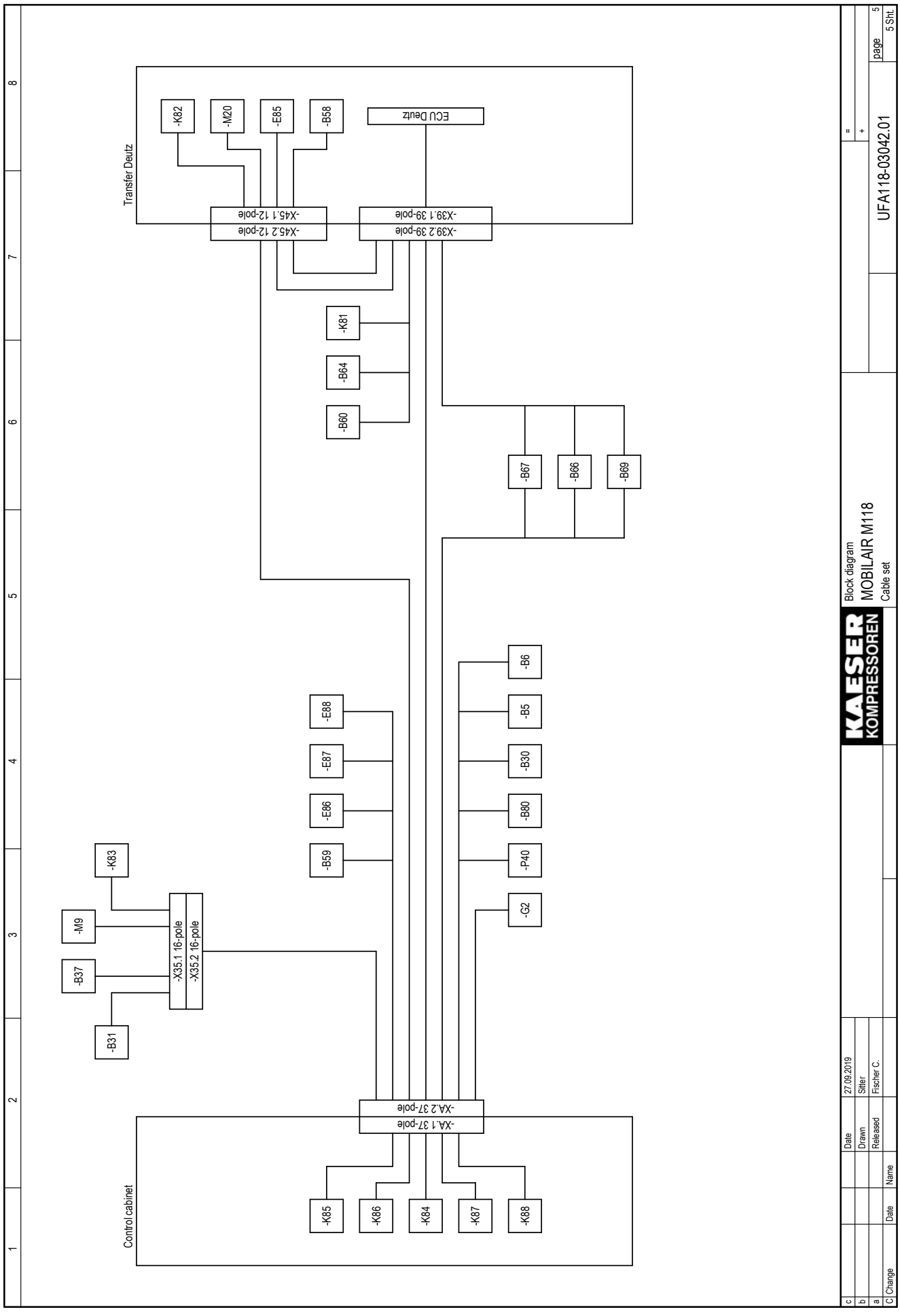

-K7
-K1
-B10
-B11
-B40
-W32 Oelflex 110 2x0,5mm²
-W39 Oelflex 110 3xG1,5mm²
-W100 PUR 5x0,34mm²
-W101 PUR 5x0,34mm²
-W106 Oelflex 110 4x1,0mm²
-X23
-K20
-K22
-X31.1
-X31.2
-XA.2
-XA.1
-X22
Control cabinet
FLRY 0,75mm²
-W41 Oelflex 5x1,5mm²
-W44 FLRY-B 55x1mm²
-W42 cores 0,25/1,5mm²
-X1
-X33.2
-X33.1
-X24.2
-X24.1
-X25.2
-X25.1
-W110 Oelflex 110 4x0,75mm²
-W130 PUR 5x0,34mm²
-W11 PUR 2x0,25+2x0,34mm²
-W13 PUR 5x0,34mm²
-W12 Oelflex 110 12G1,5 mm²
1)
-K10.1
-K10.2
-X13
Control panel
-K21
-S10
-S1
-P9
model-dependent components:
1) option Centrifugal separator
KAESER KOMPRESSOREN
Block diagram
MOBILAIR M118
cabling
UFA118-03042.01
page 3
5 Sht.
Date 27.09.2019
Drawn Sitter
Released Fischer C.
Change Date Name

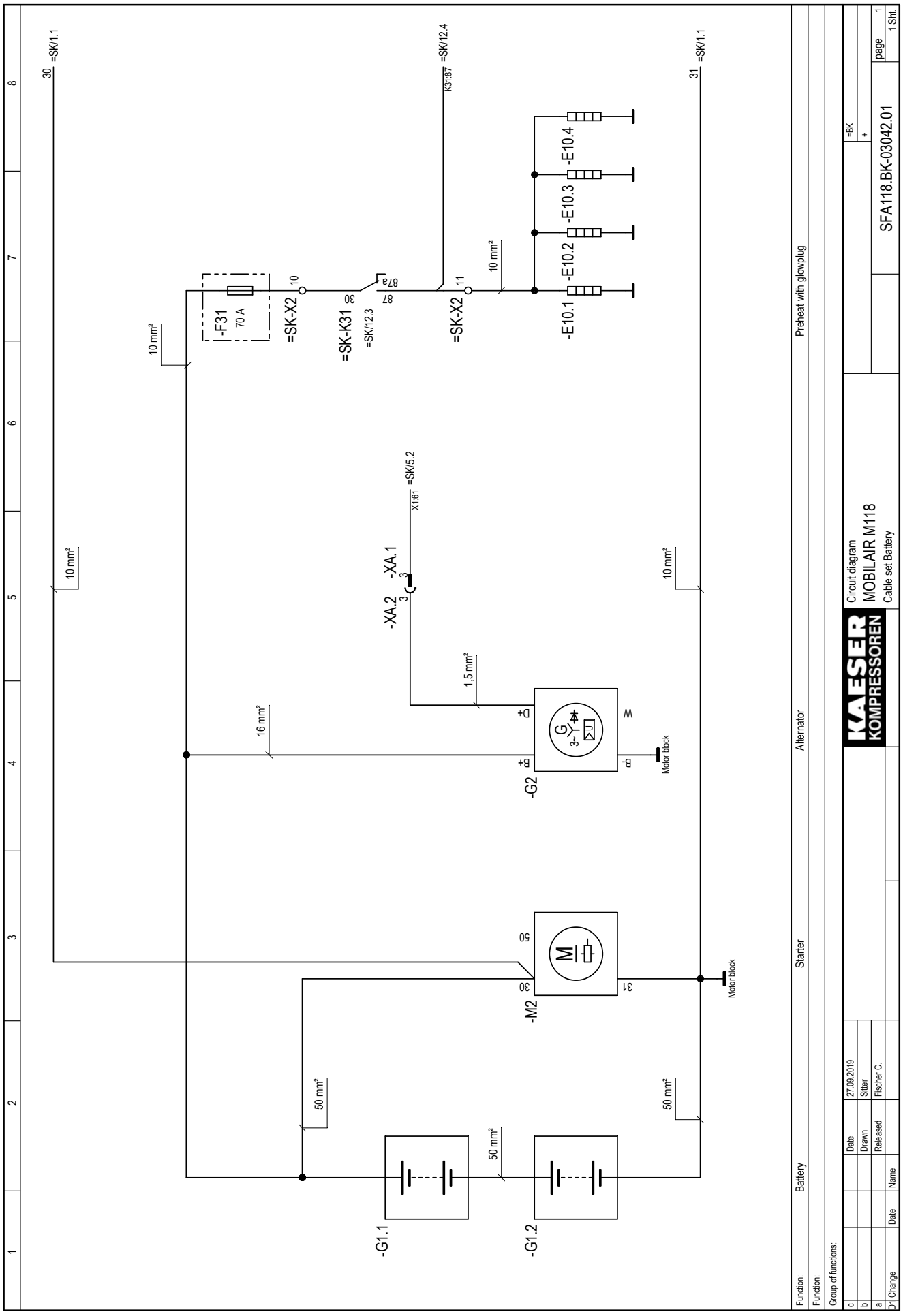
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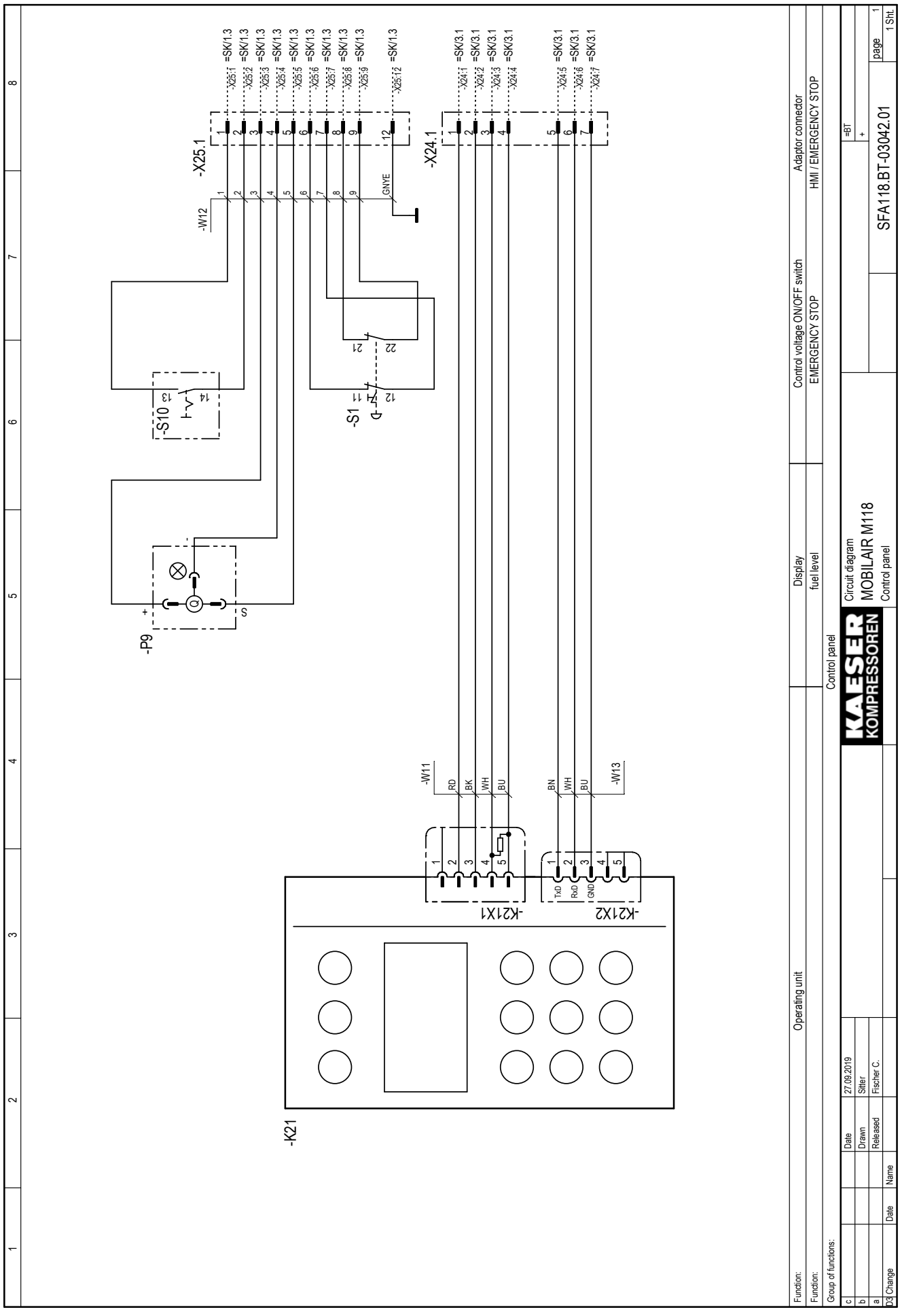
components Cable set Engine XA

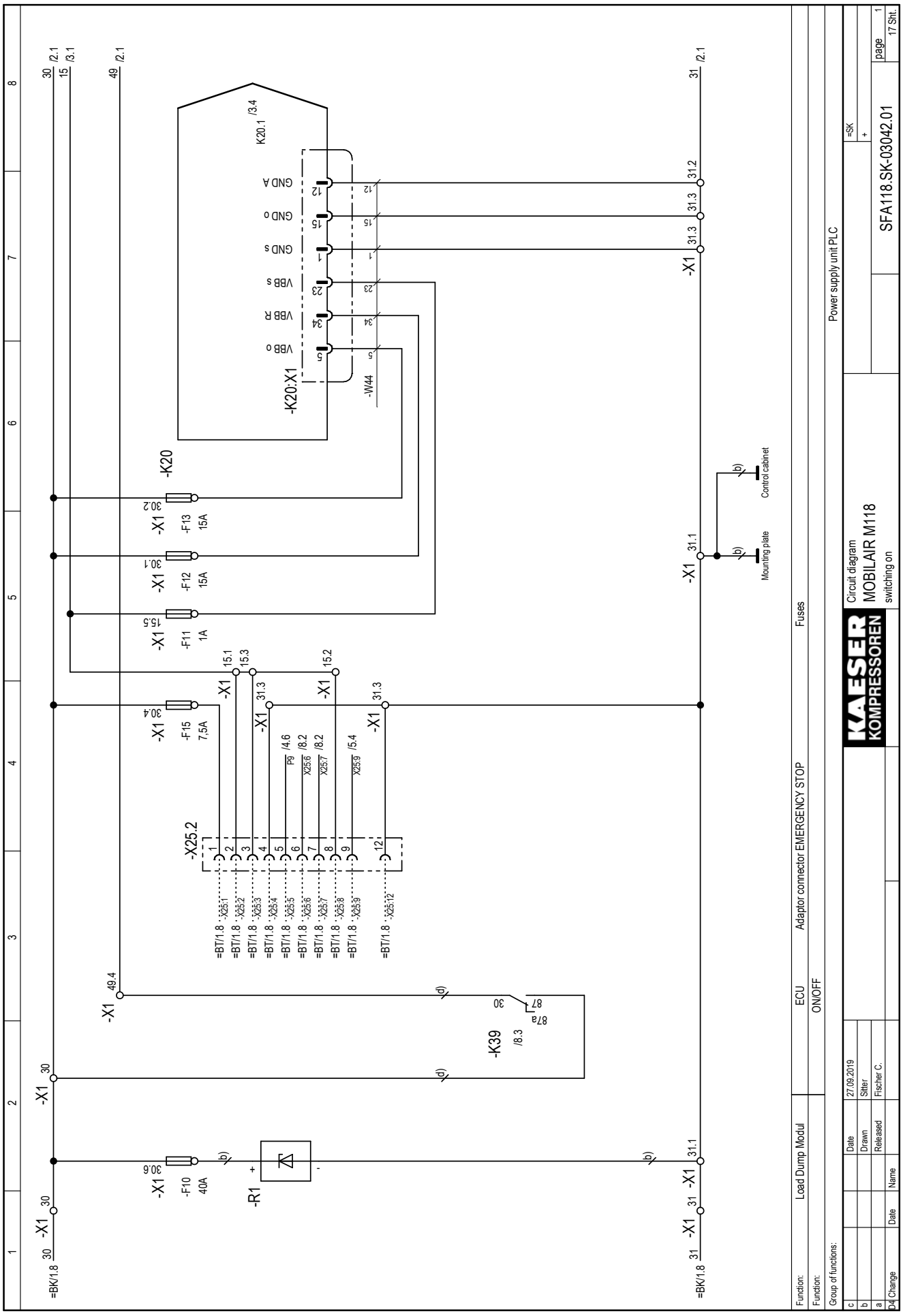
-B5,-B6	Pressure switch Filter monitoring
-B30	sensor coolant level
-P40	Hest/Signal horn
-B59	Pressure sensor downstream of DPF
-B60	Temperature of exhaust gas upstream of oxidation catalyst
-B64	sensor Temperature SCR Kat
-B66	NOx sensor upstream of SCR catalyst
-B67	NOx sensor downstream of SCR catalyst
-B69	AdBlue Quality
-B80	sensor Ambient temperature
-E86...-E88	Heating SCR System
-G2	Alternator
-K81	Dispensing valve SCR System
-X35	*plug connection 16-pole*
-B31	sensor Filter maintenance indication
-B37	sensor fuel level
-K83	Heating valve
-M9	fuel pump
-X45	*plug connection 12-pole, Pump module Deutz*
-B58	Pressure downstream of pump
-E85	Heating SCR System
-K82	Exhaust valve SCR System
-M20	SCR Pump
-X39	*plug connection 39-pole, Deutz Transfer*

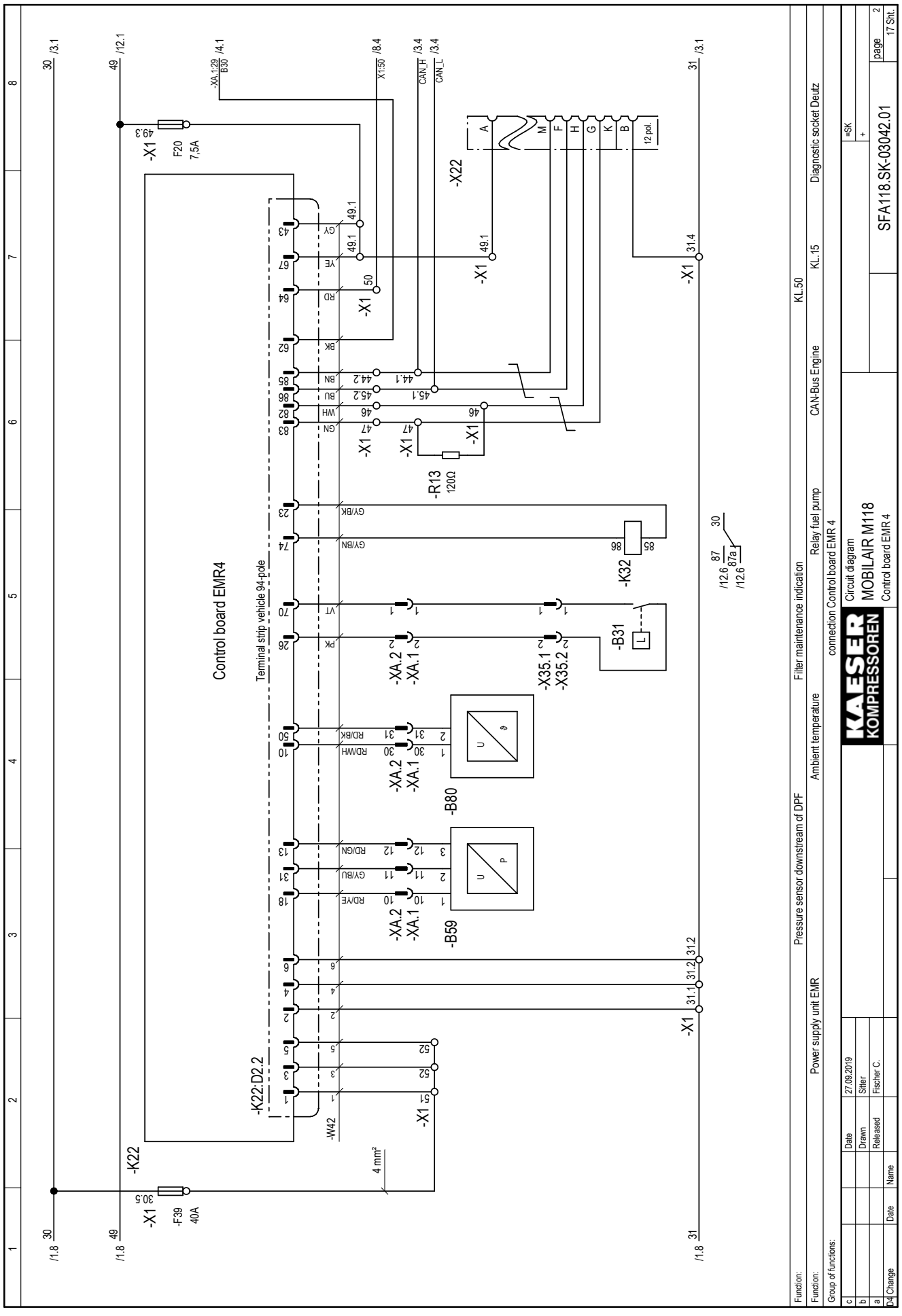
c				Date	27.09.2019		KAESER KOMPRESSOREN	Block diagram	=
b				Drawn	Sitter			MOBILAIR M118	+
a				Released	Fischer C.			components Cable set Engine XA	UFA118-03042.01 page 4 / 5 Sht.
C	Change	Date	Name						

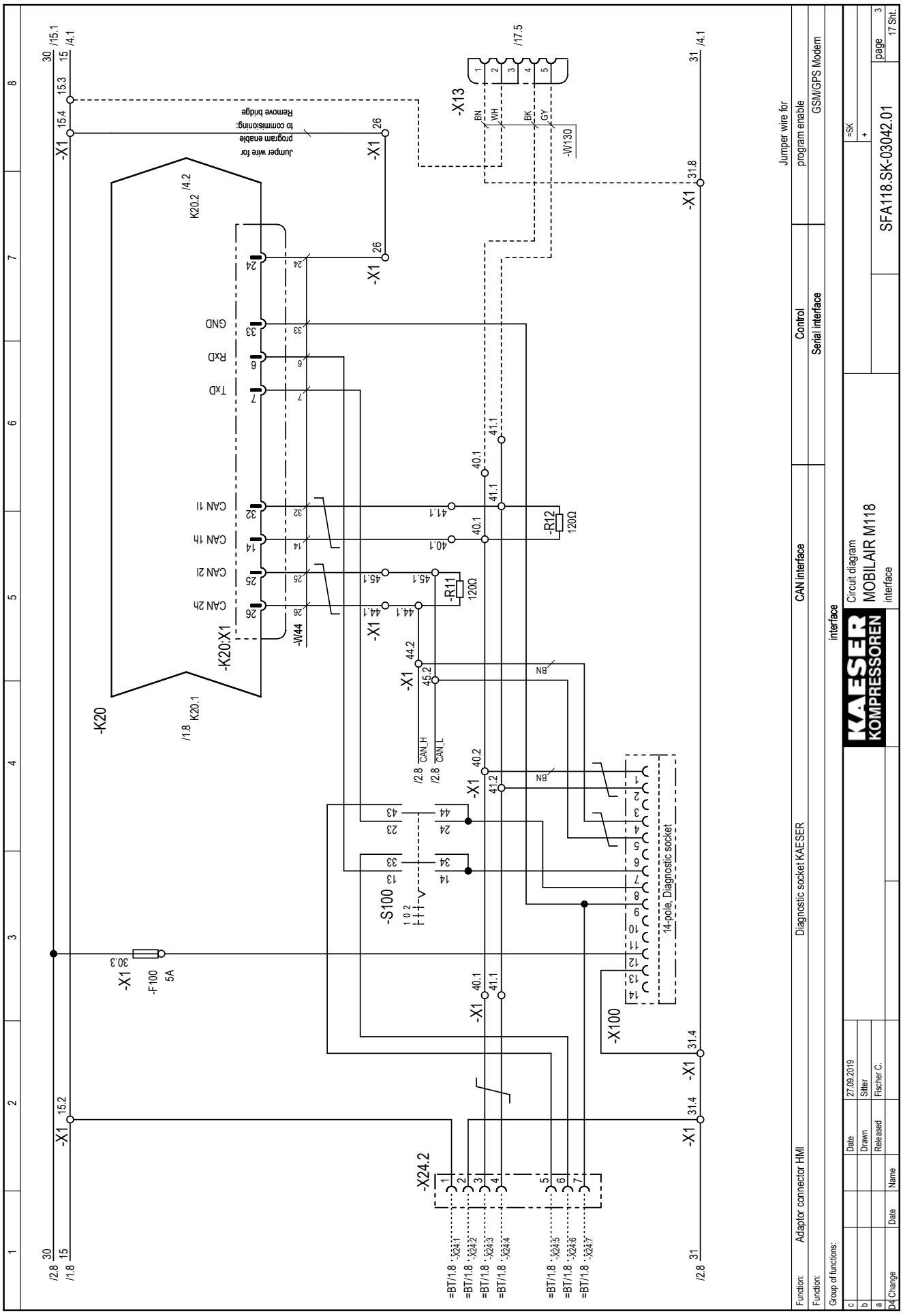

Transfer Deutz
-K82
-M20
-E85
-B58
ECU Deutz
-X45.1 12-pole
-X45.2 12-pole
-X39.1 39-pole
-X39.2 39-pole
-K81
-B64
-B60
-B67
-B66
-B69
-E88
-E87
-E86
-B59
-B6
-B5
-B30
-B80
-P40
-G2
-K83
-M9
-B37
-B31
-X35.1 16-pole
-X35.2 16-pole
-XA.2 37-pole
-XA.1 37-pole
Control cabinet
-K85
-K86
-K84
-K87
-K88
KAESER KOMPRESSOREN
Block diagram
MOBILAIR M118
Cable set
UFA118-03042.01
page 5
5 Sht.
Change
Date
Name
Drawn
Released
27.09.2019
Sitter
Fischer C.

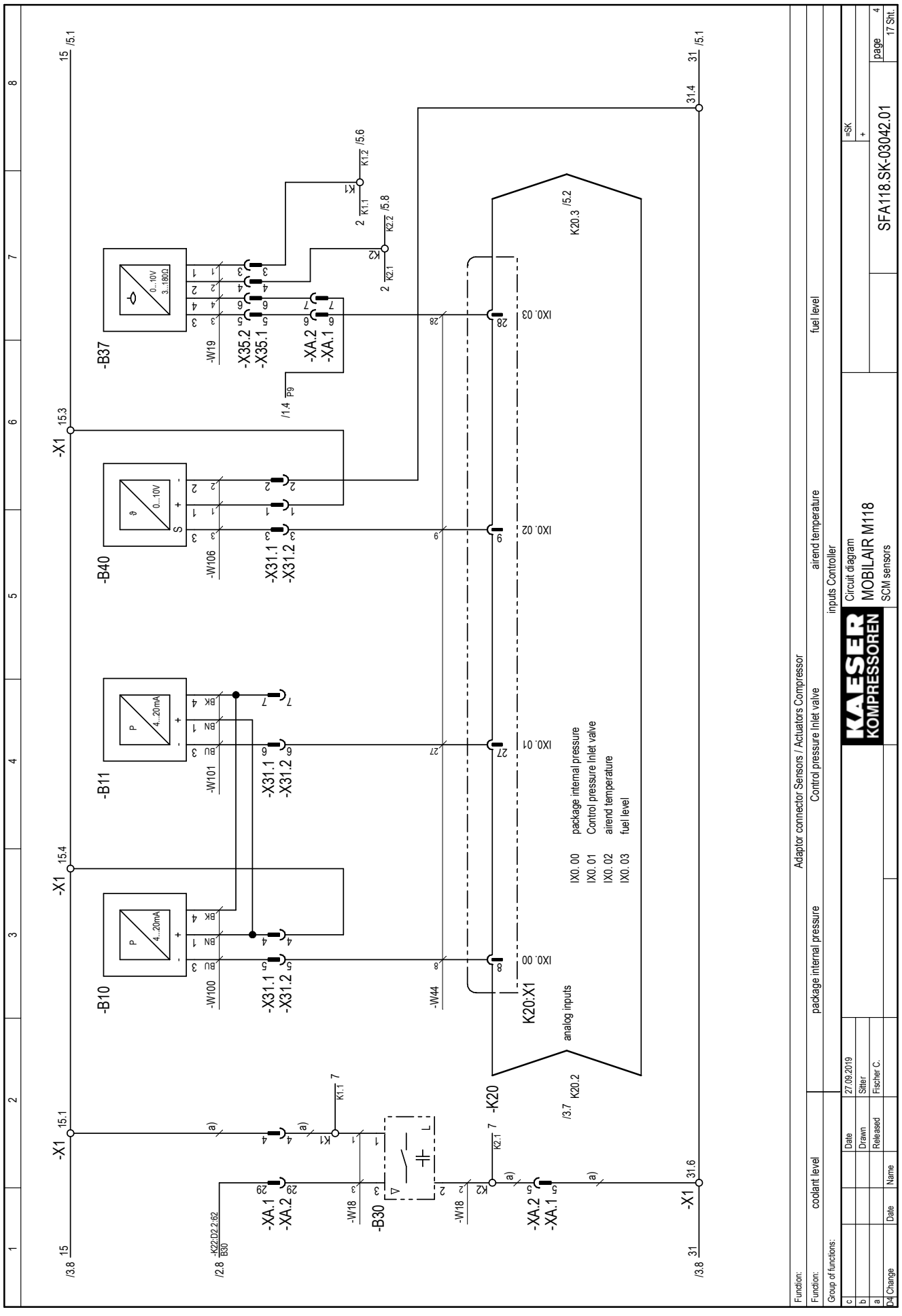

30 =SK/1.1
31 =SK/1.1
=SK/12.4
K31:87
-F31
70 A
=SK-X2
=SK-K31
=SK/12.3
=SK-X2
-E10.1
-E10.2
-E10.3
-E10.4
10 mm²
87
87a
-XA.1
-XA.2
=SK/5.2
X1:6T
1.5 mm²
16 mm²
D+
B+
B-
W
-G2
Motor block
-M2
50
30
31
Motor block
50 mm²
-G1.1
-G1.2
Function: Battery
Starter
Alternator
Preheat with glowplug
Function:
Group of functions:
Date 27.09.2019
Drawn Silter
Released Fischer C.
Name
Date
D1 Change
=BK
+
Circuit diagram
MOBILAIR M118
Cable set Battery
SFA118.BK-03042.01
page 1
1 Sht.

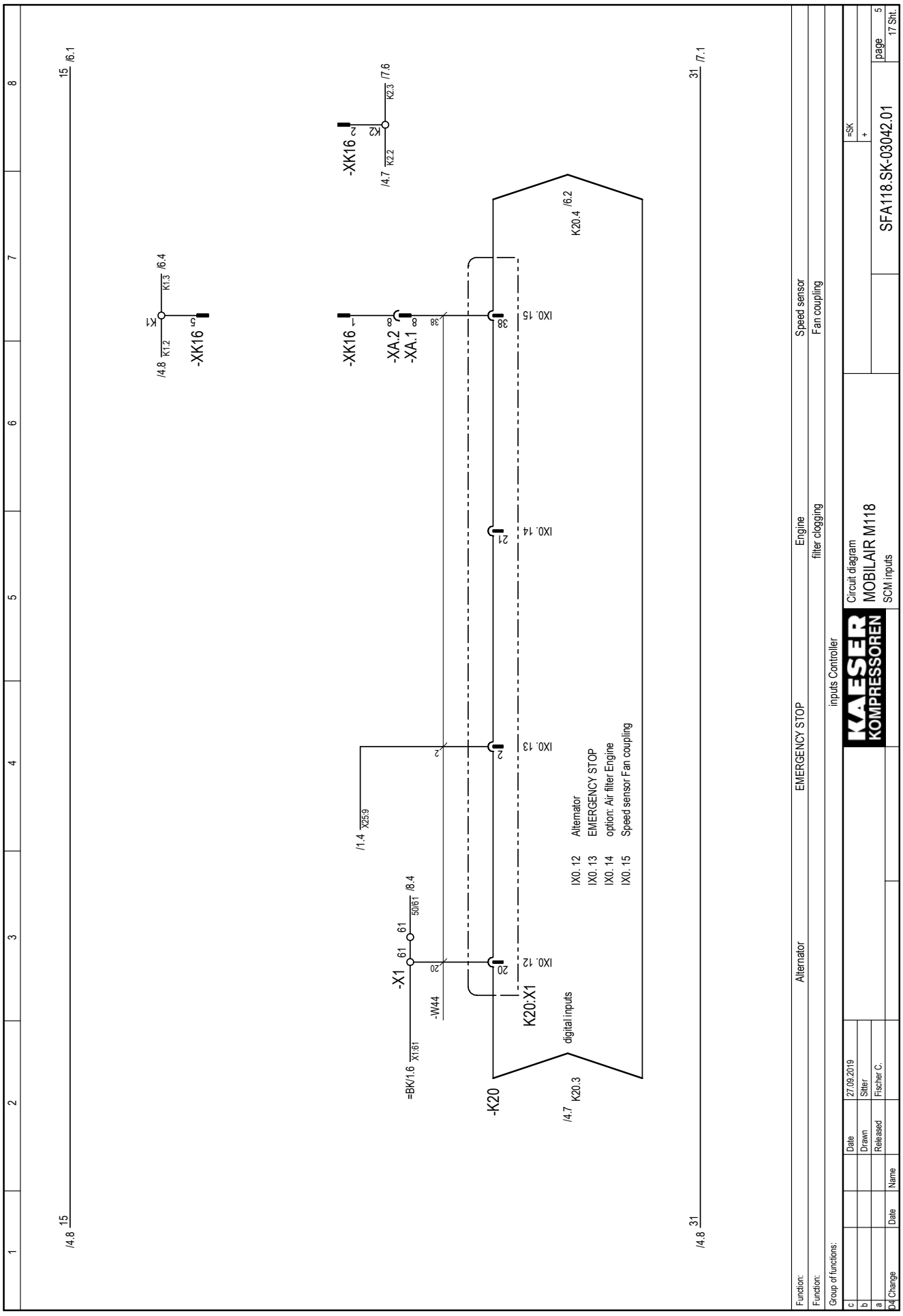

-X25.1
-X24.1
-W12
-S10
-S1
-P9
-K21
-K21X1
-K21X2
-W11
-W13
Operating unit
Control panel
Display
fuel level
Control voltage ON/OFF switch
EMERGENCY STOP
Adaptor connector
HMI / EMERGENCY STOP
Circuit diagram
MOBILAIR M118
Control panel
SFA118.BT-03042.01
KAESER KOMPRESSOREN
Date
Drawn
Released
27.09.2019
Sitter
Fischer C.
Name
Change
page 1
1 Sht.

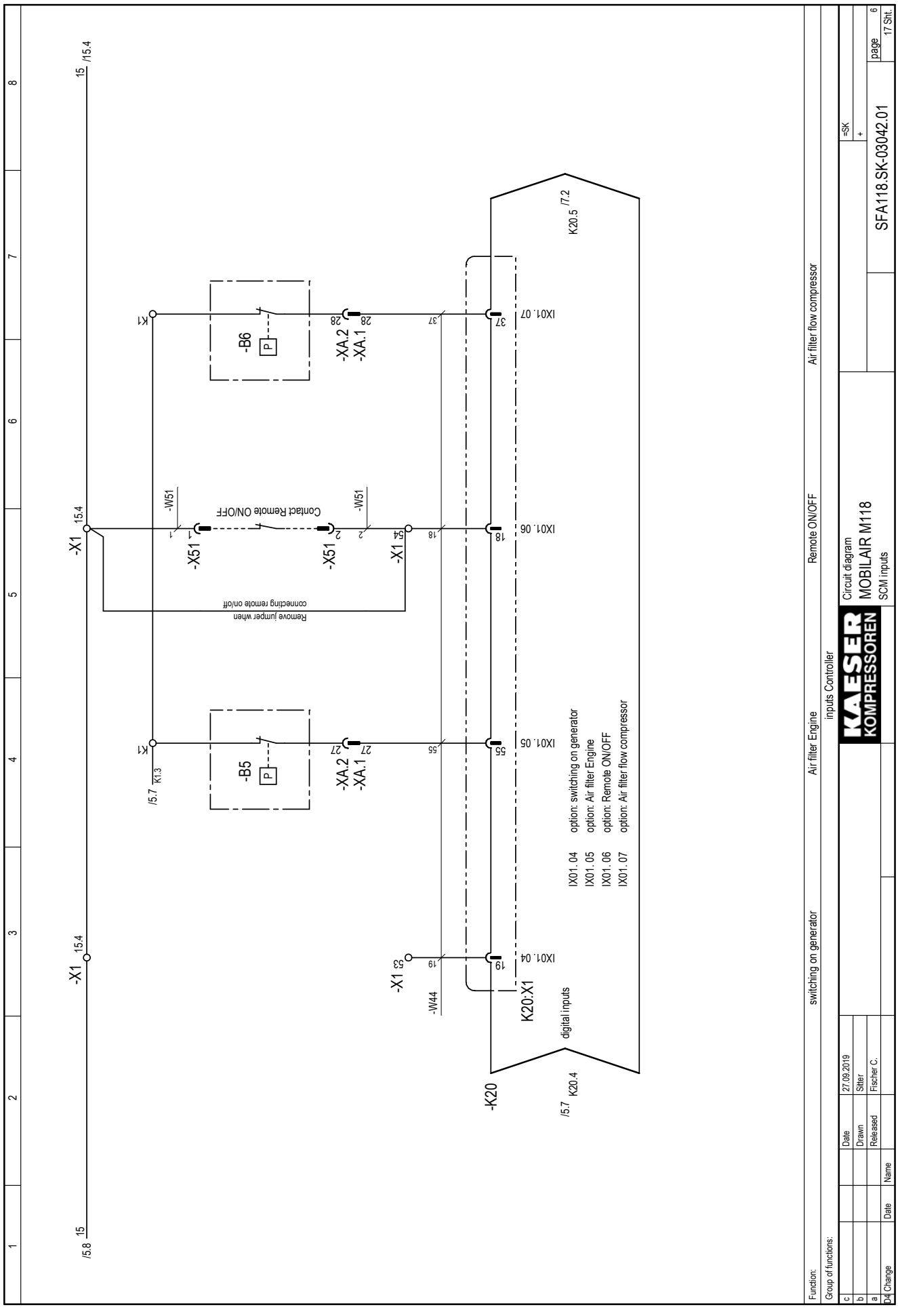

SFA118.SK-03042.01
Circuit diagram
MOBILAIR M118
switching on
Power supply unit PLC
Fuses
Load Dump Modul
ECU
Adaptor connector EMERGENCY STOP
ON/OFF
-K20:X1
-K20
-K39
-R1
-X25.2
-F10 40A
-F11 1A
-F12 15A
-F13 15A
-F15 7,5A
Control cabinet
Mounting plate
GND A
GND o
GND s
VBB s
VBB R
VBB o
-W44
=BK/1.8
27.09.2019
Sitter
Fischer C.

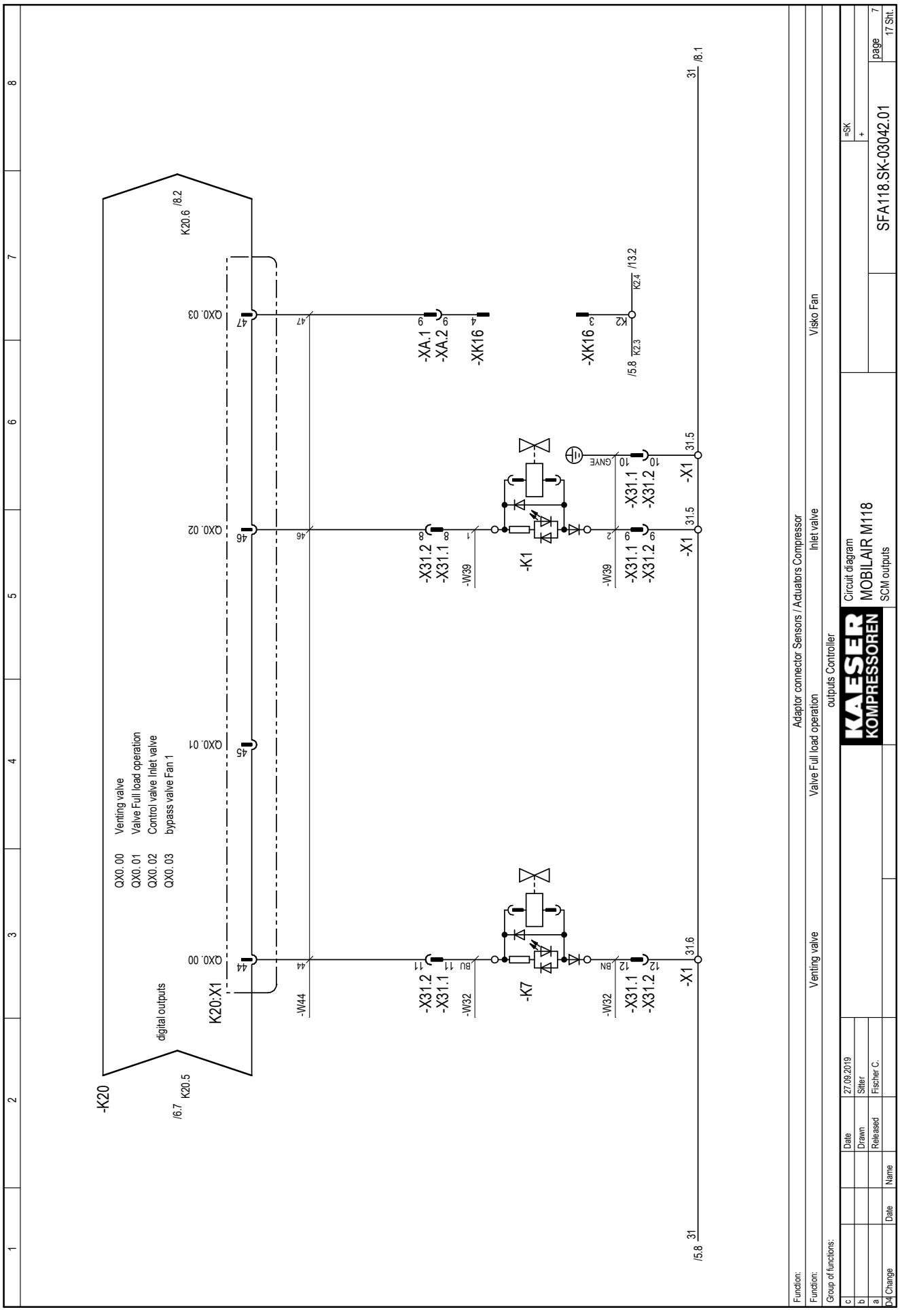

Control board EMR4
Terminal strip vehicle 94-pole
-K22:D2.2
-W42
-K22
-F39 40A
-X1
-R13 120Ω
-B80
-B59
-B31
-K32
-X22
-XA.1
-XA.2
-X35.1
-X35.2
CAN_H
CAN_L
Pressure sensor downstream of DPF
Ambient temperature
Power supply unit EMR
Filter maintenance indication
Relay fuel pump
connection Control board EMR 4
CAN-Bus Engine
Diagnostic socket Deutz
KL.50
KL.15
Function:
Group of functions:
KAESER KOMPRESSOREN
Circuit diagram
MOBILAIR M118
Control board EMR 4
SFA118.SK-03042.01
=SK
page 2
17 Sht.
Date
Drawn
Released
Name
27.09.2019
Sitter
Fischer C.
Dd Change

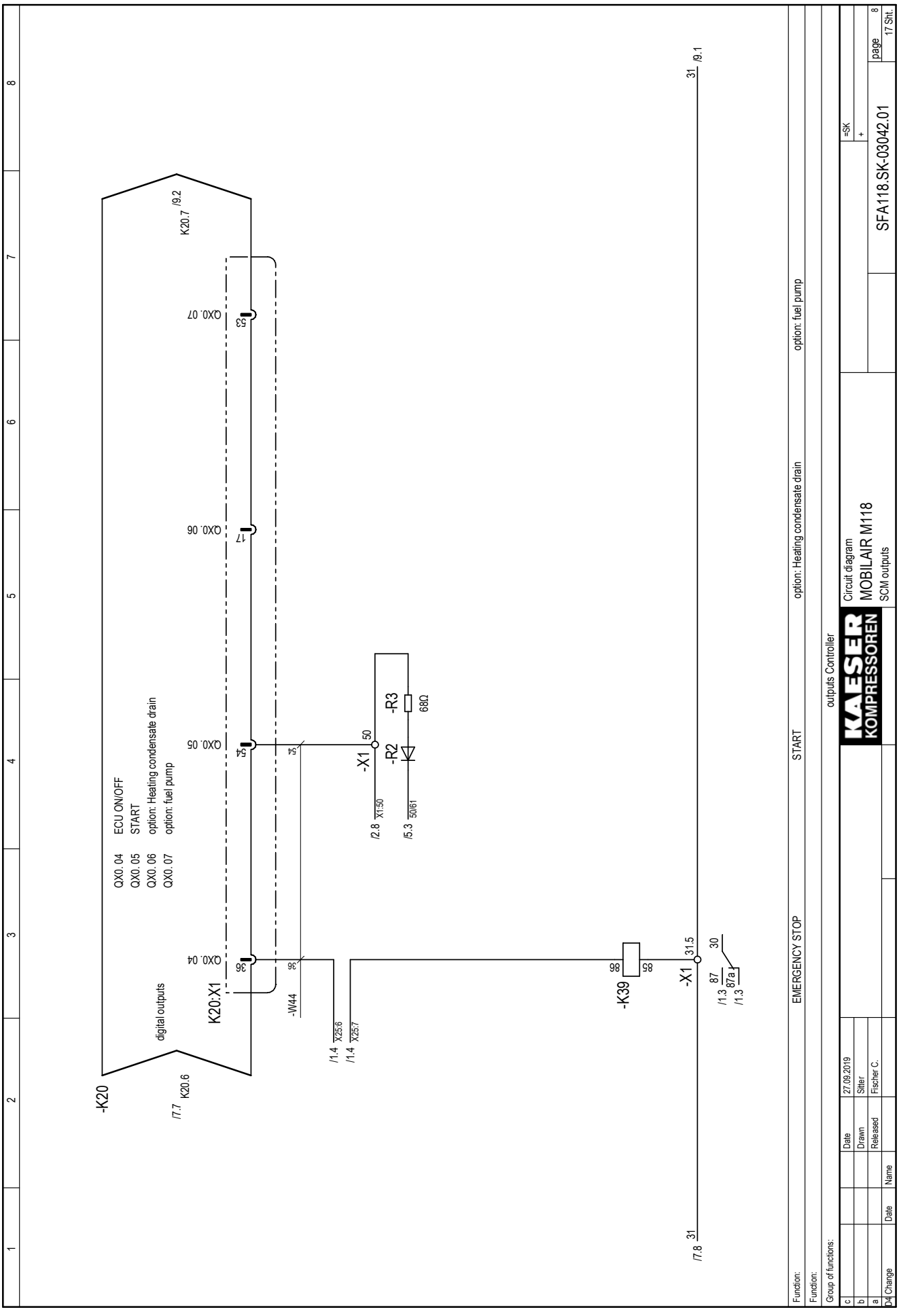

Jumper wire for program enable
Jumper wire for program enable to commisioning: Remove bridge
-X13
-W130
-K20
-K20:X1
-W44
-R12 120Ω
-R11 120Ω
-S100
-X100
14-pole, Diagnostic socket
-X24.2
-F100 5A
CAN 1l
CAN 1h
CAN 2l
CAN 2h
GND
RXD
TXD
CAN_H
CAN_L
Function: Adaptor connector HMI
Diagnostic socket KAESER
CAN interface
Control
Serial interface
GSM/GPS Modem
Function:
interface
Group of functions:
Date 27.09.2019
Drawn Sitter
Released Fischer C.
Name
Date
Circuit diagram
MOBILAIR M118
interface
SFA118.SK-03042.01
page 3
17 Sht.

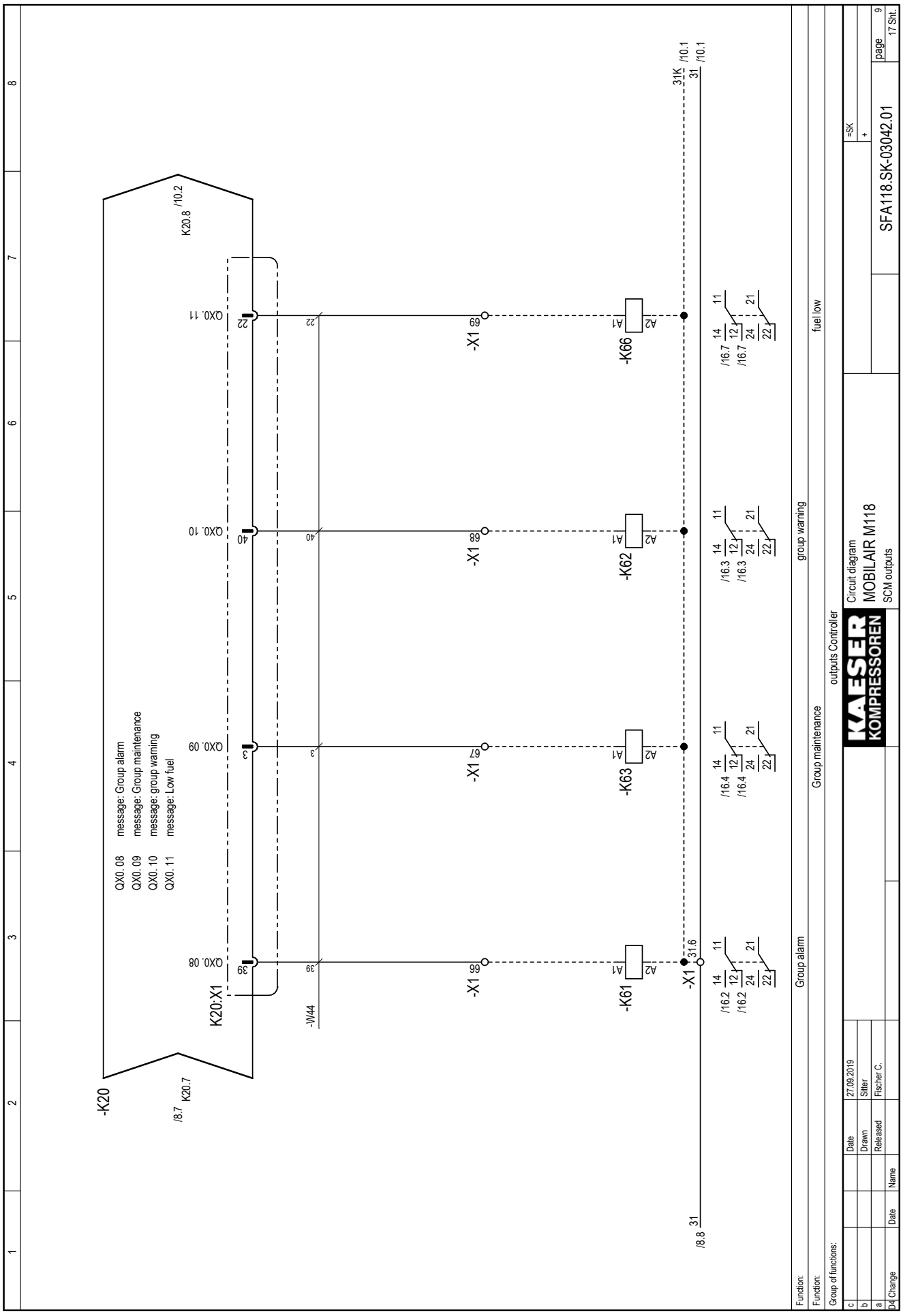

Adaptor connector Sensors / Actuators Compressor
Function: coolant level
package internal pressure
Control pressure Inlet valve
airend temperature
fuel level
inputs Controller
Group of functions:
KAESER KOMPRESSOREN
Circuit diagram
MOBILAIR M118
SCM sensors
SFA118.SK-03042.01
=SK
page 4
17 Sht.
Date 27.09.2019
Drawn Sitter
Released Fischer C.
Name
Dd Change
-B10
-B11
-B40
-B37
-B30
-K20
K20:X1
analog inputs
IX0. 00 package internal pressure
IX0. 01 Control pressure Inlet valve
IX0. 02 airend temperature
IX0. 03 fuel level
-X1
-XA.1
-XA.2
-X31.1
-X31.2
-X35.1
-X35.2
-W100
-W101
-W106
-W19
-W18
-W44
K1
K2
K20.2
K20.3

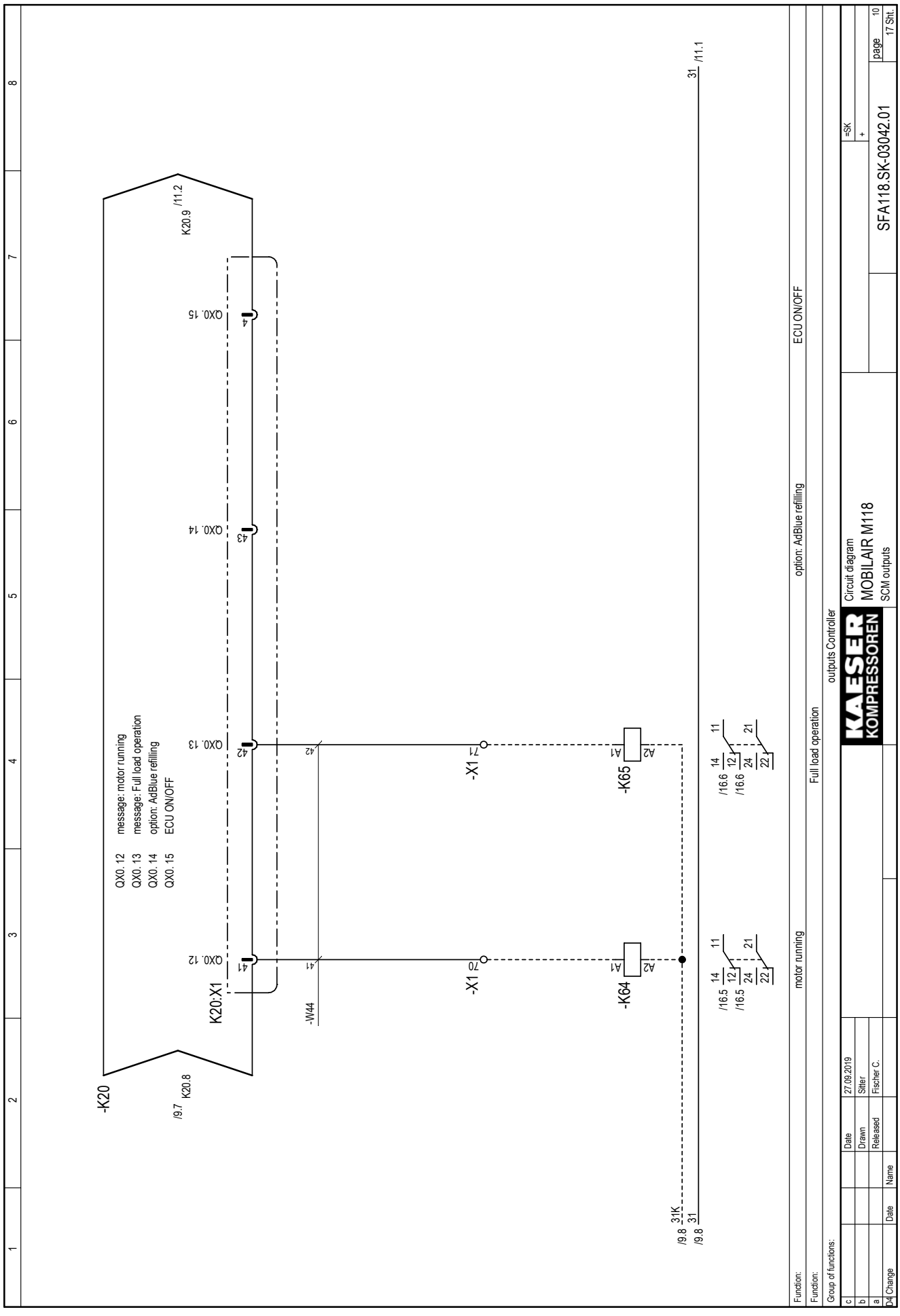

15 /6.1
/4.8 15
31 /7.1
/4.8 31
-XK16 /6.4 K1.3
K1
/4.8 K1.2
5
-XK16
-XK16 /7.6 K2.3
K2
/4.7 K2.2
-XA.2
-XA.1
8
38
IX0. 15
IX0. 14
21
IX0. 13
2
IX0. 12
20
K20:X1
digital inputs
-K20
/4.7 K20.3
K20.4 /6.2
/1.4 X25:9
2
-X1 61 61 /8.4 50/61
20
-W44
=BK/1.6 X1:61
IX0. 12 Alternator
IX0. 13 EMERGENCY STOP
IX0. 14 option: Air filter Engine
IX0. 15 Speed sensor Fan coupling
Function: Alternator EMERGENCY STOP Engine Speed sensor
Function: filter clogging Fan coupling
Group of functions: inputs Controller
KAESER KOMPRESSOREN
Circuit diagram
MOBILAIR M118
SCM inputs
=SK
+
SFA118.SK-03042.01
page 5
17 Sht.
c
b
a
Dd Change
Date 27.09.2019
Drawn Sitter
Released Fischer C.
Date
Name

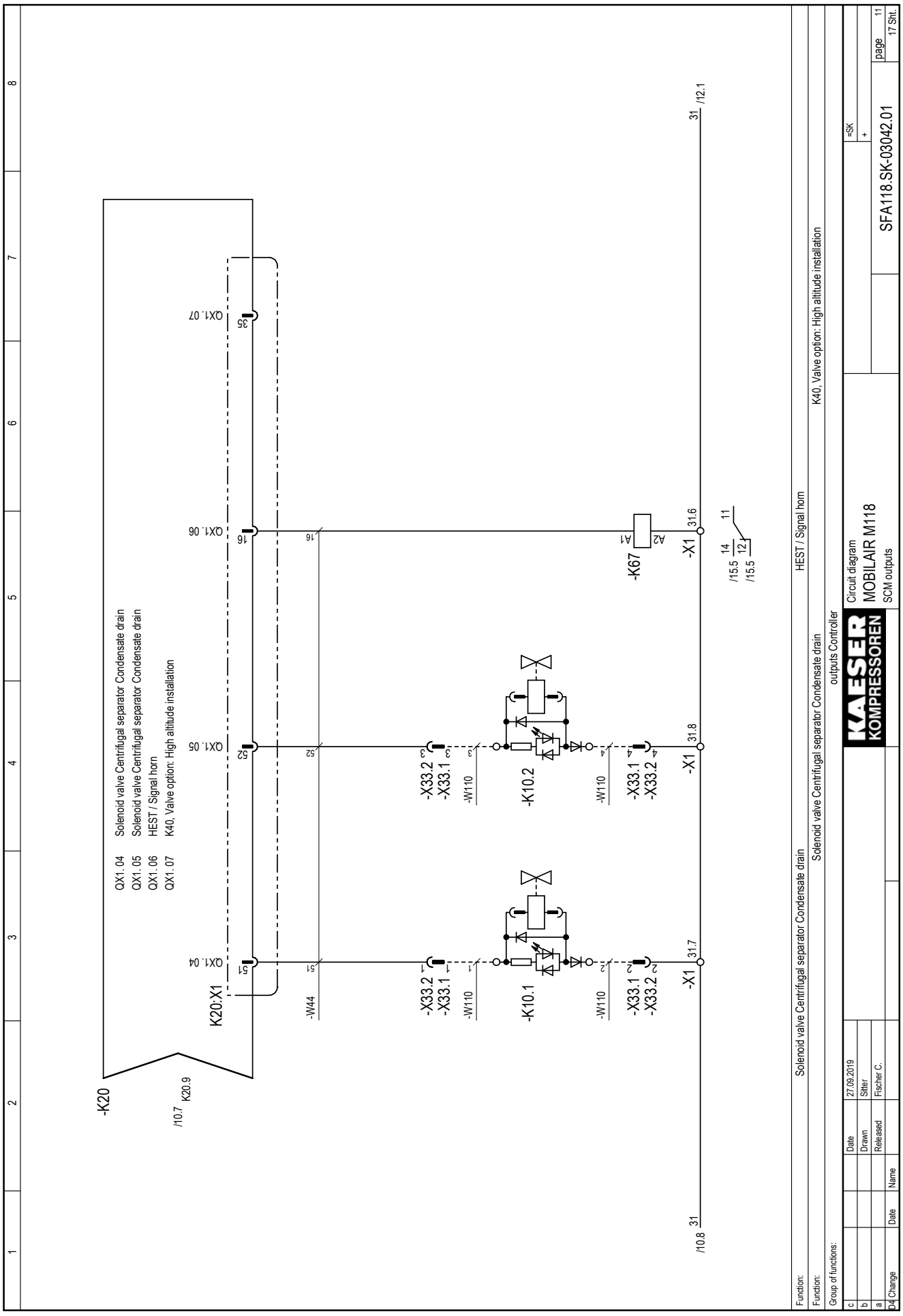

Function: switching on generator
Air filter Engine
Remote ON/OFF
Air filter flow compressor
Group of functions: inputs Controller
KAESER KOMPRESSOREN
Circuit diagram
MOBILAIR M118
SCM inputs
SFA118.SK-03042.01
page 6
17 Sht.
=SK
+
Date Name
Drawn 27.09.2019 Sitter
Released Fischer C.
Cnf Change
-X1 15.4
-X51
-W51
Contact Remote ON/OFF
Remove jumper when connecting remote on/off
-B6
-B5
-XA.2 -XA.1
-W44
-K20
K20:X1
digital inputs
IX01.04 option: switching on generator
IX01.05 option: Air filter Engine
IX01.06 option: Remote ON/OFF
IX01.07 option: Air filter flow compressor
/5.8
/5.7 K1.3
/5.7 K20.4
K20.5 /7.2

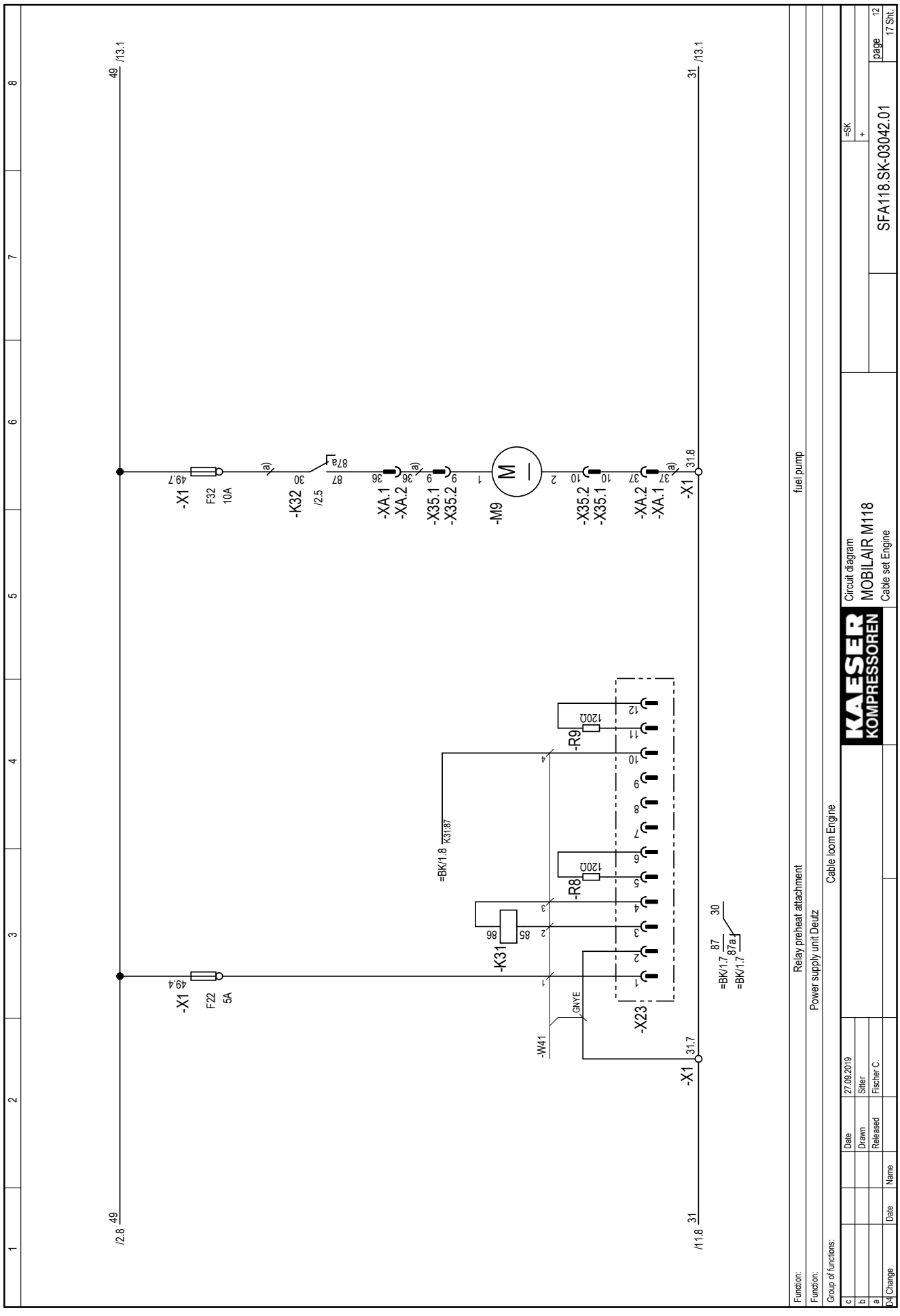

-K20
digital outputs
K20:X1
QX0.00 Venting valve
QX0.01 Valve Full load operation
QX0.02 Control valve Inlet valve
QX0.03 bypass valve Fan 1
-W44
-W32
-W39
-K7
-K1
-X31.1
-X31.2
-X1
-XA.1
-XA.2
-XK16
-K2
-K2.4
-K2.3
Adaptor connector Sensors / Actuators Compressor
Venting valve
Valve Full load operation
Inlet valve
Visko Fan
outputs Controller
Circuit diagram
MOBILAIR M118
SCM outputs
SFA118.SK-03042.01
=SK
page 7
17 Sht.
27.09.2019
Schter
Fischer C.

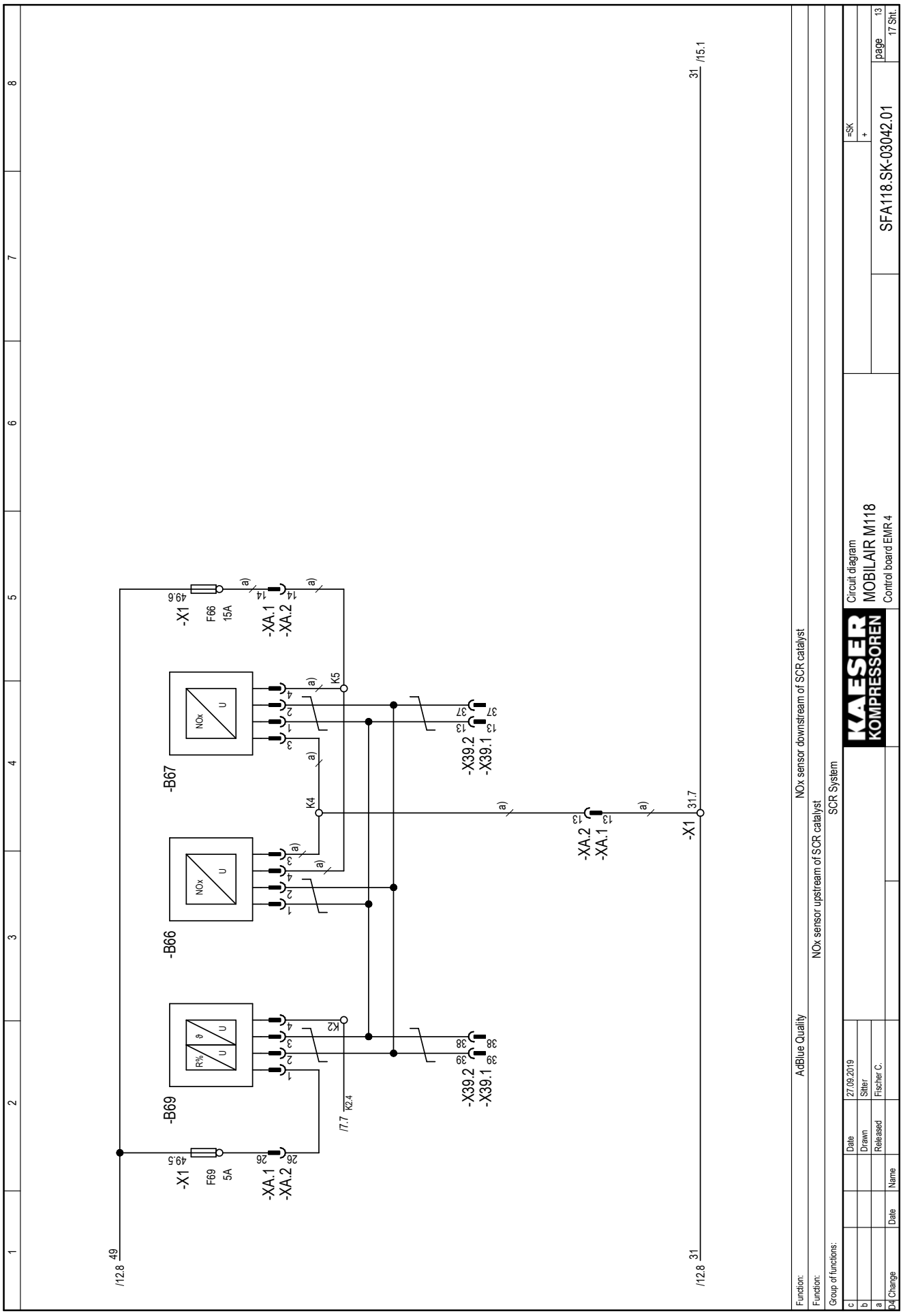

-K20
/7.7 K20.6
digital outputs
K20:X1
QX0. 04 ECU ON/OFF
QX0. 05 START
QX0. 06 option: Heating condensate drain
QX0. 07 option: fuel pump
QX0. 04
QX0. 05
QX0. 06
QX0. 07
/9.2 K20.7
36
54
17
53
-W44
/1.4 X25:6
/1.4 X25:7
-X1
50
-R2
-R3
68Ω
/2.8 X1:50
/5.3 50/61
-K39
86
85
-X1
31.5
30
87
87a
/1.3
/1.3
31
/7.8
31
/9.1
EMERGENCY STOP
START
option: Heating condensate drain
option: fuel pump
outputs Controller
Function:
Function:
Group of functions:
KAESER KOMPRESSOREN
Circuit diagram
MOBILAIR M118
SCM outputs
=SK
+
page 8
17 Sht.
SFA118.SK-03042.01
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Date
Drawn
Released
27.09.2019
Sitter
Fischer C.
Dd Change
Date
Name

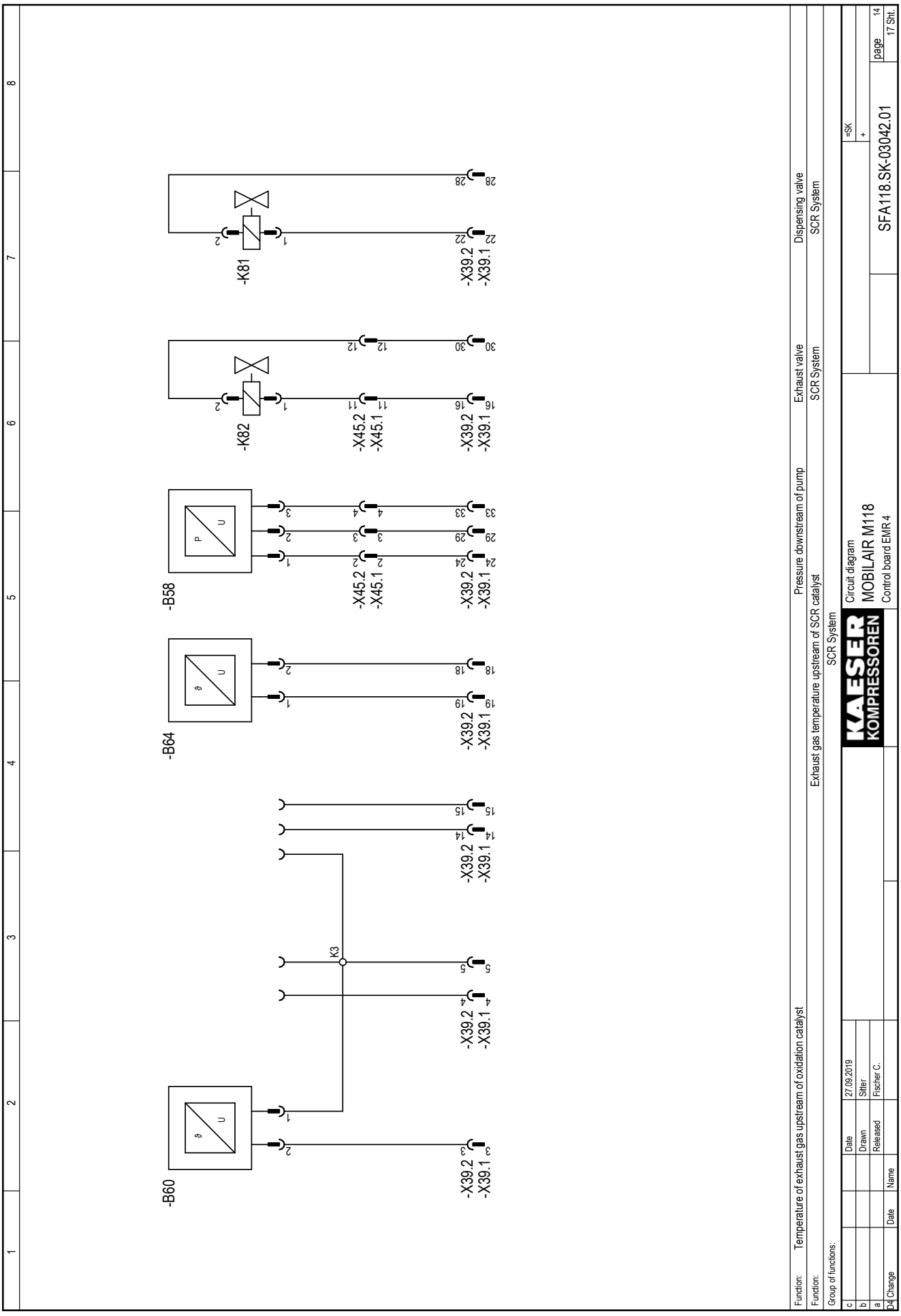

-K20
/8.7 K20.7
K20.8 /10.2
K20:X1
QX0.08 message: Group alarm
QX0.09 message: Group maintenance
QX0.10 message: group warning
QX0.11 message: Low fuel
-W44
-X1
-K61
-K62
-K63
-K66
/8.8
/10.1
31K
31.6
Group alarm
group warning
Group maintenance
fuel low
outputs Controller
KAESER KOMPRESSOREN
Circuit diagram
MOBILAIR M118
SCM outputs
SFA118.SK-03042.01
=SK
page 9
17 Sht.
Date 27.09.2019
Drawn Sitter
Released Fischer C.
Name
Date
Chg Change

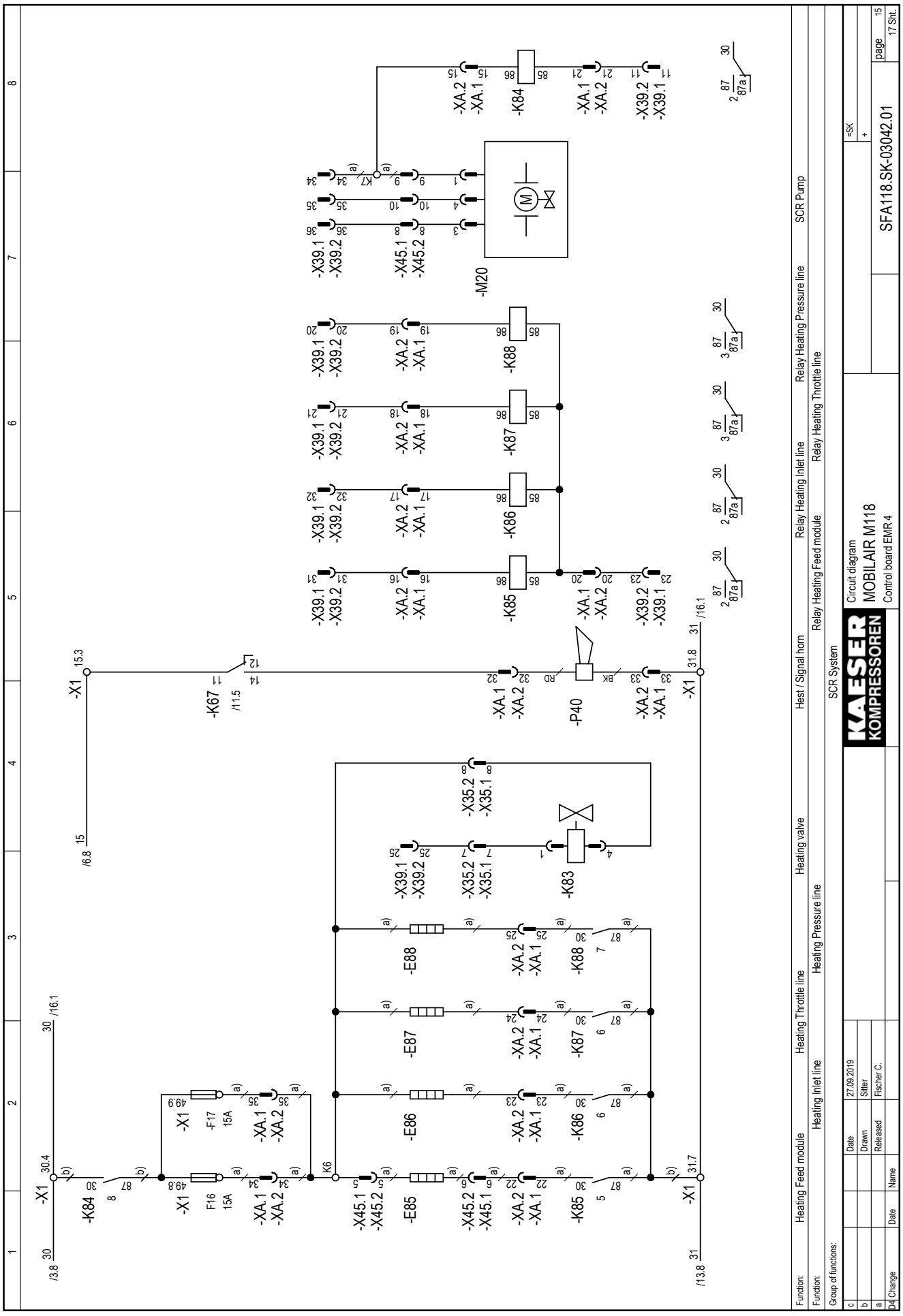

-K20
/9.7 K20.8
/11.2 K20.9
K20:X1
QX0.12 message: motor running
QX0.13 message: Full load operation
QX0.14 option: AdBlue refilling
QX0.15 ECU ON/OFF
QX0.12
QX0.13
QX0.14
QX0.15
41
42
43
4
-W44
-X1
70
71
-K64
-K65
A1
A2
/16.5 14 12
/16.5 24 22
/16.6 14 12
/16.6 24 22
11
21
/9.8 31K
/9.8 31
31 /11.1
Function: motor running
option: AdBlue refilling
ECU ON/OFF
Function: Full load operation
Group of functions: outputs Controller
KAESER KOMPRESSOREN
Circuit diagram
MOBILAIR M118
SCM outputs
SFA118.SK-03042.01
=SK
+
page 10
17 Sht.
Date 27.09.2019
Drawn Sitter
Released Fischer C.
Name
Date
Chg Ind

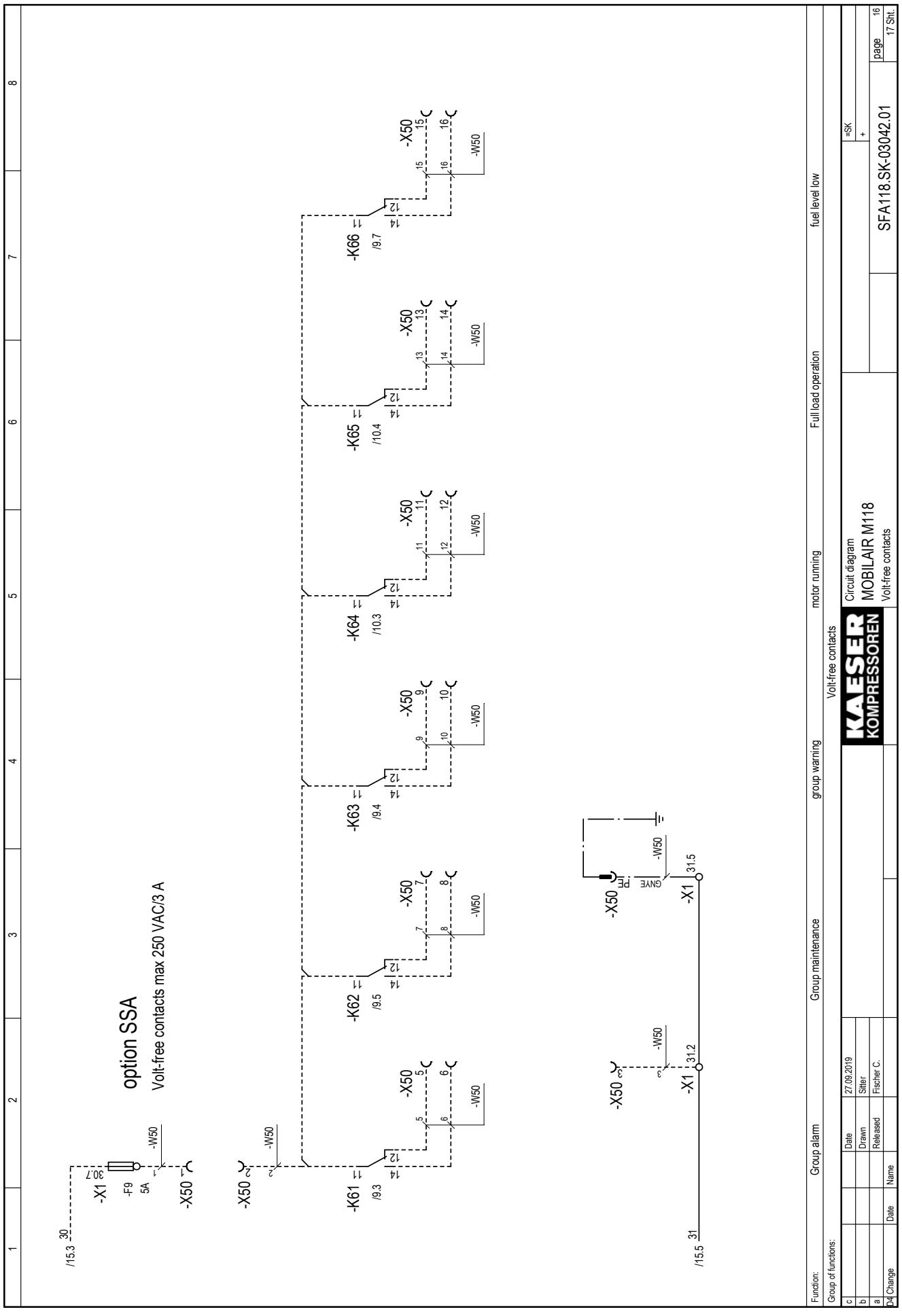

QX1.04 Solenoid valve Centrifugal separator Condensate drain
QX1.05 Solenoid valve Centrifugal separator Condensate drain
QX1.06 HEST / Signal horn
QX1.07 K40, Valve option: High altitude installation
-K20
K20:X1
K20.9
/10.7
/10.8
-W44
-X33.2
-X33.1
-W110
-K10.1
-K10.2
-K67
-X1
/12.1
/15.5
/15.5
HEST / Signal horn
Solenoid valve Centrifugal separator Condensate drain
K40, Valve option: High altitude installation
outputs Controller
KAESER KOMPRESSOREN
Circuit diagram
MOBILAIR M118
SCM outputs
SFA118.SK-03042.01
=SK
page 11
17 Sht.
Function:
Function:
Group of functions:
Date 27.09.2019
Drawn Sitter
Released Fischer C.
Name
Date
Chg Change

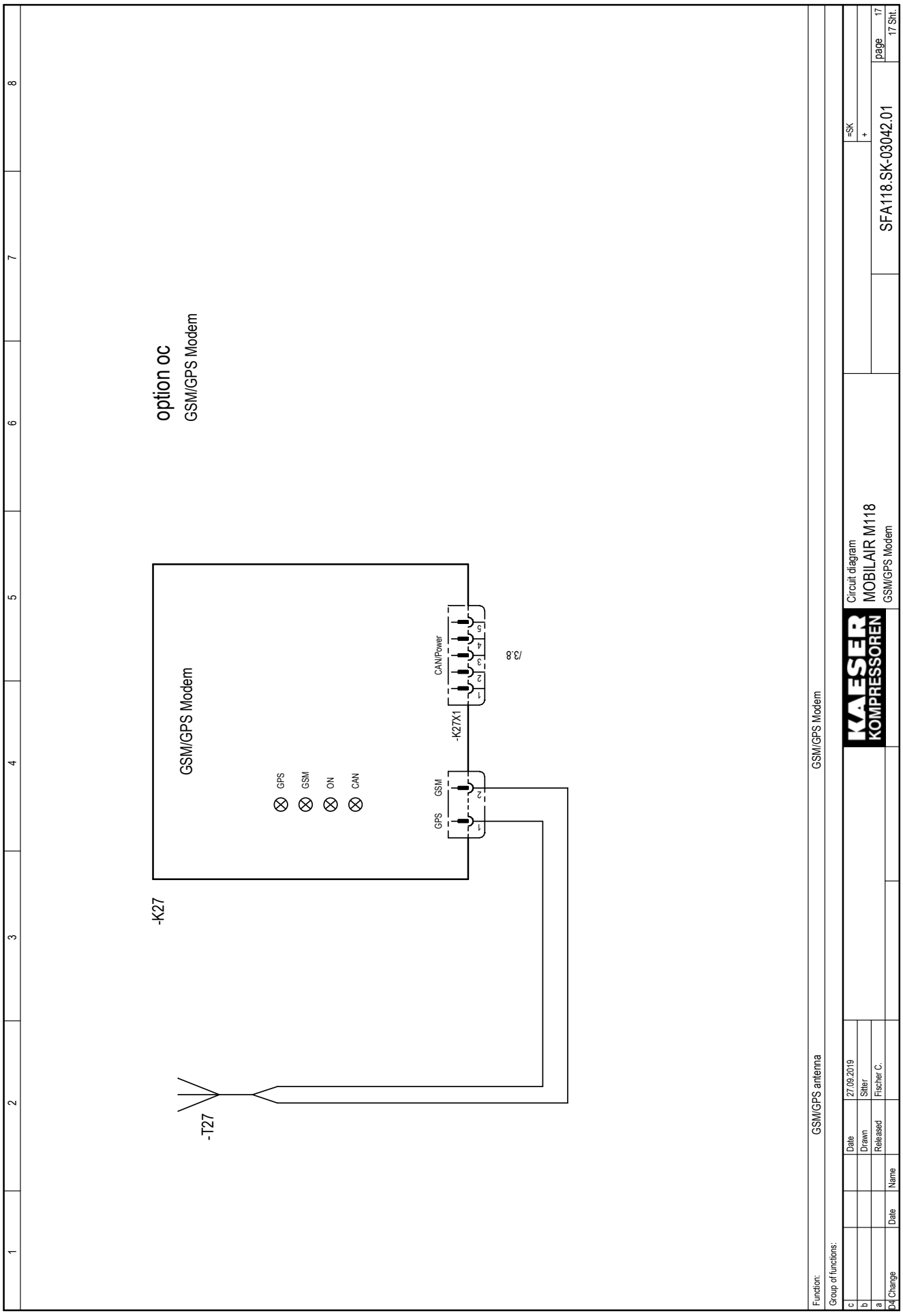

49 /13.1
31 /13.1
-X1 49.7 F32 10A
-K32 /2.5
-XA.1 -XA.2
-X35.1 -X35.2
-M9
-X35.2 -X35.1
-XA.2 -XA.1
-X1 31.8
-X1 49.4 F22 5A
-K31
-R9 120Ω
-R8 120Ω
-X23
-W41 GNYE
=BK/1.8 K31:87
=BK/1.7 87 30
=BK/1.7 87a
-X1 31.7
/2.8 49
/11.8 31
Function: Relay preheat attachment
Function: Power supply unit Deutz
Group of functions: Cable loom Engine
KAESER KOMPRESSOREN
Circuit diagram
MOBILAIR M118
Cable set Engine
=SK
+
page 12
17 Sht.
SFA118.SK-03042.01
Date Name
Drawn 27.09.2019 Sitter
Released Fischer C.
Dd Change


/12.8 49
-X1 49.5 F69 5A
-XA.1 -XA.2 26
-B69
-B66
-B67
-X1 49.6 F66 15A
-XA.1 -XA.2 14
K2
K4
K5
K2.4
/7.7
-X39.2 -X39.1 38 39
-X39.2 -X39.1 37 13
-XA.2 -XA.1 13
-X1 31.7
31 /15.1
/12.8 31
Function: AdBlue Quality
NOx sensor downstream of SCR catalyst
Function:
NOx sensor upstream of SCR catalyst
Group of functions:
SCR System
Date 27.09.2019
Drawn Sitter
Released Fischer C.
Name
Chg Change
Circuit diagram
MOBILAIR M118
Control board EMR 4
=SK
+
SFA118.SK-03042.01
page 13
17 Sht.


-B60
-X39.2 c3
-X39.1 c5
-X39.2 4
-X39.1 4
K3
5
-X39.2 5
-X39.1 5
-X39.2 14
-X39.1 14
15
-X39.2 15
-X39.1 15
-B64
-X39.2 19
-X39.1 19
-X39.2 18
-X39.1 18
-B58
-X45.2 2
-X45.1 2
-X39.2 24
-X39.1 24
-X45.2 3
-X45.1 3
-X39.2 29
-X39.1 29
-X45.2 4
-X45.1 4
-X39.2 33
-X39.1 33
-K82
-X45.2 11
-X45.1 11
-X39.2 16
-X39.1 16
-X45.2 12
-X45.1 12
-X39.2 30
-X39.1 30
-K81
-X39.2 22
-X39.1 22
-X39.2 28
-X39.1 28
Function: Temperature of exhaust gas upstream of oxidation catalyst
Pressure downstream of pump
Exhaust valve
Dispensing valve
Function:
Exhaust gas temperature upstream of SCR catalyst
SCR System
SCR System
SCR System
Group of functions:
SCR System
KAESER KOMPRESSOREN
Circuit diagram
MOBILAIR M118
Control board EMR 4
SFA118.SK-03042.01
=SK
+
page 14
17 Sht.
Date
Name
Date
Drawn
Released
27.09.2019
Sitter
Fischer C.
Ind
Change


-M20
-K84
-K67
-P40
-K83
-K85
-K86
-K87
-K88
-E85
-E86
-E87
-E88
-F16 15A
-F17 15A
Heating Feed module
Heating Throttle line
Heating valve
Hest / Signal horn
Relay Heating Inlet line
Relay Heating Pressure line
SCR Pump
Heating Inlet line
Heating Pressure line
Relay Heating Feed module
Relay Heating Throttle line
SCR System
KAESER KOMPRESSOREN
Circuit diagram
MOBILAIR M118
Control board EMR 4
SFA118.SK-03042.01
page 15
17 Sht.
Date 27.09.2019
Drawn Sitter
Released Fischer C.
Name
Date
Chg Change


option SSA
Volt-free contacts max 250 VAC/3 A
Group alarm
Group maintenance
group warning
motor running
Full load operation
fuel level low
Volt-free contacts
Function:
Group of functions:
KAESER KOMPRESSOREN
Circuit diagram
MOBILAIR M118
Volt-free contacts
SFA118.SK-03042.01
page 16
17 Sht.
=SK
Date
Drawn
Released
Name
27.09.2019
Sitter
Fischer C.
Chg
Date
-X1
-X50
-F9
5A
-W50
-K61
-K62
-K63
-K64
-K65
-K66
-X1
31.2
31.5
GNYE
PE


option oc
GSM/GPS Modem
-K27
GSM/GPS Modem
GPS
GSM
ON
CAN
-K27X1
GPS
GSM
CAN/Power
/3.8
-T27
GSM/GPS antenna
GSM/GPS Modem
Function:
Group of functions:
KAESER KOMPRESSOREN
Circuit diagram
MOBILAIR M118
GSM/GPS Modem
=SK
+
SFA118.SK-03042.01
page 17
17 Sht.
Date
Name
Drawn
Released
27.09.2019
Sitter
Fischer C.
Dd Change

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 Wst.-Nr.			
										H Schabl. Nr.	I BZ-Pos.	J VA Kz. *)	K Eingangs-vermerk
1	Control cabinet		400x300x155	7.3146.12440	Rittal								
1	Control	CR0020		7.9200.00010	ifm		-K20						
1	LOAD-DUMP-Modul	EC2016	24 VDC	7.9200.00100	ifm		-R1						
5	Relay	24 V,1W,10/20A	20 401 100	8.6544.00010	Miunske		-K32,-K85,-K86,-K87,-K88						
5	Relay socket		10 485 008	7.3411.0	Miunske		-K32,-K85,-K86,-K87,-K88						
2	Relay	24V,1S,40A		8.6544.00025	Miunske		-K39,-K84						
2	Relay socket			7.3411.00010	Wehrle		-K39,-K84						
1	Relay	24V,1S,100A		8.6544.00070	Miunske		-K31						
1	Coupling relay	24 VDC/1W		7.3172.00310	Phoenix		-K67						
5	tiered terminals	WKF1,5E/35		7.3149.00860	Wieland		-X1						
26	Terminal	WKFN2,5D2/2/35		7.3149.02080	Wieland		-X1						
2	Terminal	WKFN4/35		7.3149.01810	Wieland		-X1						
2	Terminal	WKF16/35 PV/WKFN		7.3149.02170	Wieland		-X1						
14	Fuse terminal	WKFN 4FSI		7.3149.02160	Wieland		-X1						
2	Terminal	WKFN16/35		7.3149.02450	Wieland		-X2						
2	Fuse UNIVAL		40 A	7.6411.00090	FTM		-F10,-F39						
5	Fuse UNIVAL		15 A	7.6411.00060	FTM		-F12,-F13,-F16,-F17,-F66						
2	Fuse UNIVAL		7,5 A	7.6411.00100	FTM		-F15,-F20						
1	Fuse UNIVAL		1 A	7.6411.00110	FTM		-F11						
3	Fuse UNIVAL		5 A	7.6411.00040	FTM		-F22,-F69,-F100						
1	Fuse UNIVAL		10 A	7.6411.00050	FTM		-F32						
3	Resistor		120 Ω	7.5392.00030	Bürklin		-R11,-R12,-R13						
1	Resistor		68 Ω, 7W, ± 10%	7.5392.00020	Bürklin		-R3						
1	Diode	BY550-600		7.4780.00030	Bürklin		-R2						
1	Control board EMR 4	Equipment supplied by the user Motor			DEUTZ		-K22						
1	diagnostics plug	Equipment supplied by the user Motor		ITT	DEUTZ		-X22						
4	plug connection 12-pole	1604941-1		7.6589.00520	Boersig		-X24,-X25,-X31,-X33						
1	diagnostics plug		14-pole	7.6589.02000	Boersig		-X100						
1	Rotary control switch	16mm/IP65/3-St.		7.9027.10080	Schlegel		-S100						
1	Switching element	4 S, getr. Bet.		7.9027.10090	Schlegel		-S100						

Bei Nachbestellung von Geräten und Maschinen sind alle in den stark umrandeten aufzuführen. Die Daten in den Spalten D bis G sind zusätzlich unter Nennung anzugeben, soweit sie die Beantwortung technischer Rückfragen erleichtern. die Angabe der Serialnummer erforderlich, falls diese auf dem Typenschild des

In Zweifelsfällen gilt die deutsche Fassung.

Spalten B und C angegebenen Daten dieser Gerätestücklisten-Nummer Für Ersatzteilbestellung ist zusätzlich Erzeugnisses genannt ist.

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 ar 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

*) Versandanschrift - Kennzeichen

c				Date	27.09.2019
b				Drawn	Sitter
a				Released	Fischer C.
F	Change	Date	Name		

KAESER KOMPRESSOREN

Equipment parts list
MOBILAIR M118
Control cabinet

GFA118-03042.01

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+

page 1
3 Sht.

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 Wst.-Nr. H Schabl. Nr.	I BZ-Pos.	J VA Kz. *)	K Eingangs-vermerk
	Control panel												
1	Operating unit	CR9022		7.9200.00020	ifm		-K21						
1	Display fuel level			8.6476.0	VDO		-P9						
1	switch Control voltage ON/OFF	RKWA		7.9027.10050	Schlegel		-S10						
1	Switching element	BTL5	24VDC, 2A	7.9027.10030	Schlegel		-S10						
1	EMERGENCY STOP	QRUV+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	7.9204.0	Huba		-B10						
1	Pressure transducer		-1...5 bar	7.9203.0	Huba		-B11						
1	Temperature probe		-30...130 °C	7.9202.40010	Bedia		-B40						
1	Heating	Equipment supplied by the user Motor			DEUTZ		-E10.1 ... -E10.4						
1	Control valve Inlet valve	24VDC G3/8 2/2-Wege		7.7089.1	Bürkert		-K1						
1	Venting valve	24VDC 6W		7.5453.10030	Bürkert		-K7						
2	Resistor		120 Ω	7.5392.00030	Bürklin		-R8,-R9						
1	Power supply unit Deutz	Equipment supplied by the user Motor			DEUTZ		-X23						
	model-dependent components												
	option Automatic-start-stop												
6	Coupling relay	24V DC 1W		7.3172.00310	Phoenix		-K61...-K66						
1	Fuse terminal	WKFN 4FSI		7.3149.02160	Wieland		-X1						
1	Fuse UNIVAL		5 A	7.6411.00040	FTM		-F9						
1	GSM/GPS Modem	model 5301		7.9208.01000	Proemion		-K27						
1	GSM/GPS antenna			7.9208.01010	Proemion		-T27						
1	GSM/GPS Modem interface	M12x1,5 5m, 5-pole, 180°		7.9200.00200	IFM		-X13						

Bei Nachbestellung von Geräten und Maschinen sind alle in den stark umrandeten Spalten B und C angegebenen Daten aufzuführen. Die Daten in den Spalten D bis G sind zusätzlich unter Nennung dieser Gerätestücklisten-Nummer anzugeben, soweit sie die Beantwortung technischer Rückfragen erleichtern. Für Ersatzteilbestellung ist zusätzlich die Angabe der Serialnummer erforderlich, falls diese auf dem Typenschild des Erzeugnisses genannt ist.

In Zweifelsfällen gilt die deutsche Fassung.

When reordering the equipment, all data enclosed by the heavy lines of columns B and C should be stated. In addition, the data in columns D to G should be given together with the No. of this list of equipment, insofar as they ar helpful in answering technical enquiries. When ordering spare parts, also quote the serial No. of the product if stated on the rating plate.

The German version applies in cases of doubt.

*) Versandanschrift - Kennzeichen

c				Date	27.09.2019	KAESER KOMPRESSOREN	Equipment parts list MOBILAIR M118	=	
b				Drawn	Sitter			+	
a				Released	Fischer C.			GFA118-03042.01	page 2 / 3 Sht.
F	Change	Date	Name						

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 Wst.-Nr. H Schabl. Nr.	I BZ-Pos.	J VA Kz. *)	K Eingangs-vermerk
	components Cable set Engine											
1	sensor fuel level	L=545mm, 0-10V	7.9201.00010	Bedia		-B37						
1	sensor coolant level	1S, T=7sec	7.5432.00030	Bedia		-B30						
1	buzzer acoustic	24VDC/105dB	7.9046.0	Werma		-P40						
2	Pressure switch filter clogging	55mbar	7.5429.00030	Mann+Hummel		-B5,-B6						
1	fuel pump	Equipment supplied by the user Motor				-M9						

Bei Nachbestellung von Geräten und Maschinen sind alle in den stark umrandeten aufzuführen. Die Daten in den Spalten D bis G sind zusätzlich unter Nennung anzugeben, soweit sie die Beantwortung technischer Rückfragen erleichtern. die Angabe der Serialnummer erforderlich, falls diese auf dem Typenschild des

In Zweifelsfällen gilt die deutsche Fassung.

Spalten B und C angegebenen Daten dieser Gerätestücklisten-Nummer Für Ersatzteilbestellung ist zusätzlich Erzeugnisses genannt ist.

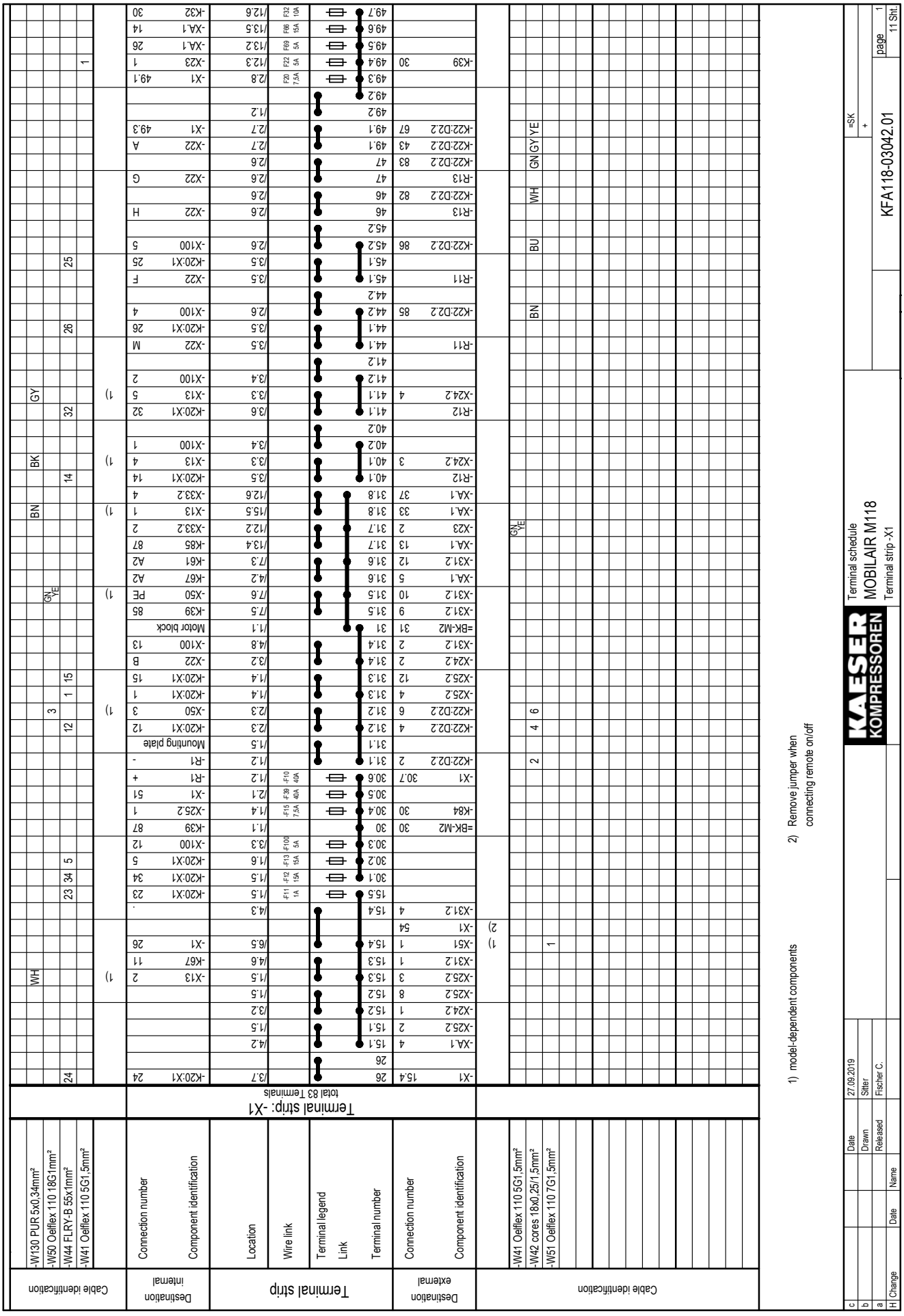
When reordering the equipment, all data enclosed by the heavy lines of columns addition, the data in columns D to G should be given together with the No. of they ar helpful in answering technical enquiries. When ordering spare parts, product if stated on the rating plate.

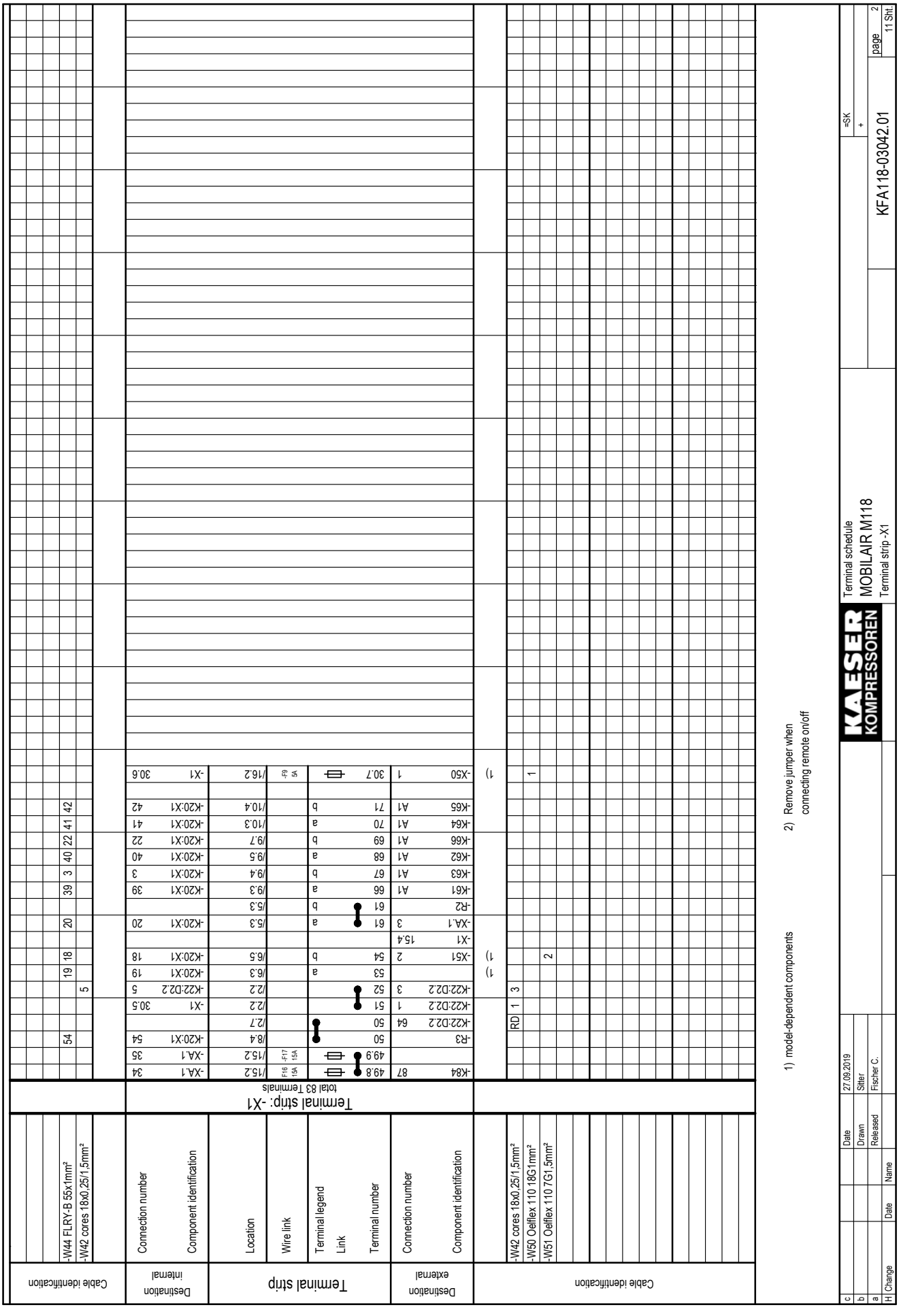
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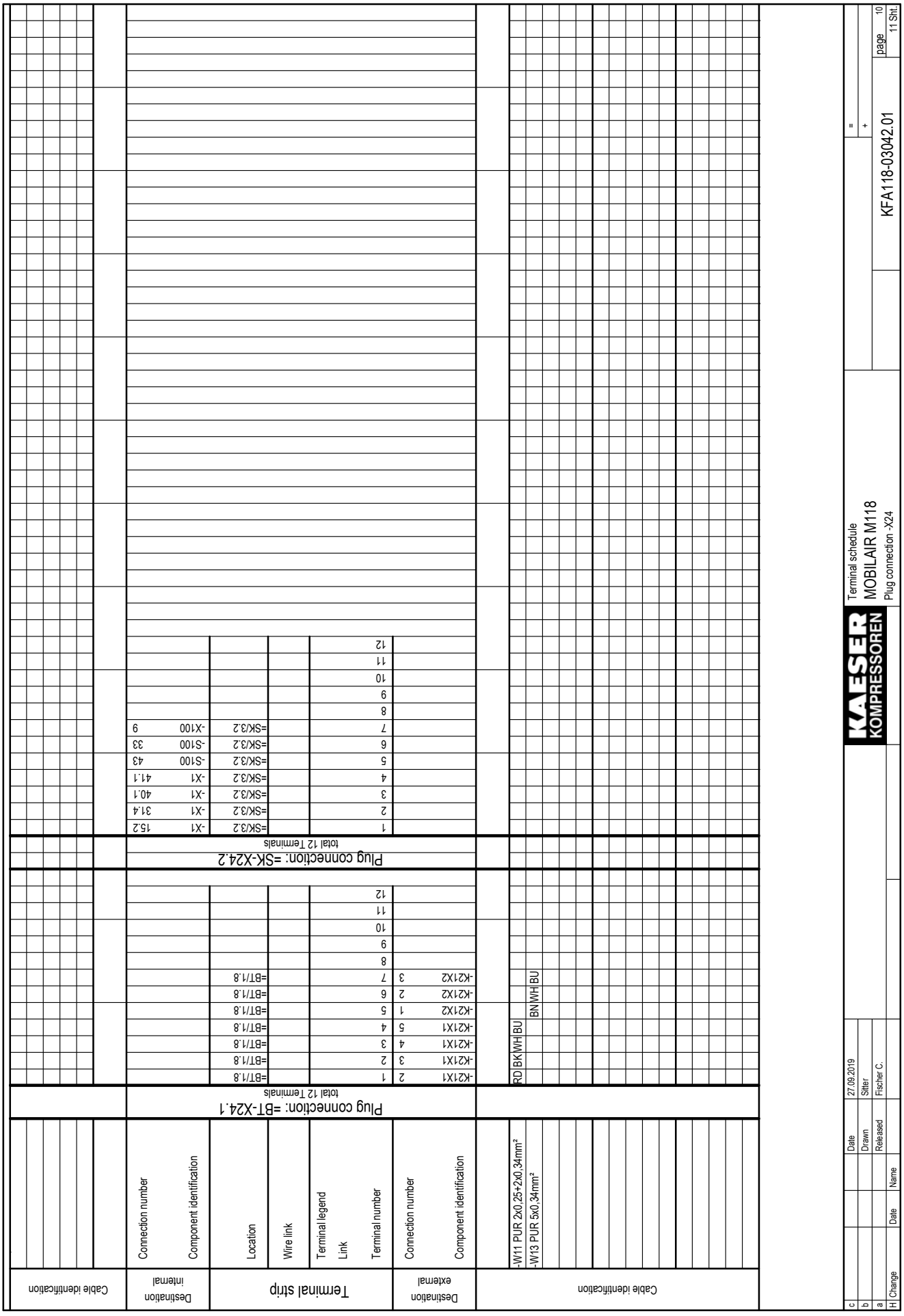
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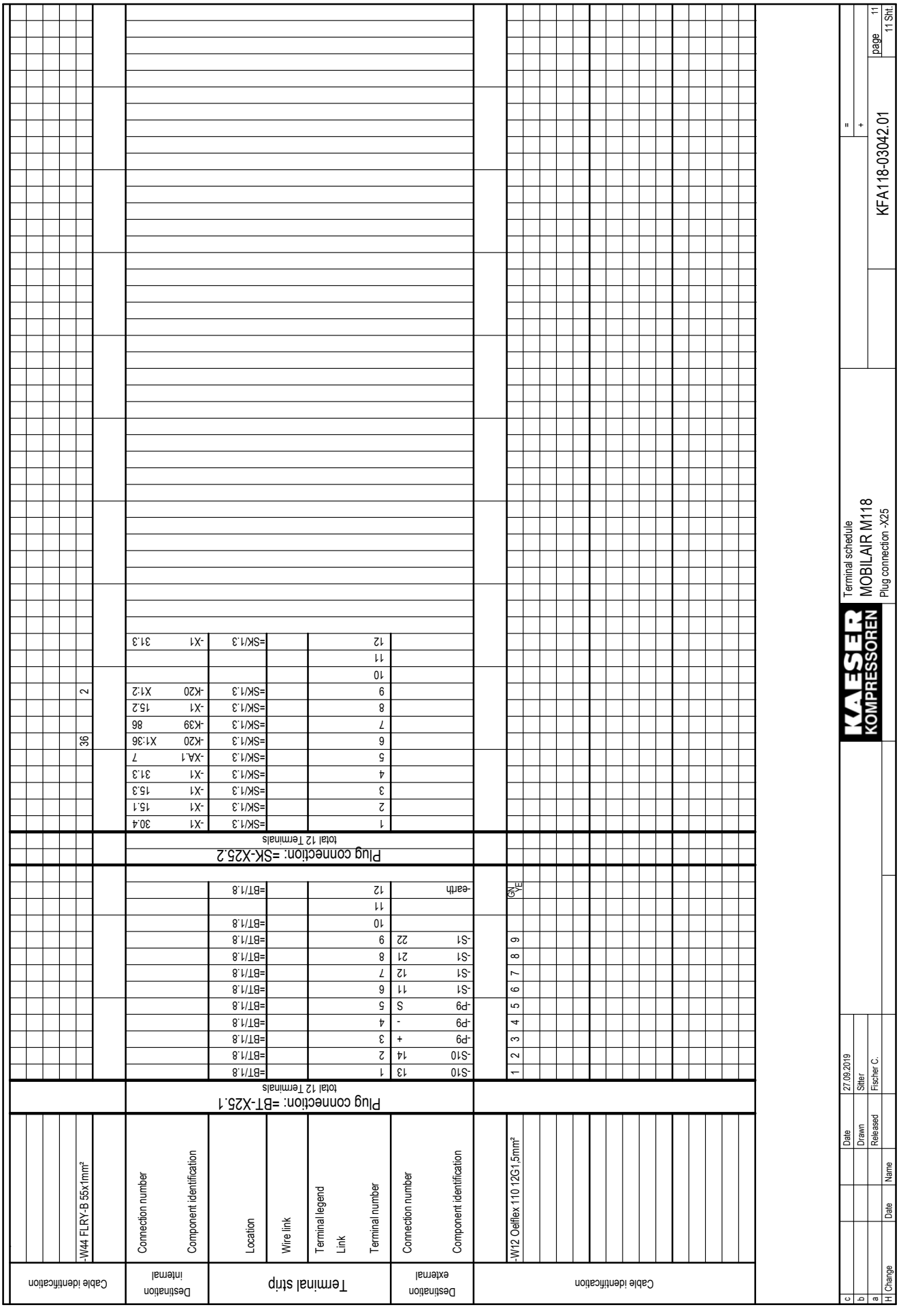
*) Versandanschrift - Kennzeichen

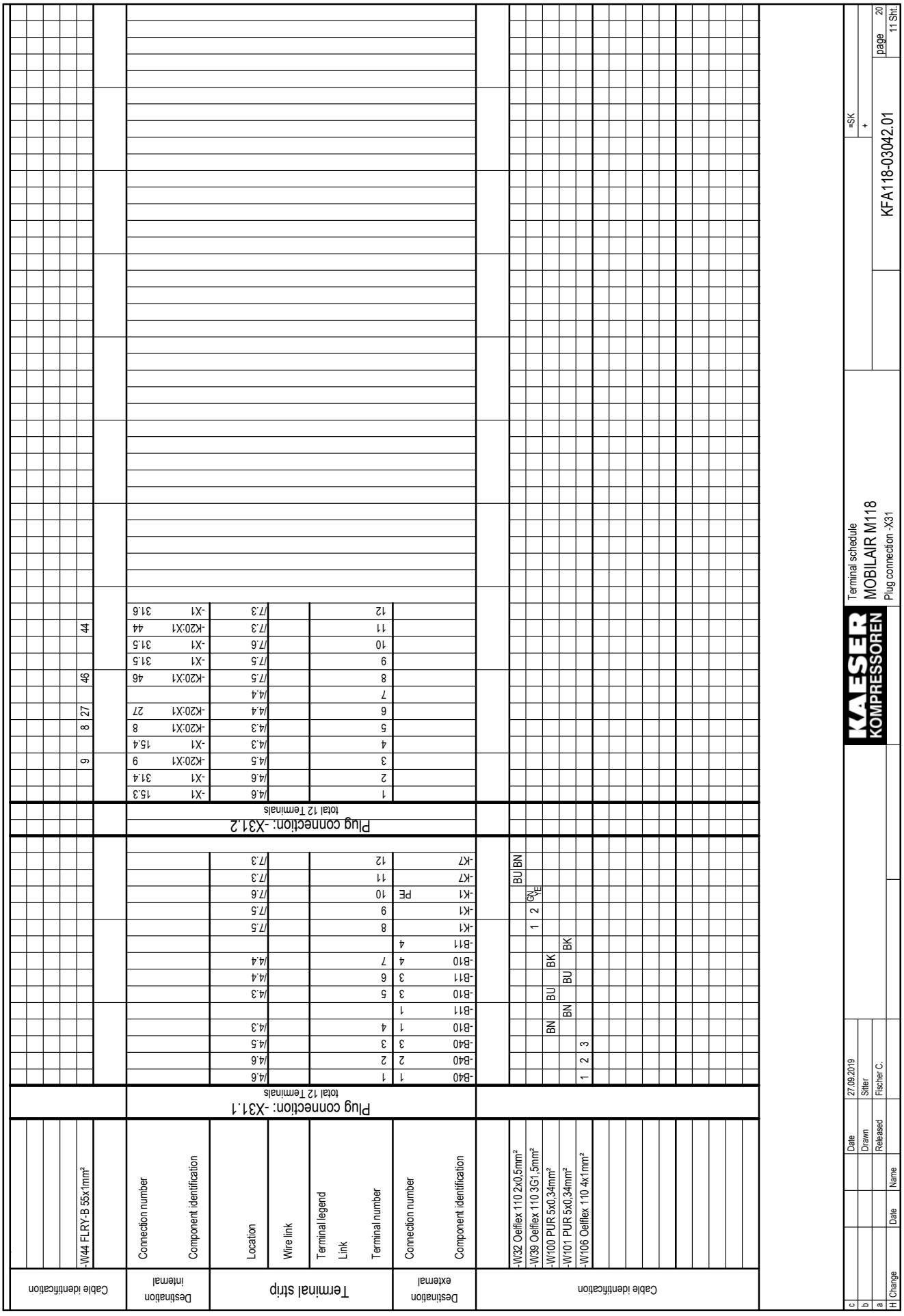
c				Date	27.09.2019	KAESER KOMPRESSOREN	Equipment parts list MOBILAIR M118	=	
b				Drawn	Sitter			+	
a				Released	Fischer C.				
F	Change	Date	Name					GFA118-03042.01	page 3 / 3 Sht.

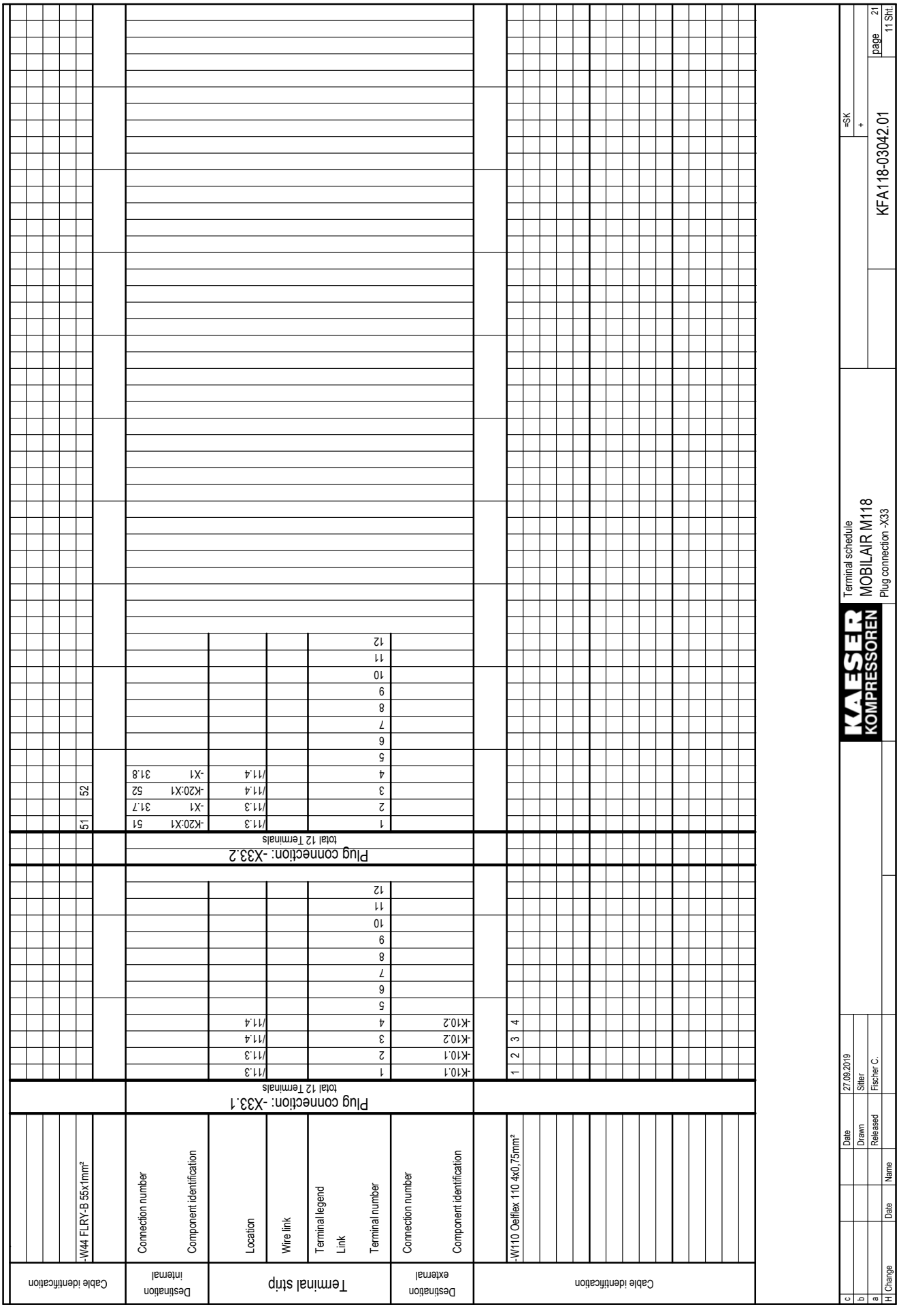

Terminal strip: -X1
total 83 Terminals
Cable identification
Destination external
Terminal strip
Destination internal
Cable identification
-W130 PUR 5x0,34mm²
-W50 Oelflex 110 18G1mm²
-W44 FLRY-B 55x1mm²
-W41 Oelflex 110 5G1,5mm²
Component identification
Connection number
Location
Wire link
Terminal legend
Link
Terminal number
Component identification
Connection number
-W41 Oelflex 110 5G1,5mm²
-W42 cores 18x0,25/1,5mm²
-W51 Oelflex 110 7G1,5mm²
1) model-dependent components
2) Remove jumper when connecting remote on/off
KAESER KOMPRESSOREN
Terminal schedule
MOBILAIR M118
Terminal strip - X1
KFA118-03042.01
=SK
+
page 1
11 Sht.
Date 27.09.2019
Drawn Sitter
Released Fischer C.
Name
Date
H Change
a
b
c

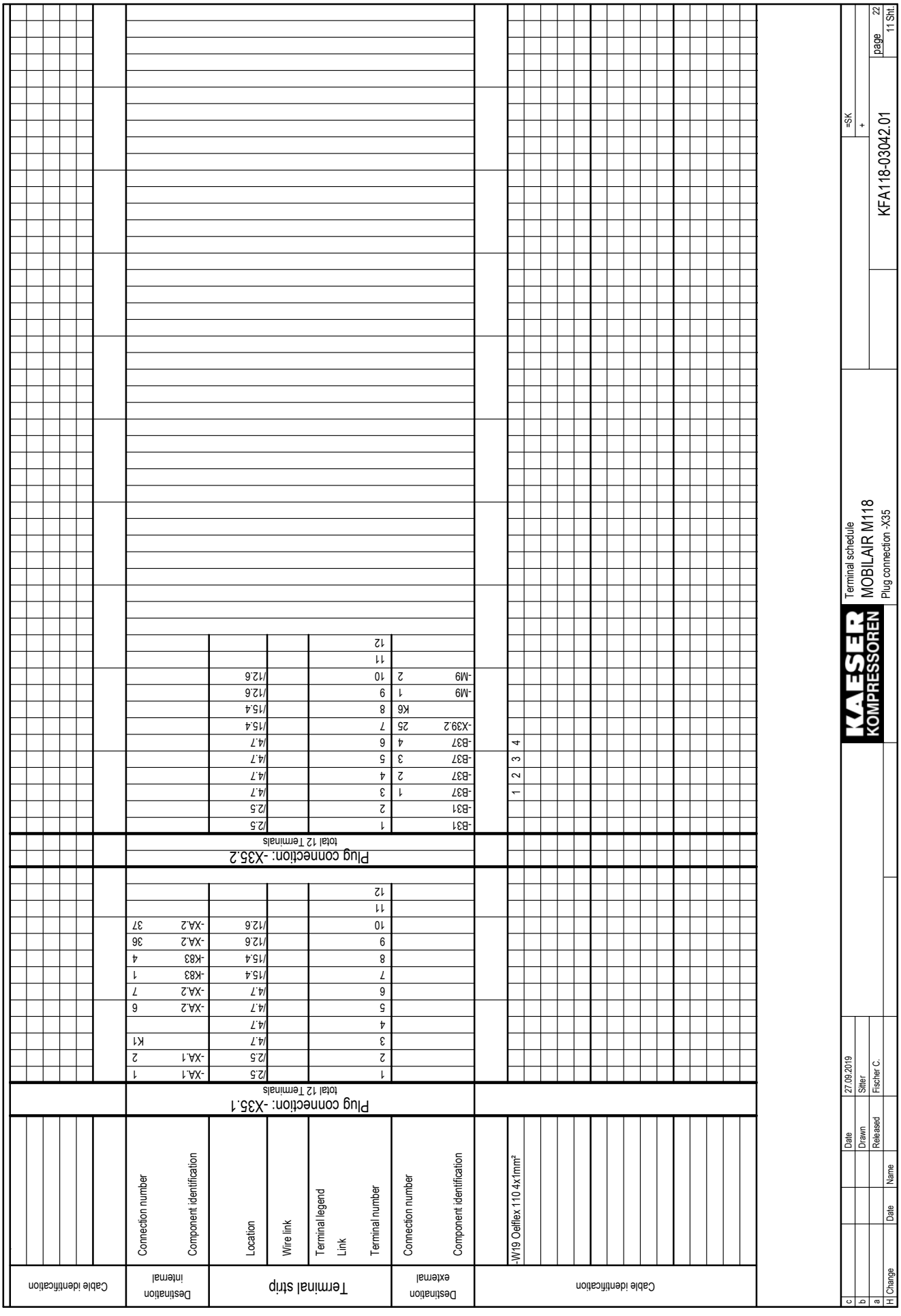

Terminal strip: -X1
total 83 Terminals
Cable identification
Destination external
Terminal strip
Destination internal
Cable identification
Component identification
Connection number
Terminal number
Link
Terminal legend
Wire link
Location
Component identification
Connection number
-W42 cores 18x0,25/1,5mm²
-W50 Oelflex 110 18G1mm²
-W51 Oelflex 110 7G1,5mm²
-W44 FLRY-B 55x1mm²
-W42 cores 18x0,25/1,5mm²
-K84 87 49.8 /15.2 -XA.1 35 54
-R3 50 /8.4 -K20:X1 54
50 /2.7
-K22:D2.2 1 51 /2.2 -X1 30.5 5
-K22:D2.2 3 52 /2.2 -K22:D2.2 5
-X51 2 54 /6.5 -K20:X1 18 19
53 /6.3 -K20:X1 19
-XA.1 3 61 /5.3 -K20:X1 20 20
-X1 15.4
-R2 61 /5.3
-K61 A1 66 /9.3 -K20:X1 39 39
-K63 A1 67 /9.4 -K20:X1 3 3
-K62 A1 68 /9.5 -K20:X1 40 40
-K66 A1 69 /9.7 -K20:X1 22 22
-K64 A1 70 /10.3 -K20:X1 41 41
-K65 A1 71 /10.4 -K20:X1 42 42
-X50 1 30.7 /16.2 -X1 30.6
F16 15A -F17 15A
F9 5A
1) model-dependent components
2) Remove jumper when connecting remote on/off
KAESER KOMPRESSOREN
Terminal schedule
MOBILAIR M118
Terminal strip -X1
=SK
+
KFA118-03042.01
page 2
11 Sht.
Change
Date
Name
Drawn
Released
27.09.2019
Sitter
Fischer C.

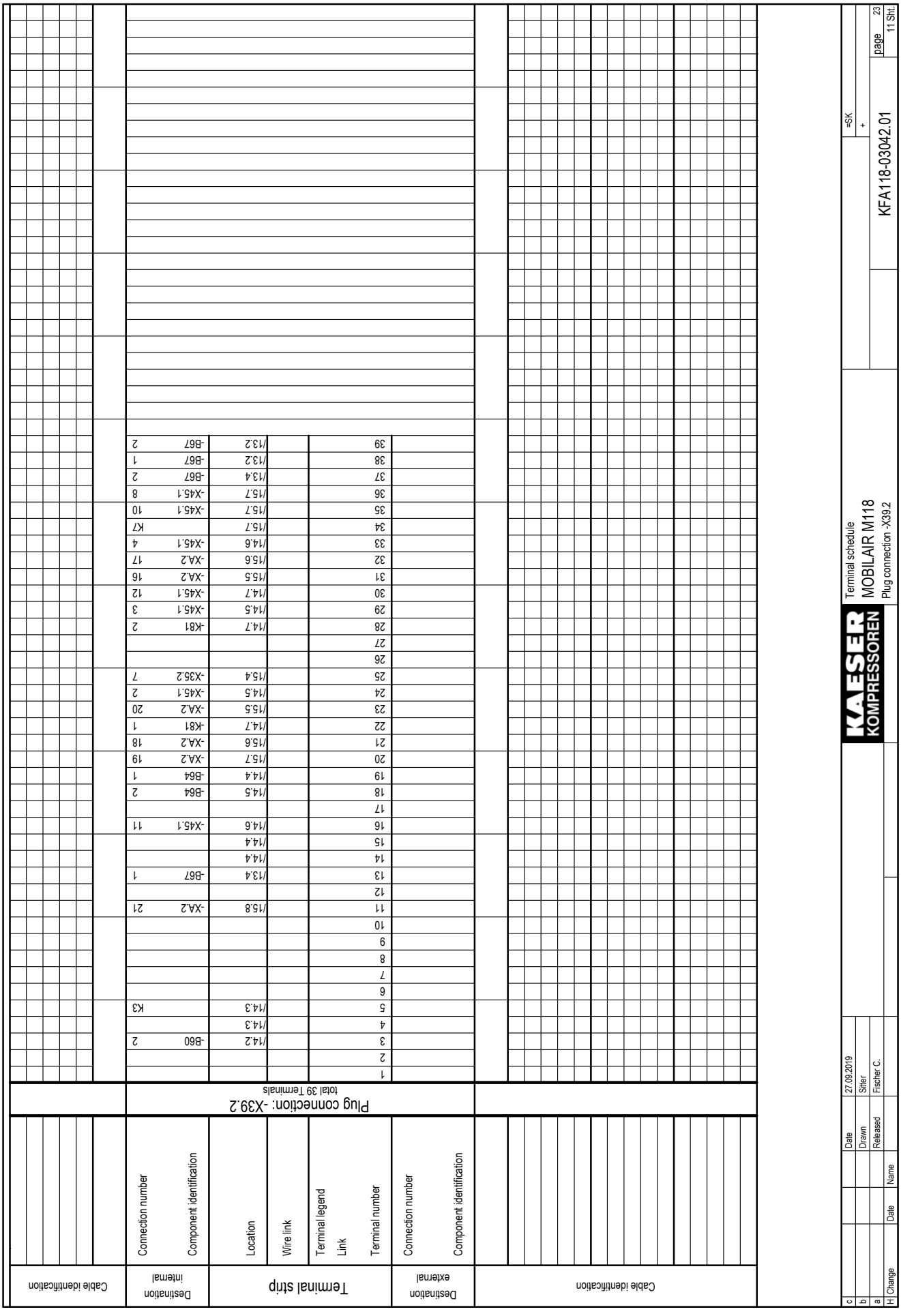

Terminal schedule
MOBILAIR M118
Plug connection -X24
KFA118-03042.01
page 10
11 Sht.
Cable identification
Destination external
Terminal strip
Destination internal
Cable identification
Component identification
Connection number
Terminal number
Link
Terminal legend
Wire link
Location
Plug connection: =BT-X24.1
total 12 Terminals
Plug connection: =SK-X24.2
total 12 Terminals
-W11 PUR 2x0,25+2x0,34mm²
-W13 PUR 5x0,34mm²
RD BK WH BU
BN WH BU
-K21X1 2 1 =BT/1.8
-K21X1 3 2 =BT/1.8
-K21X1 4 3 =BT/1.8
-K21X1 5 4 =BT/1.8
-K21X2 1 5 =BT/1.8
-K21X2 2 6 =BT/1.8
-K21X2 3 7 =BT/1.8
-X1 15.2 =SK/3.2 1
-X1 31.4 =SK/3.2 2
-X1 40.1 =SK/3.2 3
-X1 41.1 =SK/3.2 4
-S100 43 =SK/3.2 5
-S100 33 =SK/3.2 6
-X100 9 =SK/3.2 7
Drawn Sitter 27.09.2019
Released Fischer C.
Date
Name
H Change

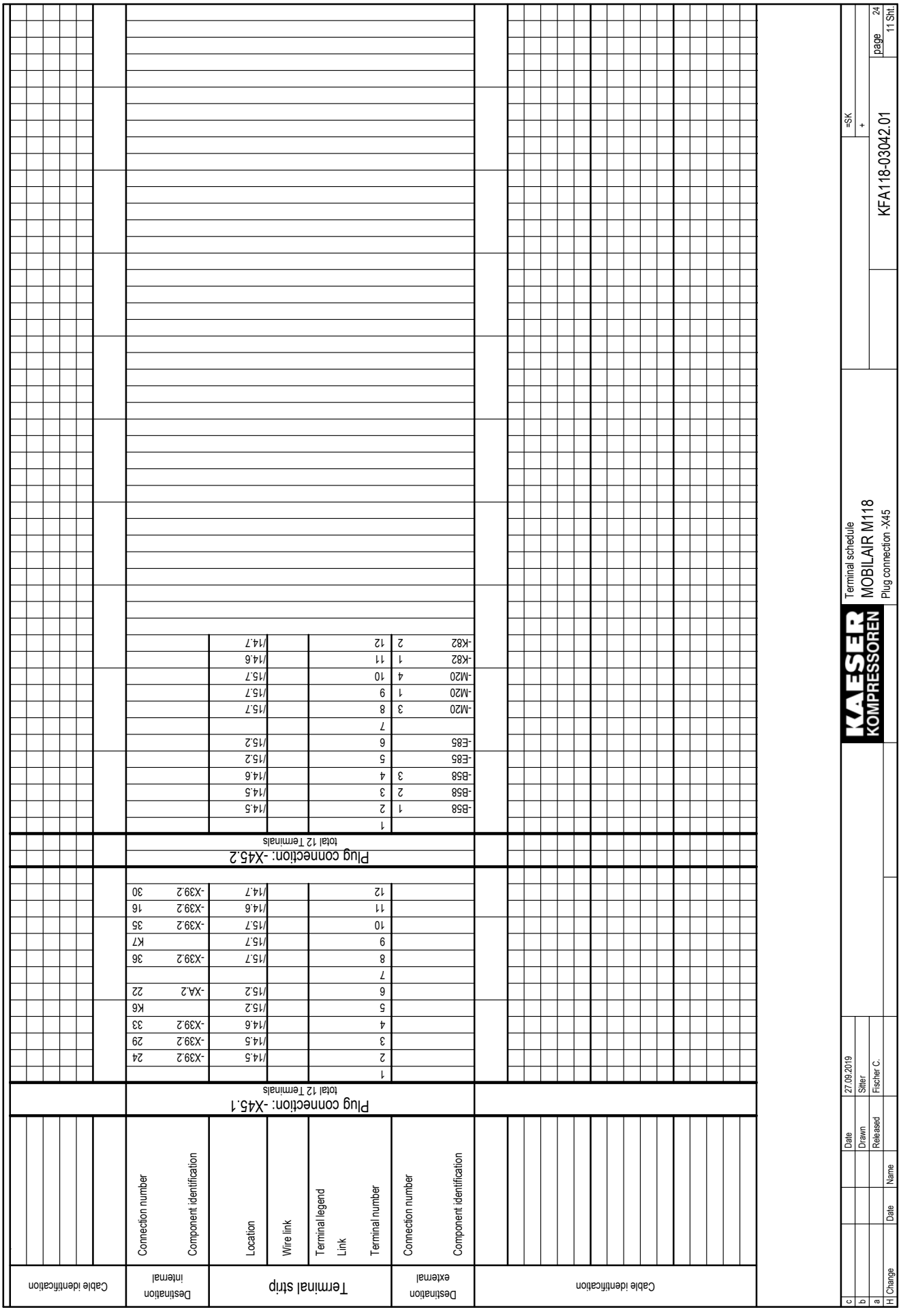

Cable identification
Destination external
Terminal strip
Destination internal
Cable identification
-W12 Oelflex 110 12G1.5mm²
Component identification
Connection number
Terminal number
Link
Terminal legend
Wire link
Location
Component identification
Connection number
-W44 FLRY-B 55x1mm²
Plug connection: =BT-X25.1
total 12 Terminals
Plug connection: =SK-X25.2
total 12 Terminals
Terminal schedule
MOBILAIR M118
Plug connection -X25
KFA118-03042.01
page 11
11 Sht.
Date
Drawn
Released
Name
27.09.2019
Sitter
Fischer C.
Change

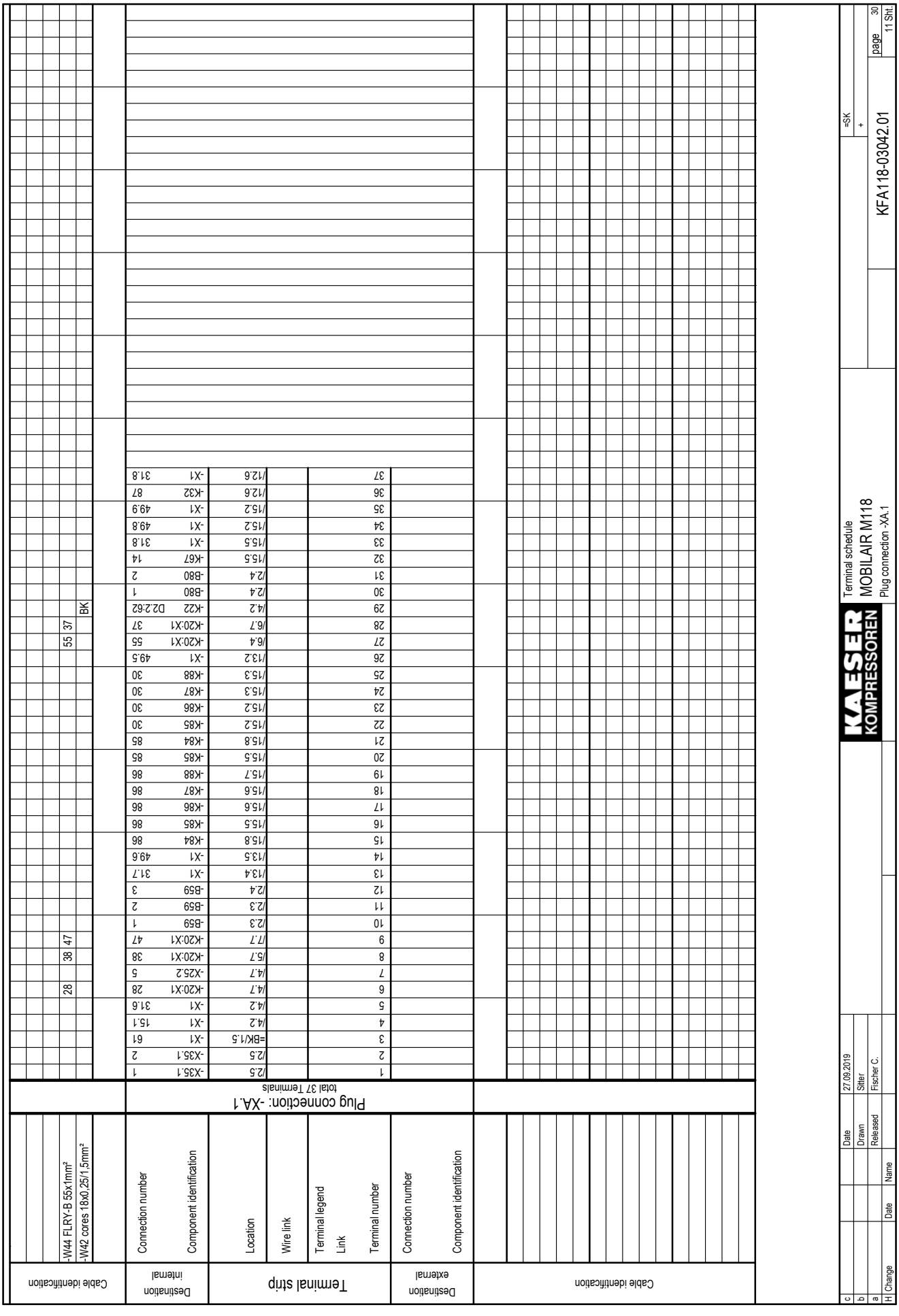

Terminal schedule
MOBILAIR M118
Plug connection -X31
KFA118-03042.01
=SK
+
page 20
11 Sht.
Date 27.09.2019
Drawn Sitter
Released Fischer C.
Name
Change
Cable identification
Destination external
Terminal strip
Destination internal
Cable identification
-W32 Oelflex 110 2x0,5mm²
-W39 Oelflex 110 3G1,5mm²
-W100 PUR 5x0,34mm²
-W101 PUR 5x0,34mm²
-W106 Oelflex 110 4x1mm²
Component identification
Connection number
Terminal number
Link
Terminal legend
Wire link
Location
Component identification
Connection number
-W44 FLRY-B 55x1mm²
Plug connection: -X31.1
total 12 Terminals
Plug connection: -X31.2
total 12 Terminals

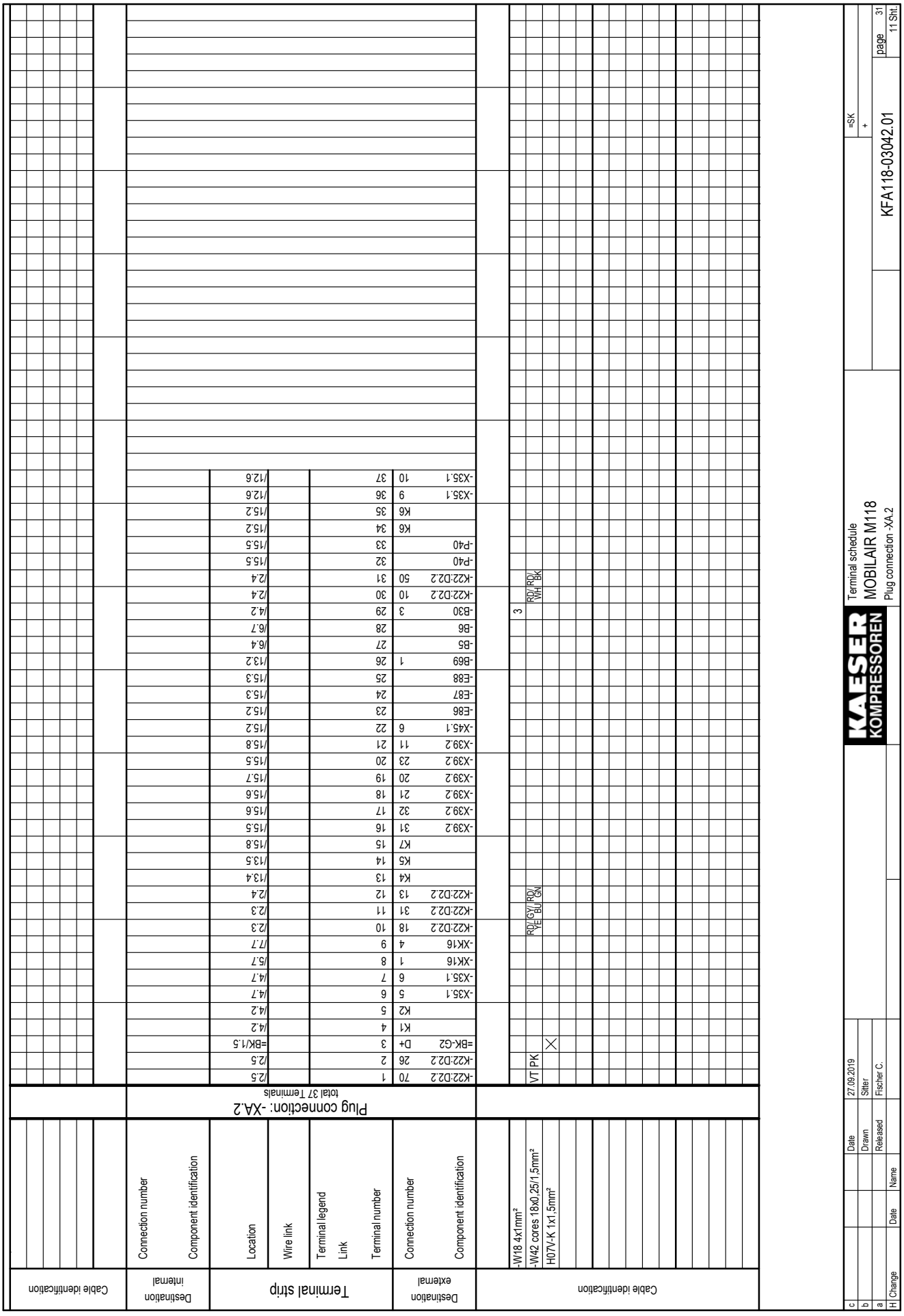

Cable identification
Destination external
Terminal strip
Destination internal
Cable identification
-W110 Oelflex 110 4x0,75mm²
Component identification
Connection number
Terminal number
Link
Terminal legend
Wire link
Location
Component identification
Connection number
Plug connection: -X33.1
total 12 Terminals
-K10.1 1 /11.3
-K10.1 2 /11.3
-K10.2 3 /11.4
-K10.2 4 /11.4
5
6
7
8
9
10
11
12
Plug connection: -X33.2
total 12 Terminals
1 -K20:X1 51 /11.3
2 -X1 31.7 /11.3
3 -K20:X1 52 /11.4
4 -X1 31.8 /11.4
5
6
7
8
9
10
11
12
-W44 FLRY-B 55x1mm²
51
52
Change
Date
Name
Released
Drawn
Date
27.09.2019
Fischer C.
Sitter
Terminal schedule
MOBILAIR M118
Plug connection -X33
KAESER KOMPRESSOREN
KFA118-03042.01
=SK
+
page 21
11 Sht.

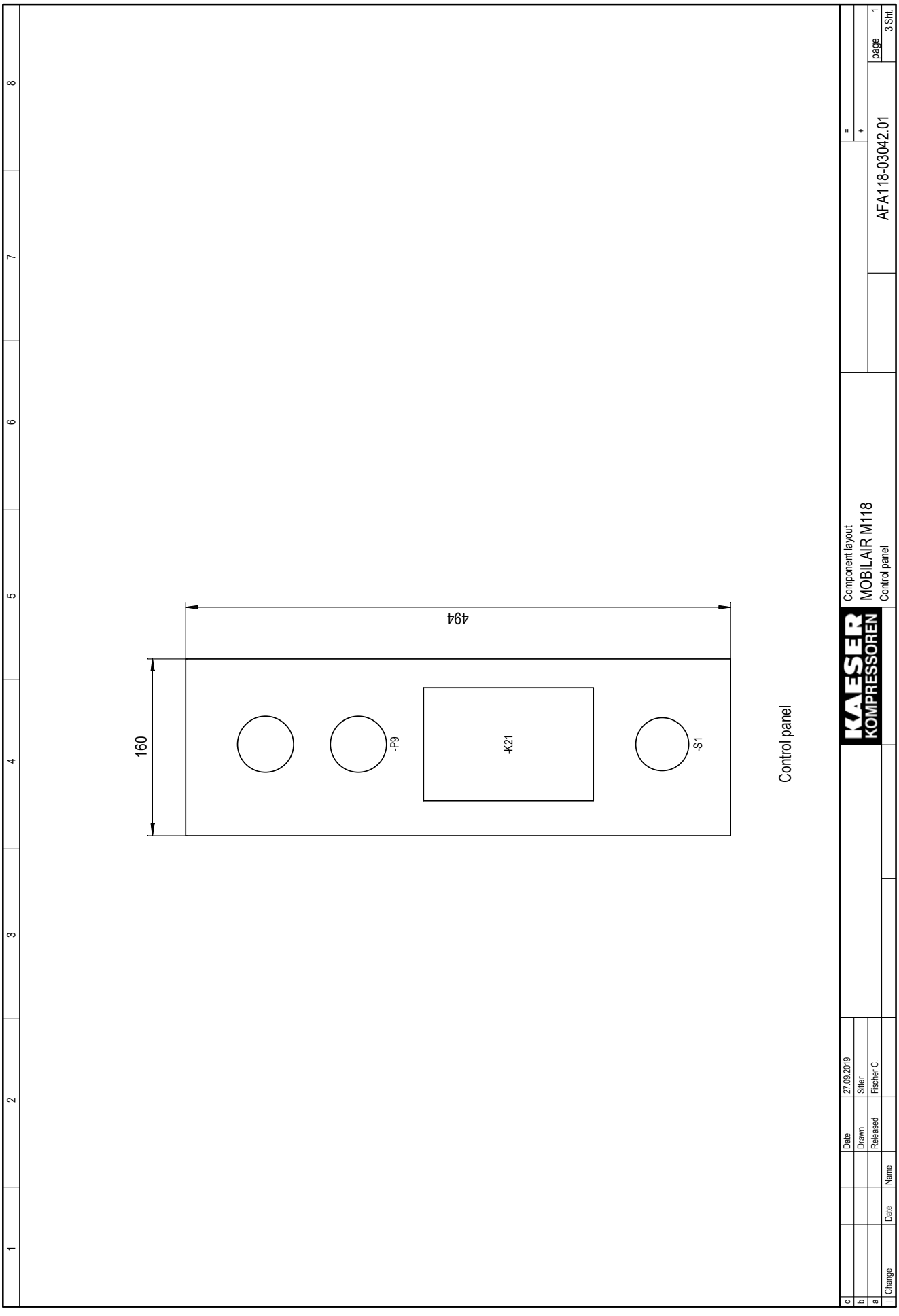

Terminal schedule
MOBILAIR M118
Plug connection -X35
KAESER KOMPRESSOREN
KFA118-03042.01
=SK
+
page 22
11 Sht.
Date 27.09.2019
Drawn Sitter
Released Fischer C.
Name
Date
H Change
a
b
c
Cable identification
Destination external
Terminal strip
Destination internal
Cable identification
Component identification
Connection number
Terminal number
Link
Terminal legend
Wire link
Location
Component identification
Connection number
-W19 Oelflex 110 4x1mm²
Plug connection: -X35.1
total 12 Terminals
Plug connection: -X35.2
total 12 Terminals
-B31
-B37
-X39.2
-M9
-K83
-XA.1
-XA.2
K1
K6

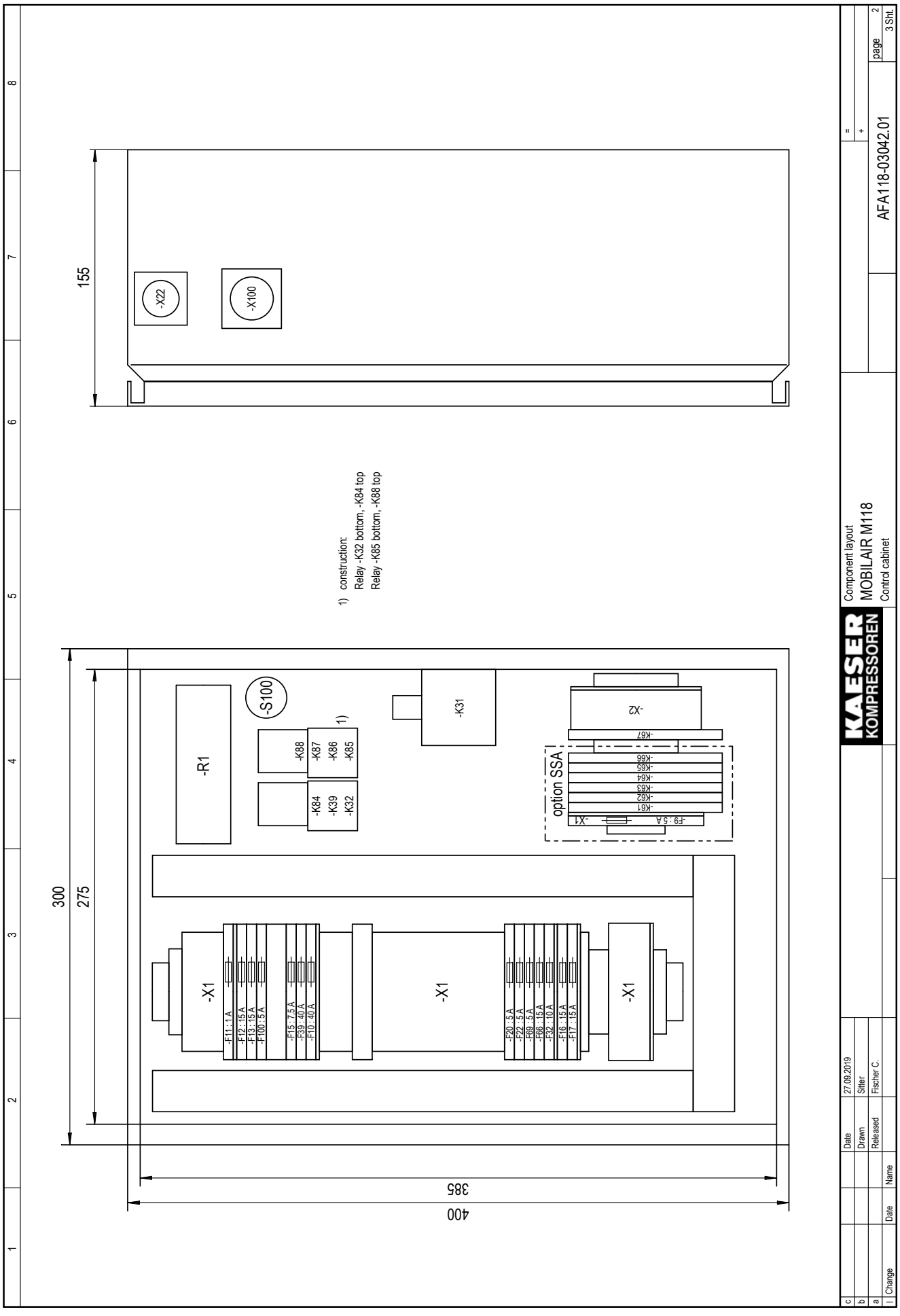

Cable identification
Destination internal
Terminal strip
Destination external
Cable identification
Connection number
Component identification
Location
Wire link
Terminal legend
Link
Terminal number
Connection number
Component identification
Plug connection: -X39.2
total 39 Terminals
1
2
3 /14.2 -B60 2
4 /14.3
5 /14.3 K3
6
7
8
9
10
11 /15.8 -XA.2 21
12
13 /13.4 -B67 1
14 /14.4
15 /14.4
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
c
b
a
H Change
Date
Name
Date
Drawn
Released
27.09.2019
Sitter
Fischer C.
KAESER KOMPRESSOREN
Terminal schedule
MOBILAIR M118
Plug connection -X39.2
=SK
+
KFA118-03042.01
page 23
11 Sht.

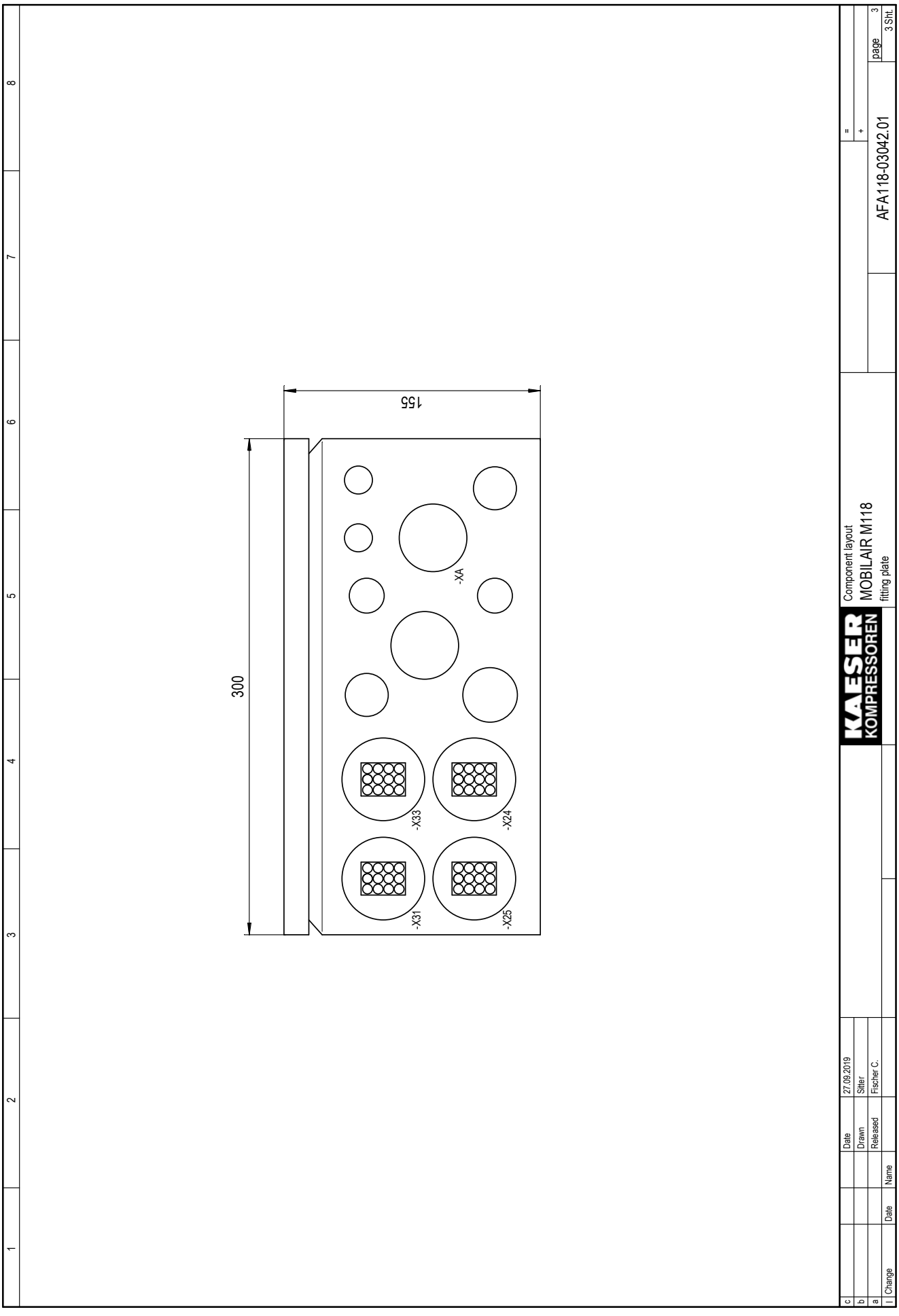

Cable identification
Destination external
Terminal strip
Destination internal
Cable identification
Connection number
Component identification
Location
Wire link
Terminal legend
Link
Terminal number
Plug connection: -X45.1
total 12 Terminals
Plug connection: -X45.2
total 12 Terminals
Terminal schedule
MOBILAIR M118
Plug connection -X45
KFA118-03042.01
=SK
+
page 24
11 Sht.
Date
Drawn
Released
27.09.2019
Sitter
Fischer C.
Name
Change


Cable identification
Destination internal
Terminal strip
Destination external
Cable identification
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
-W44 FLRY-B 55x1mm²
-W42 cores 18x0.25/1.5mm²
Plug connection: -XA.1
total 37 Terminals
1 -X35.1 /2.5
2 -X35.1 2 /2.5
3 =BK/1.5 -X1 61
4 -X1 15.1 /4.2
5 -X1 31.6 /4.2
6 -K20:X1 28 /4.7
7 -X25.2 5 /4.7
8 -K20:X1 38 /5.7
9 -K20:X1 47 /7.7
10 -B59 1 /2.3
11 -B59 2 /2.3
12 -B59 3 /2.4
13 -X1 31.7 /13.4
14 -X1 49.6 /13.5
15 -K84 86 /15.8
16 -K85 86 /15.5
17 -K86 86 /15.6
18 -K87 86 /15.6
19 -K88 86 /15.7
20 -K85 85 /15.5
21 -K84 85 /15.8
22 -K85 30 /15.2
23 -K86 30 /15.2
24 -K87 30 /15.3
25 -K88 30 /15.3
26 -X1 49.5 /13.2
27 -K20:X1 55 /6.4
28 -K20:X1 37 /6.7
29 -K22 D2.2:6Z /4.2
30 -B80 1 /2.4
31 -B80 2 /2.4
32 -K67 14 /15.5
33 -X1 31.8 /15.5
34 -X1 49.8 /15.2
35 -X1 49.9 /15.2
36 -K32 87 /12.6
37 -X1 31.8 /12.6
55 37
BK
Terminal schedule
MOBILAIR M118
Plug connection -XA.1
KAESER KOMPRESSOREN
KFA118-03042.01
=SK
+
page 30
11 Sht.
Change
Date
Name
Date
Drawn
Released
27.09.2019
Sitter
Fischer C.


Terminal schedule
MOBILAIR M118
Plug connection -XA.2
KFA118-03042.01
=SK
+
page 31
11 Sht.
27.09.2019
Sitter
Fischer C.
Date
Drawn
Released
Name
Change
Cable identification
Destination external
Terminal strip
Destination internal
Cable identification
Component identification
Connection number
Terminal number
Link
Terminal legend
Wire link
Location
Plug connection: -XA.2
total 37 Terminals
-W18 4x1mm²
-W42 cores 18x0.25/1.5mm²
H07V-K 1x1.5mm²
-K22:D2.2 70 1 /2.5
VT PK
-K22:D2.2 26 2 /2.5
=BK-G2 D+ 3 =BK/1.5
K1 4 /4.2
K2 5 /4.2
-X35.1 5 6 /4.7
-X35.1 6 7 /4.7
-XK16 1 8 /5.7
-XK16 4 9 /7.7
-K22:D2.2 18 10 /2.3
RD/YE GY/BU
-K22:D2.2 31 11 /2.3
-K22:D2.2 13 12 /2.4
RD/GN
K4 13 /13.4
K5 14 /13.5
K7 15 /15.8
-X39.2 31 16 /15.5
-X39.2 32 17 /15.6
-X39.2 21 18 /15.6
-X39.2 20 19 /15.7
-X39.2 23 20 /15.5
-X39.2 11 21 /15.8
-X45.1 6 22 /15.2
-E86 23 /15.2
-E87 24 /15.3
-E88 25 /15.3
-B69 1 26 /13.2
-B5 27 /6.4
-B6 28 /6.7
3
-B30 3 29 /4.2
RD/WH RD/BK
-K22:D2.2 10 30 /2.4
-K22:D2.2 50 31 /2.4
-P40 32 /15.5
-P40 33 /15.5
K6 34 /15.2
K6 35 /15.2
-X35.1 9 36 /12.6
-X35.1 10 37 /12.6


494
160
-P9
-K21
-S1
Control panel
Component layout
MOBILAIR M118
Control panel
AFA118-03042.01
page 1
3 Sht.
Date
Drawn
Released
27.09.2019
Sitter
Fischer C.
Name
Change


155
-X22
-X100
1) construction:
Relay -K32 bottom, -K84 top
Relay -K85 bottom, -K88 top
300
275
-R1
-S100
1)
-K88
-K87
-K86
-K85
-K84
-K39
-K32
-K31
option SSA
-X2
-K67
-K66
-K65
-K64
-K63
-K62
-K61
-F9 : 5 A
-X1
-X1
-F11 : 1 A
-F12 : 15 A
-F13 : 15 A
-F100 : 5 A
-F15 : 7,5 A
-F39 : 40 A
-F10 : 40 A
-X1
-F20 : 5 A
-F22 : 5 A
-F69 : 5 A
-F66 : 15 A
-F32 : 10 A
-F16 : 15 A
-F17 : 15 A
385
400
KAESER KOMPRESSOREN
Component layout
MOBILAIR M1118
Control cabinet
AFA118-03042.01
page 2
3 Sht.
Date 27.09.2019
Drawn Sitter
Released Fischer C.
Name
Date
Change


155
300
-XA
-X33
-X24
-X31
-X25
KAESER KOMPRESSOREN
Component layout
MOBILAIR M118
fitting plate
AFA118-03042.01
page 3
3 Sht.
Change
Date
Name
Date
Drawn
Released
27.09.2019
Sitter
Fischer C.

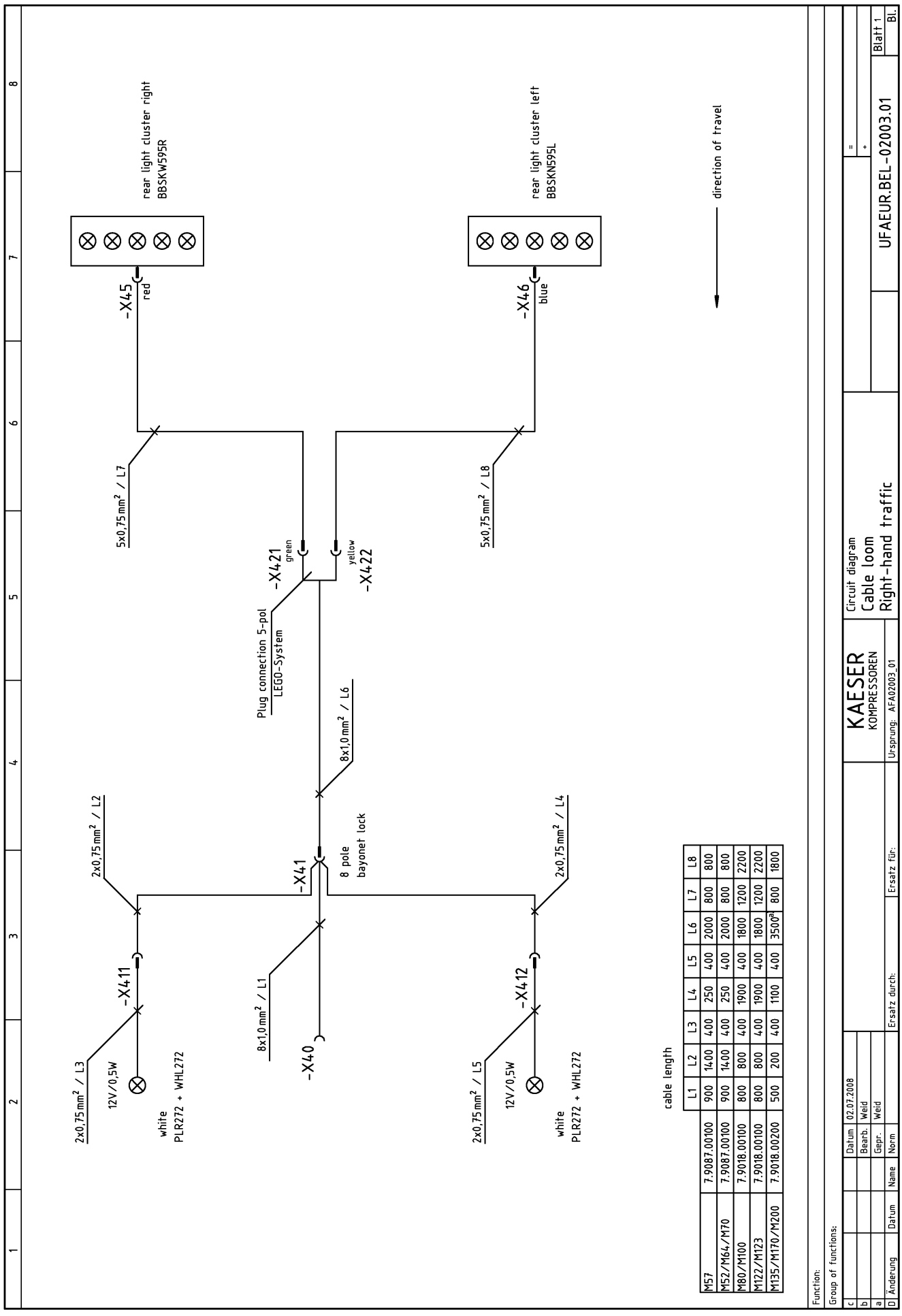
13.4.2 Option tc
Lighting and signalling system connection

Electrical diagrams
MOBILAIR
Lighting equipment
connection 12V/13-pole

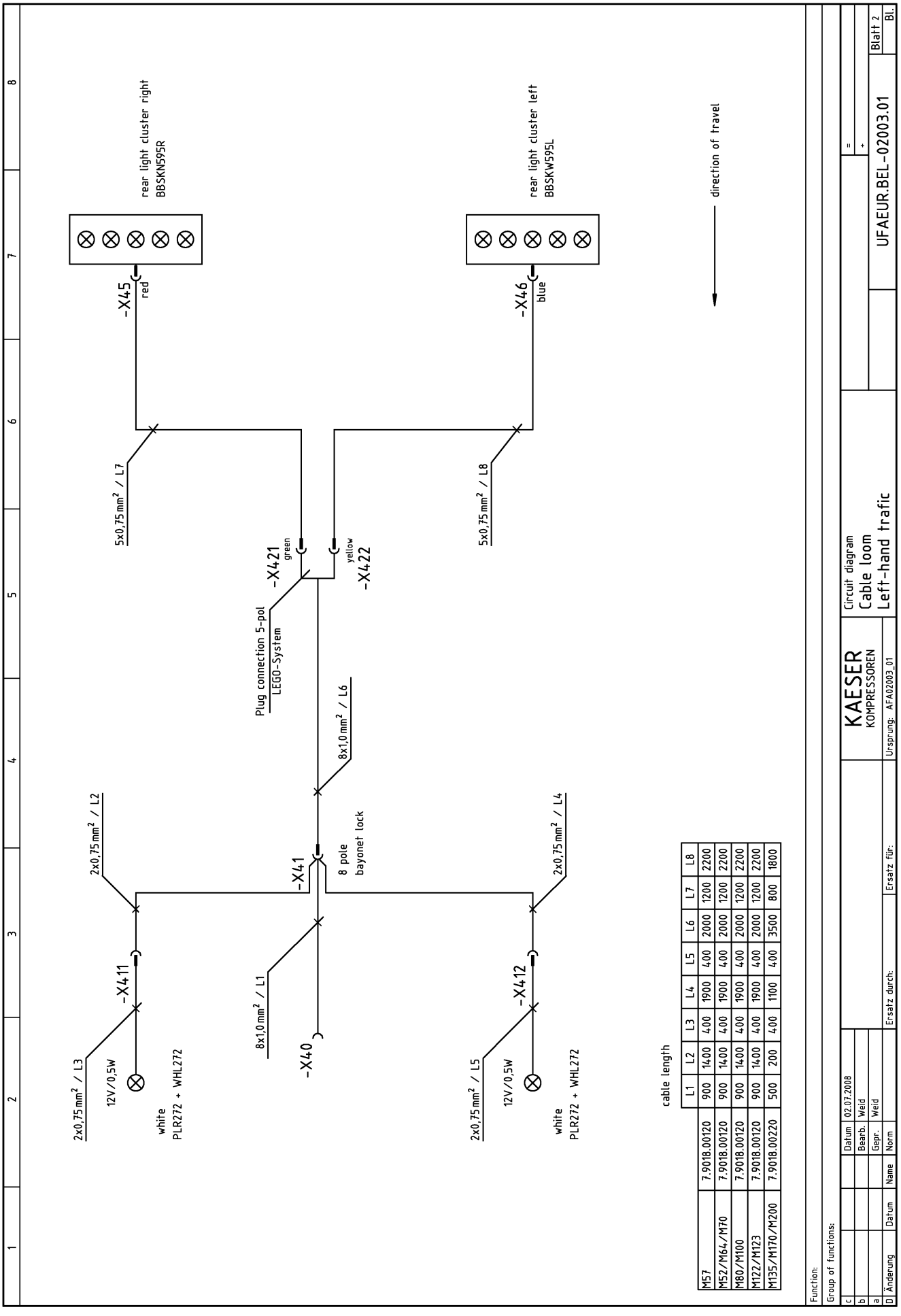
Manufacturer: Kaeser Kompressoren GmbH
Postfach 2143
96410 Coburg

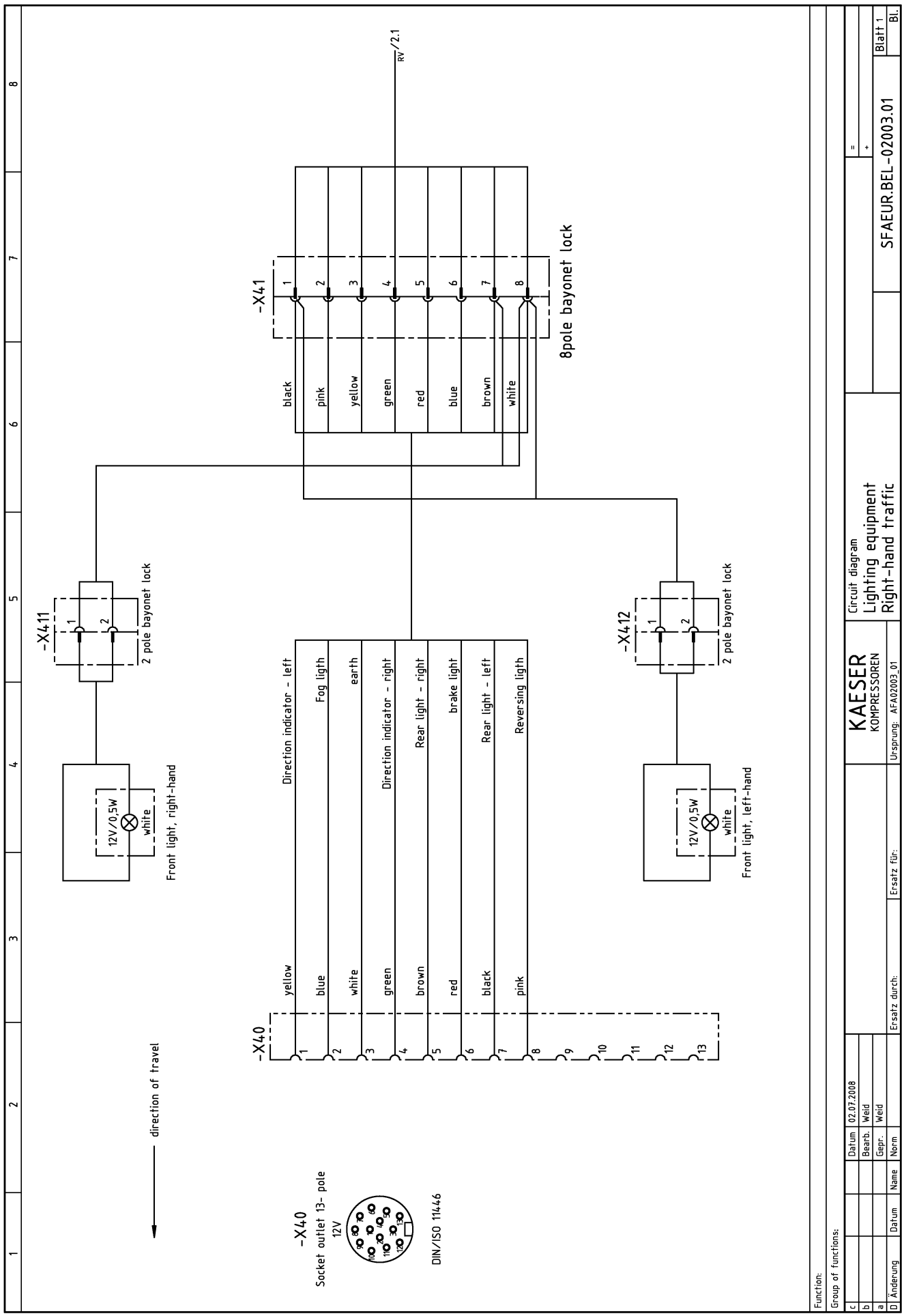
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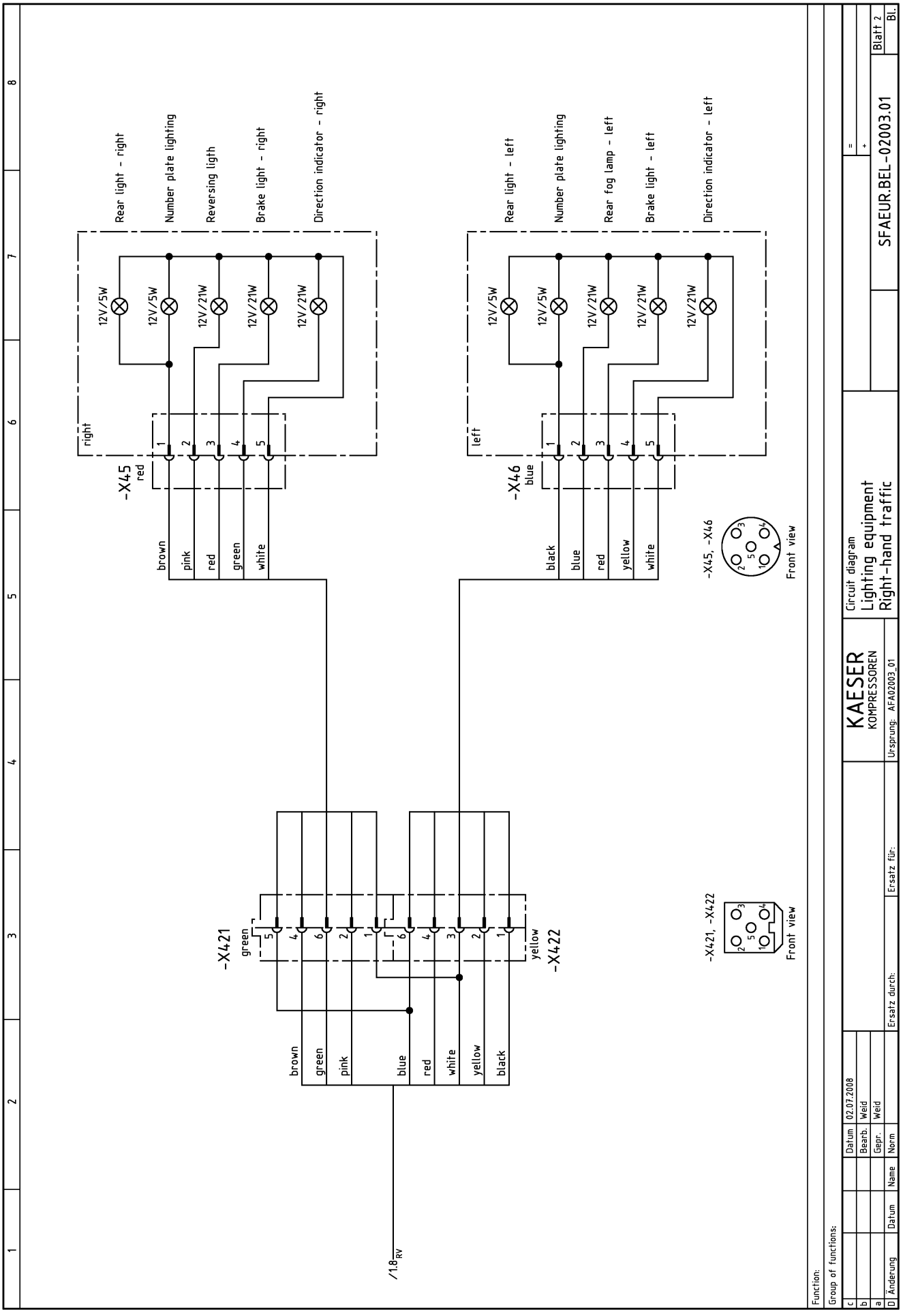
c				Datum	02.07.2008 E		KAESER KOMPRESSOREN	Cover page MOBILAIR Lighting equipment	=
b				Bearb.	Weid				+
a				Gepr.	Weid				
D	Änderung	Datum	Name	Norm		Ersatz durch: / Ersatz für:	Ursprung: AFA02003_01		DFAEUR.BEL-02003.01 Blatt 1 Bl.

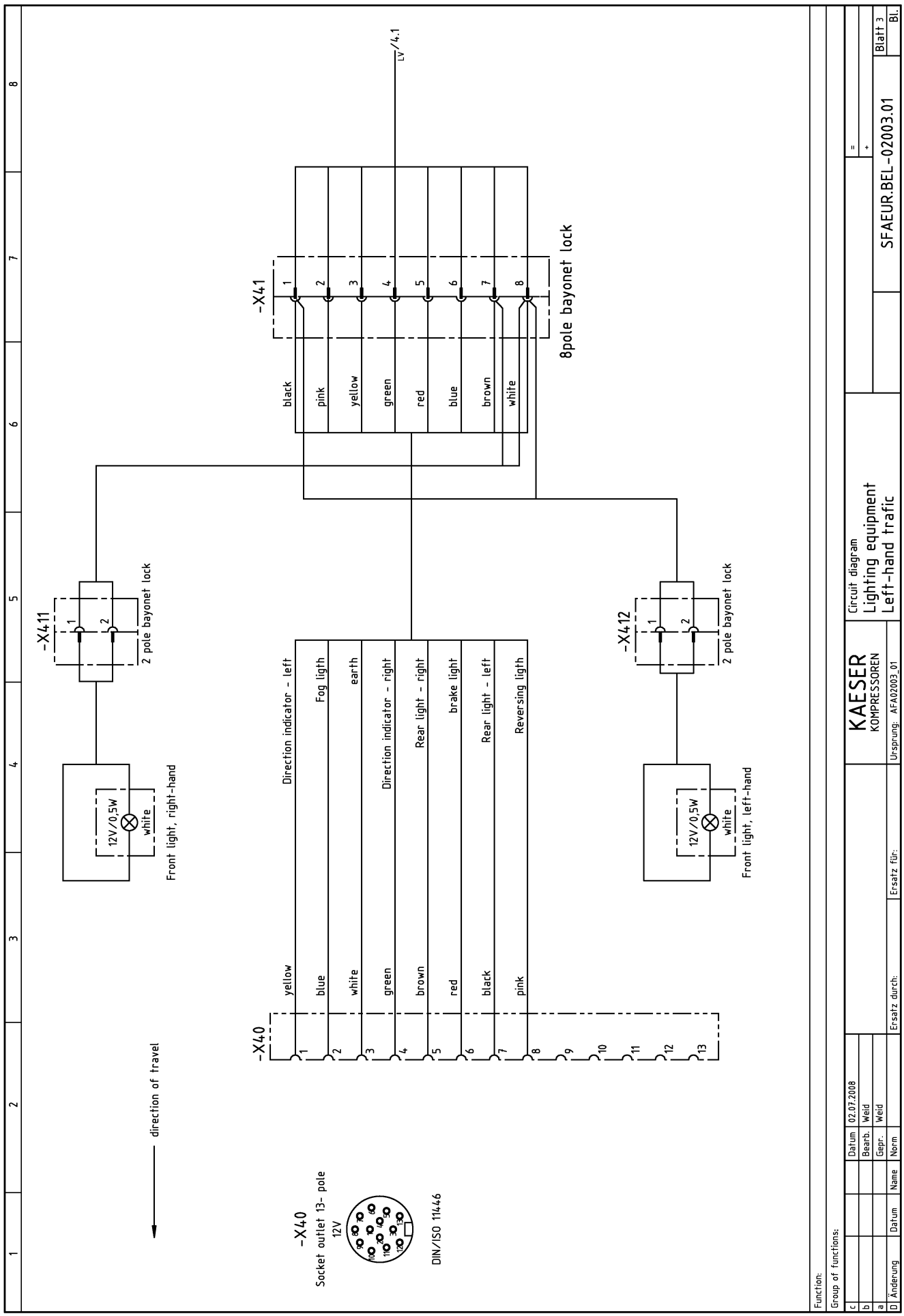


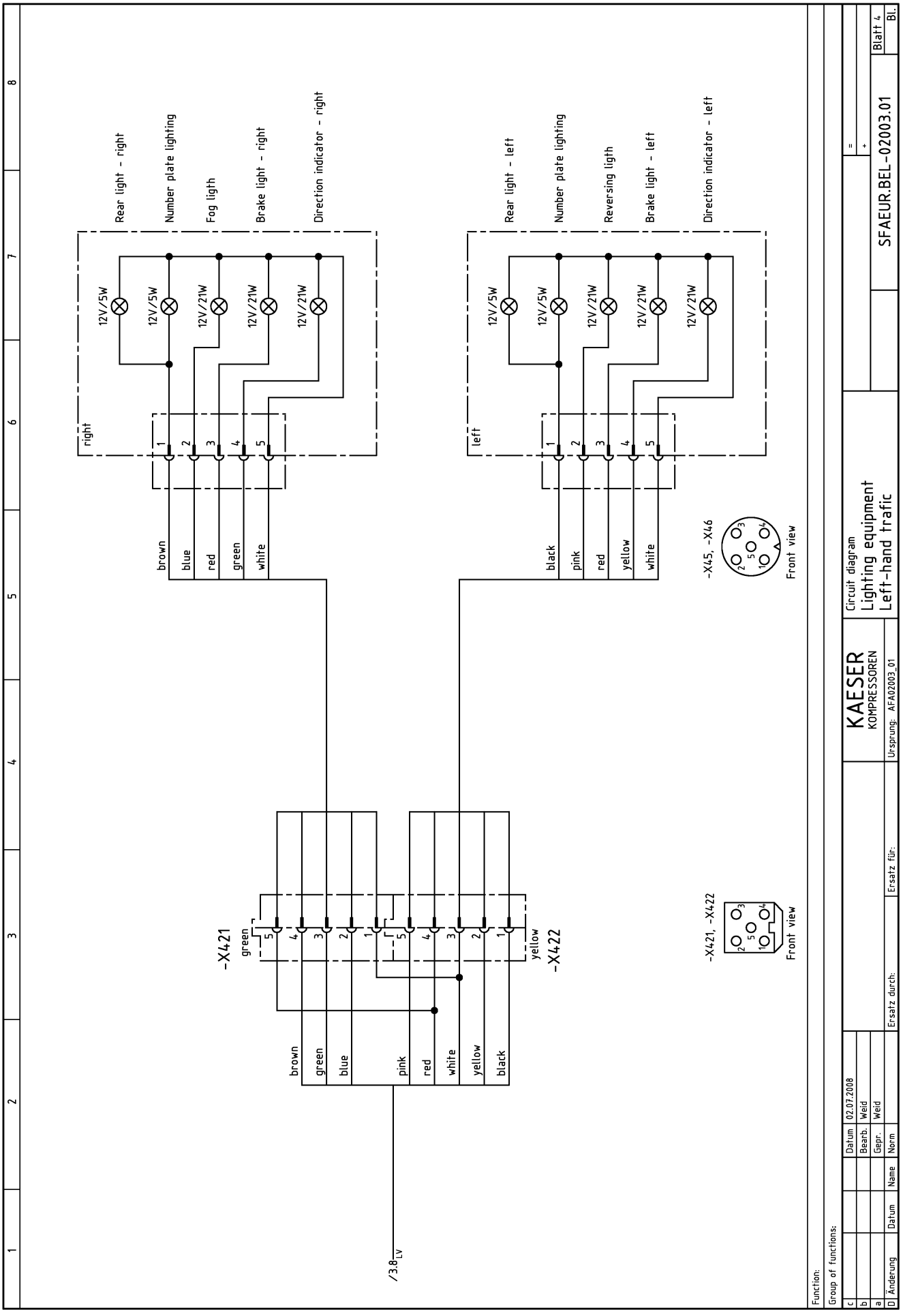
	L1	L2	L3	L4	L5	L6	L7	L8
M57	7.9087.00100	900	1400	400	250	400	2000	800	800
M52/M64/M70	7.9087.00100	900	1400	400	250	400	2000	800	800
M80/M100	7.9018.00100	800	800	400	1900	400	1800	1200	2200
M122/M123	7.9018.00100	800	800	400	1900	400	1800	1200	2200
M135/M170/M200	7.9018.00200	500	200	400	1100	400	3500[a]	800	1800


rear light cluster right
BBSKN595R
rear light cluster left
BBSKW595L
direction of travel
-X45
red
-X46
blue
5x0,75 mm² / L7
5x0,75 mm² / L8
-X421
green
-X422
yellow
Plug connection 5-pol
LEGO-System
8x1,0 mm² / L6
-X41
8 pole
bayonet lock
2x0,75 mm² / L2
2x0,75 mm² / L4
-X411
-X412
12V/0,5W
white
PLR272 + WHL272
2x0,75 mm² / L3
2x0,75 mm² / L5
8x1,0 mm² / L1
-X40
cable length
M57 7.9018.00120 900 1400 400 1900 400 2000 1200 2200
M52/M64/M70 7.9018.00120 900 1400 400 1900 400 2000 1200 2200
M80/M100 7.9018.00120 900 1400 400 1900 400 2000 1200 2200
M122/M123 7.9018.00120 900 1400 400 1900 400 2000 1200 2200
M135/M170/M200 7.9018.00220 500 200 400 1100 400 3500 800 1800
KAESER KOMPRESSOREN
Circuit diagram
Cable loom
Left-hand trafic
UFAEUR.BEL-02003.01
Blatt 2
Datum 02.07.2008
Bearb. Weid
Gepr. Weid
Name
Norm
Ersatz durch:
Ersatz für:
Ursprung: AFA02003_01
Function:
Group of functions:


-X41
8pole bayonet lock
black
pink
yellow
green
red
blue
brown
white
RV/2.1
-X411
2 pole bayonet lock
12V/0,5W
white
Front light, right-hand
-X412
2 pole bayonet lock
12V/0,5W
white
Front light, left-hand
-X40
yellow
blue
white
green
brown
red
black
pink
Direction indicator - left
Fog ligth
earth
Direction indicator - right
Rear light - right
brake light
Rear light - left
Reversing ligth
-X40
Socket outlet 13- pole
12V
DIN/ISO 11446
direction of travel
KAESER KOMPRESSOREN
Circuit diagram
Lighting equipment
Right-hand traffic
SFAEUR.BEL-02003.01
Blatt 1
Bl.
Function:
Group of functions:
Datum 02.07.2008
Bearb. Weid
Gepr. Weid
Norm
Name
Datum
Änderung
Ersatz durch:
Ersatz für:
Ursprung: AFA02003_01


Rear light - right
Number plate lighting
Reversing ligth
Brake light - right
Direction indicator - right
12V/5W
12V/5W
12V/21W
12V/21W
12V/21W
right
-X45
red
1
2
3
4
5
brown
pink
red
green
white
Rear light - left
Number plate lighting
Rear fog lamp - left
Brake light - left
Direction indicator - left
12V/5W
12V/5W
12V/21W
12V/21W
12V/21W
left
-X46
blue
1
2
3
4
5
black
blue
red
yellow
white
-X45, -X46
Front view
-X421
green
-X422
yellow
brown
green
pink
blue
red
white
yellow
black
-X421, -X422
Front view
/1.8 RV
Function:
Group of functions:
Datum 02.07.2008
Bearb. Weid
Gepr. Weid
Norm
Ersatz durch:
Ersatz für:
Name
Datum
Änderung
KAESER KOMPRESSOREN
Ursprung: AFA02003_01
Circuit diagram
Lighting equipment
Right-hand traffic
SFAEUR.BEL-02003.01
Blatt 2
Bl.


-X41
8pole bayonet lock
black
pink
yellow
green
red
blue
brown
white
LV/4.1
-X411
2 pole bayonet lock
12V/0,5W
white
Front light, right-hand
-X412
2 pole bayonet lock
12V/0,5W
white
Front light, left-hand
-X40
yellow
blue
white
green
brown
red
black
pink
Direction indicator - left
Fog ligth
earth
Direction indicator - right
Rear light - right
brake light
Rear light - left
Reversing ligth
direction of travel
-X40
Socket outlet 13- pole
12V
DIN/ISO 11446
KAESER KOMPRESSOREN
Circuit diagram
Lighting equipment
Left-hand trafic
SFAEUR.BEL-02003.01
Blatt 3
Function:
Group of functions:
Datum 02.07.2008
Bearb. Weid
Gepr. Weid
Norm
Name
Datum
Änderung
Ersatz durch:
Ersatz für:
Ursprung: AFA02003_01


Rear light - right
Number plate lighting
Fog ligth
Brake light - right
Direction indicator - right
12V/5W
12V/5W
12V/21W
12V/21W
12V/21W
right
brown
blue
red
green
white
Rear light - left
Number plate lighting
Reversing ligth
Brake light - left
Direction indicator - left
12V/5W
12V/5W
12V/21W
12V/21W
12V/21W
left
black
pink
red
yellow
white
-X45, -X46
Front view
-X421
-X422
green
yellow
brown
green
blue
pink
red
white
yellow
black
-X421, -X422
Front view
/3.8 LV
Function:
Group of functions:
Datum 02.07.2008
Bearb. Weid
Gepr. Weid
Norm
Ersatz durch:
Ersatz für:
Ursprung: AFA02003_01
KAESER KOMPRESSOREN
Circuit diagram
Lighting equipment
Left-hand trafic
SFAEUR.BEL-02003.01
Blatt 4
Änderung
Datum
Name

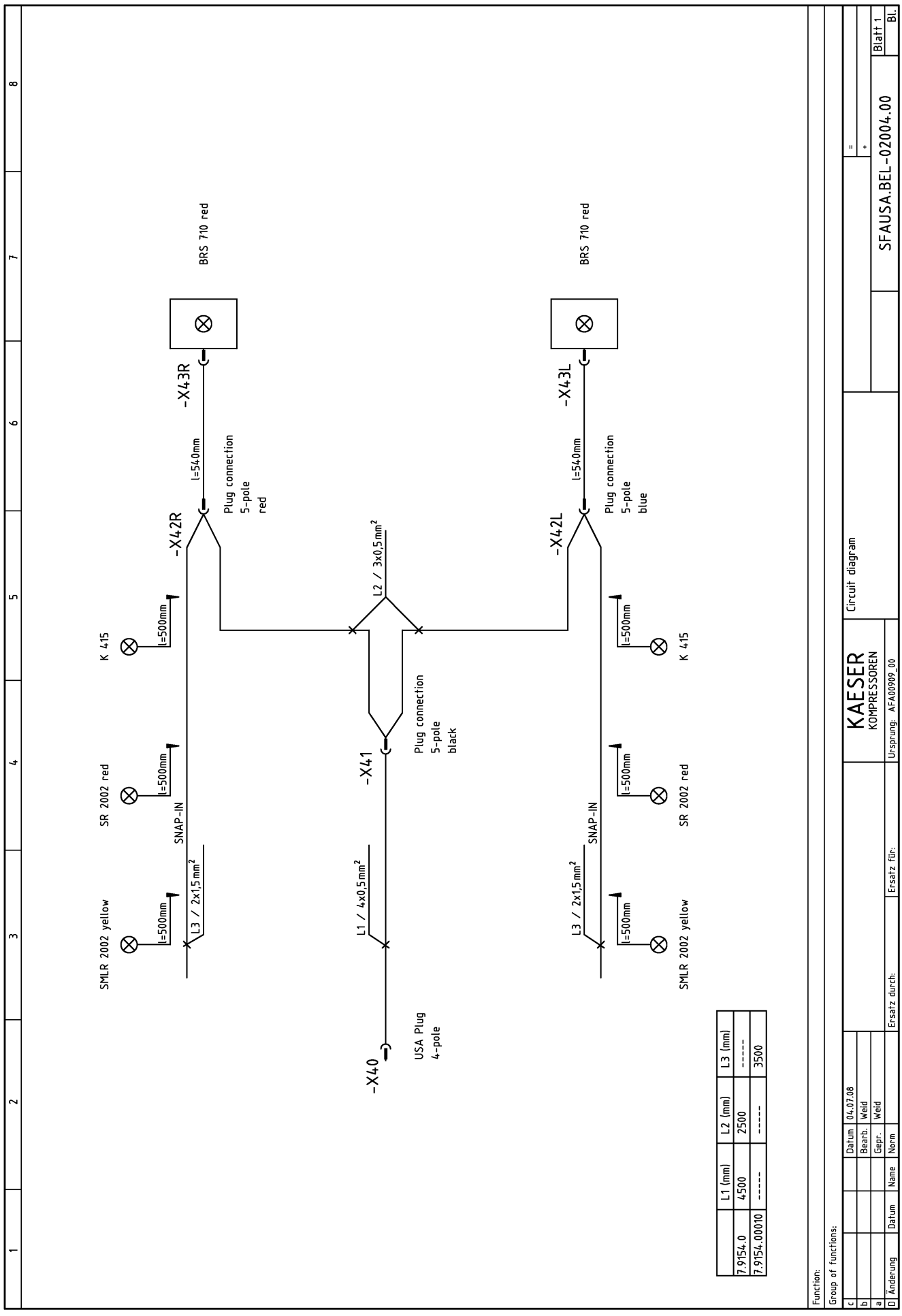
13.4.3 Option te
Lighting and signalling system connection

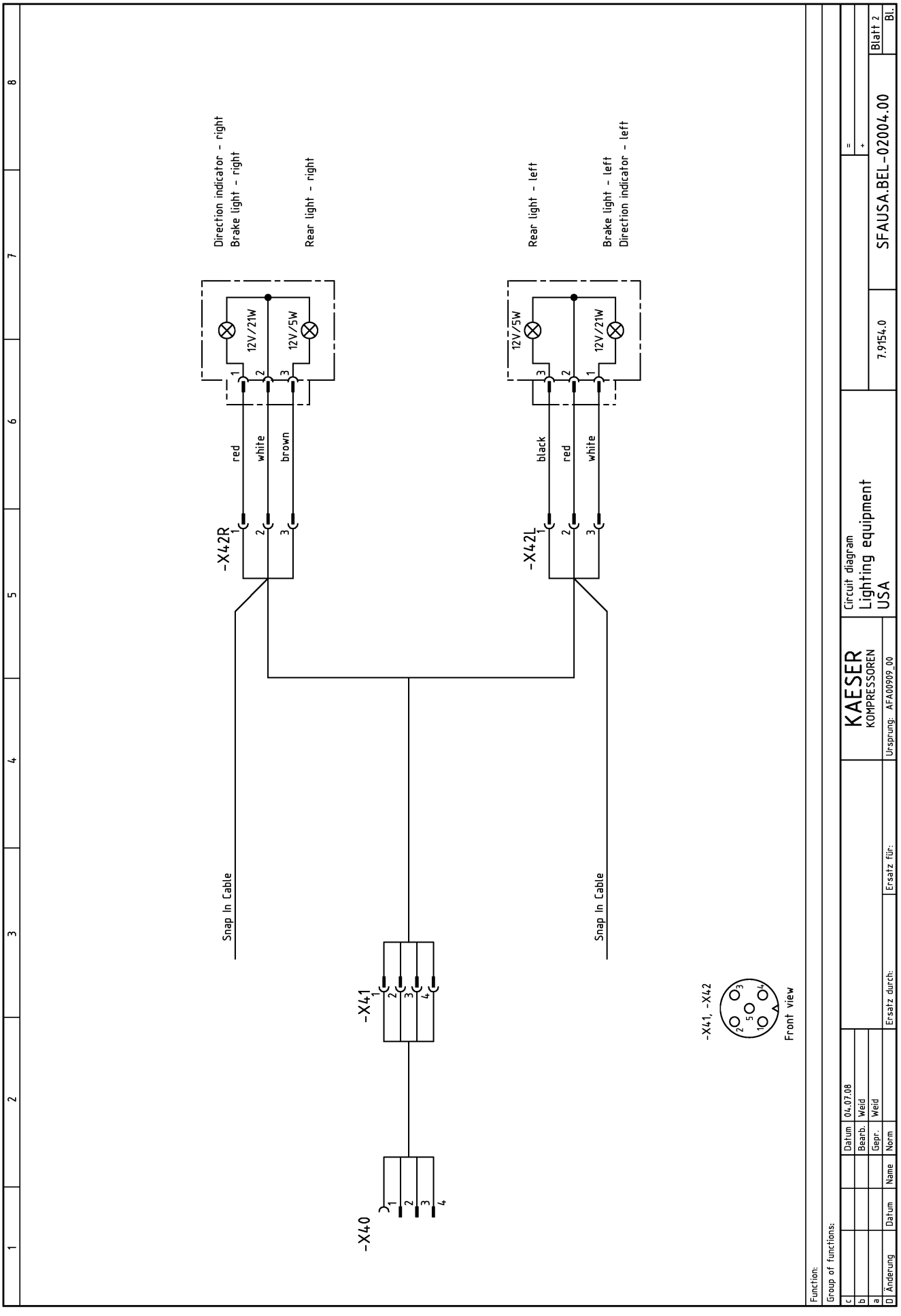
Electrical diagrams
MOBILAIR
Lighting equipment
for USA / CAN

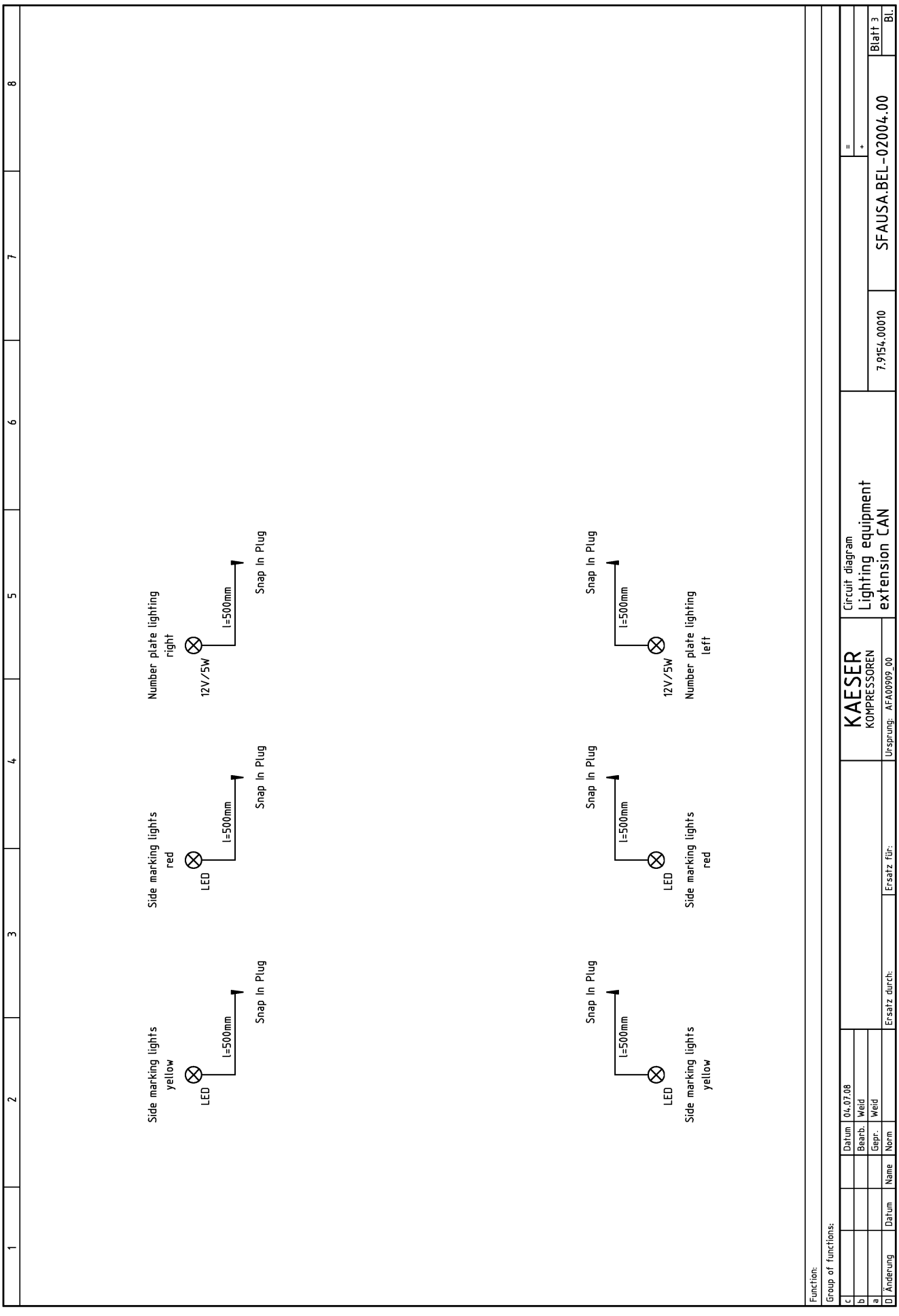
Manufacturer: Kaeser Kompressoren GmbH
Postfach 2143
96410 Coburg

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c				Datum	04.07.08 E		KAESER KOMPRESSOREN	Cover page MOBILAIR Lighting equipment	=
b				Bearb.	Weid				+
a				Gepr.	Weid				
D	Änderung	Datum	Name	Norm		Ersatz durch:	Ursprung: AFA00909_00	DFAUSA.BEL-02004.00	Blatt 1 Bl.


BRS 710 red
-X43R
l=540mm
Plug connection
5-pole
red
-X42R
L2 / 3x0,5mm²
K 415
l=500mm
SR 2002 red
SNAP-IN
L3 / 2x1,5mm²
SMLR 2002 yellow
-X41
Plug connection
5-pole
black
L1 / 4x0,5mm²
-X40
USA Plug
4-pole
BRS 710 red
-X43L
l=540mm
Plug connection
5-pole
blue
-X42L
K 415
SR 2002 red
SNAP-IN
SMLR 2002 yellow
L1 (mm) L2 (mm) L3 (mm)
7.9154.0 4500 2500 -----
7.9154.00010 ----- ----- 3500
KAESER KOMPRESSOREN
Circuit diagram
SFAUSA.BEL-02004.00
Blatt 1
Function:
Group of functions:
Datum 04.07.08
Bearb. Weid
Gepr. Weid
Name Norm
Ersatz durch:
Ersatz für:
Ursprung: AFA00909_00
Änderung Datum Name


Direction indicator - right
Brake light - right
Rear light - right
Rear light - left
Brake light - left
Direction indicator - left
12V/21W
12V/5W
12V/5W
12V/21W
red
white
brown
black
red
white
-X42R
-X42L
Snap In Cable
Snap In Cable
-X41
-X40
-X41, -X42
Front view
Function:
Group of functions:
KAESER KOMPRESSOREN
Circuit diagram
Lighting equipment
USA
7.9154.0
SFAUSA.BEL-02004.00
Blatt 2
Bl.
Datum 04.07.08
Bearb. Weid
Gepr. Weid
Name
Norm
Ersatz durch:
Ersatz für:
Ursprung: AFA00909_00
Änderung
Datum


Side marking lights
yellow
LED
l=500mm
Snap In Plug
Side marking lights
red
LED
l=500mm
Snap In Plug
Number plate lighting
right
12V/5W
l=500mm
Snap In Plug
Snap In Plug
l=500mm
LED
Side marking lights
yellow
Snap In Plug
l=500mm
LED
Side marking lights
red
Snap In Plug
l=500mm
12V/5W
Number plate lighting
left
Function:
Group of functions:
KAESER KOMPRESSOREN
Circuit diagram
Lighting equipment
extension CAN
7.9154.00010
SFAUSA.BEL-02004.00
Blatt 3
Datum 04.07.08
Bearb. Weid
Gepr. Weid
Norm
Name
Datum
Änderung
Ersatz durch:
Ersatz für:
Ursprung: AFA00909_00

13.4.4 Option od
Battery charger electrical diagrams

1	2	3	4	5	6	7	8

Electrical diagrams

Battery charger 12V DC / 10A

Power supply:

230V / 1~ / N / PE / 50Hz

24V - System

Manufacturer: KAESER KOMPRESSOREN SE
Postfach 2143
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c				Datum	16.03.2018 E			KAESER KOMPRESSOREN	Cover page		=
b				Bearbeiter	Sitter				MOBILAIR		+
a				Geprüft	Fischer C.				Battery charger	DFABLG-03038.00	page 1
A	Änderung	Datum	Name	Norm		Ersatz durch:	Ersatz für:	Ursprung:			1 Bl.

1	2	3	4	5	6	7	8

general instructions

Control voltage : 230V AC

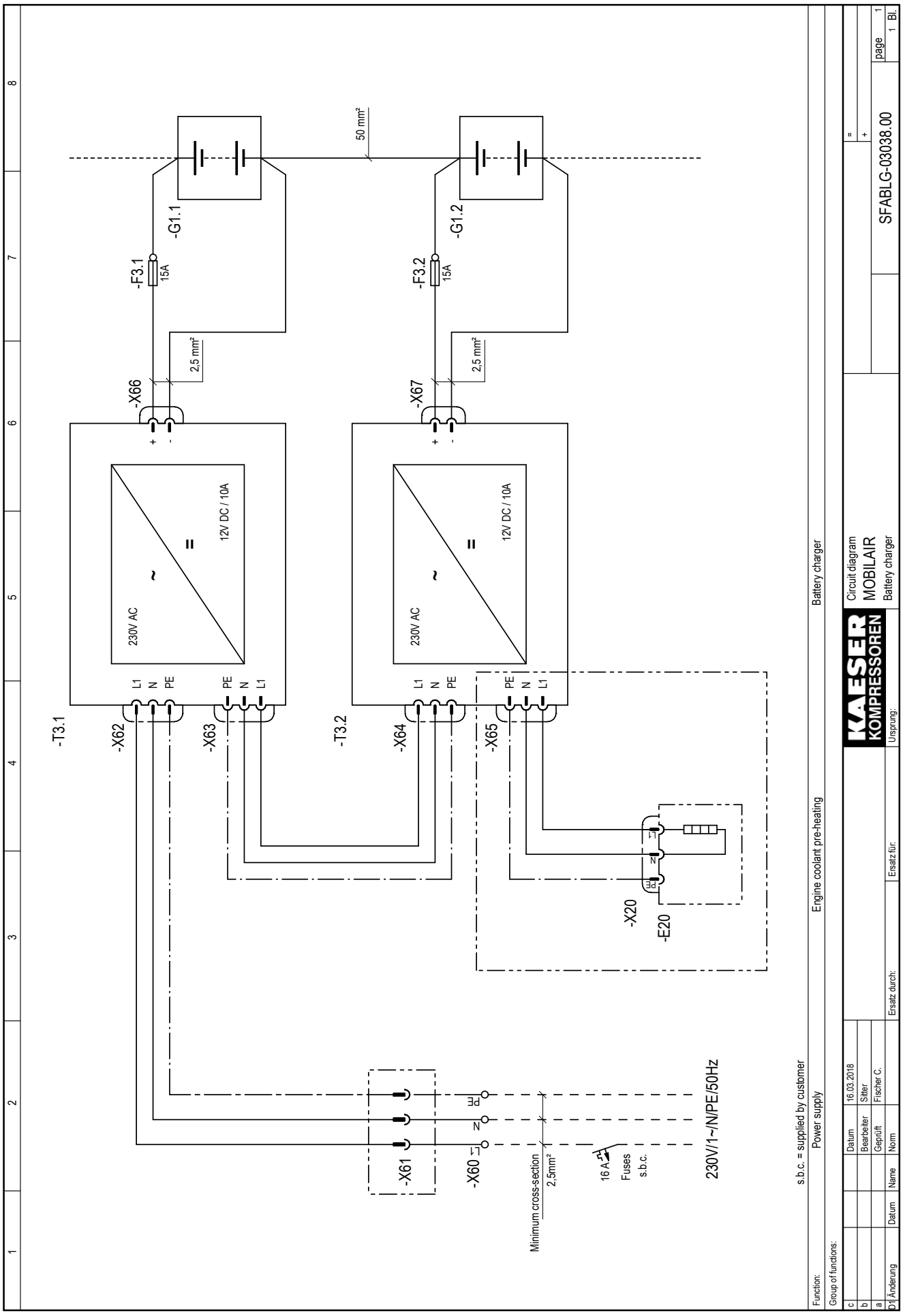
components option Battery charger

-T3.1,-T3.2	Battery charger
-F3.1,-F3.2	Fuse
-G1.1,-G1.2	Battery
-X60...-X67	plug connection

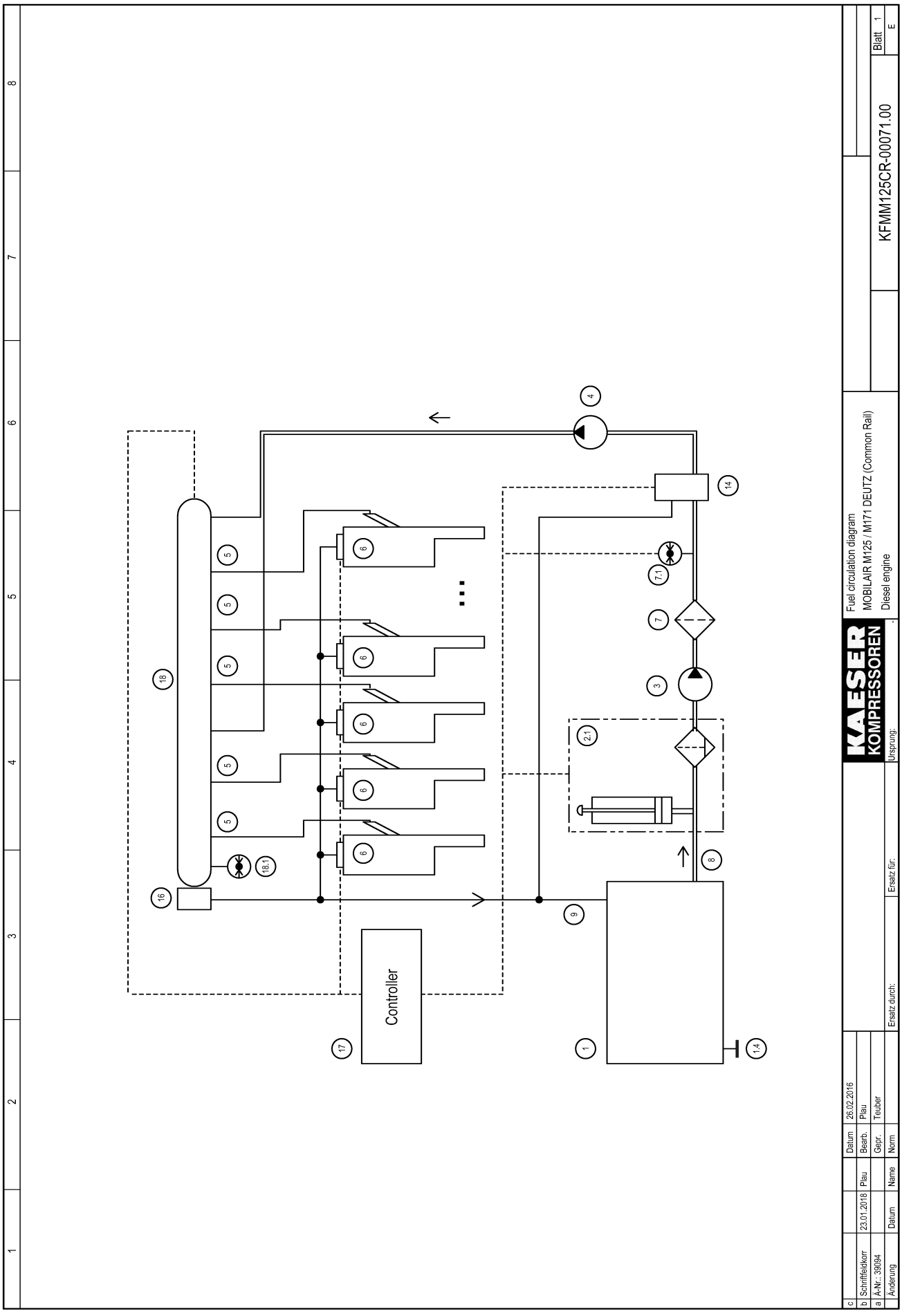
components option Engine coolant pre-heating

-E20	Heating Engine coolant pre-heating
-X20	plug connection

c				Datum	16.03.2018		KAESER KOMPRESSOREN	Block diagram		
b				Bearbeiter	Sitter			general instructions		+
a				Geprüft	Fischer C.					page 1
C1	Änderung	Datum	Name	Norm		Ersatz durch:	Ersatz für:	Ursprung:	UFABLG-03038.00	1 Bl.


50 mm²
-G1.1
-G1.2
-F3.1
15A
-F3.2
15A
2,5 mm²
2,5 mm²
-X66
-X67
230V AC
12V DC / 10A
-T3.1
-T3.2
L1
N
PE
-X62
-X63
-X64
-X65
-X20
-E20
-X61
-X60
PE
N
L1
Minimum cross-section
2,5mm²
16 A
Fuses
s.b.c.
230V/1~/N/PE/50Hz
s.b.c. = supplied by customer
Function:
Power supply
Engine coolant pre-heating
Battery charger
Group of functions:
Datum
Bearbeiter
Geprüft
Name
Norm
16.03.2018
Slitter
Fischer C.
Ersatz durch:
Ersatz für:
Ursprung:
KAESER KOMPRESSOREN
Circuit diagram
MOBILAIR
Battery charger
SFABLG-03038.00
page 1
1 Bl.
Änderung

13.5 Fuel circulation diagram


Controller
Fuel circulation diagram
MOBILAIR M125 / M171 DEUTZ (Common Rail)
Diesel engine
KFMM125CR-00071.00
Blatt 1
E
KAESER KOMPRESSOREN
Ursprung:
Ersatz für:
Ersatz durch:
Datum 26.02.2016
Bearb. Plau
Gepr. Teuber
Norm
Name
Datum
Änderung
a A-Nr.: 39094
b Schriftfeldkorr 23.01.2016 Plau
c

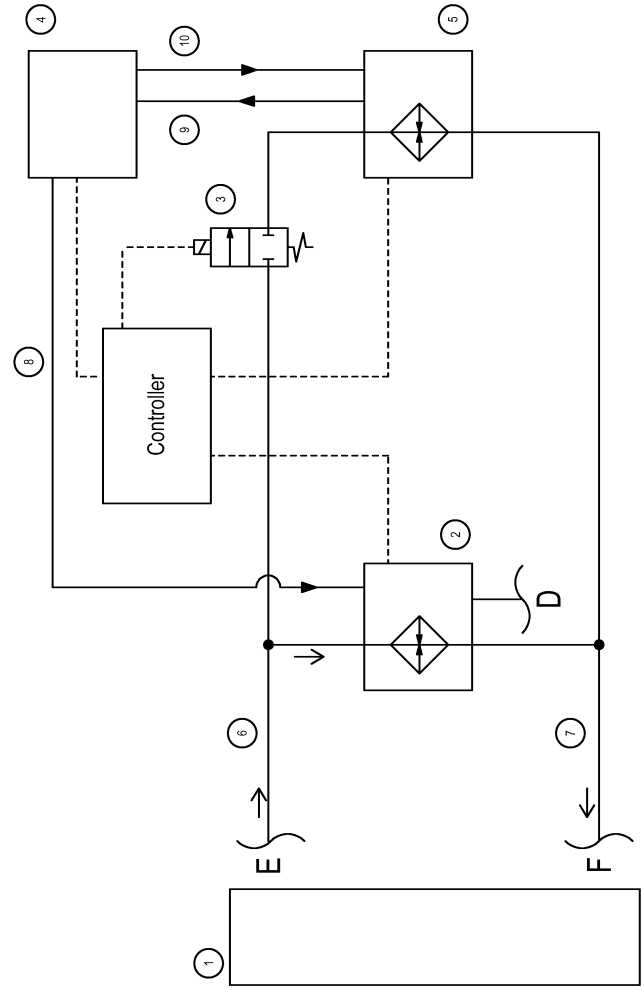
1	2	3	4	5	6	7	8

1	Fuel tank
1.4	Screw plug
2.1	Fuel prefilter with water trap and integrated hand pump
3	Fuel feed pump
4	Injection pump
5	Injection pipe
6	Injector nozzle
7	Fuel filter
7.1	Pressure transducer
8	Fuel supply line
9	Fuel return line
14	Fuel quantity regulator
16	Pressure limiting valve
17	Electronic control unit
18	Distributing pipe
18.1	Pressure transducer

c				Datum	26.02.2016			Fuel circulation diagram	
b	Schriftfeldkorr	23.01.2018	Plau	Bearb.	Plau		KAESER KOMPRESSOREN	MOBILAIR M125 / M171 DEUTZ (Common Rail)	
a	Text 7.1,18.1 geä	17.07.2017	Plau	Gepr.	Teuber			Diesel engine	KFMM125CR-00071.00 Blatt 2 E
	Änderung	Datum	Name	Norm		Ersatz durch:	Ersatz für:	Ursprung: -	

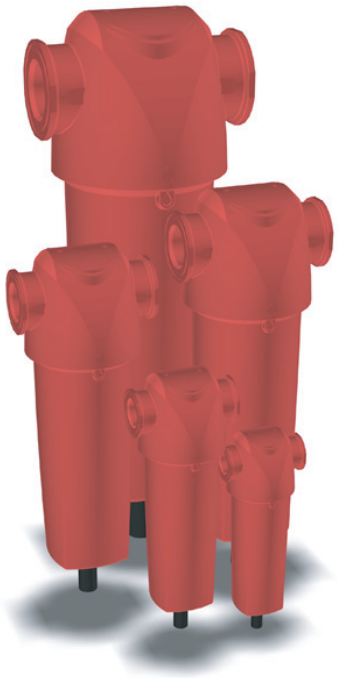
13.6 Option Id
Pipeline and instrument flow diagram (exhaust treatment)

1 Motor
2 Reducing agent injection
3 Solenoid valve
4 Supply unit
5 Reducing agent tank
6 Coolant inlet line
7 Coolant return line
8 Reducing agent compressed air line
9 Reducing agent suction line
10 Reducing agent return line



SCR diagram
MOBILAIR M125 / M171
Exhaust gas after-treatment
KFMM125SCR-00070.00
Blatt 1
E

13.7 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

Parker

dh domnick hunter

ENGINEERING YOUR SUCCESS.

FILTER DH-OIL-X EVO AO AA 01-

FILTER DH-OIL-X EVO AO AA 01-

Warning

- Highlights actions or procedures, which if not performed correctly, may lead to personal injury or death.
- Benadrukt de acties of procedures die, indien niet juist uitgevoerd, lichamelijk letsel of de dood kunnen veroorzaken.
- Weist auf Aktionen oder Verfahren hin, die bei fehlerhafter Durchführung zu Verletzungen und tödlichen Unfällen führen können.
- Met en relief les actions ou procédures qui, si elles ne sont pas exécutées correctement, peuvent entraîner des dommages corporels ou la mort.
- Osoittaa toimenpiteitä tai menettelytapoja, jotka väärin suoritettuina saattavat aiheuttaa henkilövahingon tai kuoleman.
- Anger åtgärder och metoder som kan orsaka personskador eller dödsfall om de inte utförs korrekt.
- Fremhever handlinger eller prosedyrer som kan føre til personskade eller dødsfall hvis de ikke utføres på korrekt måte.
- Fremhæver handlinger eller fremgangsmåder, som kan medføre personskade eller dødsfald, hvis de ikke udføres korrekt.
- Επισημαίνει τις ενέργειες ή τις διαδικασίες, οι οποίες αν δεν πραγματοποιηθούν σωστά, μπορεί να οδηγήσουν σε τραυματισμό προσωπικού ή σε θάνατο
- Destaca acciones o procedimientos que, de no realizarse correctamente, pueden ocasionar daños personales o la muerte.
- Realça as acções ou procedimentos que, se não forem executados correctamente, poderão provocar danos pessoais ou morte.
- Segnala azioni o procedure che, se non eseguite correttamente, comportano il rischio di infortuni o morte.
- Wskazuje działania i procedury, które w razie niewłaściwego wykonania mogą prowadzić do obrażeń ciała lub śmierci.
- Zvýrazňuje činnosti alebo postupy, ktoré môžu v prípade nesprávneho vykonania viesť zraneniu alebo usmrteniu.
- Upozorněnní na činnosti nebo postupy, jejichž nesprávné provádění může vést ke zranění nebo usmrcení osob.
- Tõstab esile toimingud või protseduurid, mis väära teostamise korral võivad põhjustada kehavigastusi või surma.
- Olyan műveleteket vagy eljárásokat jelöl, amelyek nem megfelelő módon történő végrehajtása súlyos vagy végzetes személyi sérülést okozhat.
- Uzsver darbības vai procedūras, kuru rezultātā, ja tās neveic pareizi, var izraisīt ievainojumus vai nāvi.
- Žymi veiksmus ar procedūras, kuriuos atlikus neteisingai, galima susižeisti ar mirti.
- Указывает на действия, ненадлежащее выполнение которых может привести к нанесению вреда здоровью или смерти
- Označuje dejanja ali postopke, ki lahko ob nepravilnem izvajanju poškodujejo človeka ali povzročijo smrt.
- Doğru bir şekilde yerine getirilmediği takdirde bu ürüne hasar verebilecek işlem ve süreçleri vurgular.
- Tissottolinea l-azzjonijiet jew il-proċeduri, li jekk ma jsirux kif suppost, jista' jkun hemm korriment jew mewt
- Evidențiază acțiuni sau proceduri care, dacă nu sunt corect efectuate, pot duce la leziuni personale sau la deces.

Caution

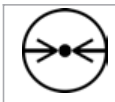
- Highlights actions or procedures, which if not performed correctly, may lead to damage to this product.
- Benadrukt de acties of procedures die, indien niet juist uitgevoerd, schade kunnen berokkenen aan dit product.
- Weist auf Aktionen oder Verfahren hin, die bei fehlerhafter Durchführung zu Schäden am Gerät führen können.
- Met en relief les actions ou procédures qui, si elles ne sont pas exécutées correctement, peuvent endommager ce produit.
- Osoittaa toimenpiteitä tai menettelytapoja, jotka väärin suoritettuina saattavat vaurioittaa tätä laitetta.
- Anger åtgärder och metoder som kan orsaka skador på den här produkten om de inte utförs korrekt.
- Fremhever handlinger eller prosedyrer som kan føre til skade på produktet hvis de ikke utføres på korrekt måte.
- Fremhæver handlinger eller fremgangsmåder, som kan medføre beskadigelse af dette produkt, hvis de ikke udføres korrekt.
- Επισημαίνει τις ενέργειες ή τις διαδικασίες, οι οποίες αν δεν πραγματοποιηθούν σωστά, μπορεί να προκαλέσουν ζημιά στο προϊόν αυτό
- Destaca acciones o procedimientos que, de no realizarse correctamente, pueden ocasionar el deterioro del producto.
- Realça as acções ou procedimentos que, se não forem executados correctamente, poderão danificar este produto.
- Segnala azioni o procedure che, se non eseguite correttamente, comportano il rischio di danneggiare il prodotto.
- Wskazuje działania i procedury, które w razie niewłaściwego wykonania mogą powodować uszkodzenie produktu.
- Zvýrazňuje činnosti alebo postupy, ktoré v prípade nesprávneho vykonania môžu viesť k poškodeniu tohto výrobku.
- Upozorněnní na činnosti nebo postupy, jejichž nesprávné provádění může vést k poškození tohoto výrobku.
- Tõstab esile toimingud või protseduurid, mis väära teostamise korral võivad käesolevat toodet kahjustada.
- Olyan műveleteket vagy eljárásokat jelöl, amelyek nem megfelelő módon történő végrehajtása a termék károsodásához vezethet.
- Uzsver darbības vai procedūras, kuru rezultātā, ja tās neveic pareizi, var sabojāt šo izstrādājumu.
- Žymi veiksmus ar procedūras, kuriuos atlikus neteisingai, galima sugadinti šį gaminį.
- Указывает на действия, ненадлежащее выполнение которых может привести к повреждениям данного изделия
- Označuje dejanja ali postopke, ki lahko ob nepravilnem izvajanju poškodujejo izdelek.
- Doğru bir şekilde yerine getirilmediği takdirde yaralanma ya da ölüme yol açabilecek işlem ve süreçleri vurgular
- Tissottolinea l-azzjonijiet jew il-proċeduri, li jekk ma jsirux kif suppost, tista' ssir ħsara lil dan il prodott
- Evidențiază acțiuni sau proceduri care, dacă nu sunt corect efectuate, pot duce la deteriorarea acestui produs.



- Suitable gloves must be worn.
- Geeignete Schutzhandschuhe tragen.
- Käytettävä asianmukaisia käsineitä.
- Bruk egnede hansker.
- Απαιτείται να φοράτε κατάλληλα γάντια
- Devem ser utilizadas luvas adequadas.
- Należy zakładać odpowiednie rękawice
- Kohustuslik kanda sobivaid kaitsekindaid
- Jāvalkā piemēroti cimdi.
- Работы должны проводиться в соответствующих перчатках
- Uygun eldiven giyilmelidir
- Este necesară purtarea unor 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 použít vhodné rukavice.
- Viseljen megfelelő védőkesztyűt.
- Reikia mūvėti tinkamas pirštines.
- Uporabiti je treba ustrezne rokavice.
- Għandhom jintlibsu ingwanti adatti



- Highlights the requirements for disposing of used parts and waste.
- Benadrukt de vereisten voor het weggooien van gebruikte onderdelen en afval.
- Weist auf die Anforderungen zur Entsorgung gebrauchter Teile und Abfall hin.
- Met en relief les consignes de mise au rebut des pièces usagées et des déchets.
- Osoittaa käytettyjen osien ja jätteen hävittämistä koskevia vaatimuksia.
- Anger de krav som ställs på bortskaffande av gamla delar och avfall.
- Fremhever kravene for avhending av brukte deler og avfall.
- Fremhæver kravene til bortskaffelse af udtjente dele og affald.
- Επισημαίνει τις απαιτήσεις απόρριψης των χρησιμοποιημένων εξαρτημάτων και των απορριμμάτων
- Destaca los requisitos para desechar las piezas usadas y los residuos.
- Realça os requisitos para eliminar as peças utilizadas e os desperdícios.
- Segnala i criteri per lo smaltimento di componenti usati e rifiuti.
- Wskazuje wymagania dotyczące usuwania zużytych części i odpadów.
- Zvýrazňuje požiadavky pre zneškodňovanie použitých dielov a odpadu.
- Upozornění na požadavky týkající se likvidace použitých dílů a odpadu.
- Tõstab esile kasutatud osade ja jääkide utiliseerimisele esitatavad nõuded
- A használt alkatrészek és a hulladék megfelelő módon történő elhelyezésére hívja fel a figyelmet.
- Uzsver prasības tam, kā atbrīvoties no lietotajām detaļām un atkritumiem.
- Žymi panaudotų dalių ir atliekų išmetimo reikalavimus.
- Указывает на требования по уничтожению использованных деталей и отходов
- Označuje zahteve za odlaganje rabljenih delov in odpadkov.
- Kullanılmış parçaların ve atıkların atılmasına ilişkin gereklilikleri vurgular
- Tissottolinea l-kundizzjonijiet biex wieħed jarmi l-partijiet użati u l-iskart
- Evidențiază cerințele pentru depunerea la deșeuri a pieselor uzate și a reziduurilor.



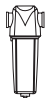
- Pressure. • Druk • Druck. • Pression.
- Paine. • Tryck • Trykk • Tryk
- Πίεση • Presión. • Pressão. • Pressione.
- Ciśnienie • Tlak.. • Tlak. • Surve.
- Nyomás alatt. • Spiediens. • Slėgis. • Давление
- Tlak • Basınç • Pressjoni • Presiune.



- Release Pressure. • Druk aflaten. • Druck ablassen.
- Évacuation de pression. • Vapauta paine. • Tryckutsläpp.
- Avlast trykk • Aflast tryk • Εκτόνωση πίεσης
- Despresurizar. • Liberta Pressão. • Scaricare la pressione.
- Ciśnienie spustowe • Uvoľnite tlak. • Uvolnění tlaku.
- Surve väljalase • Engedje ki a nyomást. • Pazeminiet spiedienu.
- Išleiskite slėgį. • Стравить давление • Sprostitev tlaka.
- Basıncı Kaldırın • Neħħi l-pressjoni • Depresurizare.



- Replace every year • Elk jaar vervangen • Jährlich austauschen
- Remplacer tous les ans. • Vaihda vuosittain. • Byt varje år
- Skift ut hvert år • Udskift en gang om året • Αντικατάσταση κάθε χρόνο
- Sustituir anualmente • Substituir todos os anos • Sostituire ogni anno
- Należy wymieniać raz w roku • Každý rok vymieňajte • Nutná výměna každý rok.
- Asendage igal aastal • Évente cserélje • Nomainiet reizi gadā
- Keiskite kartą per metus • Заменять каждый год. • Zamenjajte vsako leto.
- Her yıl değiştirin • Ibdel kull sena • Înlocuire anuală



- Filter housing / Model • Filterhuis / Model • Filtergehäuse / Modell
- Logement du filtre/modèle. • Suodatinkotelo/-malli • Filterhus/modell
- Filterhus/-modell • Filterhus/modell • Υποδοχή/μοντέλο φίλτρου
- Caja de filtro/modelo. • Caixa / Modelo do filtro • Corpo del filtro / Modello
- Obudowa filtra / model. • Kryt filtra / Model • Kryt filtru / Model
- Filtri korpus/mudel • Szűrőház / típus • Filtra korpuss / modelis
- Filtro korpusas / modelis • Корпус фильтра / модель • Ohišje filtra / Model
- Filtre muhafazası / Model • Kontenitur tal-filtru - Mudell • Carcasă filtru / Model



- High efficiency filter element • Zeer efficiënt filterelement
- Hochleistungsfilterelement • Cartouche filtrante haute efficacité.
- Tehokas suodatinelementti • Högeffektivt filterelement
- Høyeffektivt filterelement • Högeffektivt filterelement
- Φίλτρο υψηλής απόδοσης • Elemento filtrante de gran eficiencia.
- Elemento do filtro de elevado rendimento • Elemento filtrante ad alta efficienza
- Wysokowydajny wkład filtra • Vysoko účinný filtračný článok
- Vysoce účinný filtrační prvek • Kõrgtootlik filterelement
- Nagy hatékonyságú szűrőelem • Augstas produktivitātes filtra elements
- Labai efektyvus filtravimo elementas • Высокоэффективный фильтрующий элемент
- Visoko učinkovit filtrirni element • Yüksek etkinlikli filtre öğesi
- Element tal-filtru b'effiċjenza kbira • Element filtrant cu eficienţă ridicată



- Ensure correct tool is used • Stellen Sie sicher, dass Sie das richtige Werkzeug verwenden.
- Zorg dat het juiste gereedschap wordt gebruik • Käytettävä oikeaa työkalua
- Vérifier que les outils adéquats sont utilisés. • Pass på at korrekt verktøy brukes
- Se till att rätt verktyg används. • Βεβαιωθείτε ότι χρησιμοποιείται το σωστό εργαλείο
- Sørg for at benytte korrekt værktøj • Certifique-se de que é utilizada a ferramenta correcta
- Asegúrese de que se utiliza la herramienta adecuada • Należy używać odpowiedniego narzędzia.
- Assicurarsi di utilizzare l'utensile corretto • Zkontrolujte použití správného nástroje
- Uistite sa, že používate správny nástroj • Mindig a célnak megfelelő szerszámot használja
- Tagage õige tööriista kasutamine • Įsitikinkite, kad naudojamas reikiamas įrankis
- Izmantojiet tikai atbilstošus darbarīkus • Poskrbite, da boste uporabili ustrezno orodje
- Убедитесь, что используется правильный инструмент • Kun żgur li tintuża l-għodda t-tajba
- Doğru alet kullanılmasını sağlayın • Asiguraţi-vă că este utilizată scula corectă
-



- Next service date (month/year) • Volgende onderhoudsdatum (maand / jaar)
- Nächster Wartungstermin (Monat/Jahr) • Date de la prochaine révision (mois/année)
- Seuraava huollon päivämäärä (kuukausi/vuosi) • Nästa servicedatum (månad/år)
- Neste servicedato (måned/år) • Næste servicedato (måned/år)
- Επόμενη ημερομηνία σέρβις (μήνας / έτος) • Fecha de siguiente revisión (mes/año)
- Data da próxima intervenção técnica (mês / ano) • Prossimo intervento di assistenza (mese / anno)
- Data następnego serwisu (miesiąc/rok) • Dátum nasledujúcej opravy (mesiac/rok)
- Datum příští prohlídky (měsíc / rok) • Järgmise hoolduse kuupäev (kuu / aasta)
- Következő szerviz dátuma (hó / év) • Nākamais apkopes datums (mēnesis / gads)
- Kitos techninės priežiūros data (ménuo / metai) • Дата следующего обслуживания (месяц/год)
- Datum naslednjega servisa (mesec / leto) • Bir sonraki servis tarihi (ay / yıl)
- Id-data tas-servis li jmiss (xahar / sena) • Data următoarei vizite de service (lună/an



Warning!
This product must be installed and maintained by competent and authorised personnel only, under strict observance of these operating instructions, any relevant standards and legal requirements where appropriate.

Retain this user guide for future reference

Waarschuwing!
Dit product mag alleen geïnstalleerd en onderhouden worden door deskundig en bevoegd personeel met strikte inachtneming van deze bedieningsinstructies en de betreffende normen en wettelijke vereisten indien van toepassing.

Bewaar deze handleiding als naslag.

Warnung!
Das Produkt darf ausschließlich von autorisiertem Fachpersonal unter strikter Befolgung dieser Betriebsanleitung, ggf. relevanter Normen sowie gesetzlicher Vorschriften installiert und gewartet werden.

Bewahren Sie die Bedienungsanleitung zu Referenzzwecken auf.

Attention !
Ce produit doit être installé et entretenu exclusivement par un personnel compétent et autorisé, dans le respect le plus strict de ce mode d'emploi et des normes applicables et exigences légales éventuelles.

Conserver ce guide de l'utilisateur à titre de référence future

Varoitus!
Tämän tuotteen saa asentaa ja huoltaa vain pätevä ja valtuutettu henkilöstö, noudattaen tarkasti näitä käyttöohjeita, kaikkia asiaankuuluvia normeja ja tarpeen vaatiessa lain asettamia vaatimuksia.

Säilytä tämä käyttöohje tulevaa tarvetta varten.

Varning!
Produkten får endast installeras och underhållas av utbildad och behörig personal, som följer denna bruksanvisning och eventuella tillämpliga normer och lagföreskrifter noga i förekommande fall.

Behåll denna användarhandbok som referens

Advarsel!
Dette produktet må bare installeres og vedlikeholdes av kompetent og autorisert personale, i streng overholdelse av disse betjeningsanvisningene, alle relevante standarder og rettslige krav der det passer.

Ta vare på denne brukerveiledningen for senere bruk

Advarsel!
Dette produkt må kun installeres og vedligeholdes af autoriseret personale, under nøje overholdelse af disse driftsinstruktioner, relevante standarder og lovgivningsmæssige krav, hvor dette er aktuelt.

Gem denne vejledning til senere reference.

Προειδοποίηση!
Η εγκατάσταση και συντήρηση αυτού του προϊόντος πρέπει να γίνεται μόνο από κατάλληλα εκπαιδευμένο και εξουσιοδοτημένο προσωπικό, με αυστηρή τήρηση των οδηγιών χειρισμού, των εφαρμοζόμενων προτύπων και των νομικών απαιτήσεων όπου απαιτείται.

Φυλάξτε αυτό το εγχειρίδιο χρήσης για μελλοντική αναφορά

Advertencia
La instalación y mantenimiento de este producto debe ser efectuada únicamente por personal competente y autorizado, respetándose de forma estricta estas instrucciones de funcionamiento, así como cualquier norma y requerimiento legal que sean aplicables.

Conserve esta guía del usuario para poder consultarla en el futuro.

Advertência!
A instalação e a manutenção deste produto só deve ser realizada por pessoal autorizado e competente, sob estrita observância destas instruções de utilização e de quaisquer normas e requisitos legais relevantes, quando adequado.

Conserve este guia do utilizador para referência futura

Attenzione
L'installazione e la manutenzione del prodotto devono essere affidate a personale competente e autorizzato, nel rigoroso rispetto delle presenti istruzioni di funzionamento, degli standard applicabili e delle normative in vigore, qualora appropriato.

Conservare questa guida utente per consultarla in seguito

Ostrzeżenie!
Instalacja i konserwacja urządzenia muszą być prowadzone przez wykwalifikowany personel, w zgodzie z poniższymi instrukcjami, obowiązującymi standardami i wymogami prawa.

Niniejszą instrukcję należy zachować do późniejszego wykorzystania.

Pozor!
Tento výrobok musí byť nainštalovaný a udržiavaný iba kompetentnou a autorizovanou osobou, pri prísnom dodržiavaní tohto návodu na použitie, príslušných štandardov a zákonných požiadaviek v prípade potreby.

Uschovajte túto užívateľskú príručku pre budúce použitie

Upozornění!
Tento produkt smí instalovat a údržbu smí provádět pouze kompetentní a autorizovaný personál, a to za přísného dodržování tohoto návodu k obsluze, veškerých relevantních norem a zákonných požadavků tam, kde je to nutné.

Tuto uživatelskou příručku uschovejte pro pozdější potřebu.

Hoiatus!
Toote paigaldamine ja hooldamine on lubatud ainult pädeval, vastavate volitustega töötajal, kes tegutseb kasutusjuhendi nõudeid, asjakohaseid standardeid ja kehtivaid eeskirju järgides

Hoidke käesolev kasutusjuhend alal edaspidiseks kasutamiseks

Figyelem!
A terméket csak szakképzett és felhatalmazott személy helyezheti üzembe és tarthatja karban, a kezelési utasítások, a vonatkozó szabványok és jogi előírások szigorú betartása mellett, ahol azok alkalmazhatóak.

A leírást tartsa mindig elérhető helyen

Brīdinājums!
Iekārtas uzstādīšanu un apkopi drīkst veikt tikai kompetents un pilnvarots personāls, stingri ievērojot lietošanas instrukciju un citus saistītus standartus un likumdošanā noteiktās prasības, kad nepieciešams.

Saglabājiet šo lietotāja rokasgrāmatu turpmākām uzziņām

Įspėjimas!
Montuoti ir prižiūrėti šį gaminį gali tik kompetentingi ir įgalioti darbuotojai, griežtai laikydamiesi šių naudojimo instrukcijų, visų atitinkamų standartų bei teisinių reikalavimų, jei tai yra taikytina.

Pasilikite šį vartotojo vadovą, jame esančios informacijos gali prireikti vėliau

Предупреждение!
Установку и техническое обслуживание данного оборудования разрешается выполнять только специалисту, имеющему допуск к выполнению таких работ, при строгом соблюдении данной инструкции по эксплуатации, соответствующих стандартов и применимых нормативных актов.

Сохраните это руководство пользователя, чтобы обращаться к нему в дальнейшем

Opozorilo!
Izdelek lahko namestijo in vzdržujejo le usposobljeni in pooblaščeni delavci, ki morajo pri tem strogo upoštevati navodila za uporabo, vse standarde in zakonske zahteve, ki veljajo za posamezno situacijo.

Shranite ta navodila za uporabo za v prihodnje

Dikkat!
Bu ürün yalnızca yetkili ve kalifiye personel tarafından monte edilmeli ve bakımı yapılmalıdır. Kullanım talimatına, ilgili standartlara ve yasal şartlara harfiyen uyulmalıdır.

Bu kullanım kılavuzunu ileride başvurmak için saklayın.

Twissija!
Dan il-prodott għandu jiġi installat u jingħata l-manutenzjoni minn personal kompetenti u awtorizzat biss, taħt sorveljanza stretta ta' dawn l-istruzzjonijiet tat-tħaddim, u kwalunkwe standards u liġijiet legali rilevanti fejn hu xieraq.

Erfa' din il-gwida biex tikkonsultaha fil-futur.

Vertizare!
Acest produs trebuie instalat și întreținut numai de către personal competent și autorizat, cu respectarea strictă a acestor instrucțiuni de utilizare, a tuturor standardelor relevante și a cerințelor legale, unde este cazul.

Păstrați acest ghid al utilizatorului pentru consultări ulterioare

Index

• **Index** • Stichwortverzeichnis • **Index** • Sisältö • **Index** • Innholdsfortegnelse • **Indeks** • Ευρετήριο • **Índice** • Índice • **Indice** • Skorowidz
• Obsah • Rejstřík • Register • Index • Saturs • Turinys • Указатель • Kazalo • **Dizin** • Indiċi • **Index**

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 • Techninė specifikacija • Технические характеристики • Tehnične specifikacije • **Teknik Spesifikasyon**
• Speċifikazzjoni Teknika • **Specificaţie tehnică**

2. Installation Recommendations

• **Installatie** • Installation • **Installation** • Asennus • **Installation** • Innstallasjon • **Installation** • Εγκατάσταση • **Instalación** • Instalação
• **Installazione** • Zalecenia dotyczące instalacji • Odporúčania ohľadom inštalácie • Doporučení ohledně instalace • Paigaldussoovitused
• Telepítési követelmények • Ieteikumi uzstādīšanai • Montavimo rekomendacijos • Рекомендации по установке
• Priporočila za namestitev • **Kurma Konusunda Tavsiyeler** • Rakkomandazzjonijiet għall-Installazzjoni • **Recomandări de instalare**

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 Tixgħel u Kif Thaddem • **Pornire şi funcţionare**

4. Accessories

• **Toebehoren** • Zubehör • **Accessoires** • Lisävarusteet • **Tillbehör** Tilbehør • **Tilbehør** • Εξαρτήματα • **Accesorios** • Acessórios • **Accessori**
• Wyposażenie • Príslušenstvo • Příslušenství • Tarvikud • Tartozékok • Piederumi • Priedai • Принадлежности • Dodatna oprema
• **Aksesuarlar** • Aċċessorji • **Accesorii**

5. Spare Parts (Service Kits)

• **Reserve-onderdelen (servicekits)** • Ersatzteile (Service-Kits) • **Pièces de rechange (nécessaires d'entretien)** • Varaosat (Huoltopakkaukset)
• **Reservdelar (servicesatser)** • Reservedeler (service-sett) • **Reservedele (Servicekit)** • Ανταλλακτικά (Πακέτα τεχνικής υποστήριξης)
• **Piezas de repuesto (kits de mantenimiento)** • Peças Sobressalentes (Kit de Reparação) • **Ricambi (kit per l'assistenza)**
• Części zamienne (zestawy serwisowe) • Náhradné diely (Servisná súprava) • Náhradní díly (Sady pro údržbu)
• Varuosad (hooldekomplektid) • Pótalkatrészek (szervizkészletek) • Rezerves daļas (apkopes komplekti)
• Atsarginės dalys (priežiros detalių komplektai) • Запасные части (ЗИП) • Nadomestni deli (servisni kompleti)
• **Yedek parça (Servis kitleri)** • Partijiet Għat-Tibdil (Kitts tas-Servizz) • **Piese de schimb (Truse de service)**

6. Maintenance

• **Onderhoud** • Wartung • **Entretien** • Kunnossapito • **Underhåll** • Vedlikehold • **Vedligeholdelse** • Συντήρηση • **Mantenimiento** • Manutenção
• **Manutenzione** • Konserwacja • Údržba • Údržb • Hooldus • Karbantartás • Tehniskā apkope • Techninė priežiūra • Обслуживание
• Vzdrževanja • **Bakım** • Manutenzjoni • **Întreţinere**

	Model	BSPT/NPT Port Size	Flow Rate	Dimensions	Weight	Operating Parameters	Filter Grade	Filter Models	Max Operating Pressure	Max Operating Temperature	Min Operating Temperature
EN	Model	BSPT/NPT portafmeting	Stroom snelheid	Afmetingen	Gewicht	Bedrijfs parameters	Filter kwaliteitsgraad	Filter modellen	Maximale bedrijfs druk	Maximale bedrijfs temperatuur	Minimale bedrijfs temperatuur
NL	Modell	BSPT/NPT Anschlussgröße	Durchfluss-rate	Abmessungen	Gewicht	Betriebsparameter	Filterklasse	Filtermodell	Max. Betriebs-druck	Max. Betriebstemperatur	Min. Betriebstem peratur
DE	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.
FR	Malli	BSPT NPT-portin koko	Virtaus-nopeus	Mitat	Paino	Käyttö-parametrit	Suodatin-luokka	Suodatin-mallit	Suurin käyttö-paine	Suurin käyttö-lämpötila	Pienin käyttö-lämpötila
F	Modell	BSPT NPT-öppningsstorlek	Flödes-hastighet	Mått	Vikt	Drifts-parametrar	Filter-klass	Filter-modeller	Högsta drifts-tryck	Högsta drifts-temperatur	Lägsta drifts-temperatur
SV	Modell	BSPT NPT-Portstørrelse	Strømnings-hastighet	Mål	Vekt	Drifts-parametere	Filter-type	Filter-modeller:	Maks. drifts-trykk	Maks. drifts-temperatur	Min.drifts-temperatur
NO	Model	BSPT NPT-portstørrelse	Flow-hastighed	Mål	Vægt	Drifts-parametre	Filter-kvalitet	Filter-modeller	Maks. drifts-tryk	Maks. drifts-temperatur	Min.drifts-temperatur
DA	Μοντέλο	Μέγεθος θύρας BSPT/NPT	Ρυθμός παροχής	Διαστάσεις	Βάρος	Παράμετροι λειτουργίας	Κατηγορία φίλτρου	Μοντέλα φίλτρων	Μέγ. πίεση λειτουργίας	Μέγ. θερμοκρασία λειτουργίας	Ελάχ. θερμοκρασία λειτουργίας
EL	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
ES	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
PT	Modello	Dimensioni collega-mento BSPT/NPT	Portata	Dimensioni	Peso	Parametri di esercizio	Grado di filtrazione	Filtri	Pressione di esercizio massima	Temperatura di esercizio massima	Temperatura di esercizio minima
T	Model	Wielkość otworu BSPT/NPT	Prędkość przepływu	Wymiary	Ciężar	Parametry pracy	Klasa filtra	Typy filtrów	Maks. ciśnienie robocze	Maks. temperatura pracy	Min. temperatura pracy
PL	Model	BSPT/NPT Veľkosť portu	Prietoková rýchlosť Rate	Rozmery	Hmotnosť	Prevádzkové parametre	Trieda filtra	Typy filtrov	Max. prevádzkový tlak	Max. prevádzková teplota	Min. prevádzková teplota
SK	Model	Velikost závitu BSPT/NPT	Rychlost průtoku	Rozměry	Hmotnost	Provozní parametry	Klasifikace filtru	Modely filtru	Maximální provozní tlak	Maximální provozní teplota	Minimální provozní teplota
CS	Mudel	BSPT/NPT pordi suurus	Voolukulu	Mõõtmed	Kaal	Talitusparameetrid	Filtratsiooniaste	Filtri mudelid	Maksimaalne töösurve	Maksimaalne töötemperatuur	Minimaalne töötemperatuur
ET	Típus	BSPT/NPT Csőcsonk mérete	Áramlási sebesség	Méretek	Tömeg	Üzemi paraméterek	Szűrő fokozat	Szűrő típusa	Max. üzemi nyomás	Max. Üzemi hőmérséklet	Min. Üzemi hőmérséklet
HU	Modelis	BSPT/NPT porta ielums	Plūsmas ātrums	Izmēri	Svars	Darbības parametri	Filtru kategorija	Filtru modeļi	Maks. darbības spiediens	Maks. darbības temperatūra	Min. darbības temperatūra
LV	Modelis	BSPT/NPT Prievado dydis	Srauto tėkmgreitisės	Matmenys	Svoris	Darbiniai parametrai	Filtro klasė	Filtro modeliai	Maks. darbinis slėgis	Maks. darbinė temperatūra	Min. darbinė temperatūra
LT	Модель	Диаметр отверстия BSPT/NPT	Скорпотока	Габариты	Вес	Рабочие параметры	Качество фильтра	Модели фильтров	Макс. рабочее давление	Макс. рабочая температура	Мин. рабочая температура
RU	Model	Velikost vrat BSPT/NPT	Hitrost pretoka	Mere	Teža	Delovni parametri	Razred filtra	Modeli filtrov	Maks. delovni tlak	Maks. delovna temperatura	Min. delovna temperatura
SL	Model	BSPT/NPT Port Boyu	Akım Hızı	Boyutlar	Ağırlık	İşletim Parametreleri	Filtre Derecesi	Filtre Modelleri	Azami İşletme Basıncı	Azami İşletme Isısı	Asgari İşletme Isısı
TR	Mudell	Daqs tal-Port BSPT/NPT	Rata tal-Fluss	Dimensjonijiet	Piż	Parametri ta l-Operar	Grad tal-Filtru	Mudelli tal-Filtru	Pressjoni Massima ta' l-Operar	Temperatura Massima ta' l-Operar	Temperatura Minima ta' l-Operar
MT	Mode	Dimensiune port BSPT/NP	Debi	Dimensiun	Greutat	Parametri de funcţionar	Gradul filtrului	Modele de filtr	Presiune maxim„ de funcţionar	Temperatur„ maxim„ de funcţionar	Temperatur„ minim„ de funcţionar

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• Caratteristiche tecniche • Dane techniczne • Technická špecifikácia • Technická specifikace • Tehnilised andmed • Műszaki adatok
• Tehniskā specifikācija • Techninė specifikacija • Технические характеристики • Tehnične specifikacije • Teknik Spesifikasyon
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Model	Pipe Size	L/s	m³/min	m³/hr	cfm
005A	¼"	6	0.4	22	13
005B	⅜"	6	0.4	22	13
005C	½"	6	0.4	22	13
010A	¼"	10	0.6	36	21
010B	⅜"	10	0.6	36	21
010C	½"	10	0.6	36	21
015B	⅜"	20	1.2	72	42
015C	½"	20	1.2	72	42
020C	½"	30	1.8	108	64
020D	¾"	30	1.8	108	64
020E	1"	30	1.8	108	64
025D	¾"	60	3.6	216	127
025E	1"	60	3.6	216	127
030E	1"	110	6.6	396	233
030F	1¼"	110	6.6	396	233
030G	1½"	110	6.6	396	233
035F	1¼"	160	9.6	576	339
035G	1½"	160	9.6	576	339
040G	1½"	220	13.2	792	466
040H	2"	220	13.2	792	466
045H	2"	330	19.8	1188	699
050I	2½"	430	25.9	1548	911
050J	3"	430	25.9	1548	911
055I	2½"	620	37.3	2232	1314
055J	3"	620	37.3	2232	1314

BSPT / NPT

AA005A □ FX

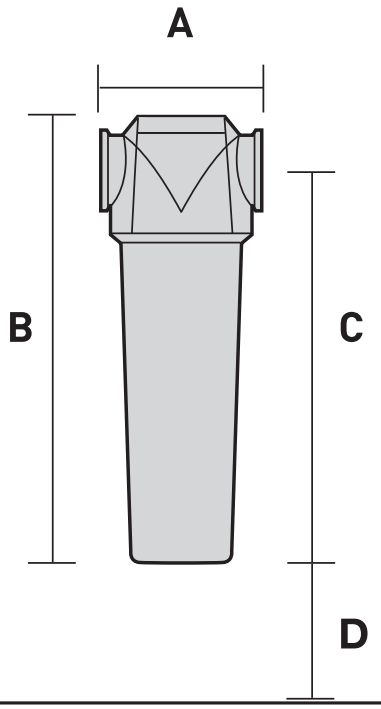
- B = BSPT
- N = NPT

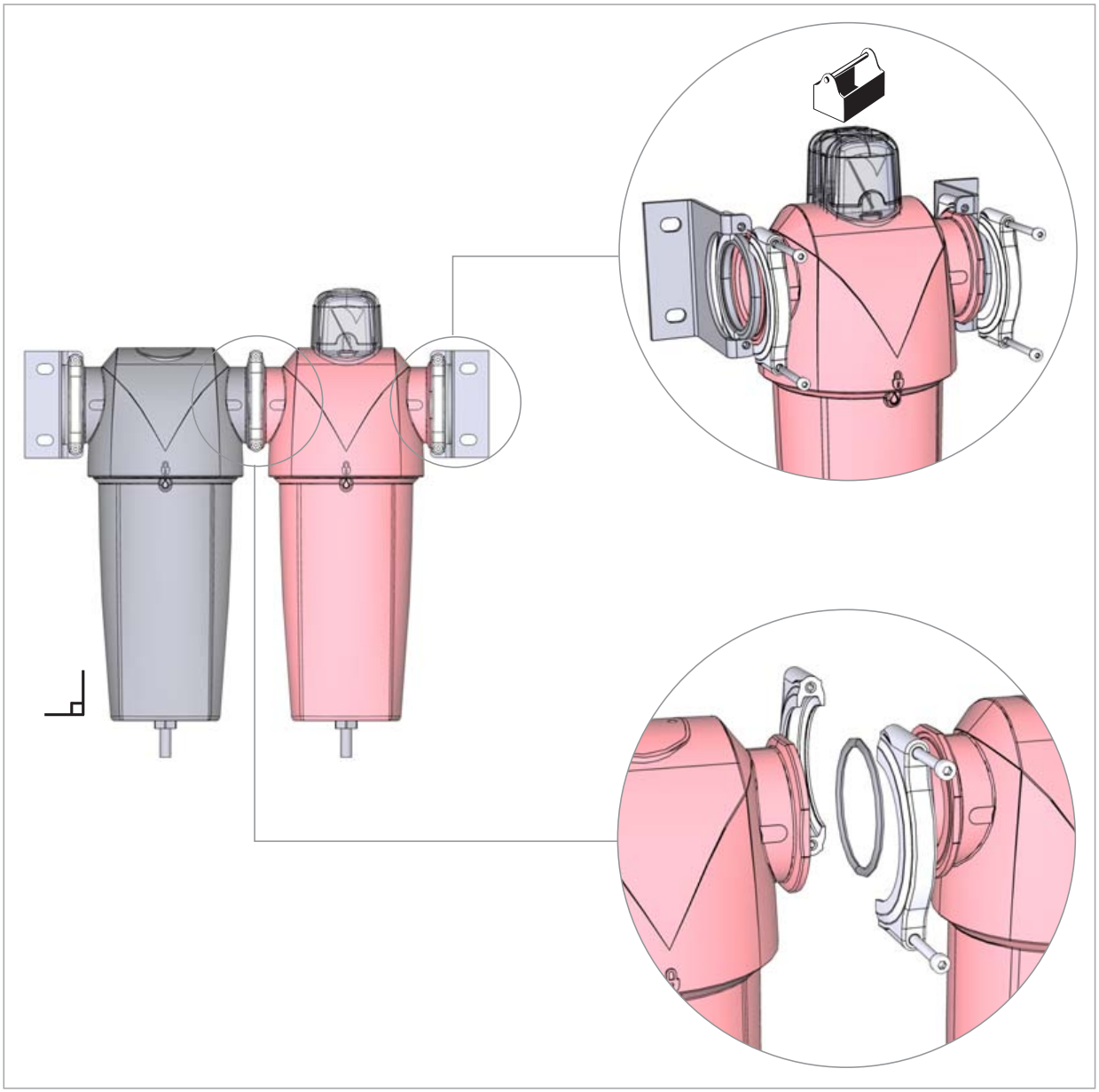
Filter Grade	Models	Max Operating Pressure		Max Recommended Operating Temperature		Min Recommended Operating Temperature	
		bar g	psi g				
AO	005□□F□-055□□F□	16	232	80ºC	176ºF	1.5ºC	35ºF
AO	005□□M□-055□□M□	20	290	100ºC	212ºF	1.5ºC	35ºF
AA	005□□F□-055□□F□	16	232	80ºC	176ºF	1.5ºC	35ºF
AA	005□□M□-055□□M□	20	290	100ºC	212ºF	1.5ºC	35ºF
AR	005□□M□-055□□M□	20	290	100ºC	212ºF	1.5ºC	35ºF
AAR	005□□M□-055□□M□	20	290	100ºC	212ºF	1.5ºC	35ºF
ACS	005□□M□-055□□M□	20	290	50ºC	122ºF	1.5ºC	35ºF

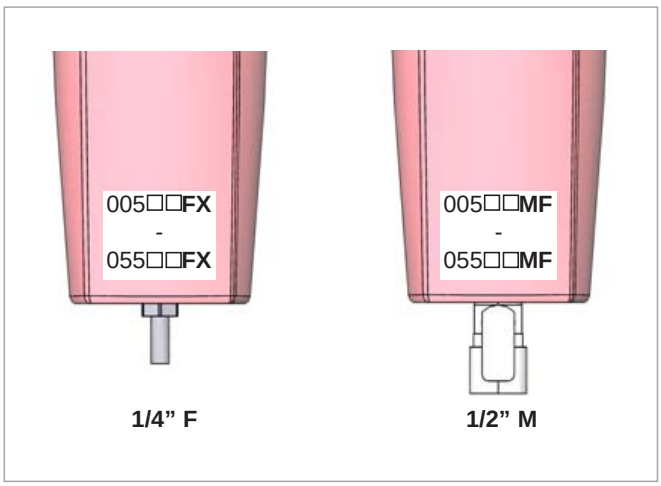
Weights and Dimensions

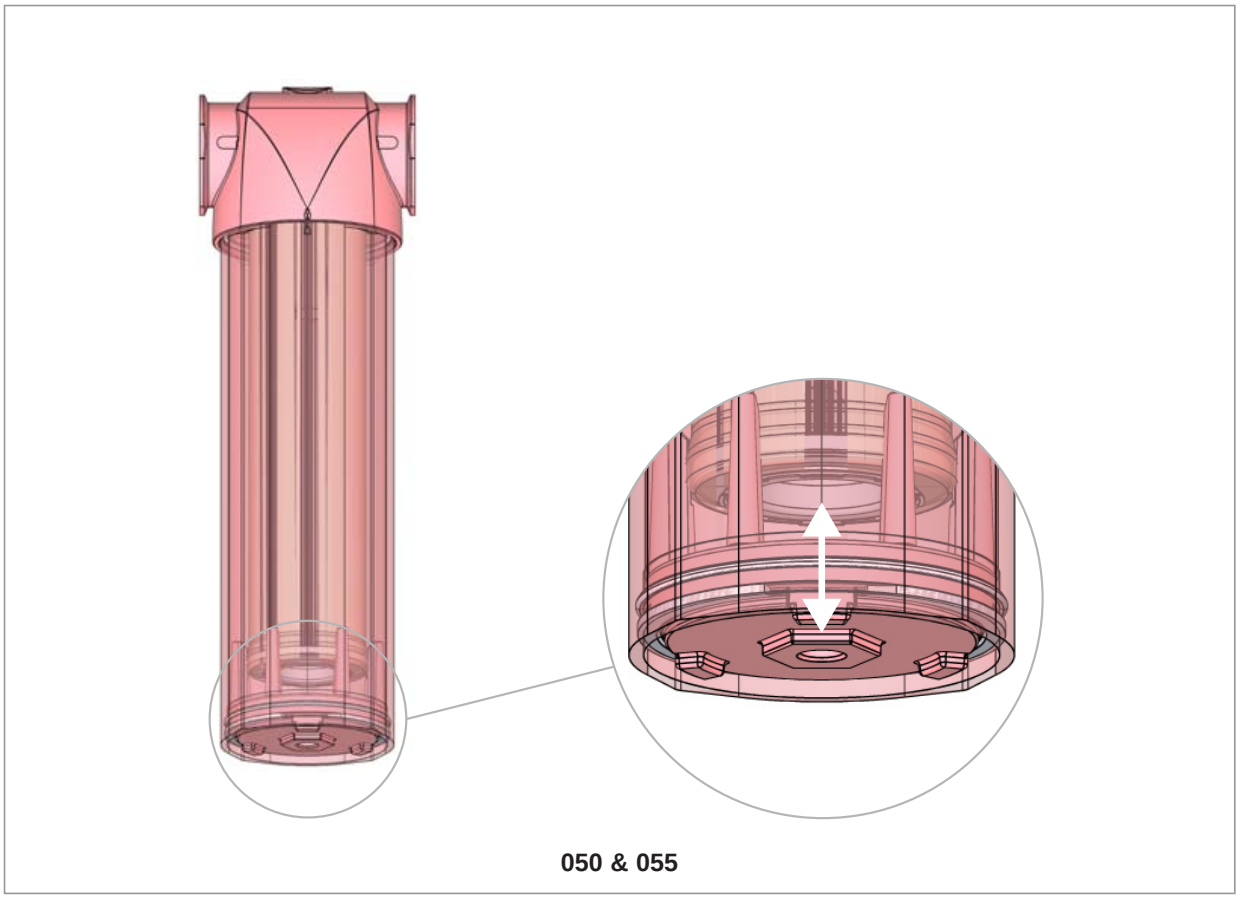
• Gewichten en afmetingen • Gewicht und Abmessungen • Poids et dimensions • Painot ja mitat • Vikter och mått • Vekt og dimensjone • Vægt og mål • VΨgt og mÏl • Pesos y dimensiones • Pesos e Dimensões • Pesi e dimensioni • Ciężary i wymiary • Hmotnosti a rozmery • Hmotnost arozměry • Kaalud ja mõõtmed • Tömeg és méretek • Svars un izmēri • Svoris ir matmenys • Вес игабариты • Teže in mere • Ağırlıklar ve Boyutlar • Pižijiet u Dimensjonijiet • **Greutăți și dimensiuni**

Model	Pipe Size	A		B		C		D		Weight	
		mm	ins	mm	ins	mm	ins	mm	ins	kg	lbs
005A	¼"	76	3	154.5	6.1	126.5	5	40	1.58	0.5	1.1
005B	⅜	76	3	154.5	6.1	126.5	5	40	1.58	0.5	1.1
005C	½"	76	3	154.5	6.1	126.5	5	40	1.58	0.5	1.1
010A	¼"	76	3	181.5	7.2	153	6	40	1.58	0.6	1.3
010B	⅜	76	3	181.5	7.2	153	6	40	1.58	0.6	1.3
010C	½"	76	3	181.5	7.2	153	6	40	1.58	0.6	1.3
015B	⅜ "	97.5	3.8	235	9.3	201	7.9	50	1.97	1.1	2.4
015C	½"	97.5	3.8	235	9.3	201	7.9	50	1.97	1.1	2.4
020C	½"	97.5	3.8	235	9.3	201	7.9	50	1.97	1.1	2.4
020D	¾"	97.5	3.8	235	9.3	201	7.9	50	1.97	1.1	2.4
020E	1"	97.5	3.8	235	9.3	201	7.9	50	1.97	1.1	2.4
025D	¾"	129	5.1	275	10.8	232.5	9.2	70	2.76	2.2	2.5
025E	1"	129	5.1	275	10.8	232.5	9.2	70	2.76	2.2	2.5
030E	1"	129	5.1	364.5	14.3	322	12.7	70	2.76	2.7	2.9
030F	1¼"	129	5.1	364.5	14.3	322	12.7	70	2.76	2.7	2.9
030G	1½"	129	5.1	364.5	14.3	322	12.7	70	2.76	2.7	2.9
035F	1¼"	170	6.7	432.5	17	382.5	15.1	100	3.94	5.1	11.2
035G	1½"	170	6.7	432.5	17	382.5	15.1	100	3.94	5.1	11.2
040G	1½"	170	6.7	524.5	20.6	474.5	18.7	100	3.94	7	12.5
040H	2"	170	6.7	524.5	20.6	474.5	18.7	100	3.94	7	12.5
045H	2"	170	6.7	524.5	20.6	474.5	18.7	100	3.94	7	12.5
050I	2½"	205	8.1	641.5	25.3	581.5	22.9	120	4.72	11.1	24.4
050J	3"	205	8.1	641.5	25.3	581.5	22.9	120	4.72	11.1	24.4
055I	2½"	205	8.1	832	32.8	772	30.4	120	4.72	13.9	30.6
055J	3"	205	8.1	832	32.8	772	30.4	120	4.72	13.9	30.6






005□□FX
-
055□□FX
005□□MF
-
055□□MF
1/4” F
1/2” M



050 & 055

EN The lower closure plate may move when the filter is not pressurised.

NL Het onderste sluitplaatje zou kunnen bewegen wanneer het filter niet onder druk staat.

DE Die untere Verschlussplatte kann sich bewegen, wenn der Filter nicht mit Druck beaufschlagt ist.

FR La plaque d'obturation la plus basse peut bouger si le filtre n'est pas pressurisé.

FI Alempi sulkulevy saattaa liikkua, kun suodatin ei ole paineistettu.

SV Den lägre slutningsplattan kan rubbas när filtret inte är trycksatt.

NO Den nedre trykkplaten kan bevege seg når filteret ikke er trykksatt.

DA Den nedre lukkeplade kan bevæge sig, når filtret ikke sættes under tryk.

EL Η κάτω πλάκα κλεισίματος μπορεί να μετακινηθεί εάν το φίλτρο δεν βρίσκεται υπό πίεση.

ES La placa inferior de cierre puede moverse si el filtro no está presurizado.

PT A placa de isolamento inferior pode deslocar-se se o filtro não estiver pressurizado.

IT Quando il filtro non è sotto pressione, la piastra di chiusura inferiore potrebbe spostarsi.

PL Pokrywa dolna może się przesuwać, gdy filtr nie będzie pod ciśnieniem.

SK Ak filter nie je natlakovaný, spodná uzatváracia platňa sa môže posunúť.

CS Spodní uzavírací deska se může pohybovat, pokud je filtr pod tlakem.

ET Alumine sulgurplaat võib liikuda, kui filter ei ole rõhu all.

HU Az alsó zárólemez elmozdulhat, ha a szűrő nincs nyomás alatt.

LV Apakšējā noslēgplāksne var kustēties, ja filtrs nav zem spiediena.

LT Jeigu filtre nėra slėgio, apatinė uždaromoji plokštė gali judėti.

RU Если фильтр не загерметизирован, возможно смещение нижней замыкающей пластины.

SL Spodnja plošča za zapiranje se lahko premika, ko filter ni pod pritiskom.

TR Filtreye basınç uygulanmadığında alt kapama levhası hareket edebilir.

MT L-aċċessorji għandhom ikunu mqabbdin ma' l-ert - art

RO Placa inferioară de acoperire se poate deplasa atunci când filtrul nu este presurizat

3. Startup and Operation

• **Starten en bediening** • Start und Betrieb • **Démarrage et exploitation** • Käynnistys ja toiminta • **Start och drift** • Oppstart og betjening • **Start og drift** • Έναρξη λειτουργίας και χειρισμός • **Puesta en marcha y funcionamiento** • Arranque e Operação • **Avvio e funzionamento** • Uruchomienie i eksploatacja • Spustenie a prevádzka • Spuštění a provoz • Käikulaskmine ja töötamine • Beindítás és üzemeltetés • Darbības uzsākšana un darbība • Paleidimas ir naudojimas • Запуск и эксплуатация • Zagon in uporaba • **Çalıştırma ve İşletme** • Kif Tixghel u Kif Thaddem

EN

1. Open inlet valve slowly to gradually pressurise the unit.

2. Open outlet valve slowly to re-pressurise the downstream piping

Do not open inlet or outlet valves rapidly or subject unit to excessive pressure differential or damage may occur.

NL

1. Doe de inlaatklep langzaam open om het toestel geleidelijk onder druk te zetten.

2. Doe de uitlaatklep langzaam open om de leidingen verderop in het systeem opnieuw onder druk te zetten.

De inlaat- en uitlaatkleppen niet snel openen en het toestel niet aan een te groot drukdifferentieel blootstellen om schade te voorkomen.

DE

1. Einlassventil langsam öffnen, damit Einheit allmählich mit Druck beaufschlagt wird.

2. Auslassventil langsam öffnen, damit nachgeschaltete Rohrleitungen erneut mit Druck beaufschlagt werden.

Einlass- und Auslassventil nicht schnell öffnen. Einheit nicht extremen Druckunterschieden aussetzen. Gefahr von Schäden.

FR

1. Ouvrez lentement la soupape d'admission pour mettre progressivement l'unité sous pression.

2. Ouvrez lentement la soupape de refoulement pour faire remonter la pression des conduits en aval.

Évitez d'ouvrir la soupape d'admission ou la soupape de refoulement trop rapidement ou de soumettre l'unité à une pression différentielle trop importante au risque d'entraîner des dommages.

FI

1. Paineista yksikkö asteittain avaamalla tuloventtiili.

2. Paineista laskuputkisto uudelleen avaamalla lähtöventtiili hitaasti

Älä avaa tulo- tai lähtöventtiiliä nopeasti tai altista yksikköä liialliselle paine-erolle, sillä yksikkö voi vaurioitua.

SV

1. Öppna inloppsventilen långsamt så att enheten trycksätts gradvis.

2. Öppna utloppsventilen långsamt för att trycksätta rören nedströms på nytt.

Öppna inte inlopps- eller utloppsventilerna snabbt och utsätt inte enheten för överdrivet differentialtryck, eftersom det kan orsaka skador.

NO

1. Åpne inntaksventilen langsomt for å sette enheten gradvis under trykk.

2. Åpne uttaksventilen langsomt for å sette nedstrømsrørene under trykk igjen.

Ikke åpne inntaks- eller uttaksventilene rast eller utsett enheten for høyt differensialtrykk, da dette kan føre til skade.

DA

1. Åbn langsomt indgangsventilen for gradvist at sætte enheden under tryk.

2. Åbn langsomt udløbsventilen for at sætte rørene længere fremme under tryk igen.

Åbn ikke indgangs- eller udgangsventiler hurtigt, og udsæt ikke enheden for store trykforskelle, da det kan medføre skader.

EL

1. Ανοίξτε αργά τη βαλβίδα εισαγωγής για να ανέβει σταδιακά η πίεση της μονάδας.

2. Ανοίξτε αργά τη βαλβίδα εξαγωγής για να ανέβει η πίεση της σωλήνωσης κατάντι

Μην ανοίγετε γρήγορα τις βαλβίδες εισαγωγής ή εξαγωγής και μην υποβάλλετε τη μονάδα σε υπερβολική διαφορική πίεση, διότι μπορεί να προκύψει βλάβη.

ES

1. Abra lentamente la válvula de admisión para presurizar progresivamente la unidad.

2. Abra lentamente la válvula de descarga para volver a presurizar las tuberías aguas abajo.

Para evitar daños, no abra bruscamente las válvulas de admisión o de descarga ni someta la unidad a una diferencia de presiones excesiva.

PT

1. Abra lentamente a válvula de entrada para pressurizar gradualmente a unidade.

2. Abra lentamente a válvula de saída para pressurizar novamente a tubagem a jusante

Não abra rapidamente as válvulas de entrada ou saída nem sujeite a unidade a uma pressão diferencial excessiva, caso contrário poderão ocorrer danos.

IT

1. Aprire lentamente la valvola di mandata per aumentare gradualmente la pressione nell'unità.

2. Aprire lentamente la valvola di scarico per pressurizzare i tubi a valle

Non aprire rapidamente le valvole di mandata o scarico o sottoporre l'unità a una differenza di pressione eccessiva; rischio di danni.

PL

1. Powoli otwórz zawór wlotowy, aby stopniowo zwiększyć ciśnienie w urządzeniu.

2. Powoli otwórz zawór wylotowy, aby zwiększyć ciśnienie w rurach w dół przepływu.

Nie wolno szybko otwierać zaworów wlotowych ani wylotowych, ponieważ może to doprowadzić do zbyt dużej różnicy ciśnień w urządzeniu i do jego uszkodzenia.

SK

1. Pre postupné natlakovanie jednotky pomaly otvorte prívodný ventil.

2. Pre opätovné natlakovanie potrubia v smere toku pomaly otvorte vývodný ventil.

Neotvárajte prívodný alebo vývodný ventil rýchlo ani nevystavujte jednotku nadmernému rozdielu tlaku, lebo môže dôjsť k poškodeniu.

CS

1. Pomalým otevřením přívodního ventilu jednotku pozvolna natlakujte.

2. Pomalým otevřením výstupního ventilu znovu natlakujte potrubí ve směru rozvodu.

Přívodní ani výstupní ventily neotvírejte rychle, ani jednotku nevystavujte nadměrným rozdílům tlaku, v opačném případě může dojít k poškození.

ET

1. Üksuse järkjärguliseks survestamiseks avage sisselaskeventiil aeglaselt.

2. Surve taastamiseks väljavoolutorustikus avage väljalaskeventiil aeglaselt.

Sisselaske- ja väljalaskeventiile ei tohi avada kiiresti ega põhjustada üksuses liiga suurt survelangu, mis võib tekitada sellele kahjustusi.

HU

1. Az egység fokozatosan történő nyomás alá helyezéséhez a bemenő szelepet lassan nyissa meg.

2. Az elmenő csővezeték nyomásának visszaállításához lassan nyissa meg az elmenő szelepet

A berendezés károsodásának elkerülése érdekében ne nyissa meg túl gyorsan a bemenő vagy az elmenő szelepet, és ne tegye ki az egységet nagy nyomáskülönbségnek.

LV

1. Lēnām atveriet ieplūdes vārstu, lai iekārtā pamazām paaugstinātu spiedienu.
2. Lēnām atveriet izplūdes vārstu, lai caurulēs plūsmas virzienā samazinātu spiedienu

Neatveriet ieplūdes un izplūdes vārstus strauji, pretējā gadījumā attiecīgajā iekārtā var rasties pārmērīgi liels spiediens vai tā var sabojāties.

LT

1. Lėtai atidarydami įleidimo vožtuvą, palaipsniui sudarykite slėgį įrenginyje.
2. Lėtai atidarydami išleidimo vožtuvą, iš naujo sudarykite slėgį pasroviui esančiame vamzdyne

Negalima staigiai atidaryti įleidimo ar išleidimo vožtuvų, nei paveikti įrenginio pernelyg dideliu diferencialiniu slėgiu, nes galima sugadinti įrangą.

RU

1. Впускной клапан следует открывать плавно, чтобы постепенно создать давление в устройстве.
2. Плавно откройте впускной клапан, чтобы создать давление в системе трубопровода

Запрещено резко открывать впускной или выпускной клапаны, а также используемое устройство, так как это может привести к перепаду давления и повреждениям.

SL

1. Za počasno dajanje pod pritisk počasi odprite dovodni ventil.
2. Počasi odprite dovodni ventil za ponovno dajanje spodnjih cevi pod pritisk.

Dovodne ali odvodne ventile odpirajte počasi in enote ne izpostavljajte prevelikim nihanjem tlaka, saj lahko to povzroči škodo.

TR

1. Giriş valfini yavaşça açıp üniteye yavaş yavaş basınç uygulayın.
2. Mensap tarafındaki borulara yeniden basınç uygulamak için çıkış valfini yavaşça açın

Giriş ve çıkış valflerini hızla açmayın ve üniteyi aşırı basınç farklarına maruz bırakmayın; aksi halde hasar görebilir.

MT

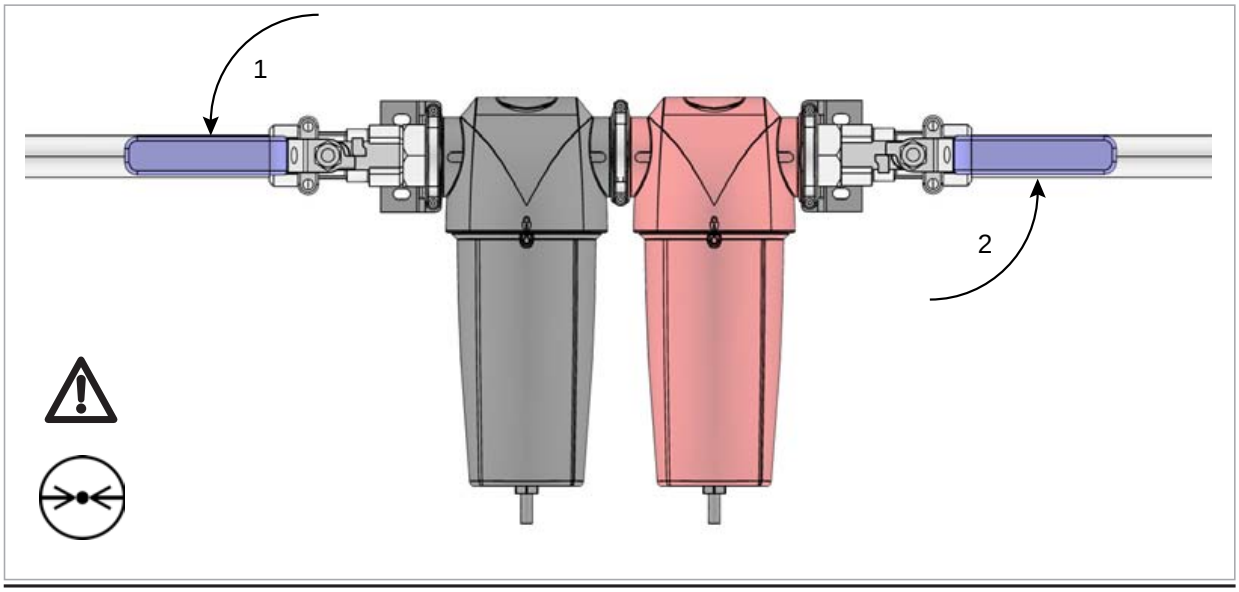
1. Iftaħ il-valv tad-dħul bil-mod, biex bil-mod tiżdied il-pressjoni fit-tagħmir.
2. Iftaħ il-valv tal-ħruġ bil-mod biex terġa' tibni l-pressjoni fil-pajps li jwasslu 'l isfel

Ara li ma tiftaħx il-valvs tad-dħul jew tal-ħruġ f'daqqa jew b'xi mod tikkawża differenza eċċessiva fil-pressjoni tat-tagħmir għax tista' tagħmel il-ħsara.

RO

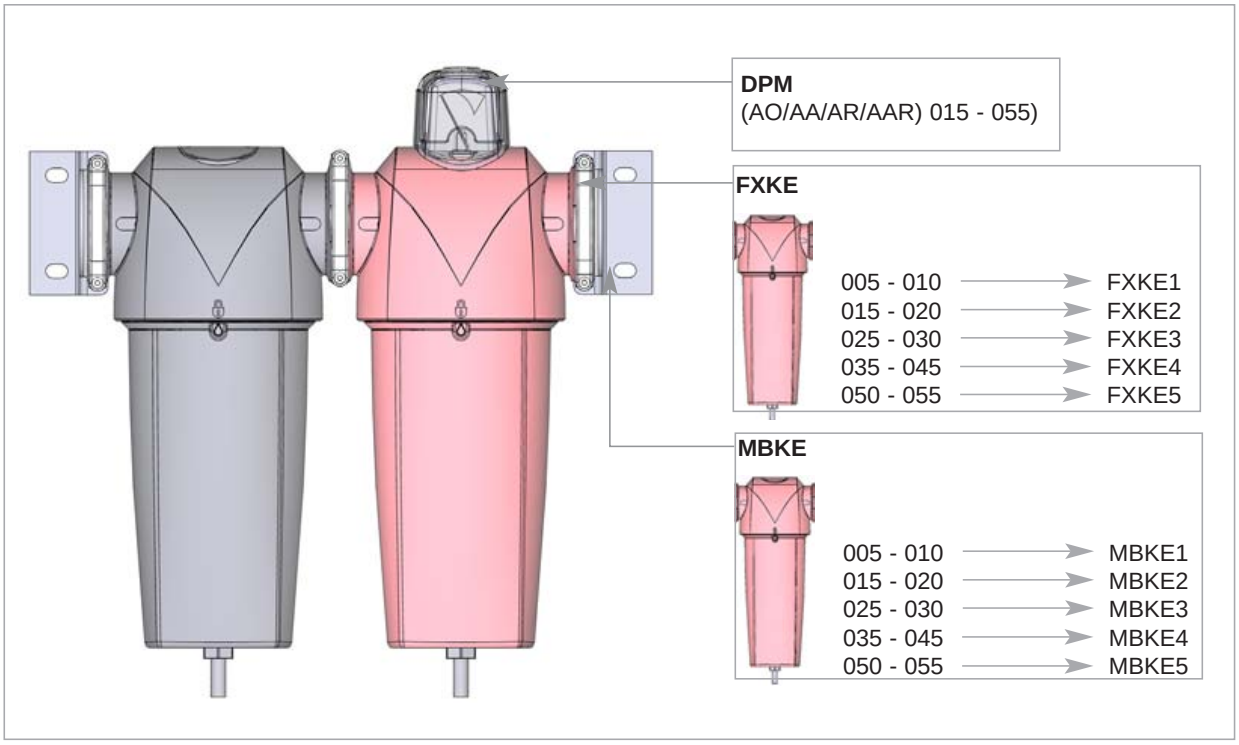
1. Deschide¸i lent supapa de admisie, pentru a presuriza gradat aparatul.
2. Deschide¸i lent supapa de evacuare pentru a represuriza sistemul de conducte din aval

Nu deschide¸i rapid supapele de admisie sau de evacuare ƒi nu supune¸i aparatul la o diferen¸„ excesiv„ de presiune; Ón caz contrar, aparatul poate suferi deterior„ri



4. Accessories

• **Toebehoren** • Zubehör • **Accessoires** • Lisävarusteet • **Tillbehör** • Tilbehør • **Tilbehør** • Εξαρτήματα • **Accesorios** • Acessórios • **Accessori** • Wyposażenie • Príslušenstvo • Příslušenství • Tarvikud • Tartozékok • Piederumi • Priedai • Принадлежности • Dodatna oprema • **Aksesuarlar** • Аċċessorji • **Accesorii**



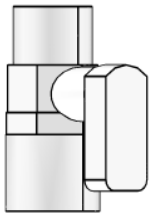
5. Spare Parts (Service Kits)

• **Reserve-onderdelen (servicekits)** • Ersatzteile (Service-Kits) • **Pièces de rechange (nécessaires d'entretien)** • Varaosat (Huoltopakkaukset) • **Reservdelar (servicesatser)** • Reservedeler (service-sett) • **Reservedele (Servicekit)** • Ανταλλακτικά (Πακέτα τεχνικής υποστήριξης) • **Piezas de repuesto (kits de mantenimiento)** • Peças Sobressalentes (Kit de Reparação) • **Ricambi (kit per l'assistenza)** • Części zamienne (zestawy serwisowe) • Náhradné diely (Servisná súprava) • Náhradní díly (Sady pro údržbu) • Varuosad (hooldekomplektid) • Pótalkatrészek (szervizkészletek) • Rezerves daļas (apkopes komplekti) • Atsarginės dalys (priežiros detalių komplektai) • Запасные части (ЗИП) • Nadomestni deli (servisni kompleti) • **Yedek parça (Servis kitleri)** • Partijiet Ghat-Tibdil (Kitts tas-Servizz) • **Piese de schimb (Truse de service)**



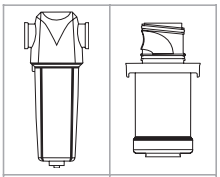
EF1

• **AUTOMATIC DRAIN**
• **AUTOMATISCHER ABLAUF**
• **VIDANGE AUTOMATIQUE**
• **AUTOMISCHAFTAPPEN**
• **DRENAJE AUTOMATICO**
• **SCARIO AUTOMATICO**
• **AUTOMATISK AFLØB**
• **DRENO AUTOMÁTICO**
• ΑΥΤΟΜΑΤΗ ΑΠΟΣΤΡΑΓΓΙΣΗ
• **AUTOMATDRÄNERING**
• **AUTOMAATTINEN**
• **TYHJENNYSKAPPALE**
• DREN AUTOMATYCZNY
• AUTOMATICKÉ VYSUŠENIE
• AUTOMATICKÉ VYPOUŠTĚNÍ
• AUTOMAATNE VÄLJALASE
• AUTOMATIKUS LEERESZTÉS
• AUTOMĀTISKA IZTECINĀŠANA
• AUTOMATINIS IŠLEIDIMAS
• АВТОМАТИЧЕСКИЙ ДРЕНАЖ
• SAMODEJNI ODTOK
• **OTOMATİK SÜZDÜRÜCÜ**
• **DREJN AWTOMATIKU**
• **EVACUARE AUTOMAT√**

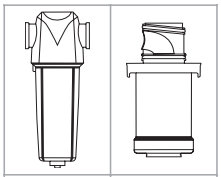


EM1

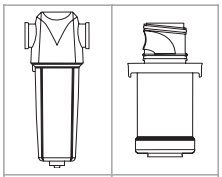
• **MANUAL DRAIN**
• **MANUELLER ABLAUF**
• **VIDANGE MANUELLE**
• **MANUEEL AFTAPPEN**
• **DRENAJE MANUAL**
• **SCARIO MANUALE**
• **MANUELT AFLØB**
• **DRENO MANUAL**
• ΧΕΙΡΟΚΙΝΗΤΗ ΑΠΟΣΤΡΑΓΓΙΣΗ
• **MANUELL DRÄNERING**
• **KÄSIKÄYTTÖINEN**
• **TYHJENNYSKAPPALE**
• DREN RĘCZNY
• RUČNÉ VYSUŠENIE
• RUČNÍ VYPOUŠTĚNÍ
• KÄSITSI VÄLJALASE
• KÉZI LEERESZTÉS
• MANUĀLA IZTECINĀŠANA
• RANKINIS IŠLEIDIMAS
• ДРЕНАЖ ВРУЧНУЮ
• ROČNI ODTOK
• **ELLE KULLANILACAK SÜZDÜRÜCÜ**
• **DREJN MANWALI**
• **EVACUARE MANUAL√**



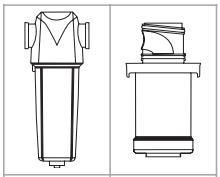
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AO020C	020AO
AO020D	020AO
AO020E	020AO
AO025D	025AO
AO025E	025AO
AO030E	030AO
AO030F	030AO
AO030G	030AO
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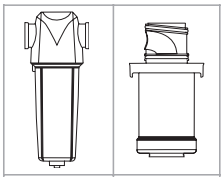
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AA055J	055AA



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ACS005C	005ACS
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ACS010C	010ACS
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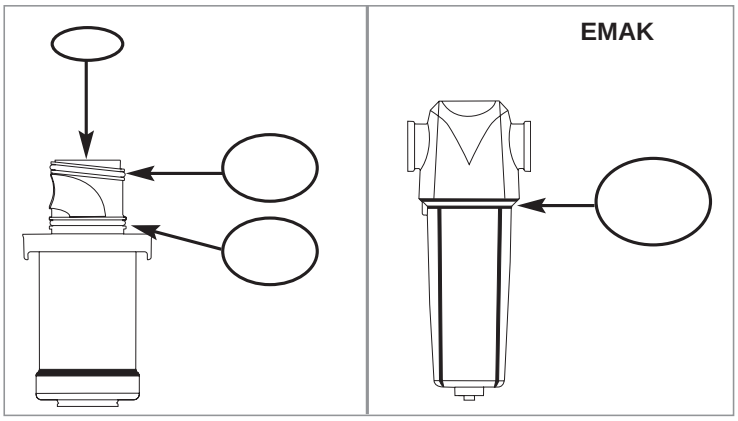


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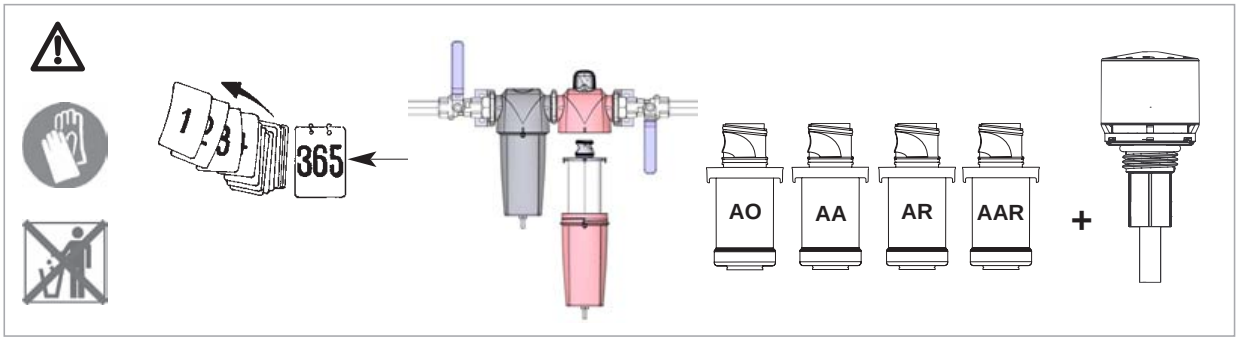
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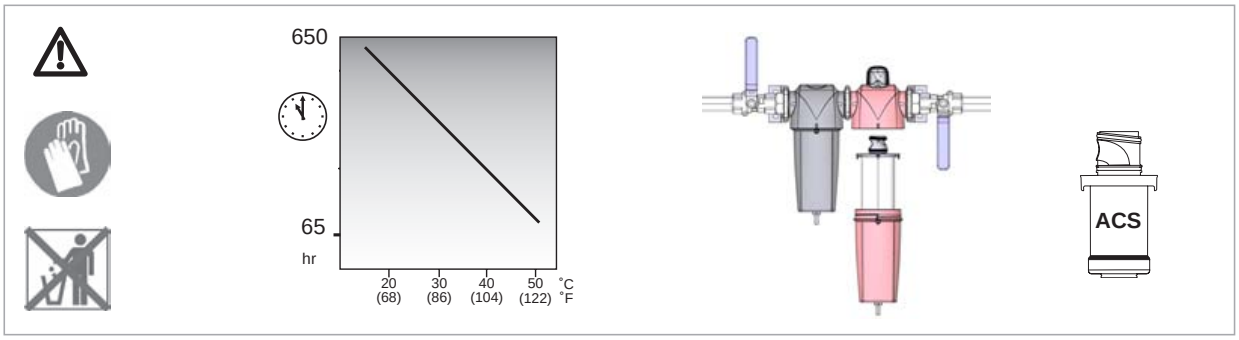
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EMAK4	035 - 045
EMAK5	050 - 055



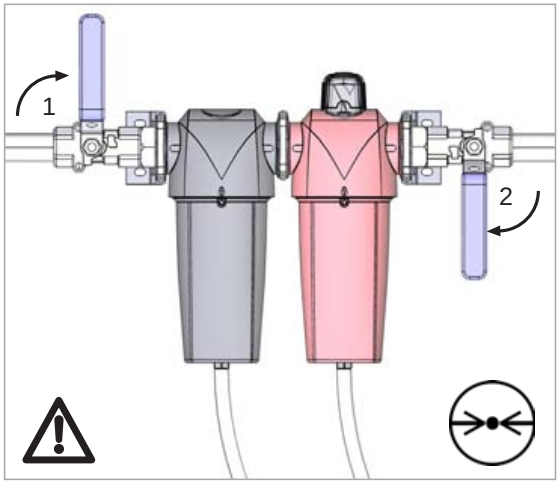
6. Maintenance

• **Onderhoud** • Wartung • **Entretien** • Kunnossapito • **Underhåll** • Vedlikehold • **Vedligeholdelse** • Συντήρηση • **Mantenimiento** • Manutenção • **Manutenzione** • Konserwacja • Údržba • Údržba • Hooldus • Karbantartás • Tehniskā apkope • Techninė priežiūra • Обслуживание • Vzdrževanja • **Bakım** • **Manutenzjoni** • **Întreținere**

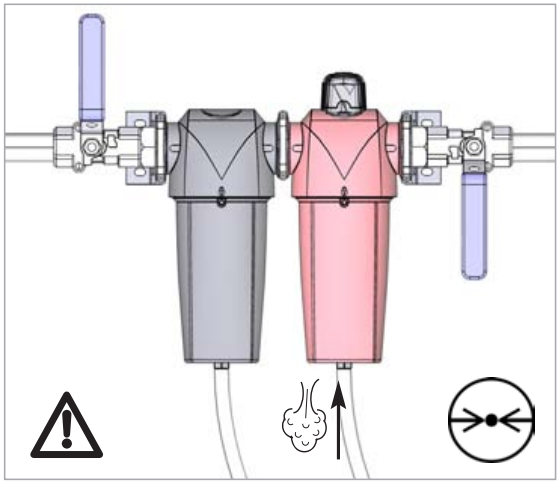




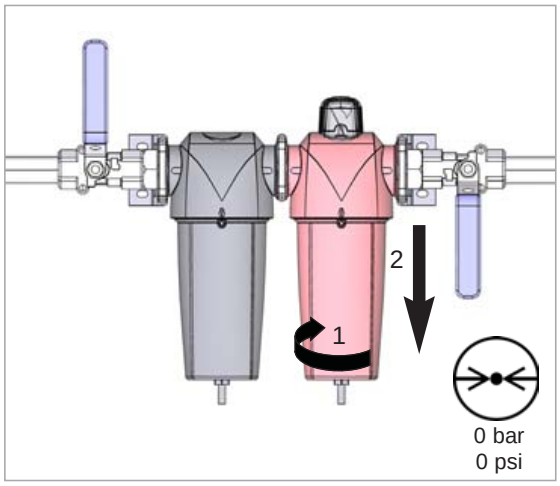
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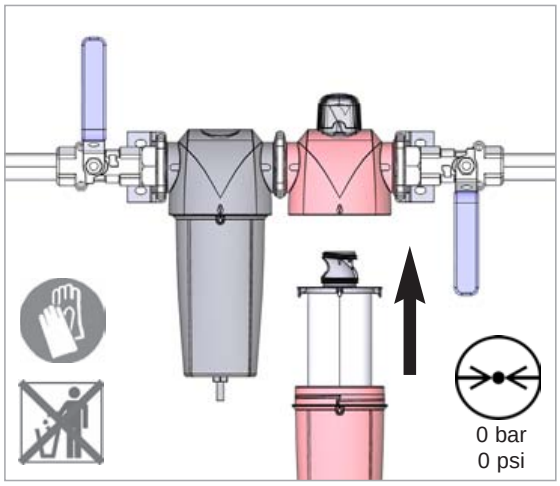
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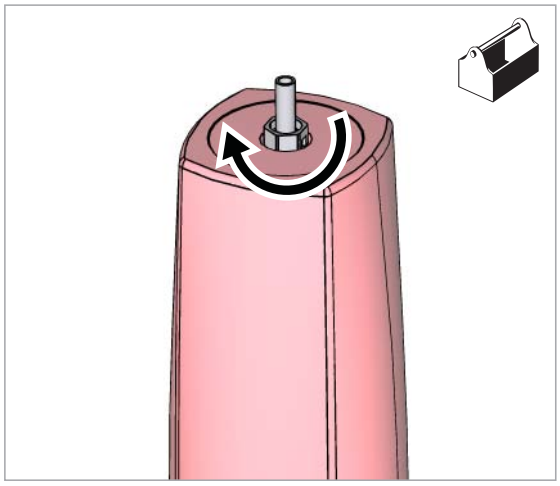
3



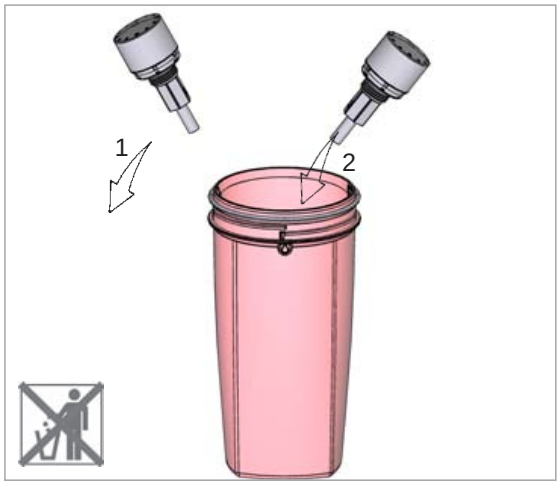
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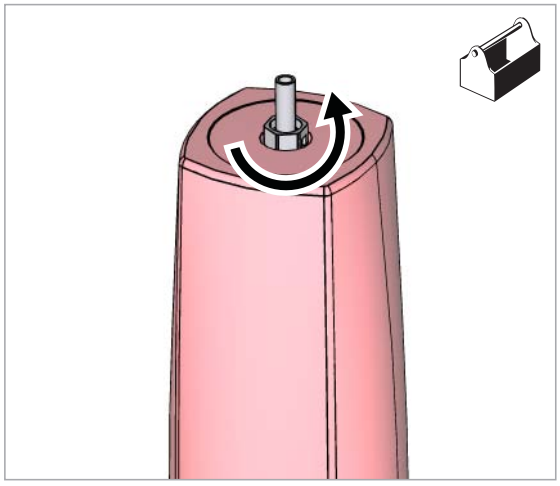
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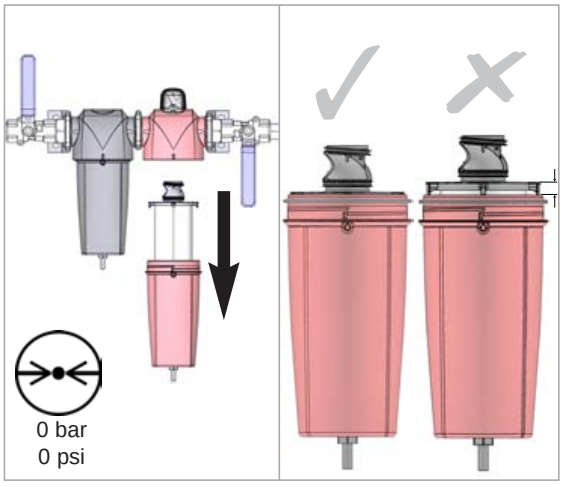
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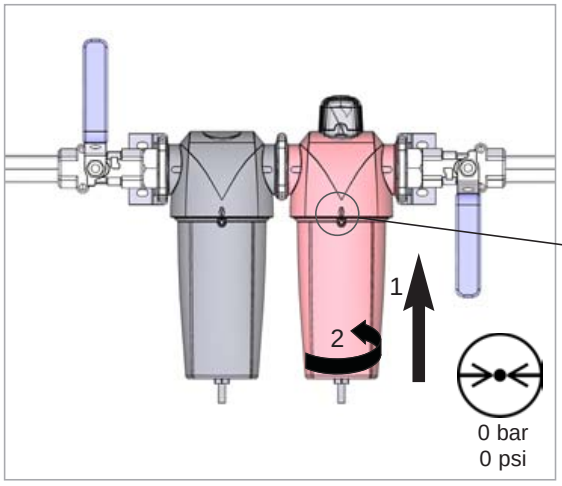
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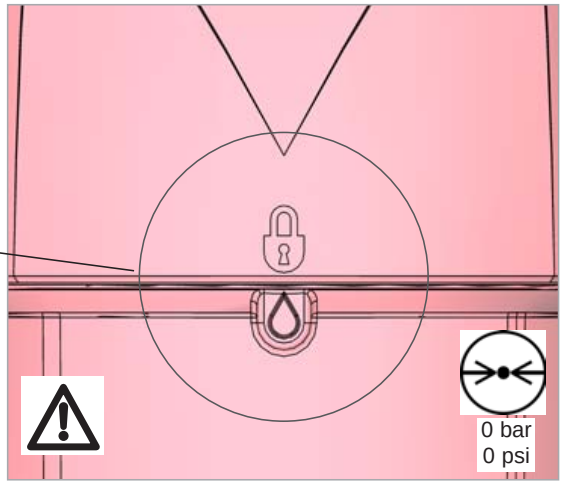
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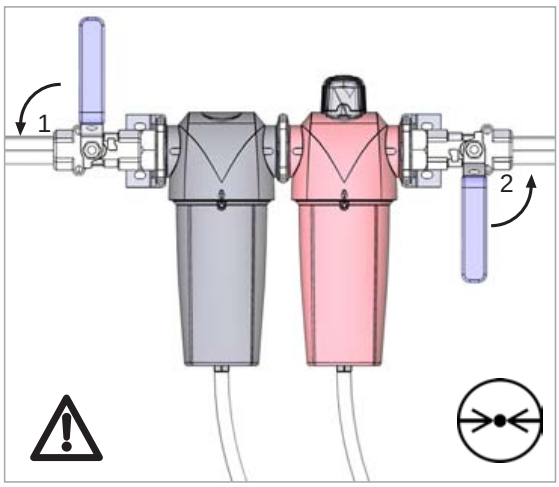
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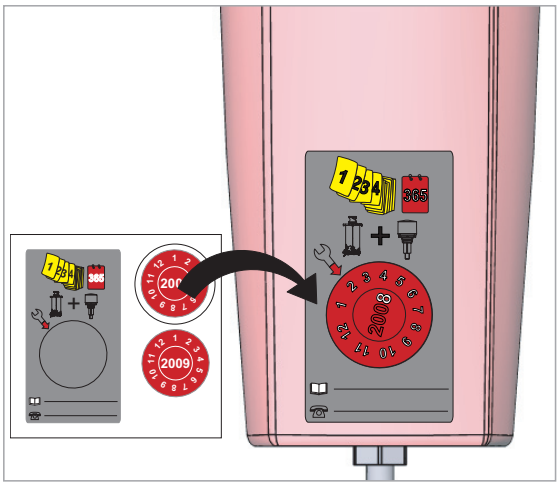
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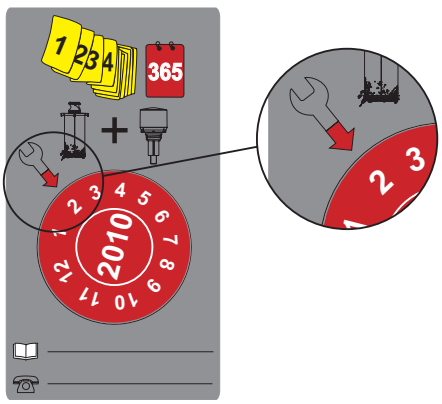


11



12





(EN) Align the arrow to the month and year of the next ervice
(NL) Breng de pijl op een lijn met de maand en het jaar van de volgende onderhoud beurt
(DE) Stellen Sie den Pfeil auf Monat und Jahr de näch ten Wartung termin Alignez la flèche ur
(FR) le moi et l'année de la prochaine révi ion
(FI) Kohdi ta nuoli euraavan huollon kuukauteen ja vuoteen
(SV) Rikta pilen mot månaden och året för nä ta ervice
(NO) Ju ter pilen til måneden og året for ne te ervice
(DA) Stil pilen på måned og år for næ te ervice
(EL) Ευθυγραμμίστε το βέλος με το μήνα και έτος του επόμενου σέρβις
(ES) Alinee la flecha con el me y año de la iguiente revi ión
(PT) Alinhe a eta com o mê e o ano da próxima intervenção técnica
(IT) Allineare la freccia in corri pondenza del me e e anno del pro imo intervento di a i tenza
(PL) Należy ustawić strzałkę na miesiąc i rok daty następnego serwisu
(SK) Šípku nasmerujte na mesiac a rok nasledujúcej opravy
(CS) Umístěte šipku na měsíc a rok příští prohlídky
(ET) Joondage nool järgmi e hooldu e kuu ja aa taga
(HU) Irányítsa a nyilat a következő szerviz hónapjára és évére
(LV) Irányítsa a nyilat a következő szerviz hónapjára és évére
(LT) Nustatykite rodyklę ties kitos techninės priežiūros mėnesiu ir metais
(RU) Совместите стрелку с месяцем и годом следующего обслуживания
(SL) Puščico nastavite na mesec in leto naslednjega servisa
(TR) Oku bir sonraki servis işleminin ay ve yılına hizalayın
(MT) Allinja l-vleġġa għax-xahar u s-sena tas-servis li jmiss
(RO) Aliniaţi săgeata în dreptul lunii şi al anului următoarei vizite de service



ФЕДЕРАЛЬНАЯ СЛУЖБА
ПО ЭКОЛОГИЧЕСКОМУ, ТЕХНОЛОГИЧЕСКОМУ И АТОМНОМУ НАДЗОРУ

РАЗРЕШЕНИЕ

№ РРС 00-32481

На применение

Оборудование (техническое устройство, материал):
Оборудование, работающее под давлением, в соответствии с перечнем в приложении к настоящему разрешению.

Код ОКП (ТН ВЭД): Оборудование комплектное, коды ОКП (ТН ВЭД) в соответствии с технической документацией.

Изготовитель (поставщик): Фирма "Parker Hannifin Ltd. domnick hunter division" (Великобритания).

Основание выдачи разрешения: Техническая документация, заключение экспертизы промышленной безопасности ООО "ХАНК" № 419-840-2008 от 27.10.2008 г., сертификаты соответствия ОС ООО "ХАНК" № РОСС GB.ГС03.В00284 - №РОСС GB.ГС03.В00286 от 29.10.2008 г.

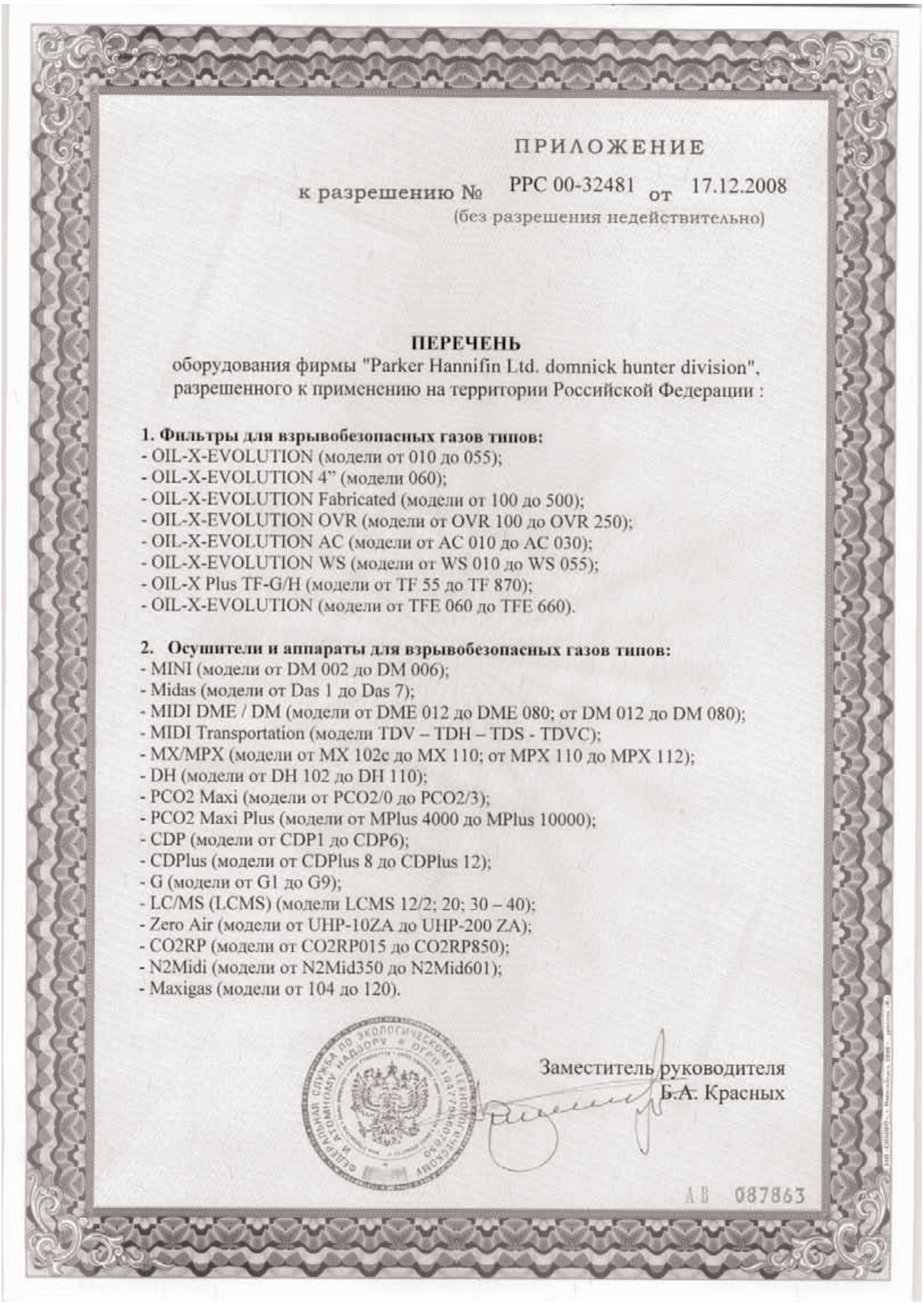
Условия применения:
1. Оформление технической документации на оборудование (паспортов, чертежей, инструкций по монтажу и эксплуатации) в соответствии с требованиями действующих в России правил промышленной безопасности на русском языке.
2. Осуществление монтажа, ввода в работу и эксплуатации оборудования в соответствии с требованиями "Правил устройства и безопасной эксплуатации сосудов, работающих под давлением".

Срок действия разрешения до 17.12.2013

Дата выдачи 17.12.2008

Заместитель руководителя
Б.А. Красных

АВ 009261



ПРИЛОЖЕНИЕ

к разрешению № РРС 00-32481 от 17.12.2008

(без разрешения недействительно)

ПЕРЕЧЕНЬ

оборудования фирмы "Parker Hannifin Ltd. domnick hunter division", разрешенного к применению на территории Российской Федерации :

1. Фильтры для взрывобезопасных газов типов:
- OIL-X-EVOLUTION (модели от 010 до 055);
- OIL-X-EVOLUTION 4" (модели 060);
- OIL-X-EVOLUTION Fabricated (модели от 100 до 500);
- OIL-X-EVOLUTION OVR (модели от OVR 100 до OVR 250);
- OIL-X-EVOLUTION AC (модели от AC 010 до AC 030);
- OIL-X-EVOLUTION WS (модели от WS 010 до WS 055);
- OIL-X Plus TF-G/H (модели от TF 55 до TF 870);
- OIL-X-EVOLUTION (модели от TFE 060 до TFE 660).

2. Осушители и аппараты для взрывобезопасных газов типов:
- MINI (модели от DM 002 до DM 006);
- Midas (модели от Das 1 до Das 7);
- MIDI DME / DM (модели от DME 012 до DME 080; от DM 012 до DM 080);
- MIDI Transportation (модели TDV – TDH – TDS - TDVC);
- MX/MPX (модели от MX 102c до MX 110; от MPX 110 до MPX 112);
- DH (модели от DH 102 до DH 110);
- PCO2 Maxi (модели от PCO2/0 до PCO2/3);
- PCO2 Maxi Plus (модели от MPlus 4000 до MPlus 10000);
- CDP (модели от CDP1 до CDP6);
- CDPlus (модели от CDPlus 8 до CDPlus 12);
- G (модели от G1 до G9);
- LC/MS (LCMS) (модели LCMS 12/2; 20; 30 – 40);
- Zero Air (модели от UHP-10ZA до UHP-200 ZA);
- CO2RP (модели от CO2RP015 до CO2RP850);
- N2Midi (модели от N2Mid350 до N2Mid601);
- Maxigas (модели от 104 до 120).

Заместитель руководителя
Б.А. Красных

АВ 087863

FILTER DH-OIL-X EVO AO AA 01-

Declaration of Conformity **EN**

Parker Hannifin ltd domn ck hunter divis on
Dukesway TVTE Gateshead Tyne & Wear NE11 0PZ UK

OIL X Evolution
AO AA ACS AR AAR 005 010 015 020 025 030
AO AA ACS AR AAR 035 040 045
AO AA ACS AR AAR 050 055

Directives	97 23/EC
Standards used	Genera ly in accordance wi h ASMEVIII Div 1 2004
PED Assessment Route	Article 3 3 (AO AA ACS AAR 005 010 015 020 025 030) Module A (AO AA ACS AAR 035 040 045) Module B (AO AA ACS AR AAR 050 055)
Notified body for PED	Lloyds Register Ve if cation 71 Fenchurch St London EC3M 4BS
EC Type exam nat on Certificate	COV0413459/TEC
Authorised Representative	Derek Bank er Divisional Qual ty Manager Parker Hannifin ltd domn ck hunter d v s on

Declaration

I declare that as the author sed representat ve he above information n relation to the supply / manufacture of this product s n conformity wi h he standards and o her related documents fo low ng the provisions of the above D rect ves

Signature **Date** 8/8/2007

Declaration Number 0002/8807

Déclaration de conformité **FR**

Parker Hannifin ltd domn ck hunter division
Dukesway TVTE Gateshead Tyne & Wear NE11 0PZ UK

OIL X Evolution
AO AA ACS AR AAR 005 010 015 020 025 030
AO AA ACS AR AAR 035 040 045
AO AA ACS AR AAR 050 055

Directives	97/23 EC
Normes utilisées	Géné alement conforme à ASMEVIII d v 1 2004
Mé hode d'évaluation de la directive d'équipements de pression	Article 3 3 (AO AA ACS AAR 005 010 015 020 025 030) Module A (AO AA ACS AAR 035 040 045) Module B (AO AA ACS AR AAR 050 055)
Organisme de notificat on pour la directive d'équipement sous pression	Lloyds Reg ster Ver fication 71 Fenchurch St London EC3M 4BS
Certificat d'examen de type CE	COV0413459/TEC
Représentant agréé	Derek Bankier D v s onal Quality Manager Parker Hannif n td domn ck hunter division

Déclaration

Je déclare à titre de représentant agréé que les informations ci dessus liées à la fourniture/fabrication de ce produit sont en conformité avec les normes et autres documents l és décla és selon les dispos tions des d rect ves susment onnées

S gnature **Date** 8/8/2007

N° de déclaration 0002/8807

Verklaring van Conformiteit **NL**

Parker Hannifin ltd domn ck hunter divis on
Dukesway TVTE Gateshead Tyne & Wear NE11 0PZ UK

OIL X Evolution
AO AA ACS AR AAR 005 010 015 020 025 030
AO AA ACS AR AAR 035 040 045
AO AA ACS AR AAR 050 055

Richtlijnen	97 23/EC
Gehanteerde normen	Gewoonlijk volgens ASMEV II D v 1 2004
PED beoordelingstraject	Artikel 3 3 (AO AA ACS AAR 005 010 015 020 025 030) Module A (AO AA ACS AAR 035 040 045) Module B (AO AA ACS AR AAR 050 055)
Aangemelde instantie voor PED	Lloyds Register Ver fication 71 Fenchu ch St London EC3M 4BS
EC Type onderzoekscertif caat	COV0413459/TEC
Bevoegde vertegenwoord ger	Derek Bankier D v s onal Quality Manager Parker Hannifin ltd domn ck hunter d v s on

Verklar ng

Als bevoegde vertegenwoord ger verklaar k dat bovenstaande informatie met betrekking tot de levering / vervaard ging van dit product overeenstemt met de normen en andere b jbehorende documentatie volgens de bepalingen van bovengenoemde richtlijnen

Handtekening **Datum** 8/ 8 2007

Verklaringnummer 0002/8807

Vaatimustenmukaisuusvakuutus **FI**

Parker Hannifin ltd domn ck hunter division
Dukesway TVTE Gateshead Tyne & Wear NE11 0PZ UK

OIL X Evolution
AO AA ACS AR AAR 005 010 015 020 025 030
AO AA ACS AR AAR 035 040 045
AO AA ACS AR AAR 050 055

Direkti vit	97/23/EC
Käytetyt standardit	Yleensä seuraavan standardin muka sesti ASMEV II D v 1 2004
PED arviointi menettely	Art kla 3 3 (AO AA ACS AAR 005 010 015 020 025 030) Moduuli A (AO AA ACS AAR 035 040 045) Moduuli B (AO AA ACS AR AAR 050 055)
PED säännösten lmoitettu laitos	Lloyds Reg ster Verificat on 71 Fenchurch St London EC3M 4BS
EY tyyppihyväksynnän sertifikaatti	COV0413459 TEC
Valtuutettu edustaja	Derek Bank er Divisional Qual ty Manager Parker Hann fin ltd domnick hunter d v s on

Vakuutus

Valtuutettuna edustajana vakuutan e tä y lä olevat tiedot jotka l ittyvät tämän tuotteen toimi tamiseen tai valm stamiseen ovat standardien ja muiden asiaan l ittyvien as akirjojen mukaisia ja noudattavat yllä ma n tuja d rektiivejä

Allek rjoitus **Pä väys** 8 8/2007

Vakuutuksen numero 0002/8807

Konformitätserk ärung **DE**

Parker Hannifin ltd domn ck hunter divis on
Dukesway TVTE Gateshead Tyne & Wear NE11 0PZ UK

OIL X Evolution
AO AA ACS AR AAR 005 010 015 020 025 030
AO AA ACS AR AAR 035 040 045
AO AA ACS AR AAR 050 055

Richtlinien	97/23/EC
Angewandte Normen	Allgemein in Übere nst mmung m t ASMEVIII Div 1 2004
Beurteilungsroute der Druckgeräter chtlinie	Art kel 3 3 (AO AA ACS AAR 005 010 015 020 025 030) Modul A (AO AA ACS AAR 035 040 045) Modul B (AO AA ACS AR AAR 050 055)
Benannte Stelle für die Druckgeräter chtlinie	Lloyds Reg ster Verificat on 71 Fenchurch St London EC3M 4BS
EG Baumusterprüfbesche nigung	COV0413459 TEC
Bevollmächtigter Vertreter	Derek Bank er Divisional Qual ty Manager Parker Hann fin ltd domnick hunter d v s on

Erklärung

Hiermit erklä e ch als bevollmächtigter Vertreter die Konformität der oben aufgeführten Informationen in Bezug auf die Lieferung/Herste lung d eses Produkts mit den Normen und ande en zugehörigen Dokumenten gemäß den Best mmungen der oben genannten R chtlin en

Unterschrift **Datum** 8 8/2007

Nummer der Erklärung 0002 8807

Försäkran om överensstämmelse **SV**

Parker Hannifin ltd domn ck hunter division
Dukesway TVTE Gateshead Tyne & Wear NE11 0PZ UK

OIL X Evolution
AO AA ACS AR AAR 005 010 015 020 025 030
AO AA ACS AR AAR 035 040 045
AO AA ACS AR AAR 050 055

Direktiv	97/23 EC
Använda standarder	Gene el t i enl ghet med ASMEVIII Div 1 2004
Fastställningsväg för PED	Artikel 3 3 (AO AA ACS AAR 005 010 015 020 025 030) Modul A (AO AA ACS AAR 035 040 045) Modul B (AO AA ACS AR AAR 050 055)
Anmält organ för PED	Lloyds Reg ster Ver fication 71 Fenchurch St London EC3M 4BS
EG intyg om typprovning	COV0413459/TEC
Auktoriserad representant	Derek Bankier D v s onal Quality Manager Parker Hannif n td domn ck hunter division

Försäkran

Jag försäkrar i egenskap av auktoriserad representant att ovannämnda info mation avseende leverans ti verkn ng av denna produkt öve ensstämmer med standarder och övriga relaterade dokument enligt vil koren i ovanstående d rekt v

Underskrift **Datum** 8/8/2007

Försäkran nummer 0002/8807

Konformitetserk ær ng **NO**

Parker Hannifin ltd domn ck hunter divis on
Dukesway TVTE Gateshead Tyne & Wear NE11 0PZ UK

OIL X Evolution
AO AA ACS AR AAR 005 010 015 020 025 030
AO AA ACS AR AAR 035 040 045
AO AA ACS AR AAR 050 055

Direktiver	97 23/EC
Benyttede standarder	Hovedsakelig i samsvar med ASMEVIII d v 1 2004
Rute for vurdering av PED (d rekt vet for trykkpålagt utstyr)	Paragraf 3 3 (AO AA ACS AAR 005 010 015 020 025 030) Modul A (AO AA ACS AAR 035 040 045) Modul B (AO AA ACS AR AAR 050 055)
Underrettet organ for PED	Lloyds Register Ver fication 71 Fenchu ch St London EC3M 4BS
EC typegodkjenn ngssertifikat	COV0413459/TEC
Autorisert representant	Derek Bankier D v s onal Quality Manager Parker Hannifin ltd domn ck hunter d v s on

Erklæring

Jeg erklærer som autor sert representant at nformasjonen ovenfor med hensyn til levering/produksjon av dette produktet er i overensstemmelse med standardene og and e relaterte dokumenter følge bestemmelsene i direkt vene ovenfor

Signatur **Dato** 8/8/2007

Erklæring nr 0002/8807

Declaración de conformidad **ES**

Parker Hannifin ltd domn ck hunter division
Dukesway TVTE Gateshead Tyne & Wear NE11 0PZ UK

OIL X Evolution
AO AA ACS AR AAR 005 010 015 020 025 030
AO AA ACS AR AAR 035 040 045
AO AA ACS AR AAR 050 055

Directivas	97 23 EC
Normas ut lizadas	Generalmente de conform dad con ASMEVIII Div 1 2004
Ruta de evaluación de la normativa PED	Artículo 3 3 (AO AA ACS AAR 005 010 015 020 025 030) Módulo A (AO AA ACS AAR 035 040 045) Módulo B (AO AA ACS AR AAR 050 055)
Organismo not ficado para la normativa PED	Lloyds Register Ver fication 71 Fenchurch St London EC3M 4BS
Cert ficado de examen CE de t po	COV0413459/TEC
Representante autorizado	Derek Bankier D v s onal Quality Manager Parker Hannifin ltd domn ck hunter division

Declarac ón

Como representante autorizado declaro que la información anter ormente expuesta en relac ón con el sum n stro y/o fabr cac ón de este p oducto cumple las normativas ndicadas y otros documentos afines según las disposiciones de las Direct vas c tadas anteriormente

Firma **Fecha** 8 8/2007

Número de declaración 0002/8807

Overensstemmelseserklæring **DA**

Parker Hannifin ltd domn ck hunter divis on
Dukesway TVTE Gateshead Tyne & Wear NE11 0PZ UK

OIL X Evolution
AO AA ACS AR AAR 005 010 015 020 025 030
AO AA ACS AR AAR 035 040 045
AO AA ACS AR AAR 050 055

Direktiver	97/23 EC
Anvendte standarder	Generelt i overensstemmelse med ASMEVIII div 1 2004
Forløb for PED bedømmelse	Artikel 3 3 (AO AA ACS AAR 005 010 015 020 025 030) Modul A (AO AA ACS AAR 035 040 045) Modul B (AO AA ACS AR AAR 050 055)
Not ficeret organ for PED	Lloyds Reg ster Ver fication 71 Fenchurch St London EC3M 4BS
EF typeafprøvningsattest	COV0413459/TEC
Autoriseret repræsentant	Derek Bankier D v s onal Quality Manager Parker Hannif n ltd domn ck hunter division

Erklæring

Jeg erklærer hermed som autor seret repræsentant at ovennævnte oplysninger ved ærende levering/produkt on af dette produkt er i overensstemmelse med de anførte standarder og øvrige tilknyttede dokumenter i henhold t l bestemmelserne i ovenstående d rekt ver

Underskrift **Dato** 8/8/2007

Erklær ngsnummer 0002/8807

Declaração de Conformidade **PT**

Parker Hannifin ltd domn ck hunter division
Dukesway TVTE Gateshead Tyne & Wear NE11 0PZ UK

OIL X Evolution
AO AA ACS AR AAR 005 010 015 020 025 030
AO AA ACS AR AAR 035 040 045
AO AA ACS AR AAR 050 055

Directivas	97/23/EC
Padrões utilizados	De forma geral em concordânc a com ASMEV II D v 1 2004
Percurso de Aval ação do PED	Artigo 3 3 (AO AA ACS AAR 005 010 015 020 025 030) Módulo A (AO AA ACS AAR 035 040 045) Módulo B (AO AA ACS AR AAR 050 055)
Not ficado para o PED	Lloyds Reg ster Ver ficat on 71 Fenchurch St London EC3M 4BS
Cert ficado de Inspecção Tipo CE	COV0413459 TEC
Revendedor Autorizado	Derek Bankier D v s onal Quality Manager Parker Hannif n td domnick hunter division

Declaração

Declaro na qualidade de representante auto izado que as nformações acima contidas referentes ao fornec mento / fabrico deste produto estão em conformidade com as normas e outros documentos relac onados de acordo com as dispos ções das Directivas anteriores

Assinatura **Data** 8/8/2007

Número da Declaração 0002/8807

Δήλωση συμμόρφωσης **EL**

Parker Hannifin ltd domn ck hunter divis on
Dukesway TVTE Gateshead Tyne & Wear NE11 0PZ UK

OIL X Evolution
AO AA ACS AR AAR 005 010 015 020 025 030
AO AA ACS AR AAR 035 040 045
AO AA ACS AR AAR 050 055

Οδηγίες	97 23/EC
Πρότυπα που χρησιμοποιήθηκαν	Γεν κά σε συμφων α με το ASMEVIII Div 1 2004
Δ αδρομή αξιολόγησης για κανον σμούς PED	Αρθρο 3 3 (AO AA ACS AAR 005 010 015 020 025 030) Ενότητα A (AO AA ACS AAR 035 040 045) Ενότητα B (AO AA ACS AR AAR 050 055)
Ενήμερος οργανισμός για κανον σμούς PED	Lloyds Register Verif cation 71 Fenchurch St London EC3M 4BS
Π στοποιητ κό εξέτασης τύπου ΕΚ	COV0413459/TEC
Εξουσιοδοτημένος αντ πρόσωπος	Derek Bankier Divisional Qual ty Manager Parker Hannifin ltd domn ck hunter divis on

Δήλωση

Δηλώνω ως ο εξουσιοδοτημένος αντ πρόσωπος ότι οι παραπάνω πληροφορ ες σε σχέση με τη δ άθεση / κατασκευή αυτού του προ όντος συμμορφώνονται ως προς τα πρότυπα και ως προς τα άλλα σχετ κά έγγραφα που συνοδεύουν τ ς δ ατάξεις των πιο πάνω οδηγ ών

Υπογραφή **Ημερομηνία** 8/8 2007

Αριθμός δήλωσης 0002/8807

Dichiarazione di conformità **IT**

Parker Hannifin ltd domn ck hunter division
Dukesway TVTE Gateshead Tyne & Wear NE11 0PZ UK

OIL X Evolution
AO AA ACS AR AAR 005 010 015 020 025 030
AO AA ACS AR AAR 035 040 045
AO AA ACS AR AAR 050 055

Direttive	97 23 EC
Norme util zzate	Generalmente confo me a ASMEVIII Div 1 2004
Procedura di valutazione PED	Articolo 3 3 (AO AA ACS AAR 005 010 015 020 025 030) Moduli A (AO AA ACS AAR 035 040 045) Moduli B (AO AA ACS AR AAR 050 055)
Organismo accreditato per PED	Lloyds Register Ver fication 71 Fenchurch St London EC3M 4BS
Attestato di certif cazione tipo CE	COV0413459/TEC
Rappresentante autor zzato	Derek Bankier D v s onal Quality Manager Parker Hannifin ltd domn ck hunter division

Dichiarazione

In qualità di rappresentante auto izzato dichiaro che le informaz oni di cui sopra in mer to alla fornitura fabbr caz one del prodotto n oggetto sono conformi alle norme ndicate e a qualsiasi a tro documento correlati a la form tura basato su quanto prescri to dalle dire tive menzionate

Firma **Data** 8 8/2007

Dichiarazione numero 0002/8807

Deklaracja zgodności PL

Parker Hannifin ltd domn ck hunter divis on
Dukesway TVTE Gateshead Tyne & Wear NE11 0PZ UK

OIL X Evolution
AO AA ACS AR AAR 005 010 015 020 025 030
AO AA ACS AR AAR 035 040 045
AO AA ACS AR AAR 050 055

Dyrektywy	97/23/EC
Stosowane standardy	Ogólnie zgodny z ASMEVIII dział 1 2004
Ścieżka potwierdzania zgodności z PED	Artykuł 3 3 (AO AA ACS AAR 005 010 015 020 025 030) Moduł A (AO AA ACS AAR 035 040 045) Moduł B (AO AA ACS AR AAR 050 055)
Organ/instytucja powiadamiana na mocy PED	Lloyds Reg ster Ver ficat on 71 Fenchurch St London EC3M 4BS
Certyfikat badan a typu WE	COV0413459 TEC
Autoryzowany przedstawiciel	Derek Bankier D v s onal Quality Manager Parker Hannif n td domn ck hunter division

Deklaracja

Ośw adczam jako auto yzowany przedstawiciel że powyższe informacje dotyczące dostawy / wytworzen a niniejszego produktu są zgodne ze standardami i innymi dokumentami powiązanymi zgodn e z postanowieniami powyższych dyrektyw

Podpis **Data** 8 8/2007

Numer deklaracji 0002/8807

Vastavusdeklaratsioon ET

Parker Hannifin ltd domn ck hunter division
Dukesway TVTE Gateshead Tyne & Wear NE11 0PZ UK

OIL X Evolution
AO AA ACS AR AAR 005 010 015 020 025 030
AO AA ACS AR AAR 035 040 045
AO AA ACS AR AAR 050 055

Direkti vid	97/23 EC
Kasutatud standardid	Üld selt vastavuses standard ga ASMEVI I D v 1 2004
PED vastavushinnangu jaotus	A tikkel 3 3 (AO AA ACS AAR 005 010 015 020 025 030) Moodul A (AO AA ACS AAR 035 040 045) Moodul B (AO AA ACS AR AAR 050 055)
PEDist (surveseadmete direktiivist) teav tatud asutus	Lloyds Register Ver fication 71 Fenchurch St London EC3M 4BS
EÜ tüübih ndamistõend	COV0413459/TEC
Volitatud es ndaja	Derek Bankier D v s onal Quality Manager Parker Hannif n ltd domn ck hunter division

Deklaratsioon

Volitatud esindajana kinn tan et ülaltoodud teave seoses antud toote tarn m se/tootmisega on vastavuses standardite ja muude seotud dokumentidega vastava t ülaltoodud d rekti v de sätetele

Allkiri **Kuupäev** 8 8/2007

Deklaratsiooni number 0002/8807

Vyhlásenie o zhode SK

Parker Hannifin ltd domn ck hunter divis on
Dukesway TVTE Gateshead Tyne & Wear NE11 0PZ UK

OIL X Evolution
AO AA ACS AR AAR 005 010 015 020 025 030
AO AA ACS AR AAR 035 040 045
AO AA ACS AR AAR 050 055

Smern ce	97 23/EC
Použ té normy	Vo všeobecnosti v zhode s ASMEV II oddiel 1 2004
Spôsob posudzovania podľa smernice PED	Článok 3 3 (AO AA ACS AAR 005 010 015 020 025 030) Modul A (AO AA ACS AAR 035 040 045) Modul B (AO AA ACS AR AAR 050 055)
Oboznámený orgán podľa smernice PED	Lloyds Register Ver fication 71 Fenchu ch St London EC3M 4BS
Osvedčenie typovej skúšky ES	COV0413459/TEC
Splnomocnený zástupca	Derek Bankier D v s onal Quality Manager Parker Hannifin ltd domn ck hunter d v s on

Vyhlásenie

Ako splnomocnený zástupca vyhlasujem že nformácie uvedené vyššie sú v súv slosti s dodávkou / výrobou tohto výrobku v zhode s normami a nými súvisiac mi dokumentmi podľa ustanoven uvedených smern c

Podpis **Dátum** 8/8/2007

Číslo vyhlásen a 0002 8807

Megfelelőségi nyi atkozat HU

Parker Hannifin ltd domn ck hunter division
Dukesway TVTE Gateshead Tyne & Wear NE11 0PZ UK

OIL X Evolution
AO AA ACS AR AAR 005 010 015 020 025 030
AO AA ACS AR AAR 035 040 045
AO AA ACS AR AAR 050 055

Direktívák	97/23/EC
Alkalmazott szabványok	Á talánosan a következő alapján ASMEV II D v 1 2004
PED értékelési irányvonal	3 3 as c kkely (AO AA ACS AAR 005 010 015 020 025 030) Modulok A (AO AA ACS AAR 035 040 045) Modulok B (AO AA ACS AR AAR 050 055)
PED del kapcsolatban értes tett testület	Lloyds Reg ster Verificat on 71 Fenchurch St London EC3M 4BS
EC t pusvizsgálati bizonyítvány	COV0413459 TEC
Hivatalos képviselő	De ek Bankier Divisional Quality Manager Parker Hannif n td domnick hunter division

Nyilatkozat

Hivatalos képviselőként kijelentem hogy a termék szállításával / gyártásával kapcsolatos fent olvasható informác ók megfelelnek a fenti Direktívák elő rásai szerinti szabványoknak és egyéb kapcsolódó dokumentumoknak

Aláírás **Dátum** 8/8/2007

Nyilatkozat száma 0002/8807

Prohlášení o shodě CS

Parker Hannifin ltd domn ck hunter divis on
Dukesway TVTE Gateshead Tyne & Wear NE11 0PZ UK

OIL X Evolution
AO AA ACS AR AAR 005 010 015 020 025 030
AO AA ACS AR AAR 035 040 045
AO AA ACS AR AAR 050 055

Směrn ce	97 23/EC
Použ té normy	Obecně v souladu ASMEVIII Div 1 2004
Metoda stanovení shody pro tlaková zař zení (PED)	Článek 3 3 (AO AA ACS AAR 005 010 015 020 025 030) D lčí část A (AO AA ACS AAR 035 040 045) D lčí část B (AO AA ACS AR AAR 050 055)
Notif kovaný orgán pro PED	Lloyds Register Ver fication 71 Fenchu ch St London EC3M 4BS
Osvědčení o zkoušce typu ES	COV0413459/TEC
Oprávněný zástupce	Derek Bank er Divisional Qual ty Manager Parker Hann fin ltd domnick hunter d v s on

Prohlášení

Jako oprávněný zástupce prohlašuji že výše uvedené nformace týkající se dodávky /výroby tohoto produktu jsou v souladu s normami a j nými souv sej cími dokumenty vyplývajícími z ustanovení výše uvedených směrnic

Podpis **Datum** 8/8 2007

Č slo prohlášení 0002/8807

Atbilstības deklarācija LV

Parker Hannifin ltd domn ck hunter division
Dukesway TVTE Gateshead Tyne & Wear NE11 0PZ UK

OIL X Evolution
AO AA ACS AR AAR 005 010 015 020 025 030
AO AA ACS AR AAR 035 040 045
AO AA ACS AR AAR 050 055

Direktīvas	97 23/EC
Izmantotie standarti	Parasti saskaņa ar ASMEVI I D v 1 2004
PED novērtējums	Pants 3 3 (AO AA ACS AAR 005 010 015 020 025 030) Modulis A (AO AA ACS AAR 035 040 045) Modulis B (AO AA ACS AR AAR 050 055)
Par PED informētā organizāc ja	Lloyds Register Ver fication 71 Fenchu ch St London EC3M 4BS
EK sastādīts Eksaminācijas sertifikāts	COV0413459/TEC
Pilnvarotais pārstāvis	Derek Bankier D v s onal Quality Manager Parker Hannifin ltd domn ck hunter d v s on

Deklarācija

Es kā pilnvarots pārstāvis ar šo paziņoju ka iepriekšminētā informācija kas a tiecas uz šī produkta piegādi / ražošanu atbilst standartiem un c tiem a blstošiem dokumentiem saskaņā ar iep iekšm nētajām D rektīvām

Paraksts **Datums** 8/8/2007

Deklarāc jas numurs 0002/8807

FILTER DH-OIL-X EVO AO AA 01-

Atitikties deklaracija LT

Parker Hannifin ltd domn ck hunter division
Dukesway TVTE Gateshead Tyne & Wear NE11 0PZ UK

OIL X Evolution
AO AA ACS AR AAR 005 010 015 020 025 030
AO AA ACS AR AAR 035 040 045
AO AA ACS AR AAR 050 055

Direktyvos	97 23/EC
Naudoti standartai	Atitinka bendrąsias ASMEVIII Div 1 : 2004 nuostatas
PED įvertinimo pakopa:	3 3 stra psn s (AO AA ACS AAR 005 010 015 020 025 030) Modulis A (AO AA ACS AAR 035 040 045) Modulis B (AO AA ACS AR AAR 050 055)
PED notifikuotoji institucija	Lloyds Register Ver fication 71 Fenchu ch St London EC3M 4BS
EB t po testavimo sertifikatas	COV0413459/TEC
Įgaliotasis atstovas	Derek Bankier D v s onal Quality Manager Parker Hannifin ltd domn ck hunter d v s on

Deklaracija

Aš, įgaliotasis atstovas, patvirtinu, kad aukščiau pateikta gaminio tiekimo/pagaminimo informacija atitinka aukščiau nurodytus standartus ir kitą su nurodytų direktyvų nuostatomis susijusią dokumentaciją.

Parašas **Data** 8 8/2007

Deklaracijos numeris 0002 8807

Uyum Beyanı TR

Parker Hannifin ltd domn ck hunter division
Dukesway TVTE Gateshead Tyne & Wear NE11 0PZ UK

OIL X Evolution
AO AA ACS AR AAR 005 010 015 020 025 030
AO AA ACS AR AAR 035 040 045
AO AA ACS AR AAR 050 055

Direktifler	97/23 EC
Kullanılan standartlar	Genelde ASMEV II D v 1 2004'e uygun
PED (Basınçlı Ekipman Direktifi) Değerlendirmesi Yolu	Madde 3 3 (AO AA ACS AAR 005 010 015 020 025 030) Modül A (AO AA ACS AAR 035 040 045) Modül B (AO AA ACS AR AAR 050 055)
PED için bild rimde bulunulan kuruluş:	Lloyds Reg ster Ver fication 71 Fenchurch St London EC3M 4BS
AT Tip İncelemesi Sertifikası:	COV0413459/TEC
Yetkili Temsilci	Derek Bankier D v s onal Quality Manager Parker Hannif n td domn ck hunter division

Beyan

Yetkili temsilci olarak beyan ederim ki bu ürünün teminine / üretimine ilişkin olarak yukarıda verilen bilgiler yukarıda anılan Direktiflerin hükümlerine uyan standartlara ve ilgili başka belgelere uygundur.

İmza: **Tarih:** 8/8 2007

Beyan No 0002/8807

Декларация соответствия RU

Parker Hannifin ltd domn ck hunter division
Dukesway TVTE Gateshead Tyne & Wear NE11 0PZ UK

OIL X Evolution
AO AA ACS AR AAR 005 010 015 020 025 030
AO AA ACS AR AAR 035 040 045
AO AA ACS AR AAR 050 055

Требования	97 23 EC
Применяемые стандарты	В большинстве случаев обеспечивается соответствие стандарту ASMEVIII, Раздел 1: 2004.
Система обеспечения качества PED	Статья 3.3 (AO, AA, ACS, AAR - 005, 010 015 020 025 030) Модуль A (AO, AA, ACS, AAR - 035, 040 045) Модуль B (AO, AA, ACS, AR, AAR, - 050 055)
Уполномоченный орган для PED:	Lloyds Register Ver fication 71 Fenchurch St London EC3M 4BS
Сертификат ЕС на проведение типовых испытаний:	COV0413459/TEC
Уполномоченный представитель	Derek Bankier D v s onal Quality Manager Parker Hannifin ltd domn ck hunter division

Декларация

Как уполномоченный представитель, я заявляю, что приведенная выше информация относительно поставки/производства данного продукта соответствует стандартам, другим связанным документам и положениям указанных выше требований.

Подпись: **Дата:** 8 8/2007

Номер декларации: 0002/8807

Dikjarazzjoni tal Konformità MT

Parker Hannifin ltd domn ck hunter division
Dukesway TVTE Gateshead Tyne & Wear NE11 0PZ UK

OIL X Evolution
AO AA ACS AR AAR 005 010 015 020 025 030
AO AA ACS AR AAR 035 040 045
AO AA ACS AR AAR 050 055

Direttivi	97/23 EC
Standards użati	Generalment f'konformità ma' ASMEVIII Div 1 : 2004
Rotta ta' l Assessjar tal PED	Artikolu 3 3 (AO AA ACS AAR 005 010 015 020 025 030) Modulu A (AO AA ACS AAR 035 040 045) Modulu B (AO AA ACS AR AAR 050 055)
Korp notifikat għall-PED:	Lloyds Reg ster Ver fication 71 Fenchurch St London EC3M 4BS
Ċertifikat tal-KE ta' l-eżaminazzjoni tat-Tip:	COV0413459/TEC
Rappreżentant Awtorizzat	Derek Bankier D v s onal Quality Manager Parker Hannif n td domn ck hunter division

D kjarazzjoni

Niddikjara li bħala r-rappreżentant awtorizzat, l-informazzjoni ta' hawn fuq, f'dak li għandu x'jaqsam mal-fornitment/manifattura ta' dan il-prodott, hija f'konformità ma' l-istandards u d-dokumenti l-oħra relatati li jsegwu d-dispożizzjonijiet tad-Direttivi msemmija hawn fuq

Firma **Data** 8/8/2007

Numru tad Dikjarazzjoni 0002 8807

Izjava o skladnosti SL

Parker Hannifin ltd domn ck hunter division
Dukesway TVTE Gateshead Tyne & Wear NE11 0PZ UK

OIL X Evolution
AO AA ACS AR AAR 005 010 015 020 025 030
AO AA ACS AR AAR 035 040 045
AO AA ACS AR AAR 050 055

Direktive	97/23 EC
Uporabljeni standardi	Splošno skladno z ASMEVIII Div 1 2004
Ocenjevalna pot PED	Članek 3.3 (AO, AA, ACS, AAR - 005, 010, 015, 020, 025 030) Modul A (AO AA ACS AAR 035 040 045) Modul B (AO AA ACS AR AAR 050 055)
Priglašeni organ za PED	Lloyds Register Ver fication 71 Fenchurch St London EC3M 4BS
Cert fikat o tipskem pregledu ES	COV0413459/TEC
Pooblaščeni zastopnik	Derek Bankier D v s onal Quality Manager Parker Hannif n ltd domn ck hunter division

Izjava

Kot pooblaščeni zastopnik izjavljam, da so zgornji podatki glede dobave/pro zvodnje tega zdelka skladni s standardi n ostalimi sorodnimi dokumenti, ki sledijo določbam zgornjih direktiv.

Podpis **Datum** 8/8 2007

Štev lka izjave 0002/8807

Declarație de conformitate RO

Parker Hannifin ltd domnick hunter div sion
Dukesway TVTE Gateshead Tyne & Wear NE11 0PZ UK

OIL X Evolution
AO AA ACS AR AAR 005 010 015 020 025 030
AO AA ACS AR AAR 035 040 045
AO AA ACS AR AAR 050 055

Directive	97/23/EC
Standarde u ilizate	Splošno skladno z ASMEV II D v 1 2004
Traseu de evaluare PED	Članek 3.3 (AO, AA, ACS, AAR - 005, 010, 015, 020, 025 030) Modul A (AO AA ACS AAR 035 040 045) Modul B (AO AA ACS AR AAR 050 055)
Organism no ificat pentru PED	Lloyds Reg ster Verificat on 71 Fenchurch St London EC3M 4BS
Certificat de examinare de tip CE	COV0413459 TEC
Reprezentant autorizat	Derek Bankier D v s onal Quality Manager Parker Hannif n td domnick hunter division

Declarație

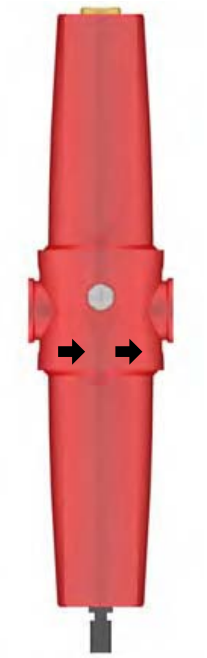
În calitate de reprezentant autorizat, declar că informațiile de mai sus, referitoare la furnizarea / fabricația acestui produs, sunt în conformitate cu standardele și alte documente conexe care respectă prevederile Directivelor de mai sus.

Semnătura: **Data:** 8 8/2007

Număr declarație: 0002/8807

13.8 Option dc
Operating instructions for compressed air filter (fresh air filter)

domnick hunter



AC010 - AC030

OIL-X EVOLUTION

Original Language (EN) **OIL VAPOUR & ODOUR REMOVAL FILTERS**

(NL) OLIEDAMP & GEUR VERWIJDERINGSFILTERS
(FR) FILTRES D'ÉLIMINATION DES ODEURS ET DES VAPEURS D'HUILE
(SV) FILTER FÖR AVLÄGSNING AV OLJEÅNGOR OCH LUKT
(DA) FILTER FÖR AVLÄGSNING AV OLJEÅNGOR OCH LUKT
(ES) FILTROS DE ELIMINACIÓN DE OLORES Y VAPORES DE ACEITE
(IT) FILTRI PER L'ELIMINAZIONE DEGLI ODORI E DEI VAPORI D'OLIO
(SK) FILTRE NA ODSTRAŇOVANIE OLEJOVÝCH VÝPAROV A ZÁPACHU
(ET) ÕLISUDU JA -HAISU EEMALDUSFILTRID
(LV) EĻĻAS TVAIKU UN AROMĀTA NOVĒRŠANAS FILTRI
(RU) ФИЛЬТРЫ ДЛЯ УСТРАНЕНИЯ ЗАПАХА И ПАРОВ МАСЛА
(TR) YAĞ BUHARI VE KOKUSU GİDERİCİ FİLTRELER
(DE) FILTER ZUM ENTFERNEN VON ÖLNEBEL UND GERÜCHEN
(FI) ÖLJYHÖYRYN JA HAJUN POISTOSUODATTIMET
(NO) OLJEDAMP- OG OLJELUKTFJERNINGSFILTRE
(EL) ΦΙΛΤΡΑ ΑΦΑΙΡΕΣΗΣ ΑΤΜΩΝ & ΟΣΜΩΝ ΛΑΔΙΟΥ
(PT) VAPOR DO ÓLEO E FILTROS DE REMOÇÃO DOS CHEIROS
(PL) FILTRY DO USUWANIA OPARÓW I ZAPACHU OLEJU
(CS) OLEJOVÉ A PROTIPACHOVÉ FILTRY
(HU) OLAJGŐZ- ÉS SZAGELTÁVOLÍTÓ SZŰRŐK
(LT) ALYVOS GARŲ IR KVAPO ŠALINIMO FILTRAI
(SL) FILTRI ZA ODSTRANJEVANJE OLJNIH HLAPOV IN VONJAV
(MT) FILTRI LI JNEĦĦU L-FWAR TAŻ-ŻJUT U L-IRWEJJAĦ

1 FILTER-DH-OIL-XEVOLUTION 01

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.
- Fremhever handlinger eller prosedyrer som kan føre til personskade eller dødsfall hvis de ikke utføres på korrekt måte.
- Fremhæver handlinger eller fremgangsmåder, som kan medføre personskade eller dødsfald, hvis de ikke udføres korrekt.
- Επισημαίνει τις ενέργειες ή τις διαδικασίες, οι οποίες αν δεν πραγματοποιηθούν σωστά, μπορεί να οδηγήσουν σε τραυματισμό προσωπικού ή σε θάνατο
- Destaca acciones o procedimientos que, de no realizarse correctamente, pueden ocasionar daños personales o la muerte.
- Realça as acções ou procedimentos que, se não forem executados correctamente, poderão provocar danos pessoais ou morte.
- Segnala azioni o procedure che, se non eseguite correttamente, comportano il rischio di infortuni o morte.
- Wskazuje działania i procedury, które w razie niewłaściwego wykonania mogą prowadzić do obrażeń ciała lub śmierci.
- Zvýrazňuje činnosti alebo postupy, ktoré môžu v prípade nesprávneho vykonania viesť zraneniu alebo usmrteniu.
- Upozorněnní na činnosti nebo postupy, jejichž nesprávné provádění může vést ke zranění nebo usmrcení osob.
- Tõstab esile toimingud või protseduurid, mis väära teostamise korral võivad põhjustada kehavigastusi või surma.
- Olyan műveleteket vagy eljárásokat jelöl, amelyek nem megfelelő módon történő végrehajtása súlyos vagy végzetes személyi sérülést okozhat.
- Uzsver darbības vai procedūras, kuru rezultātā, ja tās neveic pareizi, var izraisīt ievainojumus vai nāvi.
- Žymi veiksmus ar procedūras, kuriuos atlikus neteisingai, galima susižeisti ar mirti.
- Указывает на действия, ненадлежащее выполнение которых может привести к нанесению вреда здоровью или смерти
- Označuje dejanja ali postopke, ki lahko ob nepravilnem izvajanju poškodujejo človeka ali povzročijo smrt.
- Doğru bir şekilde yerine getirilmediği takdirde bu ürüne hasar verebilecek işlem ve süreçleri vurgular.
- Tissottolinea l-azzjonijiet jew il-proċeduri, li jekk ma jsirux kif suppost, jista' jkun hemm korriment jew mewt

Caution

- Highlights actions or procedures, which if not performed correctly, may lead to damage to this product.
- Benadrukt de acties of procedures die, indien niet juist uitgevoerd, schade kunnen berokkenen aan dit product.
- Weist auf Aktionen oder Verfahren hin, die bei fehlerhafter Durchführung zu Schäden am Gerät führen können.
- Met en relief les actions ou procédures qui, si elles ne sont pas exécutées correctement, peuvent endommager ce produit.
- Osoittaa toimenpiteitä tai menettelytapoja, jotka väärin suoritettuina saattavat vaurioittaa tätä laitetta.
- Anger åtgärder och metoder som kan orsaka skador på den här produkten om de inte utförs korrekt.
- Fremhever handlinger eller prosedyrer som kan føre til skade på produktet hvis de ikke utføres på korrekt måte.
- Fremhæver handlinger eller fremgangsmåder, som kan medføre beskadigelse af dette produkt, hvis de ikke udføres korrekt.
- Επισημαίνει τις ενέργειες ή τις διαδικασίες, οι οποίες αν δεν πραγματοποιηθούν σωστά, μπορεί να προκαλέσουν ζημιά στο προϊόν αυτό
- Destaca acciones o procedimientos que, de no realizarse correctamente, pueden ocasionar el deterioro del producto.
- Realça as acções ou procedimentos que, se não forem executados correctamente, poderão danificar este produto.
- Segnala azioni o procedure che, se non eseguite correttamente, comportano il rischio di danneggiare il prodotto.
- Wskazuje działania i procedury, które w razie niewłaściwego wykonania mogą powodować uszkodzenie produktu.
- Zvýrazňuje činnosti alebo postupy, ktoré v prípade nesprávneho vykonania môžu viesť k poškodeniu tohto výrobku.
- Upozorněnní na činnosti nebo postupy, jejichž nesprávné provádění může vést k poškození tohoto výrobku.
- Tõstab esile toimingud või protseduurid, mis väära teostamise korral võivad käesolevat toodet kahjustada.
- Olyan műveleteket vagy eljárásokat jelöl, amelyek nem megfelelő módon történő végrehajtása a termék károsodásához vezethet.
- Uzsver darbības vai procedūras, kuru rezultātā, ja tās neveic pareizi, var sabojāt šo izstrādājumu.
- Žymi veiksmus ar procedūras, kuriuos atlikus neteisingai, galima sugadinti šį gaminį.
- Указывает на действия, ненадлежащее выполнение которых может привести к повреждениям данного изделия
- Označuje dejanja ali postopke, ki lahko ob nepravilnem izvajanju poškodujejo izdelek.
- Doğru bir şekilde yerine getirilmediği takdirde yaralanma ya da ölüme yol açabilecek işlem ve süreçleri vurgular
- Tissottolinea l-azzjonijiet jew il-proċeduri, li jekk ma jsirux kif suppost, tista' ssir ħsara lil dan il prodott



- Suitable gloves must be worn.
- Geeignete Schutzhandschuhe tragen.
- Käytettävä asianmukaisia käsineitä.
- Bruk egnede hansker.
- Απαιτείται να φοράτε κατάλληλα γάντια
- Devem ser utilizadas luvas adequadas.
- Należy zakładać odpowiednie rękawice
- Kohustuslik kanda sobivaid kaitsekindaid
- Jāvalkā piemēroti cimdi.
- Работы должны проводиться в соответствующих перчатках
- Uygun eldiven giyilmelidir
- Altijd geschikte handschoenen dragen.
- Le port de gants adaptés est obligatoire.
- Använd lämpliga handskar.
- Der skal anvendes egnede handsker.
- Se deben llevar puestos guantes apropiados.
- Indossare guanti di protezione.
- Je nutné použít vhodné rukavice.
- Viseljen megfelelő védőkesztyűt.
- Reikia mūvėti tinkamas pirštines.
- Uporabiti je treba ustrezne rokavice.
- Għandhom jintlibsu ingwanti adatti



- Highlights the requirements for disposing of used parts and waste.
- Benadrukt de vereisten voor het weggooien van gebruikte onderdelen en afval.
- Weist auf die Anforderungen zur Entsorgung gebrauchter Teile und Abfall hin.
- Met en relief les consignes de mise au rebut des pièces usagées et des déchets.
- Osoittaa käytettyjen osien ja jätteen hävittämistä koskevia vaatimuksia.
- Anger de krav som ställs på bortskaffande av gamla delar och avfall.
- Fremhever kravene for avhending av brukte deler og avfall.
- Fremhæver kravene til bortskaffelse af udtjente dele og affald.
- Επισημαίνει τις απαιτήσεις απόρριψης των χρησιμοποιημένων εξαρτημάτων και των απορριμμάτων
- Destaca los requisitos para desechar las piezas usadas y los residuos.
- Realça os requisitos para eliminar as peças utilizadas e os desperdícios.
- Segnala i criteri per lo smaltimento di componenti usati e rifiuti.
- Wskazuje wymagania dotyczące usuwania zużytych części i odpadów.
- Zvýrazňuje požiadavky pre zneškodňovanie použitých dielov a odpadu.
- Upozorněnní na požadavky týkající se likvidace použitých dílů a odpadu.
- Tõstab esile kasutatud osade ja jääkide utiliseerimisele esitatavad nõuded
- A használt alkatrészek és a hulladék megfelelő módon történő elhelyezésére hívja fel a figyelmet.
- Uzsver prasības tam, kā atbrīvoties no lietotajām detaļām un atkritumiem.
- Žymi panaudotų dalių ir atliekų išmetimo reikalavimus.
- Указывает на требования по уничтожению использованных деталей и отходов
- Označuje zahteve za odlaganje rabljenih delov in odpadkov.
- Kullanılmış parçaların ve atıkların atılmasına ilişkin gereklilikleri vurgular
- Tissottolinea l-kundizzjonijiet biex wieħed jarmi l-partijiet użati u l-iskart

AC010 - AC030



- Pressure.
- Paine.
- Πίεση
- Ciśnienie
- Nyomás alatt.
- Tlak
- Druk
- Tryck
- Presión.
- Tlak..
- Spiediens.
- Basınç
- Druck.
- Trykk
- Pressão.
- Tlak.
- Slėgis.
- Pressjoni
- Pression.
- Tryk
- Pressione.
- Surve.
- Давление



- Release Pressure.
- Évacuation de pression.
- Avlast trykk
- Despresurizar.
- Ciśnienie spustowe
- Surve väljalase
- Išleiskite slėgį.
- Basıncı Kaldırın
- Druk aflaten.
- Vapauta paine.
- Aflast tryk
- Liberta Pressão.
- Uvoľnite tlak.
- Engedje ki a nyomást.
- Стравить давление
- Neħħi l-pressjoni
- Druck ablassen.
- Tryckutsläpp.
- Εκτόνωση πίεσης
- Scaricare la pressione.
- Uvolnění tlaku.
- Pazeminiet spiedienu.
- Sprostitev tlaka.



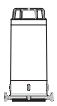
- Replace every year
- Remplacer tous les ans.
- Skift ut hvert år
- Sustituir anualmente
- Należy wymieniać raz w roku
- Asendage igal aastal
- Keiskite kartą per metus
- Her yıl değiştirin
- Elk jaar vervangen
- Vaihda vuosittain.
- Udskift en gang om året
- Substituir todos os anos
- Každý rok vymieňajte
- Évente cserélje
- Заменять каждый год.
- Ibdel kull sena
- Jährlich austauschen
- Byt varje år
- Αντικατάσταση κάθε χρόνο
- Sostituire ogni anno
- Nutná výměna každý rok.
- Nomainiet reizi gadā
- Zamenjajte vsako leto.



- Filter housing / Model
- Logement du filtre/modèle.
- Filterhus/-modell
- Caja de filtro/modelo.
- Obudowa filtra / model.
- Filtri korpus/mudel
- Filtro korpusas / modelis
- Filtre muhafazası / Model
- Filterhuis / Model
- Suodatinkotelo/-malli
- Filterhus/modell
- Caixa / Modelo do filtro
- Kryt filtra / Model
- Szűrőház / típus
- Корпус фильтра / модель
- Kontenitur tal-filtru - Mudell
- Filtergehäuse / Modell
- Filterhus/modell
- Υποδοχή/μοντέλο φίλτρου
- Corpo del filtro / Modello
- Kryt filtru / Model
- Filtra korpuss / modelis
- Ohišje filtra / Model



- High efficiency filter element
- Hochleistungsfilterelement
- Tehokas suodatinelementti
- Høyeffektivt filterelement
- Φίλτρο υψηλής απόδοσης
- Elemento do filtro de elevado rendimento
- Wysokowydajny wkład filtra
- Vysoce účinný filtrační prvek
- Nagy hatékonyságú szűrőelem
- Labai efektyvus filtravimo elementas
- Visoko učinkovit filtrirni element
- Element tal-filtru b'effiċjenza kbira
- Zeer efficiënt filterelement
- Cartouche filtrante haute efficacité.
- Högeffektivt filterelement
- Högeffektivt filterelement
- Elemento filtrante de gran eficiencia.
- Elemento filtrante ad alta efficienza
- Vysoko účinný filtračný článok
- Kõrgtootlik filterelement
- Augstas produktivitātes filtra elements
- Высокоэффективный фильтрующий элемент
- Yüksek etkinlikli filtre öğesi



- Adsorption filter cartridge - Granular carbon
- Adsorptionsfiltereinsatz - Granulatkohle
- Adsorptiosuodatinelementti – rakeinen hiili
- Adsorpsjonsfilterpatron – Karbon i kornform
- Φυσίγγιο φίλτρου προσρόφησης - Κοκκώδης άνθρακας
- Cartucho do filtro de absorção - Carvão granular
- Adsorpcyjny wkład filtrujący z węgla ziarnistego
- Adsorpční filtrační prvek – granulovaný uhlík
- Adszorpciós szűrőbetét – granulált szén
- Adsorbcinio filtro kasetė – anglies granulės
- Kaseta adsorpcijskega filtra – zrnasti ogljik
- Kaxxa assorbenti tal-filtru – Karbonju mrammel
- Adsorptiefilter cartridge - korrelvormige actieve kool
- Cartouche filtrante d'adsorption - Charbon en granulés.
- Adsorptionsfilterkassett – Kornigt kol
- Adsorptionsfilterkassett – Kornigt kol
- Cartucho filtrante de adsorción, gránulos de carbón.
- Filtro a cartuccia ad adsorbimento - granuli di carbone
- Adsorpčná filtračná kazeta – Granulovaný uhlík
- Adsorptsioonfiltri kassett – teraline süsi
- Absorbējoša filtra kasetne – graudains ogleklis
- Адсорбционный фильтрующий элемент – гранулированный уголь
- Adsorpsiyon filtresi kartuşu – Taneli karbon



- Adsorption filter element - Wrapped carbon cloth
- Adsorptie filterelement - gewikkelde koolstofdoek
- Adsorptionsfilterelement - eingewickeltes Filtertuch aus Kohlenstoff
- Cartouche filtrante d'adsorption - Charbon entouré de tissu.
- Adsorptiosuodatinelementti – kääritty 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
- Adsorpčný filtračný článok – Zabalená uhlíková tkanina
- Adsorpční filtrační prvek – zabalená uhlíková tkanina
- Adsorptsioonfiltri element – isoleeritud süsinikriie
- Adszorpciós szűrőelem – göngyölt szénszövet
- Absorbējošs filtra elements – satīta oglekļa drāniņa
- Adsorbcinis filtravimo elementas – susuktas anglies audinys
- Адсорбционный фильтрующий элемент – ткань из углеродистого волокна
- Adsorpcijski filtrirni element – navita ogljikova krpa
- Adsorpsiyon filtresi öğesi - Sarılı karbon kumaş
- Element tal-filtru li jassorbixxi - Xoqqa tal-karbonju mgeżwra



- Ensure coorrect tool is used
- Zorg dat het juiste gereedschap wordt gebruik
- Vérifier que les outils adéquats sont utilisés.
- Se till att rätt verktyg används.
- Sørg for at benytte korrekt værktøj
- Asegúrese de que se utiliza la herramienta adecuada
- Assicurarsi di utilizzare l'utensile corretto
- Uistite sa, že používate správny nástroj
- Tagage õige tööriista kasutamine
- Izmantojiet tikai atbilstošus darbarīkus
- Убедитесь, что используется правильный инструмент
- Doğru alet kullanılmasını sağlayın
- Stellen Sie sicher, dass Sie das richtige Werkzeug verwenden.
- Käytettävä oikeaa työkalua
- Pass på at korrekt verktøy brukes
- Βεβαιωθείτε ότι χρησιμοποιείται το σωστό εργαλείο
- Certifique-se de que é utilizada a ferramenta correcta
- Należy używać odpowiedniego narzędzia.
- Zkontrolujte použití správného nástroje
- Mindig a célnak megfelelő szerszámot használja
- Įsitikinkite, kad naudojamas reikiamas įrankis
- Poskrbite, da boste uporabili ustrezno orodje
- Kun żgur li tintuża l-ghodda t-tajba

AC010 - AC030



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

AC010 - AC030

MT

Rakkomandazzjonijiet għall-Installazzjoni

Nirrakkomandaw li l-arja kompressata tiġi trattata qabel ma tidħol 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 imxarrba jista' jirriżulta f'aktar tagħbija ta' ħmieġ għall-filtri li jintużaw f'punt wieħed, 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 preżenti ajrusols u partijiet ta' l-ilma, għalhekk xorta għandhom jintużaw gradi bi skop ġenerali u b'effiċċjenza kbira.

Filtru għal skopijiet ġenerali għandu dejjem jiġi installat biex jipproteġi 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 iffriżar, 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 jifthu malajr u għandu jkun protett minn possibilità ta' fluss b'lura jew kundizzjonijiet oħra stressanti.

Naddaf il-pajps kollha li jwasslu għat-tagħmir ta' purifikazzjoni qabel tinstalla u l-papjs kollha wara li tinstalla t-tagħmir ta' purifikazzjoni u qabel ma tqabbad ma' l-applikazzjoni finali.

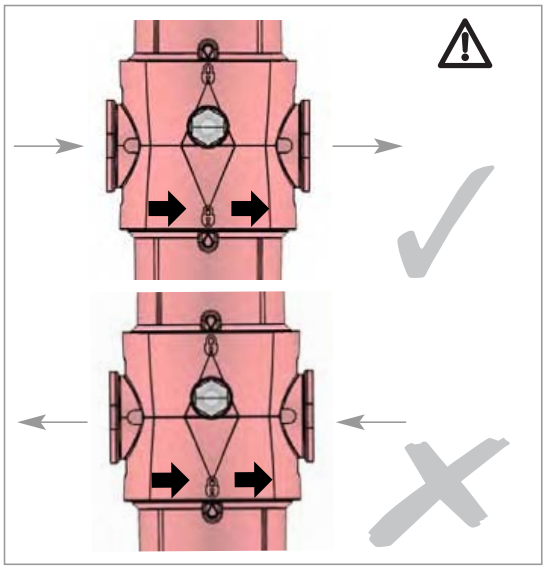
Jekk tiffittja linji ta' by-pass madwar it-tagħmir ta' purifikazzjoni, kun żgur li hemm biżżejjed filtrazzjoni ffittjata mal-linja tal-by-pass biex ma thallix li jkun hemm kontaminazzjoni tas-sistema aktar 'l isfel.

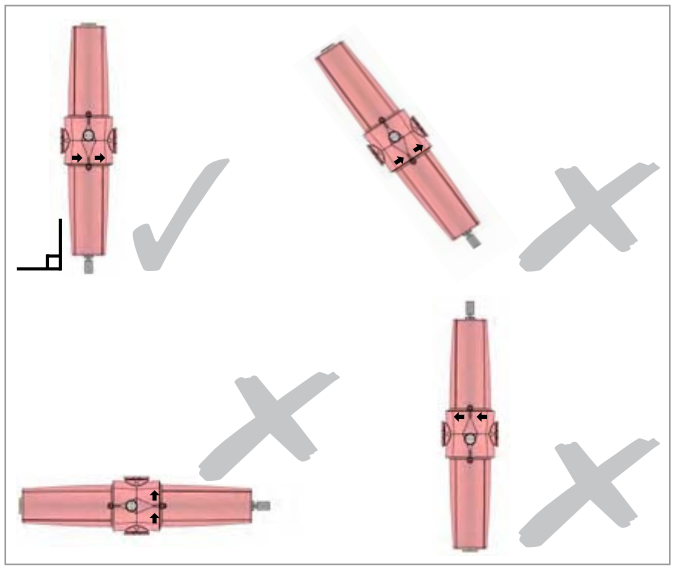
Ipprovdi faċilità biex tiddrejnja l-likwidi li jinġabru mit-tagħmir tal-purifikazzjoni. Il-likwidi li jinġabru għandhom jiġu trattati u mormija b'mod risponsabbli.

Iż-żmien kemm idumu jservu l-elementi tal-filtru li jneħħi l-fwar taż-żjut huwa affettwat mill-konċentrazzjoni taż-żejt tad-dħul, l-umdità relattiva u t-temperatura tas-sistema ta' l-arja kumpressata. L-elementi li jneħħu l-fwar taż-żjut ikollhom bżonn jinbidlu aktar ta' sikwit mill-element sħiħ ekwivalenti.

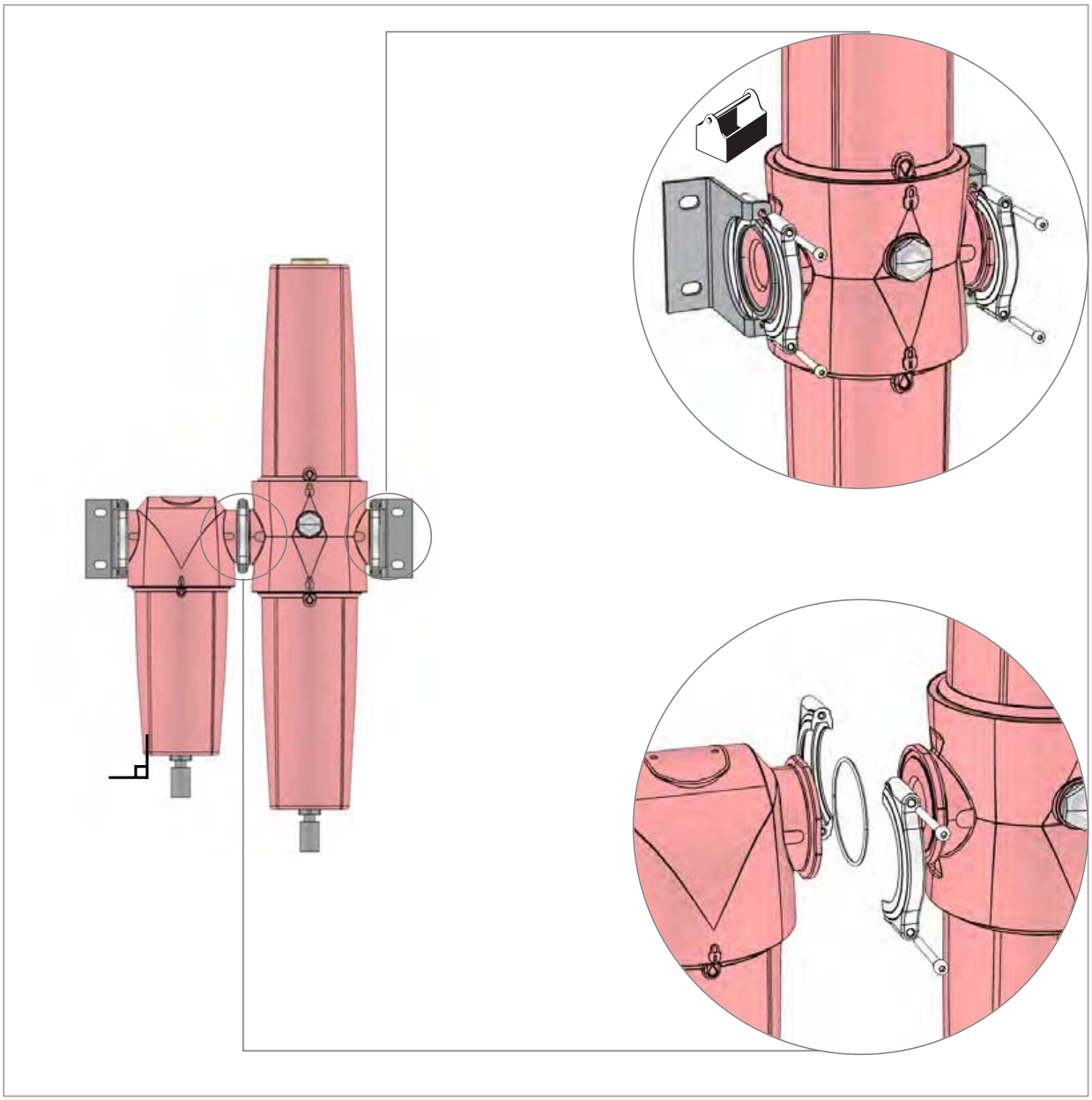
Mudelli AC010□□□I - AC030□□□I huma ffittjati b'indikatur tal-volum taż-żejt. Kemm l-elementi tal-filtru kif ukoll l-indikatur għandhom jinbidlu jekk l-indikatur isir ta' kulur blu.

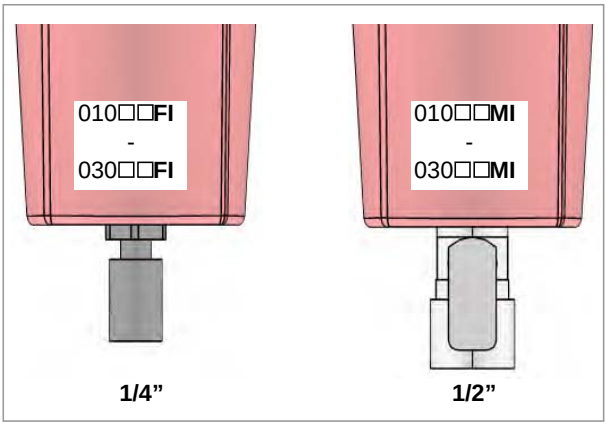
Jekk Jogħġbok Innota - Dan hu indikatur tal-volum taż-żejt u ma jindikax iż-żmien li jdum iservi l-element tal-filtru.





5 FILTER-DH-OIL-XEVOLUTION 01




010□□FI
-
030□□FI
010□□MI
-
030□□MI
1/4”
1/2”

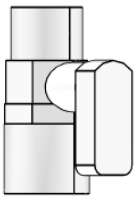
5. Spare Parts (Service Kits)

Reserve-onderdelen (servicekits) • Ersatzteile (Service-Kits) • **Pièces de rechange (nécessaires d'entretien)** • Varaosat (Huoltopakkaukset) • **Reservdelar (servicesatser)** • Reservedeler (service-sett) • **Reservedele (Servicekit)** • Ανταλλακτικά (Πακέτα τεχνικής υποστήριξης) • **Piezas de repuesto (kits de mantenimiento)** • Peças Sobressalentes (Kit de Reparação) • **Ricambi (kit per l'assistenza)** • Części zamienne (zestawy serwisowe) • Náhradné diely (Servisná súprava) • Náhradní díly (Sady pro údržbu) • Varuosad (hooldekomplektid) • Pótalkatrészek (szervizkészletek) • Rezerves daļas (apkopes komplekti) • Atsarginės dalys (priežiros detalių komplektai) • Запасные части (ЗИП) • Nadomestni deli (servisni kompleti) • **Yedek parça (Servis kitleri)** • Partijiet Għat-Tibdil (Kitts tas-Servizz)



EF1

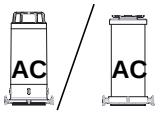
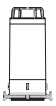
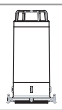
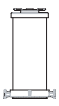
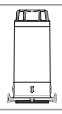
- **AUTOMATIC DRAIN**
- **AUTOMATISCHER ABLAUF**
- **VIDANGE AUTOMATIQUE**
- **AUTOMISCHAFTAPPEN**
- **DRENAJE AUTOMATICO**
- **SCARIO AUTOMATICO**
- **AUTOMATISK AFLØB**
- **DRENO AUTOMÁTICO**
- ΑΥΤΟΜΑΤΗ ΑΠΟΣΤΡΑΓΓΙΣΗ
- **AUTOMATDRÄNERING**
- **AUTOMAATTINEN**
- **TYHJENNYSKAPPALE**
- DREN AUTOMATYCZNY
- AUTOMATICKÉ VYSUŠENIE
- AUTOMATICKÉ VYPOUŠTĚNÍ
- AUTOMAATNE VÄLJALASE
- AUTOMATIKUS LEERESZTÉS
- AUTOMĀTISKA IZTECINĀŠANA
- AUTOMATINIS IŠLEIDIMAS
- АВТОМАТИЧЕСКИЙ ДРЕНАЖ
- SAMODEJNI ODTOK
- **OTOMATİK SÜZDÜRÜCÜ**
- **DREJN AWTOMATIKU**

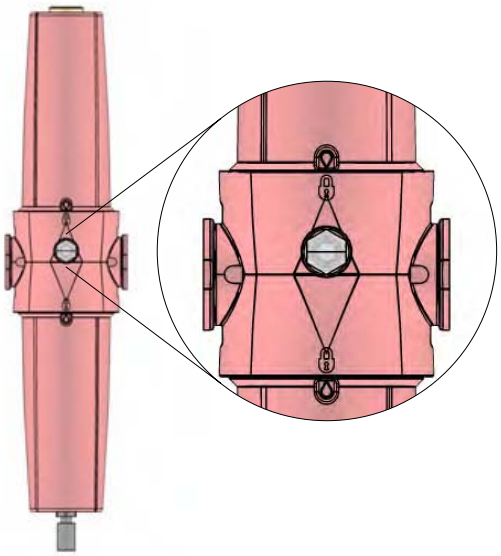


EM1

- **MANUAL DRAIN**
- **MANUELLER ABLAUF**
- **VIDANGE MANUELLE**
- **MANUEEL AFTAPPEN**
- **DRENAJE MANUAL**
- **SCARIO MANUALE**
- **MANUELT AFLØB**
- **DRENO MANUAL**
- ΧΕΙΡΟΚΙΝΗΤΗ ΑΠΟΣΤΡΑΓΓΙΣΗ
- **MANUELL DRÄNERING**
- **KÄSIKÄYTTÖINEN**
- **TYHJENNYSKAPPALE**
- DREN RĘCZNY
- RUČNÉ VYSUŠENIE
- RUČNÍ VYPOUŠTĚNÍ
- KÄSITSI VÄLJALASE
- KÉZI LEERESZTÉS
- MANUĀLA IZTECINĀŠANA
- RANKINIS IŠLEIDIMAS
- ДРЕНАЖ ВРУЧНУЮ
- ROČNI ODTOK
- **ELLE KULLANILACAK SÜZDÜRÜCÜ**
- **DREJN MANWALI**


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	 AC / AC
010AA	010AC 
015AA	015AC 
020AA	020AC 
025AA	025DAC 
025AA	025EAC 
030AA	030AC 

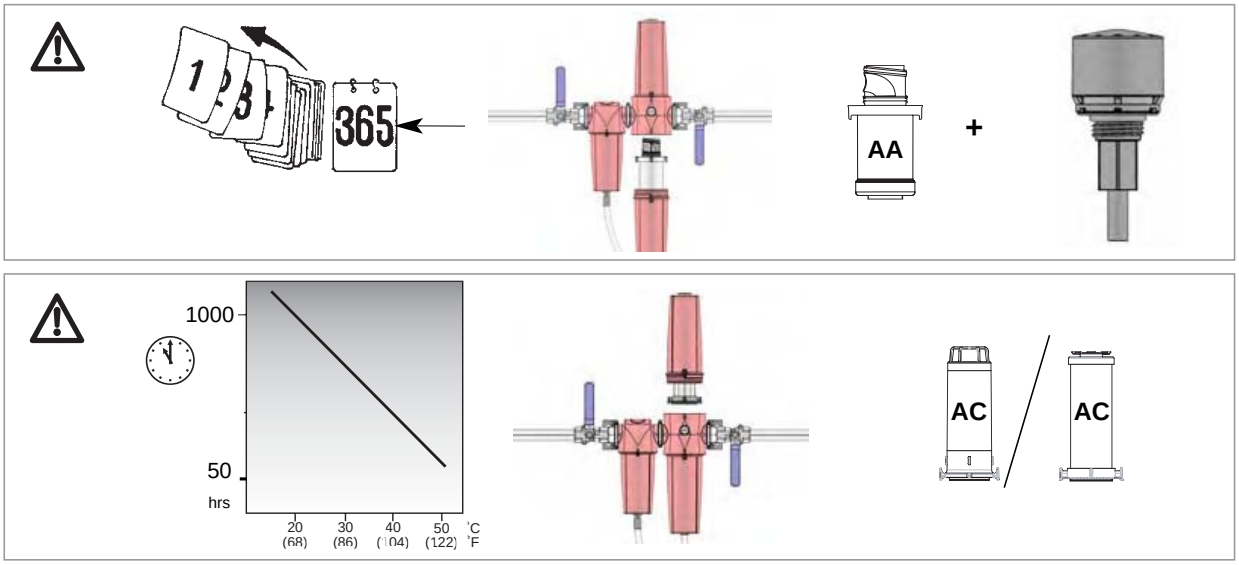


BOIE1
AC010 □□□ I - AC030 □□□ I

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□□□I - AC030□□□I 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□□□I - AC030□□□I 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□□□I - AC030□□□I 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□□□I - AC030□□□I 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□□□I – AC030□□□I on öljynilmaisin. Sekä suodatinelementit että ilmaisin on vaihdettava, jos ilmaisin on sininen.

Huomautus – Tämä on öljynilmaisin. Se ei ilmaise suodatinelementin ikää.

Modell AC010□□□I - AC030□□□I 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□□□I - AC030□□□I er montert 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□□□I - AC030□□□I 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□□□I - AC030□□□I 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□□□I - AC030□□□I 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.

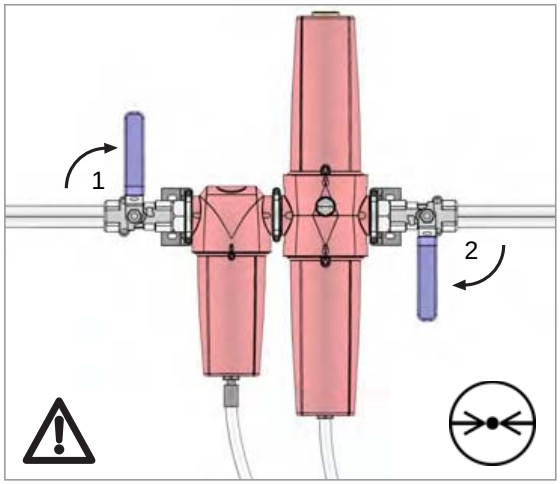
Modelos AC010□□□I - AC030□□□I são instalados com um indicador do óleo em bruto. Ambos os elementos do filtro e o indicador deverão ser mudados se o indicador estiver azul.

Nota - Este é um indicador do óleo em bruto, não indica a vida útil do elemento do filtro.

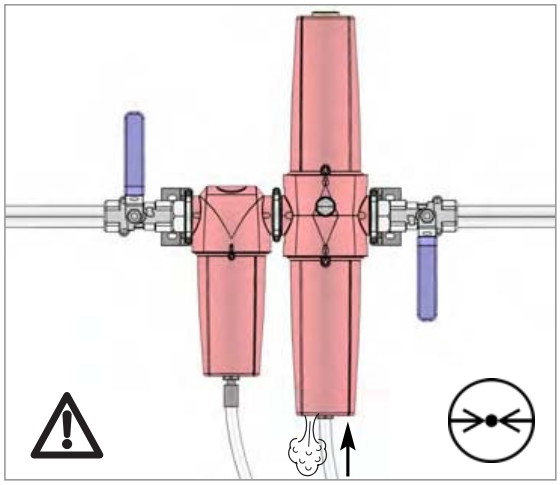
I modelli AC010□□□I - AC030□□□I sono provvisti di un indicatore degli oli misti. Sostituire gli elementi filtranti e l'indicatore quando il secondo assume una colorazione blu.

Nota - L'indicatore segnala la presenza di oli misti, ma non la durata dell'elemento filtrante.

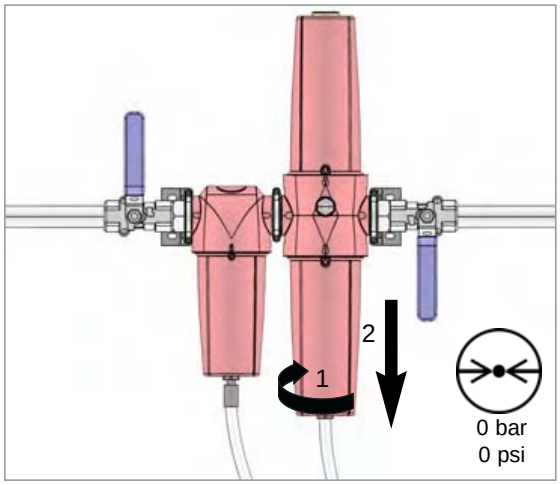
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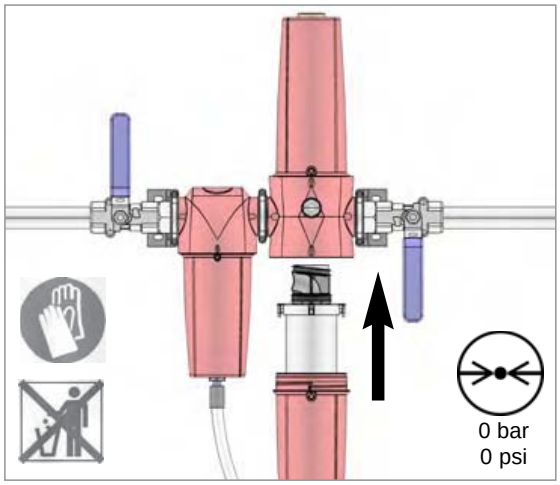
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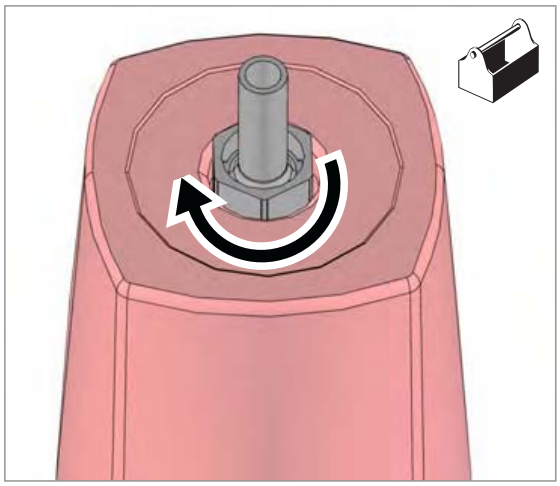
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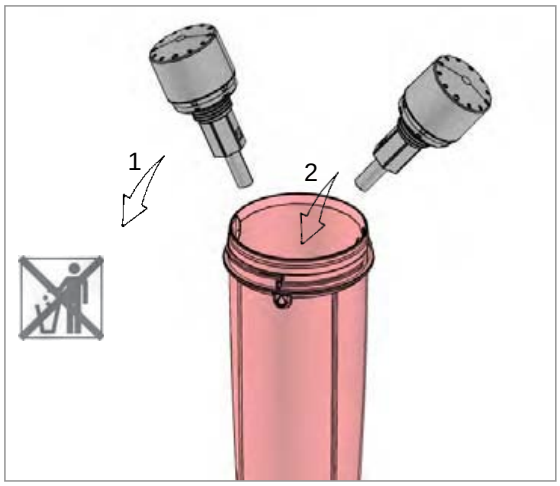
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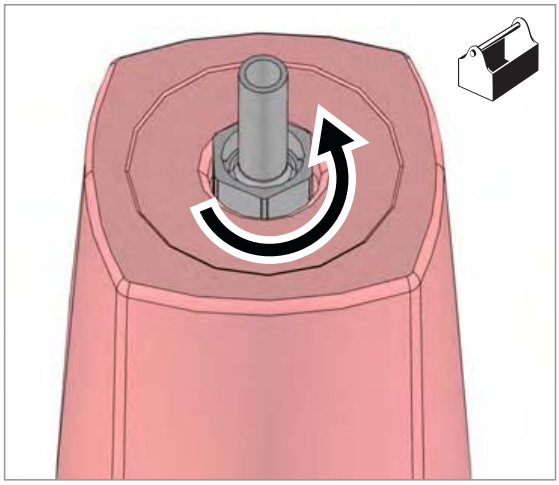


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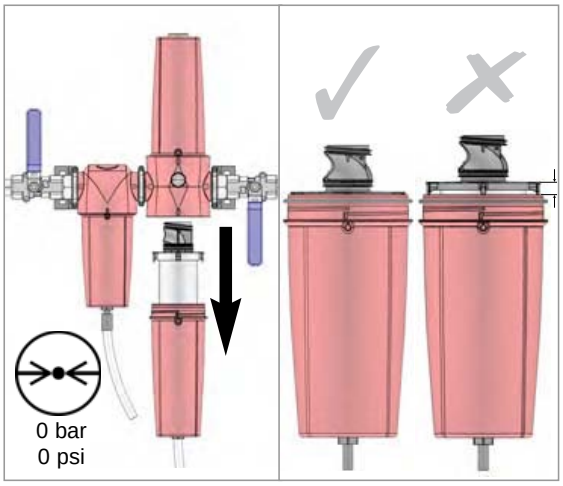


9 FILTER-DH-OIL-XEVOLUTION 01

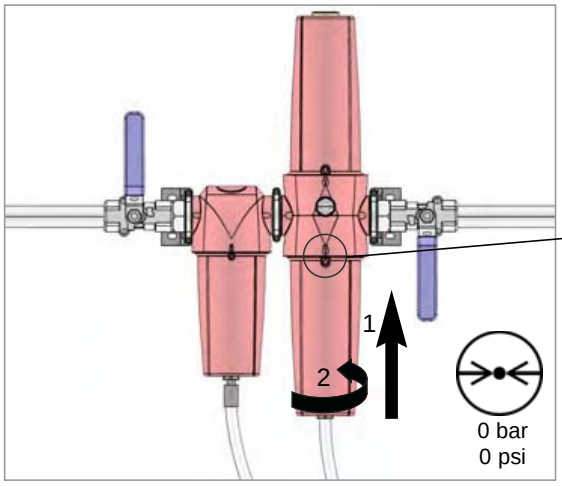
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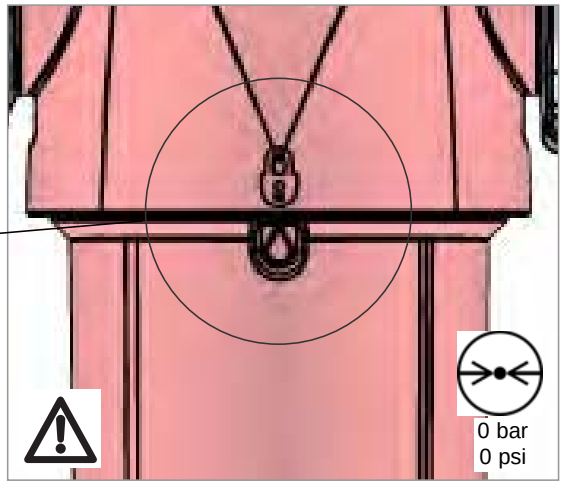
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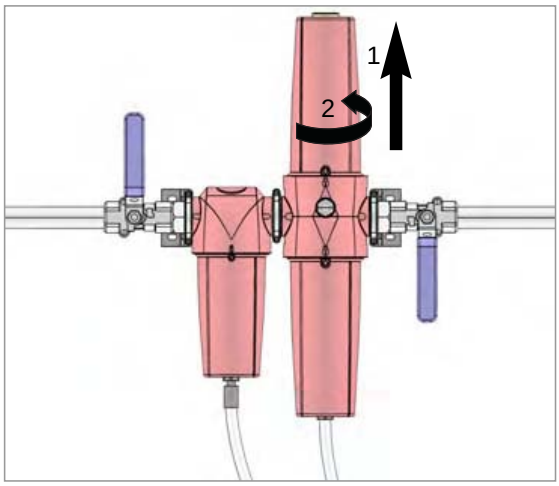
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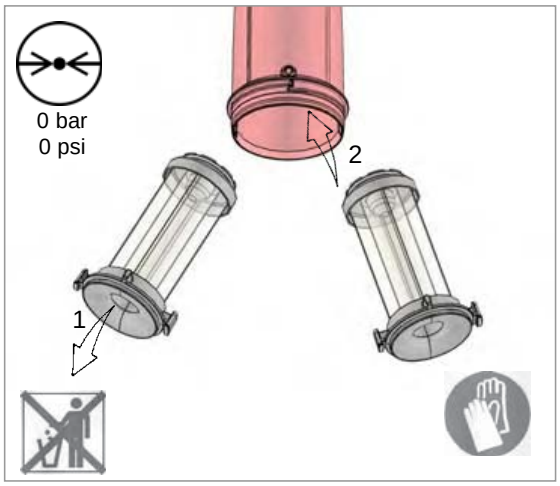
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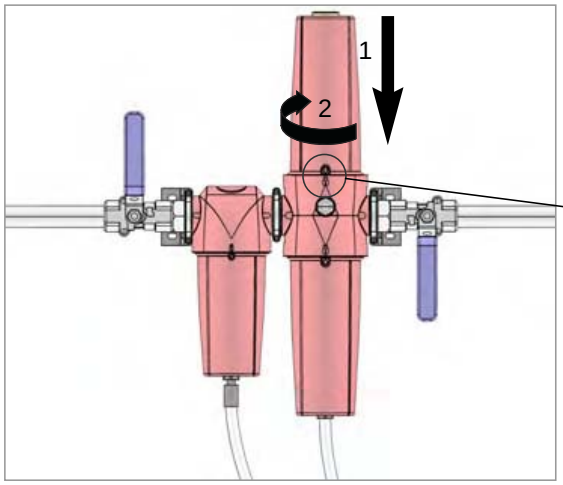


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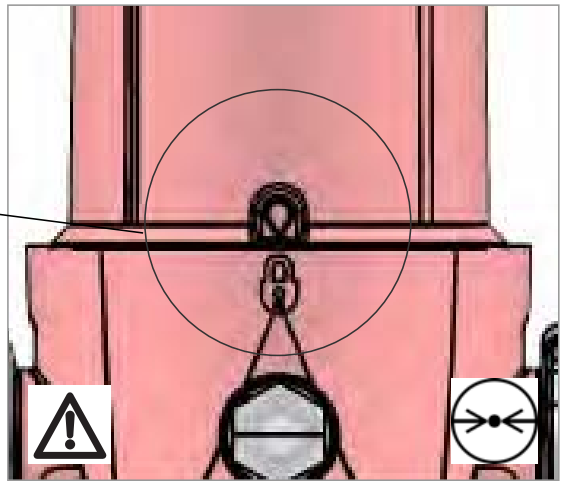


10 FILTER-DH-OIL-XEVOLUTION 01

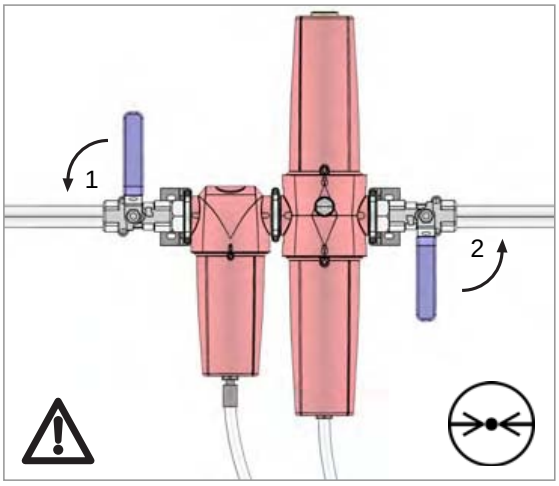
13



14



15



Declaration of Conformity — EN

domnick hunter
Dukesway, TVTE, Gateshead, Tyne & Wear, NE11 0PZ. UK

AC010, 015, 020 025, 030

Directives	97/23/EC,
Standards used	Generally in accordance with ASMEVIII Div 1 : 2004.
PED Assesment Route :	Article 3.3 (AC 010, 015, 020, 025) Module A (AC 030)
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

Verklaring van Conformiteit — NL

domnick hunter
Dukesway, TVTE, Gateshead, Tyne & Wear, NE11 0PZ. GB

AC010, 015, 020 025, 030

Richtlijnen	97/23/EC,
Gehanteerde normen	Gewoonlijk volgens ASMEVIII Div 1 : 2004.
PED-beoordelingstraject:	Artikel 3.3 (AC 010, 015, 020, 025) Module A (AC 030)
Aangemelde instantie voor PED:	N/A
EC Type onderzoekscertificaat:	N/A
Bevoegde vertegenwoordiger	Barry Wade Manager Bedrijfssysteemverbetering 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

Konformitätserklärung — DE

domnick hunter
Dukesway, TVTE, Gateshead, Tyne & Wear NE11 0PZ GROSSBRITANNIEN

AC010, 015, 020 025, 030

Richtlinien	97/23/EC,
Angewandte Normen	Allgemein in Übereinstimmung mit ASMEVIII Div 1 : 2004.
Beurteilungsroute der Druckgeräterichtlinie:	Artikel 3.3 (AC 010, 015, 020, 025) Modul A (AC030)
Benannte Stelle für die Druckgeräterichtlinie:	N/A
EG-Baumusterprüfbescheinigung:	N/A
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

Déclaration de conformité — FR

domnick hunter
Dukesway, TVTE, Gateshead, Tyne & Wear, NE11 0PZ GB

AC010, 015, 020 025, 030

Directives	97/23/EC,
Normes utilisées	Généralement conforme à ASMEVIII div. 1 : 2004.
Méthode d'évaluation de la directive d'équipements de pression :	Article 3.3 (AC010, 015, 020, 025, 030) Module A (AC030)
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

Vaatimustenmukaisuusvakuutus — FI

domnick hunter
Dukesway, TVTE, Gateshead, Tyne & Wear NE11 0PZ ISO-BRITANNIA

AC010, 015, 020 025, 030

Direktiivit	97/23/EC,
Käytetyt standardit	Yleensä seuraavan standardin mukaisesti: ASMEVIII Div 1: 2004.
PED-arviointimenettely:	Artikla 3.3 (AC010, 015, 020, 025, 030) Moduuli A (AC030)
PED-säännösten ilmoitettu laitos:	N/A
EY-tyyppihyväksynnän sertifikaatti:	N/A
Valtuutettu edustaja	Barry Wade Yritysjärjestelmien 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

Försäkran om överensstämmelse — SV

domnick hunter
Dukesway, TVTE, Gateshead, Tyne & Wear, NE11 0PZ, Storbritannien

AC010, 015, 020 025, 030

Direktiv	97/23/EC,
Använda standarder	Generellt i enlighet med ASMEVIII Div 1: 2004.
Fastställningsväg för PED:	Artikel 3.3 (AC010, 015, 020, 025, 030) Modul A (AC030)
Anmält 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 ovannämnda information avseende leverans/tillverkning av denna produkt överensstämmer med standarder och övriga relaterade dokument enligt villkoren i ovanstående direktiv.

Underskrift: **Datum:** 28 / 09 / 05

Försäkran nummer: 0001/280905

13.9 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. 92 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
Part (with mounting location)		A 1 year	B 2 years	C 6 years	Years max.	Operating hours max.	
Filter SET (compressor and engine):	550	X	X	X	1		The composition of the sets may vary depending on the machine type.
Compressor oil filter	1210						
Engine oil filter	1905						
Intake air filter, compressor	1260						
Intake air filter, engine	1280						
Fuel prefilter	1910, 1915						
Fuel filter	1920						
Water separator filter element	1985						

Tab. 93 Service intervals for MOBILAIR parts, Filter SET group (compressor and engine)

Compressor group	Item	Change intervals and maintenance packages					Note
Part (with mounting location)	Parts list	A 1 year	B 2 years	C 6 years	Years max.	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 *Option da:* 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		*Option da:* to compressed air aftercooler
Compressed air pre-filter filter element	1550	X	X	X	1	500	*Option dd*
Compressed air micro-filter element	1551	X	X	X	1	500	*Option dd*
Pre-/micro-filter element seal	1548	X	X	X	1	500	*Option dd*
Fresh-air filter element set	1549	X	X	X	1	500	*Option dc*
Fresh air extraction line	9439, 9440			X	6		*Option dc*
Insert for condensate drain	9475	X	X	X	1	1000	*Option dd*
Service kit for condensate drain compressed air filter	9601	X	X	X	1	500	*Option dd*

Compressor group	Item	Change intervals and maintenance packages					Note
Part (with mounting location)	Parts list	A 1 year	B 2 years	C 6 years	Years max.	Operating hours max.	
Pressure hoses - oil, compressed air, condensate and control air	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. 94 Service intervals for MOBILAIR parts, compressor group

Group Part (with mounting location)	Item Parts list	Change intervals and maintenance packages A 1 year	B 2 years	C 6 years	Years max.	Operating hours max.	Note
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. 95 Service intervals for MOBILAIR parts, Filter SET group Engine

Engine group	Item	Change intervals and maintenance packages					Note
Part (with mounting location)	Parts list	A 1 year	B 2 years	C 6 years	Years max.	Operating hours max.	
Engine oil	1925	X					
Engine oil filter	1905	X	X	X	1	500	
Intake air filter, engine	1280	X	X	X	1	500/1000	
Fuel prefilter	1910; 1915 – 1919	X	X	X	1	500/1000	The type and quantity depends on the machine model.
Fuel filter	1920	X	X	X	1	500/1000	The type and quantity depends on the machine model.
Water separator filter element	1985	X	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	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	X	1	1000	Oil separator element
Air filter element	1250	X	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	Item	Change intervals and maintenance packages					Note
Part (with mounting location)	Parts list	A 1 year	B 2 years	C 6 years	Years max.	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. 96 Service intervals for MOBILAIR parts, Engine group