

SERVICE MANUAL

Screw Compressor

Model: SX 6 classic

No.: 9_5758_00USE

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1 Regarding this Document

1.1 Handling the Document

The service manual is part of the machine.

- ☞ Keep the service manual in a safe place throughout the life of the machine.
- ☞ Pass the manual onto the next owner/user of the machine.
- ☞ Ensure that all amendments are entered in the manual.
- ☞ Enter details from the machine nameplate in the table in chapter 2 'Technical Specifications'.

1.2 Further Documents

Included with this Service Manual are documents intended to assist in safe and sure operation of the machine:

- certificate of acceptance / operating instructions for the pressure vessel
- manufacturer's declaration or declaration of conformity in accordance with applicable directives

☞ Make sure all documents are at hand and their contents understood.

Request the supply of any missing documents from KAESER.

Make sure you give the data from the nameplate.

1.3 Copyright

This service manual is copyright protected. Inquiries regarding use or duplication of the documentation should be referred to KAESER.

1.4 Symbols and Identifications

1.4.1 Warning notices



DANGER

Here is a notice warning of danger.

Here are consequences of ignoring the warning notice.
The word 'Danger' indicates that death or severe injury can result from ignoring the notice.

☞ Always read and diligently comply with warning notices.

Danger levels

Warning notices indicate three levels of danger identified by the signal word under the danger symbol.

Signal word	Meaning	Consequences of ignoring the warning
DANGER	Warns of imminent threatening danger	Death or severe injury or serious damage to the machine is possible
WARNING	Warns of possible threatening danger	Death or severe injury or serious damage to the machine is possible
CAUTION	Warns of a possibly dangerous situation	Light injury or slight damage possible

1.4.2 Miscellaneous notices and symbols



Here is a task to be carried out.



This symbol identifies environmental protection measures.



This indicates important information.

2 Technical Specification

Model and important technical information is to be found on the machine nameplate. The nameplate is found inside the machine. It is fixed to the outside of the control cabinet.

Please transfer data from the nameplate.

Model	
Part no.	
Year	
Serial no.	
psig	
cfm	
Voltage	
Hz/RPM	
Package FLA	
Phase	
HP	
Wiring Diagram	
FOR SERVICE, REFER TO EQUIPMENT NUMBER	

Tab. 1 Nameplate

2.1 Weight

Maximum weight is shown. Actual weight of individual machine is dependent on equipment fitted.

Weight [lb]	267
-------------	-----

Tab. 2 Weight

2.2 Temperature

Minimum cut-in temperature [° F]	40
Typical airend discharge temperature during operation [° F]	167 – 200
Max. airend discharge temp. (automatic shut-down) [° F]	230

Tab. 3 Machine temperatures

2.3 Ambient Conditions

Maximum elevation [ft.]	3000
Ambient temperature [° F]	40 – 105
Inlet air / cooling air temperature [° F]	40 – 105
Maximum relative inlet air humidity at 88 ° F [%]	100
Maximum relative inlet air humidity at 105 ° F [%]	60

* Higher elevation permissible only after consultation with the manufacturer

Tab. 4 Ambient Conditions

2.4 Pressure

Maximum working pressure: see nameplate

Minimum cut-in pressure: 80 psig

Pressure switch factory setting:

Maximum working pressure [psig]	Cut-in pressure [psig]	Cut-out pressure [psig]	Pressure differential [psig]
110	100	110	10
125	115	125	10
145	135	145	10

Tab. 5 Pressure switch setting

Blow-off setting of the safety relief valve:

Maximum working pressure [psig]	Blow-off setting [psig]
110	140
125	155
145	175

Tab. 6 Safety relief valve setting

2.5 Delivery

Maximum working pressure [psig]	Delivery [cfm]
110	21
125	20
145	17

Tab. 7 Delivery

2.6 Sound Level

Operational state

- under load at rated speed, rated delivery and rated pressure.

Measuring conditions:

- Free-field measurement to CAGI/PNEUROP PN8 NTC 2.3 at 1 m distance

Sound level [dB(A)]	66
---------------------	----

Tab. 8 Sound Pressure Level

2.7 Motor and Performance

2.7.1 Compressor motor:

Rated power [Hp]	5
Rated speed [rpm]	3600
Enclosure protection	TEFC

* Transfer data from motor nameplate to the table

Motor bearing greasing [operating hours]	-
Grease requirement, each bearing [oz]*	

* Transfer data from motor nameplate to the table

Tab. 9 Compressor motor data

2.8 Cooling oil

Ordering: see 'Spare Parts, Operating Materials, Service' chapter 11.

Lubrication of an air compressor is essential to reliable operation. Carbon and varnish can form in compressor oils. These deposits block the flow of lubricant and cause excessive wear and failure of moving parts. Contamination of the lubricant can allow the formation of acids, causing extensive internal corrosion. Water may be condensed decreasing the lubricity.

Lubricants in rotary compressors do much more than lubricate. During the compression process, it acts as a sealant in the aircend which is important for maximum efficiency. The lubricant also absorbs much of the heat of compression to cool the aircend and reduce the temperature of the compressed air. It's not enough that a compressor cooling oil lubricates well, it must stand up to the heat, pressure and contaminants that are present in every air compressor.

2.8.1 General Information

KAESER synthetic lubricants should be stored in a protected location to prevent contamination. Do not re-use drums; flush and send to reconditioner.

Although the KAESER synthetic is not highly flammable, it will burn. While KAESER synthetic compressor oil is less flammable than equal viscosity mineral oils, it cannot be classified as a fire-resistant fluid. It has a flash point above 460 ° F. Since the user has total control over the conditions of the compressor lubricant, he assumes total responsibility for its safe usage.

Material Safety Data Sheets are available for each lubricant from your KAESER authorized distributors.

Regardless of the lubricant selected, the KAESER Sigma lubricants will separate readily from water. If condensate occurs it can easily be removed. Let the compressor sit so that any water can drain back to the separator tank and separate to the bottom. See chapter 10.10 proper draining procedure.

KAESER has several lubricants available that are specially formulated to match these demands. They feature excellent lubricity, outstanding demulsibility (ability to separate from water), and long life.

M-SERIES SEMI-SYNTHETIC LUBRICANTS

- M-Series SIGMA compressor cooling oils are the highest quality petroleum lubricants. M-460 is specially blended to provide reliable performance in KAESER screw compressors.

S-SERIES SYNTHETIC LUBRICANTS

- S-Series SIGMA compressor oils are formulated from the most advanced synthetic lubricants. These "synthetic" lubricants begin as high quality petroleum feed stock. They are then refined, processed and purified into fluids with very consistent molecular structure. These oils are carefully blended to produce extremely consistent lubricants with superior properties. SIGMA synthetic lubricants feature all the advantages of both PAO and diester fluids.
- S-460 lubricant is recommended for compressors operating in ambient temperatures between 40 ° F and 105 ° F.

Specialty KAESER LUBRICANTS

- S-680 lubricant may be used when ambient temperatures are always between 70 ° F and 105 ° F.
- FG-460 synthetic hydrocarbon based food grade lubricant is designed for use in rotary screw compressors in the application where incidental food contact may occur with the discharge air. This lubricant meets the requirements of the FDA Regulation 21 CFR §178.3570 and is USDA H-1 approved and NSF certified. FG-460 is approved for canning, food packing, meat and poultry processing and other applications where incidental food contact may occur.

2.8.2 Cooling oil quantity

Total volume [gal]	0.66
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Tab. 10 Cooling oil volume

2.9 Electrical Connections

See electrical diagrams in chapter 13.1.3.

2.9.1 Power supply

The machine is designed for an electrical supply according to National Electric Code (NEC) NEC-670, particularly NFPA 79, section 5.7. In the absence of any user-specified alternatives, the limits given in these standards must be adhered to. Consult manufacturer for any other specific power supply.

Three-phase

Do NOT operate package on any unsymmetrical power supply. Also do NOT operate package on power supplies like, for example, a three-phase (open) delta or three-phase star with non-earthed neutral.

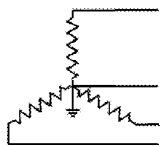


Fig. 1 Three-phase star (wye); four wire; earthed neutral

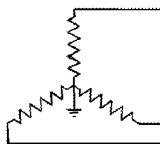


Fig. 2 Three-phase star (wye); three wire; earthed neutral

The machine requires a symmetrical three-phase power supply transformer with a WYE configuration output as shown in Fig. 1 and Fig. 2.

In a symmetrical three phase supply the phase angles and voltages are all the same.

Other power supplies are not suitable. Please contact authorized KAESER distributor for options.

2.9.2 Power supply specifications

The following multi-strand copper core wires are given according to 2002 NEC 310-15, Table 310-16 for 40 °C ambient temperature.

If other local conditions prevail, like for example high temperature, the cross section should be checked and adjusted according to 2002 NEC 110-14©, 220-3, 310-15, Table 310-16, 430-6, 430-22, 430-24 and other local codes.

Dual element time delay fuses are selected according to 2002 NEC 240-6, 430-52 and tables 430-52, 430-148 and 430-150.

We strongly suggest using a separate copper conductor for the equipment GROUNDING. NEC Table 250.122 will point out the "minimum size", however, we recommend a ground conductor the same size as the power leads, if local codes allow.

Rated power supply:

Power supply [V/ -phase/Hz]	208/3/60	230/3/60	460/3/60	230/1/60
Pre-fuse [A]	30	20	10	35
Supply	10 AWG	12 AWG	14 AWG	8 AWG
Consumption [A]	16.1	14.2	7.2	21.0

Tab. 11 *Electrical connections data*

3 Safety and Responsibility

**DANGER****Disregarding this notice can result in serious injury!**

☞ Read the service manual carefully and pay attention to the contents.

The machine is manufactured to the latest engineering standards and acknowledged safety regulations. Nevertheless, risk of injury and death for the user and other parties and damage to the machine and other property can arise from its use.

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.

In particular, immediately rectify (have rectified) any faults that could be detrimental to safety.

3.1 Proper Use

The machine is intended solely for industrial use in generating compressed air. Any other use is considered incorrect. The manufacturer is not liable for any damages resulting from such unspecified use or application. The responsibility, in case, lies solely with the user.

Proper use also includes compliance with the instructions in this manual.

3.2 Improper Use

Never direct compressed air at persons or animals.

Do not use untreated compressed air for breathing purposes.

Do not use untreated compressed for any application that will bring it into direct contact with foodstuffs.

Cooling air, warmed after passing through the machine, may be used for heating purposes but only when it poses no health risk to humans or animals. If necessary, the warmed cooling air should be treated to render it harmless.

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

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

3.3 User's Responsibilities

Observe the relevant regulations during installation, operation, maintenance and repair of the machine. These are, for example, valid national laws and safety and accident prevention regulations.

Give clear instructions on reporting faults and damage to the machine.

Components removed from the machine can still be dangerous.

All components removed from the machine must be treated or disposed of in accordance with safety regulations.

(e.g. the inlet valve is heavily spring-loaded)

3.3.1 Qualified personnel

Ensure that operating, installation and maintenance personnel are qualified and authorized for their tasks.

Operating personnel

Authorized operating personnel:

- must be adult,
- must be conversant with and adhere to the safety instructions and sections of the service manual relevant to operation of the machine,
- must have received adequate training and authorisation to operate electrical and compressed air devices
- must have adequate training and authorisation to operate refrigeration equipment (for machines with refrigeration dryers).

Installation and maintenance personnel

Authorized installation and maintenance personnel:

- must be adult,
- must be conversant with and adhere to the safety instructions and sections of the service manual relevant to installation and maintenance of the machine,
- must be fully conversant with the safety concepts and regulations of electrical and compressed air engineering,
- must be conversant with safety concepts and regulations relating to refrigeration equipment (for machines with refrigeration dryers),
- must be able to recognize the possible dangers of electrical and compressed air devices and take appropriate measures to safeguard persons and property,
- must be able to recognize the possible dangers of refrigeration devices and take appropriate measures to safeguard persons and property (for machines with refrigeration dryers),
- must have received adequate training and authorisation for installation and maintenance on these particular machines.

Adhere to inspection schedules and accident prevention regulations.

The machine is subject to local inspection schedules.

3.4 Safety Devices

Do not change, bypass or disable safety devices.

Do not remove or obliterate labels and notices.

Ensure that labels and notices are clearly legible.

More information on safety devices is contained in chapter 4 'Design and Function', section 4.3 'Safety Devices'.

3.5 Hazards**Always observe approved safety regulations as a basic principle.**

Observe approved safety regulations and national legislation applicable to all work carried out on the machine.

Examples of these are directives and national regulations concerning safety and accident prevention.

3.5.1 Danger from electricity**DANGER****Electric voltage!**

Touching electrically energized components can cause serious injury or death.

- ☞ Isolate all phases from the power supply (all conductors). (switch off at the main isolator)
- ☞ Ensure that the power supply cannot be switched on again (lock off).
- ☞ Check that no voltage is present.

Before the machine is switched on for the first time the user must provide and check measures to guard against electric shock by direct or indirect contact.

3.5.2 Hazards from compressed air**Hazard from compressed air quality**

The compressed air from this machine may not be used without taking appropriate precautions:

- as breathing air
- for processing food products.

**DANGER****Unsuitably treated compressed air can cause injury or death.**

Injury and/or contamination can result from breathing compressed air. Contamination of food products when they are processed using unsuitable compressed air.

- ☞ Never breath untreated compressed air!
- ☞ Air from this compressor must meet OSHA 29CFR1910.134 and FDA 21CFR178.3570 standards, if used for breathing or food processing. Use proper compressed air treatment.
- ☞ Food grade coolant must be used for food processing.

Hazards from compressive forces

Compressed air is a contained force. Uncontrolled release of this force can cause serious injury or death.

**WARNING****Severe injury or death from released compressive forces.**

Serious injury or death can result from loosening or opening components under pressure.

- ☞ Close shut-off valves or otherwise isolate the machine from the air main to ensure that no compressed air can flow back into the machine.
- ☞ De-pressurize all pressurized components and enclosures.
- ☞ Check all machine hose connectors with a hand-held pressure gauge to ensure that all read zero .

Extension or modification of the compressed air supply system

If a compressed air installation is extended or modified check the blow-off capacity of the safety relief valves on air receivers and pipelines before installing the new machines.

Safety relief valves of insufficient blowoff capacity must be replaced by valves with a higher capacity.

3.5.3 Danger from spring force

Springs under tension represent contained force. Uncontrolled release of this force can cause serious injury or death.

**WARNING**

There is considerable danger of injury or death if spring-loaded components are incorrectly opened.

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

☞ Do not open or dismantle valves.

3.5.4 Danger from rotating parts**Danger from belt drive****WARNING**

Danger of serious injury from rotating belt drive

Touching the rotating belt drive can result in severe crushing or even severance.

☞ Do not open the casing while the machine is switched on.

☞ Isolate all phases from the power supply (all conductors).
(switch off the main isolator)

☞ Ensure that the power supply cannot be switched on again (lock off).

☞ Work carefully.

Danger from fan wheel**WARNING**

Danger of serious injury from rotating fan wheel

Touching a rotating fan wheel can result in serious laceration or even severance.

☞ Do not open the enclosure while the machine is switched on.

☞ Isolate all phases of the main power supply.
(switch off the mains isolating device)

☞ Ensure that the power supply cannot be switched on again (lock off).

☞ Work carefully.

3.5.5 Further dangers**Handling cooling and lubricating fluids**

- Avoid contact with skin and eyes.
- Do not inhale oil mist or vapor.
- Do not eat or drink while handling cooling and lubricating fluids.
- Fire, open flame and smoking are strictly forbidden.

Welding

When welding is taking place on or near the machine take adequate measures to ensure that no parts of the machine or any oil vapors can ignite because of sparks or heat.

Spare parts

The use of unsuitable parts may adversely influence the safe working of the machine. Use only genuine KAESER spares for parts subject to pressure.

3.5.6 Danger zones





The table gives information on the zones dangerous to personnel.

Only authorized personnel may enter these zones.

Activity	Danger zone	Authorized personnel
Transport	10 ft radius from the machine	Installation or transport personnel. All personnel excluded during transport.
	Beneath the lifted machine.	All personnel excluded!
Installation	Within the machine. 3 ft radius of the machine and power lines.	Installation personnel
Operation	3 ft radius from the machine 6 ft radius from the cooling air discharge.	Operating personnel
Maintenance	Within the machine. 3 ft radius from the machine	Maintenance personnel

Tab. 12 Danger zones

3.6 Warning Symbols

	<p>Beware of life-threatening electrical voltage.</p> <ul style="list-style-type: none"> ☞ Do not touch electrical components; danger of electric shock. ☞ Before opening, switch off at the main disconnect and lock out to secure against unwanted or accidental switching on.
	<p>Warning of hot surface.</p> <ul style="list-style-type: none"> ☞ Do not touch surface – danger of burning. ☞ Wear long-sleeve garments (not synthetics such as polyester) and protective gloves.
	<p>Beware – machine starts automatically.</p> <ul style="list-style-type: none"> ☞ Machine can start automatically or by remote start command. ☞ Before opening the machine, switch off at the main disconnect and lock out to secure against unwanted or accidental switching on.
	<p>Beware of rotating belt drive</p> <ul style="list-style-type: none"> ☞ Do not open the casing while the machine is switched on. ☞ Before opening the machine, switch off at the main disconnect and lock out to secure against unwanted or accidental switching on.

3.7 Emergencies

3.7.1 Fire suppression

Suitable extinguishing media:

- foam
- powder
- carbon dioxide
- sand or earth

Unsuitable or unsafe extinguishing media:

- powerful water jet

3.7.2 Cooling oil

Skin contact:

☞ wash off immediately

Eye contact:

☞ rinse thoroughly with lukewarm water and seek medical assistance.

If necessary, request a copy of the safety data sheet for KAESER lubricants.

3.8 Environmental Protection



Do not allow cooling oil to escape to the environment or into the sewage system.

Store and dispose of used materials and replaced parts in accordance with local environment protection regulations. Observe national regulations. This applies particularly to parts contaminated with cooling oil.

4 Design and Function

4.1 Machine Overview

4.1.1 Cabinet

The cabinet, when closed, serves various purposes:

- sound damping
- protection against contact
- cooling air flow control

Safe and reliable operation can only be ensured with the cabinet closed.

To open, release the latches with the key supplied with the machine and lift off the canopy.

4.1.2 Function

Items in brackets [] correspond to the P & I diagram in chapter 13.1.1.

Machine

Air is drawn in from the surroundings and cleaned as it flows through the filter (1).

The air is then compressed in the airend (4).

The airend is driven by an electric motor [3] .

Cooling oil is injected into the airend. It lubricates moving parts and forms a seal between the rotors themselves and between them and the airend casing. The cooling effect directly within the compression chamber ensures a low airend discharge temperature.

Cooling oil is recovered from the compressed air in the oil separator tank (6) gives up its heat in the oil cooler (11). The oil then flows through the oil filter [10] and back to the point of injection. Pressure within the machine keeps the oil circulating. A separate pump is not necessary. A thermostatic valve maintains optimum oil temperature.

Compressed air, freed of its oil content in the separator tank, flows through the minimum pressure/check valve into the aftercooler [13]. The minimum pressure/check valve [12] ensures there is always sufficient internal pressure to maintain cooling oil circulation.

The aftercooler brings down the compressed air temperature to 5 to 10 K above ambient. Most of the moisture carried in the air is removed in the aftercooler.

4.2 Operating States and Control Modes

4.2.1 Operating states

There are three operating states:

- **LOAD:** the inlet valve is open. The airend delivers compressed air to the system. The compressor motor runs under full load.
- **IDLING:** The inlet valve is closed. The minimum pressure/check valve shuts off the oil separator from the air system. The oil separator tank is vented. A small volume of air circulates through the bleed hole in the inlet valve, through the airend and back to the inlet valve via the venting valve. The compressor motor runs without load and draws little current.
- **STANDSTILL:** The inlet valve is closed. The minimum pressure/check valve shuts off the oil separator from the air system. The oil separator tank is vented. The compressor motor is stopped.

4.2.2 Controller Operation

Using the selected control mode, the controller switches the compressor between its various operational states in order to compensate for air being drawn of by consumers and maintain system pressure between the set minimum and maximum values.

4.2.3 Control modes

Only the following control modes are available:

- DUAL

DUAL

In the DUAL control mode, the compressor is switched back and forth between full load and idle to maintain system pressure between the set minimum and maximum values.

When the maximum pressure is reached the machine switches to idle running. When the preset *idling time* has elapsed the machine is STOPPED.

4.3 Safety Devices

The following safety devices are provided and may not be modified:

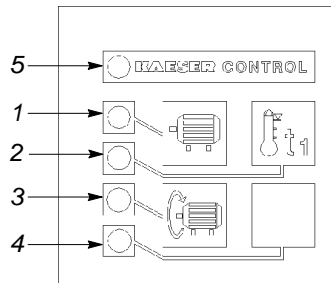
- EMERGENCY STOP button
The EMERGENCY STOP button shuts down the compressor immediately. The motor remains still. The pressure system is vented.
- Safety relief valve
The safety relief valve protects the system from excessive pressure. This is factory set.
- Temperature gauge switch
The temperature gauge switch protects the machine from overheating. The machine shuts down if the airend discharge temperature reaches 230 ° F.
- Housing and covers for moving parts and electrical connections
Protection from accidental contact.

4.4 Safety System:

4.4.1 KAESER CONTROL

The green light emitting diode (LED 5) is illuminated if the compressor unit is running or ready for operation. It is "off" if a malfunction is detected.

A malfunction detected by the control functions 1, 2, 3 and 4 will shut down the compressor unit immediately, accompanied by an appropriate malfunction light.



1 Overload protection cutout

cuts out if the motor is overloaded.

Depress the reset button of the overload protection cutout when the fault has been removed.

2 Temperature gauge switch

The machine shuts down if the airend discharge temperature reaches 230 ° F.

3 Pressure switch for direction of rotation

shuts down the machine if the V-belts come off the pulley or tear and at wrong direction of rotation.

4 Spare

5 Installation and Operating Conditions

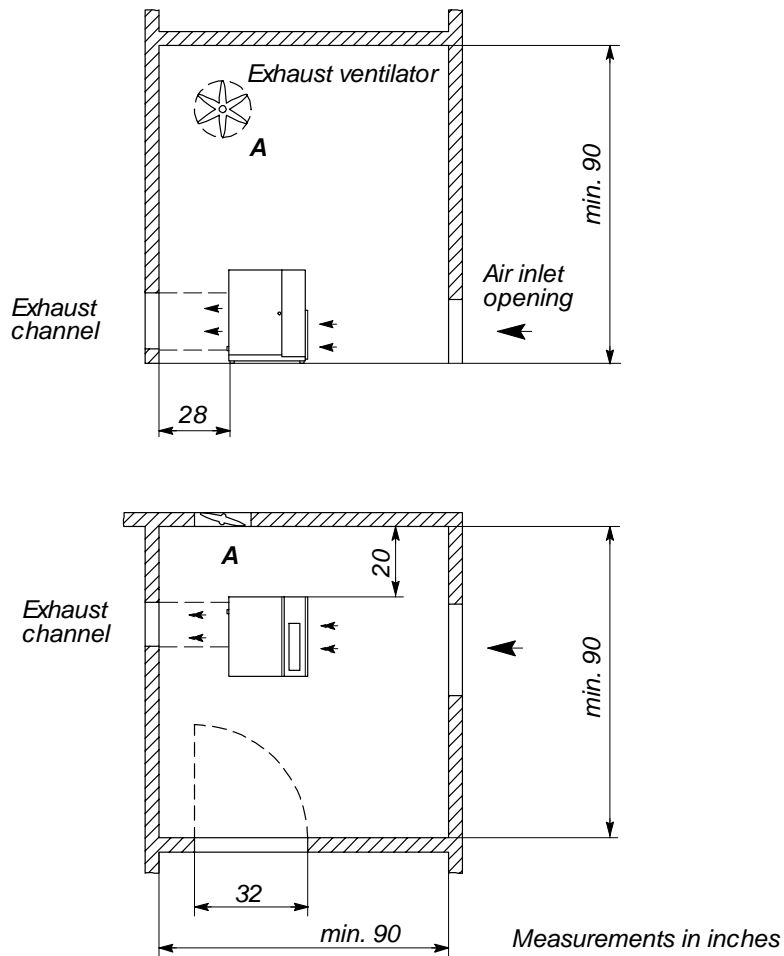
5.1 Ambient Conditions

- There must be no open flames or sparks at the place of installation.
- Any welding work carried out on the equipment must not cause a fire hazard through flying sparks or excessive temperature.
- The machine is not explosion-proof.
Do not operate in areas in which specific requirements with regard to explosion protection are applied.
- Clean inlet air with no damaging contaminants.
- Inlet air free of explosive or chemically unstable gas or vapor.
- Inlet air free of acid-forming substances, particularly ammonia, chlorine or hydrosulphide.
- Ambient temperature must be acceptable and stable.
- The air end discharge temperature must remain constant to prevent the build-up of condensate.
- Suitable fire extinguishing material must be readily available.

5.2 Installation Conditions

5.2.1 Place of installation and space required

- The floor must be level, firm and able to bear the weight of the equipment.
- If installed outdoors, the equipment must be protected from cold temperature, direct sunlight, dust and rain.



5.2.2 Ventilation

Values given are minimum guidelines.



If the inlet aperture is insufficient a dangerous vacuum can be created in the compressor room.

- ☞ Ensure that the volume of air flowing into the compressor room is at least equivalent to that being removed from it by the compressor and exhaust fan.
- ☞ Make sure that the machine and exhaust fan can only operate when the inlet aperture is actually open.

Inlet opening [sq.ft.]	1.1
Forced ventilation with exhaust ventilator: Flow rate [cfm] at 0.4 in wc	590
Exhaust air duct: Dimensions [in]	6 x 13 3/8

Tab. 13 Ventilation

Exhaust ducting

Consult the manufacturer on the design of the ducting, length, number of bends, etc.

Further information on exhaust air ducts can be found in chapter 13.1.2.

5.2.3 Operating in a compressed air system

When the machine is connected to an air system, the operating pressure must not exceed 230 psig.

Initial filling of a fully vented air system generally creates a very high rate of flow through air treatment devices. These conditions are detrimental to correct air treatment. Air quality can be degraded.

To ensure maintenance of desired air quality when filling a vented air system we recommend the installation of an air main charging system.

Please contact KAESER for assistance in selecting and installing an air main charging system.

6 Installation

6.1 Safety

**DANGER****Danger of fatal injury from electric shock!**

Contact with live electric components can cause serious injury or death.

- ☞ Isolate completely from the mains supply (switch off the main isolator)
- ☞ Ensure that the power supply cannot be switched on again (lock off).
- ☞ Check that no voltage is present.

**DANGER****There is considerable danger of injury or death if insufficiently or inadequately treated compressed air is used.**

Injury and/or contamination can result from breathing compressed air.

Contamination of food can result from using untreated compressed air for food processing.

- ☞ Air from this machine must meet OSHA 29CFR1910.134 and FDA 21CFR178.3570 standards, if used for breathing or food processing. Use proper compressed air treatment.
- ☞ Food grade coolant must be used for food processing.

**WARNING****Compressed air can cause injury or death.**

Serious injury or death can result from loosening or opening components under pressure.

- ☞ De-pressurize all pressurized components and enclosures.

**WARNING****There is considerable danger of injury or death if spring-loaded components are incorrectly opened (dismantled).**

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

- ☞ Do not open or dismantle valves.



Installation work may only be carried out by authorised personnel!

All functioning parts are factory set.

Changes may not be made without the permission of the manufacturer.

6.2 Report Transport Damage

- ☞ Check the machine for visible and hidden transport damage.
- ☞ Inform the carrier and the manufacturer in writing of any damage.

6.3 Install the Compressed Air Connection

Pre-condition: air system completely vented.

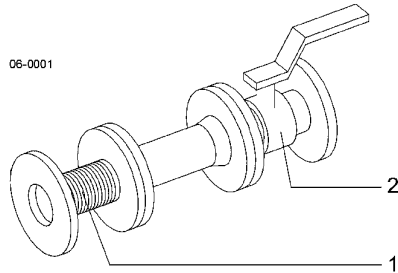


Fig. 3 Compressed Air Connection

- 1 Axial compensator or flexible hose
- 2 Shut-off valve

- ☞ Shut-off valve (2) to be installed by the user in the connection line.
- ☞ Make the compressed air connection with a flexible hose (1) or an axial compensator (1).

6.4 Electrical Connection

Main power supply and overcurrent protection must be installed by a qualified electrician in accordance with NEC, OSHA, and any applicable local codes.

Use wire conductor dimensions and fuse ratings in accordance with local regulations. Guide values are given in chapter 2.9.

- ☞ The user must provide the machine with a lockable supply-disconnecting device. This could be, for example, a disconnect switch with fuses. If a circuit breaker is used it must be suitable for the motor starting characteristics.

Before initial start-up

- ☞ The control transformer in the control cabinet has connections for various supply voltages. Check that the correct connections are made for the supply voltage provided for the machine. If necessary, re-connect the transformer using the $\pm 5\%$ taps to match the supply voltage.
- ☞ Connect the machine to the main power supply in accordance with the electrical diagram in chapter 13.1.3.

6.4.1 Changing main voltage connections (230/460V only)

Equipment: The required jumpers (also known as 'bridges' or 'links') are provided in the control cabinet.

Pre-condition: Machine switched off.
Main disconnect locked off.

The standard machine is set up for 230V, 3-ph, 60 Hz but may be modified for 460V, 3-ph, 60Hz.

The following parts have to be considered for making the change:

- Jumpers in the drive motor terminal box.
- Drive motor overload protection relay located in the control cabinet.

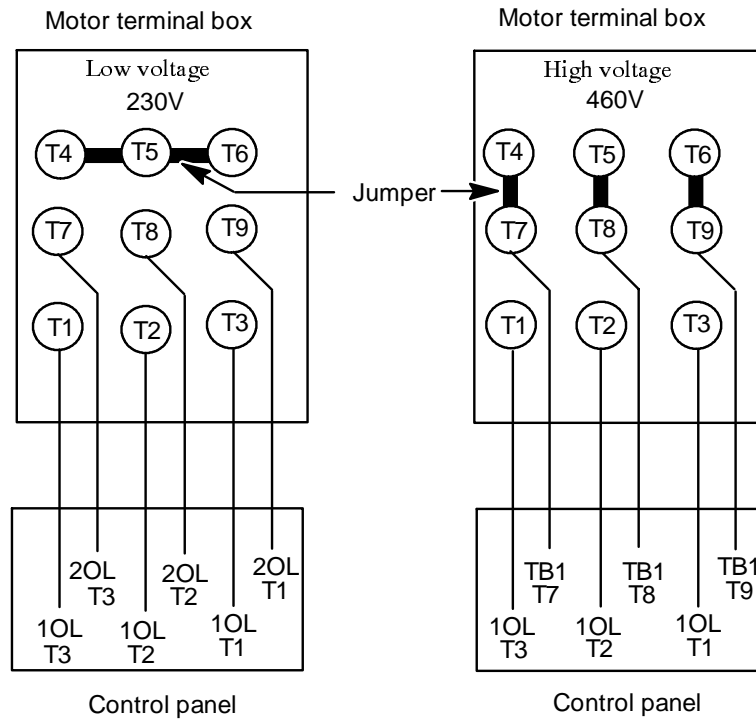


Fig. 4 Drive motor terminal box and overload protection relay

Changing the jumpers in the drive motor terminal box

☞ Open the terminal box and change the jumpers as shown in the electrical diagram.

Adjusting the overload protection relay

Pre-setting:

	Set Point	Overload Relay
230V, 3-ph [A]	7.5	1OL and 2OL
460V, 3-ph [A]	7.5	1OL

Tab. 14 Overload protection relay settings.

☞ Open the control cabinet and check the overload protection relay pre-setting.

7 Initial Start–up

7.1 Safety



DANGER

Danger of fatal injury from electric shock!

Contact with live electric components can cause serious injury or death.

- ☞ Isolate all phases of the main power supply. (switch off the main isolator)
- ☞ Ensure that the power supply cannot be switched on again (lock off).
- ☞ Check that no voltage is present.



WARNING

Compressed air can cause injury or death.

Serious injury or death can result from loosening or opening components under pressure.

- ☞ Close shut–off valves or otherwise isolate the machine from the compressed air system to ensure that no compressed air can flow back into the machine.
- ☞ De–pressurize all pressurized components and enclosures.
- ☞ Check all machine hose connectors with a hand–held pressure gauge to ensure that all read zero.



Initial start–up may only be carried out by authorized personnel!

Before switching on ensure that:

- no one is working on the machine,
- all panels are in place and secured,
- all access doors are closed.

7.2 Before Every Initial Start–up

Initial start–up of the machine may only be carried out by trained and authorized installation or maintenance personnel.

Incorrect or improper start–up can cause damage to the machine.

Special measures on re–starting after storage:

Storage period longer than...	Action to take
12 months	<ul style="list-style-type: none"> ☞ Change the oil filter. ☞ Change the oil separator cartridge. ☞ Change the cooling oil. ☞ Have the motor bearings checked by an authorized KAESER distributor.
36 months	<ul style="list-style-type: none"> ☞ Have the overall technical condition checked by an authorized KAESER distributor.

7.3 Checking Installation and Operating Conditions

Cover all points in the checklist before starting the machine.

	To be checked	Chapter	Done?
1	<input type="checkbox"/> Are all conditions for installation in order?	5	
2	<input type="checkbox"/> User's lockable supply disconnecting device installed?	6.4	
3	<input type="checkbox"/> Is the power supply as specified on the nameplate?	2	
4	<input type="checkbox"/> Supply cable section and fuse rating adequate?	2.9.2	
5	<input type="checkbox"/> All electrical connections checked for tightness?		
6	<input type="checkbox"/> Shut–off valve fitted to compressed air outlet?	6.3	
7	<input type="checkbox"/> Connection made to compressed air system with hose or axial compensator?	6.3	
8	<input type="checkbox"/> Belt tension checked?	10.7	
9	<input type="checkbox"/> Is there sufficient cooling oil in the separator tank?	10.9.1	
10	<input type="checkbox"/> Required quantity of cooling oil poured into the inlet port?	7.5	
11	<input type="checkbox"/> Are the operators full conversant with safety regulations?		
12	<input type="checkbox"/> Maintenance canopy closed?		

Tab. 15 Installation conditions checklist

7.4 Setting the overload protection cut–out

Compressor motor: three–phase

The phase current is fed via the overload protection cut–out. This phase current is 0.58 times the rated machine current (see nameplate in the control cabinet).

Setting

The standard setting is made at the factory.

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

Compressor motor: single–phase

The motor supply current is fed via the overload protection cutout (see the nameplate in the control cabinet for rated motor current).

Setting:

The standard setting is made at the factory.

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

7.5 Pour cooling oil into the inlet port

Equipment: 0,1 quart cooling oil

Pre–condition: Machine switched off.
Main disconnect locked out.

The airend must be manually filled with cooling oil before initial start–up and after being out of use for more than 3 months.



Use the same type of oil.

A sticker giving the type of oil used is found near the oil separator tank filling port.

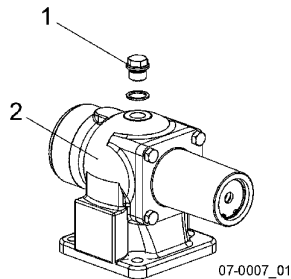


Fig. 5 Inlet valve oil filling port

- 1 Screw plug
- 2 Inlet valve

- ✎ Remove the plug (1) from the inlet valve (2).
- ✎ Pour oil into the inlet valve and replace the screw plug.
- ✎ Turn the rotors over by hand by means of the belt pulley to distribute the oil.

7.6 Checking Direction of Rotation

The machine is designed for a clockwise field.

- ✎ Check the supply with a phase sequence indicator.
- ✎ If the compressor motor turns in the wrong direction, change the motor supply phases L1 and L2.



Alternatively, the direction of rotation can be checked by briefly switching the machine on and off again.

- ✎ Switch the machine off as soon as the direction of rotation is seen and compare it with the direction arrows on the motor and airend.

7.7 Adjusting the start time at first start up

- ✎ Increase the timer relay K1.1T to 20 seconds for the first start. This will prevent compression of the inlet air during the start up.
- ✎ Switch off the compressor just before the end of the set 20 second period.
- ✎ Reset the timer relay K1.1T to the normal run – up period of six seconds before operating the compressor further.

This measure gives the machine enough time to safely fill the oil cooler and the oil circulation system with oil.

7.8 Idle period timer setting

Pre-condition: Machine switched off.
Mains power switch off and locked out.

The idle period timer is located in the control cabinet (adjustment range 1.5 – 30 min.). Set the idle period so that the motor starting frequency is no more than 15 per hour.

7.9 Network pressure switch setting

Pressure switch switching differential setting to limit switching frequency.

The maximum frequency of switching from LOAD to IDLE is two per minute



Pressure adjustment is only possible when the pressure switch is installed and under pressure.

The starting frequency can be reduced to a certain degree by increasing the switching differential.

If this measure is not sufficient, a larger air receiver should be installed to give more buffer capacity.

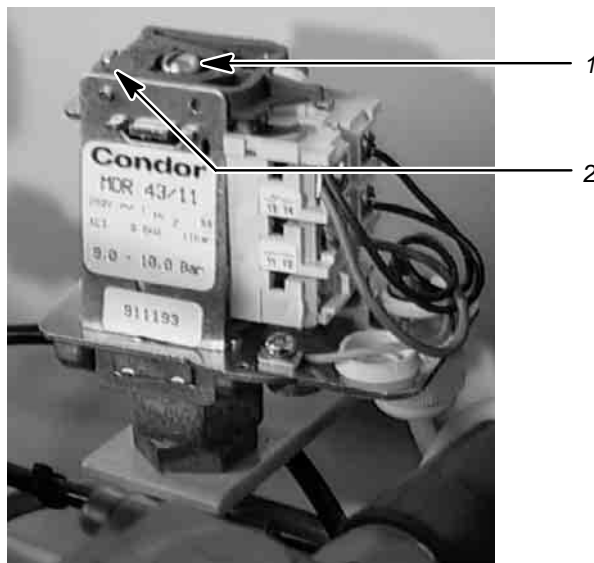


Fig. 6 Setting the pressure switch

- 1 Adjusting screw "P"
- 2 Adjusting screw " Δp "



Replace the cover after every adjustment to the pressure switch and before switching on the compressor.

Increase cut-out pressure:

- ☞ Remove the cover of the pressure switch.
- ☞ Turn the adjusting screw (1) clockwise with a screwdriver. The red pin on the pressure scale indicates the pressure.
- ☞ Replace the cover of the pressure switch.

Decrease cut-out pressure:

- ☞ Remove the cover of the pressure switch.
- ☞ Turn the adjusting screw (1) anticlockwise with a screwdriver. The red pin on the pressure scale indicates the pressure.
- ☞ Replace the cover of the pressure switch.

To increase the pressure differential between cut-in and cut-out:

- ☞ Remove the cover of the pressure switch.
- ☞ Turn the adjusting screw (2) clockwise with a screwdriver. The black pin on the differential pressure scale moves towards "max."
- ☞ Replace the cover of the pressure switch.

To decrease the pressure differential between cut-in and cut-out:

- ☞ Remove the cover of the pressure switch.
- ☞ Turn the adjusting screw (2) anticlockwise with a screwdriver. The black pin on the differential pressure scale moves towards "min."
- ☞ Replace the cover of the pressure switch.

8 Operation

8.1 Control Panel

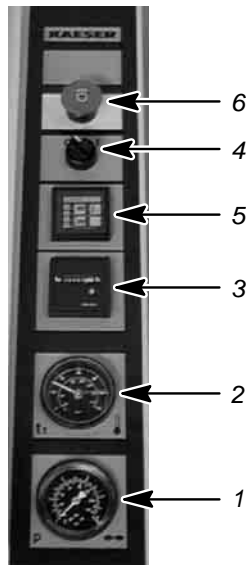


Fig. 7 Control panel

- | | |
|------------------------------|-----------------------------|
| 1 Pressure gauge | 4 "0/1" control switch |
| 2 Remote contact thermometer | 5 KAESER-CONTROL |
| 3 Service hours counter | 6 EMERGENCY STOP pushbutton |

8.2 Switching On and Off

Always use the control switch (4) to switch the machine on and off.

The supply disconnecting device is installed by the user.



WARNING

Compressed air can cause serious injury!

Serious injury is possible.

- ☞ Never direct compressed air at persons or animals.



CAUTION

Damage from machine under-temperature.

Frozen condensate and too viscous cooling oil can result in damage when starting the machine.

- ☞ Make sure the temperature of the machine is at least + 40 ° F before starting.
- ☞ Heat the compressor room or install an auxiliary heater in the compressor.

☞ Ensure that:

- no one is working on the machine,
- all panels are in place,
- all access doors are closed.

8.2.1 Switching on

- ☞ Switch on at the main supply isolator.
- ☞ Turn the control switch (4) to the "I" position.

The compressor motor starts as soon as the network pressure is lower than the set value (cut-out pressure).

8.2.2 Automatic restart

Pre-condition: System pressure is lower than cut-out pressure.

The machine can restart automatically when power is resumed after a power cut.

8.2.3 Switching off

- ☞ Turn the control switch (4) to the "0" position.
- ☞ Switch off and lock out the mains power supply switch.

8.3 Switching Off in an Emergency and Switching On Again**Switching off**

- ☞ Press the 'EMERGENCY STOP' button (6).

The 'EMERGENCY STOP' remains latched in.

The compressor is vented and the machine is prevented from re-starting.

Starting again

Pre-condition: Fault rectified.

- ☞ Turn the 'EMERGENCY STOP' button in the direction of the arrow to unlatch it.
- ☞ Switch the machine on.

9 Event Recognition and Fault Rectification

Inform KAESER service if the event cannot be rectified by the action suggested.

Do not attempt rectifications other than those given in this manual.

9.1 Trouble shooting: Possible cause—Remedy



WARNING

The removal of faults that are not explicitly described in this service manual may only be carried out by KAESER or by an authorised KAESER service agency.

9.1.1 Airend temperature is too high (greater than 167° F–200° F)

Possible cause:

Cooling air inlet or outlet is too close to wall or other blockage.

Air intake filter mats are clogged.

Ambient temperature is too high.

Ambient temperature too low.

Cooling air supply is inadequate.

If cooling air outlet duct is used it may be too narrow or too long.

On air cooled units the fins of the coolers (oil cooler and air aftercooler) are clogged.

On water cooled units the heat exchanger elements may be clogged.

Oil level is low.

Thermostatic valve is not functioning correctly.

Idle pressure is too low for proper oil circulation.

Wrong oil is used.

Oil filter is clogged.

Airend is defective.

Remedy:

Situate unit for adequate air flow.

Clean the mats or replace if necessary.

Provide cooler air from other source or move compressor to a cooler location.

Provide warmer air from other source or move compressor to warmer location or add a cabinet heater.

Provide required amount of ventilation.

Consult authorized KAESER distributor for duct requirements.

Clean with compressed air, water or steam injector.

Inspect heat exchanger elements. Clean or replace as necessary.

Check oil level and add necessary amount of recommended oil.

Check dirt trap strainer in oil return line for possible contamination.

Check the valve spring and actuating piston. Replace defective parts.

Check idle pressure at the separator tank. If the pressure is low check the inlet valve. Adjust inlet valve to maintain adequate idle pressure.

Drain old oil completely and replace with recommended type.

Consult authorized KAESER distributor for other oil types not listed.

Replace filter.

Check airend and replace if defective.

9.1.2 Motor overload relay switches the unit off**Possible cause:**

Overload relay is defective or setting is wrong.

Motor is running two phase: defective motor or blown fuse.

Oil separator cartridge is contaminated.

Motor starts against pressure because system does not get vented.

Airend is defective.

Ambient temperature is above 104° F.

Defective motor: bad bearings or short circuit in windings.

Remedy:

Check line current and adjust overload relay as necessary.

Replace relay if defective.

Check input power, check wiring, tighten any loose connections.

Replace fuse(s) or motor if necessary.

Check pressure differential across cartridge. Replace cartridge and dirt trap strainer if necessary.

Check ball valve in vent line and open if it is closed.

Check the diaphragm in the vent valve and replace if defective.

Check the minimum pressure check valve. Adjust minimum pressure function or replace defective parts as necessary.

Check airend and replace if defective.

Provide adequate compressor ventilation.

Repair or replace motor.

9.1.3 Compressor is running but produces no pressure**Possible cause:**

Inlet valve does not open or opens only partially.

Vent valve does not close at full load.

Minimum pressure check valve is defective.

Air leak in unit.

Leaks in plant system.

Plant system air, demand exceeds capacity of compressor

Socket is still in the hose coupling at the oil separator tank or aftercooler.

Safety relief valve has blown off.

Coupling defective or V-belt broken.

Remedy:

Check the inlet valve, control valve and lines. Replace defective parts as needed

Check the combined control/vent valve and control lines. Replace defective parts as needed.

Check the valve and replace defective parts.

Tighten loose connections, repair or replace defective parts as necessary.

Check for open valves, loose connections, defective tools, etc.

Reduce system demand or install additional compressor(s).

Remove socket from coupling.

See chapter 9.1.6.

Check coupling / V-belt and replace as necessary.

9.1.4 Oil leaks out of air filter**Possible cause:**

Oil level in separator tank is too high.
Inlet valve faulty.

Remedy:

Drain oil to correct level.
Find the fault and replace the defective part.

9.1.5 Full-load/Idle sequence occurs too frequently (short cycles)**Possible cause:**

Receiver tank size is too small or there is no tank.

Diameter of hose connecting the unit to the receiver tank is too small.

Minimum pressure check valve leaks.

Flow is restricted at discharge.

Remedy:

Consult authorized KAESER distributor for recommended tank size.

Connecting hose diameter should not be smaller than the air discharge pipe diameter. Install larger hose if necessary.

Check the valve and replace defective parts.

Look for plugged filters, partially closed valves, frozen pipes or malfunctioning pressure regulators.

9.1.6 Safety relief valve blows off**Possible cause:**

System does not discharge at idle.

Oil separator cartridge is contaminated.

Minimum pressure check valve does not open.

Safety relief valve not properly sized for the pressure of the compressor unit.

Remedy:

Make sure ball valve in vent line is open. Check the control lines, inlet valve and combined control/vent valve. Replace defective parts as needed.

Check the cartridge pressure differential and replace cartridge if necessary.

Check the valve for blockage and replace defective parts as necessary.

Check blow-off pressure and compare to name plate of the compressor. Replace if necessary.

9.1.7 Oil inside the unit**Possible cause:**

Socket is still in the hose coupling at the separator tank.

Safety valve has blown off.

Oil is coming out of air filter.

Hose coupling on separator tank is loose.

Oil cooler leaks.

Remedy:

Remove the socket from the coupling.

See chapter 9.1.6.

See chapter 9.1.4.

Tighten coupling or replace as needed.

Replace oil cooler.

9.1.8 Excessive oil consumption**Possible cause:**

Wrong oil is being used in the unit.

Oil separator cartridge has ruptured.

Oil separator cartridge mountings are loose.

Oil level in separator tank is too high.

Scavenger line is clogged.

Remedy:

Replace with correct oil type.

Consult authorized KAESER distributor for other oil types not listed.

Check pressure differential and replace oil separator cartridge if necessary.

Tighten mounting bolts.

Drain oil to correct level.

Inspect dirt trap strainer in scavenger line. Clean or replace clogged parts as necessary.

10 Maintenance

10.1 Safety

Disregarding these notes and/or improper handling may result in serious injury.



DANGER

Electric voltage!

Touching electrically live components can cause serious injury or death.

- ☞ Isolate completely from the main supply (all conductors) (switch off at the main disconnect)
- ☞ Ensure that the power supply cannot be switched on again (lock off).
- ☞ Check that no voltage is present.



WARNING

There is considerable danger of injury or death if spring-loaded components are incorrectly opened.

Minimum pressure/check valve, safety relief valve and inlet valve are heavily spring-loaded.

- ☞ Do not open or dismantle valves.
- ☞ Call for authorized KAESER distributor if a fault occurs.



WARNING

Compressed air can cause injury or death.

Serious injury or death can result from loosening or opening components under pressure.

- ☞ Close shut-off valves or otherwise isolate the machine from the compressed air system to ensure that no compressed air can flow back into the machine.
- ☞ De-pressurize all pressurized components and enclosures.
- ☞ Check all machine hose connectors with a hand-held pressure gauge to ensure that all read zero.



CAUTION

Machine damage caused by leakage

Leaks result in loss of oil and reduced performance.

Damage or complete breakdown can result.

- ☞ Test run on completion of maintenance work.
- ☞ Carry out a visual check of the machine.



Maintenance work may only be carried out by authorized personnel!

Before switching on again ensure that:

- no one is working on the machine,
- all panels are in place and secured,
- all access doors are closed.

10.2 Maintenance Schedule


Maintenance intervals are recommendations only and should be adjusted to suit the installation and operating conditions.

☞ Keep a log of all service work.

This enables the frequency of individual maintenance tasks and deviations from KAESER's recommendations to be determined. A prepared list is provided in chapter 10.14.

10.2.1 Regular Maintenance Work


When operating conditions are unfavorable (e.g. dusty atmosphere) or when the equipment is in frequent use, maintenance tasks must be carried out more frequently.

Interval	Maintenance tasks	see chapter
weekly	Check cooling oil level.	10.9.1
	Clean or replace the filter mats.	10.4
200 hours after initial start-up	Change the oil filter.	10.11
Every 500 hours	Check and re-tension drive belts.	10.7
Every 1000 hours	Oil and air cooler maintenance.	10.12
Up to 3000 hours	Air filter maintenance.	10.3
Up to 3000 hours at least annually	Change the oil filter.	10.11
Up to 3000 hours at least every 3 years	Change the oil separator cartridge.	10.13
Up to 12000 hours at least every 3 years	Change the drive belts	10.7.2
variable (see chapter 10.2.2)	Change the cooling oil.	10.10
annually	Check that all electrical connections are tight.	
	Check the safety relief valve.	10.6
	Have KAESER service check the overheating shut-down function.	
	Check the oil and air coolers for leaks.	10.12

h. = operating hours

Tab. 16 Regular Maintenance Work

10.2.2 Oil change intervals

The duty cycle and ambient conditions are important criteria for the number and length of the change intervals.

KAESER LUBRICANTS			
SIGMA LUBRICANT	DESCRIPTION	MAXIMUM RECOMMENDED CHANGE INTERVAL*	
		First Oil Change	Subsequent Oil Change
M-460	ISO 46 Semi-Synthetic Lubricant	2000 Hours	3000 Hours
S-460	ISO 46 Synthetic Lubricant	6000 Hours	8000 Hours

* Cool to moderate ambient temperatures, low humidity, high duty cycle

Tab. 17 Oil change intervals lubricants

SPECIALTY KAESER LUBRICANTS (Refer to product information to determine suitability.)			
SIGMA LUBRICANT	DESCRIPTION	MAXIMUM RECOMMENDED CHANGE INTERVAL*	
		First Oil Change	Subsequent Oil Change
S-680	ISO 68 Synthetic Lubricant	6000 Hours	8000 Hours
FG-460	ISO 46 Food Grade Synthetic Fluid	2000 Hours	3000 Hours

* Cool to moderate ambient temperatures, low humidity, high duty cycle

Tab. 18 Oil change intervals speciality lubricants

10.2.3 Regular Service Work


Only authorized KAESER service agents should carry out service work.

When operating conditions are unfavorable (e.g. dusty atmosphere) or when the equipment is heavily utilised, service work must be carried out at shorter intervals.

Interval	Service work
up to 12000 hours	Check valves.
Up to 12000 hours, at the latest every 3 years	Change the drive motor bearings.
Up to 36000 hours, at the latest every 8 years	Change the hose lines.

Tab. 19 Regular service work intervals

10.3 Air Filter Maintenance

Equipment: Replacement part

Pre-condition: Machine switched off.
Main disconnect locked out.
Machine is cooled down.

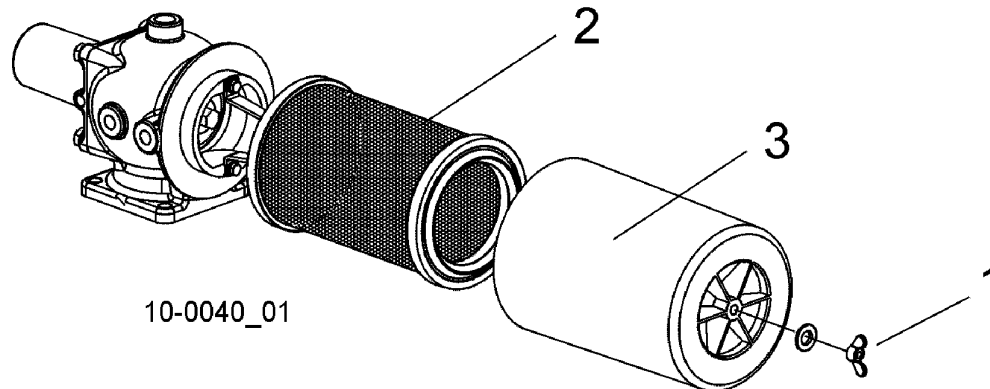


Fig. 8 Air filter maintenance.

- 1 Nut
- 2 Air filter cartridge
- 3 Housing

Opening the air filter housing

- ☞ Unscrew the nut (1) on the housing (3).
- ☞ Lift up the housing and remove the filter element (2).

Cleaning the element by tapping.

Renew the cartridge after two years or after it has been cleaned five times.

- ☞ Tap the element at the end a number of times with the palm of the hand.
- ☞ Clean the sealing faces.

Cleaning the element with compressed air

- ☞ Use dry compressed air (< 70 psig!) to blow out the element at a slant from the inside to the outside.

Closing the air filter housing

- ☞ Clean all parts and sealing surfaces.
- ☞ Insert the new filter element (2) in the housing (3).
- ☞ Attach the casing (3) with the nut (1) to the inlet valve.
- ☞ Close and lock the maintenance canopy.

10.4 Filter Mat Maintenance

Equipment: Warm water and household detergent
Spare parts (as required)

Pre-condition: Machine switched off.
Main disconnect locked out.

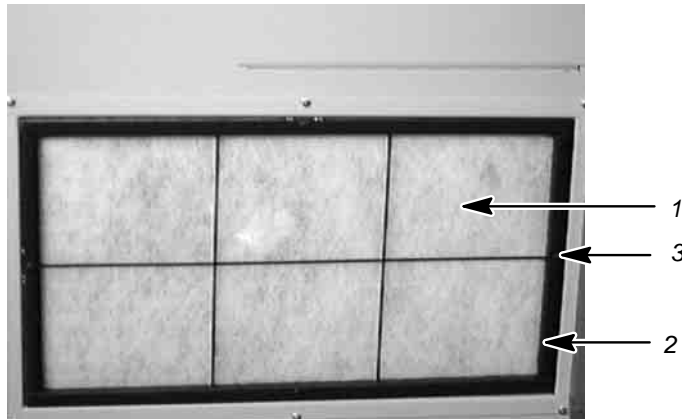


Fig. 9 Filter mat

- 1 Filter mat
- 2 Mounting frame
- 3 Fixing

Removing the filter mat

The filter mat can be removed with a screwdriver.

- ☞ Carefully loosen the fixings (3) and remove the mounting frame.
- ☞ Remove the filter mat.

Cleaning the filter mat

- ☞ Gently beat the mat or use a vacuum cleaner. If necessary, wash with lukewarm water and household detergent.



Renew the mat if cleaning is not possible or has already been carried out five times.

Replacing the filter mat

- ☞ Lay the mat in the mounting frame and fix it in position.

10.5 Electric Motor Maintenance

Compressor motor

The bearings of the compressor motor are permanently greased.

10.6 Checking the Safety Relief Valve on the Oil Separator Tank

To check the relief valve's activating pressure it must be subjected to a pressure higher than the maximum set on the air pressure switch.

- ☞ Switch the machine off.
- ☞ Close the user's shut-off valve between the compressor package and the compressed air system.
- ☞ Open the maintenance canopy.
- ☞ Close the shut-off valve (10, Fig. 14) in the venting line.

- ☞ Close and lock the maintenance canopy.
- ☞ Start the machine and allow it to switch from LOAD to IDLE.

Since the venting line is closed, pressure in the oil separator tank will rise slowly to the relief valve blow-off pressure. The blow-off pressure can be read from the pressure gauge on the control panel.

- ☞ Switch the machine off.
- ☞ Open the maintenance canopy.
- ☞ Open the shut-off valve in the venting line.
- ☞ Close and lock the maintenance canopy.
- ☞ Open the shut-off valve between the compressor and the compressed air system.

10.7 Maintain the Drive Belts

10.7.1 Check the belts and their tension.

Pre-condition: Machine switched off.
Main disconnect locked out.
Machine is cooled down.

Check belts after the first 24-hours of operation.

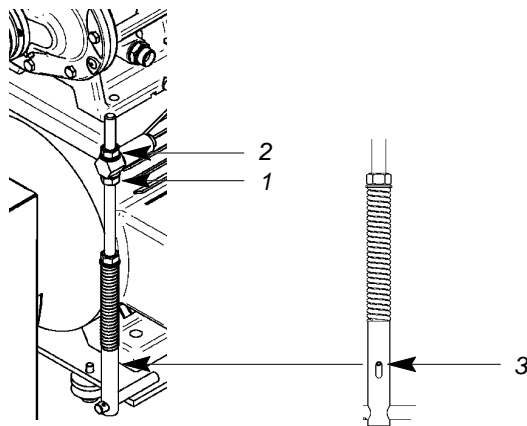


Fig. 10 Maintain the drive belts

- 1 Nut
- 2 Nut
- 3 Indicator pin

Check for damage



Change any damaged belts immediately.

- ☞ Turn the pulley by hand so that all of the belt can be inspected for damage.

Check belt tension and adjust if necessary.

The automatic tensioner uses spring force to apply correct tension to the belts.

Adjustment must be made when the indicator pin (3) reaches the top of the elongated hole.

- ☞ Loosen the locking nut (2).
- ☞ Use the adjusting nut (1) to adjust spring tension until the indicator (3) reaches the lower end of the elongated hole.
- ☞ Retighten the locking nut (2).

10.7.2 Changing the belts

- ☞ Loosen the locking nut (2).
- ☞ Turn adjusting nut (1) to loosen the tension on the belts until they can be removed from the pulley.
- ☞ Install the new set of belts and use the adjusting nut (1) to adjust tension until the indicator pin (3) reaches the lower end of the elongated hole.
- ☞ Retighten the locking nut (2).
- ☞ Check tension after the new belts have been in operation for 24 hours.

10.8 Vent the Machine Manually

Equipment: Male hose fittings (located in the control cabinet)

Pre-condition: Machine switched off.
Main disconnect locked out.
Machine is cooled down.



WARNING

Compressed air can cause injury or death.

Compressed air and devices under pressure can injure or cause death if the contained energy of the air is released suddenly or uncontrolled.

After shutting down the compressor and venting the oil separator tank there is still pressure on the check valve from the compressed air system.

- ☞ Close the shut-off valve provided by the user to isolate the machine from the compressed air system.
- ☞ Vent the oil separator tank.
- ☞ Vent the air aftercooler to completely depressurize the system between the user's shut-off valve and the minimum pressure/check valve.



CAUTION

Escaping oil mist is damaging to health.

- ☞ Do not direct compressed air at a person while venting.
- ☞ Do not inhale oil mist or vapour.
- ☞ Avoid contact with skin and eyes.

Before undertaking any maintenance or service work on the pressure system the machine must be isolated from the air system and completely vented.

The machine is vented in three stages:

- the oil circuit vents automatically when the machine is switched off,
- air is vented manually from the oil separator tank,
- air is vented manually from the air cooler.

Venting

☞ Close the user's shut-off valve between the machine and the compressed air system.



If no shut-off valve is provided, the complete air system must be vented.

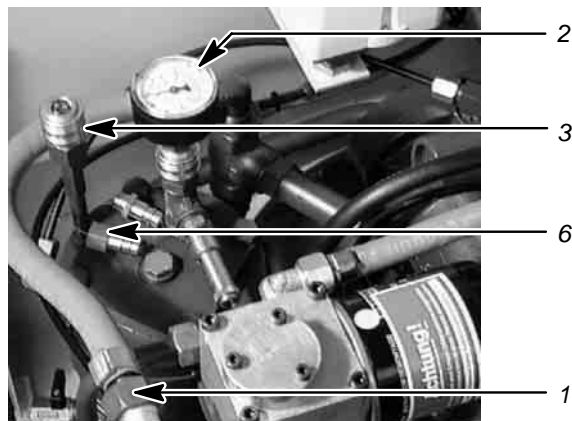


Fig. 11 Vent the machine.

- | | | | |
|---|-------------------------------|---|---|
| 1 | Screw
(air cooler venting) | 3 | Hose coupling
(oil separator tank venting) |
| 2 | Pressure gauge | 6 | Male hose coupling/fitting |

☞ Check that the oil separator tank pressure gauge reads zero psig.



After automatic venting the pressure gauge does not read zero?

- ☞ Make sure that the shut-off valve is closed.
- ☞ If manual venting does *not* bring the oil separator tank pressure gauge to zero, call KAESER service.

Manually venting the oil separator tank

- ☞ Plug the male hose fitting (6) into the hose coupling (3) and release the pressure.
- ☞ Remove the male hose fitting from the hose coupling.

Manually venting the compressed air cooler

- ☞ Remove the screws (1) and carefully release pressure.
- ☞ Check that the O-ring is correctly seated and tighten the screws (1).

10.9 Checking and Topping Up the Cooling Oil

10.9.1 Checking cooling oil level

Pre-condition: Machine switched off.

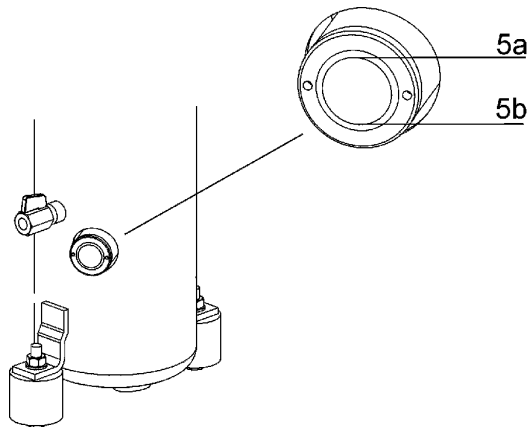


Fig. 12 Checking the cooling oil level

5a Oil level maximum

5b Minimum oil level

- ☞ Wait a few minutes and then check the oil level.
- ☞ Top up as soon as the oil level reaches the minimum (5b).

10.9.2 Topping up the cooling oil

Equipment: Cooling oil

Pre-condition: Machine switched off.
Main disconnect locked out.
Machine is cooled down.



WARNING

Danger of explosion from oils and lubricants!

Danger of explosion from ignition of oil mist and vapors.

- ☞ Fire, open flame and smoking are forbidden!



CAUTION

Damage to the machine from unsuitable oil

- ☞ Never mix different types of oil.
- ☞ Top up only with the same type of oil as already in the machine.

Venting

- ☞ Close the user's shut-off valve between the machine and the compressed air system.



If no shut-off valve is provided, the complete air system must be vented.

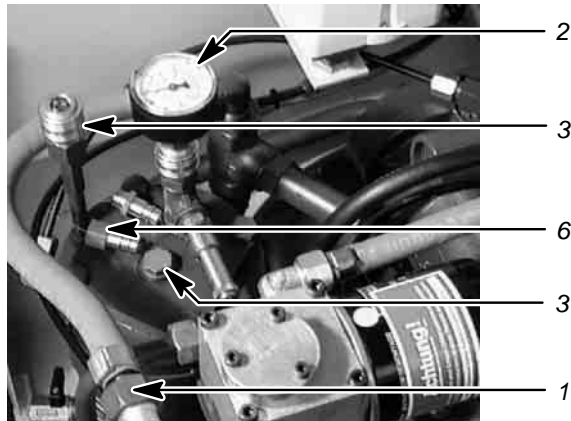


Fig. 13 Venting the machine.

- | | |
|---|---|
| <p>1 Screw
(air cooler venting)</p> <p>2 Pressure gauge</p> <p>3 Hose coupling
(oil separator tank venting)</p> | <p>4 Oil filling port with plug</p> <p>6 Male hose coupling/fitting</p> |
|---|---|

- ☞ Check that the oil separator tank pressure gauge reads zero.



After automatic venting the pressure gauge does not read zero?

- ☞ Make sure that the shut-off valve is closed.
- ☞ If manual venting does *not* bring the oil separator tank pressure gauge to zero, call KAESER Service.

Manually venting the oil separator tank

- ☞ Plug the male hose fitting (6) into the hose coupling (3) and release the pressure.
- ☞ Remove the male hose fitting from the hose coupling.

Manually venting the compressed air cooler

- ☞ Remove the screw (1) and carefully release pressure.
- ☞ Tighten the screw (1).
- ☞ Close the user's shut-off valve between the machine and the compressed air system.

Topping up the cooling oil

- ☞ Open the filler plug (4) slowly.
- ☞ Top up with oil slowly to the maximum level.
- ☞ Replace the plug gasket if necessary and re-insert the plug.

Start the machine and carry out a test run.

- ☞ Close and lock the maintenance canopy.
- ☞ Open the user's shut-off valve between the machine and the air main.
- ☞ Start the machine and allow to run for ten minutes then switch off, check the oil level and top up if necessary.
- ☞ Carry out a visual check for leaks.

10.10 Changing the Cooling Oil

Equipment: Cooling oil
Oil catchment container

Thoroughly blow out all the oil from the separator tank and cooler.



Dispose of the old oil in accordance with local environment protection regulations.



CAUTION

Danger of burns from hot components and oil.

☞ Wear long-sleeved clothing and gloves.

☞ Work carefully.

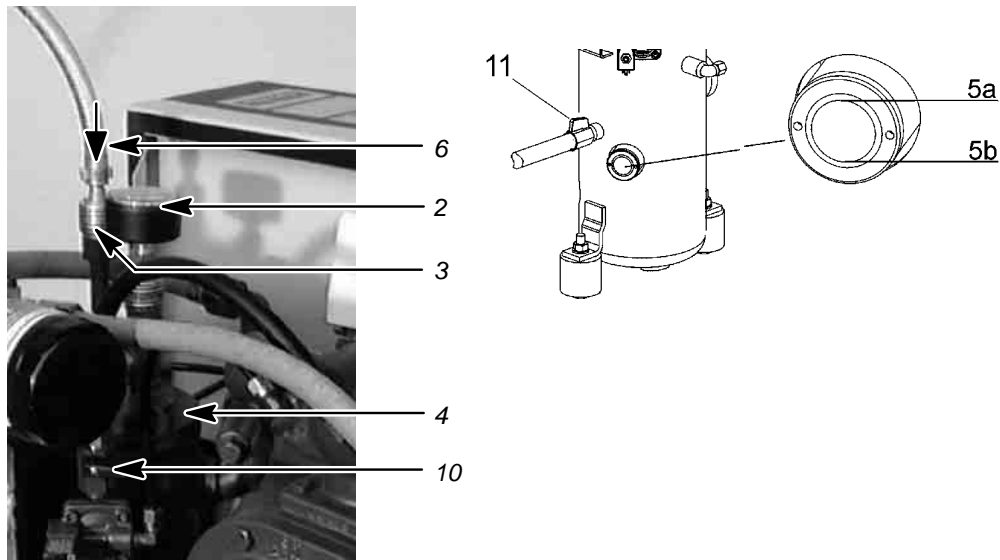


Fig. 14 Changing the cooling oil, oil separator tank

- | | | | |
|----|--|----|-------------------------------|
| 2 | Pressure gauge | 6 | Male hose coupling/fitting |
| 3 | Hose coupling (oil separator tank venting) | 10 | Shut-off valve (venting line) |
| 4 | Oil filling port with plug | 11 | Shut-off valve (oil drain) |
| 5a | Oil level maximum | | |
| 5b | Minimum oil level | | |

Compressed air helps to expel the oil.

This pressure can be generated by the machine itself.

Alternatively, an external source of compressed air can be used.

External air is necessary if the machine

- is not operational
- is to be restarted after a long standstill period.

Changing the oil with help from internal pressure

Pre-condition: The machine has been running at least five minutes under LOAD.
Machine is switched off.
Machine fully vented (no pressure).
Pressure gauge on the oil separator tank indicates zero.

- ☞ Close the shut-off valve (10) in the venting line.
- ☞ Start the machine in idle and watch the oil separator tank pressure gauge (2) until it reads 40–70 psig.
- ☞ Switch the machine off.
- ☞ Switch off and lock out the main disconnect switch.
- ☞ Wait at least two minutes for oil to flow back to the separator tank.

Changing the oil with help from an external pressure source

Pre-condition: Machine switched off.
Main disconnect locked out.
Machine fully vented (no pressure).
Pressure gauge on the oil separator tank indicates zero.
External source of compressed air available.

- ☞ Close the shut-off valve (10) in the venting line.
- ☞ Connect the hose coupling (3) to an external air supply.
- ☞ Allow air to flow into the oil separator tank until the pressure gauge reads 40–70 psig.
- ☞ Disconnect the external air supply.

Draining the oil from the separator tank

Contact KAESER Service if condensate is detected in the oil.
It is necessary to adjust the airend discharge temperature to suit operating conditions.

- ☞ Have an oil container ready.
- ☞ Place the end of the oil drain hose in the oil container and secure it in place.
- ☞ Slowly open the shut off valve (11) to allow oil to drain out and close immediately when air begins to escape.

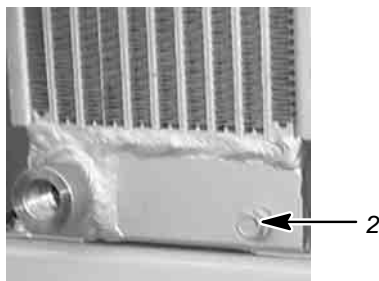
Draining the oil from the cooler

Fig. 15 Changing the cooling oil, oil cooler

2 Oil drain plug

- ☞ Have an oil container ready.
- ☞ Slowly unscrew the oil drain plug (2) to allow oil to drain completely and residual air to escape.
- ☞ Check that the oil separator tank pressure gauge reads zero.
- ☞ Tighten drain plug (2).

Filling with cooling oil

- ☞ Slowly open filler plug (4, Fig. 14).
- ☞ Fill with oil.
- ☞ Check the plug and gasket for damage and re-insert the plug.


Start the machine and carry out a test run.

- ☞ Open the shut-off valve (10) in the venting line.
- ☞ Close and lock the maintenance canopy.
- ☞ Open the user's shut-off valve between the machine and the compressed air system.
- ☞ Switch on at the main disconnect.
- ☞ Switch the machine on.
- ☞ After about ten minutes, switch the machine off, check the oil level and top up again, if necessary.
- ☞ Carry out a visual check for leaks.

10.11 Oil Filter Maintenance

Equipment: Replacement part
Oil catchment container

Pre-condition: Machine switched off.
Main disconnect locked out.
Machine fully vented (no pressure).
Pressure gauge on the oil separator tank indicates zero.

 **Danger of burns from hot components and oil.**

CAUTION

- ☞ Wear long-sleeved clothing and gloves.
- ☞ Work carefully.

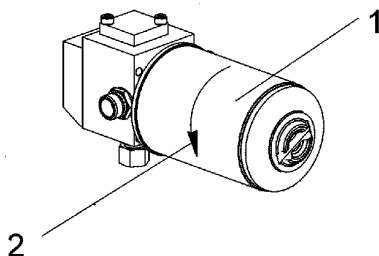


Fig. 16 Changing the oil filter

- 1 Oil filter
- 2 Direction to unscrew



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

- ☞ Unscrew the oil filter anti-clockwise, catch oil spillage and dispose of correctly.
- ☞ Lightly oil the new oil filter gasket.



Screw on the new filter using hand pressure only. Do not use any tool.

- ☞ Turn the oil filter clockwise to tighten.

Start the machine and carry out a test run.

- ☞ Close and lock the maintenance canopy.
- ☞ Open the user's shut-off valve between the machine and the compressed air system.
- ☞ Switch on at the main supply isolator.
- ☞ Switch the machine on.
- ☞ After about five minutes, check the oil level and top up again, if necessary.
- ☞ Carry out a visual check for leaks.

10.12 Cooler Maintenance

Equipment: Cleaning rags
High-pressure cleaner

Pre-condition: Machine switched off.
Machine fully vented (no pressure).
Pressure gauge on the oil separator tank indicates zero.
Main disconnect locked out.
Machine is cooled down.

Check the cooler regularly for contamination. Frequency is mainly dependant on local operating conditions.



Contamination causes overheating and machine damage.

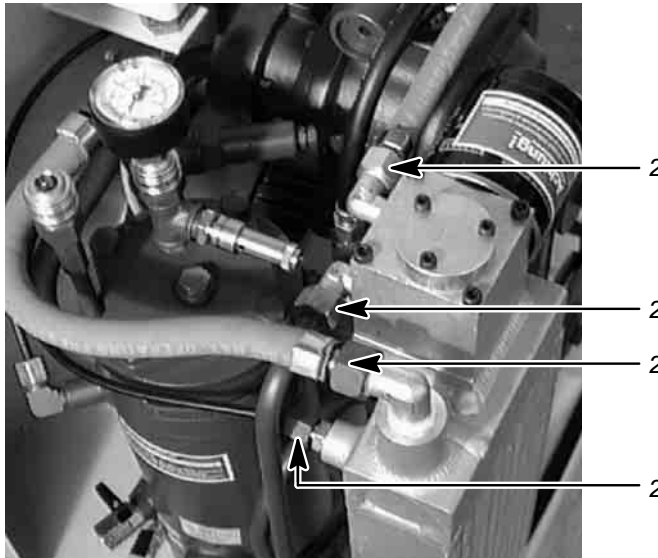
Remove the cooler

Fig. 17 Cooler with fixings

2 Fitting

- ☞ Loosen the fitting (2) and catch any oil running out with the cleaning rags.

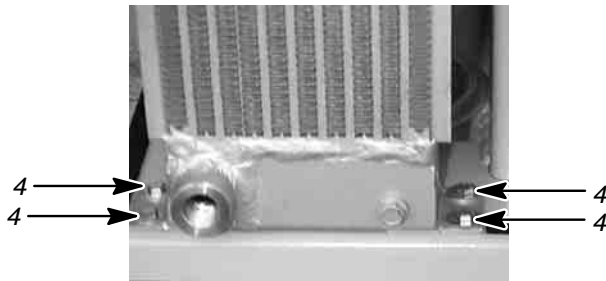


Fig. 18 Cooler fixing

4 Screw

- ☞ Remove the screws (4).
- ☞ Lift the cooler carefully out of the machine.
- ☞ Close off all openings.

Clean the cooler

Observe all safety precautions when working with the high-pressure cleaner.



Clean the cooler only at a proper cleaning point equipped with an oil/water separator.

Avoid blowing dirt and dust in the air. Wear a face mask if necessary.

Do not use sharp objects to clean the cooler. The cooler could be damaged.

- ☞ Clean the cooler with a jet of water or steam.
- ☞ Open and clean connections.
- ☞ Drain out any water that has entered.

Re-mount the cooler

- ☞ Lift the cooler carefully into the machine and secure with screws (4).
- ☞ Re-connect the fittings (2).

Start the machine and carry out a test run.

- ☞ Fill with cooling oil
- ☞ Close and lock the maintenance canopy.
- ☞ Open the user's shut-off valve between the machine and the compressed air system.
- ☞ After about ten minutes, check the oil level and top up if necessary.
- ☞ Switch machine off and check for leaks.

10.13 Changing the Oil Separator Cartridge

Equipment: Replacement part
Cleaning rags

Pre-condition: Machine switched off.
Main disconnect locked out.
Machine fully vented (no pressure).
Pressure gauge on the oil separator tank indicates zero.
Machine is cooled down.

The life of the oil separator cartridge is influenced by:

- contamination in the air drawn into the compressor,
- Compliance with change intervals of
 - Cooling oil
 - Oil filter
 - Air filter



The oil separator cartridge cannot be cleaned.



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

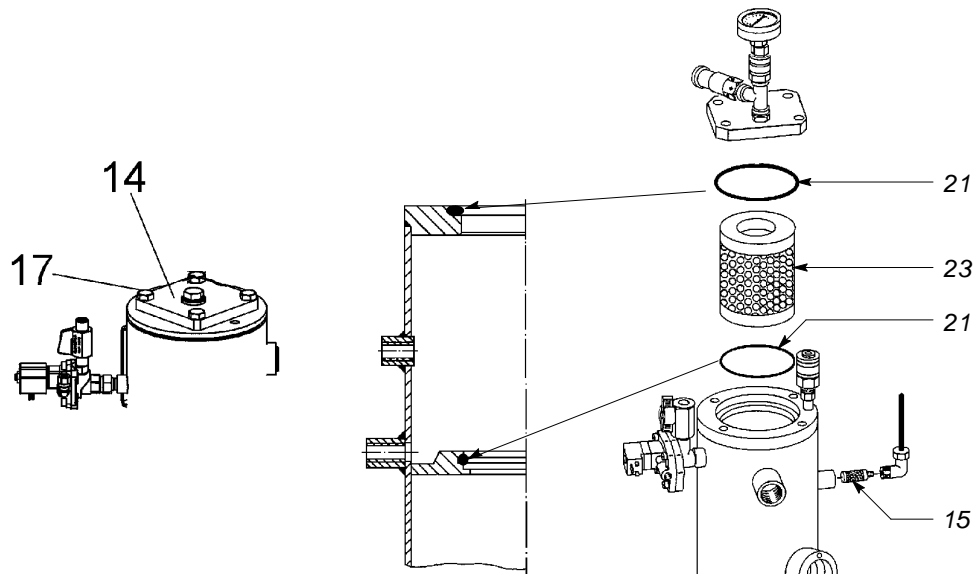


Fig. 19 Changing the Oil Separator Cartridge

14	Cover	21	Seal
15	Dirt trap	23	Oil separator cartridge
17	Retaining screw		

- ✚ Remove the cover retaining screws (17) and carefully lift the cover (14).
- ✚ Take out the old oil separator cartridge (23) together with the gaskets (21) and dispose of according to environmental protection regulations.
- ✚ Clean all sealing faces.
- ✚ Insert the new oil separator cartridge with gaskets (21) and screw down the cover.
- ✚ Renew the dirt trap (15) strainer and O-ring.

Start the machine and carry out a test run

- ✚ Close and lock the maintenance canopy.
- ✚ Open the user's shut-off valve between the machine and the compressed air system.
- ✚ Switch on at the main disconnect.
- ✚ After a few minutes of operation, stop the machine and check for leaks.

11 Spares, Operating Materials, Service

11.1 Note the nameplate

Take data from the nameplate for all inquiries and spare parts orders.

11.2 Ordering Maintenance Parts and Operating Materials



CAUTION

Personal injury or machine damage may result from the use of unsuitable spare parts or operating materials.

Unsuitable or poor quality maintenance parts and operating materials may damage the machine or impair its proper function.

Damage to the machine can also result in personal injury.

- ☞ Use only genuine spare parts and authorized operating materials.
- ☞ Have an authorized KAESER service agent carry out regular maintenance.

KAESER maintenance parts and operating materials correspond to the original. These are correct for use in our machines.

Compressor

Name	Quantity	Number
Air filter cartridge	1	1250
Filter mat	1	1050
Oil filter	1	1200
Oil separator cartridge	1	1450
Cooling Oil	1	1600
Drive belts (set)	1	1800

Tab. 21 Machine maintenance parts

11.3 Maintenance Contract

- ☞ Sign a maintenance contract with an authorized KAESER distributor. This ensures the utmost reliability and availability of your compressed air supply system.

11.4 Service Addresses

Addresses of KAESER distributors are given at the end of this manual.

11.5 Spare Parts for Service and Repair



Any inspection, maintenance or repair tasks not described in this manual should be carried out by an authorized KAESER distributor.

With the help of this parts list you can obtain in advance the spares you need in accordance with your operating conditions.

Spare parts list	Description
1	SX three-phase
2	SX single-phase

KAESER

<http://www.kaeser.com>

Dok.Nr. SEL-1013_01D

Ersatzteilliste

Schraubenkompressor Typ SX

Spare parts list

Rotary screw compressor series SX

Liste de pièces de rechange

Compresseur à vis Type SX

Lista de las piezas de recambio

Compresor de tornillo modelo SX

Inhalt Ersatzteilzeichnung und Legende
Wartungspakete

Contents Spare parts drawing and legend
Maintenance packages

Contenu Vue éciatée et légende
Packages d'entretien courant

Indice Dibujo y leyenda de las piezas de recambio
Paquetes de mantenimiento

Typ
Model
Type
Modelo

Materialnummer
Part number
Référence
Número material

Serialnummer
Serial number
No. de série
Número de serie

ACHTUNG !

Bitte geben Sie bei der Ersatzteilbestellung Material- und Seriennummer der Anlage sowie Positionsnummer und Bezeichnung der Ersatzteile an.

ATTENTION !

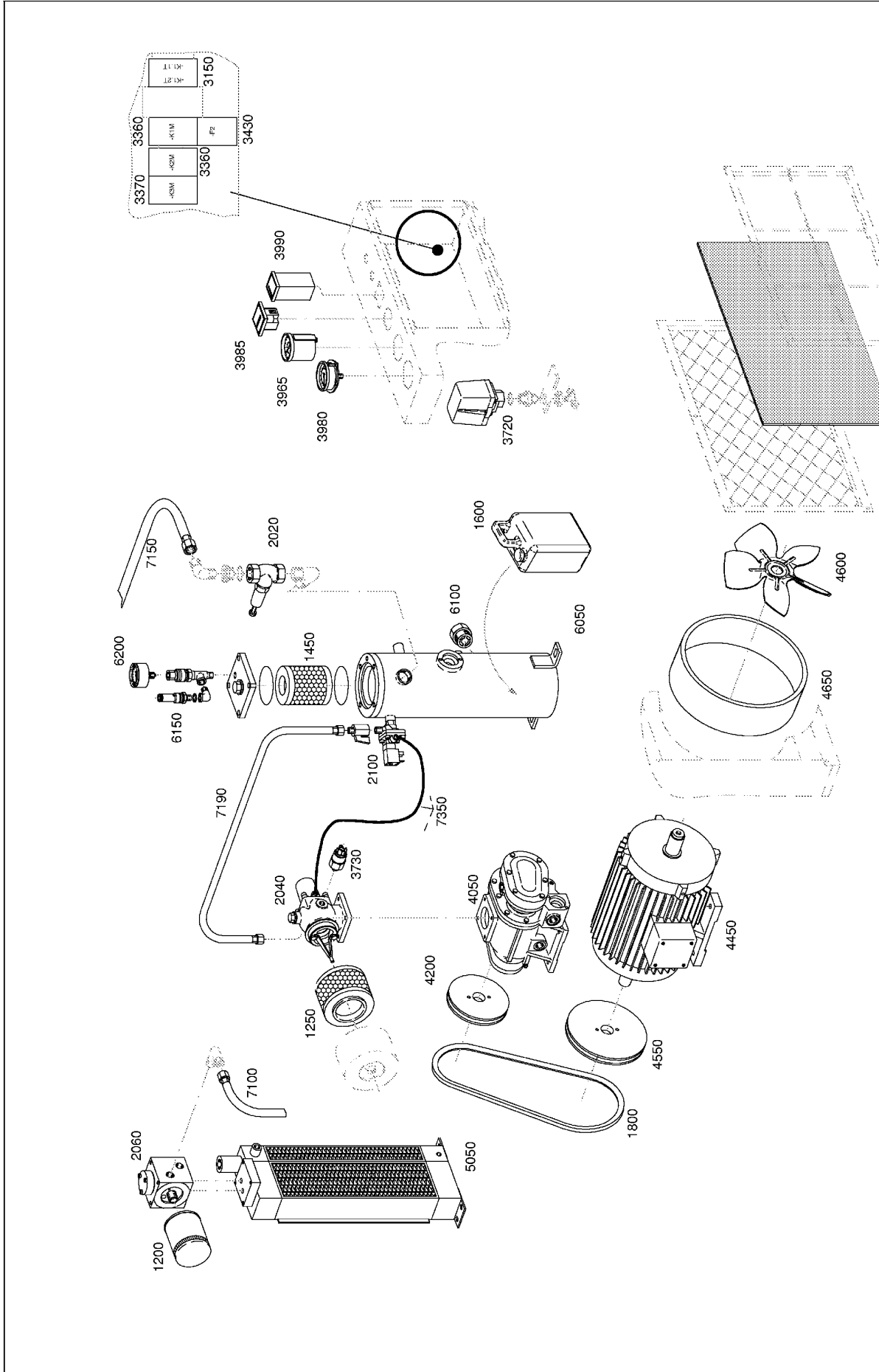
Please quote the part number and serial number of the package together with the item number and the description of the part when ordering.

ATTENTION !

Indiquer sur chaque commande de pièces de rechange la référence et le No. de série de l'appareil, de même que le No. du repère et la désignation de la pièce de rechange.

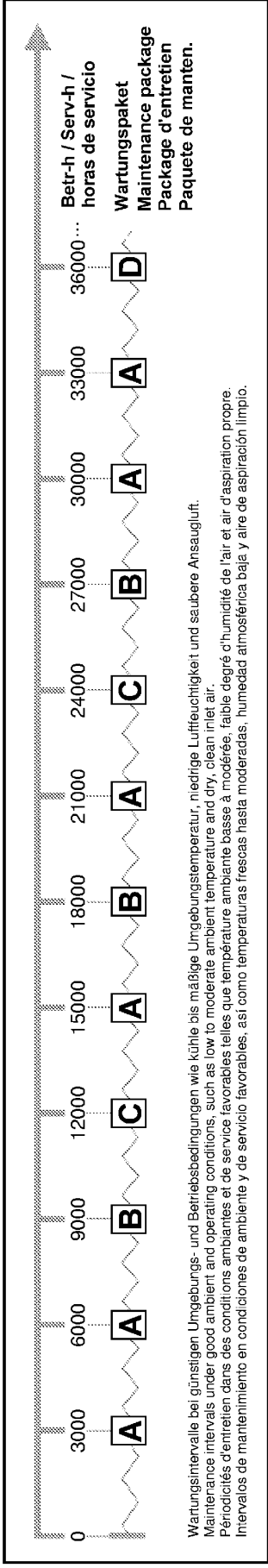
¡ ATENCION !

Cuando pidan piezas de recambio les rogamos nos indiquen el número de material y de la serie, así como el número de la posición y la designación de las piezas de recambio.



DE	Ersatzteilzeichnung Schraubenkompressor Typ SX	KAESER
EN	Spare parts drawing rotary screw compressor series SX	Dok.Nr.
FR	Vue éclatée compresseur à vis Type SX	SEL-1013_01D
ES	Dibujo piezas recambio compresor tornillo modelo SX	

Nr.No.	Stck/Qty	Bezeichnung	Description	Designation	Designación
1050	1	Ansaugfiltermatte	Inlet filter mat	Natte filtrante d'aspiration	Esmerilla filtrante de aspiración
1200	1	Ölfilterpatrone	Oil filter element	Cartouche du filtre à huile	Cartucho filtrante de aceite
1250	1	Luffilterpatrone	Air filter element	Cartouche du filtre à air	Cartucho filtrante de aire
1450	1	Ölabscheidepatrone kpl.	Oil separator cartridge cpl.	Cartouche séparateur cpl.	Cartucho separador de aceite cpl.
1600	1	Kühlmittel	Coolant	Agent réfrigérant	Fluido refrigerante
1800	1	Keilriemen	V-belt	Courroie trapézoïdale	Correa trapezoidal
2020	1	Mindestdruckrückschlagventil kpl.	Minimum pressure / check valve cpl.	Soupape pression mini cpl.	Válvula de retención pres.mínima cpl.
2022	1	Wartungs-Kit	Maintenance kit	Kit d'entretien	Kit de mantenimiento
2024	1	Reparatur-Kit	Repair kit	Kit de réparation	Válv.rete./pres.min
2040	1	Einlassventil kpl.	Inlet valve cpl.	Soupape d'aspiration d'air cpl.	Válvula de admisión cpl.
2042	1	Wartungs-Kit	Maintenance kit	Kit d'entretien	Kit de mantenimiento
2044	1	Reparatur-Kit	Repair kit	Kit de réparation	Válv.rete./pres.min
2060	1	Kombiventil kpl.	Combination valve cpl.	Vanne thermostatique cpl.	Válvula combinada cpl.
2062	1	Wartungs-Kit	Maintenance kit	Kit d'entretien	Kit de mantenimiento
2064	1	Reparatur-Kit	Repair kit	Kit de réparation	Válvula combinada
2100	1	Kombiniertes Entlüftungs-Hilfsventil kpl.	Combined discharge / auxiliary valve cpl.	Vanne thermostat. Vanne thermostat.	Kit de reparación
2102	1	Wartungs-Kit	Maintenance kit	Kit d'entretien	Válvula auxiliar combinada de despresurización cpl.
2104	1	Reparatur-Kit	Repair kit	Kit de réparation	Kit de mantenimiento
3150	1	Zeitrelais	Timer	Relais temporisé	Relé temporizador
3360	2	Schutz (-K1M, -K2M)	Contactor (-K1M, -K2M)	Contacteur (-K1M, -K2M)	Contactador (-K1M, -K2M)
3370	1	Schutz (-K3M)	Contactor (-K3M)	Contacteur (-K3M)	Contactador (-K3M)
3430	1	Überstromauslöser Antriebsmotor	Drive motor overcurrent relay	Relais de surcharge moteur de commande	Relé de sobrecorriente motor de accionamiento
3720	1	Druckschalter	Pressure switch	Pressostat	Presostato
3730	1	Sicherheitsdruckschalter kpl.	Safety pressure switch cpl.	Pressostat	Presostato
3732	1	Schutzkappe	Protective cap	Protection caoutchouc	Cubierta de protección
3965	1	Fernthermometer	Distance temperature gauge	Téléthermomètre	Teletermómetro
3980	1	Manometer	Pressure gauge	Manomètre	Manómetro
3985	1	Betriebsstundenzähler	Operating hours counter	Compteur d'heures de service	Contador horas de servicio
3990	1	Störmelderelais	malfunction relay	relais d'indication de défauts	Relé indicador de fallos
4050	1	Tauschblock kpl.	Exchange aircnd cpl.	Bloc échange standard cpl.	Bloque de cambio cpl.
4052	1	Gleitingrichtung kpl.	Sliding ring seal cpl.	Joint tournant cpl.	Cierre de anillo deslizante
4100	1	Montage-Kit Tauschblock	Exchange aircnd fitting kit	Kit montage bloc	Kit montaje bloque de cambio
4200	1	Keilriemenscheibe Block	Aircnd pulley	Poulie à gorges bloc	Polea de correa bloque
4450	1	Antriebsmotor	Drive motor	Moteur de commande	Motor de accionamiento
447	1	Motorlager A-Seite	Motor bearings D-end	Roulement moteur côté A	Rodamientos del motor lado A
448	1	Motorlager B-Seite	Motor bearings N-end	Roulement moteur côté B	Rodamientos de motor lado B
4550	1	Keilriemenscheibe Antriebsmotor	Motor pulley	Poulie à gorges moteur de commande	Polea de correa motor de accionamiento
4600	1	Lüfterflügel	Fan impeller	Ailette de ventilateur	Paleta del ventilador
4650	1	Schaumstoff	Foam	Mousse	Plástico celular
5050	1	Kombi Öl-/Luftkühler kpl.	Combined air/oil cooler	Réfrigérant air/huile	Refrigerador combinado air/aceite
6050	1	Ölabscheidebehälter kpl.	Oil separator tank cpl.	Réservoir séparateur d'huile cpl.	Despos.separ. aceite cpl.
6100	1	Ölschauglas	Oil sight glass	Visueur de graissage, voyant d'huile	Visor de aceite
6150	1	Sicherheitsventil kpl.	Pressure relief valve cpl.	Soupape de sûreté	Válvula de seguridad
6200	1	Manometer	Pressure gauge	Manomètre	Manómetro
7100	1	Schlauchleitung	Hose line	Tuyau flexible	Depósito sep.de aceite
7150	1	Schlauchleitung	cooler-aircnd	Tuyau flexible	Refrigerador bloque
7190	1	Schlauchleitung	oil separator-air cooler	Tuyau flexible	Depósito sep.de aceite
7350	1	Schlauchleitung	comb.aux.vent.valve-inlet valve	Tuyau flexible	Depósito sep.de aceite
7350	1	Steuerleitungs-Kit	Control line Kit	Kit conduite de régulation	Válv.aux.comb desp. Vál. de admisión



Wartungsintervalle bei günstigen Umgebungs- und Betriebsbedingungen wie kühle bis mäßige Umgebungstemperatur, niedrige Luftfeuchtigkeit und saubere Ansaugluft.
 Maintenance intervals under good ambient and operating conditions, such as low to moderate ambient temperature and dry, clean inlet air.
 Périodes d'entretien dans des conditions ambiantes et de service favorables telles que température ambiante basse à modérée, faible degré d'humidité de l'air et air d'aspiration propre.
 Intervalos de mantenimiento en condiciones de ambiente y de servicio favorables, así como temperaturas frescas hasta moderadas, humedad atmosférica baja y aire de aspiración limpio.

Abhängig von den Umgebungs- und Betriebsbedingungen können sich die Wartungsintervalle verkürzen.
 Maintenance intervals may decrease due to ambient and operating conditions.
 Les périodes d'entretien peuvent se réduire en fonction des conditions ambiantes et de service.
 Los intervalos de mantenimiento pueden acortarse según las condiciones del entorno y del servicio.

Wartungspaket Maintenance package Package d'entretien Paquete de mantenimiento	A	B	C	D
Nr. / No.	Stück / Qty.	Nr. / No.	Stück / Qty.	Nr. / No.
	1050	1050	1050	1050
	1200	1200	1200	1200
	1250	1250	1250	1250
	1450	1450	1450	1450
	1600*)	1600*)	1600*)	1600*)
		1800	1800	1800
		2022	2022	2024
			2042	2044
			2062	2064
			2102	2104
			447	447
			448	448
			7100	7100
			7150	7150
			7190	7190

Vor und bei Ausführung aller Arbeiten sind die Sicherheits- und Servicehinweise in der Betriebsanleitung der Maschine zu beachten!
 Before and during all work, be sure to read and follow the safety and service instructions contained in the machine Service Manual!
 Avant et lors de l'exécution de travaux, il est impératif de respecter les consignes de sécurité et de maintenance décrites dans la notice d'utilisation de la machine.
 ¡Se ruega observar las indicaciones de seguridad y mantenimiento en las instrucciones de servicio de la máquina antes de efectuar cualquier trabajo y durante el mismo!

DE	Wartungspakete Schraubenkompressor Typ SX	KAESER
EN	Maintenance packages rotary screw compressor series SX	Dok.Nr.
FR	Paquets d'entretien courant compresseur à vis Type SX	SEL-1013_01D
ES	Paquetes de mantenimiento compresor de tornillo modelo SX	

*) siehe Kühlmittelpflege
 *) see cooling fluid recommendations
 *) voir agent réfrigérant conseillé
 *) ver recomendaciones para el fluido

KAESER

<http://www.kaeser.com>

Dok.Nr. SEL-1041_01D

Ersatzteilliste

Schraubenkompressor Typ SX

Spare parts list

Rotary screw compressor series SX

Liste de pièces de rechange

Compresseur à vis Type SX

Lista de las piezas de recambio

Compresor de tornillo modelo SX

Inhalt Ersatzteilzeichnung und Legende
Wartungspakete

Contents Spare parts drawing and legend
Maintenance packages

Contenu Vue éciatée et légende
Packages d'entretien courant

Indice Dibujo y leyenda de las piezas de recambio
Paquetes de mantenimiento

Typ
Model
Type
Modelo

Materialnummer
Part number
Référence
Número material

Serialnummer
Serial number
No. de série
Número de serie

ACHTUNG !

Bitte geben Sie bei der Ersatzteilbestellung Material- und Seriennummer der Anlage sowie Positionsnummer und Bezeichnung der Ersatzteile an.

ATTENTION !

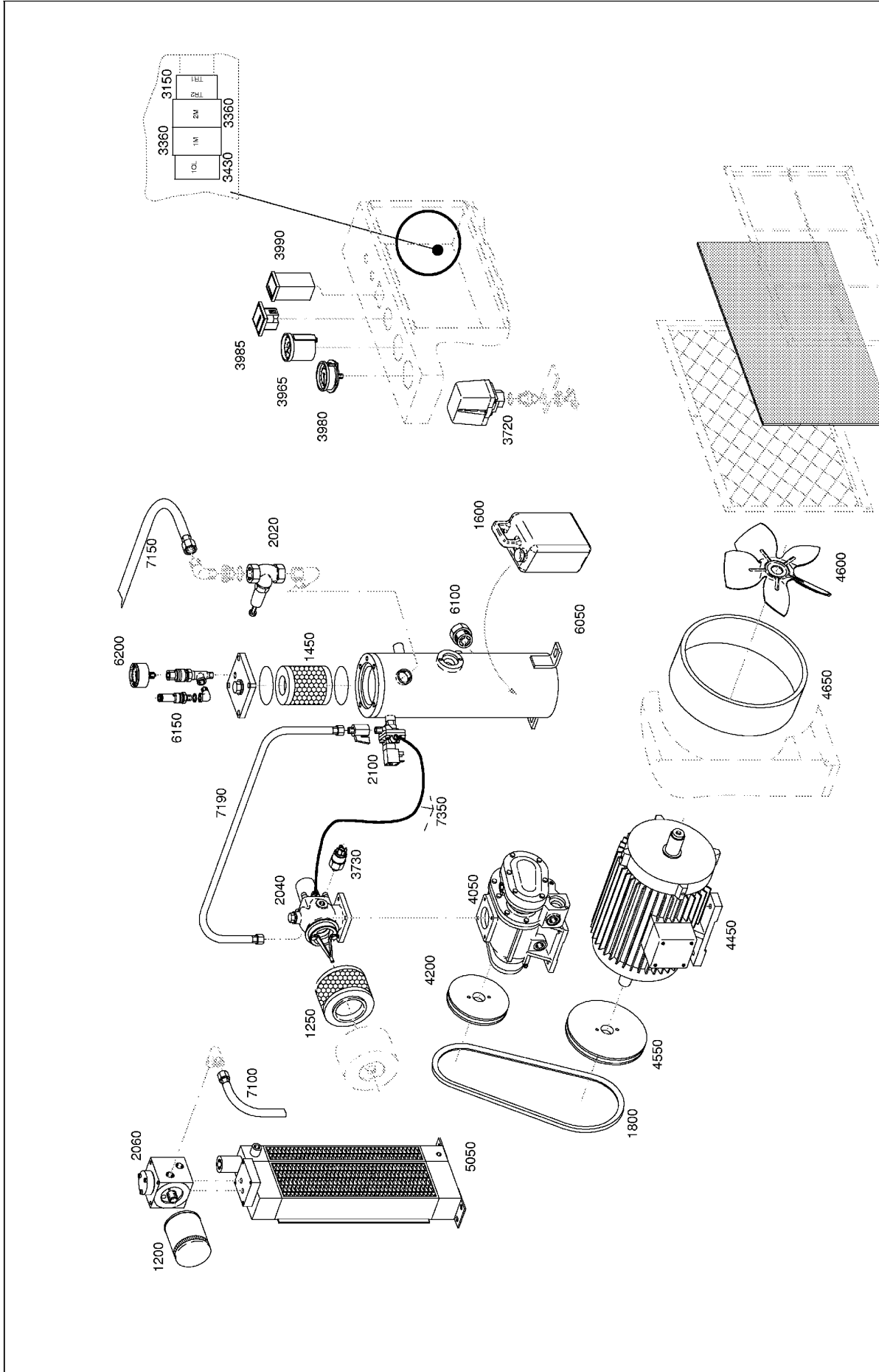
Please quote the part number and serial number of the package together with the item number and the description of the part when ordering.

ATTENTION !

Indiquer sur chaque commande de pièces de rechange la référence et le No. de série de l'appareil, de même que le No. du repère et la désignation de la pièce de rechange.

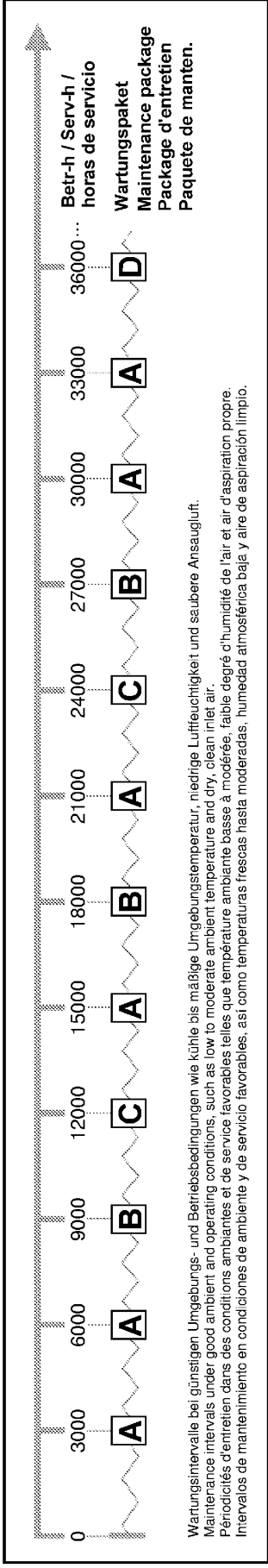
¡ ATENCION !

Cuando pidan piezas de recambio les rogamos nos indiquen el número de material y de la serie, así como el número de la posición y la designación de las piezas de recambio.



DE	Ersatzteilzeichnung Schraubenkompressor Typ SX	KAESER
EN	Spare parts drawing rotary screw compressor series SX	Dok.Nr.
FR	Vue éclatée compresseur à vis Type SX	SEL-1041_01D
ES	Dibujo piezas recambio compresor tornillo modelo SX	

Nr.No.	Stck/Qty	Bezeichnung	Description	Designation	Designación
1050	1	Ansaugfiltermatte	Inlet filter mat	Natte filtrante d'aspiration	Esterilla filtrante de aspiración
1200	1	Ölfilterpatrone	Oil filter element	Cartouche du filtre à huile	Cartucho filtrante de aceite
1250	1	Luffilterpatrone	Air filter element	Cartouche du filtre à air	Cartucho filtrante de aire
1450	1	Ölabscheidepatrone kpl.	Oil separator cartridge cpl.	Cartouche séparateur cpl.	Cartucho separador de aceite cpl.
1600	1	Kühlmittel	Coolant	Agent réfrigérant	Fluido refrigerante
1800	1	Keilriemen	V-belt	Courroie trapézoïdale	Correa trapezoidal
2020	1	Mindestdruckrückschlagventil kpl.	Minimum pressure / check valve cpl.	Soupage pression mini cpl.	Válvula de retención pres.mínima cpl.
2022	1	Wartungs-Kit	Maintenance kit	Kit d'entretien	Kit de mantenimiento
2024	1	Reparatur-Kit	Repair kit	Kit de réparation	Vál.rete./pres.min
2040	1	Einlassventil kpl.	Inlet valve cpl.	Soupage d'aspiration d'air cpl.	Vál.v. admisión cpl.
2042	1	Wartungs-Kit	Maintenance kit	Kit d'entretien	Kit de mantenimiento
2044	1	Reparatur-Kit	Repair kit	Kit de réparation	Vál. de admisión
2060	1	Kombiventil kpl.	Combination valve cpl.	Vanne thermostatique cpl.	Vál.v. combinada cpl.
2062	1	Wartungs-Kit	Maintenance kit	Kit d'entretien	Kit de mantenimiento
2064	1	Reparatur-Kit	Repair kit	Kit de réparation	Vál.v. combinada
2100	1	Kombiniertes Entlüftungs-Hilfsventil kpl.	Combined discharge / auxiliary valve cpl.	Vanne thermostat. Vanne thermostat.	Vál.v. combinada
2102	1	Wartungs-Kit	Maintenance kit	Kit d'entretien	Vál.v. auxiliar combinada de despresurización cpl.
2104	1	Reparatur-Kit	Repair kit	Kit de réparation	Vál.aux.comb.desp.
3150	1	Zeitrelais	Timer	Relais temporisé	Relé temporizador
3360	2	Schütz (-1M, -2M)	Contactor (-1M, -2M)	Contacteur (-1M, -2M)	Contactador (-1M, -2M)
3430	1	Überstromauslöser Antriebsmotor	Drive motor overcurrent relay	Relais de surcharge moteur de commande	Relé de sobreintensidad motor de accionamiento
3720	1	Druckschalter	Pressure switch	Pressostat	Presostato
3730	1	Sicherheitsdruckschalter kpl.	Safety pressure switch cpl.	Protection caoutchouc	Cubierta de protección
3732	1	Schutzkappe	Protective cap	Téléthermomètre	Teletermómetro
3965	1	Fernthermometer	Distance temperature gauge	Manomètre	Manómetro
3980	1	Manometer	Pressure gauge	Compteur d'heures de service	Contador horas de servicio
3985	1	Betriebsstundenzähler	Operating hours counter	relais d'indication de défauts	Relé indicador de fallos
3990	1	Störrelais	malfunction relay	Bloc échange standard cpl.	Bloque de cambio cpl.
4050	1	Tauschblock kpl.	Exchange airtend cpl.	Joint tournant cpl.	Cierre de anillo deslizante
4052	1	Gleitringdichtung kpl.	Sliding ring seal cpl.	Kit montage bloc	Kit montaje bloque de cambio
4100	1	Montage-Kit Tauschblock	Exchange airtend fitting kit	Poulie à gorges bloc	Polea de correa bloque
4200	1	Keilriemenscheibe Block	Drive pulley	Moteur de commande	Motor de accionamiento
4450	1	Antriebsmotor	Motor	Roulement moteur côté A	Rodamientos del motor lado A
447	1	Motorlager A-Seite	Motor bearings D-end	Roulement moteur côté B	Rodamientos de motor lado B
448	1	Motorlager B-Seite	Motor bearings N-end	Poulie à gorges moteur de commande	Polea de correa motor de accionamiento
4550	1	Keilriemenscheibe Antriebsmotor	Motor pulley	Ailette de ventilateur	Paleta del ventilador
4600	1	Lüfterflügel	Fan impeller	Mousse	Plástico celular
4650	1	Schaumstoff	Foam	Caisse à ventilateur	Caixilho do ventilador
5050	1	Kombi Öl-/Luftkühler kpl.	Combined air/oil cooler	Réfrigérant air/huile	Refrigerador combinado air/aceite
6050	1	Ölabscheidebehälter kpl.	Oil separator tank cpl.	Réservoir séparateur d'huile cpl.	Despós.separ. aceite cpl.
6100	1	Ölschauglas	Oil sight glass	Viseur de graissage, voyant d'huile	Visor de aceite
6150	1	Sicherheitsventil kpl.	Pressure relief valve cpl.	Soupage de sûreté	Vál.v. de seguridad
6200	1	Manometer	Pressure gauge	Manomètre	Manómetro
7100	1	Schlauchleitung	Hose line	Tuyau flexible	Depósito sep.de aceite
7150	1	Schlauchleitung	Hose line	Tuyau flexible	Refrigerador bloque
7190	1	Schlauchleitung	Hose line	Tuyau flexible	Depósito sep.de aceite refrige.de aire
7350	1	Steuerleitungs-Kit	Control line Kit	Van.aux.décharge-Soup.d'aspi.d'air	Vál.aux.comb.desp.-Vál. de admisión
				Kit conduite de régulation	Kit conducto de control



Wartungsintervalle bei günstigen Umgebungs- und Betriebsbedingungen wie kühle bis mäßige Umgebungstemperatur, niedrige Luftfeuchtigkeit und saubere Ansaugluft.
 Maintenance intervals under good ambient and operating conditions, such as low to moderate ambient temperature and dry, clean inlet air.
 Périodes d'entretien dans des conditions ambiantes et de service favorables telles que température ambiante basse à modérée, faible degré d'humidité de l'air et air d'aspiration propre.
 Intervalos de mantenimiento en condiciones de ambiente y de servicio favorables, así como temperaturas frescas hasta moderadas, humedad atmosférica baja y aire de aspiración limpio.

Abhängig von den Umgebungs- und Betriebsbedingungen können sich die Wartungsintervalle verkürzen.
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 Les périodes d'entretien peuvent se réduire en fonction des conditions ambiantes et de service.
 Los intervalos de mantenimiento pueden acortarse según las condiciones del entorno y del servicio.

Wartungspaket Maintenance package Package d'entretien Paquete de mantenimiento	A	B	C	D
Nr. / No.	1050	1050	1050	1050
1200	1200	1200	1200	1200
1250	1250	1250	1250	1250
1450	1450	1450	1450	1450
1600*)	1600*)	1600*)	1600*)	1600*)
1800	1800	1800	1800	1800
2022	2022	2022	2022	2022
2044	2044	2044	2044	2044
2064	2064	2064	2064	2064
2104	2104	2104	2104	2104
447	447	447	447	447
448	448	448	448	448
7100	7100	7100	7100	7100
7150	7150	7150	7150	7150
7190	7190	7190	7190	7190
Stück / Qty.	1	1	1	1

Vor und bei Ausführung aller Arbeiten sind die Sicherheits- und Servicehinweise in der Betriebsanleitung der Maschine zu beachten!
 Before and during all work, be sure to read and follow the safety and service instructions contained in the machine Service Manual!
 Avant et lors de l'exécution de travaux, il est impératif de respecter les consignes de sécurité et de maintenance décrites dans la notice d'utilisation de la machine.
 ¡Se ruega observar las indicaciones de seguridad y mantenimiento en las instrucciones de servicio de la máquina antes de efectuar cualquier trabajo y durante el mismo!

DE	Wartungspakete Schraubenkompressor Typ SX	KAESER
EN	Maintenance packages rotary screw compressor series SX	Dok.Nr.
FR	Package d'entretien courant compresseur à vis Type SX	SEL-1041_01D
ES	Paquetes de mantenimiento compresor de tornillo modelo SX	

*) siehe Kühlmitteltabelle
 *) see cooling fluid recommendations
 *) voir agent réfrigérant conseillé
 *) ver recomendaciones para el fluido

12 De-commissioning, Storage and Transport

12.1 De-commissioning

De-commissioning is necessary when:

- the machine will not be needed for some time,
- the machine is to be moved to another location,
- the machine is no longer needed,
- the machine is to be scrapped.

Temporarily De-commissioning

Pre-condition: The machine can be started at regular intervals.

- ☞ Run the machine once a week under load for at least 30 minutes to ensure corrosion protection.

Long-term De-commissioning

Pre-condition: Before taking out of service the machine should be run under load for at least 30 minutes.

Machine switched off and fully vented.

Main supply isolator switched off and locked.

- ☞ Allow the machine to cool down completely.
- ☞ Disconnect all air and electrical connections.

12.2 Packing

Equipment: Desiccant
Plastic sheeting
Wooden transport crate

Pre-condition: Machine is de-commissioned.
Machine is dry and cool.

- ☞ Place desiccant inside the machine cabinet.
- ☞ Wrap the machine in plastic sheeting.

Transport packing

A wooden crate is required for overland transport to protect the machine from mechanical damage.

Consult an authorized KAESER distributor for advice on packing for sea or air transport.

12.3 Storage

Pre-condition: The machine must be adequately packed.



CAUTION

Moisture and frost

Machine damage possible.

- ☞ Store the machine in a dry, frost-free room.
- ☞ Prevent entry of moisture and condensation.



Advice can be obtained from KAESER on suitable storage and initial start-up.

Moisture can lead to corrosion, particularly on the surfaces of the airend and oil separator tank.

Frozen moisture can damage components, diaphragms, valves and gaskets.

12.4 Transporting

12.4.1 Safety

Transport only by fork truck or lifting cradle and with personnel trained in the safe use of the transport equipment.

Take weight and center of gravity into consideration. The center of gravity is shown in the drawing in chapter 13.1.2.

Make sure the danger zone is clear.

12.4.2 Fork truck

Pre-condition: The whole machine must be over the forks.

The diagram shows how the machine should be lifted by a fork truck.

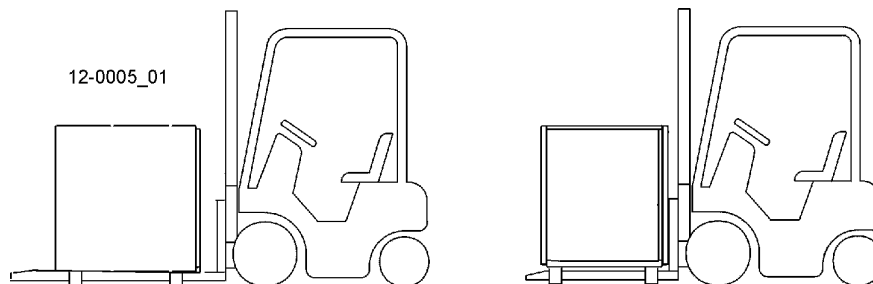


Fig. 20 Transport by fork truck

12.4.3 Transverse beams

Pre-condition: The lifting cradle complies with local safety regulations.
No pressure bears on the sides of the machine cabinet.

**CAUTION**

Incorrect application of the lifting cradle can damage the machine.

- ☞ Do not attach the lifting cradle to any of the machine components.
- ☞ The machine manufacturer can advise on application of a suitable lifting cradle.

Examples of unsuitable fixing points:

- pipe supports
- flanges
- attached components such as centrifugal separators, condensate drains or filters
- rain protection covers

The diagram shows how the machine should be lifted by a cradle.

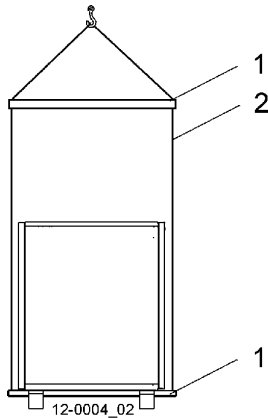


Fig. 21 Transport with lifting cradle

- 1 Transverse beams
- 2 Straps

12.5 Disposal

Pre-condition: Machine is de-commissioned.

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



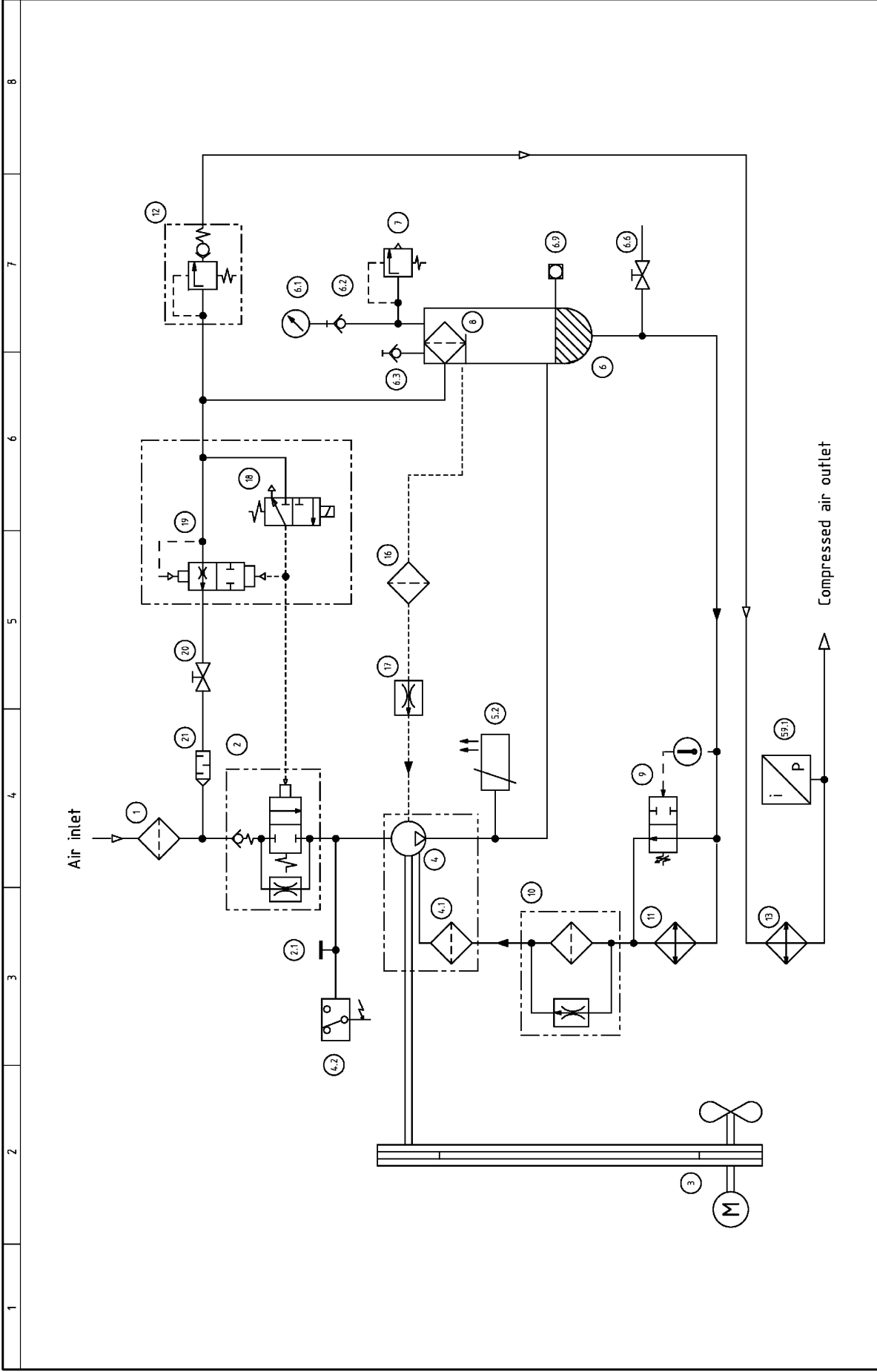
Parts contaminated with cooling oil must be disposed of in accordance with local environment protection regulations.

- ☞ Completely drain the cooling oil from the machine.
- ☞ Remove used oil filter and separator cartridge.
- ☞ Hand the machine over to an authorized disposal expert.

13 Annex

13.1 Diagrams and Drawings

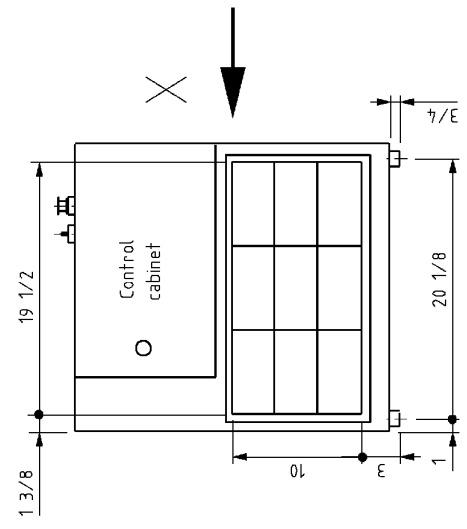
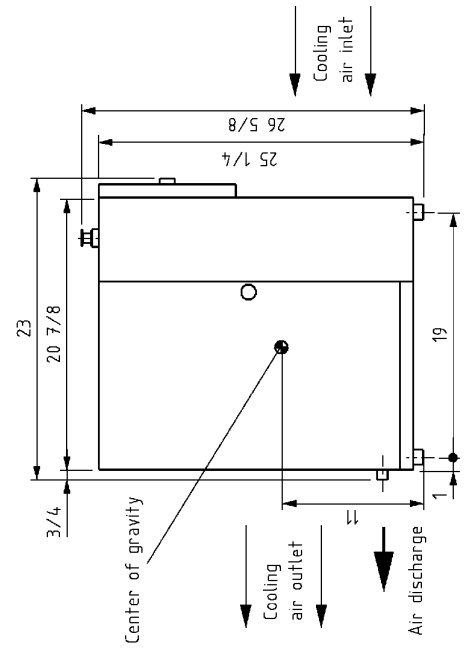
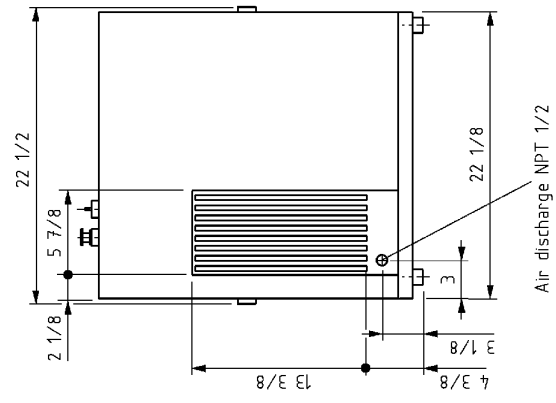
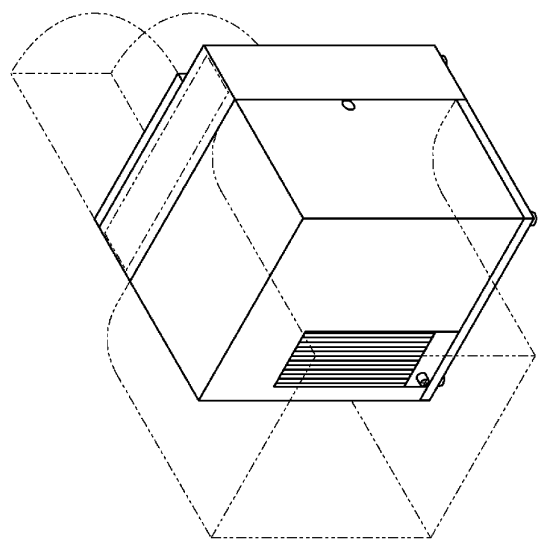
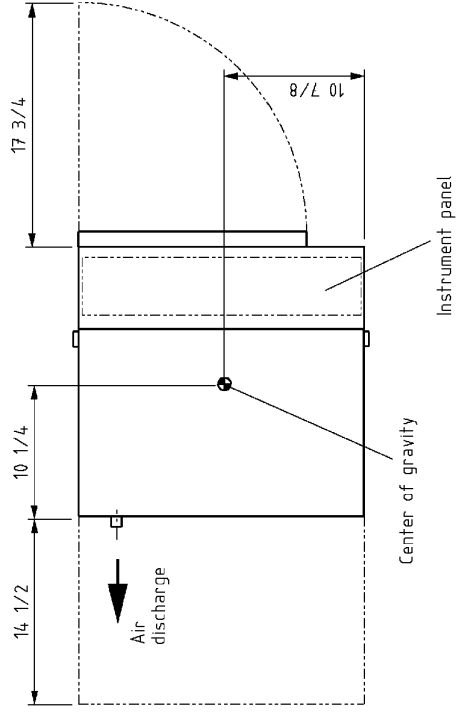
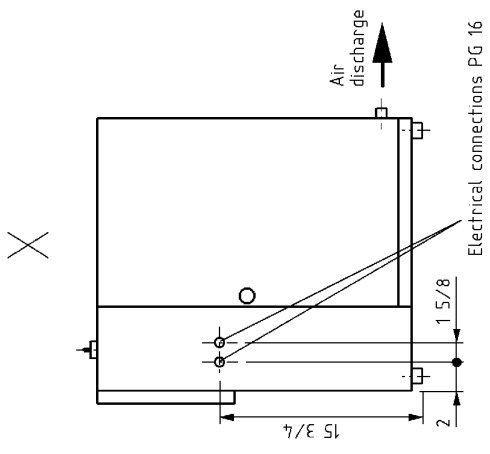
13.1.1 Pipeline and instrument flow diagram (P&I diagrams)



1	2	3	4	5	6	7	8																																								
<table border="1"> <tr> <td colspan="2">Datum</td> <td colspan="2">01.03.2004</td> <td colspan="2">P&I Diagram</td> <td colspan="2">Blatt 1</td> </tr> <tr> <td colspan="2">Bearb.</td> <td colspan="2">Plau</td> <td colspan="2">SX</td> <td colspan="2">USE</td> </tr> <tr> <td colspan="2">Gepr.</td> <td colspan="2">Hildenstein</td> <td colspan="2">KAESEKOMPRESSOREN</td> <td colspan="2">FSXSTL-00020.01</td> </tr> <tr> <td colspan="2">Norm</td> <td colspan="2">FSXSTL-00020.00</td> <td colspan="2">Ursprung</td> <td colspan="2"></td> </tr> <tr> <td colspan="2">Ersatz durch:</td> <td colspan="2">Ersatz filr:</td> <td colspan="2"></td> <td colspan="2"></td> </tr> </table>								Datum		01.03.2004		P&I Diagram		Blatt 1		Bearb.		Plau		SX		USE		Gepr.		Hildenstein		KAESEKOMPRESSOREN		FSXSTL-00020.01		Norm		FSXSTL-00020.00		Ursprung				Ersatz durch:		Ersatz filr:					
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1	2	3	4	5	6	7	8														
1	Air filter			8	Oil separator cartridge																
2	Inlet valve			9	Oil temperature controller																
2.1	Oil filler port with screw plug			10	Oil filter																
3	Drive motor			11	Oil cooler																
4	Airend			12	Minimum pressure check valve																
4.1	Strainer			13	Air aftercooler																
4.2	Pressure switch - Wrong direction of rotation			16	Dirt trap																
5.2	PT100-sensor			17	Nozzle																
6	Oil separator tank			18/19	Combined control/venting valve																
6.1	Pressure gauge			18	Control valve																
6.2	Hose coupling (oil side)			19	Venting valve																
6.3	Hose coupling (air side)			20	Shut-off valve - Venting line																
6.6	Shut-off valve - Oil drain			21	Silencer																
6.9	Oil level sight glass: minimum/maximum oil level			59.1	Pressure transducer - System pressure																
7	Safety relief valve																				
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="2" style="text-align: center;">KAESER</td> <td colspan="2" style="text-align: center;">P&I Diagram legend</td> </tr> <tr> <td colspan="2" style="text-align: center;">KOMPRESSOREN</td> <td colspan="2" style="text-align: center;">SX</td> </tr> <tr> <td colspan="2" style="text-align: center;">Ursprung: FSX6STL-00020.00</td> <td colspan="2" style="text-align: center;">FSX6STL-00020.01</td> </tr> </table>								KAESER		P&I Diagram legend		KOMPRESSOREN		SX		Ursprung: FSX6STL-00020.00		FSX6STL-00020.01			
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KOMPRESSOREN		SX																			
Ursprung: FSX6STL-00020.00		FSX6STL-00020.01																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">Datum</td> <td>01.03.2004</td> </tr> <tr> <td>Bearb. Plau</td> <td></td> </tr> <tr> <td>Gepr. Hildenstein</td> <td></td> </tr> <tr> <td>Norm</td> <td></td> </tr> </table>		Datum	01.03.2004	Bearb. Plau		Gepr. Hildenstein		Norm		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Ersatz durch:</td> <td style="width: 50%;">Ersatz filr:</td> </tr> <tr> <td></td> <td></td> </tr> </table>		Ersatz durch:	Ersatz filr:			<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Blatt 2</td> <td style="width: 50%;">USE</td> </tr> <tr> <td></td> <td></td> </tr> </table>		Blatt 2	USE		
Datum	01.03.2004																				
Bearb. Plau																					
Gepr. Hildenstein																					
Norm																					
Ersatz durch:	Ersatz filr:																				
Blatt 2	USE																				

13.1.2 Dimensional Drawing



ATTENTION!
 Allow 4" clearance in narrow passages and doorways
 Crating has not been considered

All dimensions are in inches

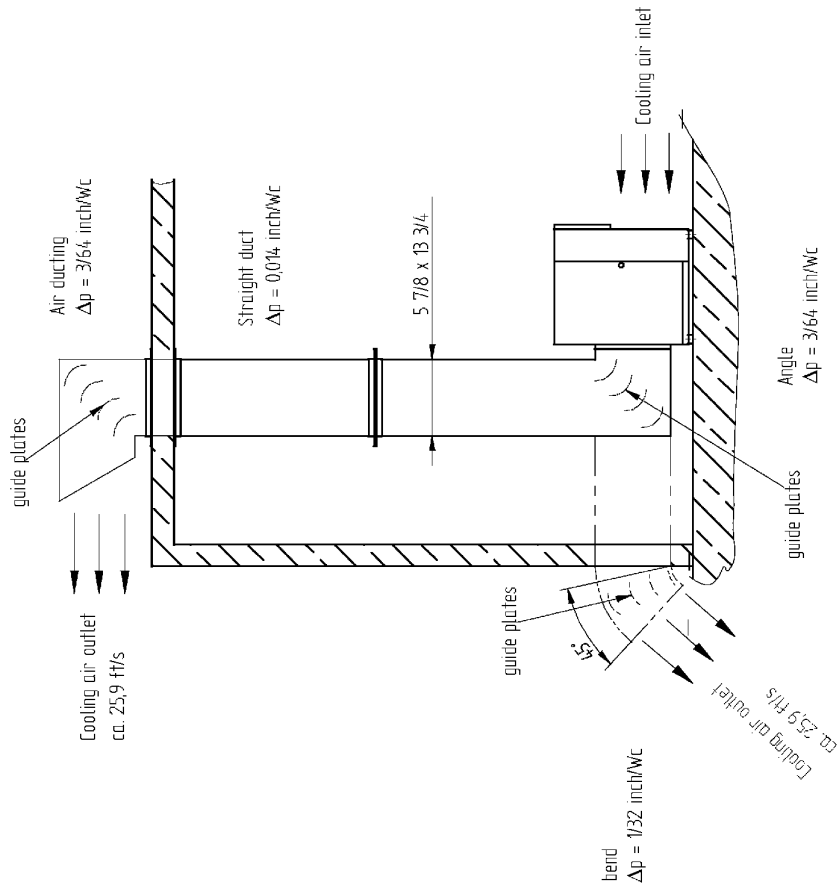
1996	DATUM	NAME	KAESER KOMPRESSOREN <small>A-line</small> T7495.5 use 001
Gez.	03.09.	Grofler	
Gepr.	07.05.98	Hackler	
Massstab			
DATEI			
Ersatz f. T7495.5 a vom 07.06.95			

Entwicklungsbedingte Änderungen vorbehalten, Zeichnung darf nur über CAD geändert werden.

Diese Zeichnung ist unser Eigentum und darf gemäss Urheberrecht ohne unsere schriftliche Genehmigung nicht weiterverfähtigt oder Dritten zugänglich gemacht werden.

Overall permitted pressure loss in ducting

SX6 : $\Delta p_{\text{total}} = 3/32 \text{ inch/Wc}$
 SX4 : $\Delta p_{\text{total}} = 1/8 \text{ inch/Wc}$



Bitte druckensie alle Angaben sorgfältig ab und vergleichen sie mit den Angaben in der technischen Zeichnung für Ihr Modell. CAD gezeichnet.

Die Zeichnung stellt ein schematisches Bild dar. Es ist nicht möglich, alle Details der Zeichnung zu reproduzieren. Die Zeichnung ist als Referenz zu verstehen. Die Zeichnung ist nicht für die Herstellung von Ersatzteilen zu verwenden. Die Zeichnung ist nicht für die Herstellung von Ersatzteilen zu verwenden. Die Zeichnung ist nicht für die Herstellung von Ersatzteilen zu verwenden.

		SX 4/6 Overall permitted pressure loss in ducting	
Typ	Modell	Bezeichnung	Artikelnummer
02/12/2004	02/12/2004	Schubart, P.	T 7616.01 use
Maßstab			01

13.1.3 Electrical diagram

Electrical diagram	Description
1	208/3/60
2	230/3/60 or 460/3/60
3	230/1/60

Wiring Diagram

screw compressor SX 6

direct on line start

208V 3Ø 60CY

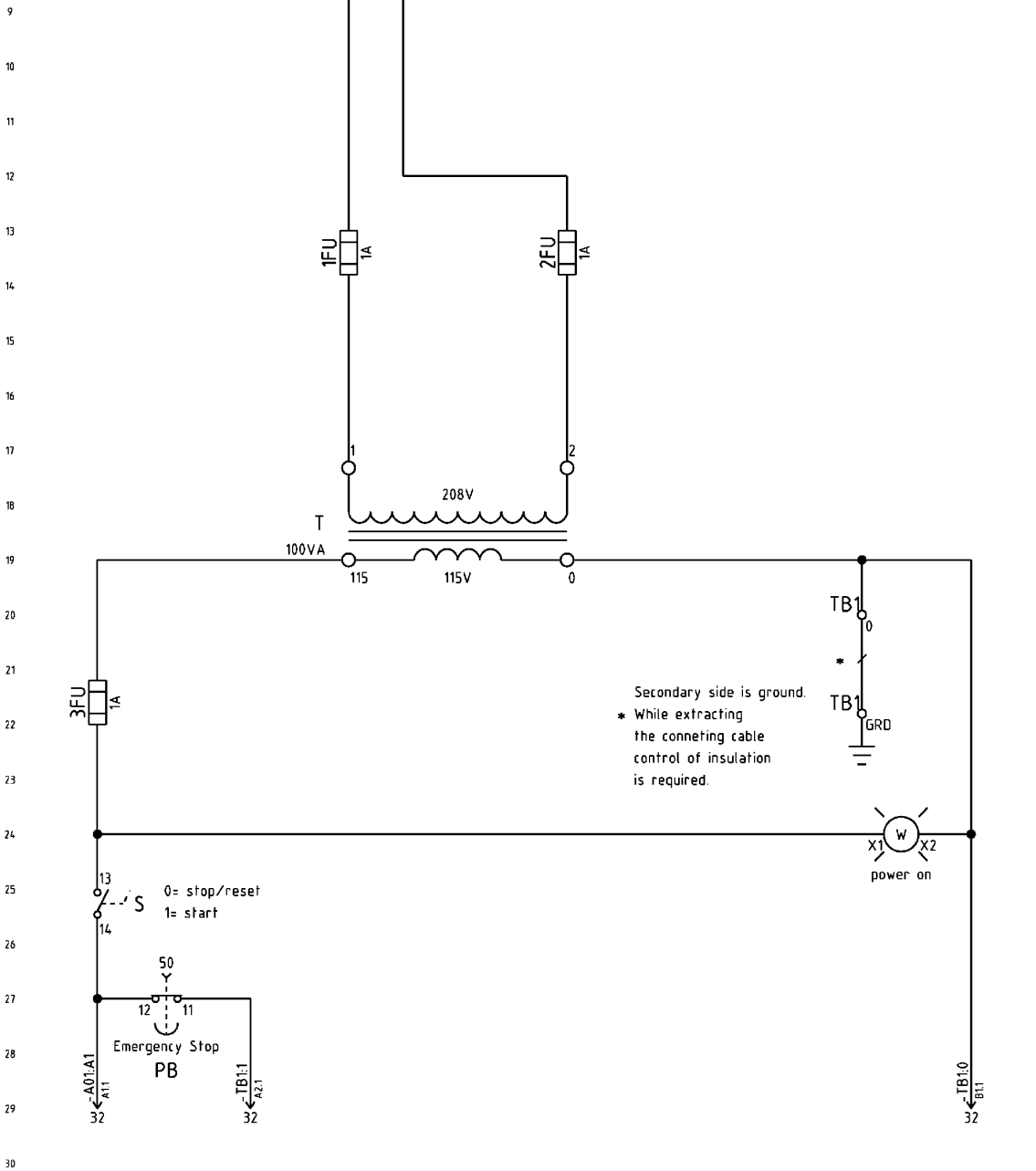
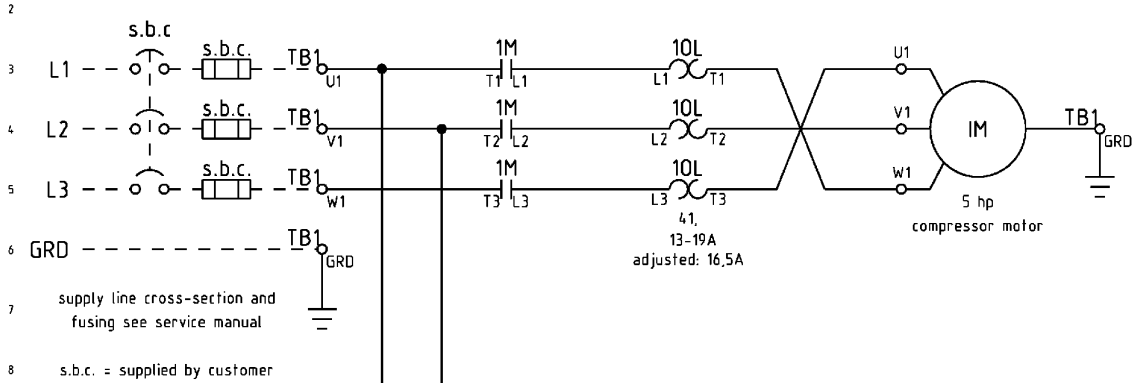
manufacturer: KAESER COMPRESSORS
96450 COBURG
GERMANY

consignee:

customer:

a			date	26.09.2000	KAESER COMPRESSORS	cover page compressor SX 6	DSX6 - U0016.01	
b			editor	Sitter			Page	1
c			check	Gegner				
A	modification	date	name					

1 Input voltage
208V Ø3 60CY

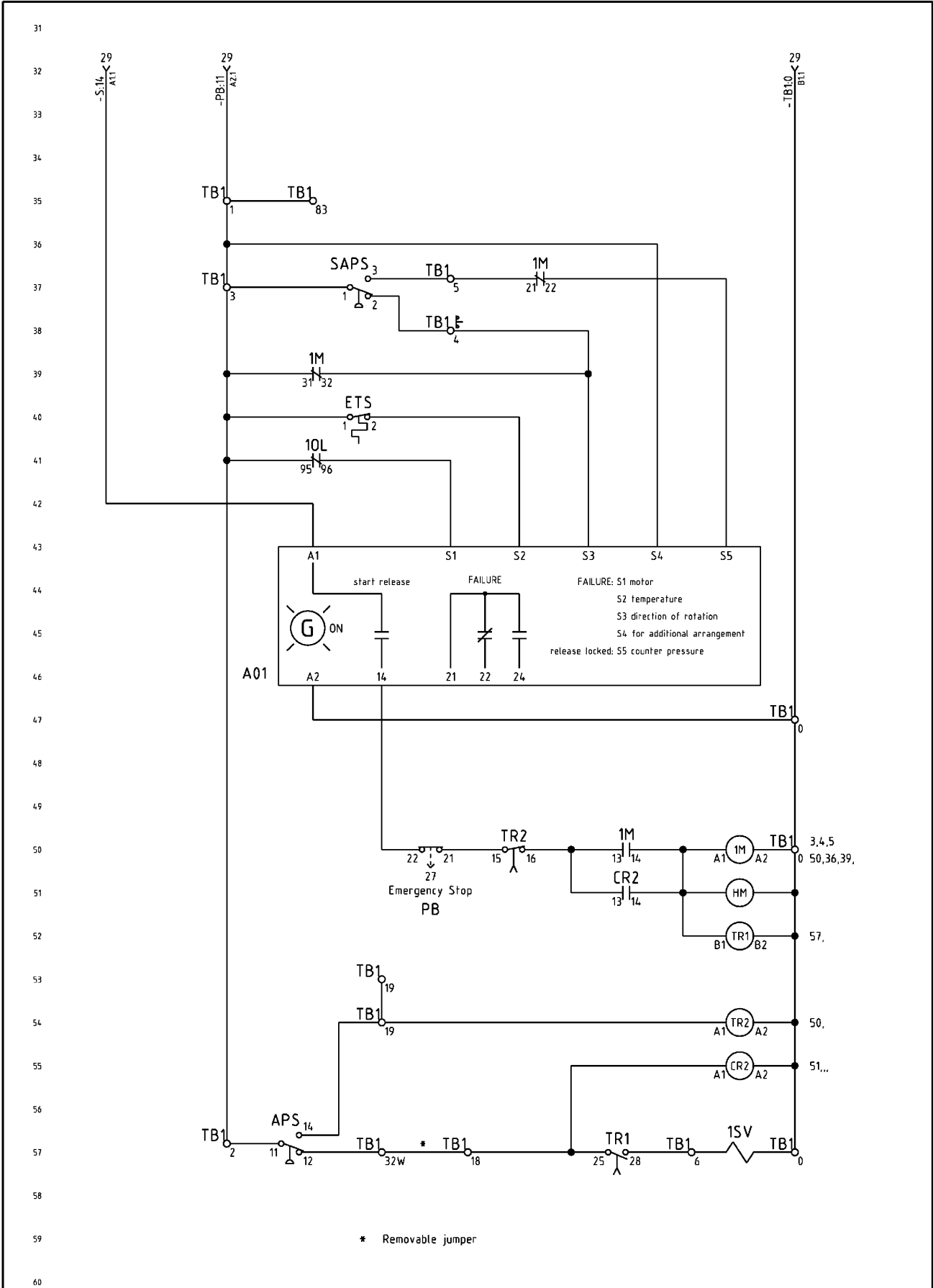


a			date	26.09.2000
b			editor	Sittler
c			check	Gegner
D	modification	date	name	

KAESER
COMPRESSORS

wiring diagram
compressor SX 6

SSX6 - U0016.01



* Removable jumper

a			date	26.09.2000	KAESER COMPRESSORS	wiring diagram compressor SX 6 function monitors	SSX6 - U0016.01	
b		editor	Sittler					
c		check	Gegner					
D	modification	date	name				Page	2

1M motor starter

1SV solenoid valve
(combined control/vent valve)

1FU - 2FU primary control fuse
3FU secondary control fuse

TR1 time relay (start unloading)
TR2 time relay (idling)

T transformer

CR2 control relay

I M compressor motor

HM hour meter

W indicating light "power on"

S switch 0 = stop/Reset
 1 = start

A01 Kaeser Control

PB emergency stop pushbutton

TB1 terminal strip

APS air pressure switch

malfunction indicators

malfunction lights:
(automatic shutdown)

10L motor overload relay

ETS excessive temperature switch 230 °F

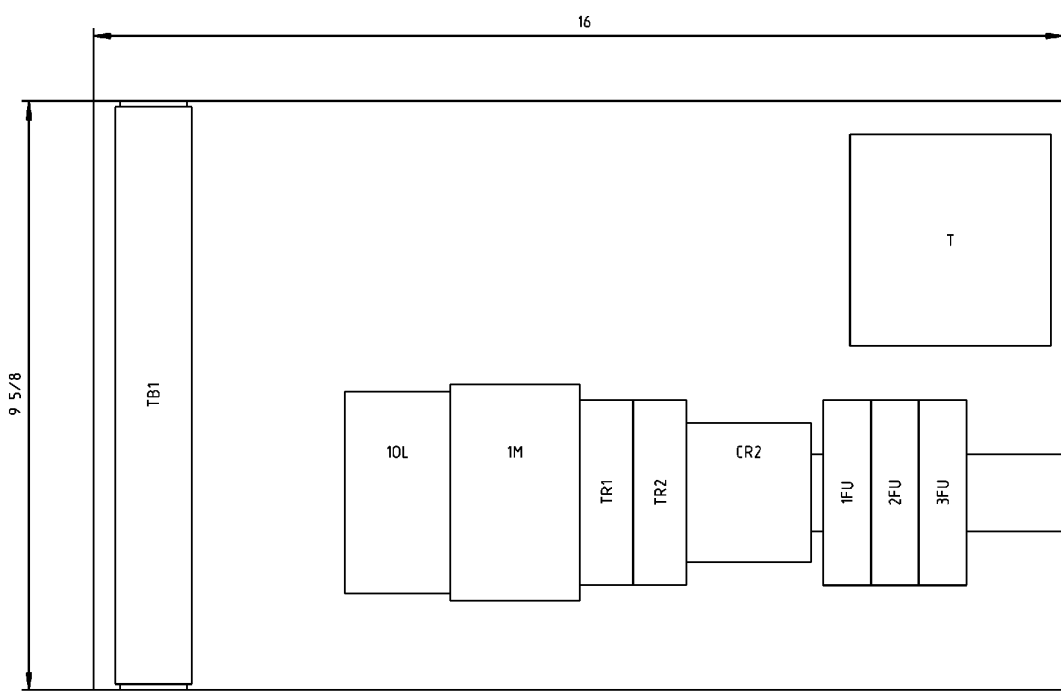
SAPS safety air pressure switch

a			date	26.09.2000	KAESER COMPRESSORS	component legend compressor SX 6	SSX6 - U0016.01	
b			editor	Sitter				
c			check	Gegner				
E	modification	date	name				Page	3

A	B	C	D	E
Qty.	Description and function	Component identification data	Order No.	Component
1	control panel	9 5/8 x 16	CKC	203057.1
1	motor starter	A 30-30-10-89	115V 50/60Cy. ABB	7.5754.00010 -1M
2	auxiliary switch	CA 5-01	ABB	7.4835.0 -1M
1	motor overload relay	TA 25 DU 19	13-19A ABB	7.5773.0 -10L
1	adapter	DB 25/25A	ABB	7.5763.0 -10L
1	control relay	K6-22Z	ABB	7.2088.00010 -CR2
1	combined time relay	SGKAE 5	2-20s/1,5-30min. Scharco	7.3999.00030 -TR1,-TR2
1	transformer	208V/115V	100VA Siemens	7.2223.1 -T
1	fuse socket	USM 3	3pol. Gould	7.3320.00010 -1FU,-2FU,-3FU
2	primary control fuse	TRM 1	1,0A Gould	7.3300.0 -1FU,-2FU
1	secondary control fuse	TRM 1	1,0A Gould	7.3300.0 -3FU
1	terminal strip		Wieland	7.5237.1 -TB1
	instrument panel			
1	Kaeser Control	ENQ42K	Zander	7.3767.00150 -A01
1	temperature gauge with switch	230°F	Stürk	8.0197.0 -ETS
1	hour meter	632.1.10	115V 60Cy Bauser	7.0784.0 -HM
1	control switch with indicator light	1SFA61624.1R4.218	ABB	7.2778.2 -S
1	emergency stop pushbutton	1SFA616502R4.051	ABB	7.3290.10010 -PB

When ordering spare parts include all the information
in columns B, C and D and nameplate of compressor

a			date	26.09.2000	KAESER COMPRESSORS	electrical component parts list compressor SX 6	GSX6 - U0016.01
b		editor	Sittler				
c		check	Gegner				
f	modification	date	name				Page 1



a			date	26.09.2000
b			editor	Sitter
c			check	Gegner
l	modification	date	name	

KAESER
COMPRESSORS

lay-out
compressor SX 6

ASX6 - U0016.01

Wiring Diagram

screw compressor SX 6

direct on line start

230V 3Ø 60CY or 460V 3Ø 60CY

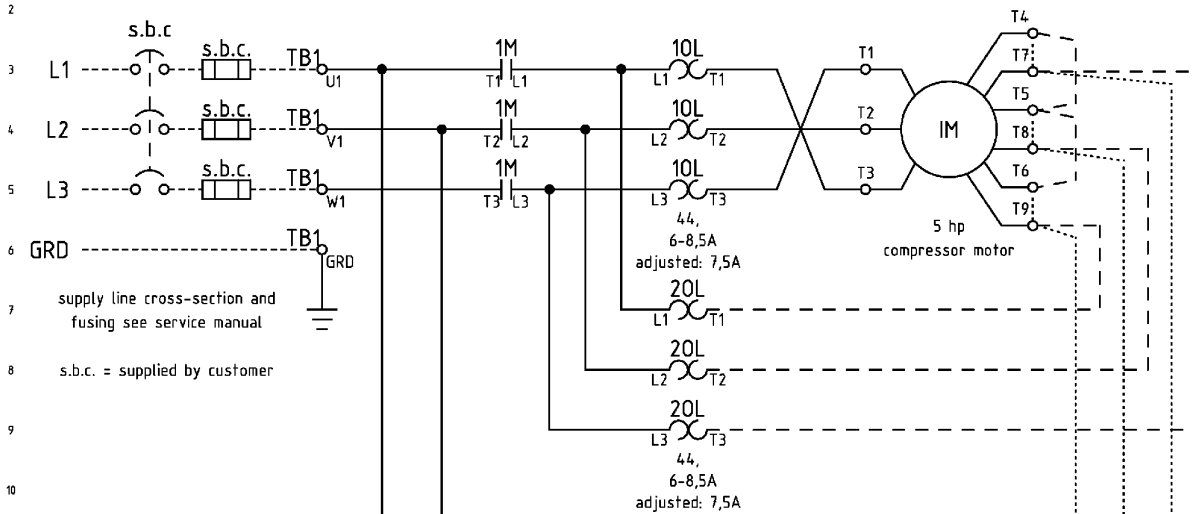
manufacturer: KAESER COMPRESSORS
96450 COBURG
GERMANY

consignee:

customer:

a			date	26.09.2000	KAESER COMPRESSORS	cover page compressor SX 6	DSX6 - U0024.01	
b			editor	Sitter				
c			check	Gegner				
A	modification	date	name				Page	1

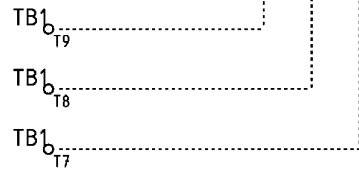
1 Input voltage
230V Ø3 60CY or 460V Ø3 60CY



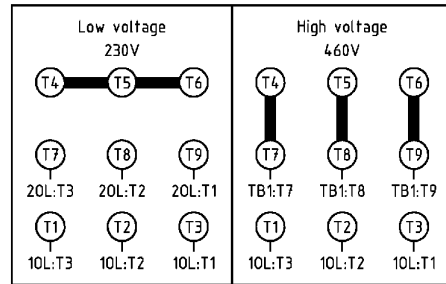
7 supply line cross-section and fusing see service manual

8 s.b.c. = supplied by customer

connection:	
230V	-----
1FU:	1,0A, 2FU: 1,0A
460V	-----
1FU:	0,5A, 2FU: 0,5A

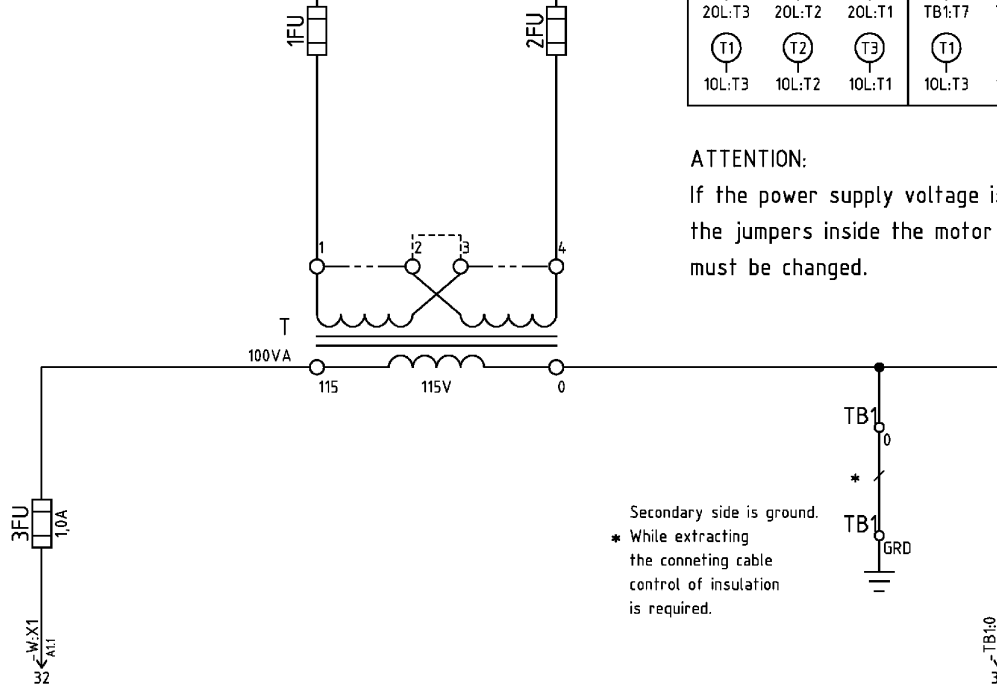


Motor terminal block



ATTENTION:

If the power supply voltage is changed, the jumpers inside the motor terminal box must be changed.



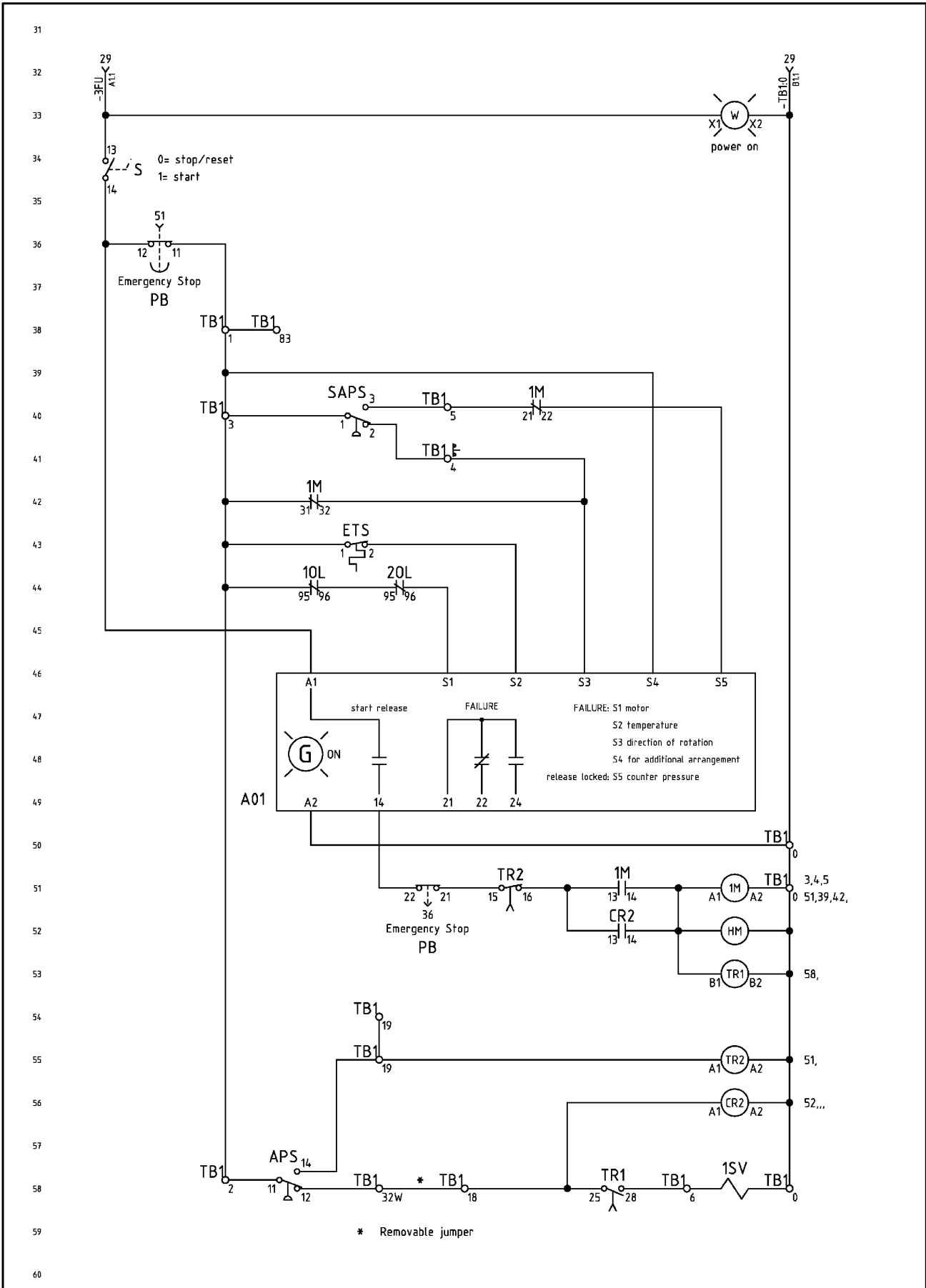
modification	date	name	date	name
a			26.09.2000	Sitter
b				Gegner
c				

KAESER
COMPRESSORS

wiring diagram
compressor SX 6

SSX6 - U0024.01

Page 1



a			date	26.09.2000	KAESER COMPRESSORS	wiring diagram compressor SX 6 function monitors	SSX6 - U0024.01		
b		editor	Sittler				Page	2	
c		check	Gegner						
D	modification	date	name						

1M motor starter

1SV solenoid valve
(combined control/vent valve)

1FU - 2FU primary control fuse
3FU secondary control fuse

TR1 time relay (start unloading)
TR2 time relay (idling)

T transformer

CR2 control relay

I M compressor motor

HM hour meter

W indicating light "power on"

S switch 0 = stop/Reset
 1 = start

A01 Kaeser Control

PB emergency stop pushbutton

TB1 terminal strip

APS air pressure switch

malfunction indicators

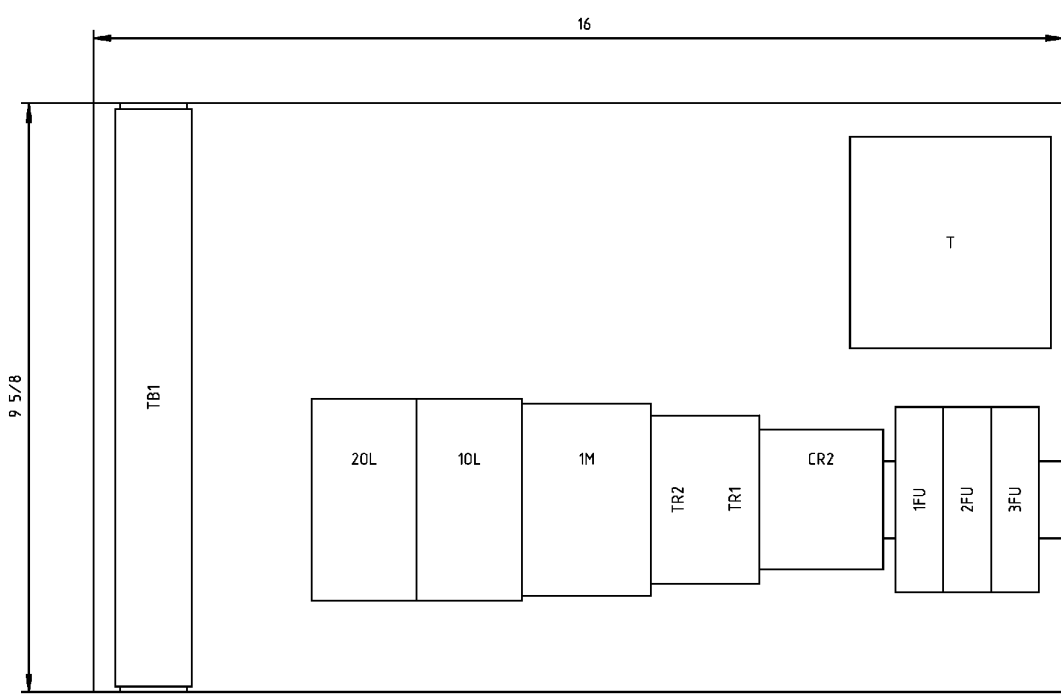
malfunction lights:
(automatic shutdown)

10L motor overload relay
20L motor overload relay - connection 230V

ETS excessive temperature switch 230 °F

SAPS safety air pressure switch

a			date	26.09.2000	KAESER COMPRESSORS	component legend compressor SX 6	SSX6 - U0024.01	
b			editor	Sitter				
c			check	Gegner				
E	modification	date	name				Page	3



a			date	26.09.2000
b			editor	Sitter
c			check	Gegner
l	modification	date	name	

KAESER
COMPRESSORS

lay-out
compressor SX 6

ASX6 - U0024.01

Wiring Diagram
screw compressor SX 6

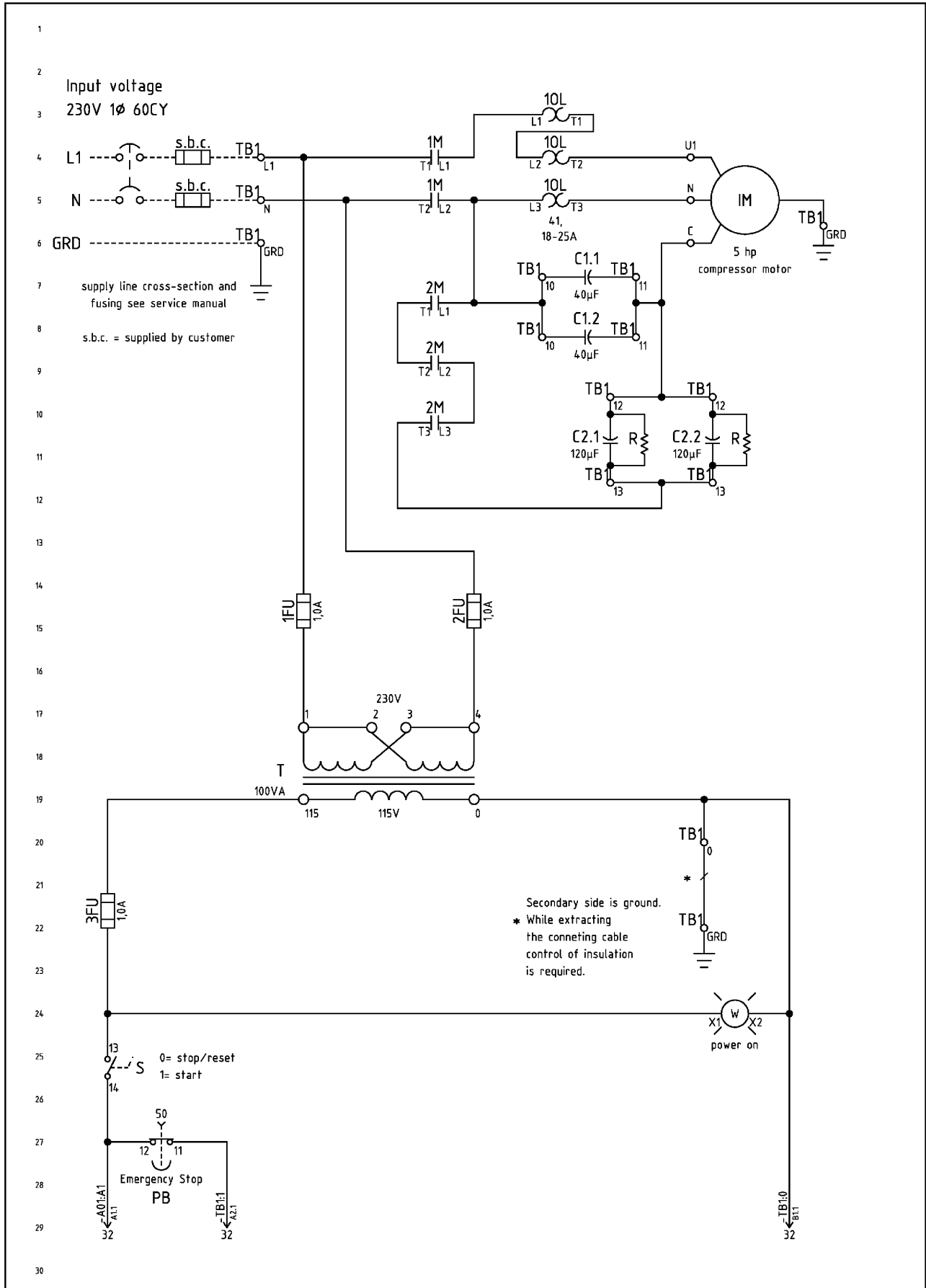
 single-phase
 230V 1Ø 60CY

manufacturer: KAESER COMPRESSORS
96450 COBURG
GERMANY

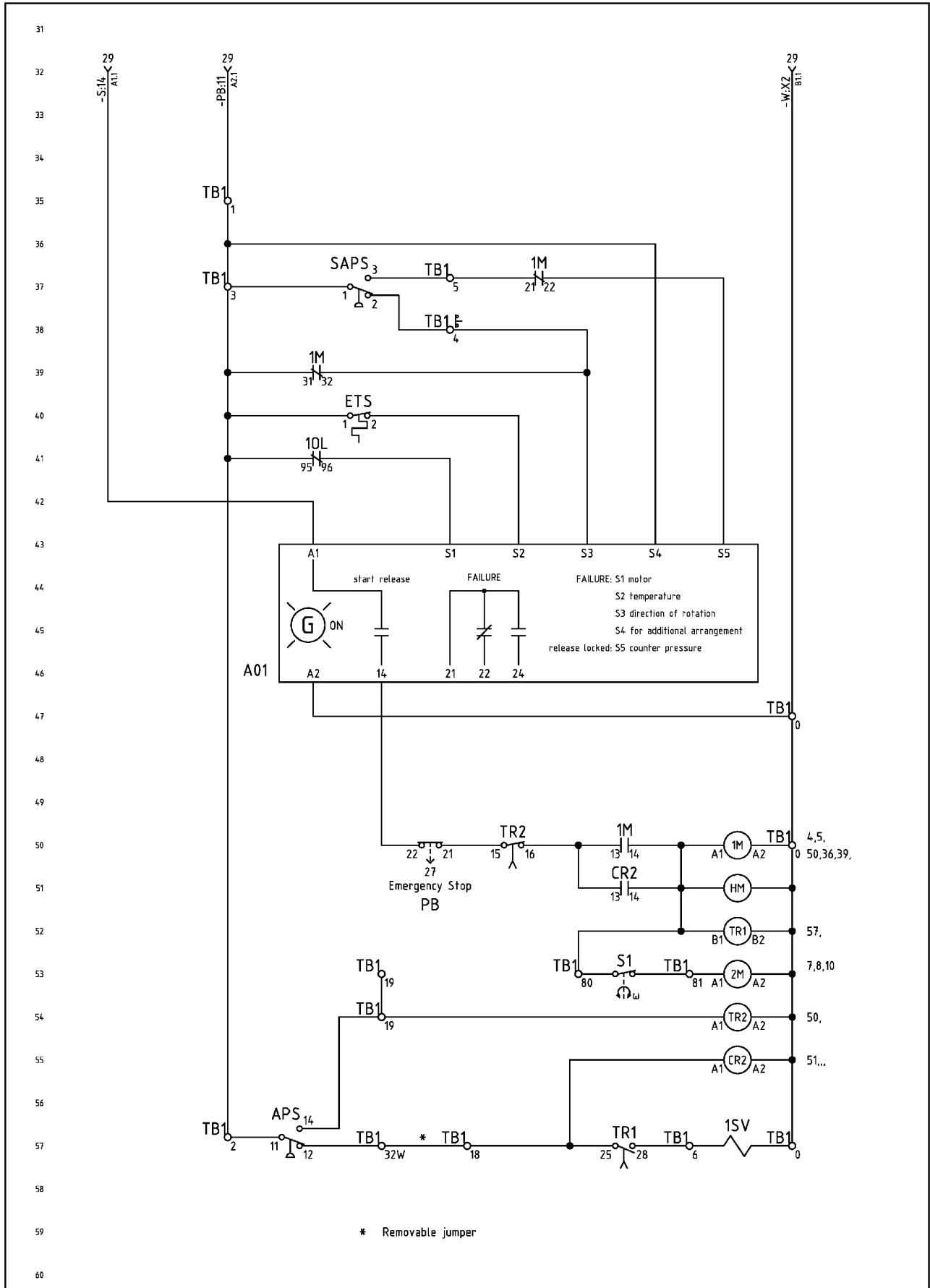
consignee:

customer:

a	S1, S4, K1	21.08.01	We/Fi	date	27.09.2000	KAESER COMPRESSORS	cover page compressor SX 6	DSX6.WE - U0019.01		
b			editor	Sitter						
c			check	Gegner						
A	modification	date	name					Page	1	

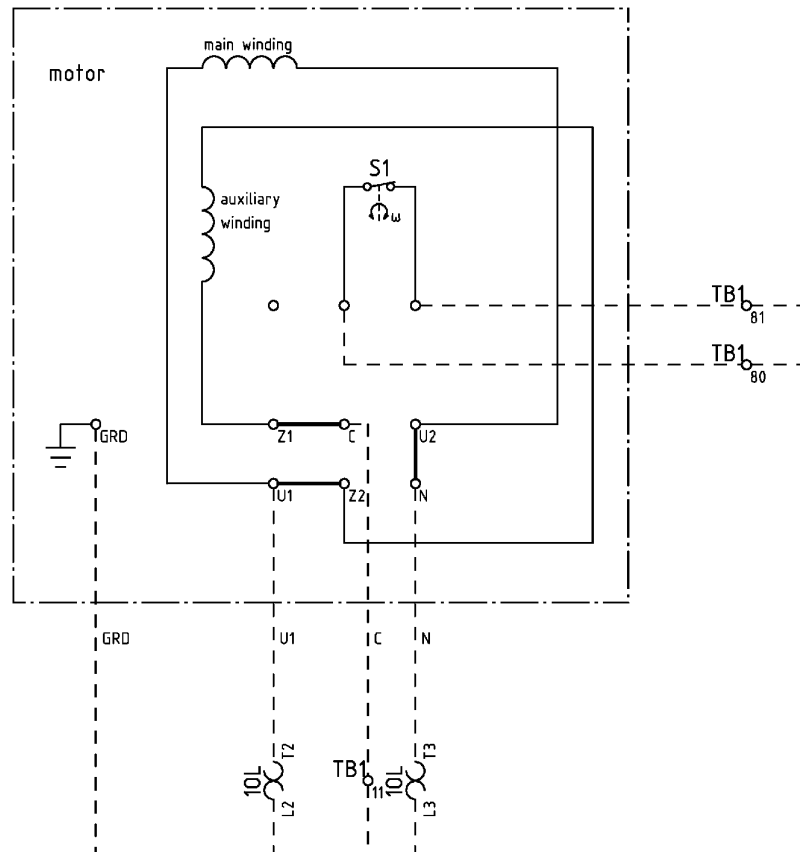


a	C1, C2	21.08.01	We/Fi	date	27.09.2000	KAESER COMPRESSORS	wiring diagram compressor SX 6	SSX6.WE - U0019.01
b			editor	Sitter				
c			check	Gegner				
d	modification	date	name					



* Removable jumper

a			date	27.09.2000	KAESER COMPRESSORS	wiring diagram	SSX6.WE - U0019.01
b		editor	Sitter	compressor SX 6			
c		check	Gegner	function monitors			
d	modification	date	name			Page 2	



a			date	27.09.2000	KAESER COMPRESSORS	wiring diagram	SSX6.WE - U0019.01
b		editor	Sitter	compressor SX 6			
c		check	Gegner	motor connection			
D	modification	date	name				Page 3

1M motor starter

2M motor starter

C1.1, C1.2 operating capacitor

C2.1, C2.2 starting capacitor

R bleeder resistor

S1 centrifugally operated switch

1SV solenoid valve
(combined control/vent valve)

1FU – 3FU fuses transformer

TR1 time relay (start unloading)

TR2 time relay (idling)

T transformer

CR2 control relay

M compressor motor

HM hour meter

W indicating light "power on"

S switch 0 = stop/Reset
 1 = start

A01 Kaeser Control

PB emergency stop pushbutton

APS air pressure switch

TB1 terminal strip

malfunction indicators

malfunction lights:

(automatic shutdown)

10L motor overload relay

ETS excessive temperature switch 230 °F

SAPS safety air pressure switch

a	C1, C2	21.01.01	We/Fi	date	27.09.2000	KAESER COMPRESSORS	component legend compressor SX 6	SSX6.WE – U0019.01	
b			editor	Sitter					
t				check	Gegner				Page
E	modification	date	name						

device legend	cable-no.						destination external	terminal strip				destination inside	cable-no.						device legend
	W59.4 NYSLY6 2x16 AWG W59.3 NYSLY6 2x16 AWG W59.2 NYSLY6 2x16 AWG W59.1 NYSLY6 2x16 AWG W50 NYSLY6-J 3x16 AWG W31 NYSLY6-J 3x16 AWG W2 NYSLY6-J 4x16 AWG W1 NYSLY6-J 4x16 AWG						name of device connection	terminal-no. link	terminal legend	jumper: wire	location	name of device connection							
terminal strip: -TB1 total 32 terminals																			
							X	-S1 GRD	GRD			5	-IM GRD			compressor motor			
								-s.b.c.	GRD			6	controller						
								-s.b.c.	L1			4	-1M T1						
								-s.b.c.	N			5	-1M T2						
							X	-C1.1	10	●		6	-2M L1						
							X	-C1.2	10	●		8							
							X	-C1.1	11	●●		6	-IM C			compressor motor			
							X	-C1.2	11	●●		8							
							X	-C2.1	12	●●		9							
							X	-C2.2	12	●●		9							
							X	-C2.1	13	●●		11	-2M T3						
							X	-C2.2	13	●●		11							
							X	-S1	80			53	-TR1 A1						
							X	-S1	81			53	-2M A1						
									1	●		35	-PB 11						
							X	-APS	11	2	●●	56	-10L 95						
							X	-SAPS	1	3	●●	37	-A01 S4						
							X	-SAPS	2	4	●●	38	-1M 32						
							X	-SAPS	3	5	●●	36	-1M 21						
							X	-1SV	6			57	-TR1 28						
									18	●		57	-TR1 25						
							X	-APS	12	32W	●*	57							
							X	-APS	14	19	●	54	-TR2 A1						
									19	●		53							
							X	-1SV	0	●		57	-T 0						
									0	●		50	-1M A2						
									0	●		47	-A01 A2						
									0	●		20							
							X	-APS GRD	GRD			22							
							X	-SAPS GRD	GRD				-T GRD						
							X	-1SV GRD	GRD				-ETS GRD						
									GRD				control panel						

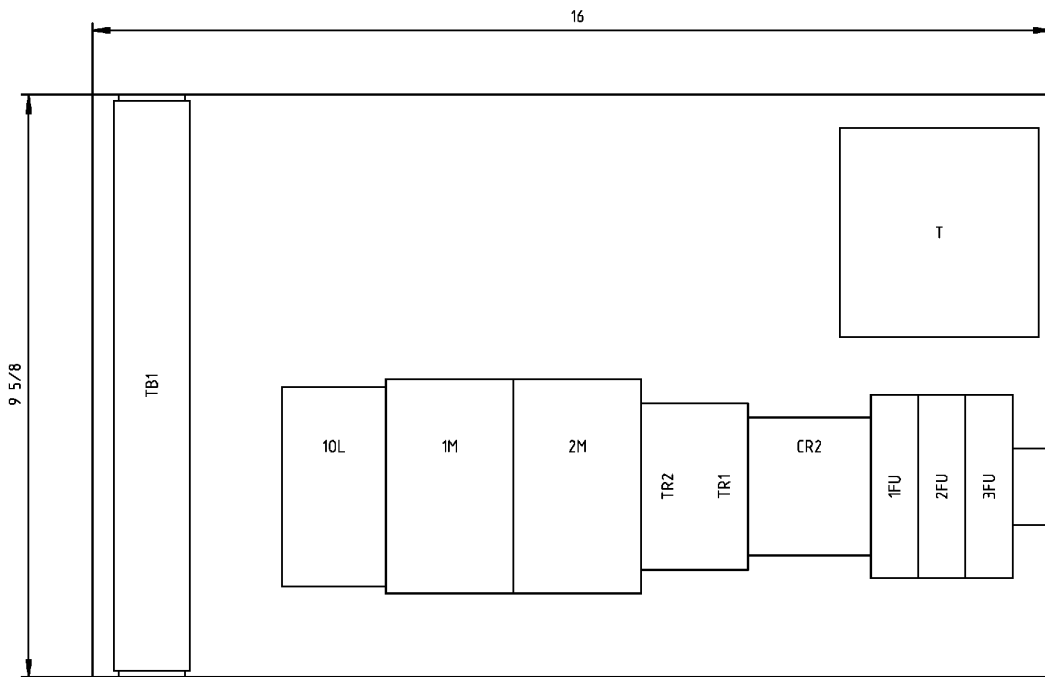
* Removable jumper

a	C1, C2	21.08.01	We/Fi	date	27.09.2000
b			editor	Sitter	
c			check	Gegner	
D	modification	date	name		

KAESER
COMPRESSORS

terminal connection
compressor SX 6
condensate drain -TB1

KSX6.WE-U0019.01



a			date	27.09.2000
b			editor	Sitter
c			check	Gegner
l	modification	date	name	

KAESER
COMPRESSORS

lay-out
compressor SX 6

ASX6.WE - U0019.01