

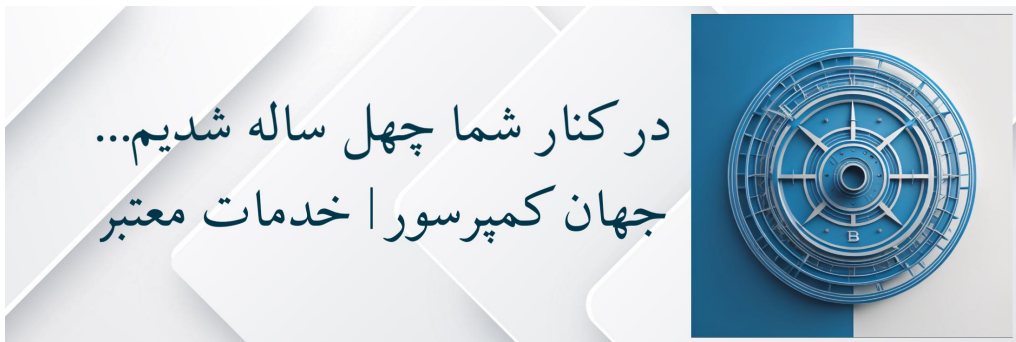
# SERVICE MANUAL

USE

## Screw Compressor

### Model: SK 26

GL-Nr.: BA-SK26.L-1.9763.50210-00 03



- ..... Volt
- Wye-Delta Start
- D.O.L. Start
- ..... psig
- .....
- .....
- Wiring Diagram:  
.....
- Cabinet heaters
- 115 V receptacle
- Outdoor modification
- Rainhoods
- Switchable Modulation
- Synthetic lubricant .....
- Food Grade lubricant .....

Serial No.: .....



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## 1 Technical Specification

### 1.1 Compressor Unit

Model .....	SK 26
Maximum gauge working pressure .....	110/125/145/190 psig
Minimum gauge working pressure .....	80 psig
Free air delivery at max. gauge working pressure .....	92/ 87/ 80/ 65 cfm
Operating temperature approx. (Varies with ambient temperature and operating conditions) .....	167–200 °F
Weight .....	640 lbs

#### Drawings:

Dimensional drawing .....	T 7471.5
P & I flow chart (Pipework and instrument flow chart) .....	FSK26STL–00023.00
Electrical diagram .....	SSK26.Y–U1016.01

### 1.2 Noise Level

Noise level to CAGI–Pneurop at 1 m distance (free sound field measurement) .....	67 dB(A)
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### 1.3 Motor

#### Compressor motor:

Rated power .....	20 hp
Rated speed .....	3600 rpm
Specification class .....	TEFC

### 1.4 Electrical Connection

Main voltage .....	380 V 3–phase
Full load current FLA .....	30 A
Frequency .....	60 Hz
Recommended main disconnect fuses (Dual element or time–delay) .....	50 A
Recommended power supply cable (Cu multi–stranded ) cross–section .....	6 AWG

**Attention!**

**Maximum dual element time–delay fuses are selected according to 2002 N.E.C. Article 240–6, 430–52 and Tables 430–52, 430–148 & 150.**

**Select multi–strand copper core wire at 40°C ambient temperature according to 2002 N.E.C. 110–14(c), 220–3, 310–15, Table 310–16, 430–6, 430–22, 430–24 and Tables 430–148 & 150.**

For electrical power supply please refer to chapter 2.3 and 6.3

**1.5 Set Point of the Safety Relief Valve**

110 psig Compressor Unit – Activating pressure	140	psig
125 psig Compressor Unit – Activating pressure	155	psig
145 psig Compressor Unit – Activating pressure	175	psig
190 psig Compressor Unit – Activating pressure	230	psig

**1.6 Installation Requirements**

Max. height above sea level of the place of installation . . 3000 ft.  
(for all heights above please contact authorized KAESER distributor)

Min. ambient temperature . . . . . 40 °F

Max. ambient temperature . . . . . 105 °F

Min. cooling air/inlet air temperature . . . . . 40 °F

Max. cooling air/inlet air temperature . . . . . 105 °F

Air inlet opening . . . . . 5.4 sq.ft.

Exhaust air for solution A (see chapter 6.1):

Forced ventilation with exhaust ventilator . . . . . 2350 cfm at static pressure of  
0.4 inches water column

Exhaust air for solution B (see chapter 6.1):

Exhaust air used for space heating:

Heating duct w x h . . . . . 14" x 20"

**1.7 Oil Capacities**

Total oil capacities . . . . . 3.17 gal

**After oil change or after long period of storage**

Quantity required for prelubrication of the airend . . . . . 0.5 quart

(Refer to chapter 7.8.1)

**1.8 Fluid recommendations**

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 fluid can allow the formation of acids, causing extensive internal corrosion. Water may be condensed decreasing the fluid’s lubricity.

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

**1.8.1 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 9.14 proper draining procedure.

**1.8.2 KAESER Fluids**

KAESER COMPRESSORS 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.

RECOMMENDED KAESER LUBRICANTS			
SIGMA LUBRICANT	DESCRIPTION	MAXIMUM RECOMMENDED CHANGE INTERVAL*	
		First Oil Change	Subsequent Oil Change
M-460	ISO 46 Semi-Synthetic Lubricant	2,000 Hours	4,000 Hours
S-460	ISO 46 Synthetic Lubricant	6,000 Hours	8,000 Hours

\* Oil changes may need to be more frequent depending on ambient conditions. When high ambient temperatures or dirty conditions are present, oil changes may be necessary every 1,000 hours (4,000 hours for synthetic) or even shorter intervals. Oil change intervals required should be determined through periodic oil analysis.

**M-SERIES SEMI-SYNTHETIC LUBRICANTS**

- M-Series SIGMA compressor fluids 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 fluid is designed for use in rotary screw compressors in the application where incidental food contact may occur with the discharge air. This fluid meets the requirements of the FDA Regulation 21 CFR §178.3570 and is USDA H–1 approved. FG–460 is approved for canning, food packing, meat and poultry processing and other applications where incidental food contact may occur.

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	6,000 Hours	8,000 Hours
FG–460	ISO 46 Food Grade Synthetic Fluid	2,000 Hours	3,000 Hours

\* Oil changes may need to be more frequent depending on ambient conditions. When high ambient temperatures or dirty conditions are present, oil changes may be necessary every 1,000 hours (4,000 hours for synthetic) or even shorter intervals. Oil change intervals required should be determined through periodic oil analysis.

**1.8.3 Compatibility of KAESER Sigma Lubricants**

All the above listed KAESER Sigma lubricants are similar to mineral oil in their compatibility with paints, seals, gaskets and hoses. The typical precautions are required when changing over from mineral oil to KAESER synthetic hydrocarbon based lubricant. Never mix lubricants of different types or brands.

When switching from mineral oil to a synthetic oil, the plant's system materials must be re-evaluated. Certain plastics are not compatible with synthetic oils. The following is a partial list of acceptable and not recommended materials:

ACCEPTABLE		NOT RECOMMENDED
Viton	Celcon	PVC
High Nitrile Buna N	Neoprene	ABS
Teflon	SBR Rubber	
Epoxy Paint	Low Nitrile Buna N	
Oil Resistant Alkyd	Acrylic Paint	
Nylon	Lacquer	
Delrin	Polystyrene	

**Attention!** Polycarbonate bowls can be etched by any synthetic lubricant. We recommend replacement with metal bowls, or the addition of metal guards.

**1.9 Maintenance for the Electrical Motor**

**Relubricate the compressor motor bearings:**

Under normal operating conditions, after ..... 12000 h\*  
(ambient temperature up to 77°F)

Under unsuitable conditions, after ..... 6000 h\*  
(ambient temperature up to 105°F)

but no later than ..... 3 Years

\*operating hours

**1.10 Dimensional Drawing**

(see following page)



## 2 Safety Regulations

Read this service manual carefully and observe cautionary references before putting this compressor package into operation and before carrying out any maintenance.

### 2.1 Explanation of Symbols and References



This symbol is placed before all references to safety where danger to life and limb can occur during work. It is especially important that these rules are observed and that extreme care is taken in these cases. For their own protection, all other users must be informed of these safety rules. Observe general safety and accident prevention regulations as well as the safety rules laid down in this service manual.

**Attention!**

This symbol is placed by text where considerable attention must be paid so that recommendations, regulations, references and correct sequence of work are adhered to and that damage and/or destruction of the compressor unit and/or other equipment is prevented.



This symbol identifies environmental protection measures.



This symbol indicates operations to be carried out by the operator or service technician.



This bullet identifies listings.

#### Explanation of warning labels:



Beware of hot surface. Do not touch surface; danger of burning.



Beware of high voltage. Do not touch electrical components; danger of electric shock.



Beware! Machine starts automatically. Machine can start automatically or by remote start command.



Beware of rotating parts. Do not touch rotating parts as this can cause pinching/injury.

## 2.2 General Safety Precautions



Work on power driven systems may only be carried out by trained or specialized personnel.

Work on the electrical equipment of the refrigerated dryer may only be carried out by a qualified electrician or trained personnel under the supervision of a qualified electrician according to the NEC and any applicable local codes.



Prior to working on electrical systems of the compressor always perform the following steps in the sequence shown.

1. Lock the main disconnect in the "off" position in accordance with applicable lock out/ tag out procedures (example: OSHA CFR 29 § 1910.147) to ensure the compressor does not restart.
2. Ensure the package cannot be switched on again
3. Check that no voltage is present
4. Lock the isolation shut-off valve in the "closed" position and vent all compressed air trapped between the compressor and the isolation shut-off valve in accordance with applicable lock out/ tag out procedures (example: OSHA CFR 29 § 1910.147).



Unless the Service Manual states otherwise, all pressure lines must be vented or shut off.

**Attention!**

Any alterations or reconstruction carried out without the prior written authorization of KAESER COMPRESSORS Inc. will invalidate the warranty.

**Attention!**

No welding, heat-treatment or mechanical modifications may be carried out on pressurised components such as. pipework, air receivers, etc.

**Attention!**

Safety devices may not be modified or deactivated.

Signs and labels of reference may not be removed or rendered unreadable.

**These instructions must also be observed:**

- Allow no open flames and flying sparks at the place of installation.
- Ensure that sparks or high temperatures cannot cause fire or explosion if welding is carried out on or near the compressor.
- Ensure that the compressor unit can breathe clean intake air that contains no damaging components.
- Do not allow the maximum ambient temperature to be exceeded (see chapter 1.6), otherwise special measures must be agreed between the manufacturer and the customer.

- Carry out oil changes according to the service manual.
- Use only oils recommended by the manufacturer.
- Do not mix cooling oils of different types.
- The operating temperature stipulated must be kept to and checked constantly to avoid condensate in the oil circulation.
- If maintenance work is carried out on any part of the oil circulation system, top up the oil in the oil separator tank to the maximum level afterwards, run the compressor for a short period and keep it under constant observation. Check the oil level again and top up with oil to replace the oil taken up by the piping and the cooling system.
- Use the filter cartridge of the oil separator tank only as long as the pressure drop across the filter is less than the 14.5 psi specified. Check constantly.
- This machine is not explosion-proof.  
It may not be operated in areas in which specific requirements with regard to explosion protection are applied.

### 2.3 Electrical Power Supply

**Attention!**

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

**Compressor packages must be installed with a lockable main disconnect and fuses or other short-circuit and ground fault protection device.**

**For fuse and wire recommendations, see chapter 1.4**

**Please note that the conductors, fuses and procedure are KAESER's recommendations. These recommendations do not supersede other applicable codes.**

### 2.4 Spare Parts

Safe and reliable operation of the compressor package is guaranteed only with KAESER original spare parts and KAESER SIGMA cooling oil.

**Attention!**

**Use only original parts in assemblies subject to pressure.**

### 2.5 Compressed Air System

If a compressed air system is extended or changed, verify that the blowoff pressure and capacities of the safety relief valves on the air receiver tanks and in the system match the rating of all the compressor packages installed.

## 2.6 Environmental Protection

### Condensate drainage



The condensate accumulating during compression must be fed via a suitable drainage system, collected in special canisters and disposed of according to environmental regulations.

### Maintenance materials/wear items/replacement parts



Ensure that all wear items, maintenance and replacement parts accumulating during operation of the compressor package are disposed of according to environmental regulations.



The following points must be observed:

Avoid contact with skin and eyes.  
Do not inhale vapors and oil mist.  
Do not eat or drink when handling such materials.  
Fire, open flame and smoking are strictly forbidden.

### 3 General



**The service manual must always be available for use at the location of the compressor package.**

The right is reserved to make technical changes and improvements to equipment which may then result in discrepancies in the details of that equipment contained in this manual.

#### 3.1 Proper use of the Compressor

The compressor package is intended solely for the purpose of generating compressed air. Any further use outside of this purpose is considered improper. The manufacturer cannot accept liability for any damage caused by such improper use; the user alone is liable for any risks incurred.

Proper use of the compressor also includes adherence to the installation, removal, application, operational and maintenance instructions laid down by the manufacturer.

If the compressor package is operated in an air distribution network, the maximum network pressure may not exceed 232 psig.

**Attention!**

**The equipment may only be used or serviced by authorized and trained personnel.**

#### 3.2 Improper use



**Never direct compressed air toward persons. Compressed air is a concentrated form of energy and as such is dangerous to life.**

**Attention!**

**Inlet air may not contain any explosive or chemically unstable gas or vapour.**

#### 3.3 Compressed Air Treatment



**Never use compressed air from oil injected compressor packages for breathing purposes and production methods where the air has direct contact with food, without subjecting the compressed air to additional treatment.**

#### 3.4 Copyright

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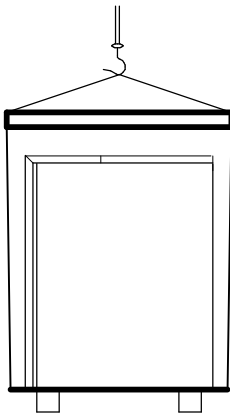
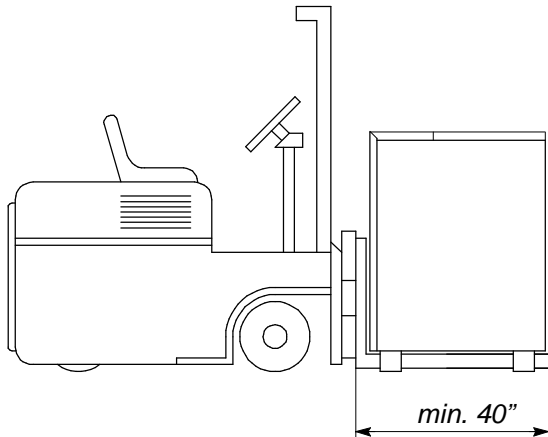
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## 4 Transport

### 4.1 Transport Instructions

We recommend a fork lift truck or lifting equipment for transporting the compressor package to avoid damage to the cabinet and framework.



**Attention!**

**Do not exert any side forces on the compressor package when transporting with lifting equipment!**

### 4.2 Packaging

Always observe the instructions in chapter 4.3 when packaging the machine for storage. Use packaging suitable for the intended route if the machine is to be transported further by the customer.

#### **Overland**

The machine should be protected from mechanical damage by a sturdy crate and from moisture by plastic sheeting.

#### **By sea or air**

Special packaging instructions can be obtained from KAESER.



**Dispose of the packaging according to environmental regulations and recycle where possible.**

### 4.3 Storage

If the equipment is to stand idle for a long period the prescribed measures must be taken to avoid damage.

If any measures can not be taken, advice should be sought from an authorized KAESER distributor.

**Attention!**

**Basically, the equipment should be stored in a dry, frost-free room. Protect against ingress of moisture or formation of condensation. See chapter 7.8 for instructions on start-up.**

**Storage up to 6 months (temporarily out of service):**

As an alternative to storage, the equipment can be run once a week for 30 minutes at operating temperature to ensure adequate corrosion protection.

Otherwise, the measures described under "Storage for longer than 6 months' are to be taken.

**Storage for longer than 6 months:**

Ensure the equipment is dry and cover in plastic sheeting. Protect the interior with sufficient quantities of desiccant (silica gel or similar).

**Storage for longer than 12 months:**

Carry out the following additional maintenance tasks before putting into operation:

- ☞ Change the oil filter (see chapter 9.11).
- ☞ Change the oil separator cartridge (see chapter 9.15).
- ☞ Change the oil (see chapter 9.14).
- ☞ Have the motor bearings checked by an authorized KAESER service technician.

**Storage for longer than 3 years:**

After 3 years at the latest the complete technical condition of the equipment must be checked before start-up.

**Attention!**

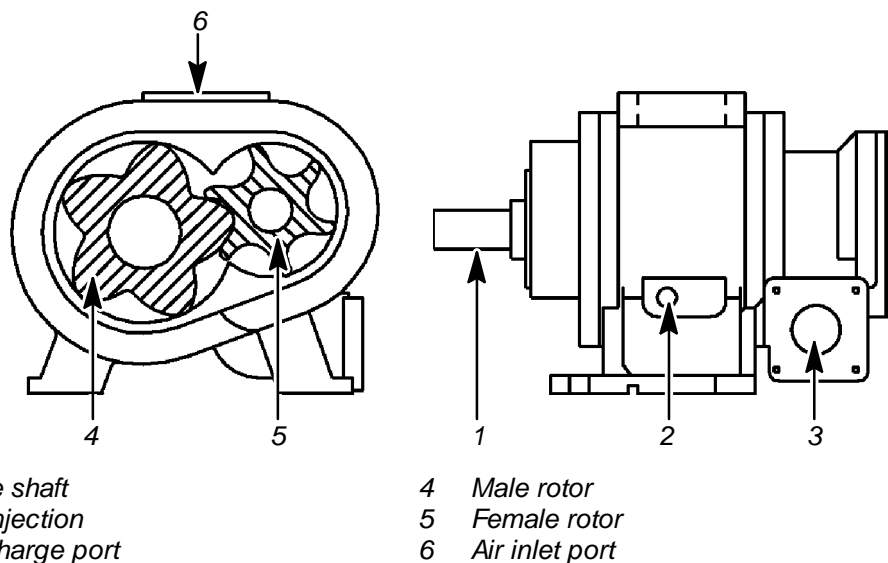
**Starting up the equipment without a full inspection can lead to damage.**

- ☞ Have the the start-up carried out by an authorized KAESER service technician.

## 5 Construction and Operation

### 5.1 Principle of Compression

The stationary compressor package is fitted with a single stage, oil-injected air end. The two rotors, the driven male rotor and the female rotor, both mounted in antifriction bearings, are fitted into the air end. As the rotors rotate, air is drawn into the upper side through the inlet port and is compressed on the lower side. The oil that is injected into the lower side absorbs heat generated by compression, prevents metal to metal contact between the rotors, seals the rotors and the housing from each other and also lubricates the antifriction bearings. The compressed air and oil mixture leaves the air end via the discharge port.



### 5.2 Brief Description

The compressor block is driven by an electric motor via V-belts.

An oil separator cartridge is fitted into the oil separator tank allowing practically oil free compressed air supply.

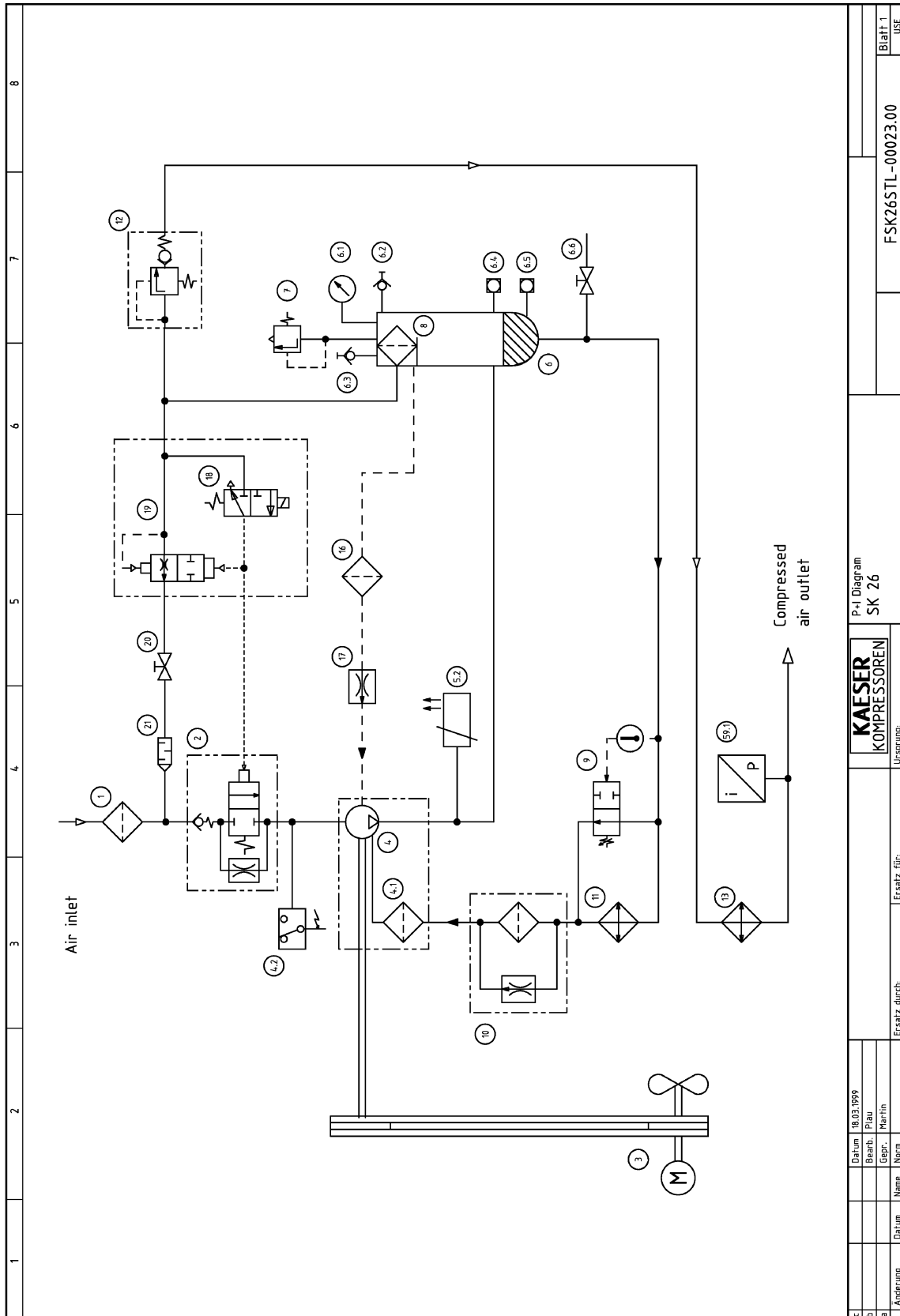
The control system of the compressor package ensures that compressed air is generated within the set pressure limits.

Safety devices protect the compressor package against failure of important systems through automatic shut-down.

The fan ensures ventilation of the compressor package and sufficient cooling air for the air-cooled oil cooler and air aftercooler.

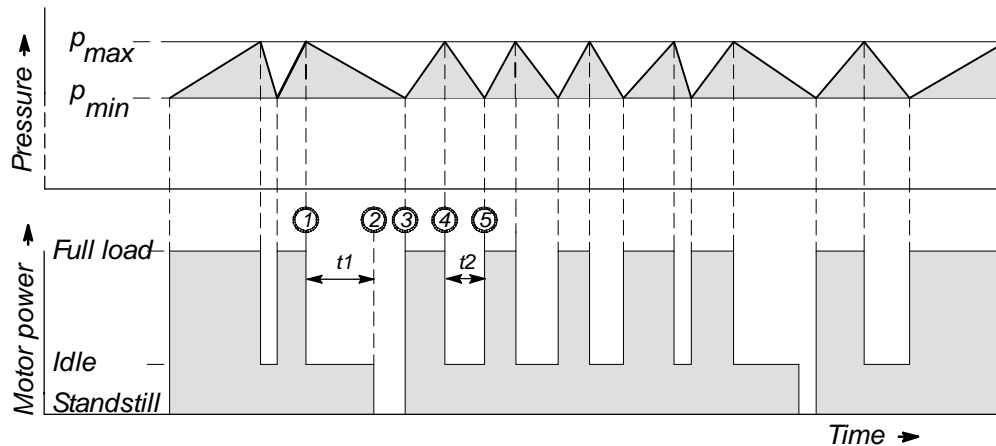
### 5.3 Pipe and Instrument Flow Diagram (P & I Diagram)

(see following pages)



c	Datum	18.03.1999	P+I Diagram		FSK26STL-00023.00	Blatt 1
b	Bearb.	Plau	SK 26			USE
a	Gepr.	Martin	KAESE KOMPRESSOREN			
	Anderung		Ersatz durch:			
	Datum		Ersatz für:			
	Name		Ursprung:			
	Norm					



**5.4 DUAL Control**


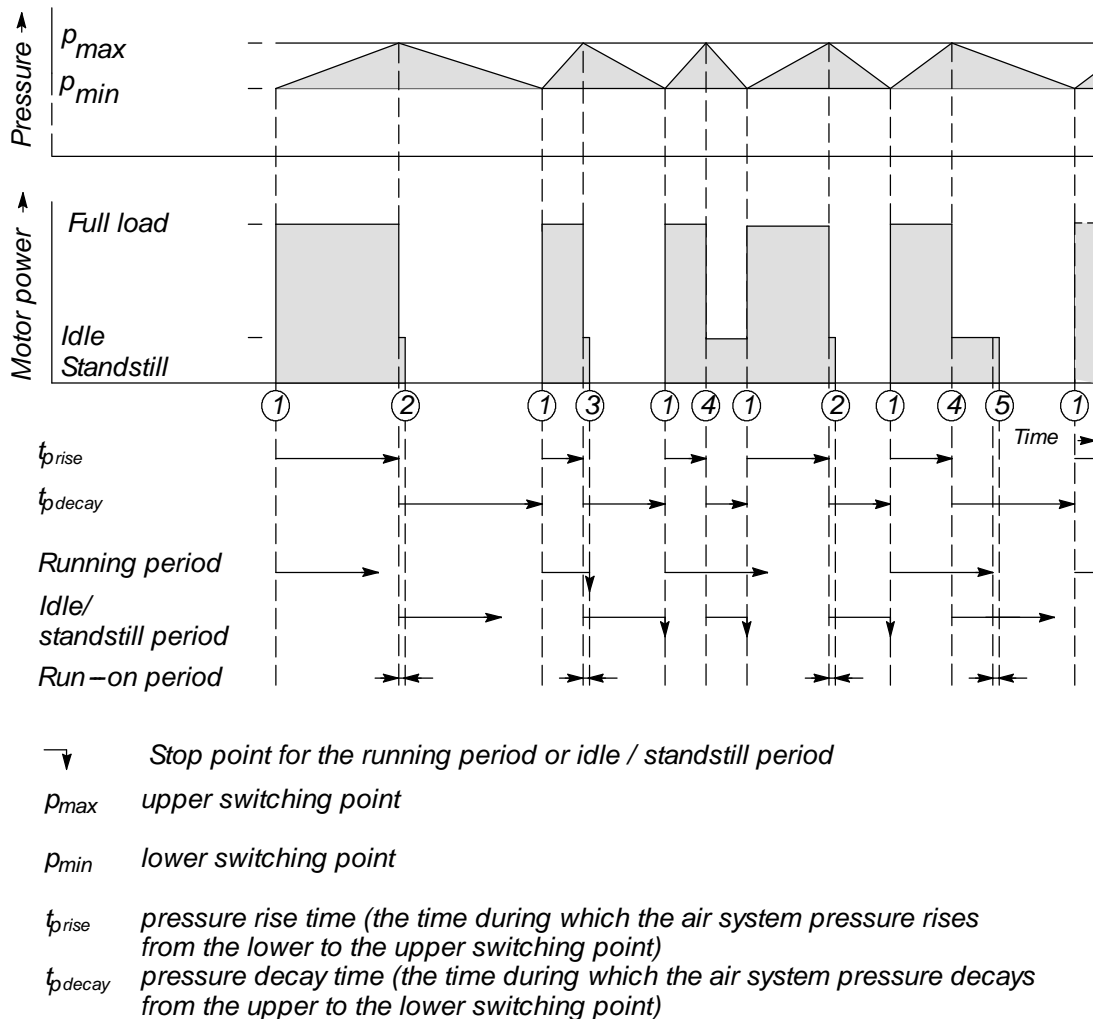
In DUAL Control (combined idle and start–stop) the compressor normally runs at **full–load, idle** or **standstill**.

The controller regulates the compressor package between **full–load** and **idle**.

If the compressor package runs in idle for longer than the preset period (1) to (2), for example  $t_1 = 6$  min, the drive motor is stopped completely (2). When the lower switching point  $p_{min}$  (3) is reached the compressor package is automatically started again. Pressure rises to the upper switching point  $p_{max}$  (4), and the compressor package switches to idle. If the pressure falls again to, for example,  $p_{min}$  (5) within a shorter period (4) to (5), then the compressor is automatically switched from idle to full–load.

The idle period is dependent on the maximum motor starting frequency.

**5.5 QUADRO Control**



**Functional description**

Two fixed periods – the **running period** and **idle/standstill period** – are taken as the criterion for selection of the operating mode of the compressor package when the air mains pressure reaches the upper switching point. These two periods are set according to the maximum permissible cut-in frequency of the compressor motor.

The running period starts every time the compressor package is switched on. It lasts as long as the compressor motor runs and stops when the compressor package switches to full stop.

The idle/standstill period starts every time the operating mode changes from full load to off load running. It runs during idle and also when the compressor package is switched to standstill after the idle period. It stops when the compressor package switches to full load.

Every switching off point is delayed by the run – on period, during which time the compressor package vents.

The following switching cycles are possible:

- If the air systems pressure decays to the lower switching point, the compressor package switches to full load (1) irrespective of its previous operating mode. If the compressor motor was at a standstill the opening of the inlet valve is delayed to allow an unloaded compressor package start.

- If the air systems pressure rises to the upper switching point and the running period has already expired, the compressor package is switched off after the run–on period has expired (2).
- If the air systems pressure rises to the upper switching point before the running period has expired then the pressure decay time of the previous switching cycle is taken as the criterium for the selection of the operating mode:
  - If the pressure decay time  $t_{pdecay}$  was longer than the period set for the idle/standstill period, the compressor is switched to standstill after the run–on period has expired (3).
  - If the pressure decay time  $t_{pdecay}$  was shorter than the period set for the idle / standstill period, the idle mode is selected (4), that is, the inlet valve closes and the compressor is vented with running motor. When the running period expires the compressor package switches to standstill only after the run–on period has also expired (5).

## 5.6 VARIO Control

### Functional description:

The idle period is automatically lengthened or shortened by the variable idle control in relation to the number of motor starts. The number of motor starts during the preceding hour are measured.

A high switching frequency leads to longer idle periods.

A low switching frequency leads to shorter idle periods.



## 6 Installation

### 6.1 Installation Requirements

**Attention!**

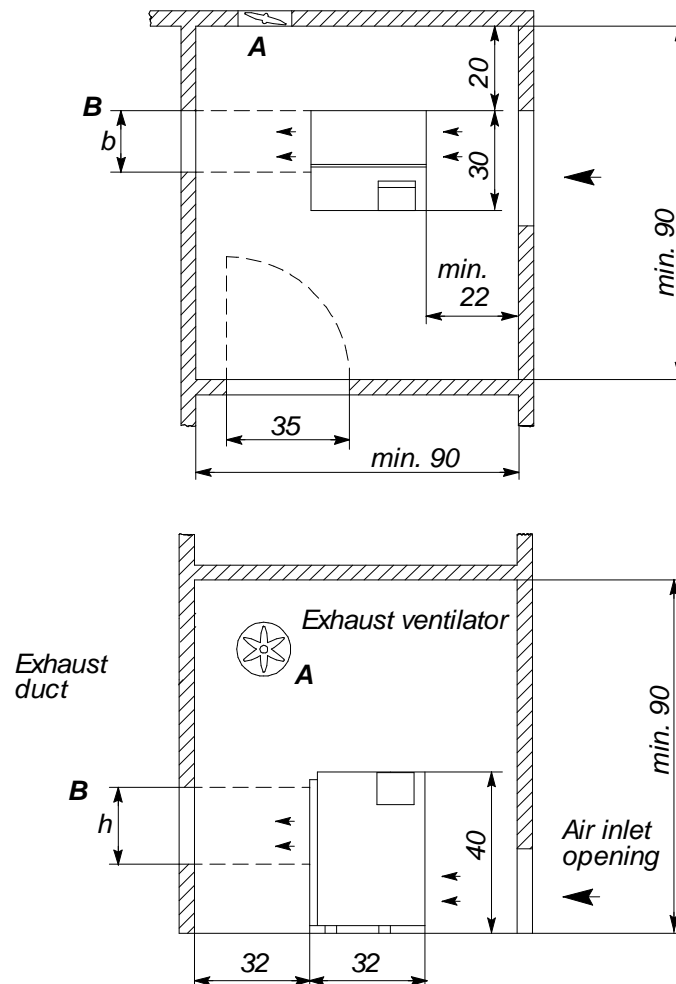
The compressor should be mounted on level surface.  
For any special application please consult with the manufacturer.

Safe operation of the compressor package is only ensured if the ambient temperature remains within the limits stated in chapter 1.6).

If the compressor is used in the open, take care that it is protected against the direct rays of the sun and against the ingress of dust and rain.

Install the compressor according to the following diagram. Adhere to the minimum distances shown to allow free access to the compressor package.

Adequate ventilation of the compressor space is ensured only if the minimum values (see chapter 1.6) are adhered to.



Measurements in inches

#### Solution A: Forced Ventilation

The ventilator intended for the compressor room must provide adequate ventilation in relation to the size of the compressor package (see chapter 1.6).

**Solution B: Exhaust Air used for Space Heating**

The hot air is forced through a conduit (see chapter 1.6) into the room to be heated.

**Attention!**

**Consult the manufacturer with regard to length of conduit and for maximum allowable pressure drop for this compressor package.**

Safe operation of the compressor package is guaranteed only if the temperature limits (see chapter 1.6) of the cooling air are adhered to.

**6.2 Connection of the Compressed Air Supply****Attention!**

**The unit is set up ready to operate. Connect the discharge outlet of the compressor to the system pipework using a flexible hose line and isolation shut-off valve with drain. Use the NPT adapter if necessary.**

**6.3 Electrical Connection**

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

**For fuse and wire recommendations, see chapter 1.4**

The compressor is wired ready for connection to the main supplies. Feed the supply cable with cores marked L1, L2, L3 and PE through the cable inlet in the base frame into the control box and connect to the terminals marked L1, L2, L3 and PE in this box.

**Attention!**

**Maximum dual element time-delay fuses are selected according to 2002 N.E.C. Article 240-6, 430-52 and Tables 430-52, 430-148 & 150.**

**Select multi-strand copper core wire at 40 °C ambient temperature according to 2002 N.E.C. 110-14(c), 220-3, 310-15, Table 310-16, 430-6, 430-22, 430-24 and Tables 430-148 & 150.**

**Wire temperature rating:**

<b>1.25 x FLA (see chapter 1.4)</b>	<b>wire temperature rating</b>	<b>correction factor for 40 °C</b>
≤ 100A	60 °C	0.82
> 100A	75 °C	0.88

## 7 Putting into Operation

### 7.1 Points to be Observed before Putting into Operation

Every compressor package is given a test run at the factory and carefully inspected before shipment. The test run confirms that the package conforms to the specification data and runs perfectly. However, the compressor package could be damaged during transport. For this reason, we recommend that the package be examined for possible shipping damage. It is recommended that an operator observe the compressor package carefully during the first hours of operation for any possible malfunction.

**Attention!**

**Important functional components in the compressor package (such as minimum pressure check valve, safety relief valve, inlet valve and combination valve) are adjusted and fitted to factory standards and specifications. Alterations to these components are not allowed without prior written authorization with the manufacturer.**



**Do not disassemble the minimum pressure check valve, safety relief valve and inlet valve. They are heavily spring loaded.**

**Disassembly by unqualified personnel may result in personal injury or equipment damage.**

### 7.2 Points to be Observed before Starting the Compressor Unit



**ANY NON-OBSERVANCE OF THIS OR OTHER REFERENCES (WARNING; ATTENTION; DANGER ) CAN LEAD TO ACCIDENTS CAUSING INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.**

**If a power failure occurs, the compressor package starts again automatically (normal setting) provided the line pressure is lower than the pressure threshold parameter entered in SIGMA CONTROL.**

**Do not operate the compressor with open maintenance doors or with cover panels removed as personnel could be injured by rotating parts and electrical equipment.**

- ☞ Remove all packaging materials, tools and transport securing devices on and in the compressor package.
- The operator is expected to practice safe working techniques and to follow all recommended operating and safety regulations when operating this compressor package.
- The operator of this compressor unit is responsible for its safe operating condition.
- Do not operate this compressor unit in locations where high dust conditions, poisonous, or inflammable gases could exist.
- Do not connect the compressor package to a supply voltage other than that stated on the nameplate.
- Do not install the compressor package in a location subject to freezing temperatures. The air temperature requirements at the air intake must be complied with (see chapter 1.6).
- If exhaust air ducts are to be installed the duct cross section must be equal or larger than the cooling air outlet of the compressor package and may not exceed the permitted pressure loss prescribed by the compressor manufacturer.

- During installation of the compressor unit, ensure that a distance of at least 40 " is kept between the cooling air intake of the unit and any wall.
- ☞ Check the oil level in the oil separator tank (see chapter 9.12).
- Check that the airend rotates in the correct direction (see chapter 7.4).
- ☞ Check the tension of the drive belts (see chapter 9.4).
- ☞ The ball valve (6.6, see chapter 5.3) must be closed.
- ☞ The ball valve (20, see chapter 5.3) must be open.



**Lock the main disconnect in the "off" position in accordance with applicable lock out/tag out procedures (example: OSHA CFR 29 § 1910.147) to ensure the compressor does not restart.**

**Check all screws on the electrical connections for tightness and tighten if necessary (carry out this check again after 50 hours of operation).**

- This compressor is fitted with a run-in oil filter cartridge. Replace the filter cartridge after the run-in period of 200 hours (see chapter 9.11).

### 7.3 Checklist

- Is the floor at the place of installation solid and level?  
 yes  no
- Is the space large enough for the compressor package or its components?  
 yes  no
- Are inlet and exhaust air apertures available in sufficient size and number?  
 yes  no
- Are all components of the compressor package easily accessible?  
 yes  no
- Is the power supply cable of sufficient cross-section?  
(have electrical connection carried out by qualified electrician or company familiar with local conditions)  
 yes  no
- Is a shut off valve fitted by the user?  
 yes  no
- Is a flexible connecting hose or axial compensator fitted between the compressor package and the compressed air system?  
 yes  no
- Have all screws, bolts and electrical connections been checked for tightness?  
 yes  no
- Has the oil level in the oil separator been checked?  
 yes  no
- Is a main disconnect switch fitted (suited to the motor starting characteristics)?  
 yes  no
- Has the setting of the drive motor overload current trip been checked?  
 yes  no
- Have you ensured that there are no other air components located in the exhaust air flow of the compressor package?  
 yes  no
- Have service personnel been instructed on safety regulations?  
 yes  no

## 7.4 Direction of Rotation Check

**Attention!**

The compressor is wired for connection to a clockwise phase sequence power supply.

A check of the direction of rotation can be made by testing the phase sequence.

Arrows showing the direction of rotation are located on the motor and on the airend housing.

☞ On your initial start, "bump" the unit and verify the direction of rotation.

If the direction of rotation is incorrect, change over the supply conductors L1 and L2.

**Attention!**

If the airend rotates in the wrong direction, the compressor is automatically shut down by the safety air pressure switch (4.2, see chapter 5.3).

## 7.5 Motor Overload Relay Adjustment



Lock the main disconnect in the "off" position in accordance with applicable lock out/tag out procedures (example: OSHA CFR 29 § 1910.147) to ensure the compressor does not restart. See chapter 2.3 for the main disconnect switch.

The relay is set to the standard adjustment at the factory.

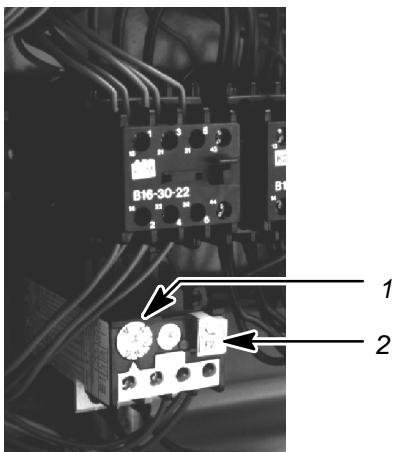
### Compressor motor: Wye–delta start

In the Wye–delta configuration the phase current is fed through the motor overload relay. This phase current is 0.58 times the nominal motor current.

For the nominal motor current see motor nameplate.

### Adjustment:

To prevent the overload relay from tripping (because of voltage fluctuations, temperature influences or component tolerances), the value can be set up to 15% higher than the calculated phase current.



- 1 Motor overload adjustment
- 2 Reset button

## 7.6 Setting the Air System Pressure

The air system pressure is preset at the factory. It can be changed in SIGMA CONTROL to match customer's operational requirements if the password is known. For further details, consult the SIGMA CONTROL service manual.

**Attention!** Switching from full load to idle running may take place no more frequently than 2 times per minute.

Switching frequency can be improved by increasing the difference between cut-in and cut-out pressure.

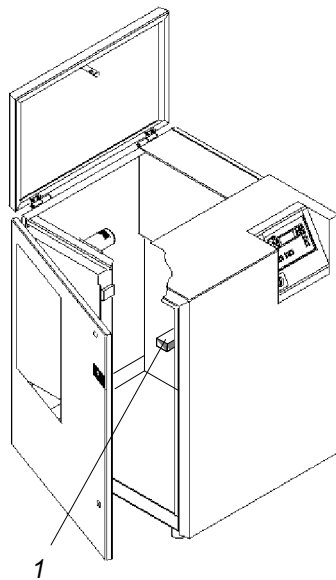
In addition, a larger air receiver can be installed to increase buffer capacity.

## 7.7 Functional Check of the Door Interlock Switch



**Do not operate the compressor unit with a malfunctioning door interlock switch.**

**Do not attempt to modify or by-pass the door interlock switch.**



1 Door interlock switch

### Visual door interlock switch check

- ☞ Check that the interlock switch operates smoothly by opening and closing the left-hand maintenance door.

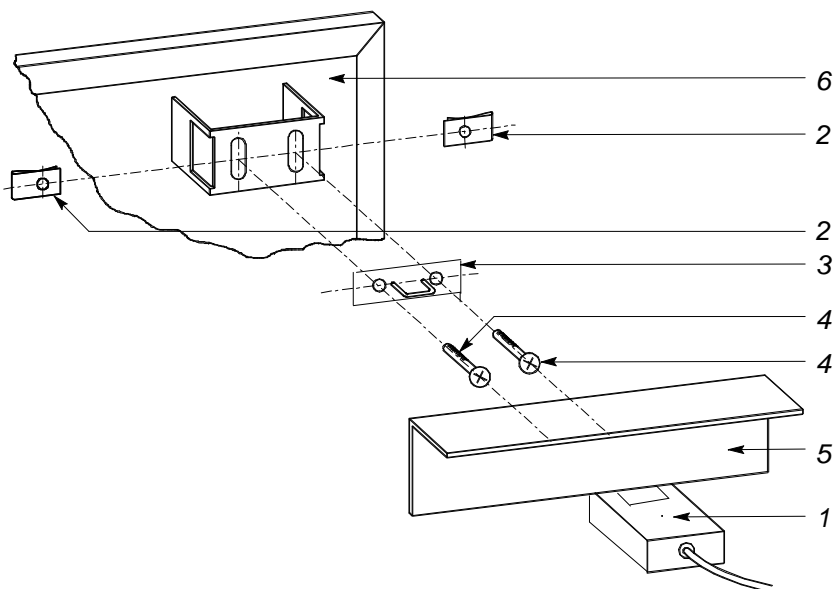
**Attention!** If the insertion key (3) at the door interlock is incorrectly aligned, inadvertent shutdown of the compressor package can occur.

**The insertion key (3) aligns with the door interlock switch (1) without binding against the sides of the interlock switch when the maintenance door is closed.**

If necessary, re-align the insertion key (3).

- ☞ Loosen the bolts (4).

- ☞ Align the insertion key (3) so that it glides smoothly into the interlock switch (1).
- ☞ If necessary, use washers to help align the insertion key (3) with the interlock switch (1).
- ☞ Tighten the bolts (4) again.



1 Door interlock switch  
2 Clamping nut  
3 Insertion key

4 Bolt  
5 Frame  
6 Maintenance door

#### Functional check of the interlock switch

**Attention!**

**A functional check of the door interlock switch must be made after initial start.**

- ☞ Start the compressor package (see chapter 8.3).
- ☞ Open the left-hand maintenance door – the compressor package will shut down immediately if the door interlock switch functions correctly.
- ☞ Close the left-hand maintenance door.
- ☞ Reset the alarm message by pressing the acknowledge (reset) key (11, see chapter 8.2.2) on SIGMA CONTROL.

The compressor package is now ready to start again.



## 7.8 Measures to be taken before Initial Start

Follow the procedure detailed below before initial start, after an oil change or if the compressor has not been operated for a period of three months or longer before starting the compressor:

### 7.8.1 Pour a small quantity of oil into the air inlet port



**Lock the main disconnect in the "off" position in accordance with applicable lock out/tag out procedures (example: OSHA CFR 29 § 1910.147) to ensure the compressor does not restart.**



**Do not add oil unless the compressor package is completely vented.**

**See chapter 9.10 to vent the compressor.**

- ☞ To pour in the oil, unscrew the filler plug (1) on the inlet valve (2) and then pour the prescribed quantity of oil (see chapter 1.7) into the airend.
- ☞ Manually rotate the airend in a counter clockwise direction with the drive belts.
- ☞ Screw the filler plug (1) back in.

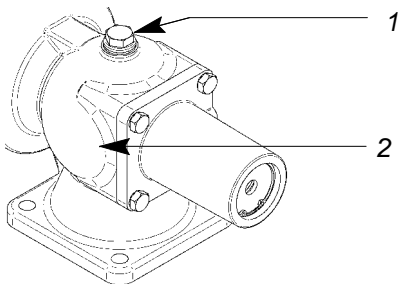
**Attention!**

**This oil must be of the same type as the oil used to operate the compressor (see label near the oil filler plug on the oil separator tank).**

**If no additional oil is available, remove required amount of oil from the oil separator tank. See chapter 9.14 for this procedure.**

**If the compressor unit was at standstill for more than 12 months, additional precautionary steps have to be taken before putting the unit back into operation. In this case consult the manufacturer.**

- ☞ Open the isolation shut-off valve between the compressor and the compressed air system.



- 1 Filler plug
- 2 Inlet valve

### 7.8.2 Running the compressor in idle

At initial start run the compressor package in idle for 20 seconds by pressing the load/idle key (5, see chapter 8.2.2).

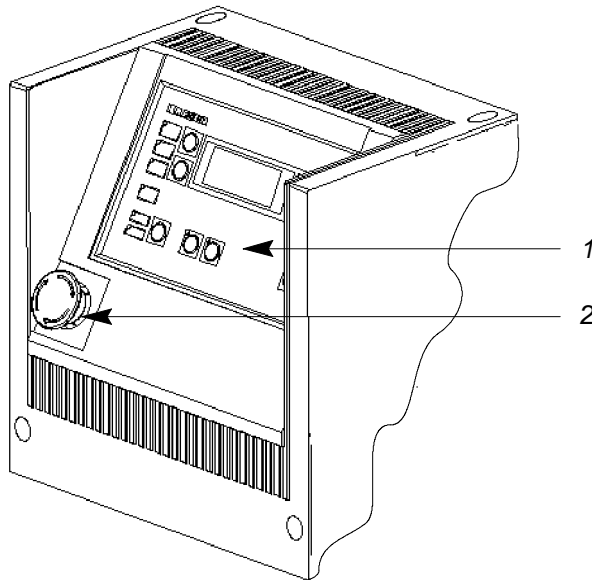
This measure ensures that the compressor package has sufficient time to flood the oil circulation.



**If a power failure occurs, the compressor package will start again automatically (normal setting) when the power is restored provided the system pressure is lower than the cut-in pressure entered in the SIGMA CONTROL.**

## 8 Operation

### 8.1 Control Panel



- 1 SIGMA CONTROL  
2 EMERGENCY STOP pushbutton

### 8.2 SIGMA controller

The SIGMA controller (1) is fitted in the control cabinet in the compressor package and serves as the control panel. It has 11 keys and 9 LEDs. Operation of the compressor package is determined by the settings programmed into the controller.

Further details on individual function keys, LEDs and plain text display relating to possible alarms and service messages, display of events, etc. are given in the service manual supplied for the SIGMA CONTROL controller.

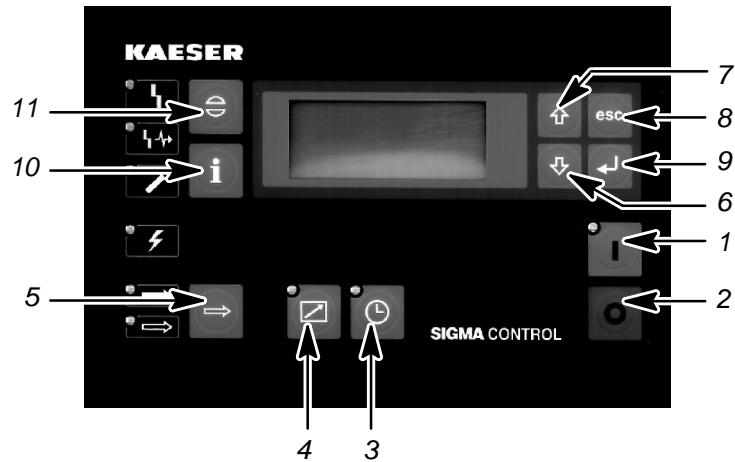
#### 8.2.1 Emergency Stop Pushbutton

The Emergency Stop pushbutton shuts down the compressor package immediately.

If the Emergency Stop pushbutton is pressed because of an existing hazard, then this must be eliminated before the compressor package is reset. To accomplish this the following procedure must be carried out:

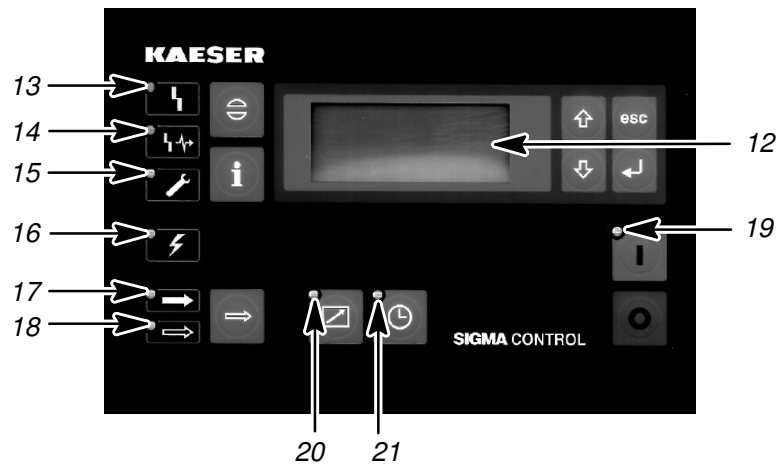
- ☞ Unlatch the Emergency Stop pushbutton by turning in the direction of the arrows.
- ☞ Acknowledge the alarm message on the controller by pressing the acknowledge (reset) key. (function keys see chapter 8.2.2.)

8.2.2 Function keys



- |                    |                            |
|--------------------|----------------------------|
| 1 ON key ("I")     | 6 Menu scroll – DOWN key   |
| 2 OFF key ("0")    | 7 Menu scroll – UP key     |
| 3 Timer ON/OFF key | 8 Escape key               |
| 4 Remote ON key    | 9 Return key               |
| 5 Load/idle key    | 10 Info – event key        |
|                    | 11 Acknowledge (reset) key |

8.2.3 Light emitting diodes and plain text display



- |                                 |                      |
|---------------------------------|----------------------|
| 12 Four–line display            | 17 Load LED          |
| 13 Alarm LED                    | 18 Idle LED          |
| 14 Communication alarm LED      | 19 Compressor ON LED |
| 15 Warning – maintenance LED    | 20 Remote ON LED     |
| 16 Power ON LED (to controller) | 21 Timer ON LED      |

### 8.3 Starting and Stopping the Compressor Unit

**Attention!**

Do not start and stop the compressor package with the main disconnect switch. The compressor must always be switched ON and OFF with keys (1) and (2).

**To turn the compressor ON (local):**

- ☞ Switch on the main disconnect switch.

The controller carries out a self-test. The self-test sequence is visible in the display (12). Afterwards, the green LED (16) illuminates permanently.

- ☞ Press the ON key (1) – LED (19) illuminates.

The compressor status is indicated by LEDs (17) and (18):

**Attention!**

If LED (19) is illuminated and both LEDs (17) and (18) are extinguished the compressor package is at standstill but on duty.

The compressor package can start at any moment.

**To turn the compressor OFF (local):**

- ☞ Press the OFF key (2) – LED (19) extinguishes.
- ☞ Lock the main disconnect in the "off" position in accordance with applicable lock out/tag out procedures (example: OSHA CFR 29 § 1910.147) to ensure the compressor does not restart.

See chapter 2.3 for the main disconnect switch.

### 8.4 Acknowledgement of Alarms

If an alarm occurs the compressor package is shut down immediately and the red LED (13) on SIGMA CONTROL flashes.

The bottom line in the display (12) shows the actual fault causing the alarm. A list of alarms that may occur during operation is included in the SIGMA CONTROL service manual.

- ☞ Remove the fault.
- ☞ Acknowledge alarm with the reset key (11) – LED (13) extinguishes.

The compressor package is now ready to start again.

**Attention!**

If the compressor was shut down with the EMERGENCY STOP push-button, then reset by rotating the latched pushbutton in the direction of the arrow before acknowledging the alarm.

## 8.5 Acknowledgement of Service Messages

When maintenance is due the yellow LED (15) on SIGMA CONTROL flashes.

Maintenance due is shown in the display (12).

A list of service messages that may occur during operation is included in the SIGMA CONTROL service manual.

- ☞ Carry out the maintenance work.
- ☞ Acknowledge service message with the reset key (11) – LED (15) extinguishes.

**Attention!**

**When the respective maintenance has been carried out, the remaining interval period (programmed interval until the next maintenance is due) must be reset.**

Detailed information on resetting service counters is to be found in the service manual for SIGMA CONTROL.

## 8.6 Trouble shooting: Possible cause—Remedy



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.

### 8.6.1 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. See chapter 1.6.

Provide warmer air from other source or move compressor to warmer location or add a cabinet heater. See chapter 1.6.

Provide required amount of ventilation.

Consult authorized KAESER distributor for duct requirements.

Clean with compressed air, water or steam injector. See chapter 9.13.

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.

**8.6.2 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.

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

Airend rotates in wrong direction.

Inlet valve does not open or opens only partially.

Vent valve does not close at full load.

Minimum pressure check valve is defective.

Leaks in plant system.

Plant system air, demand exceeds capacity of compressor

Air leak in unit.

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

**Remedy:**

Reverse motor polarity.

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.

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

Reduce system demand or install additional compressor(s).

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

Remove socket from coupling.

Safety relief valve has blown off. Airend is defective.	See chapter 8.6.6. With unit running, slowly and carefully place hand over air inlet filter casing. There should be considerable suction. If not, airend is producing no pressure.
<b>8.6.4 Oil leaks out of air filter</b>	
<b>Possible cause:</b> Oil level in separator tank is too high. Inlet valve faulty.	<b>Remedy:</b> Drain oil to correct level. Find the fault and replace the defective part.
<b>8.6.5 Full-load/Idle sequence occurs too frequently (short cycles)</b>	
<b>Possible cause:</b> 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.	<b>Remedy:</b> 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.
<b>8.6.6 Safety relief valve blows off</b>	
<b>Possible cause:</b> 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.	<b>Remedy:</b> 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.
<b>8.6.7 Oil inside the unit</b>	
<b>Possible cause:</b> 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.	<b>Remedy:</b> Remove the socket from the coupling.  See chapter 8.6.6. See chapter 8.6.4. Tighten coupling or replace as needed. Replace oil cooler.



**8.6.8 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.

## 9 Maintenance

### 9.1 Observe the following rules during all maintenance and servicing work:



Work on power driven equipment may only be carried out by trained or specialized personnel. Follow all applicable OSHA and local safety regulations.

If a power failure occurs, the compressor package starts again automatically (normal setting) provided the line pressure is lower than the pressure threshold parameter entered in SIGMA CONTROL.

Lock the main disconnect switch in the "off" position in accordance with applicable lock out/tag out procedures to ensure the compressor does not restart (see chapter 2.3 for main disconnect switch).

Ensure that no maintenance personnel is working on the compressor unit, that all panels are latched back on again and all maintenance doors are closed before restarting the compressor unit.

To start the compressor unit see chapter 8.3).

**Attention!**

The venting nozzle required to vent the oil separator tank (for maintenance work such as topping up the oil, oil change and filter change) is fitted to the hose coupling (3, see chapter 9.10).



Carry out a visual and functional check of the door interlock switch after any maintenance and servicing work.

See chapter 7.7 for details.



The following points must be observed when handling lubricating and cooling materials:

Avoid contact with skin and eyes.  
Do not inhale vapors and oil mist.  
Do not eat or drink when handling such materials.  
Fire, open flame and smoking are strictly forbidden.



Ensure that all lubricants, consumable materials and replacement parts accumulating during operation and servicing of the compressor package are disposed of according to environmental regulations.

**9.2 Regular Maintenance**

Interval*	Work to be done	See chapter
2 and 24 h after initial start	Check the v-belt tension	9.4
50 h after initial start	Check all electrical connections for tightness and tighten if necessary	
200 h after initial start	Replace the oil filter	9.11
Weekly	Check the oil level	9.12
	Check the filter mats for contamination	9.6
500 h	Check the v-belt tension	9.4
	Clean or replace the air filter	9.7
1000 h	Check the oil cooler and air aftercooler for contamination	9.13
	Clean or replace the filter mats	9.6
up to 3000 h or at least annually	Replace the oil filter	9.11
Proper interval varies. See chapter 1.8	Change the oil	9.14
up to 9000 h or at least every 3 years	Change the oil separator cartridge	9.15
Annually	Check all electrical connections for tightness and tighten if necessary	
12000 h	Have the valves inspected by an authorized KAESER Service agent	
Annually	Have the safety relief valve checked by authorized KAESER Service agent	9.9
6000/12000 hours or at least within three years	Have the compressor motor bearings relubricated by authorized KAESER distributors*	9.8

\* The maintenance period can vary depending on the cycle rate and environmental conditions.

We urgently recommend that a record is kept of the maintenance work done (see chapter 9.16).

### 9.3 Opening and Closing the Compressor Package

**To open:**

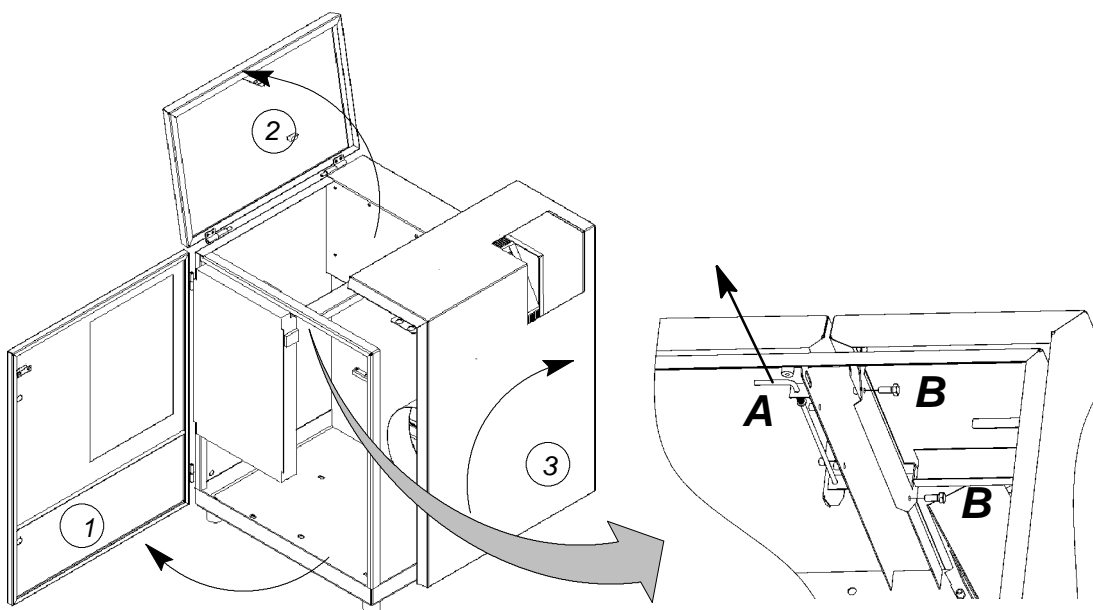
- ☞ Open the maintenance door (1).
- ☞ Move the lever (A) in the direction of the arrow and lift up the maintenance door (2).
- ☞ Loosen the screws (B) and remove the panel (3).

**To close:**

- ☞ Close the panel (3) the maintenance door (2) and the maintenance door (1) in the reverse order.



**Close all maintenance doors and panels correctly before starting the compressor package.**



- 1 Maintenance door
- 2 Maintenance door
- 3 Cover panel

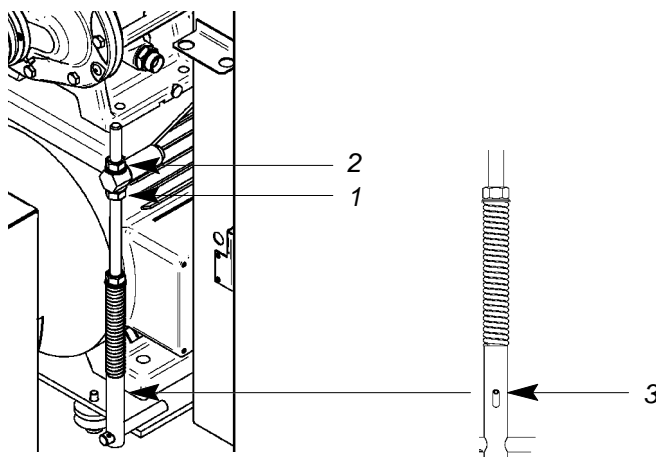
## 9.4 Checking the Drive Belt Tension

- ☞ Switch off the compressor unit (see chapter 8.3).



**Lock the main disconnect switch in the "off" position in accordance with applicable lock out/tag out procedures to ensure the compressor does not restart.**

Check the tension of the belt drive after the first 2 and 24 hours of operation and thereafter every 500 hours of operation.



- 1 Hexagonal nut
- 2 Hexagonal nut
- 3 Indicator pin

The belt drive tension is automatically adjusted within a limited range by the pressure spring of the belt tensioning device.

Re-tension the belt drive if the belts have stretched to the point where the indicator pin (3) is situated at the **top end of its indicator slot**.

- ☞ Loosen the hexagonal nut (2).
- ☞ Tension the belt drive with the hexagonal nut (1) until the indicator pin (3) is situated at the **bottom end of its indicating slot**.
- ☞ Tighten the hexagonal nut (2).

## 9.5 Drive Belt Change

- ☞ Switch off the compressor unit (see chapter 8.3).



**Lock the main disconnect switch in the "off" position in accordance with applicable lockout/tagout procedures to ensure the compressor does not restart.**

- ☞ Loosen the hexagonal nut (2, see chapter 9.4).
- ☞ Screw the hexagonal nut (1, see chapter 9.4) until the V-belts are loose.
- ☞ Remove the V-belts.

**Attention!**

**It is essential that replacement belts are all precisely the same length (each set) and absolutely oil-proof. For this reason we recommend that only original KAESER drive belts are used.**

- ☞ Place the new V-belts over the motor and compressor pulleys without straining them.
- ☞ Set the belt drive tension (see chapter 9.4).

**Attention!**

**Check the belt drive tension after 2 hours of operation and then again after 24 hours of operation, as experience shows that the belts stretch mostly during this period.**

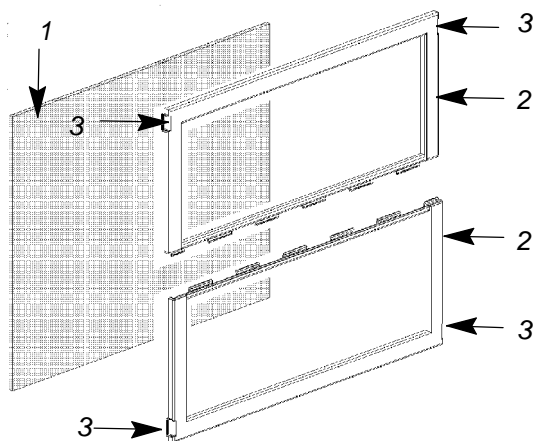
## 9.6 Cleaning or Replacing the Filter Mat

Clean the filter mat every week depending on the dust content of the intake air and replace if necessary as detailed in the maintenance schedule (see chapter 9.2).

- ☞ Switch off the compressor package (see chapter 8.3).



**Lock the main disconnect switch in the "off" position in accordance with applicable lockout/tagout procedures to ensure the compressor does not restart.**



- 1 Filter
- 2 Holding frame
- 3 Closure

- ☞ Press closures (3) inwards and remove the holding frame.

**Cleaning:**

Rinse the mat in warm water ( approximately 105°F), if necessary, use a mild detergent soap to rinse out oily dust. The mat can also be tapped, vacuum cleaned or blown out with compressed air (not in excess of 30 psig).

**Attention!**

**If the mat is heavily soiled or has been cleaned often (maximum five times), replace it.**

- ☞ Locate the holding frame and press into position.  
The holding frame is secure when the closures engage.

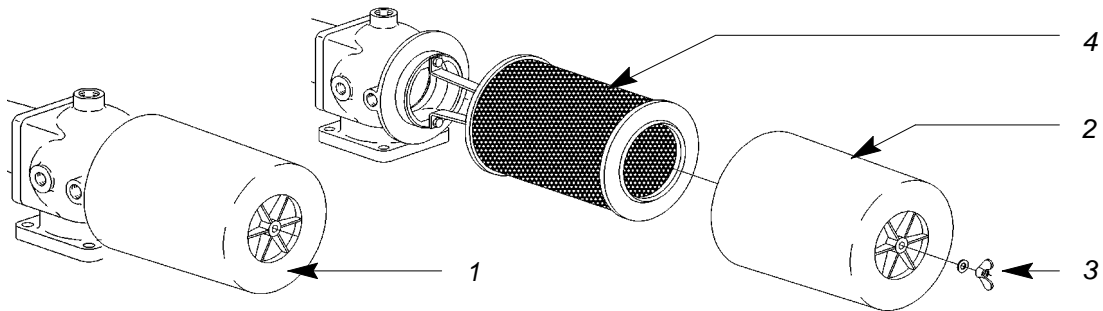
### 9.7 Cleaning or Replacing the Air Filter

Clean the air filter after every 500 service hours.

- ☞ Stop the compressor package (see chapter 8.3).



**Lock the main disconnect switch in the "off" position in accordance with applicable lock out/tag out procedures to ensure the compressor package does not restart.**



- 1 Air filter
- 2 Air filter cap
- 3 Wing nut for opening air filter housing
- 4 Air filter cartridge

#### To open the air filter housing:

- ☞ Unscrew the wing nut (3) and remove the air filter cap (2) and the filter cartridge (4).
- ☞ Clean the air filter cap and sealing surfaces.

#### Cleaning the air filter cartridge (4) by tapping:

- ☞ Tap the air filter cartridge several times on the front with the ball of the hand.

**Attention!**

**Do not use excessive force otherwise the air filter cartridge may be damaged.**

- ☞ Clean all sealing surfaces.

#### Cleaning the air filter cartridge with compressed air:

- ☞ Use dry, compressed air blowing at a pressure of not more than 30 psig at a slant from the inside to the outside of the air filter cartridge surfaces.

**Attention!**

**Do not clean the air filter cartridge with fluids. If the air filter cartridge is heavily contaminated or was already cleaned several times (max. five times), replace.**

**Compressed air shall not be used for cleaning purposes except where reduced to less than 30 psig and then only with effective chip guarding and personal protective equipment. (OSHA CFR 29 § 1910.242)**

#### To close the filter housing:

- ☞ Insert the filter cartridge (4) and replace the air filter cap (2).
- ☞ Screw on the wing nut (3) tightly.

### 9.8 Servicing the Electric Motor

#### Compressor motor:

The electrical motor bearings are permanently greased.

**Attention!**

**Have the motor bearings replaced by authorized KAESER distributors in accordance with the maintenance schedule (see chapter 1.9).**

### 9.9 Testing the Safety Relief Valve on the Oil Separator Tank

To test the set point of the safety relief valve, the compressor must be run so that its discharge pressure exceeds the maximum pressure set on the SIGMA CONTROL.

See chapter 1.5 for the safety relief valve activating pressure.

**Attention!**

Have the safety relief valve tested by an authorized KAESER distributor in accordance with the maintenance schedule (see chapter 9.2).

For more details see SIGMA CONTROL manual.

### 9.10 Venting the compressor unit

☞ Switch off the compressor unit (see chapter 8.3).

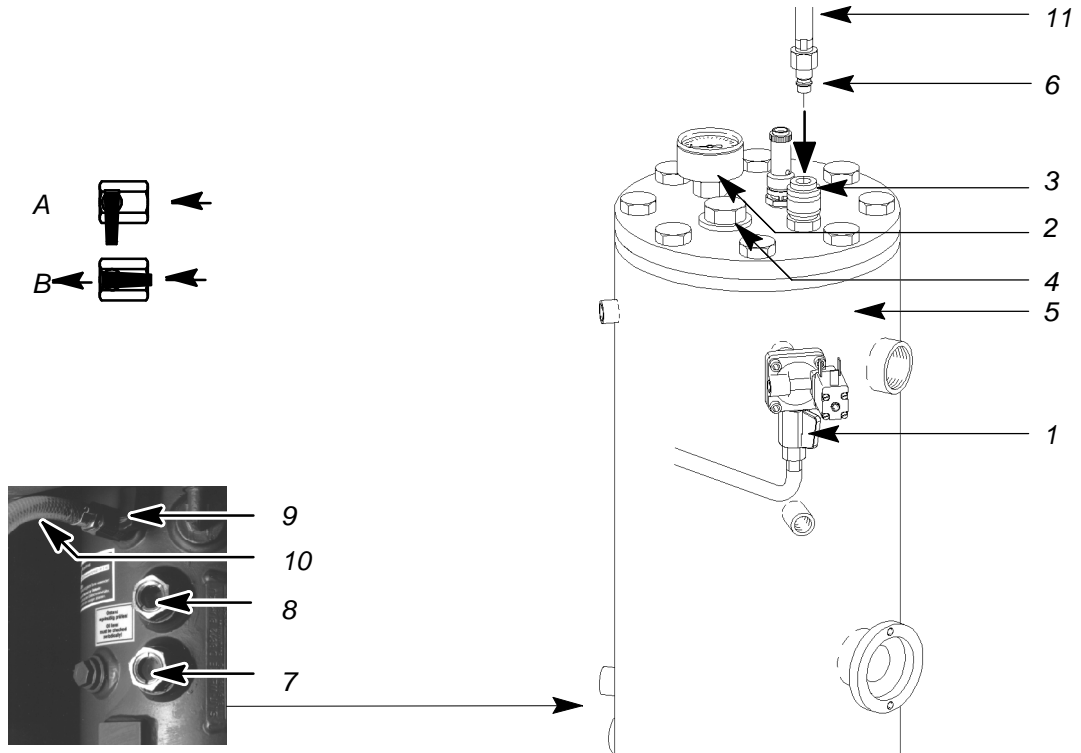


Lock the main disconnect in the "off" position in accordance with applicable lock out/tag out procedures to ensure the compressor does not restart.

Lock the isolation shut-off valve in the "closed" position and vent all compressed air trapped between the compressor and the isolation shut-off valve in accordance with applicable lock out/ tag out procedures.

The oil circulation system of the compressor package vents automatically.

Venting the oil separator tank:



- |                                  |                                 |                            |
|----------------------------------|---------------------------------|----------------------------|
| 1 Ball valve<br>A shut<br>B open | 4 Filler plug<br>(oil top – up) | 8 Maximum oil level        |
| 2 Pressure gauge                 | 5 Oil separator tank            | 9 Ball valve – oil drain   |
| 3 Hose coupling                  | 6 Nozzle                        | 10 Oil drain hose          |
|                                  | 7 Minimum oil level             | 11 External pressurization |



- ☞ The pressure gauge on the oil separator tank must indicate zero psig.



**Oil mist can escape when the oil separator tank is vented.**

- ☞ Insert the nozzle (6) in the hose coupling (3) on the oil separator tank. The residual pressure in the oil separator tank escapes.
- ☞ Remove the nozzle (6) from the hose coupling (3).

#### **Venting the air aftercooler:**



**When the compressor package is vented, pressure is still present in the air aftercooler and the pipework up to the minimum pressure check valve. For this reason the compressor package must be isolated from the compressed air system by closing the shut-off valve between the compressor package and the compressed air system. If isolation shut-off valve is not available, vent the compressed air system completely.**

- ☞ Carefully remove the screw fitting (4, see chapter 9.13). The air aftercooler vents.
- ☞ Tighten the screw fitting again.



**Close all maintenance doors and panels correctly before starting the compressor package.**

## **9.11 Oil Filter Change**



**Hot oil; beware of scalding.**

### **Attention!**

**Replace the run-in oil filter cartridge with a standard oil filter cartridge (supplied with the compressor) after approximately 200 operating hours.**

Change the oil filter cartridge according to the regular maintenance schedule (see chapter 9.2) or when the corresponding service message is displayed on SIGMA CONTROL (see chapter 8.1).  
It is recommended that the oil filter cartridge is replaced always when the oil is changed.

### **9.11.1 Removal and replacement of the oil filter cartridge**

- ☞ Stop the compressor package under full load (see chapter 8.3).

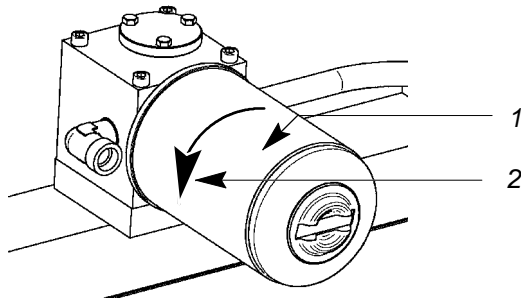


**Lock the main disconnect in the "off" position in accordance with applicable lock out/tag out procedures (example: OSHA CFR 29 § 1910.147) to ensure the compressor does not restart.**



**Before opening or removing pressurized components (pipes, hoses, tanks, etc.) it is imperative that the compressor package is completely depressurized.**

- ☞ Venting the compressor package (see chapter 9.10).



- 1 Oil filter cartridge
- 2 Turn in this direction to unscrew the cartridge

- ☞ Twist the used or contaminated oil filter cartridge counter clockwise to remove and catch escaping oil in a suitable container.



**Dispose of the old oil filter and any used, accumulated oil according to environmental care regulations!**

- ☞ Clean the face of the combination block with a lint free cloth.
- ☞ Lightly oil the gasket of the new filter cartridge before screwing into position.
- ☞ Screw in the new filter cartridge clockwise by hand until the gasket fits tightly.

**Attention!**

**Do not use a tool as this may cause damage to the oil filter cartridge and the gasket.**

- ☞ Check the oil level (see chapter 9.12).
- ☞ Open the isolation shut-off valve between the compressor and the compressed air system.



**Perform a test run**

**When the operating temperature is reached (see chapter 1.1), shut down the compressor package (see chapter 8.3) and lock the main disconnect in the "off" position in accordance with applicable lock out/tag out procedures (example: OSHA CFR 29 § 1910.147) to ensure the compressor does not restart.**

**Afterwards, carry out a visual check for leaks.**

## 9.12 Oil Top-Off

Check the oil level weekly through the oil sight glass when the compressor is shut down. If necessary, top off the oil to the maximum level. Do not exceed the maximum level (center of the top oil sight glass).

- ☞ Stop the compressor package under full load (see chapter 8.3).

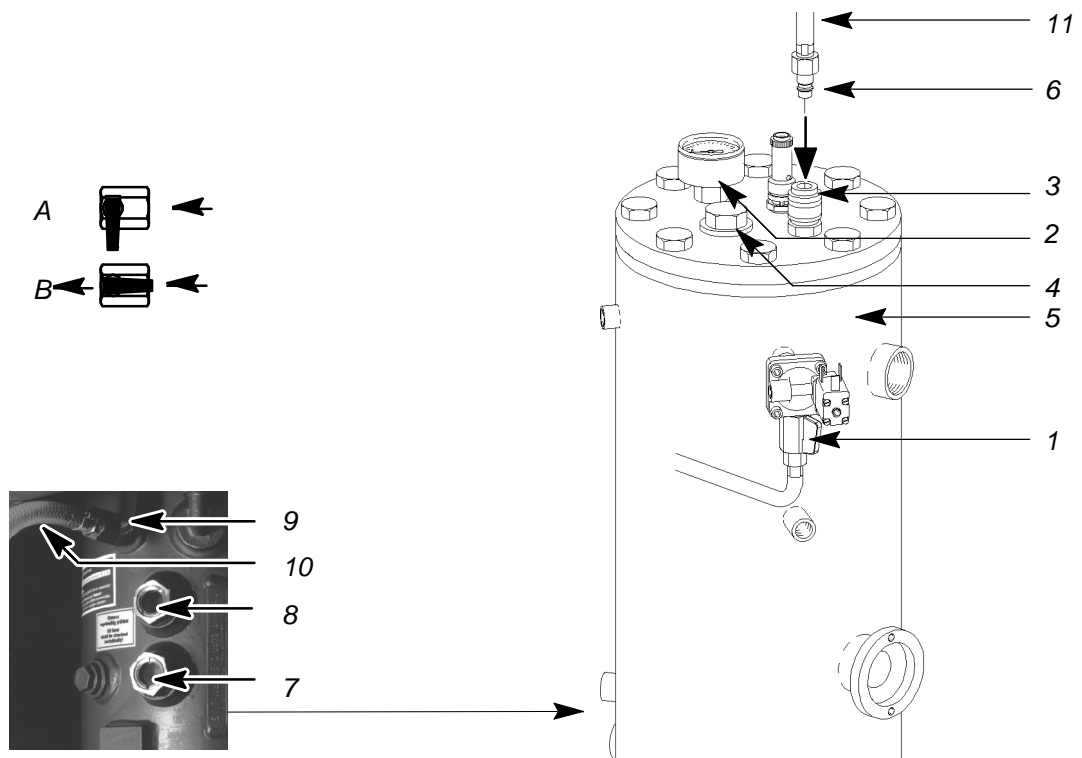


**Lock the main disconnect in the "off" position in accordance with applicable lock out/tag out procedures (example: OSHA CFR 29 § 1910.147) to ensure the compressor does not restart.**



**Before opening or removing pressurized components (pipes, hoses, tanks, etc.) it is imperative that the compressor package is completely depressurized.**

☞ Venting the compressor package (see chapter 9.10).



- |                                  |                                 |                            |
|----------------------------------|---------------------------------|----------------------------|
| 1 Ball valve<br>A shut<br>B open | 4 Filler plug<br>(oil top – up) | 8 Maximum oil level        |
| 2 Pressure gauge                 | 5 Oil separator tank            | 9 Ball valve – oil drain   |
| 3 Hose coupling                  | 6 Nozzle                        | 10 Oil drain hose          |
|                                  | 7 Minimum oil level             | 11 External pressurization |

- ☞ Unscrew the oil filler plug (4) on the oil separator tank.
- ☞ Top off the oil to the maximum mark.
- ☞ Check the gasket ring of the filler plug (4) for damage and then screw in the filler plug.
- ☞ Open the isolation shut-off valve between the compressor and the compressed air system.

**Attention!**

**After an oil change or oil cooler cleaning (with removal of the oil cooler) run the compressor package up to operating temperature to ensure that the combination valve closes and that the oil cooler is flooded with oil.**

**Afterwards, repeat the procedures “Venting the Compressor Package” (chapter 9.10) and “Topping off the Oil” (chapter 9.12).**

**Attention!**

**Always use the same brand and type of oil when topping off the oil. (see label on the oil separator tank).**

**During an oil change, drain the old oil completely and always replace the oil filter.**

**Never mix different oil types or brands.**

**Oil recommendations see chapter 1.8**

### 9.13 Cleaning the Oil Cooler and Aftercooler

The oil cooler and air aftercooler must be checked for clogging regularly. Heavy contamination could lead to excessive temperatures in the oil circulation system.

See regular maintenance schedule for cooler maintenance interval (chapter 9.2).

☞ Switch off the compressor package under full load (see chapter 8.3).



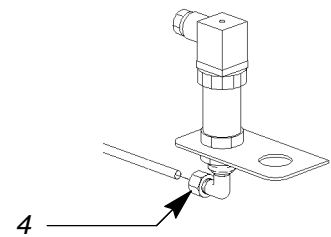
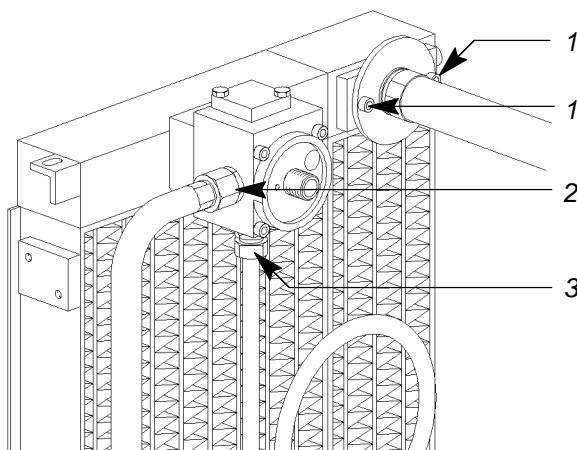
**Lock the main disconnect in the "off" position in accordance with applicable lock out/tag out procedures to ensure the compressor does not restart.**



**Before opening or removing pressurized components (pipes, hoses, tanks, etc.) it is imperative that the compressor package is completely depressurized.**

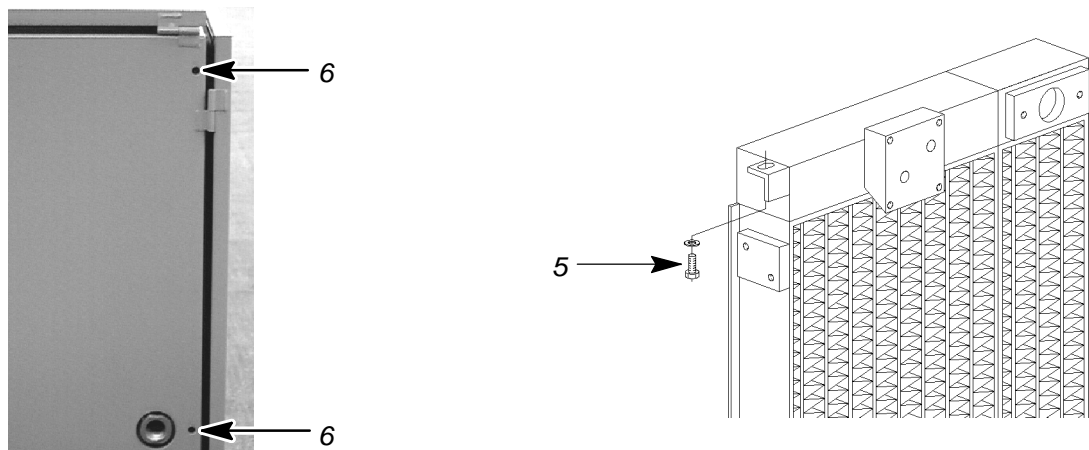
☞ Venting the compressor package (see chapter 9.10).

#### 9.13.1 Removing and cleaning the oil cooler/air aftercooler



- 1 *Allen screw*
- 2 *Hose screw fitting*
- 3 *Pipe screw fitting*
- 4 *Pipe screw fitting*

- ☞ Unscrew the hose connector (2) and the pipe connector (3) from the combination valve.
- ☞ Unscrew the Allen screws (1) on the aftercooler.
- ☞ Remove and check the O-ring on the aftercooler.
- ☞ Close up the pipes and openings on the combination valve, and aftercooler.



- 5 Hexagonal nut
- 6 Allen screw

- ☞ Unscrew the hex bolt (5).

The hex socket head bolts (6) are located behind two protective caps.

**Attention!**

**Before unscrewing the two hex socket head bolts (6) prop up the combination oil/air aftercooler.**

- ☞ Remove the protective caps and unscrew the two hex socket head bolts (6).
- ☞ Take out the aftercooler.



**Do not direct compressed air, water or steam jets toward any person. These represent contained energy and as such, are dangerous to life.**



**The soiled cooler laminations may be cleaned with water or steam jet only in designated cleaning areas with oil separators suited for such purpose!**

- ☞ Clean the cooler laminations with compressed air, water or steam jet.

**Attention!**

**Seat the O-rings correctly in the compressed air inlet of the oil/air aftercooler during reassembly.**

- ☞ Reassemble in the reverse order.
- ☞ See chapter 9.12 for topping off the oil.
- ☞ Open the isolation shut-off valve between the compressor and the compressed air system.



**Perform a test run**

**When the operating temperature is reached (see chapter 1.1), shut down the compressor package (see chapter 8.3) and lock the main disconnect in the "off" position in accordance with applicable lock out/tag out procedures (example: OSHA CFR 29 § 1910.147) to ensure the compressor does not restart.**

**Afterwards, carry out a visual check for leaks.**

## 9.14 Oil Change (Oil Separator Tank and Oil Cooler)

For type of oil and frequency of oil change see chapter 1.8

Oil change must be carried out with warm to the touch condition of the compressor package (Oil temperature approx. 104°F).



**Danger of scalding with hot oil.**

**When inserting the maintenance hose into the compressor's hose couplings, always have the ball valve closed and the hose end secured before slowly opening the ball valve. Beware of air/oil mist that could blow out of the hose. Unrestricted air/oil flow through the hose end will result in a whipping action which could cause severe injury or death.**

If the compressor package operates in ambient temperatures close to the maximum ambient temperature (see chapter 1.6), change the oil more often (e.g. 1/2 or 1/4 of recommended interval).

**Attention!**

**Drain the oil out of the oil separator tank, cooler and the oil pipes completely. See chapter 9.14.4 for putting back into operation.**

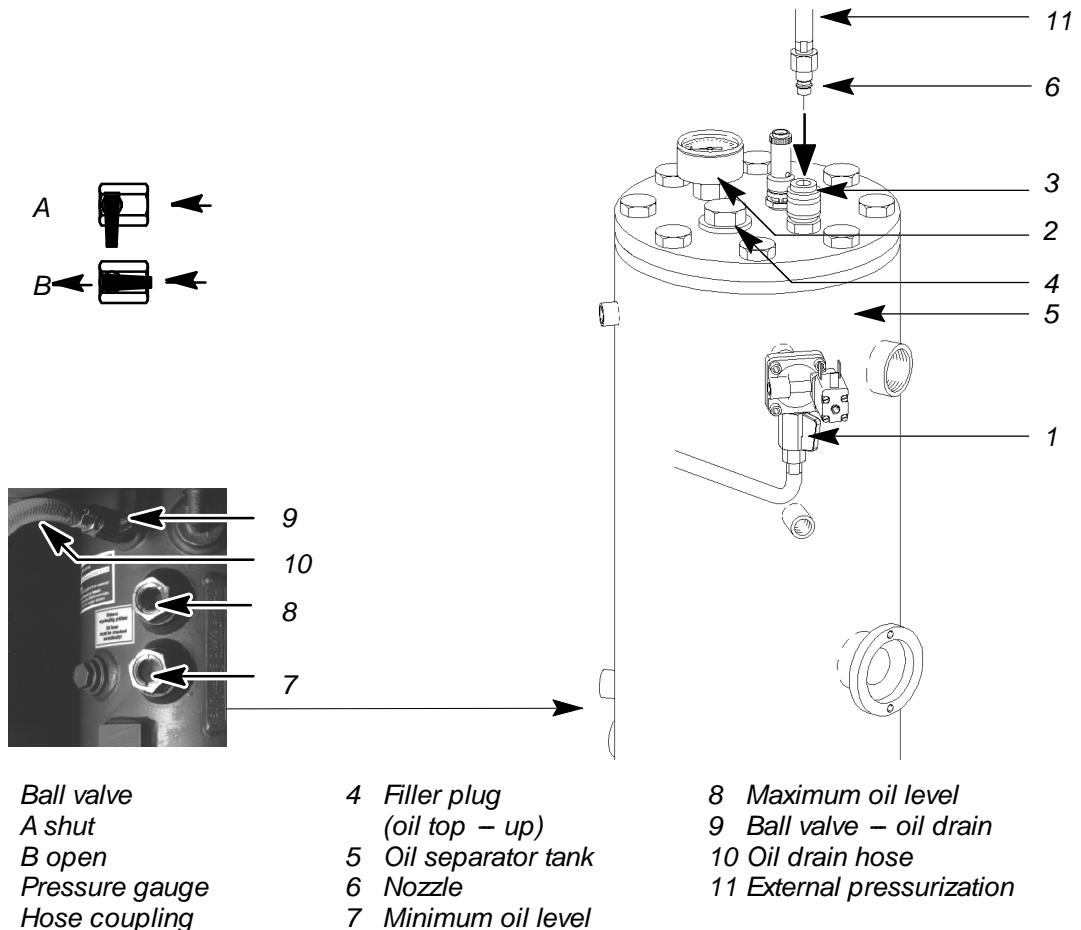
**Attention!**

**If a heat recovery system is fitted drain all the oil in the heat exchanger during the oil change.**

☞ Stop the compressor package under full load (see chapter 8.3).



**Lock the main disconnect in the "off" position in accordance with applicable lock out/tag out procedures (example: OSHA CFR 29 § 1910.147) to ensure the compressor does not restart.**





**Before opening or removing pressurized components (pipes, hoses, tanks, etc.) it is imperative that the compressor package is completely depressurized.**

- ☞ Venting the compressor package (see chapter 9.10).

#### 9.14.1 Oil change using external pressure source

- ☞ Close the ball valve (1).
- ☞ Insert the nozzle (6) in the hose coupling (3) on the oil separator tank (5).
- ☞ Connect the nozzle to external pressure source. Pressurize the oil separator tank (5) until the pressure gauge (2) on the oil separator tank (5) shows approximately 43.5 psig.
- ☞ Remove the nozzle (6) from the hose coupling (3) on the oil separator tank (5).

#### **Drain the oil from the oil separator tank:**

- ☞ Prepare a clean container to catch escaping oil.

**Attention!**

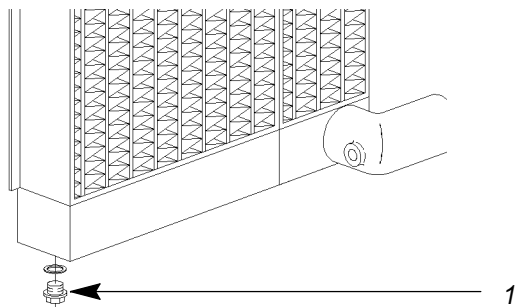
**The container must be large enough to hold the total oil content of the compressor unit (see chapter 1.7).**

- ☞ Hang the oil drain hose (10) into the container and secure.
- ☞ Slowly open the ball valve (9). The remaining pressure in the oil circulation forces out the oil. When air escapes, close the ball valve (9) immediately.



**Before opening or removing pressurized components (pipes, hoses, tanks, etc.) it is imperative that the compressor package is completely depressurized.**

- ☞ Venting the compressor package (see chapter 9.10).



1 Oil drain plug (oil cooler)

#### **Drain the oil from the oil cooler:**

- ☞ Prepare an oil container to catch the escaping oil.
- ☞ Slowly unscrew the oil drain plug (1). The oil drains under the force of gravity.
- ☞ Screw the oil drain plug (1) back in tightly.



**Dispose of the old oil according to environmental regulations.**

**9.14.2 Oil top–off**

- ☞ Unscrew the oil filler plug (4) on the oil separator tank.

**Attention!**

**Always use the same brand and type of oil when topping off the oil. (see label on the oil separator tank).**

**During an oil change, drain the old oil completely and always replace the oil filter.**

**Never mix different oil types or brands.**

**Oil recommendations see chapter 1.8**

- ☞ Top off the oil to the maximum mark.  
See chapter 1.7 for the quantity of oil.
- ☞ Check the gasket ring of the filler plug (4) for damage and then screw in the filler plug.

**9.14.3 Draining the oil using own compressed air**

- ☞ Shut down the compressor unit under full load (see chapter 8.3).



**Lock the main disconnect in the "off" position in accordance with applicable lock out/tag out procedures to ensure the compressor does not restart.**

**Lock the isolation shut–off valve in the "closed" position and vent all compressed air trapped between the compressor and the isolation shut–off valve in accordance with applicable lock out/ tag out procedures.**

The compressor unit oil circulation system vents automatically.

- ☞ The pressure gauge on the oil separator tank must indicate zero psig.
- ☞ Close the vent line ball valve (1).



**Close all maintenance doors and panels correctly before starting the compressor package.**

- ☞ Start the compressor package (see chapter 8.3) and allow to run for approximately 30 seconds.
- ☞ Stop the compressor package under full load (see chapter 8.3).



**Lock the main disconnect in the "off" position in accordance with applicable lock out/tag out procedures (example: OSHA CFR 29 § 1910.147) to ensure the compressor does not restart.**

- ☞ Check the actual pressure on the pressure gauge (2). Open the shut–off valve (1), let the pressure on the pressure gauge (2) sink to approximately 40 psig and then close the shut–off valve (1) again.
- ☞ Drain the oil from the oil separator tank and the oil cooler. Proceed as detailed in chapter 9.14.1).
- ☞ Open the shut–off valve (1).
- ☞ Top off the oil. Proceed as detailed in chapter 9.14.2).



#### 9.14.4 Procedure for putting back into operation

- ☞ Refer to chapter 7.8.1 and follow the instructions in section “Pouring a small quantity of oil into the air inlet port” .
- ☞ Refer to chapter 7.8.2 and follow the instructions in section “Running the compressor package in idle”.
- ☞ Refer to chapter 9.10 and follow the instructions in section “Venting the compressor package”.
- ☞ Top off with oil again (see chapter 9.14.2).
- ☞ Open the shut-off valve between the compressor package and the air system.
- ☞ Start the compressor package (see chapter 8.3) and run until working temperature is reached (see chapter 1.1).
- ☞ Top off the oil, see chapter 9.12.



#### **Perform a test run**

**When the operating temperature is reached (see chapter 1.1), shut down the compressor package (see chapter 8.3) and lock the main disconnect in the “off” position in accordance with applicable lock out/tag out procedures (example: OSHA CFR 29 § 1910.147) to ensure the compressor does not restart.**

**Afterwards, carry out a visual check for leaks.**

#### 9.15 Changing the Oil Separator Cartridge

The service life of the oil separator cartridge is strongly influenced by the degree of contamination of inlet air and on strict adherence to the recommended maintenance intervals of the air and oil filters.

We recommend that the oil separator cartridge is changed with the oil or when the relevant service message / alarm message is displayed on SIGMA CONTROL (see chapter 8.1).

- ☞ Stop the compressor package under full load (see chapter 8.3).

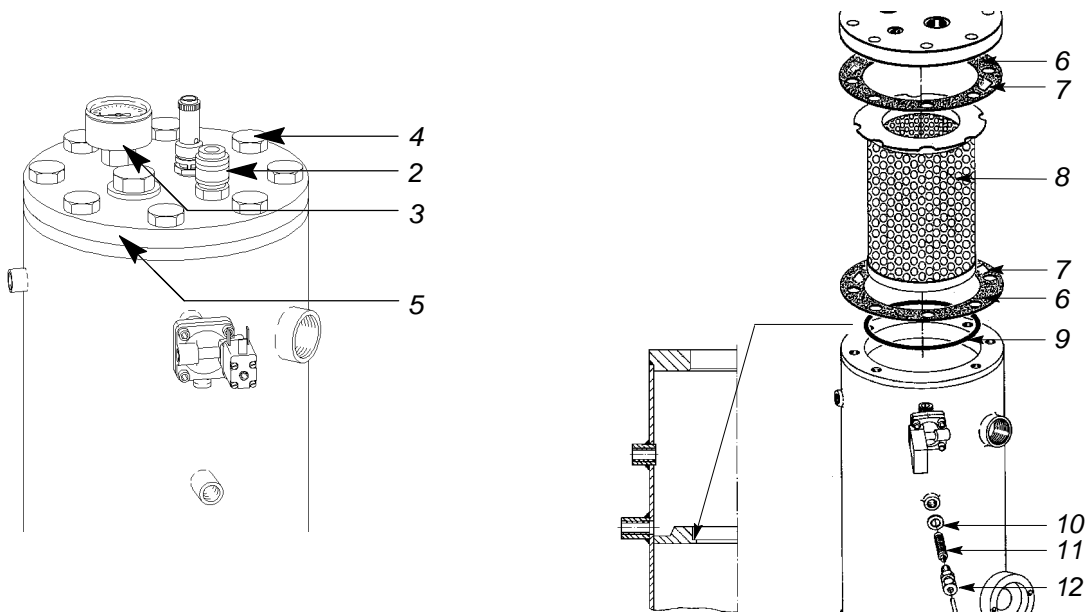


**Lock the main disconnect in the “off” position in accordance with applicable lock out/tag out procedures (example: OSHA CFR 29 § 1910.147) to ensure the compressor does not restart.**



**Before opening or removing pressurized components (pipes, hoses, tanks, etc.) it is imperative that the compressor package is completely depressurized.**

- ☞ Venting the compressor package (see chapter 9.10).



2 Hose coupling  
3 Pressure gauge  
4 Hexagonal nut

5 Cover  
6 Gasket  
7 Staple  
8 Oil separator cartridge

9 O-Ring  
10 Gasket  
11 Dirt trap screen filter  
12 Screw fitting with jet



**Do not remove the staples (7) in the gaskets (6).**

**The metal parts of the oil separator cartridge are electrically conductive and thus have to be grounded:**

**The gaskets (6) are supplied with heavy staples to provide an electrical path from the oil separator tank to the frame of the compressor unit.**

- ☞ Unscrew the hexagonal bolts (4) and remove cover plate (5).



**Dispose of the used oil separator cartridge according to environmental regulations!**

- ☞ Take out the old oil separator cartridge (8) together with the gaskets (6) and O-ring (9). Dispose of the old parts according to environmental regulations.
- ☞ Clean the sealing surfaces of the oil separator tank.

**Attention!**

**When cleaning the sealing surfaces, make sure that no dirt particles fall into the oil separator tank.**

**The oil separator cartridge is a disposable item and cannot be cleaned.**

- ☞ Insert the new O-ring (9) in the groove in the oil separator tank.
- ☞ Insert the new oil separator cartridge (8) with new gaskets (6), fit and tighten down the cover plate (5) with the hexagonal bolts (4).
- ☞ Replace the screen filter (11) and the gasket (10) when the oil separator cartridge (8) is replaced.
- ☞ Open the isolation shut-off valve between the compressor and the compressed air system.

**Perform a test run**

When the operating temperature is reached (see chapter 1.1), shut down the compressor package (see chapter 8.3) and lock the main disconnect in the "off" position in accordance with applicable lock out/tag out procedures (example: OSHA CFR 29 § 1910.147) to ensure the compressor does not restart.

Afterwards, carry out a visual check for leaks.



**10 Spare Parts and After Sales Service**

**10.1 Service parts and maintenance parts**



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 agent.

<b>KAESER</b> COMPRESSORS		
Model		Part No.
Year		Serial No.
psig	cfm	Voltage
Hz/RPM		Package FLA
Phase	HP	Drive Motor FLA
Wiring Diagram		
FOR SERVICE, REFER TO EQUIPMENT NUMBER		MADE IN GERMANY

**Important for spare parts orders:**

☞ Enter the data on the compressor name plate in the name plate shown above.

**Always** quote the data on the name plate when ordering spare parts.

**Attention!**

**Always order original spare parts from the compressor manufacturer to avoid lower quality spare parts in your compressor unit.**

Supplementary information for specialised personnel concerning spare parts is found in chapter 11.2.

Description	Qty.	Order No.
Oil filter cartridge	1	1200
Air filter cartridge	1	1250
Filter mat	1	1050

Oil separator cartridge Complete set	1	1450
Comprising:		
Separating cartridge	1	
Gasket	2	
O Ring	1	
Dirt screen filter	1	
Gasket	1	
V-belt set	1	1800

**10.2 Service and Maintenance Agreement**

We recommend that you take out a service and maintenance agreement with an authorized KAESER distributor. This is your best guarantee of reliable air supplies.

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**11 Appendix**

**11.1 Wiring Diagram**

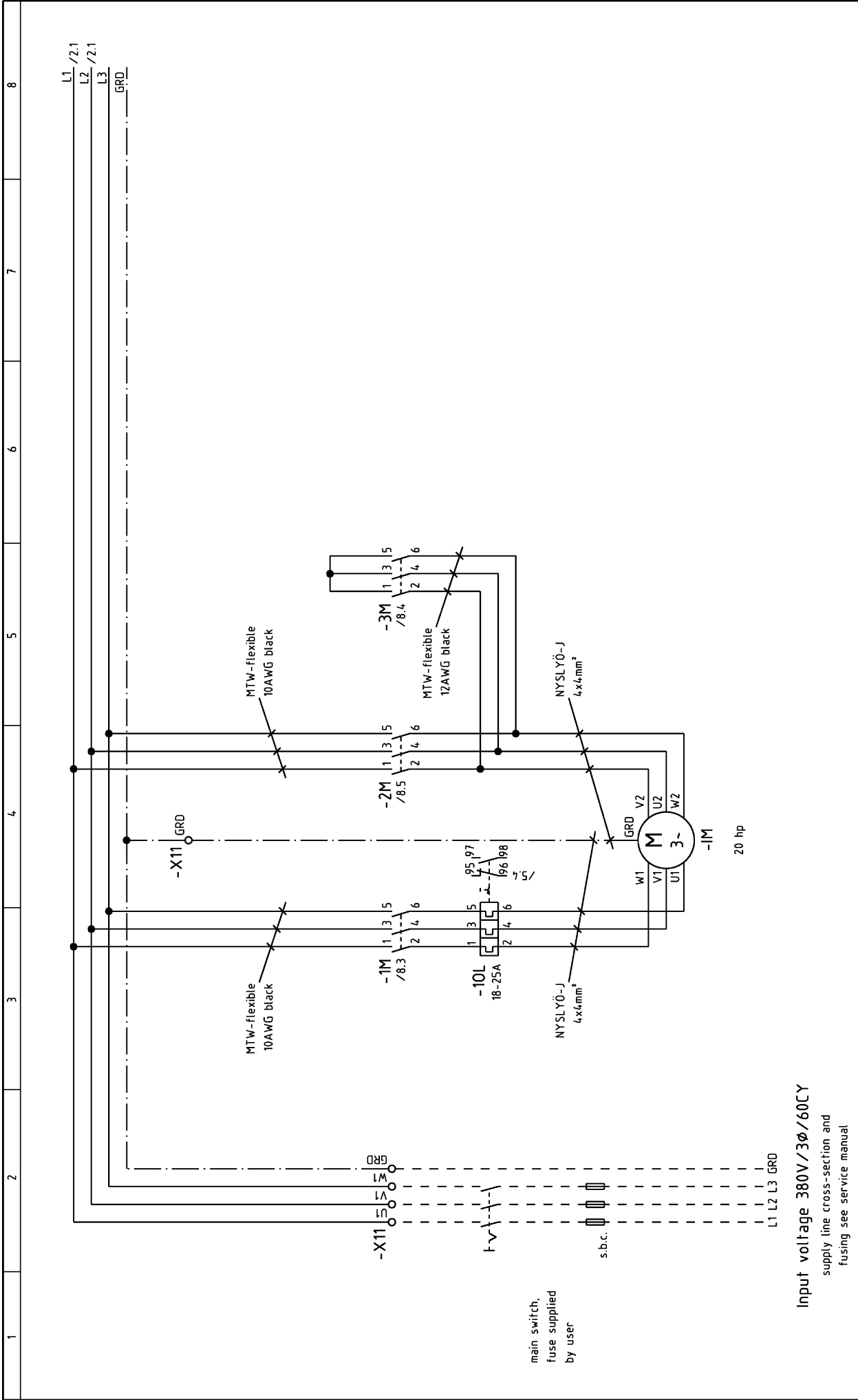




Lfd. Nr. No.	Benennung Name	Zeichnungsnummer (Kunde) Drawing No. (customer)	Zeichnungsnummer (Hersteller) Drawing No. (manufacturer)	Blatt Page	Anlagenkennzeichen Unit designation
1	cover page		D5K26.Y-U1016.01	1	=01
2	list of contents		Z5K26.Y-U1016.01	1	=01
3	block diagram		U5K26.Y-U1016.01	1	=01
4	wiring diagram	power unit	S5K26.Y-U1016.01	1	=01
5	wiring diagram	control voltage tapping	S5K26.Y-U1016.01	2	=01
6	wiring diagram	power supply unit	S5K26.Y-U1016.01	3	=01
7	wiring diagram	mother board/inputs	S5K26.Y-U1016.01	4	=01
8	wiring diagram	mother board/inputs	S5K26.Y-U1016.01	5	=01
9	wiring diagram	mother board/inputs	S5K26.Y-U1016.01	6	=01
10	wiring diagram	mother board/outputs	S5K26.Y-U1016.01	7	=01
11	wiring diagram	mother board/outputs	S5K26.Y-U1016.01	8	=01
12	component legend		S5K26.Y-U1016.01	9	=01
13	electrical component parts list	controller	G5K26.Y-U1016.01	1	=01
14	terminal connection	terminal strip -X11,-X2	K5K26.Y-U1016.01	1	=01
15	terminal connection	terminal strip -X14,-X15	K5K26.Y-U1016.01	2	=01
16	lay-out	control panel	A5K26.Y-U1016.01	1	=01

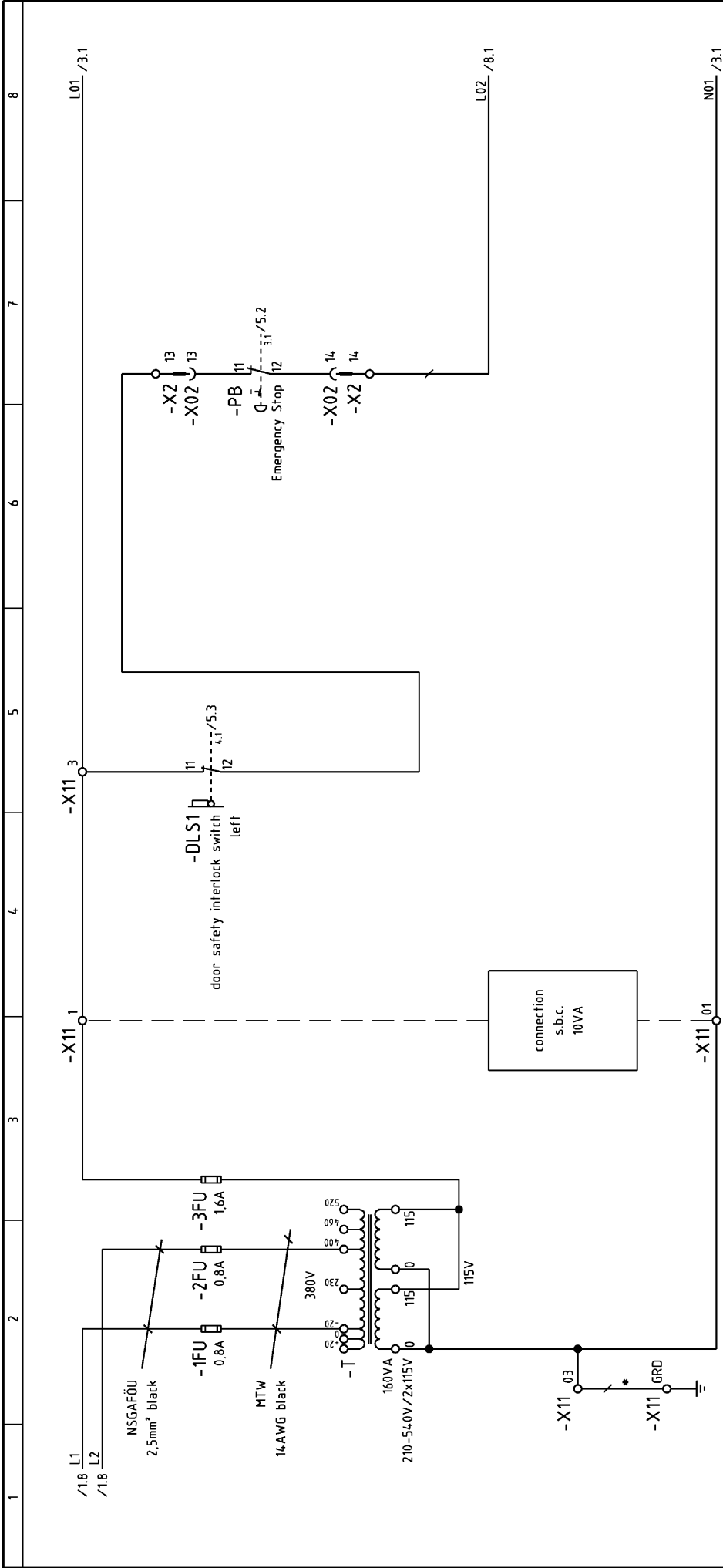
c	Datum	30.01.2001	list of contents		=01
b	Bearb.	Werner	compressor SK 26		*
a	Gepr.	Fischer	KAESE KOMPRESSOREN		ZSK26.Y-U1016.01
B. Änderung	Datum	Name	Ursprung: USKU1014	Ersatz durch:	Ersatz für:
					Blatt 1
					Bl.





Input voltage 380V/3Ø/60CY  
 supply line cross-section and fusing see service manual

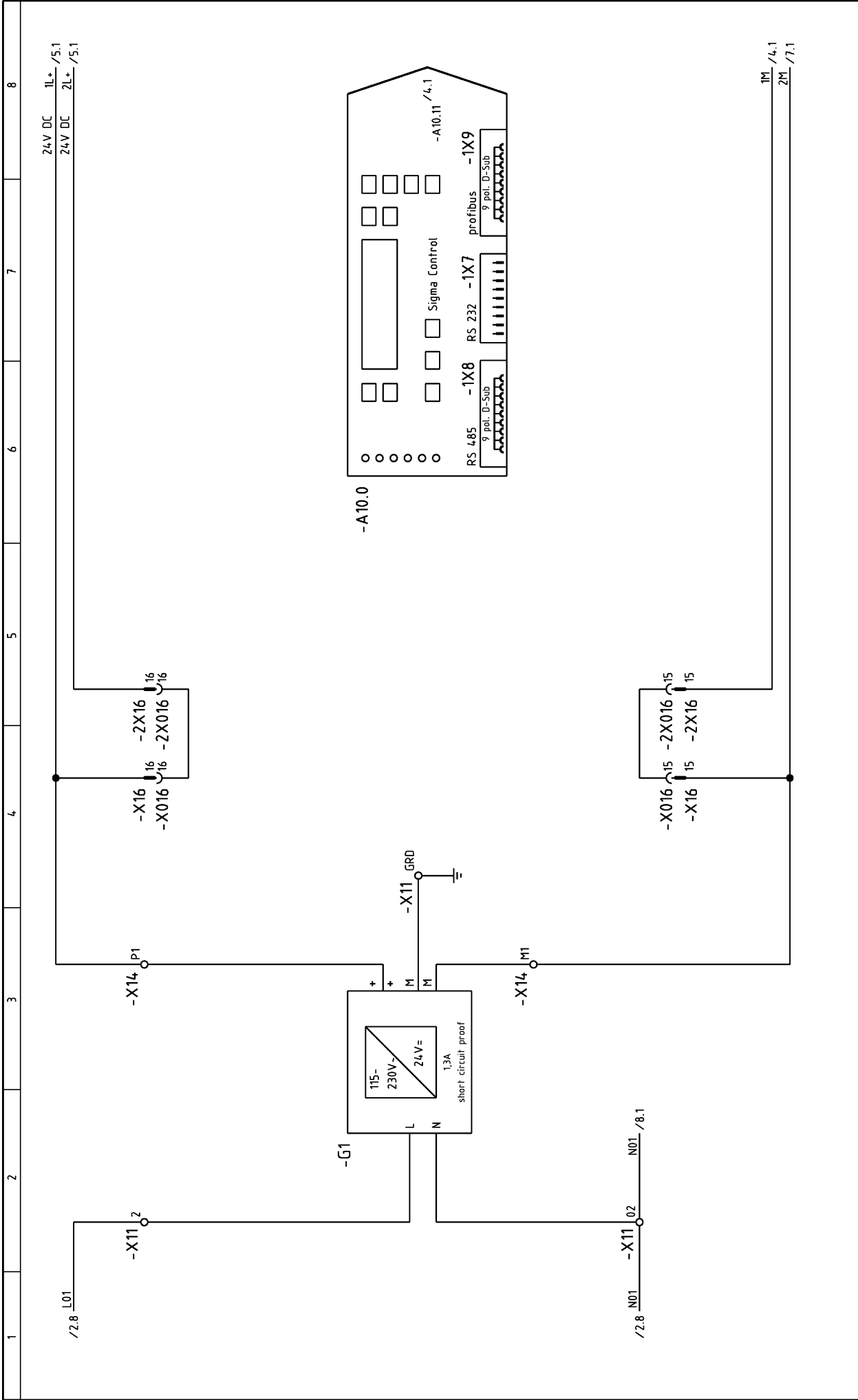
Function:		Input voltage	
Group of function:		Datum	30.01.2001
c		Bearb.	Werner
a		Gepr.	Fischer
D	Änderung	Datum	Norm
		Ersatz durch:	
		Ursprung:	USKU1014
		wiring diagram	
		compressor SK 26	
		power unit	
		SSK26.Y-U1016.01	
		=01	*
		Blatt 1	Bl.



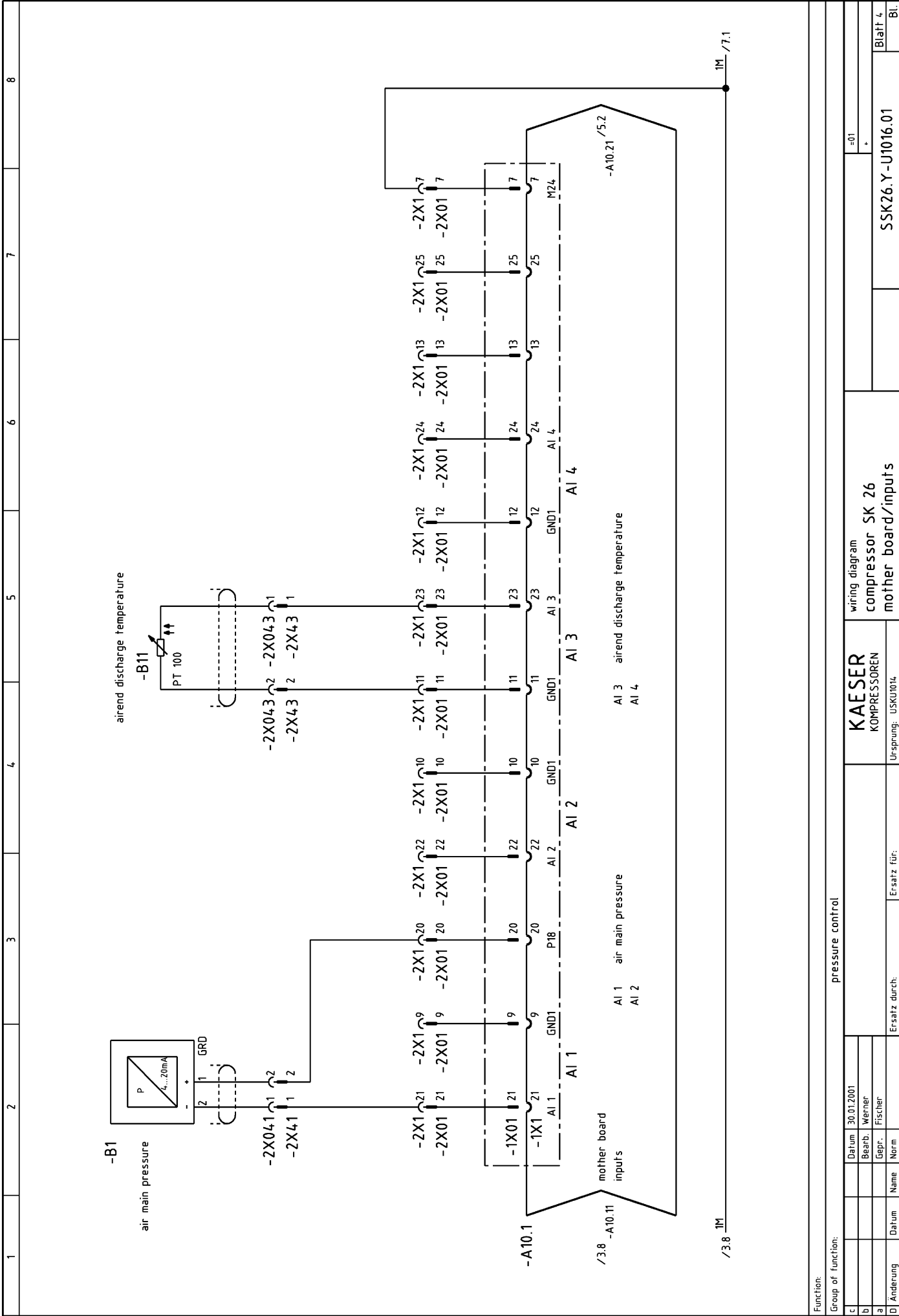
Secondary side is ground.  
 \* While extracting the connecting cable control of insulation is required.

control cabinet wiring:  
 all non-designated conductors  
 115V AC: 16AWG red MTW-flexible  
 24V DC: 18AWG blue MTW-flexible

Function:		115V/1-/60CY		door safety interlock switch		Emergency Stop	
Group of function:		control voltage tapping		safety chain			
c	Datum	30.01.2001		wiring diagram		=01	
b	Bearb.	Werner		compressor SK 26		+	
a	Gepr.	Fischer		control voltage tapping		SSK26.Y-U1016.01	
D	Änderung	Datum	Name	Norm	Ersatz durch:	Blatt 2	
						Bl.	

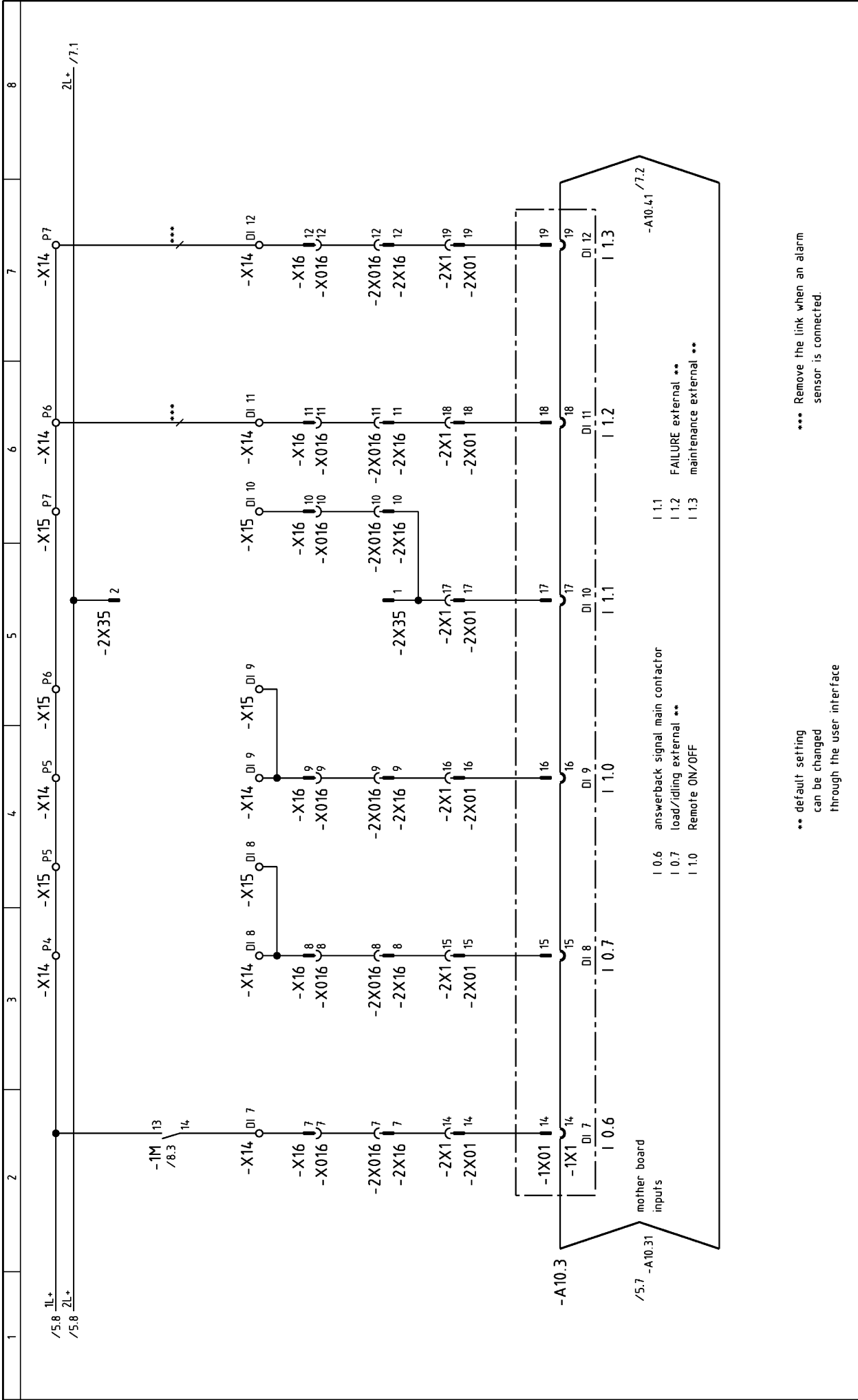


Function:		24V DC		transfer module		adapter 1	
Group of function:		control voltage tapping		KAESER		wiring diagram	
c		Datum	30.01.2001	KOMPRESSOREN		compressor SK 26	
b		Bearb.	Werner	URSPRUNG: USKU1014		power supply unit	
a		Gepr.	Fischer	Ersatz durch:		Blatt 3	
d	Änderung	Datum		Ersatz für:		Bl.	
				SSK26.Y-U1016.01			



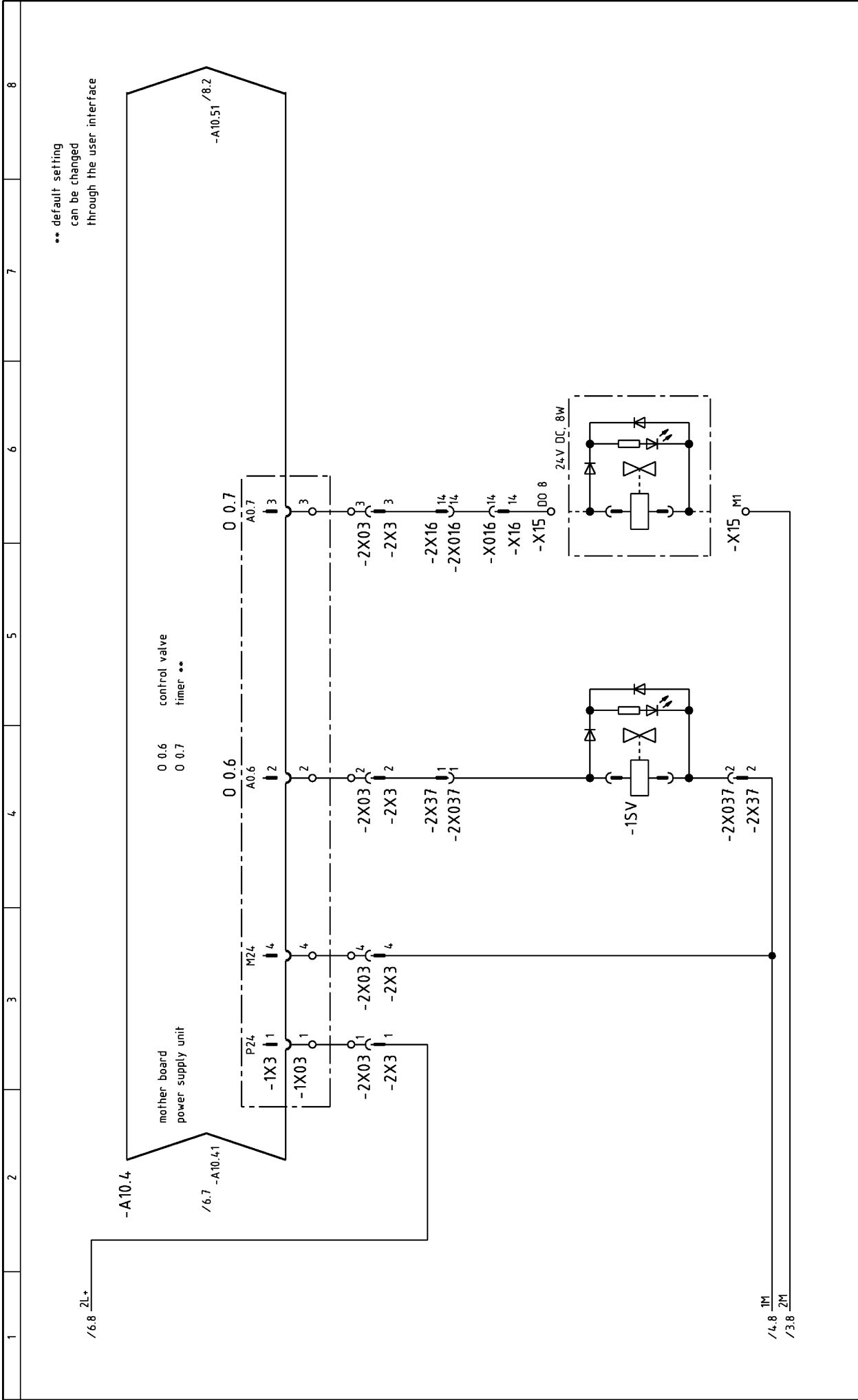
Function:		pressure control	
Group of function:		wiring diagram	
c	Datum	30.01.2001	=01
b	Bearb.	Werner	*
a	Gepr.	Fischer	
D	Änderung	Datum	Norm
		Ersatz durch:	Ersatz für:
		KAESER	
		KOMPRESSOREN	
		compressor SK 26	
		mother board/inputs	
		SSK26.Y-U1016.01	
		Blatt 4	
		Bl.	





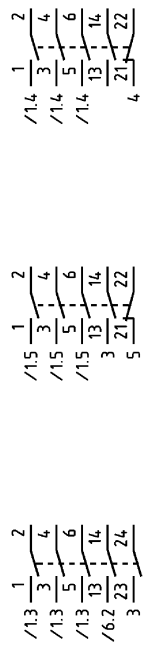
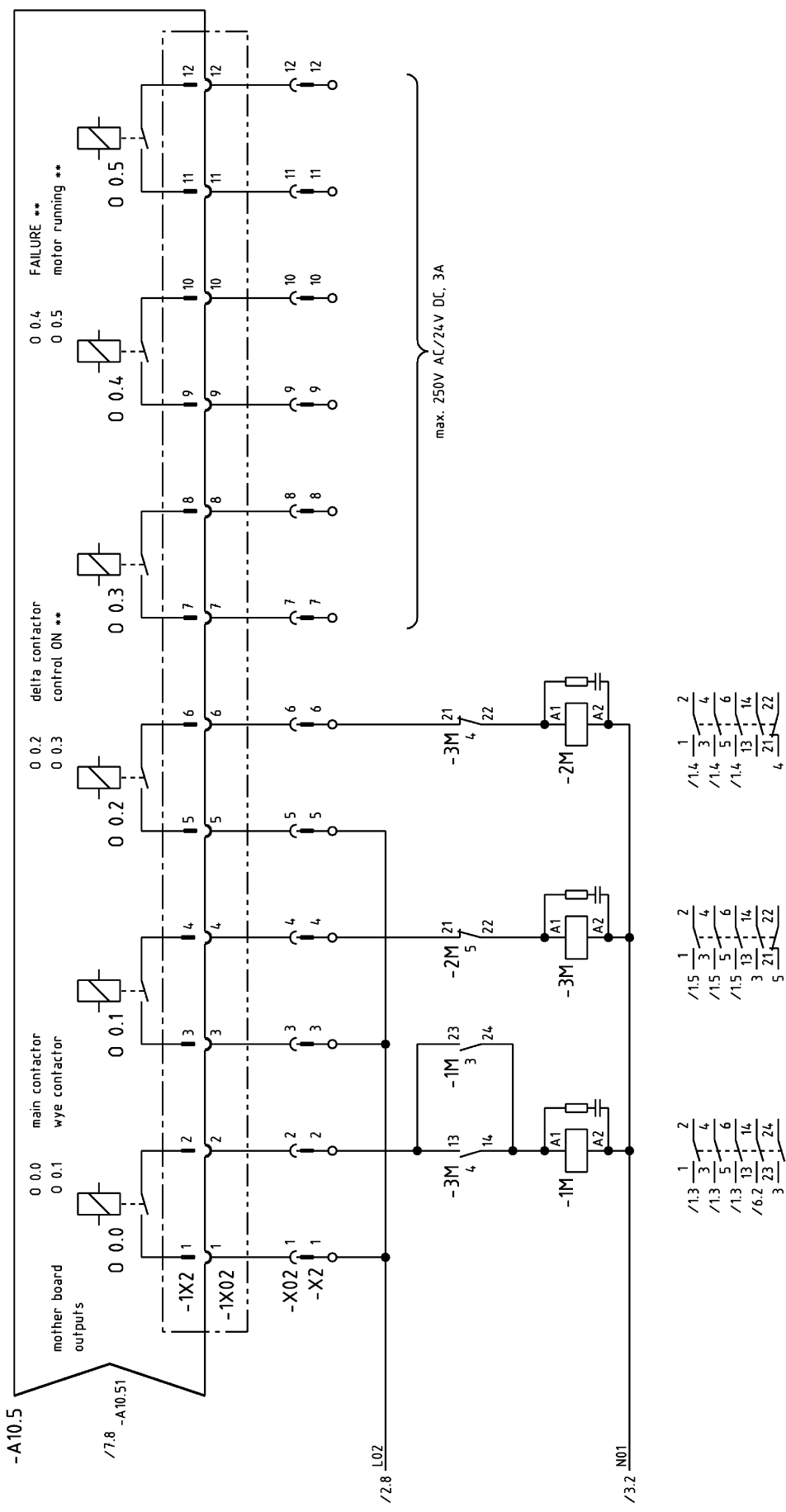
Function:		alarm/maintenance indications	
Group of function:		wiring diagram	
c	Datum	30.01.2001	=01
b	Bearb.	Werner	*
a	Gepr.	Fischer	
D   Änderung	Datum	Name	Norm
		Ersatz durch:	Ursprung: USKU1014
		KAESER KOMPRESSOREN	
		compressor SK 26	
		mother board/inputs	
		SSK26.Y-U1016.01	
		Blatt 6	
		Bl.	





Function:		condensate drain, User's connection	
Group of function:		mother board	
c	Datum	30.01.2001	=01
b	Bearb.	Werner	*
a	Gepr.	Fischer	
D	Änderung	Name	SSK26.Y-U1016.01
	Datum	Ersatz durch:	Blatt 7
			Bl.

\*\* default setting  
can be changed  
through the user interface



Function:		wye-delta changeover		Volt-free contacts, user's connection	
Group of function:		wiring diagram	compressor SK 26		=01
c	Datum	30.01.2001			*
b	Bearb.	Werner			
a	Gepr.	Fischer			
D	Änderung	Name	Norm	SSK26.Y-U1016.01	Blatt 8
	Datum				Bl.
	Ersatz durch:		Ursprung: USKU1014		
	Ersatz für:				

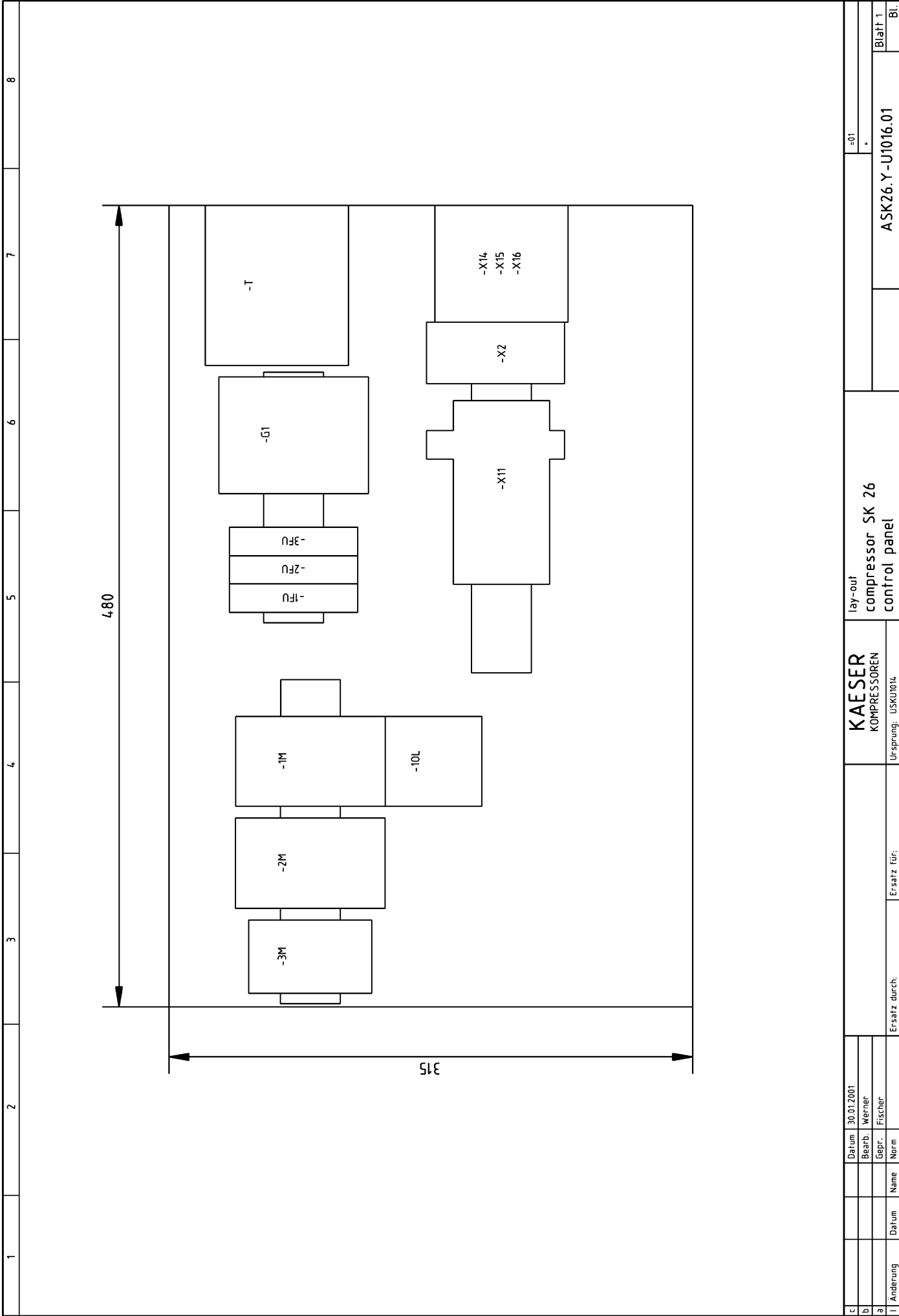
1	2	3	4	5	6	7	8
-A10	Sigma Control		-1X01...-1X03	connector plug, Sigma Control			
-A10.1...-A10.5	mother board, inputs/outputs		-2X1,-2X3	connector strip adapter 1, inside			
-G1	power unit		-2X16	connector strip adapter 1, inside			
-1M	main contactor		-2X01,-2X03	connector plug adapter 1, inside			
-2M	delta contactor		-2X016	connector plug adapter 1, inside			
-3M	wye contactor		-2X31...-2X43	connector strip adapter 1, external			
-1M	compressor motor		-2X031...-2X043	connector plug adapter 1, external			
-1FU,-2FU	primary control fuse		-1SV	control valve			
-3FU	secondary control fuse						
-PB	emergency stop pushbutton						
-DLS1	door safety interlock switch						
-T	control transformer						
-X11	terminal strip, control						
-X2	terminal strip, outputs/Volt-free contacts		-10L	motor overload relay			} automatic shutdown and indicating function
-X14,-X15	terminal strip, digital inputs transfer module 1		-SAPS	safety air pressure switch - direction of rotation			
-X16	connector strip digital inputs transfer module 1		-B11	temperature probe aierend discharge temperature			
-X016	connector plug, transfer module 1						
-X02	connector plug, outputs/Volt-free contacts		-B1	pressure transducer, air main pressure			} indicating function
-1X1...-1X3	connector strip Sigma Control, mother board						
-1X7...-1X9	connector strip Sigma Control, interface						
<b>malfunction indicators</b>							

c	Datum	30.01.2001		component legend	-01
b	Bearb.	Wiener		compressor SK 26	*
a	Gepr.	Fischer			
E	Änderung	Datum	Name	Norm	Ursprung: USKU1014
					SSK26.Y-U1016.01
					Blatt 9
					Bl.









c	Datum	30.01.2001	lay-out	-01
b	Bearb.	Werner	compressor SK 26	*
a	Gepr.	Fischer	control panel	
l	Änderung	Name	Ersetzt durch:	Blatt 1
		Datum	Ersetzt für:	Bl.
			Ursprung: USKU1014	
			ASK26.Y-U1016.01	

11.2 Spare Parts List



**KAESER**

<http://www.kaeser.com>

Dok.Nr. SEL-1012\_01D

## Ersatzteilliste

Schraubenkompressor Typ SK

## Spare parts list

Rotary screw compressor series SK

## Liste de pièces de rechange

Compresseur à vis Type SK

## Lista de las piezas de recambio

Compresor de tornillo modelo SK

**Inhalt** Ersatzteilzeichnung und Legende  
Wartungspakete

**Contents** Spare parts drawing and legend  
Maintenance packages

**Contenu** Vue éclatée 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 série**

### **ACHTUNG !**

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

### **ATTENTION !**

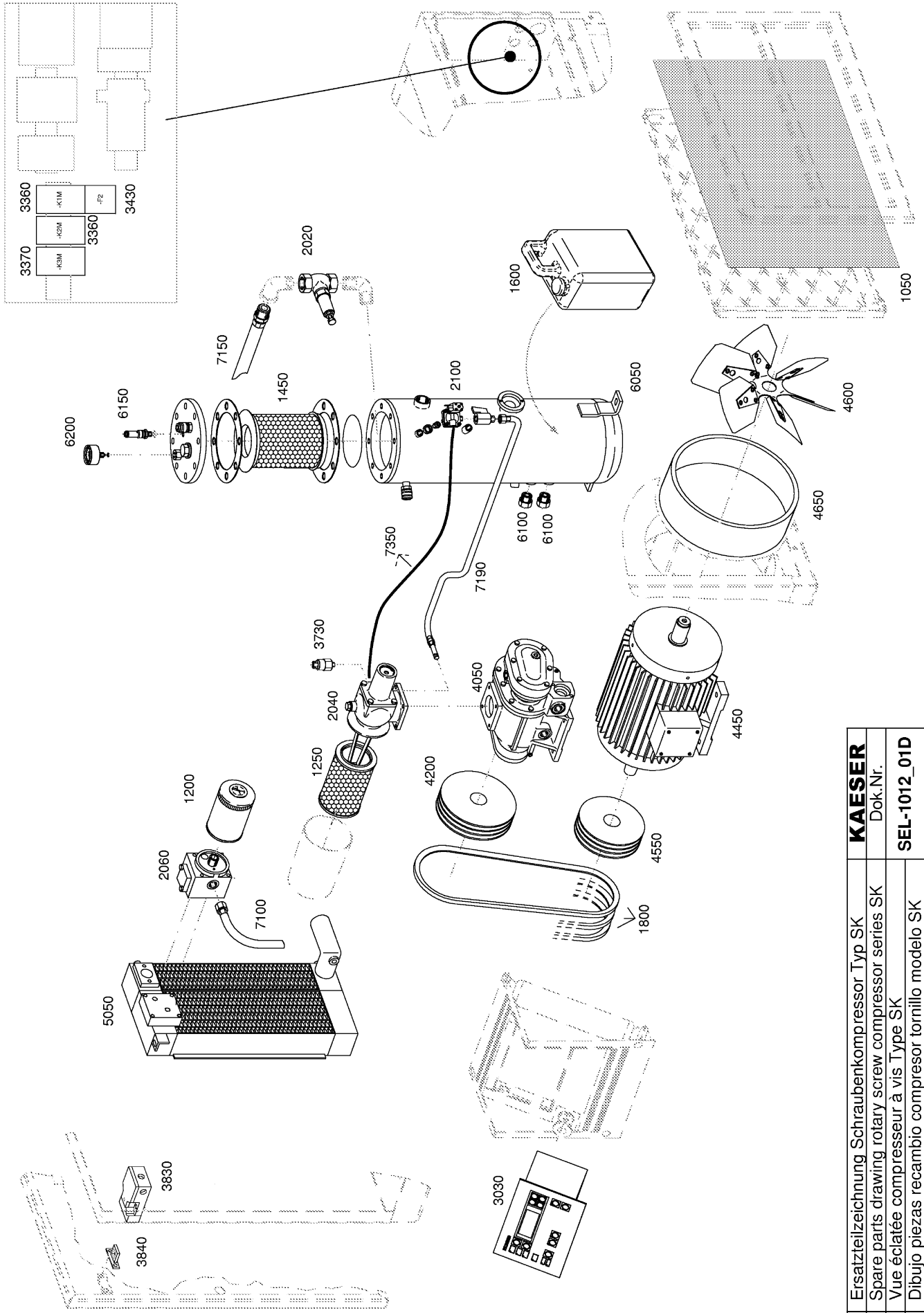
Please quote the part number and serial number of the package together with the item number and the description of the part when ordering.

### **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.

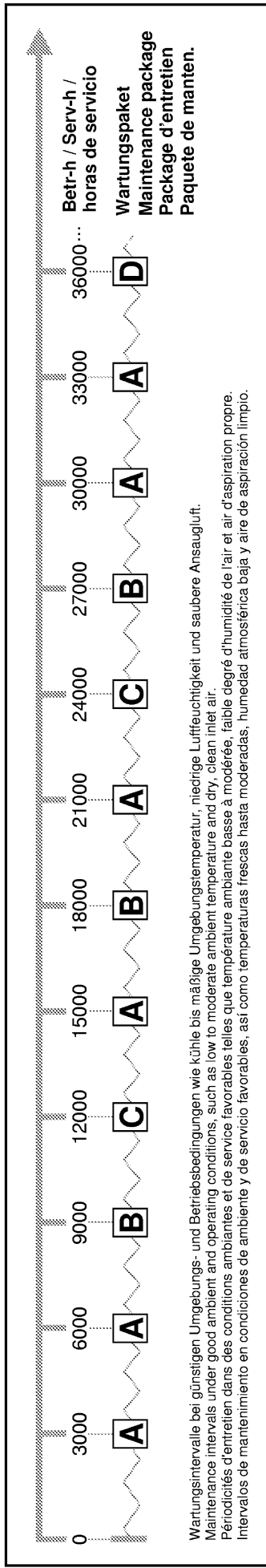
### **¡ ATENCION !**

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 SK	<b>KAESER</b>
EN	Spare parts drawing rotary screw compressor series SK	Dok.Nr.
FR	Vue éclatée compresseur à vis Type SK	<b>SEL-1012_01D</b>
ES	Dibujo piezas recambio compresor tornillo modelo SK	

Nr./No.	Stck/Qty	Bezeichnung	Description	Désignation	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	Luftfilterpatrone	Air filter element	Cartouche du filtre à air	Cartucho filtrante de aire
1450	1	Ölabscheidepatrone kpl.	Oil separator cartridge cpl.	Agent séparateur cpl.	Cartucho separador de aceite cpl.
1600	1	Kühlmittel	Coolant	Agent réfrigérant	Fluido refrigerante
1800	1	Keilriemensatz	Set of V-belts	Jeu de courroies trapézoïdales	Juego de correas trapezoidales
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	Kit de reparación
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	Kit de reparación
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	Kit de reparación
2100	1	Kombiniertes Entlüftungs-Hilfsventil kpl.	Combination valve cpl.	Vanne thermostat.	Válvula combinada
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
3030	1	Kompressorsteuerung Sigma Control	com.aux./vent.valve	Van. aux. décharge	Vál.aux.comb.desp.
3360	2	Schutz (-K1M, -K2M)	Sigma Control compressor controller	Sigma Control	Sigma Control
3370	1	Schutz (-K3M)	Contact (-K1M, -K2M)	Contacteur (-K1M, -K2M)	Contact (-K1M, -K2M)
3430	1	Überstromauslöser Antriebsmotor	Drive motor overcurrent relay	Relais de surcharge moteur de commande	Relé de sobreintensidad motor de accionamiento
3730	1	Sicherheitsdruckschalter kpl.	Safety pressure switch cpl.	Pressostat de sécurité cpl.	Presostato de seguridad cpl.
3732	1	Schutzkappe	Protective cap	Protection caoutchouc	Cubierta de protección
3830	1	Türenschar	Door interlock switch	Contact de sécurité de porte	Interruptor final de puerta
3840	1	Betätiger für Türenschar	Door interlock switch activator	Commande du contact de sécurité de porte	Accionador para interruptor final de la puerta
4050	1	Tauschblock kpl.	Exchange airtend cpl.	Bloc échange standard cpl.	Bloque de cambio cpl.
4052	1	Gleitringdichtung kpl.	Sliding ring seal cpl.	Joint tournant cpl.	Cierre de anillo deslizante
4100	1	Montage-Kit Tauschblock	Exchange airtend fitting kit	Kit montage bloc	Kit montaje bloque de cambio
4200	1	Keilriemenscheibe Block	Airtend 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.	Despós.separ.aceite cpl.
6100	2	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	Refrigerador bloque
7150	1	Ölabscheideb. -Luftkühler	oil separator-air cooler	Réservoir sépar.d'huile - Refroid.d'air	Depósito sep.de aceite refrige.de aire
7190	1	Schlauchleitung	Hose line	Tuyau flexible	Tubo flexible
7350	1	Steuerleitungs-Kit	com.aux.vent.valve-inlet valve control line kit	Van.aux.décharge-Soup.d'aspi.d'air Kit conduite de régulation	Vál.aux.comb.desp.-Vál. de admisión 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.  
 Périodicités 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 périodicités 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	<b>A</b>
Nr. / No.	Stück / Qty.
1050	1
1200	1
1250	1
1450	1
1600*)	1

Wartungspaket Maintenance package Package d'entretien Paquete de mantenimiento	<b>B</b>
Nr. / No.	Stück / Qty.
1050	1
1200	1
1250	1
1450	1
1600*)	1

Wartungspaket Maintenance package Package d'entretien Paquete de mantenimiento	<b>C</b>
Nr. / No.	Stück / Qty.
1050	1
1200	1
1250	1
1600*)	1
1800	1
2022	1
2042	1
2062	1
2102	1
447	1
448	1

Wartungspaket Maintenance package Package d'entretien Paquete de mantenimiento	<b>D</b>
Nr. / No.	Stück / Qty.
1050	1
1200	1
1250	1
1450	1
1600*)	1
1800	1
2024	1
2044	1
2064	1
2104	1
447	1
448	1
7100	1
7150	1
7190	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 Schraubekompressor Typ SK	<b>KAESER</b>
EN	Maintenance packages rotary screw compressor series SK	Dok.Nr.
FR	Package d'entretien courant compresseur à vis Type SK	
ES	Paquetes de mantenimiento compresor de tornillo modelo SK	<b>SEL-1012_01D</b>

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