SERVICE MANUAL USE

Refrigerated Dryer

Model: TA 5

GL–Nr.: 1_8026_2–00 01

Serial No.: .....

KAESER COMPRESSORS

Table of Contents

Chapter – Page

Table of Contents

1 Technical Specification

1.1 Refrigerated Dryer

Model	TA 5	
Condensate volume under nominal conditions*	6	oz/h
Weight	175	lbs
Cooling air volume	360	cfm
Noise level to CAGI–Pneurop at 1 m distance (free sound field measurement)	< 70	dB(A)

*See chapter 1.2 for nominal conditions.

Drawings:

P & I flow chart (Pipework and instrument flow chart)	FKTTA5–00007.00
Electrical diagram	STA–U0900.00
Dimensional drawing	T8846.01

1.2 Compressed Air System

Flow volume	20	scfm
Pressure drop	1.2	psid
Pressure dewpoint	35	˚F

at 100 ˚F air inlet, 100 psig and 100 ˚F ambient temperature.

Maximum gauge working pressure	230	psig

1.3 Refrigerant System

Refrigerant	R 134a	
Maximum quantity	0.7	lbs
Permissible gauge working pressure	260	psig

1.4 Installation Requirements

Max. elevation above sea level of installation (for all elevations above please contact authorized KAESER distributor)	3000	ft.
Min. ambient temperature	40	˚F
Max. ambient temperature	110	˚F
Maximum compressed air inlet temperature	130	˚F

1.5 Connections

Compressed air outlet	3/4 NPT
Condensate drain connection (hose connection)	1/4”
Service connection (Schrader valve)	7/16 UNF

1.6 Electrical Connection

Main voltage	115	V ± 10 % 1–phase

Full load current, FLA	4.2	A
Frequency	60	Hz
Recommended main disconnect fuses (Dual element or time–delay)	15	A
Recommended power supply cable (Cu multi–stranded) cross–section	14	AWG

Attention!

Maximum dual element time--delay fuses are selected according to 1996 N.E.C. Article 240--6, 430--52 and Tables 430--148 & 150.

Select multi--strand copper core wire at 40˚C ambient temperature according to 1996 N.E.C. 110--14(c), 220--3, 310--15, Table 310--16, 430--6, 430--22 and Tables 430--148 & 150.

1.7 Settings

Safety pressure switch (refrigerant)

switching point (fixed)

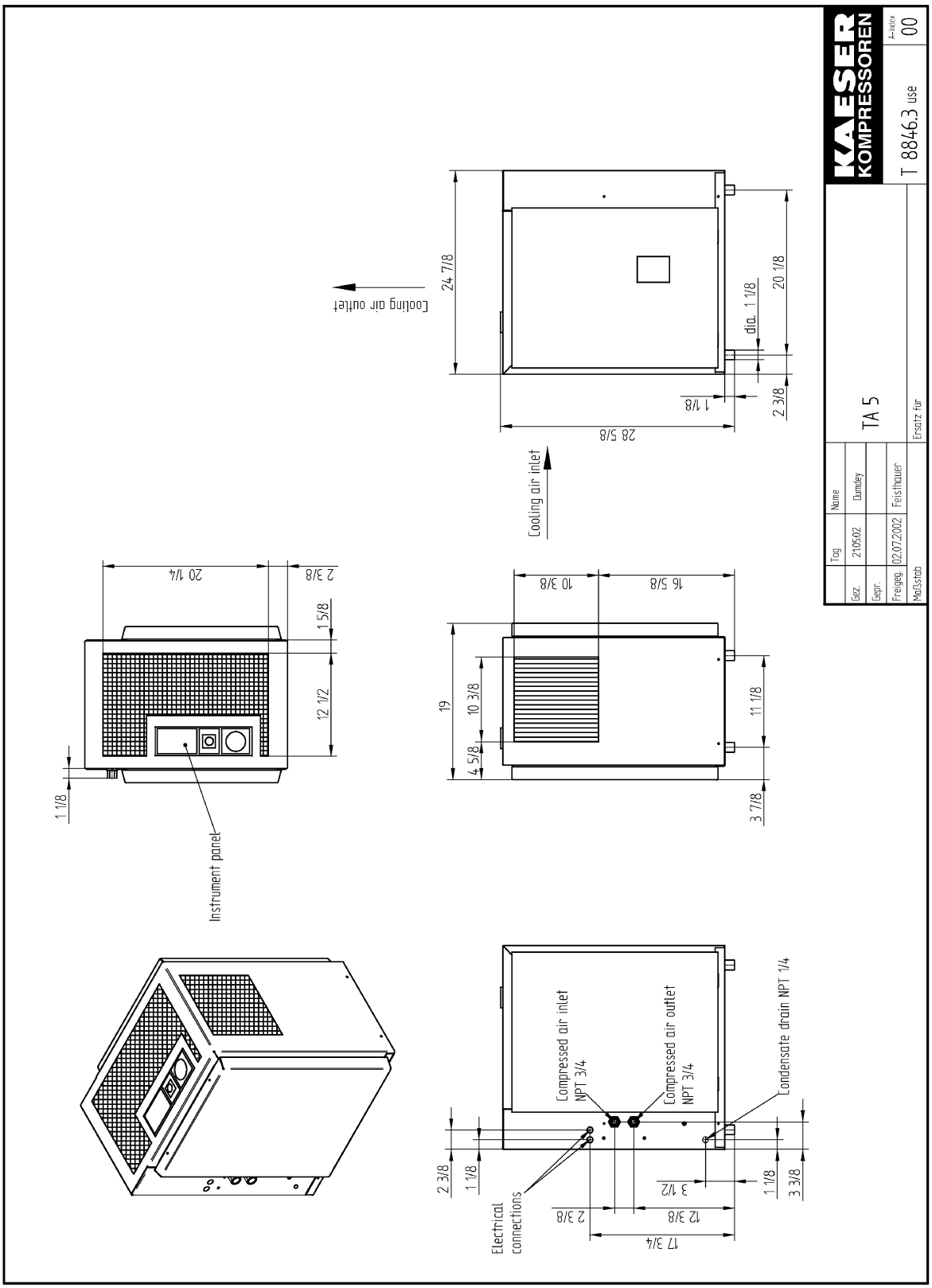
P_{OFF} ..... 265 psi

Thermostat

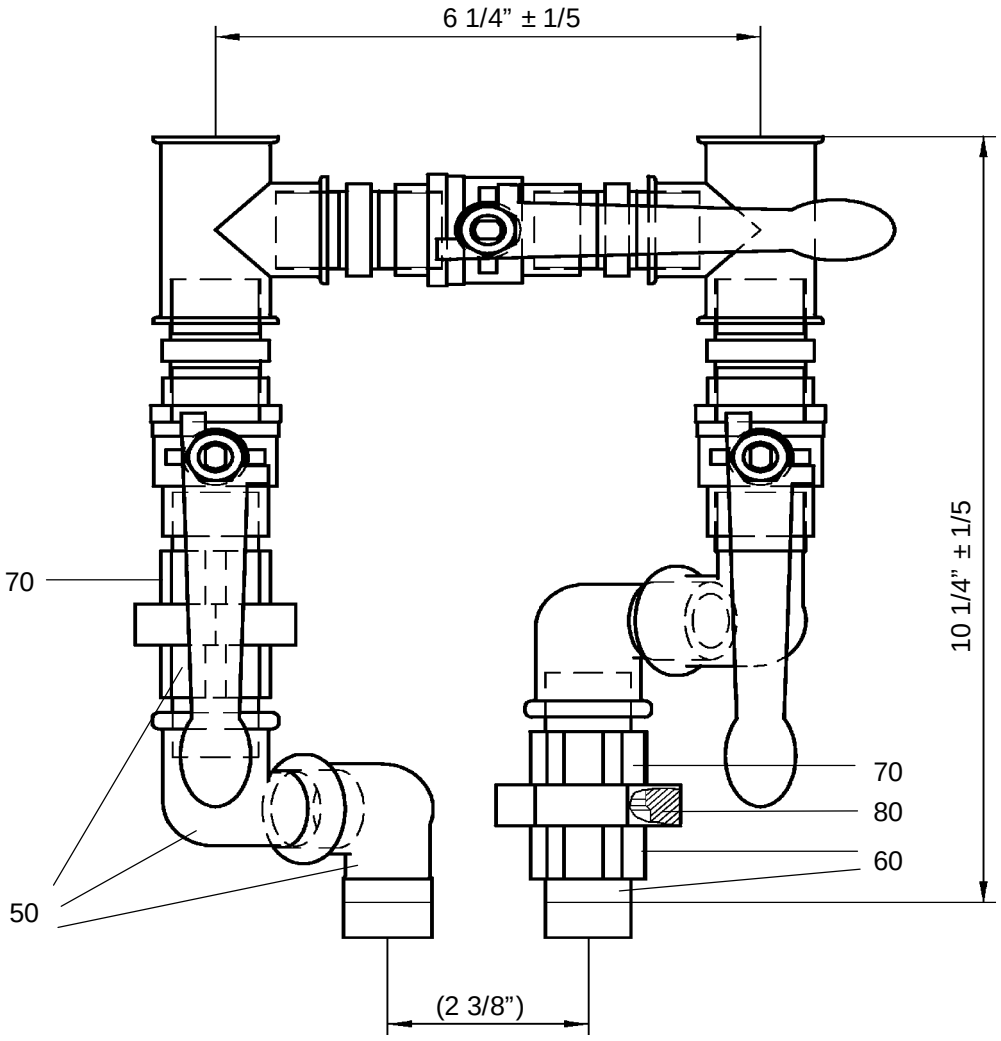
regulates pressure dewpoint to ..... ca. 35 ˚F

1.8 Dimensional Diagram

(see next page)



1.9 Bypass 3/4 NPT (Adapt. 1/2 NPT), 202215.0



2 Safety Regulations

Read this service manual very carefully and observe all cautionary references before the initial start of this refrigerated dryer and before carrying out any maintenance on the unit.

2.1 Explanation of Symbols and References

This symbol is placed before all safety references where there is danger to life and limb. It is especially important that any associated instructions are followed explicitly and that extreme care is taken when performing the indicated task(s). For their own protection, inform all other users 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 to recommendations, regulations, references and correct sequence so that damage and/or destruction of the compressor and/or other equipment is prevented.**

This symbol identifies environmental care measures.

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

- **This bullet identifies listings.**

2.2 General Safety Instructions

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

Work on the refrigeration system may only be carried out by a certified refrigeration technician (according to 40CFR Part 82).

Further points to be observed:

- No open flame or sparks at the point of installation.
- The maximum ambient temperature may not be exceeded (see chapter 1.4), otherwise special measures must be agreed between the manufacturer and the user.
- This unit is not explosion – protected and may not be operated in hazardous areas.

Attention! **The refrigerated dryer contains live electrical components.**

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).

The refrigerated dryer contains systems subject to high pressures. Before any maintenance work is carried out, vent and shut off all pipework under pressure.

Do not weld or braze on any pressurized components (e.g., pipes, tanks, fittings) or make any modifications that require heat treatment.

Attention! **Safety devices may not be modified or deactivated.**

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

Attention! **Any alterations or reconstruction carried out without consultation with and the previous consent of KAESER COMPRESSORS will invalidate the warranty.**

2.3 Refrigerant

Initial startup of and maintenance work on the refrigerant circuit may only be carried out by persons who have been trained in the safety concepts of refrigeration engineering.

Escaping compressed air and/or refrigerant can cause injury, frostbite, burns and lead to damage to the unit.
Safety data sheets explaining how to deal with refrigerant are available from KAESER COMPRESSORS Inc.

The refrigerant contained in the refrigerating system may not be vented to the open air. Always use a refrigerant recovery system when working on the refrigerant circulation.
Dispose of unusable refrigerant according to environmental regulations!

2.4 First Aid after Contact with Refrigerant

General: Remove damp clothing.

Inhalation:

☞ Remove victim to the fresh air.
Obtain medical attention in the case of breathing difficulties or nervous symptoms.

Skin:

☞ Rinse area with plenty of warm water.
Treat frostbite the same as burns. Obtain medical attention if pain persists or skin reddens.

Eyes:

☞ Open eyelids wide to allow product to evaporate.
Rinse immediately with open eyelids and plenty of running water for at least 10 minutes and seek medical advice if pain persists.

2.5 Spare Parts

The use of KAESER original parts guarantees safe and reliable operation of the refrigerated dryer.

2.6 Environmental Protection

Condensate drainage

The condensate accumulated during the drying of compressed air must be removed via a suitable drainage system, collected in special canisters and disposed of according to federal and local environmental regulations.

Maintenance materials/wear items/replacement parts

Ensure that all wear items, maintenance and replacement parts accumulated during operation of the refrigerated dryer are disposed of according to environmental regulations.

3 General

The service manual must always be available for use at the location of the refrigerated dryer.

3.1 Proper use

The refrigerated dryer is intended solely for drying compressed air.

Any other use outside of this purpose is considered improper. The manufacturer cannot accept liability for any damage caused by improper use; the user alone is liable for any risks incurred.

Proper use of the dryer includes compliance with the installation, removal, servicing, operation and maintenance instructions as specified by the manufacturer.

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.

3.3 Copyright

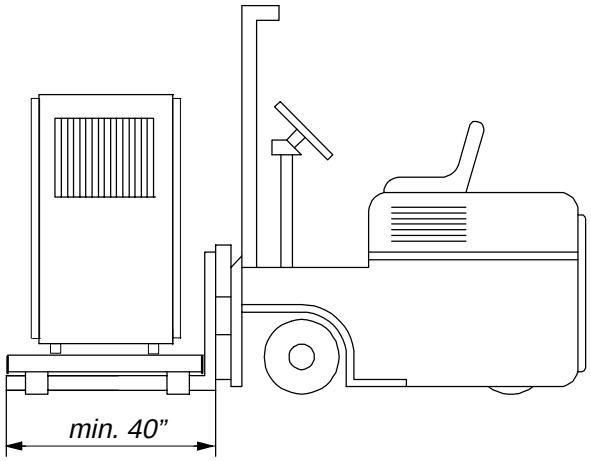
4 Transport

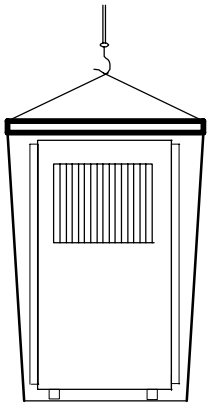
4.1 Transport Instructions

Attention! **Do not lift the refrigerated dryer with the compressed air inlet and outlet connections or lay the refrigerated dryer on its side.**
Serious damage can result from such treatment of the refrigerated dryer.

To prevent damage to the paneling of the refrigerated dryer always transport with a crane, a lift truck or a forklift truck.

☞ Always mount the refrigerated dryer on a suitable transporting medium (pallet or wooden base) during transport.





Attention! **Do not exert any side forces on the refrigerated dryer with lifting equipment.**

4.2 Packaging

The packaging provided with this compressor as delivered is intended to safeguard the package against normal road transport damage. Please dispose of in an environmentally friendly way and arrange for it to be recycled if possible.

4.3 Temporary Storage

Store the refrigerated dryer in an enclosed space, regardless of whether it is packaged or not.

The storage temperature should not fall below 36 ˚F and not rise above 140 ˚F.

Attention! **Before initial start, wait until the temperature of the refrigerated dryer has adapted to the ambient temperature.**

5 Construction and Operation

Items referred to in ( ) correspond with the items in the Pipe and Instrument Flow Diagram (see chapter 5.5).

5.1 Construction

The main component of the refrigeration dryer comprises a heat exchanger (heat transmitter), a special air to refrigerant heat exchanger (2).

The refrigerant circulation is automatically regulated with a thermostat (13).

A condensate separating system (3) is fitted in series with the heat exchanger.

A safety pressure switch (9) is fitted in the refrigerant circulation system as a protection against excessive pressure.

A thermal overload switch protects the refrigerant compressor (11) against current overloads and high temperatures.

5.2 Functional Description

The dried compressed air is then rewarmed by flowing through the air to air heat exchanger (1) before leaving the refrigerated dryer.

In the air/refrigerant heat exchanger (2) the compressed air is refrigerated by the action of gassing refrigerant. This refrigeration causes the water vapour content in the compressed air to condensate when the temperature falls below the dew point.

The condensate separator, (3) connected in series, separates the condensed water and oil droplets, together with coarse dirt particles, from the compressed air. This condensate is removed from the system by an automatic condensate drain (5).

The refrigerant compressor (11) is switched off by a thermostat if the refrigeration demand sinks and switched on again when the demand rises. Considerable savings in energy are possible with this principle of operation.

5.3 Refrigerant Circulation

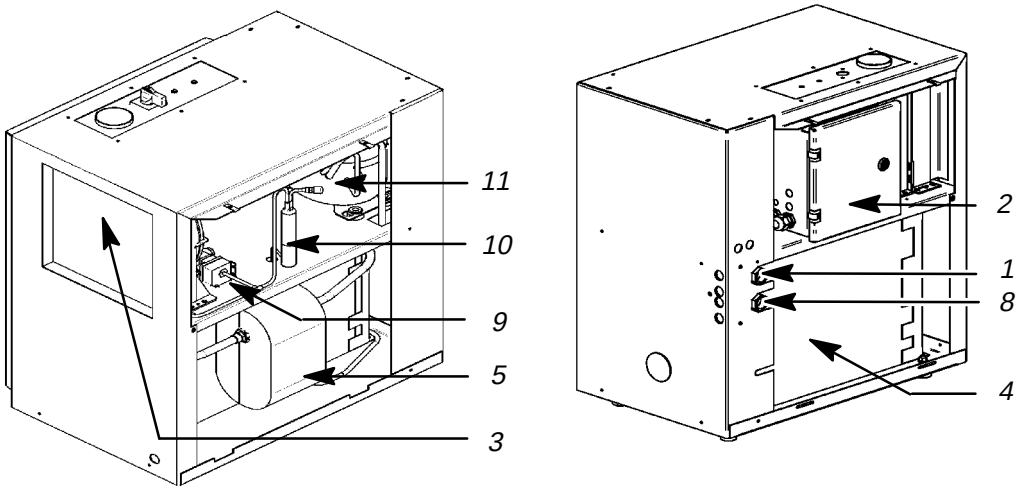
The dryer is able to cool the compressed air by using a refrigeration system not unlike a typical home refrigerator. Cooling is achieved by transferring heat from the compressed air to the refrigerant by vaporizing (boiling) the refrigerant, thereby turning the refrigerant into a gas. A more complete description of this process is given below:

The refrigerant enters the hermetically sealed compressor (11) as a low pressure gas. The gas is compressed to a suitable pressure to ensure that the gas is nearly saturated. The high pressure refrigerant gas flows to the condenser (10) where heat is removed from the refrigerant. As the high pressure refrigerant gas is cooled, the refrigerant becomes a liquid.

The high pressure liquid is then forced through a capillary tube (7). By forcing the refrigerant through this restriction, the refrigerant becomes a low pressure liquid. The low pressure, liquid refrigerant enters the evaporator (2) where heat from the compressed air is transferred to the refrigerant. The added heat causes the refrigerant to boil and results in the refrigerant becoming a low pressure gas. This becomes an endless cycle which allows the refrigerant to simply remove heat from the compressed air and expel it to the ambient air.

5.4 Component Identification

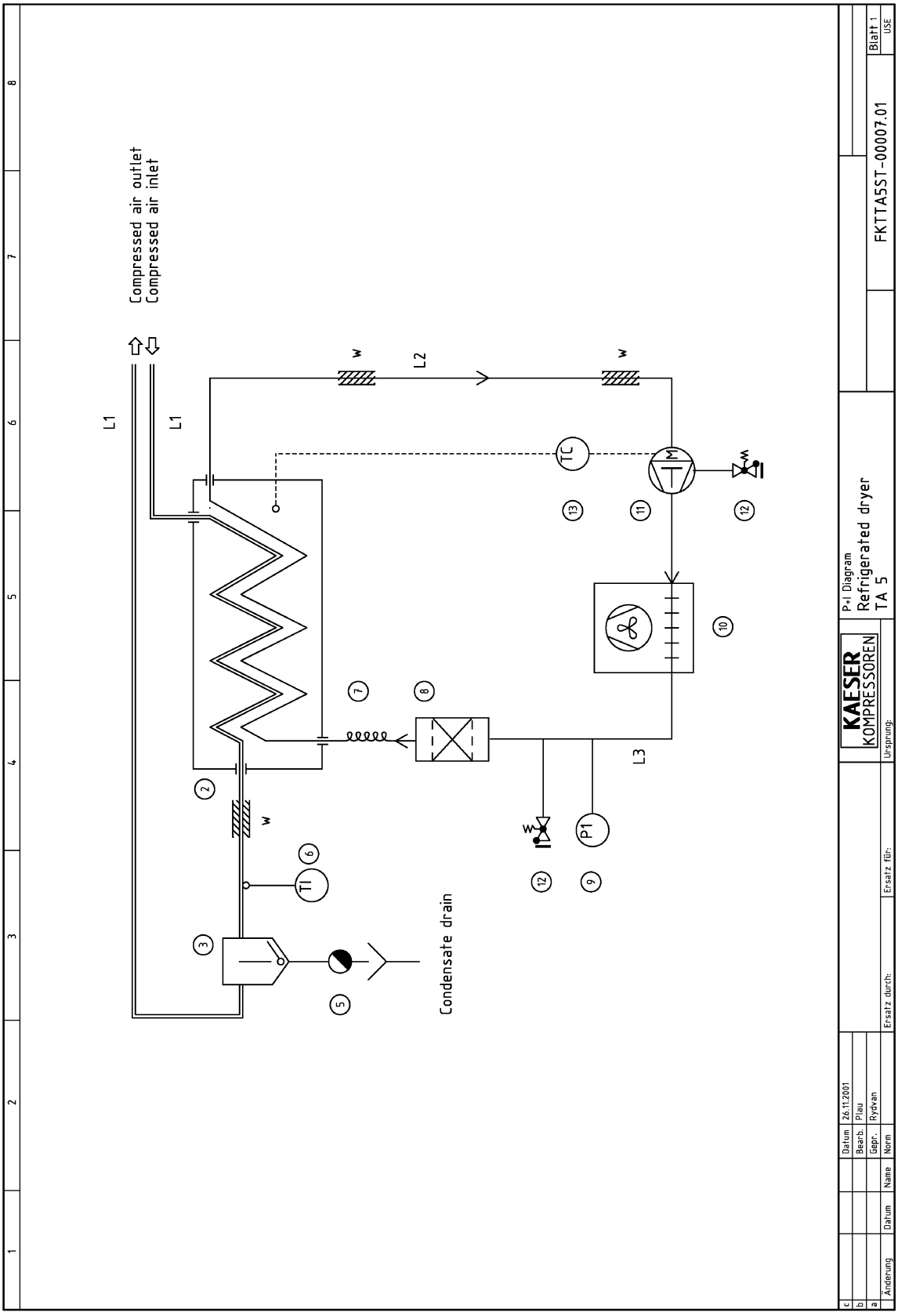
Numbers in ( ) correspond to those in the Pipe and Instrument Flow Chart.
(P & I Flow Chart).



1 *Compressed air inlet*
2 *Control cabinet*
3 *Condenser (10)*
4 *Heat exchanger (2)*
5 *Moisture separator with integrated condensate drain (3)*
8 *Compressed air outlet*
9 *Safety pressure switch (9)*
10 *Filter dryer (8)*
11 *Refrigerant compressor (11)*

5.5 Pipe and Instrument Flow Chart (P & I Flow Chart)

(see following pages)


Compressed air outlet
Compressed air inlet
L1
L1
L2
L3
TC
TI
P1
Condensate drain
P+I Diagram
Refrigerated dryer
TA 5
FKTTA5ST-00007.01
KAESER KOMPRESSOREN

2	Air to refrigerant heat exchanger (Evaporator) - heat insulated
3	Condensate separator
5	Condensate drain
6	Pressure dew point indicator TI
7	Capillary tube (Refrigerant injection)
8	Filter dryer
9	Safety pressure switch
10	Refrigerant condenser (air cooled condenser)
11	Refrigerant compressor (hermetic)
12	Service connection (Schrader valve)
13	Thermostat

Piping:

L1	Pipe (Cu) 15 x 1 DIN 1708
L2	Pipe (Cu) 10 x 1 DIN 1708
L3	Pipe (Cu) 6 x 1 DIN 1708
w	heat insulated

c				Datum	26.11.2001		KAESER KOMPRESSOREN	P+I Diagram legend	
b				Bearb.	Plau			Refrigerated dryer	
a				Gepr.	Rydvan			TA 5	
	Änderung	Datum	Name	Norm		Ersatz durch:	Ersatz für:	Ursprung:	FKTTA5ST-00007.01	Blatt 2 USE

6 Installation

6.1 Installation Requirements

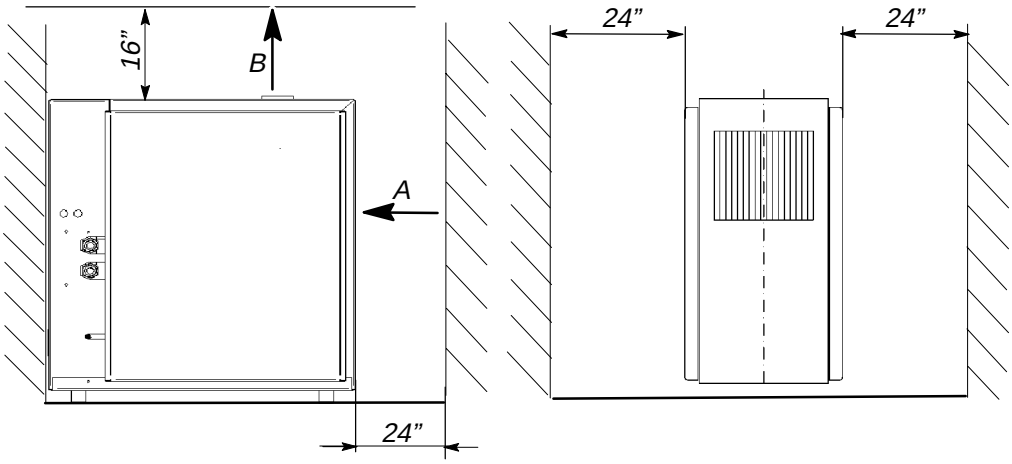
The refrigerated dryer must be installed in a dry and dust free space. To ensure adequate room for the maintenance of the refrigerated dryer, the minimum distances must be complied with (see following sketch).

Install the dryer on an even flat surface. Special foundations for the installation of the refrigerated dryer are not necessary.

See chapter 1.4 for the the ambient temperature and maximum height of the place of installation.

Attention! **To ensure adequate ventilation and air circulation, be sure to allow for the indicated minimum clearances at the cooling air inlet and exhaust.**

The refrigerated dryer must not be installed in the air inlet and/or cooling air outlet area of a compressor package.
The compressed air to be dried and the ambient air in the compressor space may not contain any acid--forming or other aggressive materials.



Measurements shown are minimum recommendations
A Cooling air inlet
B Cooling air outlet

Attention! **Installing of inlet and/or exhaust air ducting without prior written approval from of KAESER COMPRESSORS Inc. is not permitted.**

6.2 Compressed Air Connection

Attention! **Use flexible connecting pipes at the compressed air inlet and discharge to ensure vibration isolation, prevent strain on piping connections and allow easy installation.**
To avoid damage, do not overtighten the compressed air connections.

The refrigerated dryer is piped ready for operation.

Shut--off valves:

All power driven systems must be equipped with a main stop system for all forms of energy feed, the operation of which determines the start and stop of the energy supply to the system.

The compressed air inlet and outlet pipework must be provided with shut off arrangements (e.g. ball valves).

Bypass:

The compressed air inlet and outlet should be fitted with a bypass.

See diagram in chapter 1.9 for details of the bypass.

Installation notes:

Items in ( ) correspond with the schematic bypass drawing in chapter 1.9.

- ☞ First fit the preassembled components in item (50) to the compressed air inlet with sealing tape.
- ☞ Then fit the union fittings (60) to the compressed air outlet.
- ☞ Insert the flat gasket (80) and fit the bypass by screwing down and tightening the union nut of the fitting (70).
- ☞ Check the fittings for leakages.

See chapter 1.5 for the dimensions of the connector fittings.

6.3 Condensate Drain Connection

A hose connection is provided for drainage of the condensate. See chapter 1.5 for the dimensions.

Use larger cross–sections for condensate lines longer than 16ft.

Attention! **Take care when fitting the condensate drainage hose that the condensate separated by the refrigeration dryer can flow without hindrance.**

Attention! **If more than one ECO Drain is used, they must all be connected directly to the main condensate drainage line.**

Direct the condensate separated by drying the compressed air via a hose into a suitable container and dispose of according to environmental care regulations.

6.4 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 1.6.

The refrigerated dryer is delivered completely wired, ready for connection to the power supply.This connection must be made as detailed in the electrical diagram (see chapter 11.1). See the dimensional diagram (see chapter 1.8) for the position and size of the cable entry into the refrigerated dryer.

Attention!

Maximum dual element time--delay fuses are selected according to 1996 N.E.C. Article 240--6, 430--52 and Tables 430--148 & 150.

Select multi--strand copper core wire at 40˚C ambient temperature according to 1996 N.E.C. 110--14(c), 220--3, 310--15, Table 310--16, 430--6, 430--22 and Tables 430--148 & 150.

Wire temperature rating:

1.25 x FLA (see chapter 1.6)	wire temperature rating	correction factor for 40˚C
≤ 100A	60˚C	0.82
> 100A	75˚C	0.88

7 Preparation For Initial Start Up

7.1 Points to be Observed before Start Up

Every refrigerated dryer is tested in the factory and carefully checked before shipment. The test run confirms that the refrigerated dryer conforms to the manufacturer's specifications and operates as designed. However, independent of the checks made at the factory, the refrigerated dryer could be damaged during transport. For this reason, we recommend that the refrigerated dryer be examined for any damage. Inspect the refrigerated dryer carefully during the first hours of operation for any possible malfunction.

Attention! **The internal components of the refrigerated dryer are factory adjusted for correct operation. Adjustments may not be made to these components without prior written consultation with KAESER Compressors Inc.**

7.2 Points to be Observed before Switching On:

NON--OBSERVANCE OF THESE OR OTHER REFERENCES (WARNING; ATTENTION) CAN LEAD TO ACCIDENTS CAUSING INJURY TO PERSONNEL OR DAMAGE TO EQUIPMENT.

It is forbidden to operate the refrigeration dryer with the panelling removed removed because of the danger of injury to personnel.

☞ Remove all packaging materials, tools and transport securing devices on and in the refrigerated dryer.

- It is expected that the user employs safe working techniques when operating the refrigeration dryer and that all valid operating and safety provisions are followed.
- The operator of this refrigerated dryer unit is responsible for its safe working condition.
- The air in the compressor space and the compressed air to be dried may not contain any acid–forming or other aggressive matter.
- Do not connect the refrigerated dryer to a supply voltage different to that shown on the nameplate.
- Install the refrigerated dryer in a space that is not subject to freezing conditions. See chapter 1.4 for the minimum ambient temperature.
- Wait for the refrigerated dryer to warm up to the ambient temperature before putting into operation.

Carry out the following work only when the power supply is removed from the refrigerated dryer:

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

7.3 Ready for Operation

Attention! **Do not start the refrigerated dryer until completing the following:**

- The refrigerated dryer is installed according to the conditions stated in chapter 6.
- All electrical connections, air piping and condensate lines are correctly connected and properly tightened.
- The shut–off valves in the compressed air inlet and outlet lines are closed.
- The condensate drainage line is free of obstructions.
- The refrigerated dryer is supplied with the correct voltage supply.
- The by-pass in the compressed air line between input and output lines is closed.

Attention! **Start the refrigerated dryer for approximately 15 minutes before opening the shut--off valves in the compressed air inlet and outlet lines.**

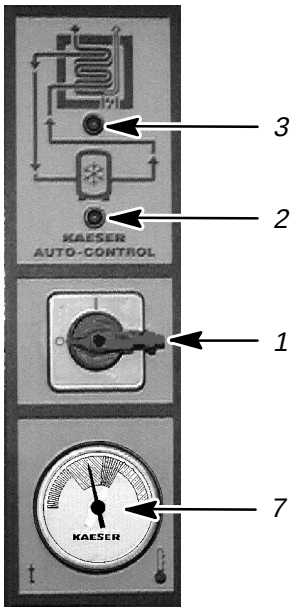
8 Operation

During operation of the refrigerated dryer, condensate is separated from the compressed air.

The condensate must be drained and collected in a suitable container. It must be disposed of according to Federal and local environmental codes.

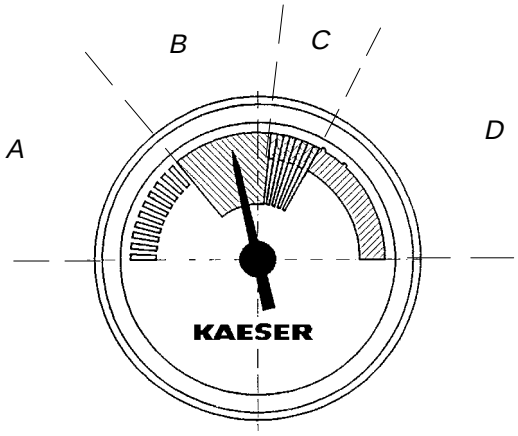
☞ Collect the accumulated condensate in a container and dispose of properly.

8.1 Instrument Panel



1 Main switch
2 Indicator – refrigerant compressor ON
3 Indicator – control voltage ON and thermal mass effective
7 Indicator – dew point

Explanation of the colored segment scale of the pressure dew point indication: (suction pressure gauge)



- ***A***

Blue--white range (low suction pressure) results in too low a pressure dewpoint due to:

– Evaporator temperature too low (evaporator freeze–up)

– Dryer too large or very low air demand. Refer to chapter 1.4

- ***B***

Green range (normal suction pressure) results in a normal pressure dew point.

- ***C***

Green--red range (elevated suction pressure) results in increased pressure dew point to:

– High ambient temperature

- ***D***

Red range (high suction pressure) results in too high a pressure dew point due to:

– Fault, see chapter 8.4.2 for help

8.2 Starting the Refrigerated Dryer

Attention! **Switch on the refrigerated dryer only if the conditions in chapter 7.3 ''Ready for Operation'' are fulfilled.**

☞ Check the refrigerated dryer according to chapter 7.3.

☞ Remove the padlock provided for protection against ''inadvertent switch–on" of switch (1).

☞ Rotate the switch (1) to ''I'' (ON).

The refrigerated dryer is now in operation, the control lamp (3) illuminates indicating control voltage on.

Attention! **Open the shut--off devices in the air lines slowly after approximately 15 minutes.**

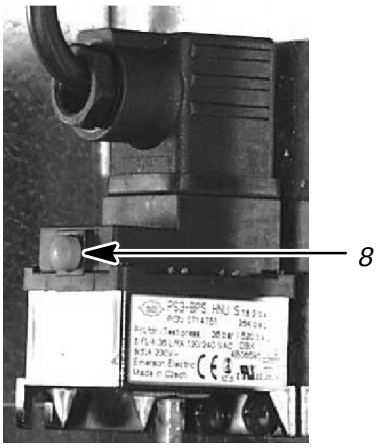
☞ Open the shut–off valve of the compressed air inlet slowly (admission of the compressed air).

☞ Open the shut–off valve of the compressed air outlet slowly.

The compressed air system is now connected to the refrigerated dryer.

* If the control lamp (3) does not illuminate, possibly one of the two fuses is defective. A spare fuse is located in each fuse holder. We recommend that if a fuse is changed, further spare fuses are obtained. See chapter 11.1 for details of the fuses.

Attention! **Press RESET (8) if the safety pressure switch has shut down the refrigerated dryer.**



8 RESET

8.3 Stopping the Refrigerated Dryer

☞ Close the compressed air shut–off valves (inlet and outlet).

Attention! **The main switch (1) can be secured in the ” 0 ” position against inadvertent switch--on by a small padlock.**

☞ Turn switch (1) to ” 0 ” (OFF).

The refrigerated dryer is switched off and the control lamp is off.

8.4 Trouble shooting

The local safety regulations (see chapter 2) and the regulations detailed in the ”Safety” chapter must be complied with during trouble-shooting.

See chapter 7.3 and chapter 8.2. when starting the refrigerated dryer after the malfunction has been corrected.

8.4.1 High pressure drop

Possible cause:	Remedy:
Constant pressure drop via the condensate drain.	Clean the consensate drain. See chapter 9.2.4.

8.4.2 Pressure dew point too high

Possible fault:	Remedy:
Ambient temperature too high.	Check the technical data, see chapter 1.2.
Compressed air inlet temperature is too high.	Check the technical data, see chapter 1.2.
Flow volume too high.	Check the technical data, see chapter 1.2.
Low refrigerant.	Refer to authorized KAESER distributor.
Defective refrigerant compressor.	Refer to authorized KAESER distributor.
Defective condenser fan motor.	Refer to authorized KAESER distributor.
High contamination component in the compressed air causing scale in the compressed air system.	Clean the compressed air system.

8.4.3 High pressure losses via the refrigerated dryer

Possible cause:	Remedy:
Refrigerated dryer iced up on the air side.	Switch off the dryer until the air system has thawed. If the system ices up again after starting again, refer to authorized KAESER distributor.

8.4.4 The safety pressure switch shuts down the refrigerated dryer

Possible fault:	Remedy:
Ambient temperature too high.	Check the technical data, see chapter 1.2.
Condenser surface (refrigerant liquefier) contaminated.	See maintenance instructions chapter 9.2.2.
Defective condenser fan motor.	Refer to authorized KAESER distributor.

9 Maintenance

9.1 Maintenance Instructions:

Before starting work, follow the procedure below to ensure the unit is not started or energized while maintenance work is being performed:

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 local codes.

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 dryer does not restart.

Before starting work, carry out the following procedure to prevent inadvertent application of power to the refrigerated dryer:

☞ turn switch (1) to ‘‘ 0 ’’.

☞ lock out the switch (1) using a suitable padlock.

Before restarting the refrigerated dryer, ensure that:

- no maintenance personnel are working on the refrigerated dryer.
- all tools are removed from the refrigerated dryer.
- all guard and cover panels are properly installed and secured.

See chapter 7.3 and 8.2 for starting the refrigeration.

9.2 Regular Maintenance

Period	Work to be done	see chapter
Daily	Check the condensate outlet	9.2.3
monthly	Clean the surface of the refrigerant condenser	9.2.2
Every three month	General checks	9.2.1
	Cleaning the condensate drain	9.2.4

The maintenance periods are recommended periods and may need to be adjusted based on installation and service conditions.

9.2.1 General checks

☞ Inspect the electrical components of the refrigerated dryer every two to three months. Correct any malfunctioning or worn components, such as loose connections or overheated cable immediately!

Escaping compressed air and/or refrigerant can cause injury to personnel and lead to damage to the dryer.

☞ Check all pipework, hoses and screwed fittings for leakage every two to three months and carry out a visual check for any external damage. Correct any faults immediately!

The refrigerant contained in the refrigerating system may not be vented to the open air. Always use a refrigerant recovery system when working on the refrigerant circulation.
Dispose of unusable refrigerant according to environmental regulations!

9.2.2 Cleaning the condenser

Clean the condenser every month.

- ☞ Stop the refrigerated dryer by turning the switch (1) to the “off” position.
- ☞ Lock the switch (1)with a suitable padlock to prevent unauthorized switch–on.
- ☞ Clean the cooling fins of the refrigerant liquefier by blowing compressed air from the outside to the inside.

See chapter 8.2 to start the refrigerated dryer.

9.2.3 Check the condensate outlet daily as follows:

- ☞ Verify that condensate exits from the hose of the condensate drain outlet.

Attention! **If no condensate flows out, clean the condensate drain (see chapter 9.2.4).**

9.2.4 Cleaning the condensate drain

Angaben in ( ) beziehen sich auf die Abbildung des Kapitels 9.2.4.

The condensate drain should be cleaned at least every three months, depending on the degree of contamination of the compressed air.

We recommend that the condensate drain is first cleaned after 50 hours of service.

Preparatory work:

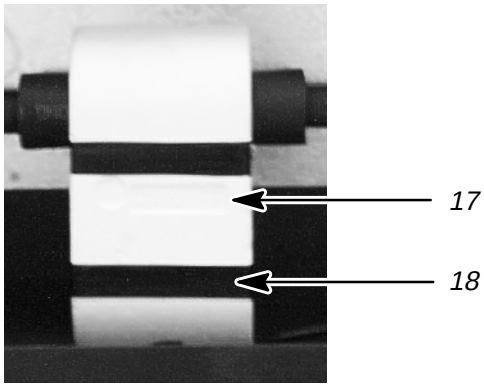
- ☞ Close all shut–off devices (ball valves) in the compressed air inlet and outlet.
- ☞ Switch off the refrigeration dryer with switch (1).
- ☞ Secure switch (1) against unauthorised operation with a suitable padlock.
- ☞ Unscrew the two screws holding the right–hand side cover and remove the cover.
- ☞ Remove the adhesive tape from the polystyrene insulating the condensate drain.
- ☞ Remove the front half of the insulation.

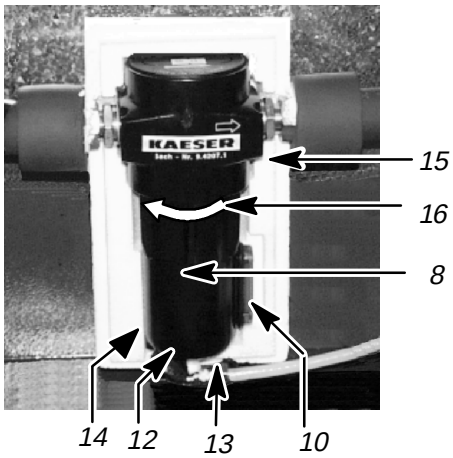
Disassembly of the condensate separator:

- ☞ Remove the condensate drain hose by unscrewing the clamping nut on the elbow fitting (13).

Vent any remaining pressure in the condensate separator housing before opening it.

- ☞ Operate the venting valve (14) until no more air escapes.





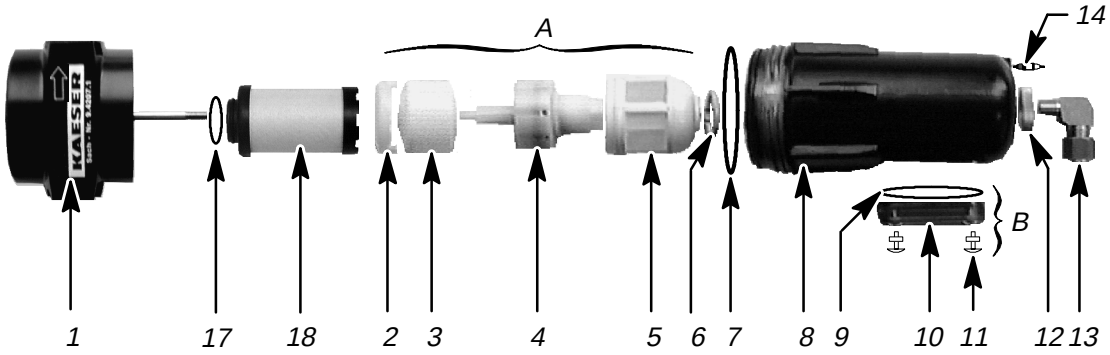
8 Lower part of housing
10 Sight glass
12 Knurled ring
13 Elbow fitting
14 Venting valve
15 Insulation (opened)
16 Direction to unscrew lower housing
17 Polystyrene insulation
18 Adhesive tape

☞ Unscrew the lower part of the housing (8) in the direction shown in the illustration and remove.

☞ Unscrew the elbow fitting (13) and remove from the lower housing (8).

☞ Remove the automatic condensate drain assembly (A) from the lower housing (8) by unscrewing the knurled ring (12).

☞ If the drain is badly contaminated unscrew and remove the separator insert (18).



1 Upper housing
17 Separator element O ring
18 Separator element

A Automatic condensate drain assembly:
2 Protective float cap
3 Float
4 Float valve
5 Protective float strainer
6 Flat ring gasket
7 O ring seal for the housing
8 Lower housing

B Sight glass assembly:
9 Sight glass seat O ring
10 Sight glass
11 Fixing screws with flat gaskets

12 Knurled ring
13 Elbow fitting
14 Venting valve

Disassembling the condensate drain:

☞ Pull off the protective float cap (2) from the protective float strainer (5) and take out the float (3).

☞ Press the float valve (4) out of the protective float strainer (5).
Take care not to lose the flat ring gasket (6) on the condensate drain!

Cleaning:

☞ Wash all components of the automatic condensate drain (A) thoroughly under running water and allow to drain.

☞ Clean the inside and the thread of the lower housing (8).

Reassembling the condensate drain:

☞ Push the float (3) onto the float valve (4) and then insert into the protective float strainer (5) (as in the illustration). Press on the protective float cap (2).

☞ Check the flat ring gasket (6) on the condensate drain for wear and change, if necessary. Push the flat ring gasket over the thread of the float valve (4) up to the protective float strainer (5).

Reassembling the condensate separator:

☞ Insert the automatic condensate drain (A) into the lower housing (8). Fasten the condensate drain by screwing on the knurled ring (12) tightly.
When tightening, counter the float valve (4) with a suitable tool at the hexagonal part of the thread.

☞ Check for presence, wear and correct seating of the O–ring (7) on the lower housing (8).

☞ Screw the elbow fitting (13) into the lower housing (8) and tighten.

☞ Screw in the new separator insert (18) taking care that the O–ring (7) sits correctly.

☞ Screw the lower housing (8) into the upper housing (1) and tighten.

☞ Screw the condensate drain hose onto the elbow fitting (13).

Final work:

☞ Put back the insulation on the condensate separator.

☞ Refit the right–hand side cover and tighten the screws.

See chapter 8.2 to start the refrigerated dryer.

10 Spare Parts and After Sales Service

Provide the following details for all queries and spare parts orders: (see also the name plate)

Refrigerated dryer, model: . . . . . .

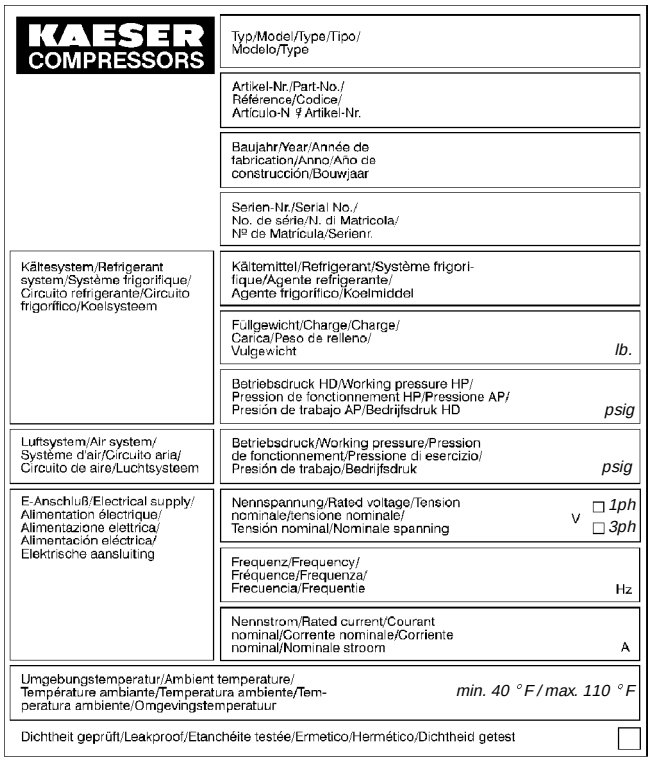
Serial number: . . . . . .

Part name: . . . . . .

Part order number: . . . . . .

Always provide the date of initial start up when making claims under warranty!

Name plate:



11 Appendix

11.1 Wiring Diagram

1	2	3	4	5	6	7	8

Wiring Diagram

air dryer TA5, TA8, TA11

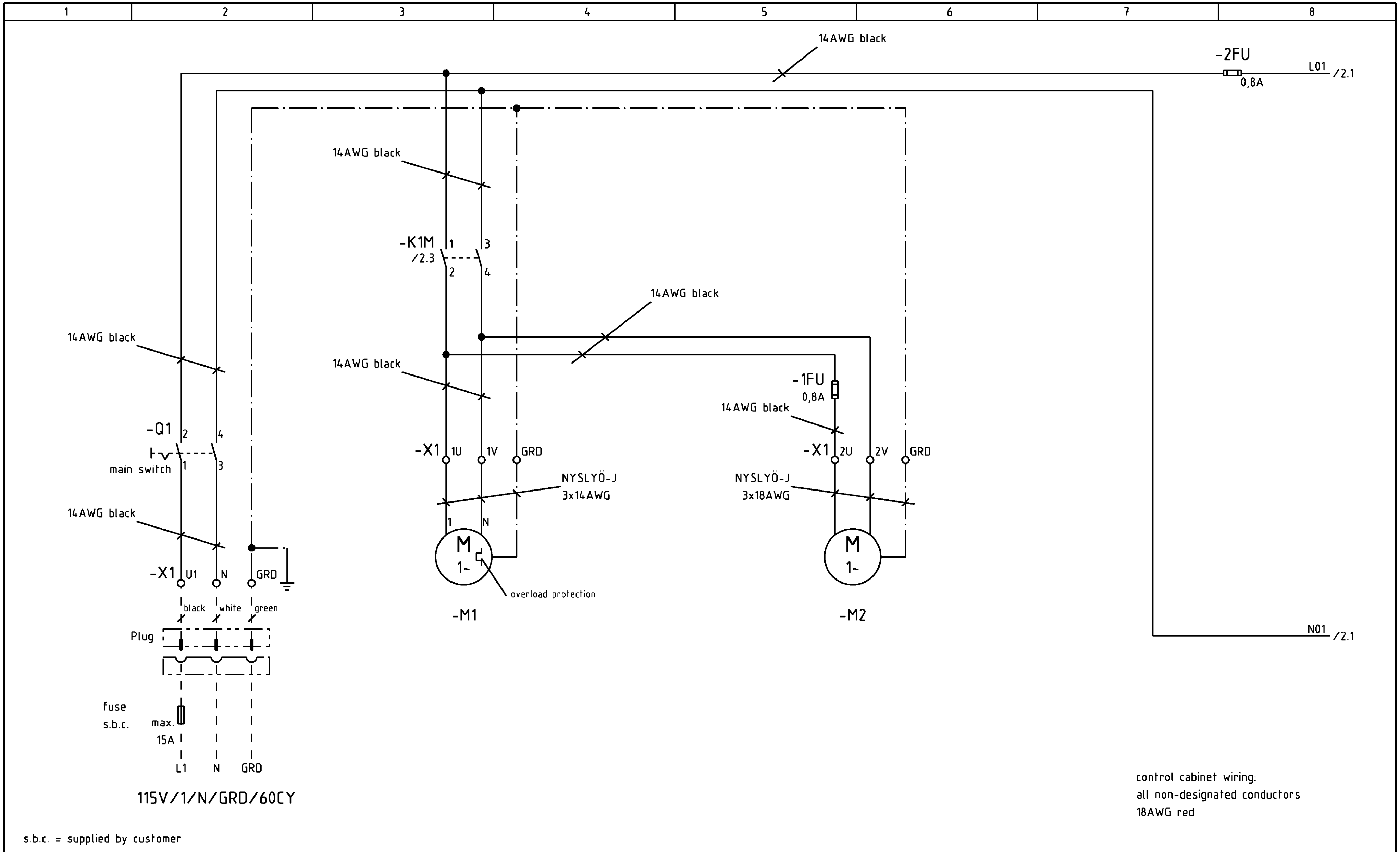
115V 60CY

manufacturer: Kaeser Kompressoren GmbH
Postfach 2143
96410 Coburg

c				Datum	03.04.2001 USE			KAESER KOMPRESSOREN	cover page air dryer TA5, TA8, TA11		=
b				Bearb.	Sitter						+
a	terminal strip	14.09.01	Zeeh	Gepr.	Gegner					DTA-U0900.00	Blatt 1
A	Änderung	Datum	Name	Norm		Ersatz durch:	Ersatz für:	Ursprung:			Bl.

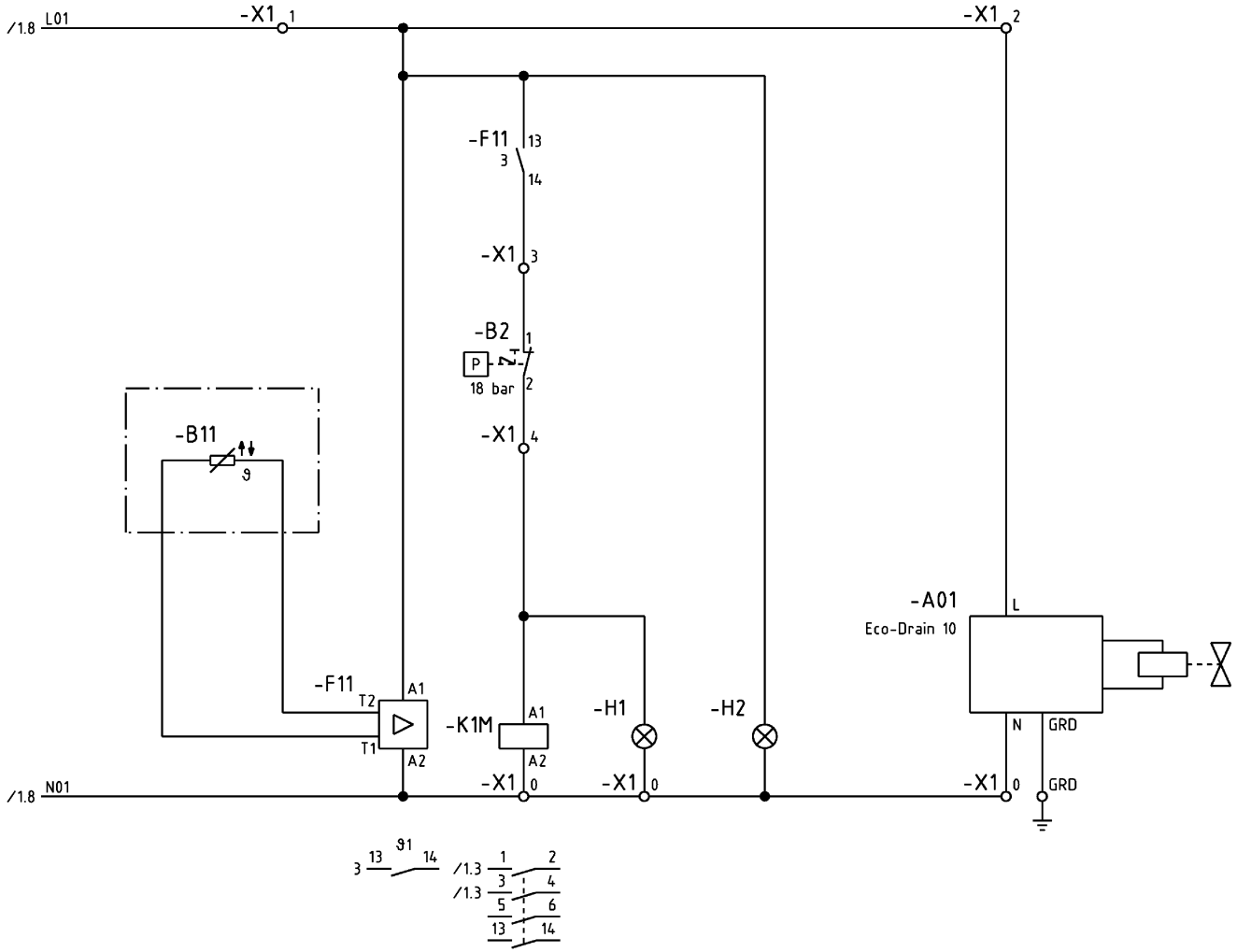
Lfd. Nr. No.	Benennung Name		Zeichnungsnummer (Kunde) Drawing No. (customer)	Zeichnungsnummer (Hersteller) Drawing No. (manufacturer)	Blatt Page	Anlagenkennzeichen Unit designation
1	cover page			DTA-U0900.00	1	
2	list of contents			ZTA-U0900.00	1	
3	wiring diagram	power unit		STA-U0900.00	1	
4	wiring diagram	control unit		STA-U0900.00	2	
5	component legend			STA-U0900.00	3	
6	electrical component parts list	controller		GTA-U0900.00	1	
7	terminal connection	terminal strip -X1		KTA-U0900.00	1	
8	lay-out	control panel		ATA-U0900.00	1	

c				Datum	04.04.2001		KAESER KOMPRESSOREN	list of contents air dryer TA5, TA8, TA11	=
b				Bearb.	Sitter				+
a				Gepr.	Gegner				ZTA-U0900.00 Blatt 1
B	Änderung	Datum	Name	Norm		Ersatz durch: / Ersatz für:	Ursprung:		Bl.



Function:	compressor motor	vent motor	115V/1~/60CY
Group of function: Input voltage	power unit		control voltage tapping

c			Datum	03.04.2001		KAESER KOMPRESSOREN	wiring diagram air dryer TA5, TA8, TA11 power unit	=
b			Bearb.	Sitter				+
a			Gepr.	Gegner				STA-U0900.00 Blatt 1
D Änderung	Datum	Name	Norm		Ersatz durch: Ersatz für:	Ursprung:		Bl.



Function:					control voltage ON						
Function:				NTC-temperature control		motor running		automatic condensate drain			
Group of function:				control unit							
c				Datum	03.04.2001		KAESER KOMPRESSOREN	wiring diagram		=	
b				Bearb.	Sitter			air dryer TA5, TA8, TA11		+	
a				Gepr.	Gegner			control unit			
D	Änderung	Datum	Name	Norm		Ersatz durch:	Ersatz für:	Ursprung:		STA-U0900.00	Blatt 2 Bl.

-A01	automatic condensate drain
-B2	safety air pressure switch
-B11	NTC-temperature probe
-1FU	fuse vent motor
-2FU	control fuse
-F11	NTC-thermostat
-H1,-H2	LED indicator
-K1M	motor starter
-M1	compressor motor with overload protection
-M2	vent motor
-Q1	main switch
-X1	terminal strip

c				Datum	03.04.2001		KAESER KOMPRESSOREN	component legend air dryer TA5, TA8, TA11		=
b				Bearb.	Sitter					+
a				Gepr.	Gegner				STA-U0900.00	Blatt 3
E	Änderung	Datum	Name	Norm		Ersatz durch: / Ersatz für:	Ursprung:			Bl.

1	2	3	4	5	6	7	8

A Stück-zahl Qty.	B Benennung und Verwendung Description and function	C Fabrikatsbezeichnung Typ; Bestell-Nr.; Unterlagen-Nr.; Normkurzbezeichnung notwendige techn. Daten, z.B. Steuerspannung, Frequenz, Einstellbereich Identification data Type; order No.; document No.; equipment code No.; basic technical data				D Lfd. Nr. Item	E Betriebsmittel-Kennz. nach DIN 40719, Teil 2 Identifying symbol of device	F Stromlaufplan Planabschnitt Circuit diagramm sheet No.; section No.	G Einbauort Location	Concerns only the manufacturer Wst.-Nr. H Schabl. Nr.	I BZ-Pos.	J VA Kz. *)	K Eingangs-vermerk
1	controller			7.4696.3	CKC								
1	control panel	200x250x2,5		201441.20010	CKC								
1	motor starter	A9-30-10-89	115V 50/60CY	7.5750.00010	ABB		-K1M						
2	fuse terminal	WK4/THSi5...U		7.0705.00010	Wieland		-1FU,-2FU						
2	fuse	5x20	0,8A	7.5915.0	Siba		-1FU,-2FU						
1	NTC-thermostat	TRN 111K-2-8	115V 50/60CY	7.4722.1	Ziehl		-F11						
1	terminal strip			7.3165.10070	Wago		-X1						
	operating panel:												
1	Emergency Stop/main switch	KG20A	2-pole	7.3900.0	Solenoid		-Q1						
2	LED indicator	19511331	green	7.5720.0	EBT		-H1,-H2						

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

In Zweifelsfällen gilt die deutsche Fassung.

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

The German version applies in cases of doubt.

*) Versandanschrift - Kennzeichen

c				Datum	03.04.2001		KAESER KOMPRESSOREN	electrical component parts list air dryer TA5, TA8, TA11 controller		=	
b				Bearb.	Sitter					+	
a	terminal strip	14.09.01	Zeeh	Gepr.	Gegner					GTA-U0900.00	Blatt 1
F	Änderung	Datum	Name	Norm		Ersatz durch:	Ersatz für:	Ursprung:			Bl.

terminal strip: -X1
total 17 terminals

destination inside: name of device	destination inside: connection	location	jumper wire	terminal legend / link / terminal-no.	destination external: connection	destination external: name of device	cable-no.
-Q1	1	/1.2		U1		-supply	SJT 3x14AWG (BL)
-Q1	3	/1.2		N		-supply	SJT 3x14AWG (WH)
controller		/1.2		GRD		-supply	SJT 3x14AWG (GN)
control panel		/1.4		GRD	GRD	-M1	W40 NYSLYÖ-J 3x14AWG
-K1M	2	/1.3		1U	1	-M1	W40 NYSLYÖ-J 3x14AWG
-1FU		/1.5		2U		-M2	W42 NYSLYÖ-J 3x18AWG
-K1M	4	/1.3		1V (link)	N	-M1	W40 NYSLYÖ-J 3x14AWG
		/1.6		2V (link)		-M2	W42 NYSLYÖ-J 3x18AWG
		/1.6		GRD	GRD	-M2	W42 NYSLYÖ-J 3x18AWG
-2FU		/2.2		1 (link)	13		
-F11	A1	/2.5		2 (link)	L	-A01	W34 NYSLYÖ-J 3x18AWG
-F11	14	/2.3		3	1	-B2	W2 NYSLYÖ 2x18AWG
-K1M	A1	/2.3		4	2	-B2	W2 NYSLYÖ 2x18AWG
-H1		/2.5		0 (link)	N	-A01	W34 NYSLYÖ-J 3x18AWG
-H2		/2.3		0 (link)	A2	-F11	
-K1M	A2	/2.4		0 (link)			
		/2.5		GRD	GRD	-A01	W34 NYSLYÖ-J 3x18AWG

Cables:
- SJT 3x14AWG
- W2 NYSLYÖ 2x18AWG
- W34 NYSLYÖ-J 3x18AWG
- W40 NYSLYÖ-J 3x14AWG
- W42 NYSLYÖ-J 3x18AWG

c				Datum	14.09.2001
b				Bearb.	Sitter + Zeeh
a	terminal strip	14.09.01	Zeeh	Gepr.	Gegner + Zeeh
H	Änderung	Datum	Name	Norm	

Ersatz durch: | Ersatz für: | Ursprung:

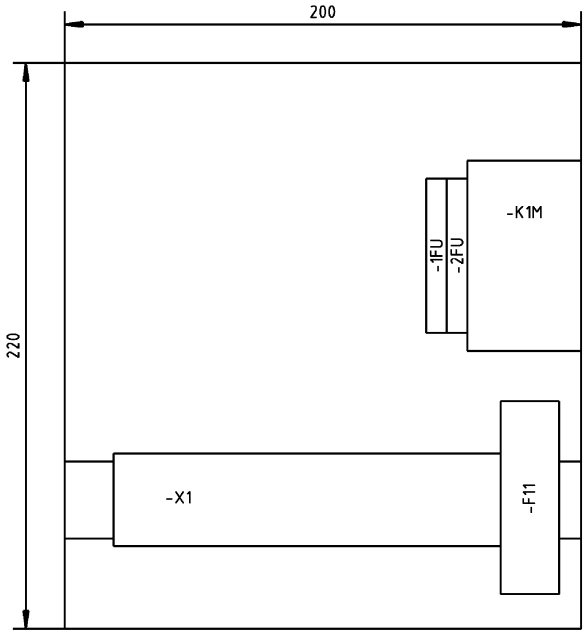
KAESER
KOMPRESSOREN

terminal connection
air dryer TA5, TA8, TA11
terminal strip -X1

=
+

KTA-U0900.00

Blatt 1
Bl.



c				Datum	03.04.2001		KAESER KOMPRESSOREN	lay-out air dryer TA5, TA8, TA11 control panel	=
b				Bearb.	Sitter				+
a				Gepr.	Gegner				ATA-U0900.00 Blatt 1
l	Änderung	Datum	Name	Norm		Ersatz durch: / Ersatz für:	Ursprung:		Bl.

11.2 Maintenance Schedule

Refrigerated dryer, model: **Serial number:**			
Date	Description of work	Operating hours	Signature