

IMPORTANT

Read entire service manual before operating unit or performing any maintenance.

Always shut off power to unit at main disconnect switch before attempting any maintenance. All system pressure should be discharged unless manual instructs otherwise.

Use only **Kaeser Compressors** approved replacement parts.

DANGER

Do not attempt solids flow through blower. Doing so can damage or cause failure of the blower.

This blower is intended for use with non-toxic, inert gases. Please contact **Kaeser Compressors** for use with toxic or flammable gases.

ATTENTION

Kaeser Compressor declines responsibility for any modification made to any **Kaeser Omega Blower** other than those made at the **Kaeser** factory or those made with prior written permission from **Kaeser Compressors**.

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1.5 Recommended Lubricants

Use the following lubricants depending on the blower gas discharge temperature associated with the application.

Application Temperature	Recommended lubricant	ISO Viscosity Grade
Blower gas discharge up to 250 °F	SHELL Morlina 220 (mineral lubricant)	220
Blower gas discharge up to 250 °F	OMEGA SB-220 (synthetic lubricant)	220
Blower gas discharge up to 320 °F	OMEGA SB-320 (synthetic lubricant)	320

Attention!

The rotary blower provided with the blower package is pre-filled at the factory with SHELL Morlina 220 mineral lubricant. The pre-filled lubricant should be drained out of the blower after 200 hours from its initial start-up.

We strongly recommend using OMEGA SB synthetic lubricant, specially formulated for use with rotary blowers, when refilling the blower for lubricant changes at the specified service intervals (See Section 9.2). Select an ISO Viscosity Grade based upon the blower discharge temperature associated with the application. Consult the factory for other grades of lubricant for special applications.

1.6 Designation

The nameplate of the rotary blower package is located on the frame. (see chapter 10 for nameplate illustration)

1.7 Installation Requirements

Minimum ambient temperature 40 °F

Maximum ambient temperature 105 °F

Install in a machine space or similar surroundings

2 Safety Regulations

Read this Service Manual carefully and observe all cautionary references before putting the rotary blower 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 instructions are observed and that extreme care is taken. For their own protection inform all other users of these safety regulations. Observe general safety and accident prevention regulations as well as the safety instructions laid down herein.

Attention!

This symbol is placed at points where considerable attention should be paid to recommendations, instructions, references and correct sequences so that damage or destruction of the blower package and/or other equipment is prevented.



This symbol identifies environmental protection measures.



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



This bullet indicates listings.

Explanation of the warning notice on the rotary blower:



Warning:
Hot surface, do not touch.

2.2 Precautions



We recommend observation of the following precautions:

- No open flames and flying sparks at the place of installation.
- Ensure that sparks or high temperatures cannot cause fire or explosion during any necessary welding work on the blower package.
- Operating personnel must be instructed on the necessity of wearing ear muffs during operation of the blower package, especially during operation without the acoustic hood.
- Personnel should not linger for long periods in the direct vicinity of blower packages with damaging sound levels.
- Rotary blower packages may not be used for explosive, toxic, corrosive or damaging gases.
- Because of the high temperatures (up to 300 °F) do not touch the air pipes during blower package operation. Wait until the blower has cooled down and pressure has vented before attempting any repairs to the pipework.
- Use only the lubricants recommended by the manufacturer.

2.3 General References



Only trained or specialised personnel may work on power driven systems.

Before work is carried out on electrical systems, carry out the following precautions in the sequence shown:

Lock the main disconnect in the “OFF” position in accordance with applicable lock out/tag out procedures to ensure the blower package does not restart (as per OSHA CFR 29 §1910.147).

Lock the air discharge valve in the “CLOSED” position and vent all air trapped between the blower package and the air discharge valve in accordance with applicable lock out/tag out procedures (as per OSHA CFR 29 §1910.147).

Attention!

The warranty is invalidated if any modifications are carried out without previous consultation and the consent of KAESER COMPRESSORS.

2.4 Spare Parts

Safe and reliable operation of the package is only guaranteed with the use of KAESER original spare parts.

3 General

Attention!

This Service Manual must always be available at the place of installation of package.

3.1 Correct Use

The rotary blower package is intended solely for the transport of oil-free air or any inert gas without liquid or solids in conformity with the technical specification (see section 1.1). Any other use is considered incorrect. Do not use this blower package for any combustible gas applications. For special gas applications contact KAESER COMPRESSORS, INC.

The manufacturer cannot accept liability for any damage caused by incorrect use. The user alone is liable for any risks incurred. Correct use also means compliance with installation, removal, commissioning, operational and maintenance instructions laid down by the manufacturer.

This service manual is intended for operating, maintenance and supervisory personnel use only.

3.2 Copyright

© 1994 KAESER COMPRESSORS; INC:

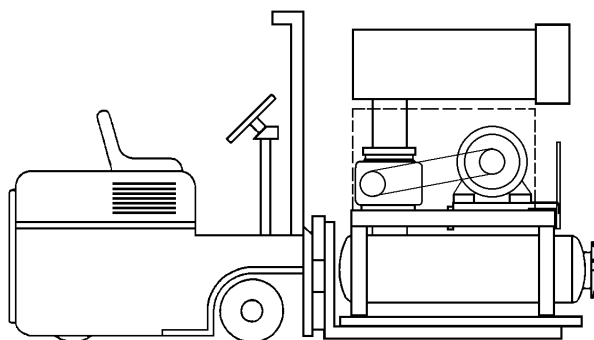
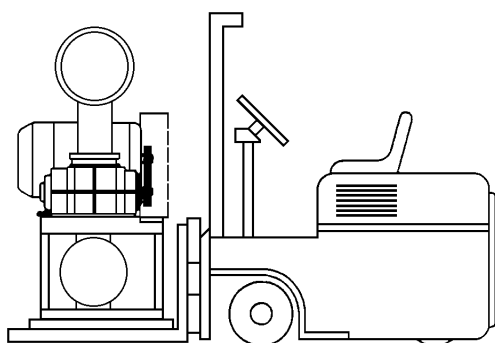
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4 Transport

4.1 Transport Instructions

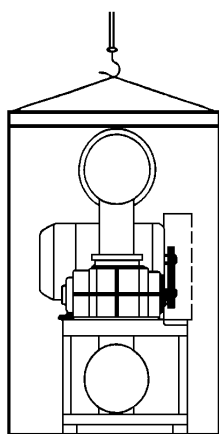
Attention!

To avoid damage to components of the package, we recommend the use of a fork lift truck, lift truck or a sling for transport.

**Attention!**

When transporting using a crane hook, a suitable sisal or steel sling must be used (VBG 9a).

If lifting the blower package with a sling or rope, it should be fastened to the frame and padded if necessary.



No side forces should act upon the package when transporting with a sling. Always use a spreader !

Avoid sudden, sharp vertical movements when lifting, lowering and transporting the rotary blower package.

4.2 Packaging

A decisive factor concerning the type of packaging is the transport route. The packaging conforms to the packaging regulations laid down by the German Federal Association of Wood, Pallet and Export Packaging (HPE) and by the Association of German Mechanical Engineering Institutes (VDMA), if not otherwise contractually agreed.



Packaging should be recycled if possible or disposed of in an environmentally acceptable way.

4.3 Temporary Storage

Attention!

The package must be stored in a dry room at a constant temperature over 0°. Air inlet and air outlet openings should be closed off to prevent ingress of dirt.

When storage is to be longer than a year the block should be treated with a preserving oil.

- ☞ Spray preserving oil onto the flanged ports, drive shaft and air chamber to protect against corrosion.
- ☞ Carry out an oil change annually (see chapter 9.6).

Putting into operation after a long period of temporary storage:

- ☞ Remove the preserving material from the air chamber with a suitable solvent.
- ☞ Carry out the measures detailed for installation and putting into operation.
- ☞ Carry out an oil change (see chapter 9.6).

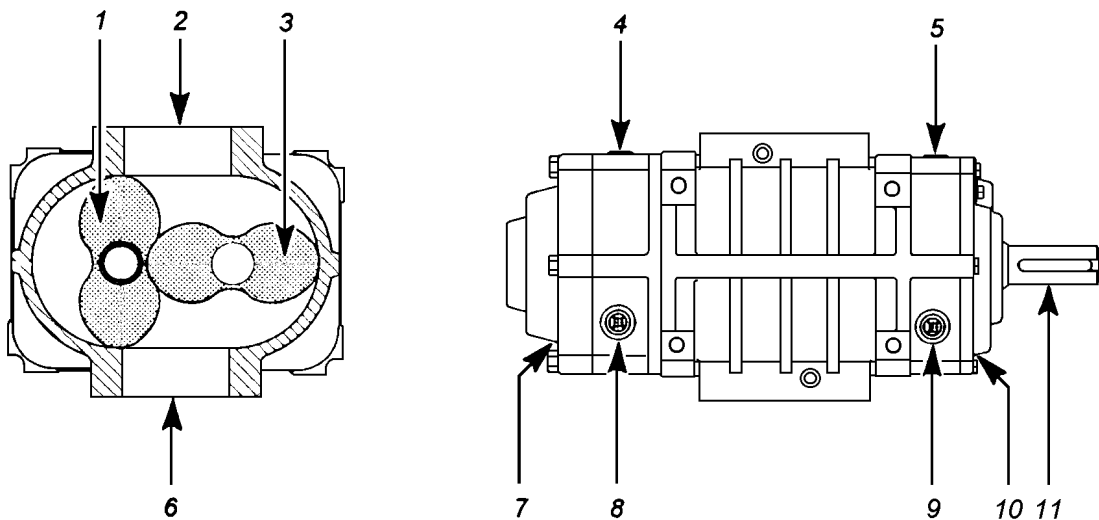
5 Construction and Principles of Operation

5.1 Construction

Kaeser rotary blower packages are delivered with the blower in the “horizontal configuration”

Horizontal configuration

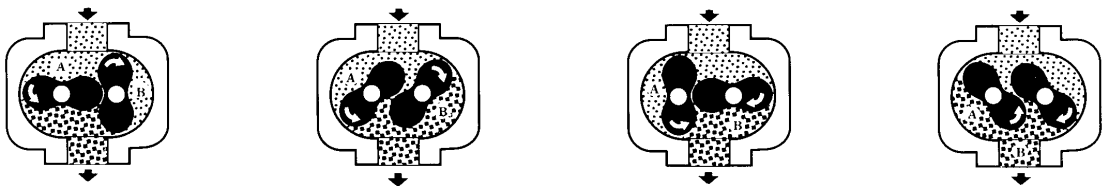
- The drive shaft (11) is located at the left-hand rotor
- The following diagram shows the positions of the oil level sight glasses (8) and (9) and the oil filler plugs (4) and (5)



- 1 Male rotor
- 2 Inlet port
- 3 Female rotor
- 4 Oil filler plug, gear end
- 5 Oil filler plug, drive end
- 6 Discharge port

- 7 Oil drain, gear end
- 8 Oil level sight glass, gear end
- 9 Oil level sight glass, drive end
- 10 Oil drain, drive end
- 11 Drive shaft

5.2 Principles of Compression



The KAESER Omega positive displacement rotary blower has two uniquely designed figure-eight shaped rotors that rotate in opposite directions. As the rotor passes the blower inlet, it traps a quantity of air and carries it around the housing to the discharge. The relative position of the rotors is fixed by the use of timing gears which maintain the critical internal clearances essential for high volumetric efficiencies. Rotor lubrication is not necessary since the rotors do not touch thus keeping the discharge air free of oil.

5.3 Principles of Operation

The rotary blower is belt driven from an electric motor.

The electric motor and the blower are mounted on a common base frame.

The flow medium is drawn into the blower via an inlet silencer in which an inlet filter is

integrated for pressure applications (an in-line inlet filter is available as an option for vacuum applications).

The air flows in a vertical direction in the discharge silencer.

The compressed air is discharged at the connecting flange of the discharge silencer.

6 Installation

6.1 Installation Requirements

The rotary blower package must be installed in a space of sufficient size allowing free access from all sides for maintenance and repair.

Sufficient air ventilation and exhaust conditions must be provided.

A special foundation or base is not required for installation.

Safe and reliable operation of the blower package is guaranteed only when the temperature limits laid down in chapter 1.8 are complied with.

6.2 Compressed Air Connection

The blower package is delivered ready for operation up to and including the compressed air discharge connection.

The discharge connection downstream to the pipework or user should be made via a flexible connecting sleeve, preferably a high temperature resistant rubber sleeve.

It is especially important that necessary safety devices, a check plate and operational measuring and control devices are provided.

If the air flows into a system which remains pressurised after switching off the blower package, an blow-off valve or similar device must be fitted.

To ensure safe and reliable operation of the blower package it is recommended that at least the following parameters are monitored and interlocked with the drive:

- Discharge pressure or pressure difference Δp
- Discharge temperature
- Electrical current drawn

6.3 Electrical Connection



Before servicing the blower package dot the following:

- **with applicable lockout/tagout procedures to ensure the blower does not restart.**
- **Lock the air discharge in the closed position and vent all compressed air trapped between the blower package and air discharge valve in accordance with applicable lockout/tagout procedures.**

For proper sizing of wires and fuses refer to the table in chapter 1.3.

Please note that conductors, fuses and procedure are Kaeser's recommendations and do not supersede any other applicable codes.

6.4 Lubricant Oil Filling

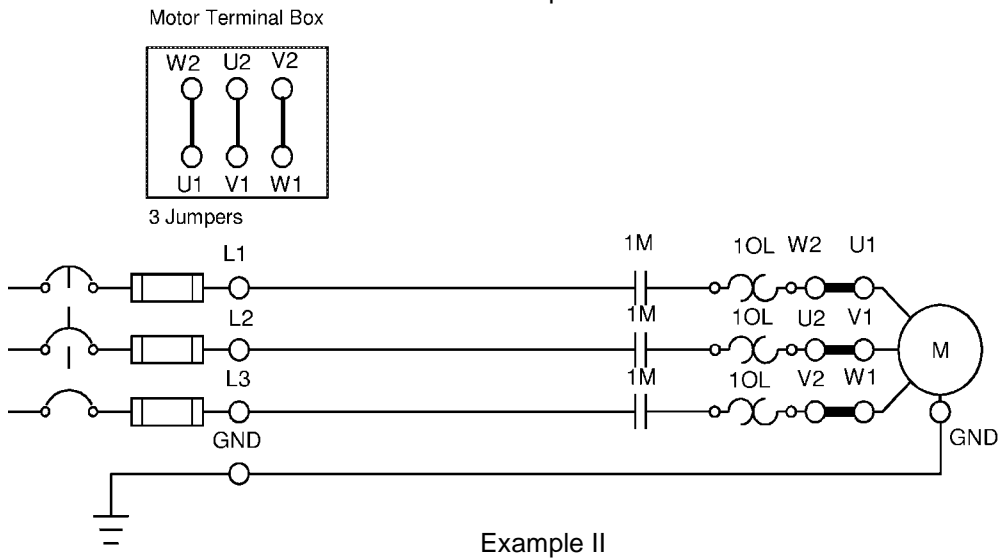
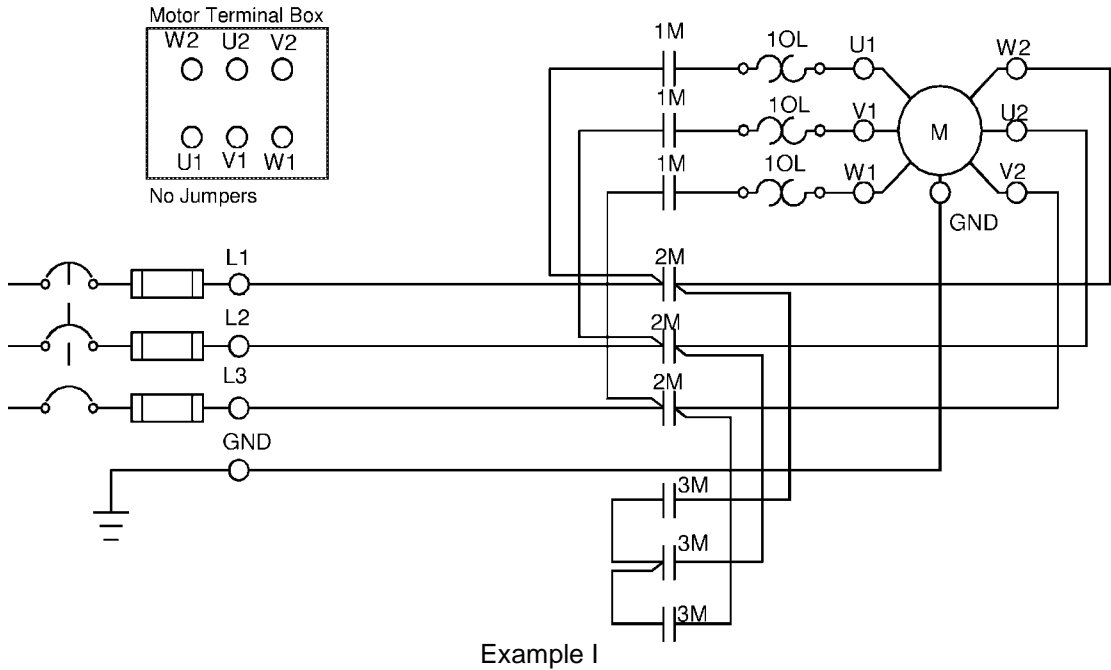
Attention!

The rotary blower package is delivered with a full charge of lubricating oil.

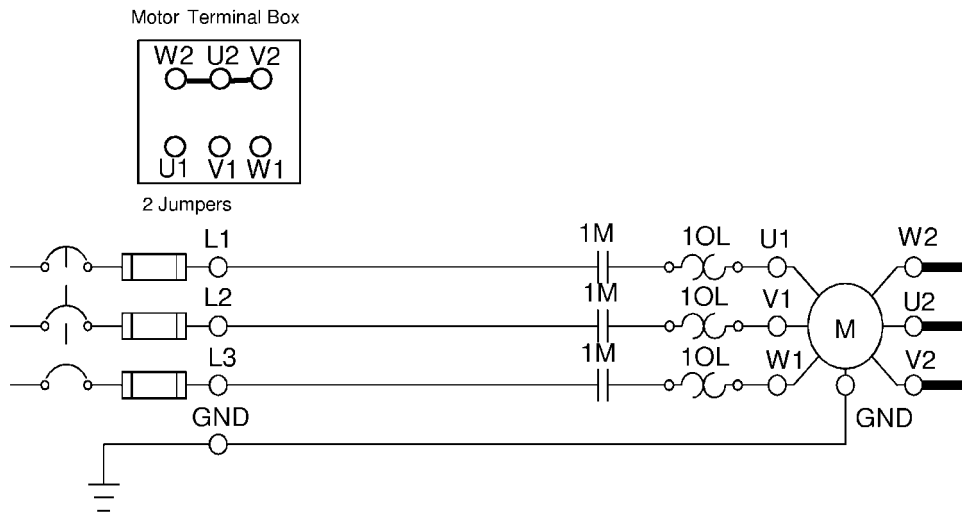
Type of oil used: see chapter 1, sections 4 and 5

6.5 Motor Wiring Diagrams

The following are examples of how the motor for the blower package is to be wired. Check the nameplate on the motor in section 6.6 to see which example of wiring should be used.



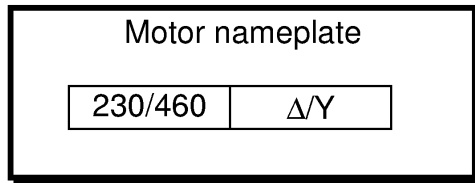
Installation



Example III

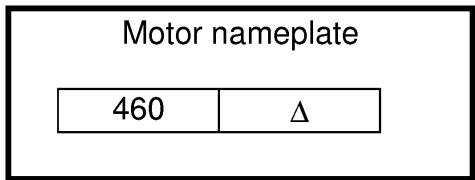
6.6 Examples of Motor Nameplates

6.6.1 230 V wye delta and 230/460 V direct on line starting



Operation	Example wiring
230 V wye delta start	I
230 V DOL (direct on line) start	II
460 V DOL start	III

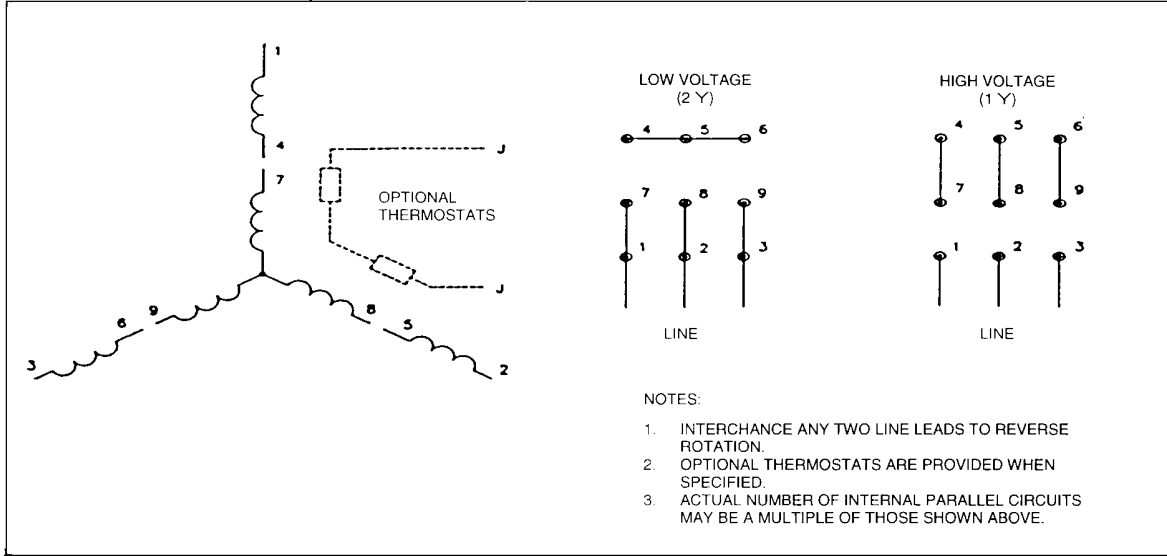
6.6.2 460 V wye delta and direct on line starting



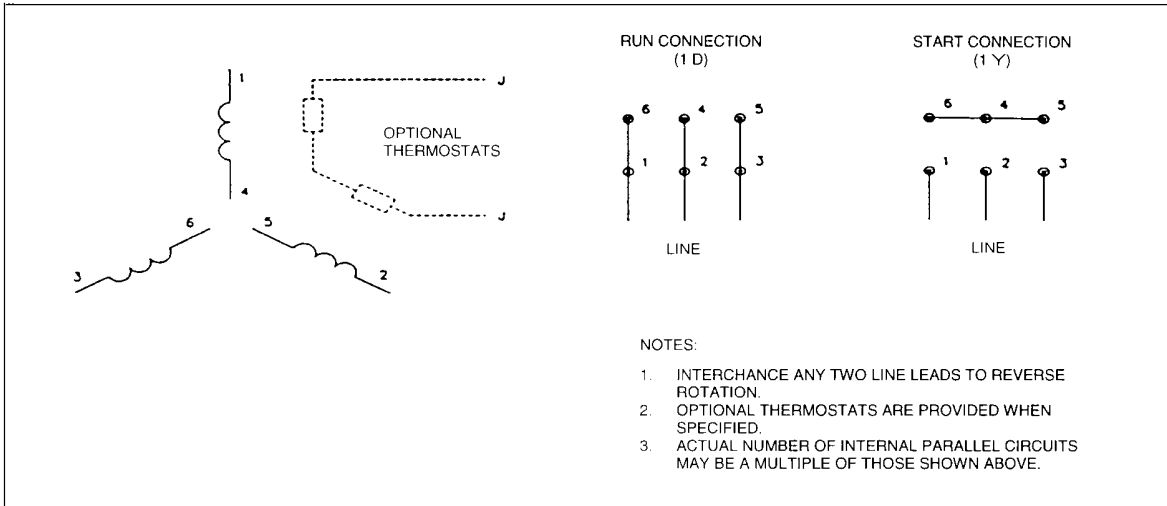
Operation	Example wiring
460 V wye delta start	I
460 V DOL (direct on line) start	II

6.6.3 Motor Wiring: nine (9) and twelve (12) lead, sigle and dual voltage

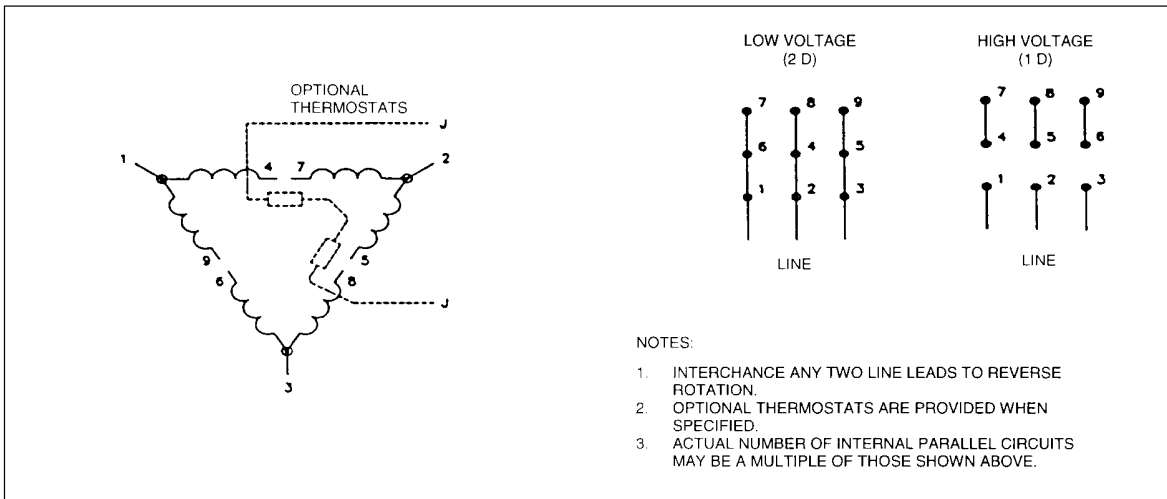
3 Phase, 60 Hz, Dual (230/460v) Voltage, Nine (9) Lead Motor, Wye Connection



3 Phase, 60 Hz, Single (460v) Voltage, Six (6) Lead Motor, Wye Start - Delta Run



3 Phase, 60 Hz, Dual (230/460v) Voltage, Nine (9) Lead Motor, Delta Connection



7 Putting into Operation

7.1 Points to be Observed

Every rotary blower package is given a test run at the factory and carefully checked before shipment. The test run confirms that the blower package conforms to the specification data and runs satisfactorily. However, it is recommended that the blower package is inspected for damage that could have occurred during transport. The blower package should be carefully observed during the first hours of operation to determine any malfunction that could occur.

The user is responsible for the installation of the complete package.

- Before putting into operation check the correct sequence of the compulsory safety and monitoring devices and the necessary operational measuring and control devices for the processing technology used.
- Check the installation of check plate, valves and controls for correct direction.
- Remove the blanking caps fitted during installation.

7.2 Starting Precautions



ANY NON-OBSERVANCE OF THESE OR OTHER PRECAUTIONARY REFERENCES (WARNING, ATTENTION) COULD LEAD TO AN ACCIDENT CAUSING INJURY TO PERSONNEL OR DAMAGE TO EQUIPMENT.

- ☞ Remove all packaging materials, tools and transport safety devices from the blower package.
- It is expected that the user employs safe working methods and complies with all valid local operating and safety regulations when operating the blower package.
- It is the responsibility of the user to ensure that the blower package is constantly kept in a state of operational safety.
- Do not operate the blower package in spaces in which high dust pollution, toxic or inflammable vapors and gases can form.
- Do not connect the blower package to a different power supply than that stated on the nameplate.
- Install the blower package in a frost-free space where the ambient temperature conditions are met.
- ☞ Check the drive shaft of the blower for ease of rotation by turning with the hand.
- ☞ Check the tension of the belt drive (see chapter 9.3).
- ☞ Check the oil level and top up if necessary (see chapter 9.5).



**Before servicing the blower carry out the following:
Lock the main disconnect switch in the “OFF” position in accordance with lockout/tag out procedures to ensure the blower package does not restart.**

Lock the air discharge in the “CLOSED” position and vent all compressed air trapped between the blower package and the air discharge valve in accordance with applicable lock out/tag out procedures.

7.3 Direction of Rotation Check



Danger from rotating parts

- The rotors **must** rotate in the correct direction.
- The correct direction of rotation is counter-clockwise when looking at the end of the shaft.
- An arrow indicating the direction of rotation is located on the belt guard and on the blower.
- ☞ Remove the inlet filter inspection cover (also if the filter is integrated in the inlet silencer) or remove the check plate (non-return valve) complete. Open all shut-off devices.
- ☞ If a KAESER CONTROL is provided check the direction of rotation by turning the control switch to "I" and then immediately back to "O" again and observing the direction of rotation.
- ☞ If the direction of rotation is incorrect, the phase sequence in the power supply must be changed

Attention!

The rotation check must be made every time the machine or motor is disconnected and re-connected to the mains supply.

If the blower block rotates in the wrong direction a reversal of the direction of flow and an evacuation of the discharge pipework occurs.

Always check the direction of rotation with the discharge line disconnected because the blower block could be damaged or destroyed should if foreign bodies are sucked in or a high vacuum is generated.

8 Operation

8.1 Starting and Stopping the Blower Package



Observe the safety regulations when putting the blower package into operation.

The starting and stopping procedure depends largely on the application at hand together with the control devices fitted.

Always start with the blower stationary. If back pressure is apparent in the pipework system then suitable measures ensuring off-load starting must be taken.

If the blower package is operated via a two-speed motor the changeover from high to low speed must be delayed, i.e. the speed must have reduced to the lower speed or the blower must have stopped rotating before the motor is started again at the lower speed.

The motor can be switched directly to the higher speed.

Attention!

Do not switch the blower package on and off with the mains isolating switch. Always switch the blower package on and off with the control switch.

8.2 Action to be taken during a Malfunction



General safety regulations (see chapter 2) and the corresponding local safety regulations must be observed during trouble-shooting.

Restarting after rectification of a malfunction:

See chapter 7 "Putting into Operation"

Explanation of the symbols used in the following sections:

⊗1 - Have checked by a specialist.

⊗2 - Refer to KAESER customer service.

8.2.1 Abnormal running noises

Possible fault:

Backlash of the gears too large.

Bearing clearance is too large.

Rotors out of time.

Rectification:

Check the backlash. If it is > 0.004" replace the timing gears; ⊗1 or ⊗2.

Measure the clearance. Replace the bearing if necessary; ⊗1 or ⊗2.

Compare the conditions under use concerning pressure difference and speed with the conditions at delivery on nameplate.

8.2.2 Excessive blower temperature

Possible fault:

Operation with excessive pressure difference.

Contamination of the inlet filter causing degradation of volumetric efficiency.

Rotor clearance too large.

Rectification:

Check the pressure difference and correct if necessary.

Clean inlet filter.

Measure the clearance between the rotors and check with the manufacturer. Rotor replacement could be necessary, ⊗1 or ⊗2.

8.2.3 Oil leaking into the air chamber

Possible fault:

Oil level too high.

Rectification:

Drain the oil until the level is in the middle of the oil level sight glass. Clean out the air chamber with cleanser.

8.2.4 Low inlet volume flow

Possible fault:

Excessive rotor clearance caused by wear, especially by heavily contaminated flow medium.

Inlet flow resistance too high.

Rectification:

Measure the clearance between the rotors and check with the manufacturer. Rotor replacement could be necessary; ⊗1 or ⊗2.

Clean the inlet filter.

9 Maintenance

9.1 Precautions to be Observed during all Maintenance and Servicing



Work on power driven equipment may only be carried out by trained or specialised personnel.

Before carrying out any maintenance switch off the blower and lock out the mains isolating switch/electrical disconnect. Isolate and depressurize the blower package and attached piping to zero psig.

Ensure that no personnel are working on the blower package before restoring power.



Care must be taken to see that operating materials and used parts are disposed of in a manner conducive to environmental protection.

9.2 Regular Maintenance

Period	Work to be done	see chapter, section
2 and 24 hours after initial start-up	check the tension of the drive belts	9.3
50 hours after initial start-up	check all electrical connections for tightness and tighten, if necessary	9.1
200 hours after initial start-up	change the lubricating oil	9.6
monthly	check the lubricating oil level	9.6
500 hours	check the tension of the drive belts	9.3
2000 hours or at least annually*	clean or change the air filter	
1500 - 2500 hours*	change the lubricating oil (mineral)	9.6
6000 - 8000 hours*	change the lubricating oil (KAESER Omega synthetic)	9.6
annually	check all electrical connections for tightness and tighten, if necessary	9.1
annually	check the safety valve	

* The maintenance period can vary depending on the cut-in frequency and environmental conditions.

We highly recommend that a record is kept of maintenance work done (see chapter 11, sect. 1)

9.3 Checking Drive Belt Tension

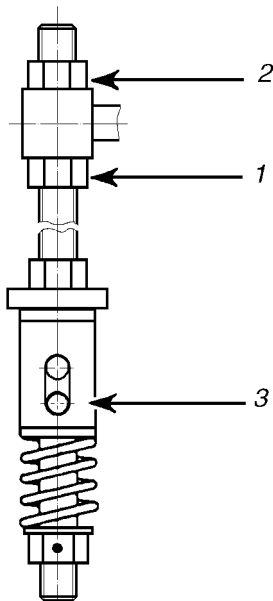
☞ Switch off the package (see chapter 8, sect.1)



**Before servicing the blower carry out the following:
Lock the main disconnect switch in the “OFF” position in accordance with lockout/tag out procedures to ensure the blower package does not restart.**

Lock the air discharge in the “CLOSED” position and vent all compressed air trapped between the blower package and the air discharge valve in accordance with applicable lock out/tag out procedures.

Check the tension of the drive belts after the first 2 and 24 hours and then every 500 hours of operation.



- 1 Hex nut
- 2 Hex nut
- 3 Indicator pin

The tensioning device automatically adjusts the belt tension over a certain range with the aid of a compression spring.

If the drive belts have stretched to the extent that the marking pin (3) is located at the lower end of the indicating slot the belt tension must be re-adjusted.

Proceed as follows:

- ☞ Loosen the hex nut (1).
- ☞ Tighten the belts with the hex nut (2) until the indicator pin (3) is located at the top end of the indicating slot again.
- ☞ Tighten the hex nut (1) again.

9.4 Changing the Drive Belts

☞ Switch off the blower package (see chapter 8.1)



**Before servicing the blower carry out the following:
Lock the main disconnect switch in the “OFF” position in accordance with lockout/tag out procedures to ensure the blower package does not restart.**

Lock the air discharge in the “CLOSED” position and vent all compressed air trapped between the blower package and the air discharge valve in accordance with applicable lock out/tag out procedures.

- ☞ Remove the belt guard complete.
- ☞ Turn the hexagonal nut (2, see chapter 9.3) of the tensioning device upwards.
- ☞ Turn the hexagonal nut (2, see chapter 9.3) of the tensioning device clockwise until the drive belts are loose.
- ☞ Take off the drive belts.
- ☞ Lay the new drive belts over the motor and blower pulleys without straining them.
- ☞ Set the drive belt tension (see chapter 9.3).
- ☞ Mount the belt guard.
- ☞ Check the belt tension after two hours and then again after 24 hours of operation as experience shows that the belts stretch mostly during this period.

Attention!

It is essential that the drive belts are of precisely the same length in each set and absolutely impervious to oil. For this reason, we recommend that only original KAESER drive belts are used.

9.5 Lubricating Oil Level Check and Top-Off

Check the lubricating oil level monthly at the gear end and drive end with the blower package switched off. The oil level should never fall below the middle of the oil level sight glass. The oil level at the sight glass changes during operation because of the rotating parts. For this reason the check the oil level only when the blower package is shut down.

Attention!

If the oil level has fallen to 1/8" below the middle of the oil level sight glass, the blower must be topped off according to the instructions in the oil recommendations.

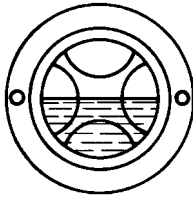
Never top off the blower above the middle of the oil level sight glass otherwise oil could be forced into the vent chamber.

☞ Switch off the blower package (see chapter 8.1).

Attention!

**Before servicing the blower carry out the following:
Lock the main disconnect switch in the “OFF” position in accordance with lockout/tag out procedures to ensure the blower package does not restart.**

Lock the air discharge in the “CLOSED” position and vent all compressed air trapped between the blower package and the air discharge valve in accordance with applicable lock out/tag out procedures.



Lubricating oil level at middle of oil level sight glass

☞ Top up with lubricating oil via “red” oil filter plugs on the gear and drive ends of the block until the middle of the oil level sight glass is reached (see chapter 1.5).

Attention! The oil chambers of the gear and drive ends are not connected to each other.

9.6 Lubricating Oil Change

Attention! Carry out the first lubricating oil change after the first 500 hours of service.

See chapter 9.2 for recommended time interval for oil change.

☞ Switch off the blower package (see chapter 8.1).

Attention! Before servicing the blower carry out the following:
Lock the main disconnect switch in the “OFF” position in accordance with lockout/tag out procedures to ensure the blower package does not restart.

Lock the air discharge in the “CLOSED” position and vent all compressed air trapped between the blower package and the air discharge valve in accordance with applicable lock out/tag out procedures.

Carry out the oil change with the blower block in a warm state (approximately 131 °F).



Collect the used oil in a suitable container and dispose of according to Federal and local environmental regulations!

☞ Drain the oil drain via the “red” marked oil drain plugs on the gear end drive ends. Fill up with new lubricating oil to the middle of the oil level sight glass via the “red” marked oil filler plugs on the gear and drive ends. (see chapter 9.5). Use only the lubricating oil detailed in the oil recommendations (see chapter 1.5).

Attention! Bleed air from the oil drain lines from the drive end and timing gear end.

9.7 Cleaning the Blower Package

☞ Regularly clean the surfaces of the blower package and drive motor and keep free of dirt and contamination.

Attention! Layers of dirt inhibit heat dissipation. Damage may occur through overheating.

10 Spare Parts and After Sales Service

Nameplate:

		Fredericksburg, VA 22404 Tel. (540) 898-5500
Model		Part-No.
Year		Serial-No.
psig	cfm	Voltage
Hz/RPM		FLA
Phase	HP	Scheme

Important:

☞ Enter the data from the nameplate found on the frame of the blower package into the nameplate illustrated above.

**Please quote the following information for all queries and orders for spare parts:
Please quote the following information for all inquiries and orders for spare parts:**

Rotary blower package, model:

Part No.:

Serial No.:

Year of Manufacture:

Attention! Use only KAESER original spare parts.

Appendix

11 Appendix

11.1 Maintenance Schedule

Rotary blower package, Modell:

Part No:

Serial No:

Date	Description of work	Service hours	Signature

11.2 Safety information concerning contamination of compressors, blowers, vacuum pumps and components

Application and purpose

Every company is responsible for the health and safety of its employees. This extends to personnel who carry out servicing work at the company's premises or at the site of the user.

The attached declaration is intended to inform the service contractor of any possible contamination to be found in compressors, blowers, vacuum pumps or components sent to him for servicing. Based on this information, the service contractor can instigate the necessary protective measures when carrying out the service work.

Preparation for shipment

Before shipping the item(s), the sender should fill out and sign the attached Declaration of Contamination form (one for each item) and attach a copy to the shipping documents and a copy on the outside of the packaging.

Please note the following shipping regulations:

- drain all operating fluids
- remove filter elements
- make all openings airtight
- pack correctly
- ship in suitable container
- fix a copy of the Declaration of Contamination to the **outside** of the packaging

Declaration of Contamination
concerning compressors, blowers, vacuum pumps and components

Repair and/or maintenance work will only be carried out on items for which a Declaration of Contamination form has been filled out and attached. **A completed Declaration is required for each item.** Any item not accompanied by a Declaration is liable to be returned untouched. Items that have been contaminated with microbiological, explosive or radioactive substances will only be accepted when accompanied by confirmation that they have been **fully decontaminated** according to regulation. This Declaration may only be filled out and signed by the authorized representative of the ordering party (sender of the item).

Sender/dept.: _____
 Contact name: _____
 Address: _____
 Phone / Fax: _____

Reason for sending the item:

 (use rear side of form if necessary)

Specification of the item:

Model/type name: _____
 Part no.: _____
 Serial no.: _____
 Oil used: _____

Accessories:

Condition of the item:

	yes	no	not known
- has it been used?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- emptied/vented?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- all openings airtight closed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- cleaned / decontaminated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Cleaning substance used: _____

Cleaning method: _____

Information on contaminants:

- with what substances has the item been in contact?

	Trade name	Chemical name	Characteristics
a)			
b)			
c)			
d)			

	yes	no	not known
- Are the substances listed above hazardous to health?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Are any hazardous substances given off by heating?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Which? _____

We declare that the information given in this declaration is true and complete and that the signatory is authorized and in a position to make this declaration. We are aware of our liability for any damages resulting from false or incomplete information given in this declaration and we engage to hold the contractor free of claims from third parties for compensation for damages resulting from such incomplete or false information.

Name of the authorized signatory (please print): _____

_____ Date

_____ Authorized signature

Sender's company seal:

12 Standard Accessories

12.1 Relief Valve

Kaeser provides a spring loaded relief valve with each Omega-pak™ blower package. The intended sole purpose of this relief valve is to protect the blower from inadvertent system over-pressurization. It is strongly recommended that all blower systems make use of a relief valve as an added measure of safety above and beyond other methods already being utilized (ie. high pressure and temperature switches, etc). Failure to do so can bear grievously dangerous consequences including serious equipment damage, personal injury or death.

Prior to shipment, each valve is 100% tested & inspected for blow-off set point, blowdown and leakage. All adjustments are factory sealed to prevent tampering or disassembly. Resetting of the valve setpoint or repair work should be performed by qualified repair personnel at facilities holding National Board valve repair stamps. Any attempt to adjust, repair or modify the valve by non-qualified or non-authorized persons voids the product warranty and poses considerable risk of danger.

The relief valve is shipped disconnected from the blower package. The following information is being provided as an installation guide to facilitate trouble-free service.

- Install the relief valve into the system piping (downstream of the blower for pressure, upstream of the blower for vacuum).
- The valve should be placed as close as possible to the end of the rubber compensator sleeve attached to the discharge silencer (for pressure) or the inlet silencer (for vacuum).
- Sources of additional pressure drops (ie. check valves, elbows, reducers, tees, etc) should NOT be installed between the relief valve and the blower.
- Changing the setting of the valve is not permitted and voids any consideration for warranty liability.
- **IMPORTANT:**
For proper operation of vacuum relief valves, the female threaded port is the valve inlet and this port must be connected to the vacuum source. Conversely, for all pressure relief valves, the male threaded port is the inlet and must be connected to the pressure source.