



Gieb GmbH
Max-Plank-Str. 3
76761 Ruelzheim



Original operating instructions
Compressors - 11+15 bar - 2 cylinders,
two-stage compression
(suction capacity 640 - 1500 l/min)

Keep for future use!

revision

Date	version	Chapter	Ground	Responsible
03/10/2011	00.01	Everything	rebuild	Weidl/DME

These operating instructions were created by us to the best of our knowledge. If you should nevertheless find any errors or ambiguities, please let us know. Furthermore, we are grateful for tips and suggestions. Please contact:

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Gieb GmbH
Max-Plank-Str. 3
D-76761 Ruelzheim

Version 00.01

Unauthorized duplication, even in part, is not permitted. Rohrbach,
April 20, 2011

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1 General

1.1 Scope of Delivery and Responsibilities

The compressor was developed and built under the responsibility of Gieb GmbH.

The scope of delivery includes:

- air compressor
- Rubber vibration dampers for feet
- Operating instructions with attachments
- Documentation for the pressure vessel

The 400 V compressor is supplied ready for connection without a plug. A 15 bar compressor can be pressure-reduced at the customer's request.

The operator is responsible for the completeness and functionality of the compressor after taking it over from the manufacturer.

Subsequent changes by the operator are not the responsibility of the manufacturer.

1.2 Applicable Documents

In addition to these operating instructions, the documents supplied must be observed. The documents are listed in Chapter 11 "Appendices".

1.3 Representations in the text and abbreviations

1.3.1 representations

function/object	Depiction
instructions	Start with an angle >
enumerations	Start with a period ●

1.3.2 abbreviations

abbreviation	Meaning
PPE	Personal protective equipment
W/D	AC / three-phase compressor version
fb / lg / st	mobile / lying / standing version

2 Security

2.1 Intended Use

The compressor is only used to generate and store compressed air with normal atmospheric composition.

The compressed air generated can be used as working, control and blowing air in connection with compressed air tools, devices and machines.

The area of application for the compressor is primarily in the industrial sector inside buildings.

Depending on the connected load, the compressor is intended for connection to a public power supply network or to a power supply network fed by its own high or medium voltage transformer intended for the power supply of a factory or similar installation (see chapter 3 "Technical specifications").

The operational safety of the compressor is only guaranteed if it is used as intended. Intended use also includes observing the supplied documentation and complying with the inspection and maintenance regulations.

An operation is not permitted:

- in potentially explosive atmospheres or ex-zones,
- if combustible or toxic gases are sucked in,
- when the specified maximum pressure is exceeded,
- in damp and wet environment,
- with changes or deactivation of safety devices,

- without safety panels,
- with defective safety devices,
- in technically not perfect condition.

2.2 safety marking

2.2.1 Structure of the safety instructions

The following signal words are used in conjunction with safety signs to indicate possible hazards in this document.



Danger!

death or serious physical injury **will occur** if proper precautions are not taken.



Warning!

death or serious physical injury **can occur** if proper precautions are not taken.



Caution!

Minor personal injury can result if proper precautions are not taken.



Danger!

Property damage can occur if proper precautions are not taken.



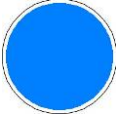


information

Here you will find information and tips on how to carry out the following activities effectively and safely.

2.2.2 Safety markings and their meaning

The meaning of the safety signs is signaled by shape and colour.

shape	Color	Meaning
	Safety color red Contrast color white	ban
	Safety color yellow Contrast color black	warning
	Safety color blue Contrast color white	bid

2.2.3 Symbols used in the document

symbol	Meaning	symbol	Meaning
	Don't touch span- live parts		Danger high voltage
	warning of one danger point		Trip hazard warning
	warning of hot surface		Warning of slipping hazard
	Warning automatic start		Beating hose warning
	Warning Danger of being drawn in		Suspended load warning
	warning of healthy harmful substances		Warning of danger of tipping
	protective gloves use		Unlock before work
	safety shoes gene		wear safety glasses
	follow instructions		use hearing protection
	Note on disposal of fabrics		

2.3 safety instructions

The basic prerequisite for safe handling and trouble-free operation of the compressor is knowledge of the basic safety instructions and the occupational health and safety regulations.

These operating instructions contain important information on how to operate the compressor safely.

Also note the supplied documentation.

Danger!

Danger to life from touching live parts.



- > Work on the electrical equipment may only be carried out by authorized electricians.
- > Do not work on live parts.
- > Only carry out work after disconnecting from the power supply.
- > Always keep terminal boxes closed.
- > Replace loose connections and damaged cables immediately.
- > Cables must not be pinched or crushed.
- > Cables must be routed in such a way that they are not a tripping hazard and cannot be damaged.
- > Always disconnect the compressor from the mains, even if the transport distances are short.
- > Do not operate the compressor in a damp or wet environment.

Warning!

Risk of overload.



- > The operator must ensure that the compressor is only used as intended.
- > Safety devices must not be dismantled or manipulated.
- > The factory-set blow-off pressure on the safety valve must not be adjusted.
- > It is not permitted to exceed the limit value for the discharge pressure specified on the type plate.
- > The compressor may only be operated with the rubber vibration dampers.
- > In order to avoid fatigue fractures due to vibration, the tank and the components mounted on it must not be fixed to the floor or fixed parts.
- > Do not weld on pressure-bearing components.

Warning!

Danger from technical defects.



- > Only allow maintenance work to be carried out by qualified specialist personnel.
- > Do not operate the compressor with defective or without safety devices.
- > Conversions and changes to the compressor may only be carried out with the manufacturer's approval and in compliance with all relevant safety regulations.
- > Statutory and regular inspections are to be organized by the operator in accordance with the applicable regulations of the country in which the container is used.
- > Safety devices must be checked regularly to ensure that they are functional.
- > The compressor may only be operated if it is in perfect condition.

Warning!

Danger from improper handling of compressed air.



- > When connecting and disconnecting air hoses to quick couplers, hold the hoses firmly to prevent whipping.
- > Never point the discharge ends of compressed air lines at people or loose objects.
- > Wear safety goggles when working with compressed air.
- > Only use spare parts approved by the manufacturer.
- > Repair work may only be carried out by trained specialists.
- > Carry out regular visual checks on compressed air hoses and compressed air components.

Warning!

Hazards from human error.



- > Only appropriately trained and authorized personnel may work on the compressor.
- > Instructions attached to the compressor must be observed.
- > The operating, maintenance and repair personnel must be familiar with all safety instructions and the operation of the compressor.
- > The operating instructions must always be available at the place where the compressor is used.
- > In addition to the operating instructions, the supplied documentation for individual components must be observed.

**Warning!**

Noise hazard from the operation of the compressor.

- > Hearing protection must be provided for staying in the noise emission area of the compressor at values ≥ 80 dB (A).
- > With noise emissions ≥ 85 dB (A), hearing protection must be worn.

**Warning!**

Danger of tripping, slipping and falling from cables, objects or debris lying on the floor.

- > Make sure that there are no loose cables, hoses or objects lying on the floor in the machine area.
- > Always keep floor free of contamination, wipe up spilled materials immediately.
- > Lay lines in such a way that they do not create a tripping hazard.
- > Do not place or store objects in traffic routes.
- > After repair work, lay the lines again so that there is no risk of tripping and remove tools.

**Caution!**

Danger of burns on hot surfaces of the compressor.

- > Do not touch hot components such as the compressor, motor and pressure line.

**Caution!**

Danger from poorly legible or missing labels as well as from difficult to recognize or defective visual displays.

- > Keep labels and displays legible and clean at all times.
- > Replace poorly legible or missing labels.
- > Replace defective visual displays immediately.

**Caution!**

Risk of injury due to insufficient illumination.

- > Ensure adequate lighting in the area surrounding the compressor.

**Caution!**

There is a residual risk of impact injuries on the compressor.

- > Always work carefully and prudently.

2.4 security concept

2.4.1 General

The aim is to protect:

- of the staff from injuries,
- the system from damage and standstill,
- the environment from danger.

2.4.2 protective measures





The following protective measures have been taken:

- protective cover belt drive,
- pressure relief valve,
- pressure switch,
- Obligation to wear personal protective equipment (PPE),
- attaching safety signs to the compressor,
- safety instructions in the operating instructions,
- Organizational measures.

The points are described in more detail in the following chapters.

2.5 Personal protective equipment

The protective equipment to be worn depends on the activity in connection with the compressor:

symbol	PPE	Task
	safety shoes	transport and assembly work
	safety goggles	Working with compressed air
	ear protection	Stay in the area with corresponding noise emissions
	protective gloves	maintenance and cleaning work

2.6 exams

The compressor must be checked for proper functionality and safety through regular inspections, see Chapter 9 "Maintenance".

The legally prescribed tests for the container must be organized by the operator in accordance with the applicable regulations of the country in which the container is used (BetrSichV for Germany).

2.7 residual risks

Symbols are attached to the compressor to warn of residual hazards that cannot be eliminated by design.



Notice

Observe all attached to the compressor

- warnings and safety symbols,
- other markings and labels.

2.8 Personnel requirements, duty of care

2.8.1 General

The compressor must never be operated by people who are under the influence of drugs that reduce reactions or who are unable to operate it for health reasons.

Personnel to be trained, instructed or in the context of general training may only work on the compressor under the constant supervision of an experienced person.



Notice

The operating instructions must always be available at the place of use of the compressor. The storage location must be known to the employees.

2.8.2 due diligence

The staff must:

- have read and understood the operating instructions,
- be instructed in how the compressor works,
- know how to carry out the individual work,
- be sanitary able to use the compressor.

2.8.3 Training

Work on the compressor may only be carried out by reliable, trained and instructed personnel.

Maintenance work may only be carried out by specialists who, based on their technical training, knowledge and experience as well as knowledge of the relevant regulations, can assess the work assigned to them, recognize possible dangers and take the necessary measures to eliminate the risk of accidents.

Task	minimum qualification
transport	Trained specialist staff
Installation, commissioning	people with technical training
normal operation	instructed persons
troubleshooting	people with technical training
troubleshooting	people with technical training
maintenance/cleaning	instructed persons
repair	people with technical training
exams	Qualified Person

2.8.4 minimum age

- The staff must be at least 18 years old.
- Exception: Trainees under the age of 18 may work on the compressor for training purposes in the presence of a supervisor.

2.9 behavior in case of emergency

Note the following points:

- Locations of first aid stations must be known.
- The staff must be informed about what to do in an emergency.
- Proper behavior must be regularly trained, checked and appropriately recorded.

In an emergency:

- Carrying out first aid measures on the injured person.
- Call a doctor or paramedic.
- Inform supervisors.
- Instructions from superiors or support staff must be followed.

3 Technical specifications

compressor Type	built aggregate	boiler [Liter]	executive tion	Dimensions (LxWxH) [mm]	Weight [kg]	sound level [db (A)]
640/60-15-fb	M 5 – 15	60	mobile	1230x456x7890
640/90-15-fb	M 5 – 15	90	mobile			
640/250-15-lg	M 5 – 15	250	lying			
640/250-15-st	M 5 – 15	250	standing			
750/90-11-fb	M 5 – 11	90	mobile			
750/90-11-st	M 5 – 11	90	standing			
750/250-11-lg	M 5 – 11	250	lying			
750/250-11-st	M 5 – 11	250	standing			
750/500-11-lg	M 5 – 11	500	lying			
750/500-11-st	M 5 – 11	500	standing	_x_x 2650		
750/90-15-col	M 6 – 15	90	mobile			
750/250-15-lg	M 6 – 15	250	lying			
750/250-15-st	M 6 – 15	250	standing			
750/500-15-lg	M 6 – 15	500	lying			
750/500-15-st	M 6 – 15	500	standing			
850/90-11-fb	M 6 – 11	90	mobile			
850/90-11-st	M 6 – 11	90	standing			
850/250-11-lg	M 6 – 11	250	lying			
850/250-11-st	M 6 – 11	250	standing			
850/500-11-lg	M 6 – 11	500	lying			
850/500-11-st	M 6 – 11	500	standing	_x_x 2670		
1250/500-15-lg	M 7 – 15	500	lying			
1250/500-15 pcs	M 7 – 15	500	standing			
1500/250-11-lg	M 7 – 11	250	lying			
1500/250-11-st	M 7 – 11	250	standing			
1500/900-11-lg	M 7 – 11	900	lying			
1500/1000-11-lg	M 7 – 11	1000	lying			

Performance data for the installed units (2 cylinders, two-stage)

aggregate Type	suction / effective Performance [l/min]	Max pressure [bar]	engine [kW] / [volts]	fuse [A]	compressor [RPM]	oil capacity [l]
M 5 – 15	640 / 440	15	4.0 / 400	20	1,090
M 5 – 11	750 / 515	11	4.0 / 400	20	1,190	
M 6 – 15	750 / 540	15	5.5 / 400		1,090	
M 6 – 11	850 / 610	11	5.5 / 400		1,190	
M 7 – 15	1250 / 890	15	7.5 / 400		1,090	
M 7 – 11	1500 / 1050	11	7.5 / 400		1,190	

Permissible ambient temperature: 5 °C to 40 °C

4 device description

4.1 Device overview

4.1.1 Mobile version

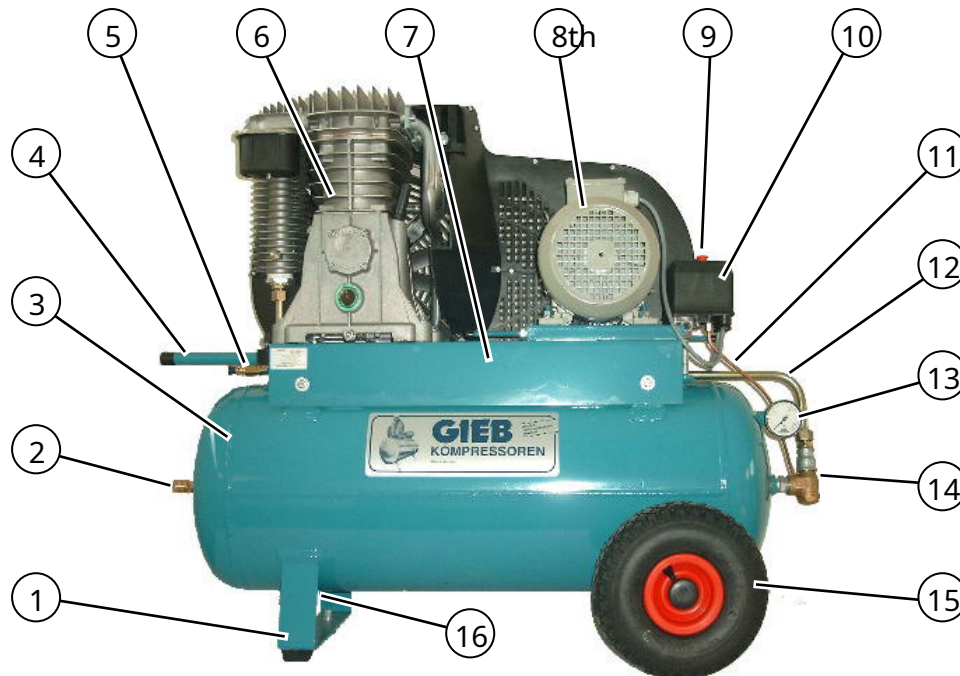


Fig. 1 Overview compressor mobile version

position	designation	function
1	stand	carries compressor (with rubber damper)
2	Air Connection Coupling	Connection for compressed air consumer
3	pressure vessel	stores compressed air
4	handle	extendable for driving
5	safety valve	opens at overpressure
6	compressor	generates compressed air
7	console	carries compressor and drive motor
8th	electric drive motor	drives compressor
9	On/off switch	turns the compressor on and off
10	pressure switch	controls electric drive motor
11	start-up relief line	facilitates the start-up of the compressor
12	pressure line	supplies compressed air to the container
13	manometer	indicates pending pressure level
14	check valve	prevents backflow of compressed air
15	Wheels	make compressors mobile
16	condensate drain valve	used to drain condensate

4.1.2 Lying version

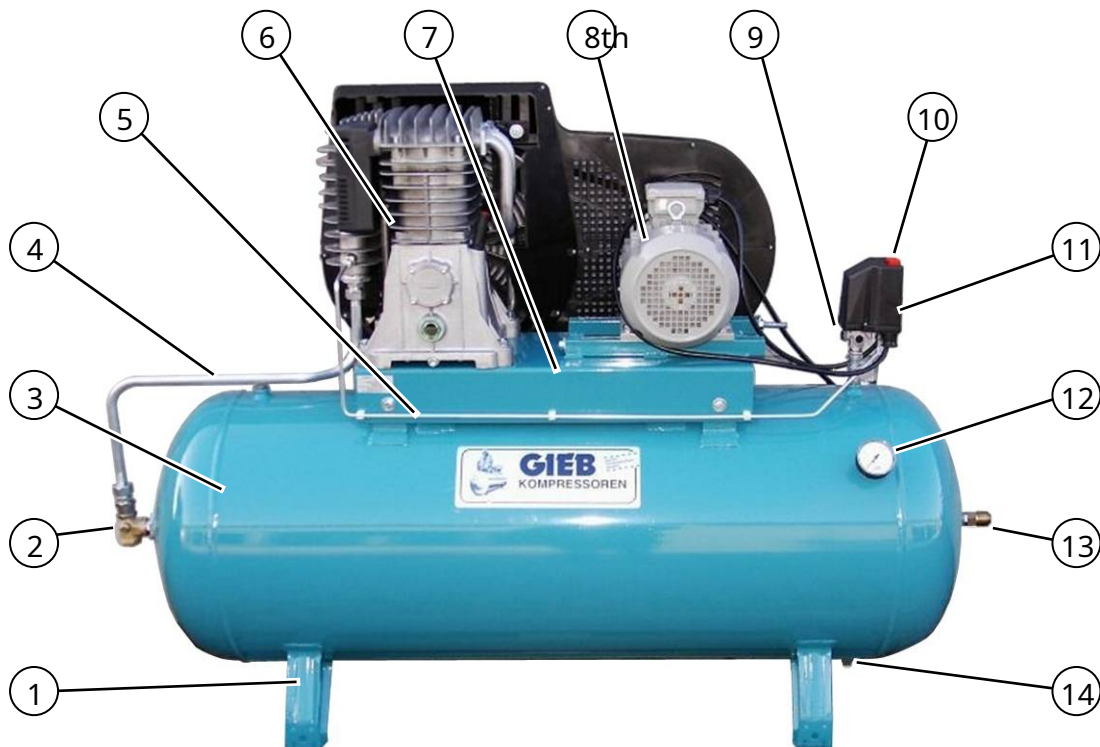


Fig. 2 Overview compressor horizontal version

position	designation	function
1	stand	carries compressor
2	check valve	prevents backflow of compressed air
3	pressure vessel	stores compressed air
4	pressure line	supplies compressed air to the container
5	start-up relief line	facilitates the start-up of the compressor
6	compressor	generates compressed air
7	console	accommodates compressor and drive motor
8th	electric drive motor	drives compressor
9	safety valve	opens at overpressure
10	On/off switch	turns the compressor on and off
11	pressure switch	controls electric drive motor
12	manometer	indicates pending pressure level
13	Air Connection Coupling	Connection for compressed air consumer
14	condensate drain valve	used to drain condensate

4.1.3 Standing version

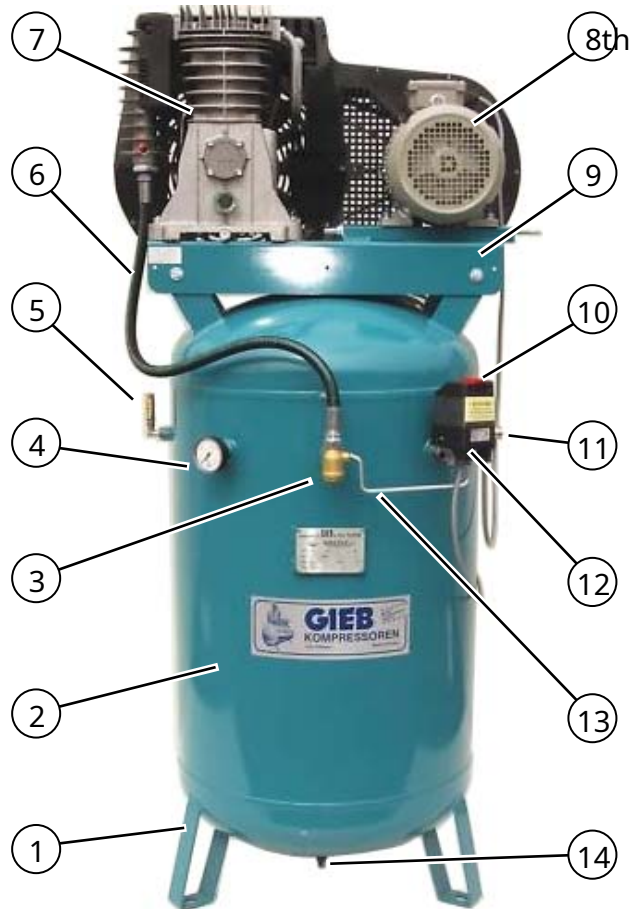


Fig. 3 Overview Compressor vertical version

position	designation	function
1	stand	carries compressor
2	pressure vessel	stores compressed air
3	check valve	prevents backflow of compressed air
4	manometer	indicates pending pressure level
5	safety valve	opens at overpressure
6	compressed air hose line	supplies compressed air to the container
7	compressor	generates compressed air
8th	electric drive motor	drives compressor
9	console	accommodates compressor and drive motor
10	On/off switch	turns the compressor on and off
11	Air Connection Coupling	Connection for compressed air consumer
12	pressure switch	controls electric drive motor
13	start-up relief line	facilitates the start-up of the compressor
14	condensate drain valve	used to drain condensate

4.2 aggregates

Depending on the performance of the compressor, one of the following units for generating compressed air is installed on the compressor. The technical data for the individual units are listed on page 16.

The description for types M 5 and M 6 corresponds to type M 7.

4.2.1 Type M 5



Fig. 4 Aggregate type M 5

4.2.2 Type M 6



Fig. 5 Aggregate type M 6

4.2.3 Type M 7

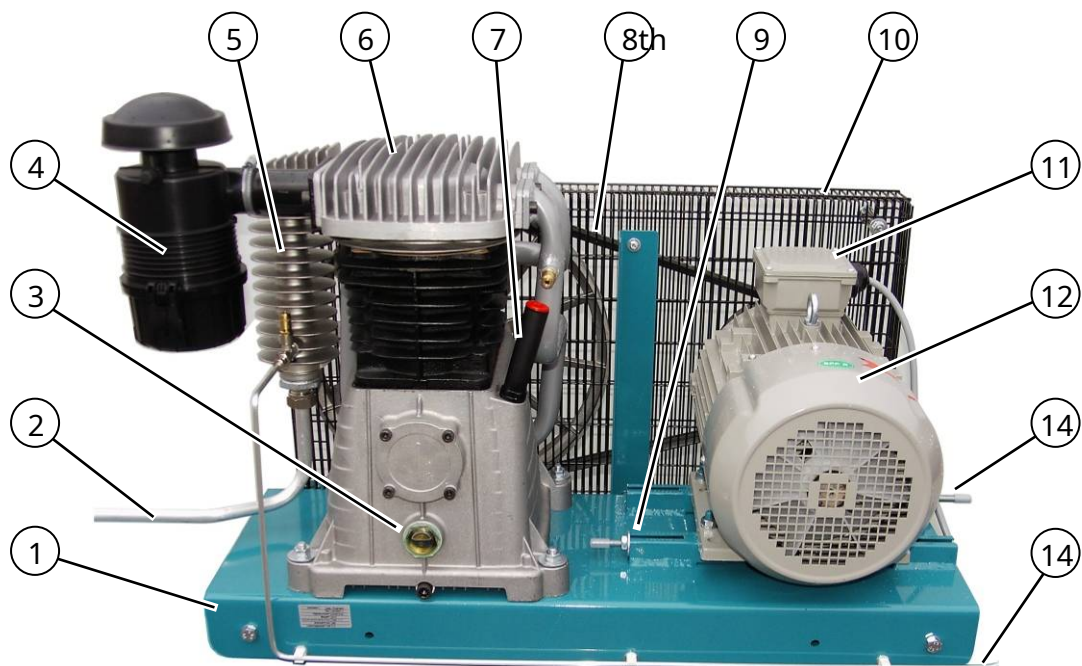


Fig. 6 Aggregate type M 7

position	designation	function
1	console	carries compressor and drive motor
2	pressure line	supplies compressed air to the container
3	Oil sight glass	shows compressor oil level
4	air filter	cleans intake air
5	air outlet cooler	cools compressed air
6	compressor	generates compressed air
7	Oil filler neck	for filling oil into the compressor
8th	V-belt (2x)	transfer drive power to compressor
9	belt tensioning device	for tensioning the V-belts
10	terminal box	Electrical connection motor
11	Belt drive cover	serves as a protective cover
12	electric drive motor	drives compressor
13	belt tensioning device	serves to tension the V-belts
14	relief line	Start-up relief at the pressure switch

All components are available on unit types M 5 and M 6 as shown on unit type M 7. However, the design of the individual components may vary.

4.3 Operating and display elements

4.3.1 ON/OFF and pressure switch

The ON/OFF switch is located on top of the compressor pressure switch. It is designed differently depending on the pressure switch used on the compressor.

In principle, the pressure switches differ in that either no motor protection relay or a motor protection relay is integrated in the pressure switch.




pressure switch	execution
	<p>Pull/push switch without motor protection relay.</p> <p>ON/OFF switch designed as a pull switch. Pull = ON, Push = OFF</p> <p>Used as a control switch for devices with a star-delta circuit.</p>
	<p>Pressure switch with integrated motor protection relay.</p> <p>ON/OFF switch designed as a rocker switch. Turn on and off by label.</p> <p>Used on 11 bar compressors.</p>
	<p>Pressure switch with integrated motor protection relay.</p> <p>ON/OFF switches designed as pushbuttons. green = ON, red = OFF</p> <p>Used on 11 and 16 bar compressors.</p>

Fig. 7 pressure switch

For further detailed information on the pressure switch used, see the documentation under Attachments.

4.3.2 manometer

The pressure gauge shows the pressure in the tank. Under no circumstances should the pressure exceed the maximum discharge pressure stated on the compressor nameplate. Should this occur, the compressor must be switched off and the pressure released. The compressor may no longer be operated and must be repaired by specialists.

4.3.3 oil level indicator

There is a sight glass on the compressor in which the oil level is visible, see chapter 9.2.3 "Oil level and oil change".

4.3.4 condensate drain valve

The condensate drain valve is located at the bottom of the pressure vessel. By opening the valve while the tank is under pressure, accumulated condensate can be drained. As an option, an automatic drain valve can be attached as special equipment.

4.4 Functional description

compressor

The compressor is equipped with a 2-cylinder compressor with a two-stage mode of operation. The intake air is pre-compressed in the cylinder of the 1st compressor stage. This pre-compressed air is then fed into the cylinder of the 2nd compressor stage, where it is compressed to ultimate pressure. The compressor is driven by the electric motor via a belt drive with an attached fan wheel. The fan wheel is used to cool the compressor.

intake filter

An intake filter is mounted directly on the intake manifold on the cylinder of the first compressor stage. This includes a dry air filter that cleans the intake fresh air before the compression process.

air outlet cooler

An air outlet cooler is installed at the air outlet of the 2nd compression stage. The pressure line that connects the compressor with the container is connected to the air outlet cooler. On some compressors, this line is designed as a hose line.

check valve

A non-return valve is installed in the pressure line from the compressor to the tank. The check valve prevents the compressed air from flowing back out of the container.

electric motor

The electric motor has its own fan wheel integrated in the housing for cooling and is equipped with a belt pulley.

pressure switch

The electric motor is controlled by a pressure switch. The pressure generated is present at the pressure switch. The pressure switch switches the electric motor off when the specified maximum value is reached and on again when the minimum value is reached. In addition, the start-up relief is provided by the pressure switch via a discharge line with a relief valve. The ON/OFF switch is also located on the pressure switch.

belt drive

The compressor is connected to the electric motor via a belt drive with double V-belts. The complete belt drive and the fan wheel of the compressor are provided with a common protective cover.

safety valve

In order to prevent an impermissible overpressure in the system, a safety valve is attached to the pressure vessel, which opens in the event of overpressure. The pressure tank also has a condensate drain valve.

5 transport

5.1 Safety instructions for transport

Warning!

Risk of the compressor falling / falling over during transport.



- > Only transport the compressor when it is depressurized.
- > wear safety shoes.
- > Use suitable and sufficiently dimensioned lifting and transport equipment.
- > Note the center of gravity of the compressor.
- > Ensure that the transport belts have sufficient load capacity.
- > Prefer transport on pallet.
- > Secure the compressor during transport.
- > Make sure that no loose parts can fall during transport.
- > Do not step under raised loads.
- > Disconnect the compressor from the pneumatic and electrical connections even if the transport routes are short.

5.2 Procedure for transportation

The mobile compressors have an extendable handle. To pull out the handle, loosen the clamping screw and then tighten it again.

Always transport each compressor upright, otherwise oil could leak out. In exceptional cases, the compressor can be transported lying on its side for a short time if the oil filler neck with the ventilation hole is at the top. Prolonged tilting can allow oil to seep through the piston rings into the compressor cylinders.

A non-mobile compressor can be transported on a pallet with a pallet truck or forklift. With the help of suitable straps, a large compressor can be lifted on the container. It is important to ensure that no attachments are damaged.

The compressor must be secured against slipping or tipping during transport using the tensioning straps provided.

6 Installation and commissioning

6.1 Safety instructions for assembly and commissioning

Danger!

Danger to life from touching live parts.



- > Work on the electrical equipment may only be carried out by authorized electricians.
- > Do not work on live parts.
- > Only carry out work after disconnecting from the power supply.
- > Always keep terminal boxes closed.
- > Loose connections, replace damaged cables immediately.
- > Cables must not be pinched or crushed.
- > Cables must be routed in such a way that they are not a tripping hazard and cannot be damaged.
- > Always disconnect the compressor from the mains, even if the transport distances are short.
- > Do not set up the compressor in a damp or wet environment.

Warning!



Danger from loss of stability / tipping over of the compressor if the installation site is unsuitable.

- > Set up the compressor only on level, solid ground with sufficient load-bearing capacity.

Warning!



Danger due to non-existing protective devices.

- > All safety covers must be attached to the compressor before start-up.

Caution!



Danger from contaminated compressor exhaust air.

- > Ensure effective ventilation at the installation site of the compressor.

Caution!



Risk of injury due to insufficient illumination.

- > Adequate lighting at the installation site of the compressor must be ensured.

6.2 Set up the compressor

Place the compressor horizontally on a firm and level surface so that it is sufficiently stable and the compressor does not wobble. Make sure there is a suitable power supply nearby.

The compressor must not be installed in a location with a potentially explosive atmosphere. The installation site must be dry.

The rubber vibration dampers should be fitted to the compressor feet if they are not already fitted in order to avoid vibration damage.

The compressor must be placed at least 30 cm away from a wall in order to obtain good cooling. An adequate supply of fresh air must be guaranteed at the installation site.

It must be ensured that the compressor does not stand on connection lines.

6.3 power connection

400 V compressors are supplied without a plug. Depending on requirements, they are either connected directly to the mains power supply via a main switch or retrofitted with a plug. Powerful devices may be equipped with a star-delta circuit.

The connection may only be carried out by qualified electricians!



Notice

When connecting, pay attention to the direction of rotation of the 400 V compressor. This is indicated by an arrow on the compressor.

If the 400 V compressor is to be equipped with a plug and operated on alternating connections, it is advisable to install a plug with a phase inverter. If the direction of rotation is wrong, this plug can simply be reversed with a screwdriver, thereby changing the direction of rotation.

When using extension cables, make sure that they have a cross-section that is sufficient for the compressor's performance and that they are not too long.

6.4 oil level check

Before commissioning, the oil level in the compressor must be checked. The correct fill level is described in Chapter 9.2.3 "Oil level and oil change".

7 service

7.1 Safety instructions for operation

Warning!

Danger from improper handling of compressed air and compressed air components.



- > Never point the discharge ends of compressed air lines at people or loose objects.
- > When connecting and disconnecting air hoses to quick couplers, hold the hoses firmly to prevent whipping.
- > Wear safety goggles when working with compressed air.
- > Before starting work, carry out a visual inspection of the compressed air hoses and compressed air components.
- > It is not permitted to exceed the limit value for the discharge pressure specified on the type plate. This must be monitored regularly on the manometer.

Warning!

Noise hazard from the operation of the compressor.



- > Provide hearing protection when staying in the noise emission area of the compressor at values ≥ 80 dB (A).
- > With noise emissions ≥ 85 dB (A), hearing protection must be worn.

Warning!

Danger due to non-existing protective devices.



- > Do not operate the compressor without protective devices.

Caution!

Danger of burns on hot surfaces of the compressor.



- > Do not touch hot components such as the compressor, motor and pressure line.

Caution!

Danger from contaminated compressor exhaust air.



- > Effective ventilation of the working area must be ensured during compressor operation.

7.2 Turn on/off



Notice

In order for the start-up relief to take effect, the following procedure must be observed when switching on and off.

Turn on

- > Set the ON/OFF switch on the compressor's pressure switch to the "OFF" position before connecting to the mains power supply.
- > Establish a connection to the power supply by inserting the plug into the socket or, in the case of stationary compressors, by switching on the power supply (main switch).
- > Switch the ON/OFF switch on the compressor to the "ON" position.

The compressor starts. If there is still sufficient pressure in the container, the compressor only starts up automatically after the pressure has been removed.

Turn off

- > Switch the ON/OFF switch on the compressor's pressure switch to the "OFF" position.
- > Disconnect from the power supply by pulling the plug out of the socket or, in the case of stationary compressors, by switching off the power supply (main switch).

7.3 Pneumatic equipment and tools

When using compressed air devices and compressed air tools, the manufacturer's information on air consumption must be observed.

It must be checked whether the performance of the compressor is sufficient for the operation of the tool in question.

7.3.1 Necessary compressor power

If a connected device uses too much air, it can overload and overheat the compressor.

It therefore makes sense to calculate at least 1/3 more compressor capacity than is required by the compressed air device used.

Compressors with a lower suction capacity can be used for short periods of time for work with higher air consumption.

7.3.2 Air consumption values of compressed air devices

The values given serve as a guide for the required suction capacity of a compressor for the listed applications. In general, the manufacturer's information on the air consumption of their compressed air devices and tools must be observed.

Application	Workspace / Samples	application art	more necessary Print	intake performance
blow out	Blow off dirt, clean parts	momentarily	5 - 11 bars	from 180 liters
paint splash	Water colors and thin varnishes - nozzles 0.5 - 1 mm	small parts, fenders etc.	3 - 4 bars	from 230 liters
paint splash	Hammer finish paints and all viscous paints – nozzles at least 2 mm	larger areas, whole cars	3 - 5 bars 3 - 5 bars	away. 320 liters from 420 liters
spray gun, washing gun	Spray cold cleaner, underbody protection, plant and insect protection.	Nozzle adjustable of spray jet until spray.	4 - 7 bars	230 - 420 liters
bracket and herd devices	Fasten staples up to a length of approx. 25 mm in wood, cardboard, etc	pressure depending on material hardness	4 - 7 bars	from 230 liters up to 420 liters
compressed air nailer	Staples over 25 mm in length and nails up to a maximum length of 100 mm	ditto	ditto	from 320 liters up to 600 liters
compressed air grinder	All small grinders, die grinders, orbital and eccentric grinders, no large angle grinders	According to manufacturer declarations, only temporarily Mission	about 5 - 8 bar	320 - 600 liters
	for CONTINUOUS USE	ditto	ditto	from 750 liters
fill tyres	For bicycle to car tires	Faster at more efficient	depending on Tires	from 230 liters up to 420 liters
fill tyres	Truck tires and larger ones - up to max. below 8 bar / above 15 bar compressor required	ditto	up to 8 bars	from 420 liters
grease gun	for all work to be done	after Manufacturer-declarations	4 - 11 bars	from 230 liters
putty syringe	for all work to be done		various 0.2-15 bar	from 230 liters
compressed air tools	SMALLER: small drills, die grinders, straight screwdrivers, etc.	ditto	5 - 7 bars	from 320 liters
	MEDIUM: tin nippers, tin snips, other tools	ditto	5 - 7 bars	from 420 liters
	BIGGER: Angle grinders (medium), orbital grinders,	ditto	5 - 7 bars	from 500 liters
impact screwdriver	light – for screws up to D = 10 mm	temporarily smaller compressor	5 - 7 bars	from 320 liters
	heavy - for screws > D= 10 mm-	ditto	5 - 7 bars	from 420 liters
Chisel-hammers	light – body, sheet metal, and small stone chipping hammers	consumption pay attention	loud Manufacturer	from 320 liters
	heavy – masonry, demolition and concrete hammers	consumption pay attention	loud Manufacturer	from 600 liters
sandblasting with pistol	only small parts, rust spots on cars, small areas up to 10 mm ² , corners, edges, profiles	after Manufacturer-declarations	4 - 8 bars	from 320 liters
sandblasting with pressure-blasting machine	large areas and longer work periods	after Manufacturer-declarations	6 - 11 bars	according to the manufacturer

8th error diagnosis

Errors occurring on the compressor can be localized and rectified with the aid of the following error diagnosis table.

Mistake	Possible Cause	Troubleshooting
Compressor is not running or only with difficulty <i>or</i> Motor protection switches off after a short time <i>or</i> Compressor "dies" off while running <i>or</i> Compressor is not running on - motor just hums	a) When using extension cords: Cable too long - cross-section too small for the cable length. b) For 230 volt devices: check whether the capacitor(s) or relay in the motor terminal box is/are defective. c) For 400 volt devices: Check the power supply - whether all 3 phases are live or whether a fuse has failed.	a) Use the correct cable cross-section for the required cable length. At 230 V from 10 m 3 x 2.5 mm ² b) Replace if parts are defective. c) Reattach any loose or loose cable connections or switch on or replace fuses. Execution of this work: only by competent persons.
Compressor is losing oil outward, oil on console under compressor, Oil drains from the oil filler neck	a) Oil escapes at a sealing point of the compressor b) Oil under compressor - not visible from where c) Oil runs down the oil filler neck Re c) - 3) - right column: ATTENTION: Even with normal, very heavy loads on the device, oil vapor can develop, which then condenses. Under certain circumstances, this cannot be avoided and is not a malfunction or defect in the device! It is best to wipe off after use, if any.	a) Check screw connections, tighten if necessary b) Compressor crankcase bottom is loose - tighten. c) Elimination of cause: 1) <u>Too much oil in the crankcase</u> Decrease oil level 2) <u>Compressor runs backwards</u> Change direction of rotation 3) <u>overload</u> Overheating of the compressor creates oil vapor in the crankcase, which condenses as it escapes from the oil filler neck and runs down.
Compressor loses in There was air from the oil filler neck <i>or</i> blows air out of the pressure switch Walk while standing	<u>ONLY if there is air gives way :</u> a) Air escapes from the oil filler neck: check valve is leaking. The rubber seal is dirty or defective. b) Air escapes from the pressure switch. Pressure switch membrane defective. <i>or</i> as above a) Non-return valve is leaking. <u>ONLY if air escapes during the run:</u> c) Air escapes from pressure switch start-up relief valve during run. Start-up relief valve defective.	a) Clean or replace rubber seal. To do this, completely release the pressure on the compressor, open the valve cover and remove the rubber with the spring. b) pressure switch Replace the rubber membrane because it is defective / the membrane sits between the metal lower part and the plastic upper part of the switch, or work as under a). c) Start-up relief valve - located at the bottom of the pressure switch where 6mm relief tubing is connected – clean or replace.

Compressor does not build pressure on <i>or</i> takes too long to fill <i>or</i> fills too slowly and gets too hot	a) Defective cylinder head or valve gaskets b) Defective valve springs or valve plates c) Valves charred / valves leaking. d) General wear and tear.	a) Check seals - replace. b) replace defective parts. c) replace defective parts, cleaning is usually no longer possible. d) Pistons, piston rings leaking, valve plate charred, defective / usually only replacing helps.
All other defects and disruptions	The cause has to be clarified	contact the manufacturer/customer service

If faults that occur cannot be rectified despite the measures described above, contact the manufacturer, Gieb GmbH.

9 maintenance

9.1 Safety instructions for maintenance and repairs

Danger!

Danger to life from touching live parts.



- > Work on the electrical equipment may only be carried out by authorized electricians.
- > Do not work on live parts.
- > Only carry out work after disconnecting from the power supply.
- > Always keep terminal boxes closed.
- > Replace loose connections and damaged cables immediately.
- > Cables must not be pinched or crushed.
- > Cables must be routed in such a way that they are not a tripping hazard and cannot be damaged.
- > Always disconnect the compressor from the mains, even if the transport distances are short.

Warning!

Danger from inadequate maintenance and use of non-approved spare parts.



- > Only use spare parts and operating materials approved by the manufacturer.
- > Only allow maintenance work to be carried out by qualified specialist personnel.
- > Maintenance instructions and installation instructions in supplier documentation must be observed.
- > Statutory and regular inspections are to be organized by the operator in accordance with the applicable regulations of the country in which the container is used.
- > Do not make any conversions or modifications to the compressor without the manufacturer's approval.
- > Regularly drain condensate that has accumulated in the tank to prevent corrosion.
- > After repair work, all safety devices and protective covers must be reinstalled.

Warning!

Danger from unexpected/unintentional starting of the compressor during maintenance work.



- > Before maintenance work, the compressor must be disconnected from the power supply.

Warning!

Danger from improper handling of compressed air and compressed air components during repairs.



- > Depressurize the compressor before maintenance work.
- > Repair work may only be carried out by trained specialists.



- > When connecting and disconnecting air hoses to quick couplers, hold the hoses firmly to prevent whipping.



- > Never point the discharge ends of compressed air lines at people or loose objects.
- > Wear safety goggles when working with compressed air.
- > Only use spare parts approved by the manufacturer.
- > Do not carry out any welding on pressure-bearing parts.

Warning!

Danger of being pulled in during maintenance work on the belt drive and fan if the procedure is improper.



- > Do not operate the compressor during maintenance work without the protective belt drive cover.
- > During maintenance work, the compressor must always be disconnected from the power supply.

Warning!

Danger of tripping, slipping and falling from cables, objects or debris lying on the floor.



- > Make sure that there are no loose cables, hoses or objects lying on the floor in the machine area.
- > Always keep floor free of contamination, wipe up spilled materials immediately.



- > Lay lines in such a way that they do not create a tripping hazard.
- > Do not place or store objects in traffic routes.
- > After repair work, lay the lines again so that there is no risk of tripping.
- > Remove tools and other work equipment after use.

Caution!

Risk of burns from hot compressor components during maintenance work.



- > Switch off the compressor and let it cool down before maintenance work.
- > Wear heat-resistant protective gloves when working in the area of hot compressor components.

**Caution!**

Danger of scalding from hot compressor oil when draining the oil.



- > Allow hot compressor oil to cool sufficiently before draining.
- > Wear protective gloves when draining compressor oil.

**Caution!**

Risk of injury to fingers when tensioning drive belts in the area of the belt tensioning device.

- > Work carefully and attentively when tensioning the belt to avoid crushing or pinching your fingers.

**Caution!**

Danger from poorly legible or missing labels as well as from difficult to recognize or defective visual displays.

- > Keep labels and displays legible and clean at all times.
- > Replace poorly legible or missing labels.
- > Replace defective visual displays immediately.

**Caution!**

Danger from contact with substances hazardous to health.



- > Avoid skin contact with harmful cleaning agents and lubricating oils.
- > Wear protective gloves when working with cleaning agents and lubricating oils.

**Danger!**

Risk of machine damage!

- > Never clean the compressor with high-pressure cleaners.

**Danger!**

The disposal of lubricants and cleaning agents is precisely regulated by environmental protection laws and regulations.



- > Deliver used lubricants and cleaning materials to the hazardous waste collection point.
- > If you spill lubricants, these must be sprinkled with binding agent immediately and disposed of as hazardous waste after binding.
- > Take precautions to contain spilled lubricant (sealed floor, drain pans, containment tarps).

9.2 maintenance

9.2.1 maintenance schedule

Maintenance work	Deadlines for intensive daily use	Deadlines for temporary Mission
Drain condensate (not applicable if automatic drain valve is attached)	daily	every time after completed use
Check oil level	at least once a week	every time after completed use
oil change	approx. 100 hours after start-up, then every 300 - 500 operating hours	approx. 100 hours after start-up, then every 300 - 500 operating hours
Air filter insert check	in a dusty environment at least once a month	in a low-dust environment approx. every six months
V-belt tension check over	approx. 100 operating hours after commissioning, at least 1 x every six months	approx. 100 operating hours after commissioning, at least once a year
visual inspection: general condition check whether all parts are tight, whether pressure gauge display works	at least 1 x every six months	at least once a year
Cleaning the device: belt guard, finning compressor, fan grill electric motor,	in case of pollution upon need	in case of pollution upon need
cylinder head bolts tighten by hand	1 hour after start-up, then every 200 - 300 operating hours	1 hour after start-up, then every 200 - 300 operating hours

9.2.2 container tests

Non-portable devices with a bar-litre product ≥ 1000 are subject to an installation inspection by an expert and specified recurring inspections. The container must be registered with an approved monitoring agency. An informal test book with a collection of all documents belonging to the container, including test documents, must be created for the container.

9.2.3 Oil level and oil change

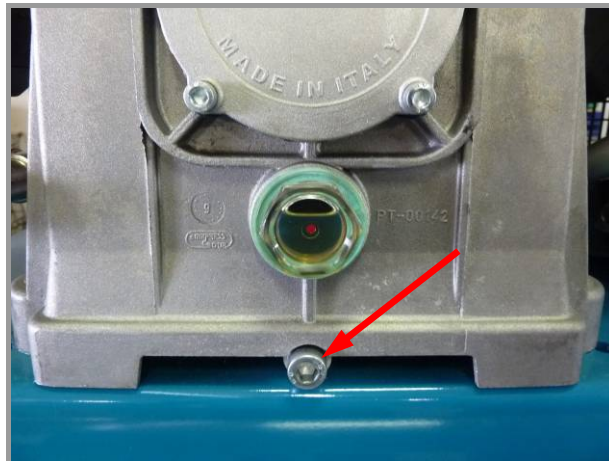


Fig. 8 sight glass and oil drain plug

oil level

The oil level can be seen in the sight glass on the compressor.

oil level	level
maximum	upper edge of the sight glass (air bubble visible)
minimum	2 mm above the center of the sight glass

oil change

Compressor special oil is to be used for topping up.

oil change	deadlines
First change	after approx. 100 operating hours
Subsequent changes	every 300 - 500 operating hours
Extra change	in the case of exceptional contamination



Danger!

The disposal of lubricants and cleaning agents is precisely regulated by environmental protection laws.

- Deliver used lubricants and cleaning materials to the hazardous waste collection point.
- If you spill lubricants, these must be sprinkled with binding agent immediately and disposed of as hazardous waste after binding.
- Take precautions to contain spilled lubricant (sealed floor, drain pans, containment tarps).

9.2.4 drain the container

Condensate accumulates in the pressure vessel as a result of the compression process. The condensate must be drained regularly. The container should be under pressure. Open the condensate drain valve at the bottom of the pressure vessel until the compressed air that is present flows out of the vessel with the condensate. The drain valve must then be closed again.

9.2.5 Tension V-belt

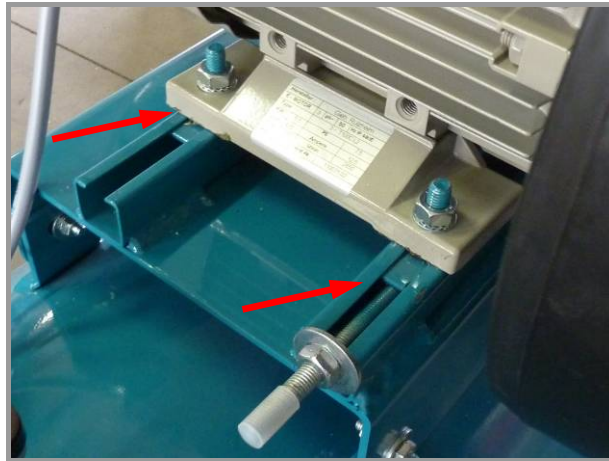


Fig. 9 V-belt tensioner rails

The V-belt tension should be checked after a run-in period of approx. 100 hours of operation. If the tension is correct, the V-belt may yield approx. 10 to 15 mm under slight pressure.

For clamping, the four screws with which the electric motor is attached to the clamping rails must be loosened. Then bring the electric motor into the desired position in the rails by turning the screws on the threaded rods of the tensioning rails. Then tighten the four screws again. Make sure that the pulleys are aligned.

9.3 repair

If possible, carry out repair measures in coordination with Gieb GmbH.

Observe the documents of the suppliers.



Warning!

The use of non-approved spare parts can injure people and damage the compressor.

- > Only use original spare parts approved by the manufacturer.

10 Decommissioning, dismantling and disposal

10.1 Procedure for decommissioning

- > Switch off the compressor.
- > Drain the condensate.
- > Disconnect the compressor from the power supply.
- > Release the pressure from the container.
- > Disconnect the compressed air lines connected to the compressor.
- > Remove any dirt on the compressor.
- > Spray the compressor with a care product.

The compressor is now ready for storage and transport.

10.2 storage

If the correct storage conditions are not observed, components can corrode or age prematurely. The service life of the compressor is reduced.

- > Store the compressor dry and protected from the weather.

10.3 dismantling

- > Disconnect the compressor from the electrical power supply.
- > Release the pressure from the container.
- > Dismantle the components with a suitable tool.

10.4 disposal



Danger!

The disposal of lubricants and any harmful cleaning agents used is precisely regulated by environmental protection laws and their ordinances.

- > If possible, do not use aggressive cleaning agents.
- > If you spill lubricants, these must be sprinkled with binding agent immediately and disposed of as hazardous waste after binding.
- > Take precautions to contain spilled lubricant (sealed floor, drain pans, containment tarps).

- > Observe the legal regulations for the handling and disposal of old components.
- > Observe the documentation of the individual suppliers.

11 Investments

11.1 Additional documents on components

The following documents are attached to the operating instructions for components installed on the compressor:

component	document
pressure vessel	Test certificate and operating instructions
compressor	Spare parts list with exploded drawing
pressure switch	Connection and adjustment instructions

11.2 Additional documents

The following additional documents for the compressor are enclosed with the operating instructions as appendices:

document	Contents
Instructions plug (if necessary)	Direction of rotation/protection with plug connection
guarantee certificate	Guarantee certificate for the entire compressor

12 Declaration of Conformity

Gieb GmbH

EG-Konformitätserklärung

im Sinne der EG-Richtlinie Maschinen 2006/42/EG Anhang II, 1 A
sowie: 97/23/EG – Druckgeräte-Richtlinie; 2004/108/EG – EMV-Richtlinie

Hersteller:

Gieb GmbH
Max-Plank-Str. 3
D-76761 Rülzheim

Bevollmächtigter für das Zusammenstellen der technischen Unterlagen (Dokumentationsverantwortlicher):

Herr Ferdinand Gieb
Max-Plank-Str. 3
D-76761 Rülzheim

Der Hersteller / Bevollmächtigte erklärt, dass folgendes Produkt:

Produktbezeichnung: Druckluft-Kompressor – 2 Zylinder, zweistufige Verdichtungsweise
Serien- / Typenbezeichnung:

640/60-15-fb	640/90-15-fb	640/250-15-lg	640/250-15-st		
750/90-11-fb	750/90-11-st	750/250-11-lg	750/250-11-st	750/500-11-lg	750/500-11-st
750/90-15-fb	750/250-15-lg	750/250-15-st	750/500-15-lg	750/500-15-st	
850/90-11-fb	850/90-11-st	850/250-11-lg	850/250-11-st	850/500-11-lg	850/500-11-st
1250/500-15-lg	1250/500-15-st	1500/250-11-lg	1500/250-11-st	1500/900-11-lg	1500/1000-11-lg

Maschinennummer:

Baujahr:

den Bestimmungen der oben bezeichneten Richtlinien entspricht.

Folgende harmonisierte Normen und Spezifikationen sind angewandt:

EN 894-1	1997+A1:2008	Sicherheit von Maschinen – Ergonomische Anforderungen an die Gestaltung von Anzeigen und Stellteilen – Teil 1: Allgemeine Leitsätze für Benutzer-Interaktion mit Anzeigen und Stellteilen
EN 953	1997+A1:2009	Sicherheit von Maschinen – Trennende Schutzeinrichtungen – Allgemeine Anforderungen an Gestaltung und Bau von feststehenden und beweglichen trennenden Schutzeinrichtungen
EN 954-1	1996	Sicherheit von Maschinen – Sicherheitsbezogene Teile von Steuerungen – Teil 1: Allgemeine Gestaltungsleitsätze (enthält auch Berichtigung AC:1997)
EN 983	1996+A1:2008	Sicherheit von Maschinen – Sicherheitstechnische Anforderungen an fluidtechnische Anlagen und deren Bauteile - Pneumatik
EN 1012-1	2010	Kompressoren und Vakuumpumpen – Sicherheitsanforderungen – Teil 1: Kompressoren
EN 13445-1	2009	Unbefeuerte Druckbehälter – Teil 1: Allgemeines
EN 60204-1	2006+A1:2009	Sicherheit von Maschinen – Elektrische Ausrüstung von Maschinen – Teil 1: Allgemeine Anforderungen (IEC 60204-1:2005/A1:2008)
EN ISO 4126-1	2004+AC:2006	Sicherheitseinrichtungen gegen unzulässigen Überdruck – Teil 1: Sicherheitsventile (ISO 4126-1:2004)
EN ISO 12100	2010	Sicherheit von Maschinen – Allgemeine Gestaltungsleitsätze – Risikobeurteilung und Risikominderung (ISO 12100:2010)
EN ISO 14121-1	2007	Sicherheit von Maschinen – Risikobeurteilung – Teil 1: Leitsätze (ISO 14121-1:2007)
EN ISO 4871	2009	Akustik - Angabe und Nachprüfung von Geräuschemissionswerten von Maschinen und Geräten (ISO 4871:1996)

Sowie darüber hinaus die einschlägigen deutschen Normen und Richtlinien. Diese Konformitätserklärung verliert ihre Gültigkeit, wenn an der Anlage Änderungen vorgenommen werden, die nicht vorher mit uns abgestimmt und schriftlich von uns genehmigt wurden.