Atlas Copco

Industrial aluminium piston compressors



LT 2, LT 3, LT 5, LT 7, LT 10, LT 15, LT 20



Instruction book

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Industrial aluminium piston compressors

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Instruction book

Original instructions

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1 Safety precautions

1.1 Safety icons

Explanation

\triangle	Danger for life
	Warning
Ø	Important note

1.2 Safety precautions, general

General precautions

- 1. The operator must employ safe working practices and observe all related work safety requirements and regulations.
- 2. If any of the following statements does not comply with the applicable legislation, the stricter of the two shall apply.
- 3. Installation, operation, maintenance and repair work must only be performed by authorized, trained, specialized personnel.
- 4. The compressor is not considered capable of producing air of breathing quality. For air of breathing quality, the compressed air must be adequately purified according to the applicable legislation and standards.
- 5. Before any maintenance, repair work, adjustment or any other non-routine checks, stop the compressor, press the emergency stop button, switch off the voltage and depressurize the compressor. In addition, the power isolating switch must be opened and locked.
- 6. Never play with compressed air. Do not apply the air to your skin or direct an air stream at people. Never use the air to clean dirt from your clothes. When using the air to clean equipment, do so with extreme caution and wear eye protection.
- 7. The owner is responsible for maintaining the unit in safe operating condition. Parts and accessories shall be replaced if unsuitable for safe operation.
- 8. It is not allowed to walk or stand on the roof of the compressor canopy.

1.3 Safety precautions during installation



Precautions during installation

- 1. The machine must only be lifted using suitable equipment in accordance with the applicable safety regulations. Loose or pivoting parts must be securely fastened before lifting. It is strictly forbidden to dwell or stay in the risk zone under a lifted load. Lifting acceleration and deceleration must be kept within safe limits. Wear a safety helmet when working in the area of overhead or lifting equipment.
- 2. Place the machine where the ambient air is as cool and clean as possible. If necessary, install a suction duct. Never obstruct the air inlet. Care must be taken to minimize the entry of moisture at the inlet air.
- 3. Any blanking flanges, plugs, caps and desiccant bags must be removed before connecting the pipes.
- 4. Air hoses must be of correct size and suitable for the working pressure. Never use frayed, damaged or worn hoses. Distribution pipes and connections must be of the correct size and suitable for the working pressure.
- 5. The aspirated air must be free of flammable fumes, vapors and particles, e.g. paint solvents, that can lead to internal fire or explosion.
- 6. Arrange the air intake so that loose clothing cannot be sucked in.
- 7. Ensure that the discharge pipe from the compressor to the aftercooler or air net is free to expand under heat and that it is not in contact with or close to flammable materials.
- 8. No external force may be exerted on the air outlet valve; the connected pipe must be free of strain.
- 9. If remote control is installed, the machine must bear a clear sign stating: DANGER: This machine is remotely controlled and may start without warning. The operator has to make sure that the machine is stopped and that the isolating switch is open and locked before any maintenance or repair. As a further safeguard, persons switching on remotely controlled machines shall take adequate precautions to ensure that there is no one checking or working on the machine. To this end, a suitable notice shall be affixed to the start equipment.
- 10. The machines must be installed in such a way that an adequate flow of cooling air is available and that the air from the exhaust does not recirculate to the compressor air inlet or cooling air inlet.
- 11. The electrical connections must correspond to the applicable codes. The machines must be earthed and protected against short circuits by fuses in all phases. A lockable power isolating switch must be installed near the compressor.
- 12. On machines with automatic start-stop system or if the automatic restart function after voltage failure is activated, a sign stating "This machine may start without warning" must be affixed near the instrument panel.
- 13. In multiple compressor systems, manual valves must be installed to isolate each compressor. Non-return valves (check valves) must not be relied upon for isolating pressure systems.
- 14. Never remove or tamper with the safety devices, guards or insulation fitted on the machine. Every pressure vessel or auxiliary installed outside the machine to contain air above atmospheric pressure must be protected by a pressure-relieving device or devices as required.
- 15. Pipework or other parts with a temperature in excess of 80°C (176°F) and which may be accidentally touched by personnel in normal operation must be guarded or insulated. Other high-temperature pipework must be clearly marked.
- 16. If the ground is not level or can be subject to variable inclinations, consult the manufacturer.

\bigtriangledown	Also consult following safety precautions: Safety precautions during operation and Safety precautions during maintenance. These precautions apply to machinery processing or consuming air or inert gas. Processing of any other gas requires additional safety precautions typical to the application which are not included herein. Some precautions are general and cover several machine types and equipment; hence some statements may not apply to your machine.
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1.4 Safety precautions during operation



All responsibility for any damage or injury resulting from neglecting these precautions, or non-observance of the normal precautions and care required for installation, operation, maintenance and repair, even if not expressly stated, will be disclaimed by the manufacturer.

Precautions during operation

- 1. Use only the correct type and size of hose end fittings and connections. When blowing through a hose or air line, ensure that the open end is held securely. A free end will whip and may cause injury. Make sure that a hose is fully depressurized before disconnecting it.
- 2. Persons switching on remotely controlled machines shall take adequate precautions to ensure that there is no one checking or working on the machine. To this end, a suitable notice shall be affixed to the remote start equipment.
- 3. Never operate the machine when there is a possibility of taking in flammable or toxic fumes, vapors or particles.
- 4. Never operate the machine below or in excess of its limit ratings.
- 5. People staying in environments or rooms where the sound pressure level reaches or exceeds 90 dB(A) shall wear ear protectors.
- 6. Periodically check that:
 - All guards are in place and securely fastened
 - All hoses and/or pipes inside the machine are in good condition, secure and not rubbing
 - There are no leaks
 - All fasteners are tight
 - All electrical leads are secure and in good order
 - Safety valves and other pressure-relief devices are not obstructed by dirt or paint
 - Air outlet valve and air net, i.e. pipes, couplings, manifolds, valves, hoses etc. are in good repair, free of wear or abuse
- 7. If warm cooling air from compressors is used in air heating systems, e.g. to warm up a workroom, take precautions against air pollution and possible contamination of the breathing air.
- 8. If available, do not remove any of, or tamper with, the sound-damping material.
- 9. Never remove or tamper with the safety devices, guards or insulations fitted on the machine. Every pressure vessel or auxiliary installed outside the machine to contain air above atmospheric pressure shall be protected by a pressure-relieving device or devices as required.

\triangleleft	Also consult following safety precautions: Safety precautions during installation and Safety precautions during maintenance. These precautions apply to machinery processing or consuming air or inert gas. Processing of any other gas requires additional safety precautions typical to the application which are not included herein. Some precautions are general and cover several machine types and equipment; hence some statements may not apply to your machine.
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1.5 Safety precautions during maintenance or repair



Precautions during maintenance or repair

- 1. Always wear safety glasses.
- 2. Use only the correct tools for maintenance and repair work.
- 3. Use only genuine spare parts.
- 4. All maintenance work shall only be undertaken when the machine has cooled down.
- 5. A warning sign stating "work in progress; do not start" shall be attached to the starting equipment.
- 6. Persons switching on remotely controlled machines shall take adequate precautions to ensure that there is no one checking or working on the machine. To this end, a suitable notice shall be affixed to the remote start equipment.
- 7. Close the compressor air outlet valve before connecting or disconnecting a pipe.
- 8. Before removing any pressurized component, effectively isolate the machine from all sources of pressure and relieve the entire system of pressure.
- 9. Never use flammable solvents or carbon tetrachloride for cleaning parts. Take safety precautions against toxic vapors of cleaning liquids.
- 10. Scrupulously observe cleanliness during maintenance and repair. Keep dirt away by covering the parts and exposed openings with a clean cloth, paper or tape.
- 11. Never weld or perform any operation involving heat near the oil system. Oil tanks must be completely purged, e.g. by steam-cleaning, before carrying out such operations. Never weld on, or in any way modify, pressure vessels.
- 12. Whenever there is an indication or any suspicion that an internal part of a machine is overheated, the machine shall be stopped but no inspection covers shall be opened before sufficient cooling time has elapsed; this to avoid the risk of spontaneous ignition of the oil vapor when air is admitted.
- 13. Never use a light source with open flame for inspecting the interior of a machine, pressure vessel etc.
- 14. Make sure that no tools, loose parts or rags are left in or on the machine.
- 15. All regulating and safety devices shall be maintained with due care to ensure that they function properly. They may not be put out of action.
- 16. Before clearing the machine for use after maintenance or overhaul, check that operating pressures, temperatures and time settings are correct. Check that all control and shut-down devices are fitted and that they function correctly. If removed, check that the coupling guard of the compressor drive shaft has been reinstalled.
- 17. Protect the motor, air filter, electrical and regulating components etc. to prevent moisture from entering them, e.g. when steam-cleaning.
- 18. Make sure that all sound-damping material and vibration dampers, e.g. damping material on the bodywork and in the air inlet and outlet systems of the compressor, are in good condition. If damaged, replace it by genuine material from the manufacturer to prevent the sound pressure level from increasing.
- 19. Never use caustic solvents which can damage materials of the air net, e.g. polycarbonate bowls.
- 20. The following safety precautions are stressed when handling refrigerant:
 - Never inhale refrigerant vapors. Check that the working area is adequately ventilated; if required, use breathing protection.
 - Always wear special gloves. In case of refrigerant contact with the skin, rinse the skin with water. If liquid refrigerant contacts the skin through clothing, never tear off or remove the latter; flush

abundantly with fresh water over the clothing until all refrigerant is flushed away; then seek medical first aid.

21. Protect hands to avoid injury from hot machine parts, e.g. during draining of oil.

\triangleleft	Also consult the following safety precautions: Safety precautions during installation and Safety precautions during operation. These precautions apply to machinery processing or consuming air or inert gas. Processing of any other gas requires additional safety precautions typical to the application which are not included herein. Some precautions are general and cover several machine types and equipment; hence some statements may not apply to your machine.
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2 General description

2.1 General description

Introduction

LT are air-cooled, two-stage, two cylinder lubricated piston compressors, built for effective working pressures up to 30 bar (LT 2 only for 15 and 20 bar).



Compressor block with unloading valve



Power pack



Power pack with unloading valve



Base mounted



Tank-mounted, LT 2 up to LT 3, horizontal receiver



Tank-mounted, horizontal receiver



Tank-mounted, Full-Feature unit, 475 l receiver





Reference	Description
AF	Air filter
AR	Air receiver
AV	Air outlet valve
CV	Check valve
Dm	Condensate drain valve
Dp	Oil drain plug
FC	Filler cap
FN	Fan
Gp	Air pressure gauge

Reference	Description
Μ	Motor
MDR	Air pressure switch
Ме	Electric motor
Мр	Petrol engine
P1	Hourmeter, running time
PD	Pulsation damper
RV	Pilot valve
S1	On/off switch
S2	On/off switch dryer
SG	Oil sight glass
SV	Safety valve
SV2	Relief valve
UA	Unloader
US	Blow-off silencer
Y1	Loading solenoid valve

Reference	Description
1	Cover
2	Air inlet silencer
3	Crankcase
4	Cooling pipe
5	Left cylinder (LP)
6	Right cylinder (HP)
7	Pictograph, see Pictographs
8	Electric cabinet
9	Dewpoint indicator
10	Refrigerant dryer
11	Lifting yoke
12	Towing handle
13	Fuel tank

Compressor variants

The compressor block includes:

- Crankcase (3) and cylinders (5) and (6)
- Air inlet filter (AF) and inlet silencer (2)
- Fan (FN)
- Air cooler piping
- Check valve (CV), as standard on LT 2 and LT 3
- Unloader (UA), as standard on LT 5 up to LT 10 and LT 15 up to LT 20
- Safety valve (SV)
- Interstage relief valve (SV2)

The Power Pack comprises:

- For LT 2 up to LT 3: The compressor block as described above, with flanged-on electric motor (M), check valve (CV), and on 60 Hz air pressure switch with an on/off button.
- For LT 5 up to LT 20: the Compressor Block as described above, with flanged-on electric motor (M) and solenoid valve (Y1)

The tank-mounted unit comprises:

- For LT 2 up to LT 3: The Power pack mounted on a horizontal air receiver (AR) with air outlet valve (AV), pressure gauge (Gp), safety valve (SV), air pressure switch with an on/off button (MDR) and condensate drain valve (Dm).
- For LT 5 up to LT 20: The power pack mounted on an air receiver (AR) with air outlet valve (AV), pressure gauge (Gp), safety valve (SV), and condensate drain valve (Dm). An electric cubicle (8) includes the motor starter. A separate air pressure switch (MDR) is provided.

The **base-mounted unit** is a fully operational unit with air pressure switch and on/off switches mounted on a frame (no air receiver). A silencing hood can be added as an option.

LT **Trolley units** are mobile compressors. They are equipped with either a directly flanged electric motor or a petrol engine . The compressors have two outlet connections:

- A connection for compressed air at working pressure.
- A connection for compressed air at reduced pressure via a pressure regulator.

The **Full-Feature compressor** is a tank-mounted compressor provided with a Refrigerant dryer with DD & PD filter. They remove moisture from compressed air by cooling the air to near freezing point. This causes water to condense. The condensate is automatically drained. The air is warmed up before leaving the dryer.

2.2 Options

The compressors are extendible with the following options. For detailed information consult Atlas Copco.

LUCY.	Silencing hood	Base mounted compressors Tank mounted compressors (90, 250 and 475 liters receivers)
	Receiver upgrade	From 90 to 250 liters horizontal receiver From 90 to 250 liters horizontal receiver to 250 liters vertical receiver From 90 or 250 to 475 liters horizontal receiver
	Pneumatic drain	to remove condensate from receiver
No.	Interstage drain	high pressure stage
	Transformer	control voltage
	Motor anti-condensation heaters and thermistor protection	

	CD adsorption dryer	
5750	Heavy duty air inlet filter	
	Oil level switch	N.O. (normally open contact) Break contact N.C. (normally closed contact) Make contact
Carlo B	Receiver wheel set	90 and 250 liters horizontal receivers
	Power supply cable (3 m)	with CEE 3 pole plug 16 Amp
	Auto restart	to start unloaded after power failure
	Timer drain (solenoid operated)	to remove condensate from receiver

2.3 Air flow

LT units

Air drawn through air filter (AF) and inlet silencer (1) into LP (low-pressure) cylinder(s) (2) is compressed, then discharged to HP (high-pressure) cylinder (3) via intercooler (Ci).

The air is compressed further and discharged through cooler piping (5) and check valve (CV) into air receiver (AR).



Air flow and regulating system with DOL starter



Air flow and regulating system with Y/D starter



Air flow and regulating system of trolley

Full-Feature



Air flow and regulating system, Full-Feature

References on flow diagrams

Reference	Description
AF	Air filter
AR	Air receiver
AV	Air outlet valve
AV1/AV2	Air outlet valves
CV	Check valve
Dm	Condensate drain valve
FC	Oil filler cap
FN	Fan
Gp	Air pressure gauge
М	Motor
MDR	Air pressure switch
PD	Pulsation damper
S1	On/off switch
RV	Pilot valve

Reference	Description
SV	Safety valve
UA	Unloader
UV	Unloading valve
US	Blow-off silencer
Y1	Loading solenoid valve
Ci	Intercooler
SV2	Safety valve
DP	Oil drain plug
SG	Oil level sight-glass

Reference	Description
1	Air inlet silencer
2	Left cylinder (LP)
3	Right cylinder (HP)
4	Cooler
5	Cooling pipe
6	Pressure release valve
7	Electrical cubicle
8	Plunger
9	Spring
10	Pressure regulator
11	Refrigerant dryer

2.4 Regulating system

LT 2 up to LT 7 with DOL starter

The regulating system includes:

- Check valve (CV)
- Air pressure switch (MDR) with pressure release valve (6) and on/off button (S1).

Operation

Air pressure switch (MDR) opens and closes its contacts at pre-set pressures. During loaded operation, the contacts are closed: the motor is running.

When the pressure in the air receiver reaches the pre-set maximum pressure, the contacts as well as pressure release valve (6) are opened. The motor stops, the air at the delivery side of the compressor is vented to atmosphere and check valve (CV) closes to prevent venting of the receiver.

When the pressure in the air receiver decreases to the pre-set minimum pressure, the contacts of the air pressure switch close and pressure release valve (6) closes. The motor restarts and compressed air is supplied to the receiver again.

LT 5 up to LT 20 each with Y/D starter

The regulating system includes:

- Electric cubicle
- Air pressure switch (MDR)
- On/off switch (S1)
- Solenoid valve (Y1)
- Unloader (UA) with integrated check valve (CV)

Operation

Air pressure switch (MDR) opens and closes its contacts at pre-set pressures. During loaded operation, the contacts are closed: the motor is running and solenoid valve (Y1) is energized preventing the compressed air from flowing to unloader (UA).

When the pressure in the air receiver reaches the pre-set maximum pressure, the contacts of pressure switch (MDR) open. The motor stops and solenoid valve (Y1) is de-energized. Compressed air from the receiver will flow via the solenoid valve to plunger (8) which causes unloading valve (UV) to open. The air at the delivery side of the compressor is blown through silencer (US) to atmosphere and check valve (CV) closes to prevent venting of the receiver.

When the pressure in the air receiver decreases to the pre-set minimum pressure, the contacts of the pressure switch close. The motor restarts and, after switching over from star to delta, solenoid valve (Y1) is energized. Control air from the unloader plunger chamber is vented to the atmosphere. Unloading valve (UV) closes and compressed air is supplied to the receiver again.

LT Trolley

The regulating system includes:

- Pilot valve (RV)
- Unloader (UA) with integrated check valve (CV)
- Electric cabinet (only on electric motor driven Trolley compressors)

Operation

Pilot valve (RV) opens and closes at pre-set pressures. During loaded operation, pilot valve (RV) is closed preventing the compressed air from flowing to unloader (UA).

When the pressure in the pulsation dampers (PD) reaches the pre-set maximum pressure, pilot valve (RV) will open. Compressed air from the pulsation dampers will flow to plunger (8) which causes unloading valve (UV) to open. The air at the delivery side of the compressor is blown through silencer (US) to atmosphere and check valve (CV) closes to prevent venting of the pulsation dampers. The compressor runs unloaded.

When the pressure in the pulsation dampers decreases to the pre-set minimum pressure, the pilot valve closes. Control air from the unloader plunger chamber is vented to the atmosphere. Unloading valve (UV) closes and compressed air is supplied to the pulsation dampers again.

3 Installation

3.1 Dimension drawings

Dimension drawings



LT 2 up to LT 5, Power Pack



LT 7 up to LT 10, Power Pack





LT 10 up to LT 20, Power Pack



LT 2 up to LT 5, Base-mounted



LT 7 up to LT 10, Base-mounted

Atlas Copco



LT 2 up to LT 20, Pack with silencing hood



LT 2 up to LT 3, Tank-mounted, receiver 90 l



LT 2 up to LT 5, Tank-mounted, vertical receiver 250 l



LT 2 up to LT 5, Tank-mounted, horizontal receiver 250/475 l



TYPE	RECEIVER (8)	net mrss (4)	R	B	C	D	E	F	G	н	J	ĸ	L	H
LE/LF 7	250	191			411.5	859.5	418	1852	310	336	382	575	450	1162
	475	226	592	296			455	1926	395	476	530	754	600	1341
LE 10 LF 10	250	203	1		452.5	931.5	418	1852	310	336	382	575	450	1162
	475	238	1				455	1926	395	476	530	754	600	1341
LT 7	250	211			411.5	859.5	418	1852	310	336	382	575	450	1162
	475	286	606	310			455	1926	395	476	530	754	600	1341
	250	223	1		452.5	931.5	418	1852	310	336	382	575	450	1162
LI 10	475	298	1				455	1926	395	476	530	754	600	1341

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LT 15 up to LT 20, Tank-mounted, horizontal receiver 250/475 l



LT 2 up to LT 5, Tank-mounted, Full-Feature, receiver 250 l



LT 5 up to LT 10, Tank-mounted, Full-Feature, receiver 475 l


TYPE		receiver (8)	net mass (4)	A	B	C	D	E	F	G	H	J	ĸ	L
LF	2	250	180			1694	418	1852	310	336	382	846	450	193
	3		184	1161	575									
	5		190											
15	2		215											
LE	3	475	219	1340	754	1872	455	1926	395	476	530	1025	600	230
	5		225											
	2		200											
LT	3	250	204	1161	575	1694	418	1852	310	336	382	846	450	193
	5		210]										
	2		275											
LT	3	475	279	1340	754	1872	455	1926	395	476	530	1025	600	230
	5		285]										

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LT 2 up to LT 5, Tank-mounted with silencing hood



TYPE	RECEIVER (8)	net mass (4)	A	B	C	D	E	F	G	H	J	K	L
	250	243	1256	575	1862	418	1852	310	336	382	836	58	450
	475	278	1435	754	2041	455	1926	395	476	530	1015	94	600
LE 10	250	255	1256	575	1862	418	1852	310	336	382	836	58	450
LF 10	475	290	1435	754	2041	455	1926	395	476	530	1015	94	600
17.7	250	264	1256	575	1862	418	1852	310	336	382	836	58	450
	475	338	1435	754	2041	455	1926	395	476	530	1015	94	600
1.7.10	250	275	1256	575	1862	418	1852	310	336	382	836	58	450
	475	350	1435	754	2041	455	1926	395	476	530	1015	94	600

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LT 7 up to LT 10, Tank-mounted with silencing hood

LE/LT/LF 2-10





LT Trolley with electrical motor





VIEW X

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References of figures on dimension drawings.

Reference	Description
1	Air inlet
2	Hole, 15 x 25 (4X)
3	Cooling air inlet
4	Net mass
5	Compressed air outlet, G1/2

Reference	Description
6	Manual condensate drain
7	Hole, 15 x 25 (3X)
8	Receiver
9	Cooling air inlet
10	Motor cooling air inlet
11	Compressed air outlet
13	Compressor cooling air and air inlet
14	For dismantling air filter
15	Compressor air outlet with flexible (2 meters)
16	Electric cable entry (on rear side)
19	Air outlet

3.2 Installation instruction

Install the unit in an area where the noise levels do not cause inconvenience and adequate ventilation is available for cooling purposes.

Before commencing installation, check that the electrical data on the compressor specification plate/s are compatible with the local power supply. Before connecting, the electricity, ensure that the power supply is off and correctly isolated. The electrical power supplied to the compressor unit must be connected by a qualified electrician in accordance with the wiring diagram supplied with the plant. All wiring must be in accordance with IEE regulations. Cable sizes given in section. Electric data are recommendations only.



Installation proposal for tank-mounted unit (90 l receiver)



Installation proposal for tank-mounted unit (250/475 l receiver)



Installation proposal for tank-mounted unit (vertical 250 l receiver)



Installation proposal for base-mounted unit with optional silencing hood



Installation proposal for tank mounted compressors with silencing hood

References of figures on installation drawings.

Reference	Description
1	Cooling air outlet
2	Compressor air and cooling air inlet

LT

Install the compressor horizontally, in a cool but frost-free and well-ventilated room. Place the compressor as level as possible; however, LT can be operated with a maximum inclination of 40% (22.5 degrees) in any direction. The air should be clean.

A **Base mounted unit with hood option** must be installed away from walls to allow easy maintenance. Keep the ventilation openings free.

It is recommended to install an automatic condensate drain (available as an option) on the air receiver to ensure continuous condensate removal.

LT trolley

The compressors are equipped with a lifting eye or yoke. When running, the compressor must be installed as level as possible; however, it can be operated temporarily in an inclined plane of maximum 25% (or 15 degrees). Keep the compressor in a frost-free and well-ventilated place.

3.3 Electrical connections

Warning

The electrical connection must be carried out by an electrician and corresponds to the local codes. The indications on the motor data plate must correspond to the power supply voltage and frequency. The installation must include an isolating switch in the power line near to the unit and be protected against short-circuits by fuses for each phase refer section Overload relays and fuses or Cable sizes. The power supply and earthing lines must be of suitable size. refer section Overload relays and fuses or Cable sizes. For DOL starters, connect the power supply cables as shown in the electrical diagrams. For Y/D
starters, connect the power supply cables to terminal board (X1) as shown in the picture. Check the setting of the overload relay. refer section Overload relays and fuses or Cable sizes.

Electric cabinet



Example of an electrical cubicle

Reference	Description
F1	Fuse

Reference	Description
F4	Overload relay
K1	Line contactor with integrated Y-D timer
K2	Star contactor
К3	Delta contactor
Р	Hourmeter, running hours
X1	Terminal board
S1	On/off switch



Electrical diagram with direct-on-line starter

3.4 Settings of overload relay and fuses

Settings of overload relay - fuses of compressors with DOL starter

50 Hz

Туре	Voltage (V)	Overload relay (A)	Fuses (A)
LT 2	230 (1-phase)	9.3	16
LT 2	230	6.7	10
LT 2	400	4.1	10

LT 3	230 (1-phase)	13.7	25
LT 3	230	9.3	16
LT 3	400	5.6	10
LT 5	230	15.7	25
LT 5	400	9.3	16
LT 7	230	20.3	25
LT 7	400	12.4	25
LT 10	400	14.7	25

60 Hz

Туре	voltage (V)	overload relay (A)	fuses (A)
LT 2	230	8.1	10
LT 2	440	4.1	10
LT 3	440	5.7	10
LT 5	380	11.1	25
LT 5	440	9.8	16
LT 5	460	9.4	16
LT 7	230	25.1	40
LT 7	440	12.8	25
LT 7	575	8.3	10
LT 10	230	28.5	40
LT 10	460	14.5	25
LT 10	575	11.7	25

Settings of overload relay and fuses of compressors with Y-D starter

50 Hz

Туре	voltage (V)	overload relay (A)	fuses (A)
LT 5	230	9.1	25
LT 5	400	5.4	16
LT 5	500	4.3	16
LT 7	230	12.2	25

LT 7	500	5.5	16
LT 10	230	14.5	40
LT 10	400	8.5	25

Туре	voltage (V)	overload relay (A)	fuses (A)
LT 15-30	230	22.4	40
LT 15-30	400	12.9	25
LT 15	230	22.4	40
LT 15	400	12.9	25
LT 20	230	30.8	63
LT 20	400	17.9	40
LT 20-30	230	30.8	63
LT 20-30	400	17.9	40

60 Hz

Туре	voltage (V)	overload relay (A)	fuses (A)
LT 5	440	5.7	16
LT 5	575	4.3	16
LT 7	460	6.5	16
LT 10	380	10.5	25
LT 10	440	9.0	25

Туре	voltage (V)	overload relay (A)	fuses (A)
LT 15-30	230	28	63
LT 15-30	380	15.7	40
LT 15	230	28	63
LT 15	380	15.7	40
LT 20	380	18.1	40
LT 20-30	380	18.1	40

3.5 Cable sizes

	Starter	Cable size mm²
LT 2 and LT 3	DOL	2.5
LT 5 and LT 7	DOL	4
LT 10	DOL	6
LT 5	Y/D	2.5
LT 7	Y/D	4
LT 10 and LT 15	Y/D	6
LT 20	Y/D	10

3.6 Pictographs



Reference Description 1 Temperature 2 Pressure 3 On 4 Off 5 Warning: voltage 6 Switch off voltage and depressurize before maintenance or repair 7 Read Instruction book before starting 8 Consult Instruction book for correct rotation direction 9 Do not adjust switch if it is depressurized

4 Operating instructions

4.1 Initial start-up

If the compressor has not run for the past 6 months (at initial start-up check the date on the data plate), it is strongly recommended to improve the lubrication of the compressor element: drain the oil, refill the compressor with the same oil while turning the crankshaft.

It is strongly recommended to install an interstage drain kit, to remove excess condensate, on LT compressors with a load factor less than 20% per hour. Consult Atlas Copco.

- 1. For Tank-mounted and base mounted units, remove the transport brackets from underneath the compressor.
- 2. Check the electrical installation, which must be in accordance with the instructions given in Electrical connection.
- 3. LT are filled with Piston Fluid compressor oil. Check that the oil level is still at the top of the red circle of sight-glass (SG).
- 4. Switch on the voltage. Start the motor.
- 5. On LT 15 and LT 20 compressors, check for correct direction of rotation as indicated by the arrow on the fan housing.



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If the rotation direction is wrong, switch off the voltage and reverse two of the input line connections.

6. Check the operation of the air pressure switch. See sectionAdjustment of MDR4S pressure switch or Adjustment of MRD3 pressure switch. Check the operation of pilot valve (RV) on LT Trolley. See section Adjustment of pilot valve.

4.2 Starting

LT

- 1. On LT check the oil level, which must be at the top of the red circle of sight-glass (SG). The minimum level is the lower part of the red circle.
- 2. Switch on the voltage.
- 3. Turn the switch to position I (Auto), or turn switch (S1) to position I.



4. For the **full feature** units, also push the switch to position I to start up the refrigerant dryer. Approximately 10 minutes later, the nominal dewpoint will be reached.





To ensure optimum operational efficiency, do not use dryer on/switch repeatedly within a short time period. Wait at least 5 minutes to start the dryer again after stopping to allow pressure equalization.

5. Open the air outlet valve (AV).



Regularly drain condensate

LT Trolley with electrical motor

- 1. On LT check the oil level, which must be near the top of the red circle of sight-glass (SG). The minimum level is the lower part of the red circle.
- 2. Set pilot valve (RV) in the unload position by turning the red handle 90 degrees. See section Adjustment of pilot valve.
- 3. Attach the air lines to the air outlets.

4. Plug in and switch on the voltage at the main circuit breaker.



Warning:

Never move the compressor after plugging it in.

- 5. Move switch to position I or push switch (S1) to position I.
- 6. Open the outlet valves (AV1 and AV2).
- 7. Set pilot valve (RV) in the load position by turning the red handle 90 degrees. See section Adjustment of pilot valve.
- 8. Turn the regulating knob of the pressure regulator (10) clockwise or counter-clockwise to increase or decrease the pressure at the outlet of the pressure regulator.



Regularly drain condensate (Dm).

LT Trolley with petrol engine

- 1. On LT check the oil level, which must be near the top of the red circle of sight-glass (SG). The minimum level is the lower part of the red circle
- 2. Check the engine oil level as follows:
 - Remove the oil filler cap and wipe the dipstick clean.
 - Insert the dipstick into the filler neck, but do not screw it in.
 - The oil level must show between the minimum and maximum marks on the dipstick.
- 3. Fill the fuel tank with unleaded or low-leaded petrol (gasoline).
- 4. Start the engine, consult the engine "Owner's manual".
- 5. Attach the air lines to the air outlets.
- 6. Open the outlet valves (AV1/2).
- 7. Set pilot valve (RV) in the load position by turning the red handle 90 degrees. See section Adjustment of pilot valve.
- 8. Turn the regulating knob of the pressure regulator (10) clockwise or counter-clockwise to increase or decrease the pressure at the outlet of the pressure regulator.



Regularly drain condensate (Dm)

4.3 Stopping

LT

- 1. Turn the switch to position 0 (Off), or push switch (S1) to position 0.
- 2. Close air outlet valve (AV)
- 3. Switch off the voltage.

If a compressor with pressure switch stops during operation because of a power failure, the pressure from the air outlet pipe must be released by moving the switch on top of the air pressure switch to 0 to prevent the compressor from restarting against back-pressure when the power becomes live again.

LT Trolley

- 1. Set pilot valve (RV) in the unload position by turning the red handle 90 degrees. See section Adjustment of pilot valve.
- 2. On LT Trolley with electrical motor, move switch to position 0 or push switch (S1) to position 0.

If the compressor is not required for immediate further use, switch off the voltage at the main circuit breaker and unplug.

3. On LT Trolley with petrol engine:

Stop the engine, consult the engine "Owner's manual".

4. Close the air outlet valves (AV1 and AV2). Depressurize and disconnect the air lines from the outlet valves.

4.4 Taking out of operation

At the end of the service life of the compressor, proceed as follows:

- 1. Stop the compressor and close the air outlet valve(s).
- 2. Switch off the voltage and disconnect the compressor from the mains.
- 3. Depressurize the compressor.
- 4. Shut off and depressurize the part of the air net which is connected to the outlet valve. Disconnect the compressor from the air net.
- 5. Drain the oil.

4.5 Storage after installation

Procedure



If the compressor is going to be stored without running from time to time, protective measures must be taken.

- Protect the machine against dust and moisture, if possible in a clean, cool, dry and well ventilated area.
- Make sure that the machine is not subject to vibration.
- If the machine is stored in packing, put some vapor corrosion inhibitor (VCI) paper into the packing.
- Store the machine in its normal position, not upside down or on its side.
- If the machine is stored for 1 year or more, rotate the bearings once a month to change the position of the roller balls in the bearings. Consult Atlas Copco Service.

5 Maintenance

5.1 Petrol engine maintenance

Consult the engine "Owner's manual".

5.2 Preventive maintenance schedule



The schedule contains a summary of the maintenance instructions. Read the respective section before taking maintenance measures.

When servicing, replace all disengaged packing components, e.g. gaskets, O-rings, washers. The "longer interval" checks must also include the "shorter interval" checks.

Period	Running hours	Operation	Consult section	See notes below table	Preventive maintenance kit
Weekly		Check oil level.	Starting	1	-
Weekly		Drain condensate from air receiver or pulsation damper.	Air receiver instructions	-	-
6-monthly		Test safety valve and relief valve.	Safety valve Relief valve	2	-
6-monthly		Inspect air filter.	Air filter	3/4	2
Yearly	500	On LT 15/60, LT 15, LT 20, replace air filter.	Air filter	3/4	2
Yearly	600	On LT 5, 7 and 10, replace air filter.	Air filter	3/4	2
Yearly	800	On LT 2 and LT 3, replace air filter.	Air filter	3/4	2
Yearly	2000	Change blow-off silencer, if provided.	-	-	2
Yearly	2000	If mineral oil is used, change oil.	Lubrication of compressor	-	-
2-yearly	3000	If Piston Fluid oil is used, change oil.	Lubrication of compressor	-	-
	3000 to 4000	Replace check valve or unloader.	Valves	-	3/4

Period	Running hours	Operation	Consult section	See notes below table	Preventive maintenance kit
	4000	On LT 2 up to 5 and LT 15 up to 20 replace valve discs.	Valves	-	1
	5000	On LT 7 up to 10 replace valve discs.	Valves	-	1

Notes:

- 1. Maintain the level in the red circle of the sight-glass.
- 2. Wear gloves and safety glasses.
- 3. For normal operation in clean surroundings. More frequently when operating in a dusty environment.
- 4. In a dusty environment, a heavy-duty filter (available as an option) is essential.

Preventive maintenance schedule Full Feature units

Only applicable on the refrigerant dryer.

Period	Operation
Daily	Inspect and clean the filter of the steam trap.
Weekly	Brush or blow off the finned surface of the condensor.

Note (Full Feature units):

Regularly check that the condensate is discharged via the condensate outlet of the refrigerant dryer. The amount depends on the operation conditions.

5.3 Lubrication of compressors

It is strongly recommended to use the Piston Fluid compressor oil to keep the compressor in excellent operating condition.

Traditional lubricants cannot cope with the extreme conditions of piston compressors, resulting in a fast oil degradation, overheating and potentially irreversible damage and high repair costs. Therefore, high performing lubricants increase the equipment lifetime.

Considering the low oil content in piston compressors, often less than 2 liters, the economy of lesser quality oils simply is not worth the risk.

Piston Fluid oil can be ordered in different quantities: a 1-liter can and 5-liter can.

5.4 Service kits

Service kits are available, offering the benefits of genuine Atlas Copco parts while keeping the maintenance budget low. The kits comprise all parts needed for servicing. Consult the Parts list for the contents of all kits.



Reference	Description
1	Valve kit
2	Filter kit
3	Check valve
4	Unloader
5	Piston Fluid

Notes:

\triangleleft	1. 2.	Use only authorized parts. Any damage or malfunction caused by the use of unauthorized parts is not covered by Warranty or Product Liability. Whichever interval comes first. The local Sales Company may overrule the maintenance schedule, especially the service intervals, depending upon the environmental and working conditions of the compressor
	3.	conditions of the compressor. For the contents of all kits, consult the Parts list.

5.5 Disposal of used material

Used filters or any other used material (e.g. desiccant, lubricants, cleaning rags, machine parts, etc.) must be disposed of in an environmentally friendly and safe manner, and in line with the local recommendations and environmental legislation.

6 Servicing and adjustment procedures

6.1 Unloader or check valve

Warning



Release the pressure from the compressor before starting repair or maintenance works. Switch off the voltage and isolate the compressor from the mains.

Unloader or check valve

It is recommended to replace the unloader or check valve as indicated in section Preventive maintenance schedule.

Dirt, condensate, coke formation and oxidation influence the proper operation of the valve. Depending on the environmental and working conditions (ambient temperature, working pressure, load cycle, oil type), the local Atlas Copco customer center or authorized distributor may overrule the maintenance schedule (consult Atlas Copco).

6.2 Valves





It is highly recommended to replace the valve discs, O-rings and gaskets if disassembling the cylinder heads.

Reference	Description
1	Air inlet silencer
2	Gasket
3	Spring
4	Outlet valve guard
5	Outlet valve disc
6	Valve seat
7	Inlet valve disc
8	Guide pin
9	O-ring
10	O-ring
11	O-ring
12	Cylinder head cover
13	Cylinder cap
14	O-ring

Replacement of valve discs

Operation sequence

- Remove the fan guard, unscrew the cap and remove the cover, air filter and cover of the air inlet silencer (1).
- Disconnect head (13) from the inlet an outlet pipe flanges. Remove cylinder head cover (12). Remove head.
- Remove spring (3), outlet valve guard (4) and outlet valve disc (5).
- Lift off valve seat (6) and remove inlet valve disc (7). Do not remove guide pins (8).
- Remove and discard all O-rings.
- If necessary, remove the carbon deposits from the inlet valve guard at the cylinder top. Take care that no dirt drops into the cylinder.
- Clean and inspect all parts.
- Fit a new O-ring (11). Do not stretch the cord while inserting it in its groove; the ends should meet.
- Put a new inlet valve disc (7) into place and install valve seat (6).
- Fit new O-rings (9) and (10).
- Install a new outlet valve disc (5), guard (4) and spring (3).
- Install cylinder head cover (12). Fit new O-rings/gaskets for the pipe flanges. Fit the flange and cylinder head bolts and tighten them alternately.
- Reinstall head (13). Fit a new joint (14). Install cylinder head cover (12). Fit new O-rings/gaskets (2) for the pipe flanges. Fit the flange and cylinder head bolts and tighten them alternately.
- Reinstall the fan guard, cover of the air inlet silencer, air filter, cover (1) and cap.

Torque value	Torque value	Torque value
M6: 10 Nm ±2	M8: 23 Nm ±2	M10: 46 Nm ±5

6.3 Air filter

To replace the air filter, follow these steps:

- 1. Stop the compressor.
- 2. Unscrew the cap on top of the cover. Lift off the cover and the filter element. Take care that no dirt drops inside the suction silencer.
- 3. Using a damp cloth, clean the filter chamber and cover. Discard damaged elements.
- 4. Install the new element, cover and cap.

6.4 Adjustment MDR4 pressure switch

Views of air pressure switch MDR4



Ref	Name
1	Air pressure switch
2	Solenoid valve
3	Pressure release valve
4	Adjusting screw, stopping pressure
5	Adjusting screw, pressure difference

Function

The adjustment of the maximum or stopping pressure of the compressor is effected by means of the air pressure switch. The switch also controls the pressure difference between the maximum pressure (stopping pressure) and the pressure at which compression is resumed (starting pressure).

Adjustment

	Adjust the air pressure switch while it is pressurized.
	• Switch off the voltage before removing the cover of the switch; reinstall it after an
	adjustment has been made and before the voltage is switched on again.

The **maximum pressure** is controlled by adjusting screw (4). Turn the screw clockwise to raise the maximum or stopping pressure, counter-clockwise to lower it.

The **pressure difference** is adjusted by means of screw (5). To reduce the difference between the stopping and starting pressures, i.e. to increase the starting pressure, turn the screw counter-clockwise. To increase the pressure difference, turn the screw clockwise. The adjustment range is shown on the pressure difference diagram below.

Pressure difference diagram MDR4 - 25 bar



Ref	Name
(1)	Starting pressure - bar(e)
(2)	Stopping pressure - bar(e)

6.5 Adjustment of MDR3 pressure switch

Views of air pressure switch MDR3 with ON/OFF switch

This pressure switch has a cover with rotary knob (4) for manual On/Off (Auto/Off).



51052F

Reference	Description
1	Dial, overload relay
2	Adjusting screw, stopping pressure
3	Adjusting screw, pressure difference
4	On/off switch (Auto/Off)

Function

The switch allows the operator to select the stopping pressure and the pressure difference between stopping and starting pressures. The stopping and starting pressures are the opening and closing pressures of the switch.

Adjustment

 Adjust the air pressure switch while it is pressurized. Switch off the voltage before removing the cover of the switch; reinstall it after an adjustment has been made and before the voltage is switched on again. 	n
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The stopping pressure is controlled by adjusting screw (2). Turn the screw clockwise to raise the stopping pressure, counter-clockwise to lower it.

The pressure difference between starting and stopping is adjusted by means of adjusting screw (3). The adjustment range is shown in the graph below. Turn the screw counter-clockwise to reduce the pressure difference, clockwise to increase it.

Pressure difference diagram, MDR3/16 (15 bar units)



Pressure difference diagram, MDR3/25 (20 bar units)



Pressure difference diagram, MDR3/35 (30 bar units)



Ref	Name
(1)	Starting pressure - bar(e)
(2)	Stopping pressure - bar(e)

6.6 Adjustment of pilot valve on Trolley

The adjustment of the maximum or unloading pressure of the compressor is effected by means of pilot valve (RV) The valve also controls the difference between the preset maximum pressure and that at which compression is resumed.

Pilot valve on Trolley



Reference	Description
A	Control air to unloader
R	Vent hole

Reference	Description
1	Unloading handle
2	Pressure adjusting screw
3	Nuts
4	Shims

Unload mechanism

The pilot valve is equipped with a hand-operated unload mechanism: by turning the red handle (1) 90 degrees, the plunger of the valve will be lifted, releasing the spring force. The air pressure from the pulsation dampers will force down unloader plunger (8) and the compressor will run unloaded. By turning handle (1) 90 degrees further, the plunger returns to its original position so that the pilot valve will again unload and load the compressor at the pre-set pressures.

Setting of the pilot valve

The maximum pressure is controlled by adjusting screw (2):

- 1. Loosen handle (1) and the two nuts (3)
- 2. Turn the adjusting screw (2) clockwise to increase the maximum pressure.
- 3. The pressure difference can be increased by removing one or more shims (4).
- 4. Fit the two nuts (3) and handle (1) in their original position.

6.7 Safety valve

Replace the valve if it does not open at the correct pressure. No adjustment is allowed. **Testing:** Testing as described below shall only be carried out by competent personnel.

Testing

- 1. Close the air outlet valve, depressurize and disconnect the hose or pipe from the valve
- 2. Start the compressor and run it until it stops automatically.
- 3. Switch off the voltage.

Remove the cover from the air pressure switch and, with the air receiver now under pressure, turn the adjusting screw one turn clockwise to increase the stopping pressure Adjustment of MDR4S pressure switch and Adjustment of MRD3 pressure switch. Reinstall the cover.

- 4. Switch on the voltage, slightly open the outlet valve and start the compressor
- 5. Gradually close the outlet valve while checking the air pressure gauge. If the safety valve has not opened at the pressure specified in Compressor data, it must be replaced by a new one. If the compressor unloads before the specified opening pressure is reached, repeat the procedure as mentioned from step 3.
- 6. Readjust the unloading pressure as described in sections Adjustment of MDR4S pressure switch and Adjustment of MRD3 pressure switch
- 7. Reconnect the hose or pipe to the closed air outlet valve

Testing on Trolley

- 1. Close the air outlet valves, depressurize and disconnect the hoses from the valves.
- 2. Loosen the red handle of the pilot valve (1) and the two nuts (3)
- 3. Open outlet valve (AV1) a fraction. Start the compressor.

- 4. Gradually turn adjusting screw (2) clockwise while checking pressure gauge (Gp). If the safety valve has not opened at the pressure specified in Compressor data, it must be replaced by a new one.
- 5. Readjust the normal working pressure after testing. Consult section Adjustment of pilot valve
- 6. Fit nuts (3) and handle (1) in their original positions.

6.8 Relief valve

The relief valve protects the LP side of the compressor. No adjustment is allowed. **Testing:** Testing as described below shall only be carried out by competent personnel.

Remove the relief valve and fit a G 3/8" plug instead. Remove the safety valve from the air receiver and replace it by the relief valve. The latter can then be tested at increasing air receiver pressure after the compressor has been started with the open air outlet valve. If the valve has not opened at the pressure specified in section Compressor data, it must be replaced by a new one. Reinstall the valves in their respective places after testing.

7 Problem solving

Condition	Fault	Remedy
Insufficient air pressure	Air leak	Check and correct as necessary
	Air filter choked	Replace filter
	Air pressure switch incorrectly set	Adjust switch
	Air consumption exceeds maximum output of compressor	Check equipment connected
	Damaged valve	Inspect valves and replace parts where necessary
	Unloader malfunctioning	Inspect and replace parts where necessary
	Solenoid valve out of order	Remove and check. Replace if necessary
Unit does not speed up	Voltage drop at motor terminals	Consult power supplier. Use correct size of cable
	Unloader malfunctioning	Inspect and replace parts where necessary
	Solenoid valve out of order	Remove and check. Replace if necessary
	Blow-off silencer choked	Replace
Air receiver pressure rises above maximum and causes safety valve to blow	Air pressure switch or pilot valve incorrectly set or out of order	Check. Replace switch or valve, if necessary
	Solenoid valve defective	Remove and check. Replace if necessary
	Unloader malfunctioning	Inspect and replace parts where necessary
	Blow-off silencer choked	Replace
Relief valve blows	Defective inlet valve in HP cylinder head	Inspect and replace part(s) as necessary
	Relief valve not airtight	Replace valve
Receiver does not hold pressure	Check valve leaks	Check for broken valve and springs
	Air leaks	Check and correct as necessary
Too frequent starting/too short operating periods	Air pressure switch or pilot valve incorrectly set	Increase pressure difference
	Check valve leaks	Check for broken valve and springs
High oil consumption on LE/LT compressors	Oil level too high	Do not overfill crankcase. Keep level in red circle of sight-glass
	Piston ring(s) worn or broken	Have condition of piston rings checked

Condition	Fault	Remedy
Unit does not start	Electrical failure	Have electrical system checked. Check fuses and line terminals for tightness
	Overload relay cut out	Reset overload relay. If the relay cuts out again after starting, see "Overload relay cuts out"
	Air pressure above pre-set starting pressure	Compressor will start when air pressure is lower than pre-set starting pressure of air pressure switch
Overload relay cuts out	Overload relay incorrectly set	Check and adjust. Reset relay
	Solenoid valve out of order	Remove and check. Replace if necessary
	Unloader plunger jammed	Inspect and replace parts where necessary
	Blow-off silencer choked	Replace
	Ambient temperature too high	Improve ventilation of room
	Motor stops and starts too frequently	See "Too frequent starting/too short operating periods"
	Overcurrent due to motor or compressor failure	Consult Atlas Copco

8 Technical data

8.1 Reference conditions

Inlet pressure (absolute)	bar	1
Relative air humidity	%	0
Air inlet temperature	℃	20
Working pressure:		
for LT 15 bar	bar(e)	12
for LT 20 bar	bar(e)	20

8.2 Limitations

Minimum inlet temperature	°C	0	
Maximum inlet temperature	Ο°	40	
Maximum working pressure	bar(e)	See below	
Only applicable for Full Feature variants. (with refrigerant dryer)			
Minimum ambient air temperature	°C	5	

8.3 Compressor data

50 Hz (15 bar)

Compressor type		LT 2	LT 3	LT 5	LT 7	LT 10	
Maximum working pressure	bar(e)	15	15	15	15	15	
Maximum working pressure for Trolley	bar(e)	13.7	13.7	13.7	13.7	13.7	
Pre-set pressure difference for Trolley	bar	1	1	1	1	1	
Temperature at outlet valve, approx.							
- Unsilenced compressor	°C	49	57	68	56	75	
- Silenced compressor	°C	57	65	76	64	83	

Compressor type		LT 2	LT 3	LT 5	LT 7	LT 10
Power input at maximum working pressure	kw	2.29	2.87	4.95	6.64	8.67
Motor shaft speed	r/min	1500	1500	1500	1500	1500
Free air delivery (Note 1)	l/s	3.1	4.0	6.7	9.2	11.7
Oil capacity	I	1	1	1	1.8	1.8
Opening pressure of safety valve	bar(e)	16	16	16	16	16
Opening pressure of relief valve	bar(e)	6.5	6.5	6.5	6.5	6.5
Maximum sour	nd pressure leve	el (Note 2)				
- Tank- mounted	dB(A)	78	79	79	80	81
- Tank- mounted with hood	dB(A)	65	66	66	70	70
- Base- mounted with hood	dB(A)	63	64	64	68	68

60 Hz (15 bar)

Compressor type		LT 2	LT 3	LT 5	LT 7
Maximum working pressure	bar(e)	15	15	15	15
Maximum working pressure for Trolley	bar(e)	13.7	13.7	13.7	13.7
Pre-set pressure difference for Trolley	bar	1	1	1	1
Temperature at o	utlet valve, approx	۲.			
- Unsilenced compressor	°C	57	66	81	65
- Silenced compressor	°C	64	74	89	73
Power input at max. working pressure	kw	2.49	3.44	6.16	8.27

Compressor type		LT 2	LT 3	LT 5	LT 7
Motor shaft speed	r/min	1800	1800	1800	1800
Free air delivery (Note 1)	l/s	3.6	4.7	7.9	10.9
Oil capacity	I	0.8	0.8	0.8	1.4
Opening pressure of safety valve	bar(e)	16	16	16	16
Opening pressure of relief valve	bar(e)	6.5	6.5	6.5	6.5
Maximum sound	pressure level (No	ote 2)			·
- Tank- mounted	dB(A)	80	81	81	82
- Tank-mounted with hood	dB(A)	67	68	68	72
- Base-mounted with hood	dB(A)	65	66	66	70

50 Hz (20 bar)

Compres sor type		LT 2	LT 3	LT 5	LT 7	LT 10	LT 15	LT 20
Maximum working pressure	bar(e)	20	20	20	20	20	20	20
Temperatu	re at outlet v	alve, approx	κ.					
- Unsilence d compress or	°C	37	49	60	43	56	76	90
- Silenced compress or	°C	45	57	68	51	64	84	96
Power input at max. working pressure	kW	2.04	2.56	4.21	5.33	6.97	9.76	12.2
Motor shaft speed	r/min	1500	1500	1500	1500	1500	1500	1500
Free air delivery (Note 1)	l/s	2.1	2.9	5.0	6.7	9.1	15.1	18.0
Oil capacity	1	1	1	1	1.8	1.8	5.1	5.1

Compres sor type		LT 2	LT 3	LT 5	LT 7	LT 10	LT 15	LT 20
Opening pressure of relief valve	bar(e)	6.5	6.5	6.5	6.5	6.5	6.5	6.5
Maximum s	Maximum sound pressure level (Note 2)							
- Tank- mounted	dB(A)	78	79	79	80	81	86.5	86
- Tank- mounted with hood	dB(A)	65	66	66	70	70	77	80
- Base- mounted with hood	dB(A)	63	64	64	68	68	72	75

60 Hz (20 bar)

Compress or type		LT 2	LT 3	LT 5	LT 7	LT 15	LT 20	
Maximum working pressure	bar(e)	20	20	20	20	20	20	
Temperature	at outlet valv	e, approx.						
- Unsilenced compressor	°C	40	53	65	50	55	98	
- Silenced compressor	°C	48	61	73	58	63	103	
Power input at max. working pressure	kW	2.48	3.11	5.14	6.66	7.84	15.1	
Motor shaft speed	r/min	1800	1800	1800	1800	1800	1800	
Free air delivery (Note 1)	l/s	2.7	3.6	6.3	8.4	11.9	20.9	
Oil capacity	ļ	1	1	1	1.8	5.1	5.1	
Opening pressure of relief valve	bar(e)	6.5	6.5	6.5	6.5	6.5	6.5	
Maximum sound pressure level (Note 2)								
- Tank- mounted	dB(A)	80	81	81	82	88	88	
- Tank- mounted with hood	dB(A)	67	68	68	72	81	83	
Compress or type		LT 2	LT 3	LT 5	LT 7	LT 15	LT 20	
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- Base- mounted with hood	dB(A)	65	66	66	70	76	78	

50 Hz (30 bar)

Compress or type		LT3	LT5	LT7	LT10	LT15	LT20
Maximum working pressure	bar(e)	30	30	30	30	30	30
Temperature	e at outlet valv	e, approx.					
- Unsilenced compressor	°C	49	60	42	58	52	52
- Silenced compressor	°C	57	68	50	66	60	60
Power input at max. working pressure	kW	2.83	4.73	6.11	7.89	6.8	13.5
Motor shaft speed	r/min	1500	1500	1500	1500	1500	1500
Free air delivery (Note 1)	l/s	2.5	4.4	6.4	8.5	9.28	17.0
Oil capacity	I	1	1	1.8	1.8	5.1	5.1
Opening pressure of relief valve	bar(e)	6.5	6.5	6.5	6.5	6.5	6.5
Maximum sound pressure level (Note 2)							
- Unsilenced compressor	dB(A)	79	79	80	81	85	86
- Silenced compressor	dB(A)	64	64	68	68	76	80

60 Hz (30 bar)

Compressor type		LT3	LT5	LT7	LT15	LT20
Maximum working pressure	bar(e)	30	30	30	30	30
Temperature at outlet valve, approx.						
- Unsilenced compressor	°C	53	65	49	55	105

Compressor type		LT3	LT5	LT7	LT15	LT20
- Silenced compressor	°C	61	73	57	63	110
Power input at max. working pressure	kW	3.44	5.77	7.63	8.42	16.4
Motor shaft speed	r/min	1800	1800	1800	1800	1800
Free air delivery (Note 1)	l/s	3.1	5.5	8.0	11.1	19.7
Oil capacity	I	1	1	1.8	5.1	5.1
Opening pressure of relief valve	bar(e)	6.5	6.5	6.5	6.5	6.5
Maximum sour	Maximum sound pressure level. (Note 2)					
- Unsilenced compressor	dB(A)	81	81	82	88	88
- Silenced compressor	dB(A)	66	66	70	81	83

Notes:

- 1) At reference conditions
- 2) According to ISO 2151 and Pneurop/Cagi PN8NTC2; tolerance 3dB(A)

9 Instructions for use

Air receiver (tank-mounted units)

1	Corrosion must be prevented: depending on the conditions of use, condensate may accumulate inside the tank and must be drained every day. This may be done manually, by opening the drain valve, or by means of the automatic drain, if fitted to the tank. Nevertheless, a weekly check of correct functioning of the automatic valve is needed. This has to be done by opening the manual drain valve and checking for condensate.
2	Periodical service inspection of the air receiver is needed, as internal corrosion can reduce the steel wall thickness with the consequent risk of bursting. Local rules need to be respected, if applicable. The use of the air receiver is forbidden once the wall thickness reaches the minimum value as indicated in the service manual of the air receiver (part of the documentation delivered with the unit).
3	Lifetime of the air receiver mainly depends on the working environment. Avoid installing the compressor in a dirty and corrosive environment, as this can reduce the vessel lifetime dramatically.
4	Do not anchor the vessel or attached components directly to the ground or fixed structures. Fit the pressure vessel with vibration dampers to avoid possible fatigue failure caused by vibration of the vessel during use.
5	Use the vessel within the pressure and temperature limits stated on the nameplate and the testing report.
6	No alterations must be made to this vessel by welding, drilling or other mechanical methods.

10 Pressure Equipment Directive (PED)

Components subject to the 97/23/EC Pressure Equipment Directive

The following table contains the necessary information for the inspection of all pressure equipment of category II and higher according to the Pressure Equipment Directive 97/23/EC and all pressure equipment according to the Simple Pressure Vessel Directive 87/404/EEC.

Part number	Description	PED Class
0830 1007 42	Safety valve	IV
0830 1007 67	Safety valve	IV
0830 1007 68	Safety valve	IV
0830 1007 69	Safety valve	IV
0830 1007 70	Safety valve	IV
0830 1007 71	Safety valve	IV
0830 1007 72	Safety valve	IV
0830 1007 73	Safety valve	IV
0830 1007 74	Safety valve	IV
0830 1009 54	Safety valve	IV
0832 1001 10	Safety valve	IV

Overall rating

The compressors conform to PED smaller than category II.

11 Declaration of conformity

EC DECLARATION OF CONFORMITY

² We,, declare under our sole responsibility, that the product

- Machine name
- 4 Machine type
- 5 Serial number
- Which falls under the provisions of article 12.2 of the EC Directive 2006/42/EC on the approximation of the laws of the Member States relating to machinery, is in conformity with the relevant Essential Health and Safety Requirements of this directive.

The machinery complies also with the requirements of the following directives and their amendments as indicated.

	Directive on the approximation of Member States relating t	laws of the	Harmonized and/or Technical Standards used	Att' mnt
a.	Pressure equipment	97/23/EC		
b.	Machinery safety	2006/42/EC	EN ISO 12100 – 1 EN ISO 12100 – 2 EN 1012 – 1	
c.	Simple pressure vessel	87/404/EEC		
d.	Electromagnetic compatibility	2004/108/EC	EN 61000-6-2 EN 61000-6-4	
e.	Low voltage equipment	2006/95/EC	EN 60034 EN 60204-1 EN 60439	
t	Outdoor noise emission	2000/14/EC		
g.	Equipment and protective systems in potentially explosive atmospheres	94/9/EC		
h.	Medical devices General	93/42/EEC	EN ISO 13845 EN ISO 14971 EN 737-3	
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** The harmonized and the technical standards used are identified in the attachments hereafter

(Product company) is authorized to compile the technical file.

9 10		Conformity of the specification to the directives	Conformity of the product to the specification and by implication to the directives
11 12	Issued by	Product engineering	Manufacturing
14	Name		

- 15 Signature
- 16 Date

Typical example of a Declaration of Conformity document

(1): Contact address:Atlas Copco Airpower n.v.P.O. Box 100B-2610 Wilrijk (Antwerp)Belgium

81679D



In order to be First in Mind-First in Choice® for all your quality compressed air needs, Atlas Copco delivers the products and services that help to increase your business' efficiency and profitability.

Atlas Copco's pursuit of innovation never ceases, driven by our need for reliability and efficiency. Always working with you, we are committed to providing you the customized quality air solution that is the driving force behind your business.

