



CHAPTER OVERVIEW

Operating Instructions

A

Spare Parts Lists

B

Options (if equipped).....

C

Attachment

D

Manufacturer in terms of 97/23/EC

The full name and address of the manufacturer is:

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An der Tuchbleiche 39

68623 Hüttenfeld / Germany

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E-Mail: service@lw-compressors.com

Internet: www.lw-compressors.com





SERVICE INFORMATION / WARRANTY

Compressor information

Type designation

Serial number

Date of construction

Purchase information

Purchase date

First commissioned on

Warranty period

Dealer's stamp

Warranty

L&W will uphold warranty claims made during a period of 12 months from the invoice date.

If the compressor was purchased from an official L&W dealer, the date on the dealer's invoice is valid. Warranty claims can only be made on presentation of the original invoice.

Should verifiably defective parts have been delivered, we will decide to either replace the parts or repair them. The resulting transport and assembly costs will be invoiced.

No reduction of the purchase price or changes to the contract can be made. The parts for which a claim is being made should be kept safe by the purchaser and, when requested, sent to us at their cost. Replaced parts become the property of L&W. If maintenance work is carried out without our knowledge or permission by the purchaser or a third party, we are absolved from any liability for warranty claims. As a matter of principle, warranty claims can only be made by the initial purchaser.

Operating Instructions

Breathing Air Compressor

LW 100 series





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GENERAL INFORMATION

General Information

We strongly recommend reading this manual thoroughly prior to operation and follow all the safety precautions precisely. Damage resulting from any deviation from these instructions is excluded from warranty and liability for this product. Carry out other commissioning steps only if you have fully understood the following contents.

Before commissioning and using the unit, carry out all the essential preliminary work and measures concerning legal regulations and safety. These are described on the following pages of this operation manual.

A

Description of marks and warning signs

The following warning signs are used in this document to identify the corresponding warning notes which require particular attention by the user. The warning signs are defined as follows:



Caution

Indicates an imminently hazardous situation which, if not avoided, could result in serious injury, physical injury or death.



Warning

Indicates a potentially hazardous situation which, if not avoided, could result in physical injury or damage to the product or environment.



Note

Indicates additional information on how to use the unit.

DESCRIPTION

Drive motors



LW 100 B ECO / LW 100 B

High performance Briggs & Stratton 4 gear motor (4.5 kW) with integrated fuel tank.

Pull start, auto cut off at low oil level



LW 100 E ECO / LW 100 E

2.2 kW E-Motor / 400V (230V/440V as an option) / 3 phase / 50 Hz (60 Hz as an option).

Start/Stop switch, fully wired with cable and 16A CEE plug.



LW 100 E1 ECO / LW 100 E1

2.2 kW E-Motor / 230 V AC / 50 Hz (as an option 60 Hz).

Start/Stop switch, fully wired with cable and two-pin earthed plug 230V.

Special Honda - Gasoline Motor



LW 100 B ECO / LW 100 B

High performance Honda 4 gear motor (3.6 kW) with integrated fuel tank.

Pull start, auto cut off at low oil level



DESCRIPTION

Scope of Delivery LW 100 E (ECO) / LW 100 E1 (ECO)

Compressors are provided in different equipped versions.

A

Versions

Filling pressure versions:

- PN 225 bar
- PN 330 bar
- PN 225 / 330 bar

Differences ECO to the Standard-Model

- Frame in a aluminium
- No carrying handles
- Unpainted compressor block
- No filling valve holder

Specifications

- Power cable with plug
- Start/Stop Switch
- Stainless steel frame / aluminium frame (ECO)
- Manual condensate drain
- Pressure maintaining and non return valve
- 1 x Filling hose c/w filling valve and pressure gauge
- Intermediate coolers
- Oil- / Water separators after 2nd and 3rd stage
- Safety valves after for each stage
- All pistons with piston rings
- Filling pressure to your choice (200 or 300 bar)
- Connections to your choice (DIN 200 bar or 300 bar, CGA 200 bar or 300 bar and INT)

Options

- Carrying handles (ECO only)
- Filling valve holder (ECO only)
- Additional filling hose c/w filling valve
- Automatic condensate drain
- Automatic stop at final pressure c/w hour counter
- Switch over device for 200 or 300 bar
- Motor protection switch
- Conversion set: Petrol-/electro version
- 60 Hz Version
- 230V / 440V Version (LW 100 E / E ECO only)



DESCRIPTION

Scope of Delivery LW 100 B ECO / LW 100 B

Compressors are provided in different equipped versions.

A

Versions

Filling pressure versions:

- PN 225 bar
- PN 330 bar
- PN 225 / 330 bar

Differences ECO to the Standard-Model

- Frame in a aluminium
- No carrying handles
- Unpainted compressor block
- No filling valve holder

Specifications

- Stainless steel frame / aluminium frame (ECO)
- Manual condensate drain
- Pressure maintaining and non return valve
- 1 x Filling hose c/w filling valve and pressure gauge
- Intermediate coolers
- Oil- / Water separators after 2nd and 3rd stage
- Safety valves after for each stage
- All pistons with piston rings
- Filling pressure to your choice (200 or 300 bar)
- Connections to your choice (DIN 200 bar or 300 bar, CGA 200 bar or 300 bar and INT)

Options

- Carrying handles (ECO only)
- Filling valve holder (ECO only)
- Additional filling hose c/w filling valve
- Automatic stop at final pressure c/w hour counter
- Switch over device for 200 or 300 bar
- Conversion set: Petrol-/electro version



DESCRIPTION

Technical Data

| Technical Data | LW 100 E / (ECO) | LW 100 E1 / (ECO) | LW 100 B / (ECO) |
|---|--------------------------------|-----------------------|-------------------|
| Capacity [l/min]: | 100 | 100 | 100 |
| Max. Operating Pressure [bar]: | 350 | 350 | 350 |
| RPM [min ⁻¹]: | 2300 | 2300 | 2300 |
| Number of Pressure Stages: | 3 | 3 | 3 |
| Cylinder Bore 1st Stage [mm]: | Ø 60 | Ø 60 | Ø 60 |
| Cylinder Bore 2nd Stage [mm]: | Ø 30 | Ø 30 | Ø 30 |
| Cylinder Bore 3rd Stage [mm]: | Ø 12 | Ø 12 | Ø 12 |
| Medium: | Compressed Air / Breathing Air | | |
| Intake Pressure: | atmospheric | | |
| Oil Capacity [l]: | 0,5 | 0,5 | 0,5 |
| Intake Temperature [°C]: | 0 < +45 | 0 < +45 | 0 < +45 |
| Ambient Temperature [°C]: | +5 < +45 | +5 < +45 | +5 < +45 |
| Cooling Air Volume [m ³ /h]: | > 660 | > 660 | > 1350 |
| Voltage: | 400V / 3-Phase / 50 Hz | 230V / 1-Phase / 50Hz | - |
| Protection Class Drive Motor: | IP 55 | IP 55 | - |
| Drive Power [kW]: | 2.2 | 2.2 | 4.5 |
| RPM Motor [min ⁻¹]: | 2890 | 2890 | 2890 |
| Start: | Start / Stop switch | | Hand start |
| Noise level [dB(A)]: | 82 | 82 | 93 |
| Dimensions L x W x H [mm]: | 650 x 390 x 400 | 650 x 390 x 400 | 780 x 380 x 400 |
| Weight [kg]: | approx. 43 / (39) | approx. 43 / (39) | approx. 46 / (42) |
| Content Volume Filter housing [l]: | 0.37 | 0.37 | 0.37 |

A

DESCRIPTION

Unit Assembly LW 100 E / E1

A



| No. | Designation |
|-----|--|
| 1 | Pressure gauge |
| 2 | Filling hose with filling valve |
| 3 | Carrying handles (ECO Optional) |
| 4 | E-Motor / 400V / 3 Phase / 50 Hz or E-Motor / 230V / single phase / 50Hz |

DESCRIPTION

Unit Assembly LW 100 B

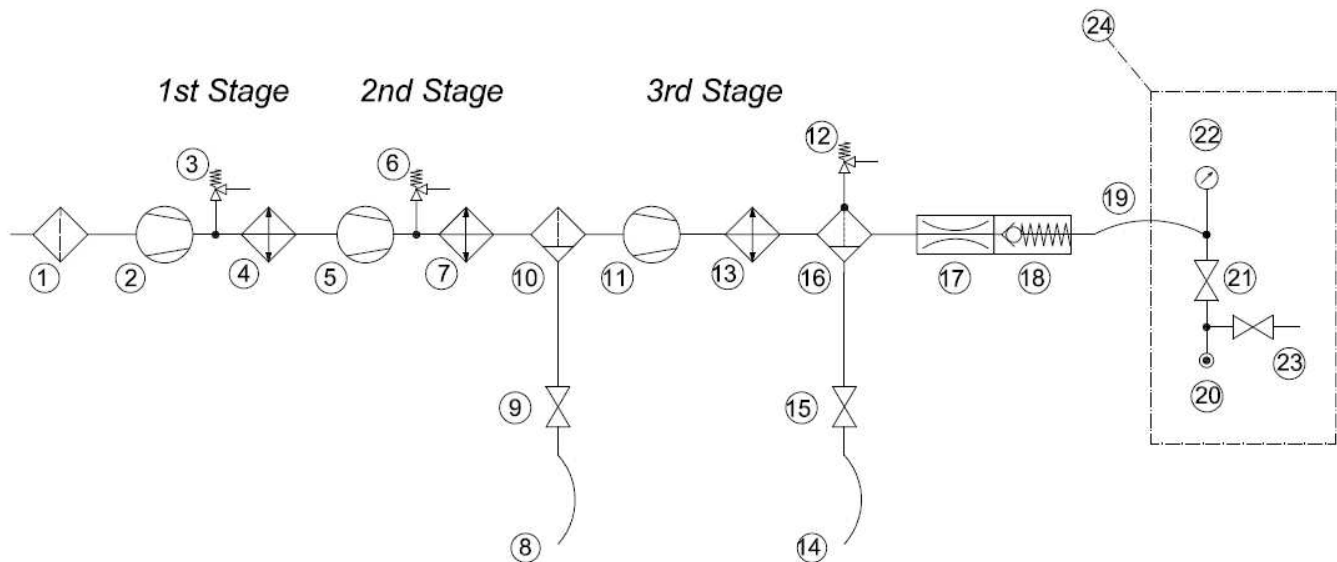
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| No. | Designation |
|-----|--------------------------------------|
| 1 | Pressure gauge |
| 2 | Intake telescopic pipe |
| 3 | Filling hose with filling valve |
| 4 | Carrying handles (ECO Optional) |
| 5 | 4 stroke gasoline engine, hand start |

DESCRIPTION

Flow chart



- | | |
|------------------------------|---------------------------------------|
| 1. Air Intake Filter | 13. Cooling Pipe Final Stage |
| 2. 1st Pressure Stage | 14. Condensate Release Hose |
| 3. Safety Valve 1st Stage | 15. Condensate Release Valve |
| 4. Cooling Pipe 1st Stage | 16. Oil-/Water Separator |
| 5. 2nd Pressure Stage | 17. Pressure Maintaining Valve |
| 6. Safety Valve 2nd Stage | 18. Non-Return Valve |
| 7. Cooling Pipe 2nd Stage | 19. Filling Hose |
| 8. Condensate Release Hose | 20. Filling Connector |
| 9. Condensate Release Valve | 21. Filling Valve |
| 10. Oil-/Water Separator | 22. Pressure Gauge (Filling Pressure) |
| 11. 3rd Pressure Stage | 23. Vent Valve |
| 12. Endpressure-Safety Valve | 24. Unit Filling Valve "Cross Design" |



A

SAFETY PRECAUTIONS



SAFETY PRECAUTIONS

Intended Use

Only use the unit in perfect condition for its intended purpose, safety and intended use and observe the operating instructions! In particular disorders that may affect safety have to be eliminated immediately!

Use the unit exclusively for the determined medium (see "Technical Data"). Any other use that is not specified is not authorized. The manufacturer/supplier shall not be liable for any damages resulting from such use. Such risk lies entirely with the user. Authorization for use is also under the condition that the instruction manual is complied with and inspection and maintenance requirements are enforced.

No change and modification to the unit can be made without the written agreement of the manufacturer. The manufacturer is not liable for damage to persons or property resulting from unauthorized modifications.

Operators

Target groups in these instructions;

Operators

Operators are persons who are authorized and briefed for the use of the compressor.

Qualified personnel

Qualified personnel are persons who are entitled to repair, service, modify and maintain the system.



Warning

Only trained personnel are permitted to work on the unit!



Warning

Work on the electrical equipment on / with the machine / unit may only be carried out by qualified electricians.

SAFETY PRECAUTIONS

Safety instructions on the unit

Importance of notes and warning signs that are affixed to the compressor according to the application or its equipment.

A



Warning
High voltage!



Note
Ensure correct direction of rotation!



SAFETY PRECAUTIONS

General Safety Precautions

- Read the Operating Instructions of this product carefully prior to use.
- Read the Operating Instructions of the petrol engine carefully prior to use. (LW 100 B Versions)
- Strictly follow the instructions. The user must fully understand and strictly observe the instructions. Use the product only for the purposes specified in the intended use section of this document.
- Do not dispose the operating instructions. Ensure that they are retained and appropriately used by the product user.
- Only trained and competent personnel are permitted to use this product.
- Comply with all local and national rules and regulations associated with this product.
- Only trained and competent personnel are permitted to inspect, repair and service the product.
- Only authentic L&W parts and accessories may be used for maintenance work. Otherwise, the proper functioning of the product may be impaired.
- Do not use faulty or incomplete products. Do not modify the product.
- Inform L&W in the event of any product or component fault or failure.
- The quality of the air supply must meet EN 12021 specifications for breathing air.
- Do not use the product in areas prone to explosion or in the presence of flammable gases. The product is not designed for these applications. An explosion might be the result if certain conditions apply.

A



SAFETY PRECAUTIONS

Unit customised safety notices

Organisational measures

- In addition to the instruction manual, observe and comply with universally valid legal and other obligatory regulations regarding accident prevention and environment protection.
- In addition to the instruction manual, provide supplementary instructions for supervision and monitoring duties taking into consideration exceptional factors e.g. with regard to organisation of work, production, personnel employed.
- Supervise personnel's work in accordance with the instruction manual, taking into account safety and danger factors.
- Observe all safety and danger notices on the compressor and check readability and completeness.

Safety instructions operation

- Take measures to ensure that the machine is only taken into operation under safe and functional conditions. Only operate the compressor if all protective and safety equipment, e.g. detachable protective equipment, are provided and in good working order.
- Check the compressor at least once per day for obvious damage and defects. Inform the responsible department / person immediately if anything is not as it should be (including operation performance). Shut down the machine immediately if necessary and lock it.
- In case of malfunction, stop the compressor immediately and lock it. Repair malfunctions immediately.
- If there is a failure in the electric energy supply, shut the machine / unit down immediately.
- Ensure safe and environmentally friendly disposal of consumables and old parts.
- The stipulated hearing protectors must be worn.
- Soundproofing equipment on the compressor has to be activated in safety function during operation.
- When handling with fats, oils and other chemical agents, observe the note for the product-related safety.
- Check all additional safety notices for the petrol engine in the specific handbook (LW 100 B Versions)



SAFETY PRECAUTIONS

Maintenance instructions

- Hoses have to be checked by the operator (pressure and visual inspection) at reasonable intervals, even if no safety-related defects have been detected.
- Immediately repair any damage. Escaping compressed air can cause injury.
- Depressurise system and pressure lines before beginning repair work.
- Pressurised air lines must be laid and mounted by qualified personnel. Connections must not be mixed up. Fittings, length and quality of the piping must correspond to requirements.
- Adjustment, maintenance and inspection activities and keep appointments, including information on replacement parts / equipment, prescribed in the operating instructions have to be respected.
- If the machine / equipment is completely off during maintenance and repair work, it must be protected against unexpected restart. Turn off main control device and remove the key and/or display a warning sign on the main switch.
- The machine and especially the connections and fittings should be cleaned from oil, fuel and maintenance products at the beginning of the maintenance / repair. Do not use aggressive cleaning agents. Use fibre-free cleaning cloths.
- Switch off compressor and clean with a slightly damp cloth. Remove dirt from cooling pipes by using a brush.
- After cleaning, examine all pipes for leaks, loose connections, chafing and damage. Immediately eliminate any faults.
- Always retighten any screw connections loosened for maintenance or repair work.
- If it is necessary to remove safety devices for maintenance and repair work, these must be replaced and checked immediately after completion of the maintenance or repair work.
- The electrical equipment of the compressor must be regularly checked. Defects, such as loose screw connections or burnt wires, must be immediately rectified by electrically skilled personnel.
- Only personnel with particular knowledge and experience with pneumatics may carry out work on pneumatic equipment.
- Only personnel with particular knowledge and experience in gas equipment may carry out work on gas equipment.
- Any work on the petrol engine should be done in accordance with its specific handbook. (LW 100 B Versions)

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SAFETY PRECAUTIONS

Transportation instructions

- Parts which need to be dismantled for transport purposes must be carefully replaced and secured before taking into operation.
- The transport may only be carried out by trained personnel.
- For transportation, only use lifting devices and equipment with sufficient lifting power.
- Do not stand or work under suspended loads.
- Even minor relocation please disconnect the machine / system from any external energy supply.
- Before recommissioning, reconnect the machine to the mains according to regulations.
- When recommissioning, proceed according to the operating instructions..

Safety regulations

- Inspections according to legal and local obligatory regulations regarding accident prevention are carried out by the manufacturer or by authorised expert personnel. No guarantees whatsoever are valid for damage caused or favoured by the non-consideration of these directions for use.

A



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INSTALLATION

INSTALLATION

Installation in closed rooms - LW 100 E / E1



Danger

No operation in explosion-hazard areas.

The unit is not approved for operation in areas prone to explosion.

For installation in closed rooms, observe the following:

- Install the unit horizontally and level. The floor must be vibration-free and capable of taking the load of the system weight.
- The compressor room must be clean, dry, dust free and as cool as possible. Avoid direct exposure to sunlight. If possible, install unit in such a manner that the compressor fan can intake fresh air from outside. Ensure adequate ventilation and exhaust air opening.
- When locating the compressor in rooms of less than 30 m³ space where natural ventilation is not ensured or other systems having high radiation are operating in the same room, measures must be taken to provide artificial ventilation.
- Intake air must be free from noxious gas e.g. smoke, solvent vapours, exhaust fumes etc.
- Observe the specified operating temperature (see "Technical Data")!

A

INSTALLATION

Installation LW 100 B

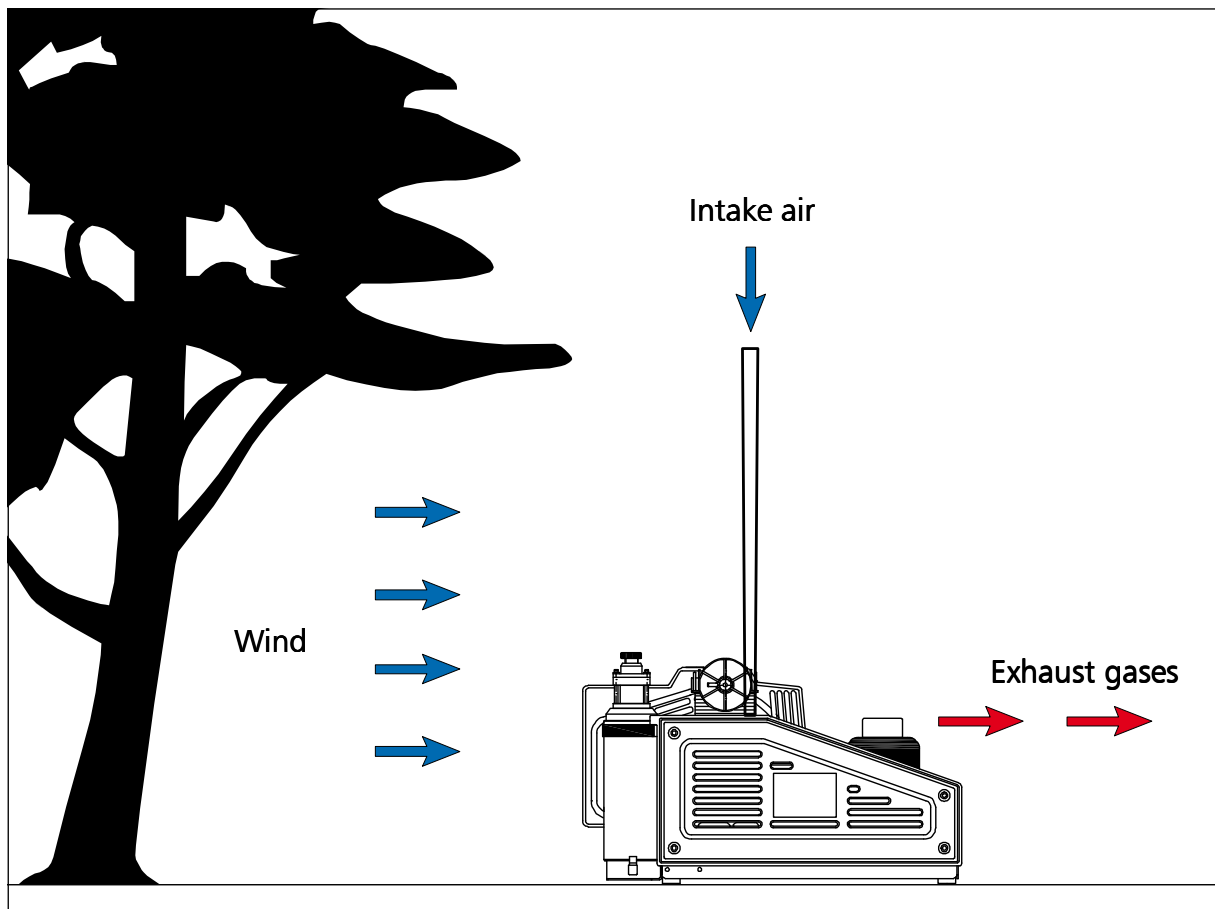


Danger

Compressors with petrol or diesel motors must only be located outdoors, never indoors, not even in partially closed rooms however large they may be.

For outside installation observe the following:

- Install the unit horizontally and level. The floor must be vibration-free and capable of taking the load of the system weight.
- On units employing petrol or diesel motors, it is most important that only clean air is used. Position compressor in direction of wind so that exhaust fumes are blown away from the unit.
- Intake air must be free from noxious gas e.g. smoke, solvent vapours, exhaust fumes etc.
- Observe the specified operating temperature (see "Technical Data")!



INSTALLATION

Dimensions LW 100 E / E1

A

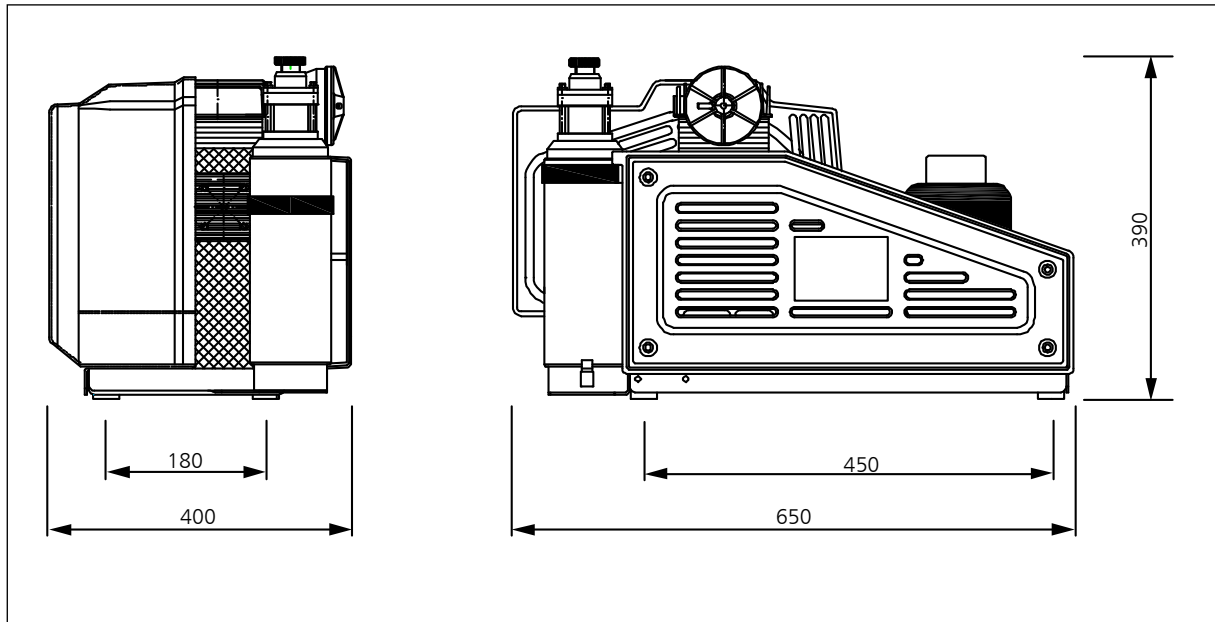


Fig. Dimensions

Dimensions LW 100 B

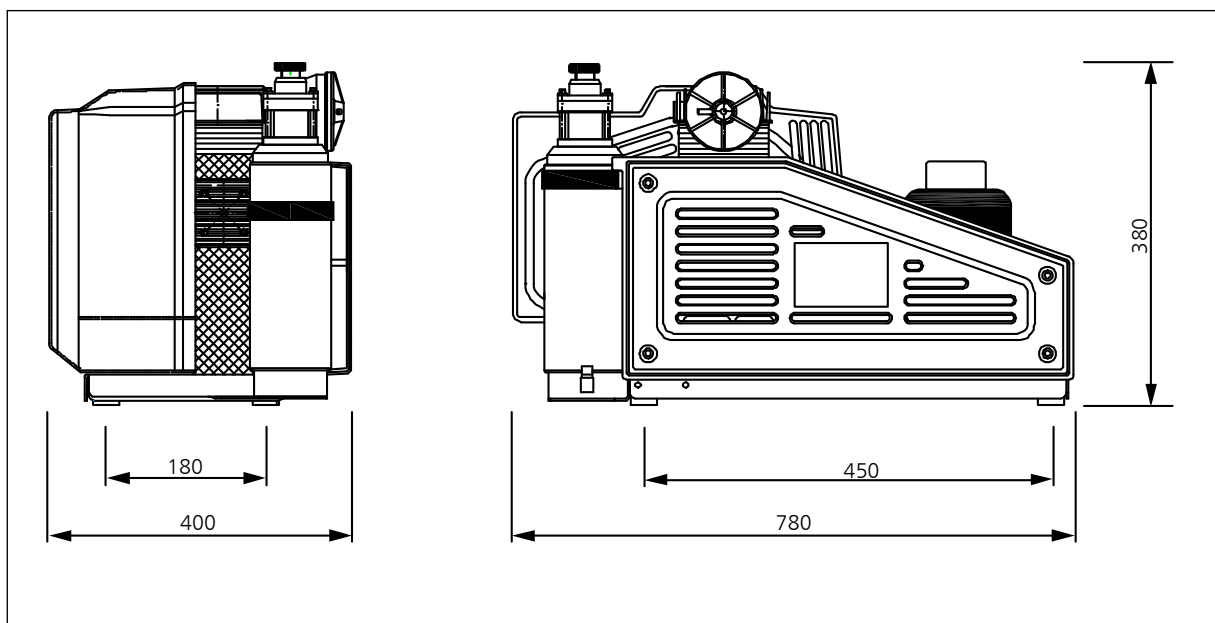


Fig. Dimensions

INSTALLATION

Minimum distances



Note

Minimum distances must be adhered!

- Make sure that the compressor always has a sufficient amount of fresh air available.
- To prevent serious damage, ensure that the cooling air flow can flow freely.
- The following minimum distances must be adhered:
Front side min. 300 mm, rear side min. 300 mm. Avoid anything in this area which can restrict the cooling air flow.
- No minimum distances are required at the side panels.

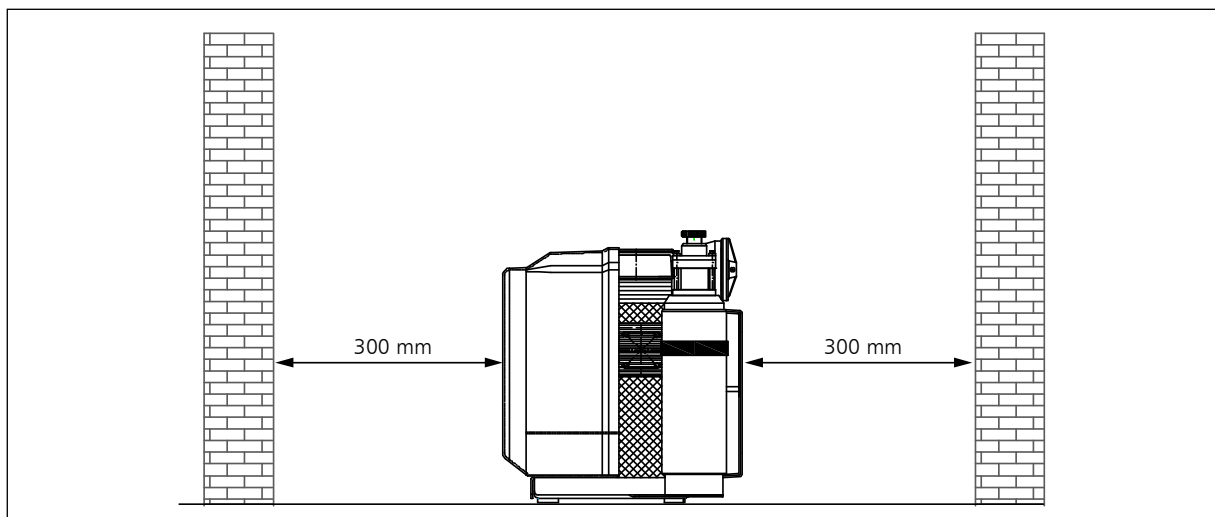


Fig. Minimum distances LW 100 E / E1

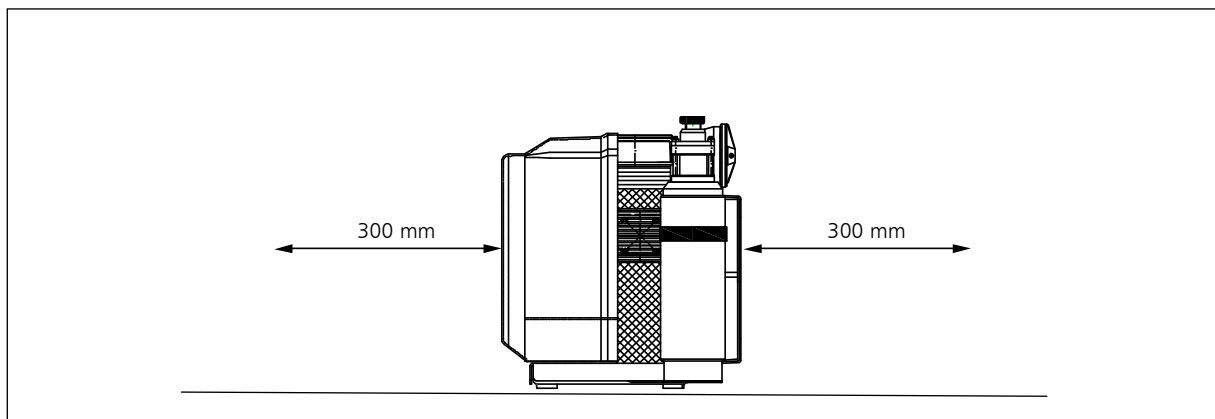


Fig. Minimum distances LW 100 B

INSTALLATION

Ventilation LW 100 E / E1

- Make sure that the compressor always has a sufficient amount of fresh air available for cooling.
- To prevent serious damage, ensure that the cooling air flow can flow freely.
- The necessary cooling air flow can be calculated by using the following formula:
 $300 \times \text{drive power [kW]} = \text{required cooling air flow [m}^3/\text{h]}$
 Example 11kW motor: $300 \times 11\text{kW} = 3300 \text{ m}^3/\text{h} = \text{required cooling air flow.}$
- The fan capacity for fresh air and warm air must meet at least the required cooling air flow.
 The fans must have the same capacity.

A

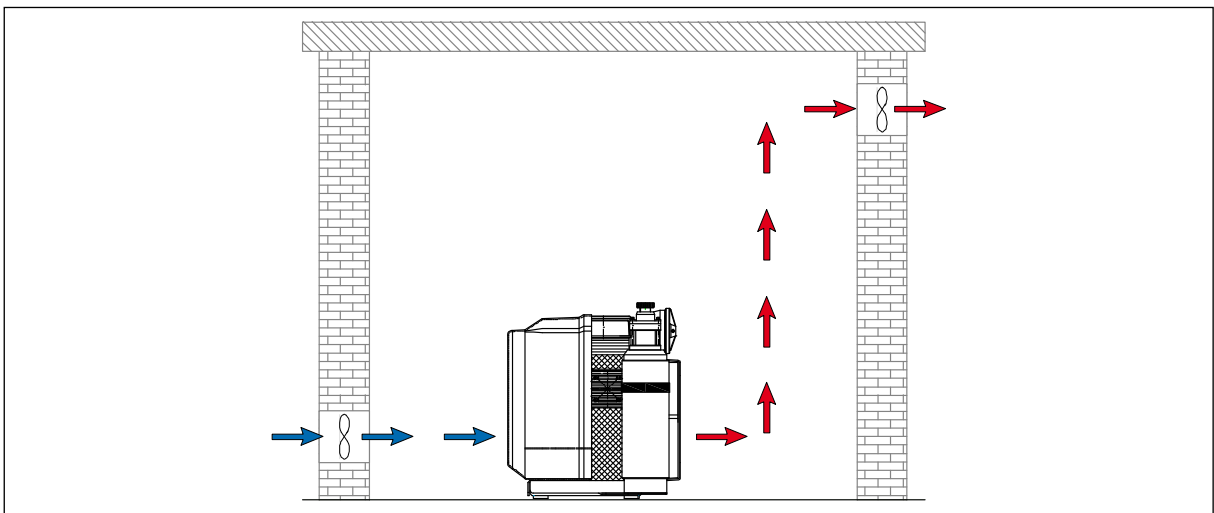


Fig. Ventilation through facade

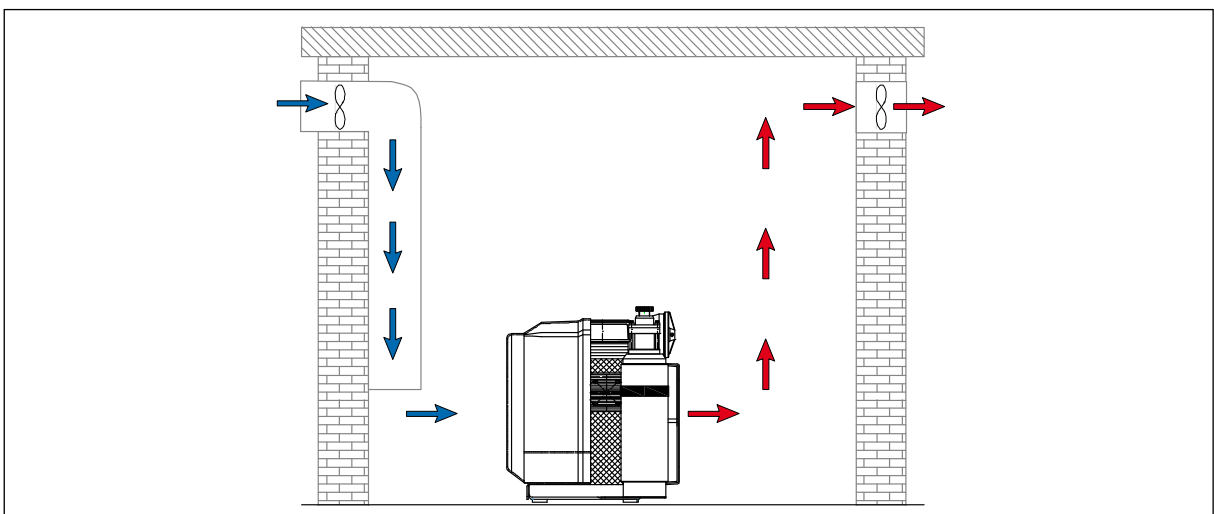


Fig. Ventilation via ventilation stack

INSTALLATION

Electrical Installation LW 100 E / E1



Warning

Work on the electrical equipment on / with the machine / unit may only be carried out by qualified electricians.

For installation of electrical equipment, observe the following:

- If control devices are delivered by the factory, refer to the appropriate wiring diagram.
- Ensure correct installation of protective conductors.
- Check conformity of motor and control device tension and frequency with those of the electric network (see name plate on the compressor).
- The fusing should be done in accordance with the valid regulations of the responsible electricity supply company.
- When connecting the unit to the electrical supply, check the compressor direction of rotation (see chapter "Operation -> First commissioning - LW 100 E/E1).
- Fuse the motor correctly (see table; use slow-blow fuses).

INSTALLATION

Electrical Installation LW 100 E / E1

The compressor comes fully wired with cable and plug. An installation is not necessary.

A

Recommended fuses for 360 - 500 V operating voltage

| Nominal motor power | | Fusing start A | | Connection in mm ² | |
|---------------------|-----|----------------|------------|-------------------------------|---------------|
| [kw] | [A] | Direct | Star/Delta | Contactor supply | S/D* to Motor |
| 2.2 | 5 | 10 | - | 1.5 | 1.5 |
| 4 | 8.5 | 20 | - | 2.5 | 1.5 |

Recommended fuses for 220 - 240 V operating voltage

| Nominal motor power | | Fusing start A | | Connection in mm ² | |
|---------------------|------|----------------|------------|-------------------------------|---------------|
| [kw] | [A] | Direct | Star/Delta | Contactor supply | S/D* to Motor |
| 2.2 | 8.7 | 20 | - | 1.5 | 1.5 |
| 4 | 14.8 | 25 | - | 2.5 | 1.5 |

* S/D - Star / Delta.

Terminal Box Wiring

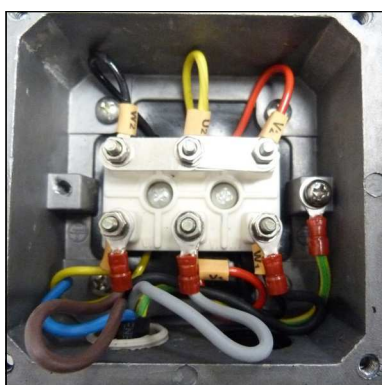


Fig. 1 - Connections LW 100 E



Fig. 2 - Connections LW 100 E1



A

OPERATION

OPERATION

Important operation instructions



Danger

On petrol or diesel engines, operation unit must only be located outdoors, never indoors, not even in partially closed rooms however large they may be.



Note

Ensure that all persons handling the compressor are familiar with function and operation of the unit.



Wear hearing protection

When working on a running machine, always wear hearing protection.

Prior to first commissioning, observe the following:

- Ensure that cooling air can flow freely.
- Check compressor oil level with the oil dipstick (see "Service and Maintenance").
- Check all connections and retighten if necessary.
- Check if the filter cartridge is in place (see "Service and Maintenance").
- Check the V-belt tension (see "Service and Maintenance").
- Check if all filling valves are closed. Open one filling valve and hold tight manually!

Start the compressor

1. Open condensate drain valves and filling valve
2. Start the compressor by pushing the ON button.
3. Check turning direction - see the rotary direction arrow on the fan protection cover (see next pages). If the turning direction is wrong, immediately stop the compressor by pushing the OFF button and contact an authorised electrician.



Warning

Wrong impeller rotation direction!

Immediately after switching the compressor on, check the rotation direction. Depending on the place of installation, the phase sequence can influence the rotation direction.

4. Close condensate drain valves
5. Run the compressor for about 2 minutes.
6. Close the open filling valve carefully.
7. Run the compressor up to maximum pressure and check the function of the final pressure safety valve. If the compressor is equipped with an automatic stop system please check the automatic shut down at final pressure. If the final pressure switch does not shut off, switch off the compressor with the OFF button (see chapter "Remedying faults").
8. Check the compressor unit for leaks (see "Service and Maintenance").
9. Option: Automatic Condensate Drain
Now check the condensate drain valves:
 - Fix the black condensate hoses
 - Drain test - press the test button
 - If correct, air escapes
10. Stop the compressor by pushing the OFF button.
11. Open all filling valves carefully to vent.

Check turning direction - LW 100 E



Warning

Wrong impeller rotation direction!

Immediately after switching the compressor on, check rotation direction. Depending on the place of installation, the phase sequence can influence the rotation direction.

Before starting the compressor for the first time, check rotation direction (see the rotary direction arrow on the housing of the electric motor).

If the direction of rotation is wrong, the guide pistons of the 2nd and 3rd stages can not be sufficiently lubricated, with the consequence that the pistons will be damaged. Furthermore, cooling air flow will not be sufficient.



Rotation direction arrow on the fan protection cover.

Rotation direction change - LW 100 E



Warning

Work on the electrical equipment on / with the machine / unit may only be carried out by qualified electricians.

In case of a wrong impeller rotation direction, an electrically skilled person can swap two phases.

FIRST COMMISSIONING - LW 100 B

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Prior to first commissioning, observe the following:

- Ensure that cooling air can flow freely.
- Position compressor in direction of wind so that exhaust fumes are blown away from the unit.
- Take protection measures to avoid damages or injury by exhaust gases/exhaust pipe.
- Check fuel capacity.
- Check drive motor oil level.
- Check the oil level of the compressor.
- Check all connections and tighten if necessary.
- Check if a filter cartridge is in place. (see "Service and Maintenance")
- Check V-belt tension. (see "Service and Maintenance")
- Read carefully the handbook of the petrol engine.
- Ensure that all filling valves are closed. Open one filling valve and hold tight manually!

Start the compressor

1. Open fuel valve (Fig. 1)
2. Switch motor switch in position 1
3. Open condensate drain valves and filling valve
4. Pull start (Fig. 2)
5. Close condensate drain valves
6. Run the compressor for about 2 minutes
7. Close the open filling valve carefully
8. Run the compressor up to maximum pressure and check the function of the final pressure safety valve. If the compressor is equipped with an automatic stop system please check the automatic shut down at final pressure. If the final pressure switch does not shut off, switch off the compressor with the OFF button (see chapter "Remedying faults").
9. Check the compressor unit for leaks (see "Service and Maintenance")
10. Option: Automatic Condensate Drain
Now check the condensate drain valves:
 - Fix the black condensate hoses
 - Drain test - press the test button
 - If correct, air escapes
11. Stop the compressor by pushing the OFF button.
12. Open all filling valves carefully to vent.



Fig. 1 - Fuel valve



Fig. 2 - Speed control and pull start



DAILY COMMISSIONING

Prior to daily operation observe the following:

LW 100 E / E1

- Ensure cooling air can flow freely.
- Check the compressor oil level by the oil dipstick.
- Check if filter cartridge is in place / observe filter cartridge life!
- Ensure toxic-free, pure intake air.

LW 100 B

- Ensure cooling air can flow freely.
- Position compressor in direction of wind so that exhaust fumes are blown away from the unit.
(see Installation -> Installation LW 100 B)
- Take protection measures to avoid damages or injury by exhaust gases/exhaust pipe.
- Check the compressor oil level by the oil dipstick.
- Check if filter cartridge is in place / observe filter cartridge life!
- Check fuel capacity.
- Check drive motor oil level.
- Ensure toxic-free, pure intake air.

A

OPERATION

Filling procedure

**Caution! Fill only cylinders which:**

- are marked with the test mark and the test stamp of the expert.
- have been hydrostatic tested (check last test date).
- are rated for the final pressure.
- are free from humidity.

**Note**

The unit must be stopped manually when final pressure is reached. No serial auto shut down. The unit must also be started manually.

**Caution**

Vent condensate drain valves every 15-30 minutes manually.

1. Close all filling valves.
2. Connect the closed compressed air cylinders.
3. Open cylinder valves.
4. Open the condensate drain valves during the starting process and start the compressor
5. When filling pressure gauge increases, open filling valves slowly.
6. Fill the compressed air cylinders to the desired pressure; close slowly the valves of the cylinders.
7. Switch off the compressor.
8. Close and vent all filling valves.
9. Disconnect all compressed air cylinders from filling valves.
10. Open condensate drain valves manually.

OPERATION

Switch off the compressor



Note

After switching off, open condensate drain valves manually to vent the unit.

The compressor unit is not equipped as standard with an auto shut down. The unit must always be stopped manually when final pressure is reached.

During filling process, the system can be shut down at any time by pushing the OFF - button (OFF) .

Switch off the compressor unit LW 100 E / E1

- Stop compressor by the toggle switch (OFF).

Switch off the compressor unit LW 100 B

- Stop compressor by the toggle switch (OFF).
- Close fuel shut-off valve.



A

REMEDYING FAULTS

REMEDYING FAULTS

A

Final pressure can not be reached

| Cause of fault | Remedy |
|---|---|
| Connections leaky | Retighten or clean/replace if necessary |
| Final pressure safety valve leaky | Replace, turn out vent screw if necessary |
| Pipes / heat exchanger broken | Replace |
| Condensate drain valves leaky | Unscrew valves, check sealing surfaces, clean, replace if necessary |
| Final pressure switch stop unit | Verify settings, replace if necessary |
| Piston of pneumatic condensate valve sticks | Clean pneumatic condensate valve and restore function, check/replace o-rings, replace valve completely if necessary |

Strong compressor vibration

| Cause of fault | Remedy |
|---------------------------------------|---------------------------------|
| V-belt tension too loose | Tension V-belt |
| Drive motor / Compressor unit loosely | Retighten mounting screws |
| Anti vibration mounts used up | Replace |
| Ground not levelled | Ensure a solid and level ground |

Air supply too low

| Cause of fault | Remedy |
|--|---|
| Inlet and outlet valves contaminated / defective | Clean, replace if necessary |
| Cylinder(s), piston(s) or piston ring(s) used up | Replace |
| V-belt slips | Tension V-belt |
| See chapter "Final pressure can not be reached" | See chapter "Final pressure can not be reached" |



REMEDYING FAULTS

Compressor overheated

| Cause of fault | Remedy |
|--|---|
| Inlet filter cartridge contaminated | Replace |
| Ambient temperature too high | Improve room ventilation / Reduce operation times |
| Cooling air inlet and outlet insufficient | Observe minimum distances (see Installation Instructions) |
| Air intake hose too long | Reduce length of the air intake hose |
| Air intake hose diameter too small | Use a larger diameter |
| Wrong compressor rotation direction | Ensure correct phase rotation, observe rotation direction arrow! |
| Inlet and outlet valves contaminated / defective | Clean, replace if necessary |

Safety valve leaks

| Cause of fault | Remedy |
|---|---|
| Inlet and outlet valves of the following pressure stage defective | Clean, replace if necessary |
| Sinter filter of the following water separator blocked | Replace |
| Safety valve leaky | Replace, turn out vent screw if necessary |

Oil taste in the air

| Cause of fault | Remedy |
|--|----------------------------|
| Mole carbon filter cartridge saturated | Replace |
| Compressor oil unsuitable | Use prescribed oil quality |
| Filter cartridge unsuitable | Use prescribed filter type |
| Cylinder(s), piston(s) or piston ring(s) defective | Replace |

REMEDYING FAULTS

Automatic condensate drain defective

Only valid with the option - Automatic Condensate Drain

| Cause of fault | Remedy |
|---|---|
| Solenoid coils defective | Replace |
| Cable / supply cable defective | Repair, replace if necessary |
| Timer / relais defective | Replace |
| Sinter filter of pneumatic condensate valve blocked | Replace |
| Piston of pneumatic condensate valve sticks | Clean pneumatic condensate valve and restore function, check/replace o-rings, replace valve complete if necessary |

Condensate drain starts before reaching final pressure

Only valid with the option - Automatic Condensate Drain

| Cause of fault | Remedy |
|---|---|
| Pressure stages are not as prescribed, control pressure of pneumatic condensate valve too low | Check corresponding inlet and outlet valve, replace if necessary. |
| Piston sealing of pneumatic condensate valve contaminated / used up | Clean, replace if necessary |
| Timer / relais settings not correct | Adjust as prescribed |
| Timer / relais defective | Replace |

Compressor stops before final pressure

Only valid with the option - Automatic Condensate Drain

| Cause of fault | Remedy |
|---|--|
| Final pressure switch settings not correct | Correct settings |
| Opening pressure of the pressure maintaining valve too high | Correct settings |
| Fuse / circuit breaker has tripped Valid only for E models | Check fusing of the power supply / observe regulations |



REMEDYING FAULTS

Filter life not sufficient

| Cause of fault | Remedy |
|--|--|
| Pressure maintaining valve settings not correct | Adjust as prescribed |
| Filter cartridge unsuitable | Replace by a prescribed filter cartridge type |
| Filter cartridge too old | Observe expiration date |
| Filter cartridge packaging incorrect / damaged / already opened. Filter cartridge already partly saturated before change | Store filter cartridges properly, dispose defective cartridges |
| Operating temperature too high | Ensure sufficient ventilation |
| Cylinder(s), piston(s) or piston ring(s) defective | Replace |

Oil consumption too high

| Cause of fault | Remedy |
|--|---|
| Cylinder(s), piston(s) or piston ring(s) defective | Replace |
| Compressor oil unsuitable | Use prescribed oil quality |
| Operating temperature too high | Observe prescribed operating temperatures |
| Oil leak at the compressor block | Tighten corresponding mounting screws, if necessary replace corresponding paper sealing / o-ring / shaft seal |



A

MAINTENANCE AND SERVICE

MAINTENANCE AND SERVICE

Service, Repair and Maintenance

Carry out service and maintenance work exclusively when the compressor is stopped and depressurised. The unit should be leak-checked regularly. Leaks can be preferably localised by using a leak detector spray (if necessary, brush pipes with soapy water).

We recommend that only authorised L&W service technicians carry out service work on the bearing of the compressor (crankshaft and connecting rods).

We urgently recommend that all maintenance, repair and installation work must only be carried out by trained personnel. This is necessary because all maintenance work can not be explained exactly and detailed in this manual.

Only use authentic spare parts for service work.

Any work on the petrol engine should be done in accordance with its specific handbook.



Danger

Components under pressure, such as hose ends, can quickly come loose when manipulated and can cause potentially fatal injuries due to the pressure surge. Any work on system parts may only be performed in a pressure-compensated state.



Warning

The use of accessories that have not been tested can lead to death or serious injury or damage to the unit. Only use authentic spare parts for service work.



Warning

Carry out maintenance or service work when the unit is switched off and protected against unexpected restart.



Warning

Risk of burns!

Carry out maintenance or service work when the unit has cooled down.



MAINTENANCE AND SERVICE

Daily before taking unit into operation

| Maintenance work | Type | Quantity | Order No. |
|--|----------|----------|-----------|
| Check oil level | - | - | 000001 |
| Check condition of all filling hoses | - | - | - |
| Check filter cartridge lifetime | LW 100 E | 1 | 000644 |
| | LW 100 B | 1 | 002309 |
| Operate unit to final pressure and check function of final pressure switch | - | - | - |

Weekly or as needed

| Maintenance work | Type | Quantity | Order No. |
|---|------|----------|-----------|
| Check automatic condensate drain, open manual condensate taps | - | - | - |
| Check/Retorque all connections and bolts | - | - | - |
| Check V-belt tension and condition | - | - | - |

Annually

| Maintenance work | Type | Quantity | Order No. |
|---|------|----------|-----------|
| Oil change, if less than 250 operating hours | - | 0.5 | 000001 |
| Check opening pressure of final safety valve | - | - | - |
| Clean coolers | - | - | - |
| Clean all oil/water separators, if less than 250 operating hours | - | - | - |
| Service intake filter (depends on condition - if less than 500 operating hours) | - | - | - |

MAINTENANCE AND SERVICE

Every 250 operating hours

| Maintenance work | Type | Quantity | Order No. |
|----------------------------|------|----------|-----------|
| Oil change | - | 0.5 | 000001 |
| Clean oil/water separators | - | - | - |

Every 500 operating hours

| Maintenance work | Type | Quantity | Order No. |
|---|--------------------|----------|-----------|
| Replace V-belt | LW 100 E/E1 (50Hz) | 1 | 001842 |
| | LW 100 E/E1 (60Hz) | 1 | 001701 |
| | LW 100 B (B&S) | 1 | 008503 |
| | LW 100 B (Honda) | 1 | 001803 |
| Replace o-ring of the DIN filling connector | - | 1 | 001237 |
| Replace o-ring of the revolvable filling hose | - | 1 | 001224 |
| Change intake filter | - | 1 | 001708 |
| Replace sintered metal filter of oil separators | - | 1 | 001735 |
| Replace o-ring of the water separator | - | 1 | 001810 |
| Replace o-ring of the final filter housing | - | 1 | 001769 |
| Check pressure maintaining / non-return valve | - | - | - |
| Check all connections for leaks | - | - | - |



Note

All stated quantities are parts of our 500h and 1000h service kits. You can find an overview on page Service Kits.



MAINTENANCE AND SERVICE

Every 1000 operating hours

| Maintenance work | Type | Quantity | Order No. |
|---|--------------------------|----------|-----------|
| Replace o-rings and gaskets of 1st, 2nd and 3rd stage | Gasket (1st stage) | 1 | 001705 |
| | O-Ring (1st stage) | 1 | 001781 |
| | O-Ring (2nd stage) | 1 | 001768 |
| | O-Ring (2nd + 3rd stage) | 2 | 001777 |
| | O-Ring (3rd stage) | 1 | 001771 |
| | O-Ring (3rd stage) | 1 | 001776 |
| Replace all inlet and outlet valves incl. Gaskets | 1st stage | 1 | 001722 |
| | 2nd stage | 1 | 001855 |
| | 3rd stage | 1 | 001856 |



Note

All stated quantities are parts of our 1000h service kits. You can find an overview on page Service Kits.

MAINTENANCE AND SERVICE

Service Kits

The service kits contain parts for maintenance according to the factory requirements.

The use of the service kits ensures that all required parts are ordered and replaced and gives assurance that all parts are included in the order. Depending on the model and interval, the service kits include parts such as O-Rings, Sinter Filter, Inlet Filter, V-Belts, Silencers, In-&Outlet Valve, Valve Seals and Compressor oil.



Service Kits

A

Service Kits LW 100 E / E1 for 50 Hz

| Compressor | Frequency | Operating Hours | Order No. |
|---------------|-----------|-----------------|-----------|
| LW 100 E / E1 | 50 Hz | 500 h | 006709 |
| LW 100 E / E1 | 50 Hz | 1000 h | 003604 |

Service Kits LW 100 E / E1 for 60 Hz

| Compressor | Frequency | Operating Hours | Order No. |
|---------------|-----------|-----------------|-----------|
| LW 100 E / E1 | 60 Hz | 500 h | 006710 |
| LW 100 E / E1 | 60 Hz | 1000 h | 006711 |

Service Kits LW 100 B

| Compressor | Motor | Operating Hours | Order No. |
|------------|-------------------|-----------------|-----------|
| LW 100 B | Briggs & Stratton | 500 h | 009399 |
| LW 100 B | Briggs & Stratton | 1000 h | 009400 |
| LW 100 B | Honda | 500 h | 006712 |
| LW 100 B | Honda | 1000 h | 006713 |

MAINTENANCE AND SERVICE

Check V-belt tension

The compressors of all LW 100 versions are driven by V-belts. Check correct V-belt tension regularly, adjust if necessary. The V-belt could lose tension during transportation. Please check the V-belt tension before starting the compressor.

Tension V-belts

- Switch off the compressor unit, pull the plug if necessary.
- Tilt the compressor slightly aside.
- Loosen mounting screws (SW13) of the motor flange (Fig. 1).
- Turn clamp nut (SW13) until correct V-belt tension (Fig. 2).

Rotation direction clockwise: increase V-belt tension.

Rotation direction anti-clockwise: reduce V-belt tension.

- Tighten mounting screws of the motor flange.
- Check V-belt tension and adjust if necessary.

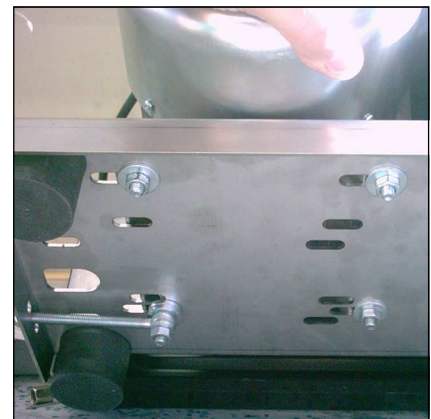


Fig. 1 - Loosen mounting screws of the motor flange

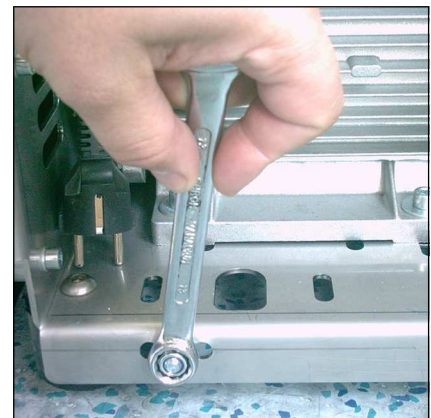


Fig. 2 - Turn clamp nut until correct V-belt tension

Correct V-belt tension

Do not tension V-belts too tight. This damages bearings of compressor and motor. The V-belts should only be tensioned until there is no noise caused by slipping during start.

Settings

| Motor Type | Initial Installation | Operation after running in |
|----------------------|----------------------|----------------------------|
| Electric motors 50Hz | 400 N | 300 N |
| Electric motors 60Hz | 350 N | 250 N |
| 4 stroke drive motor | 400 N | 300 N |

Compressor Lubrication

Pistons, cylinders, crankshaft and connecting rods are provided with oil by splash lubrication.

A

Check oil level



Warning

Check oil level daily. Never start the compressor with a too low oil level. Risk of accidental loss, destruction or deterioration.

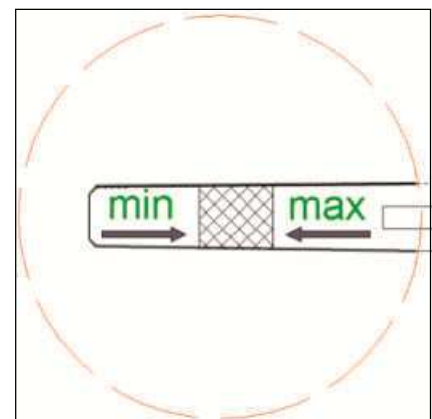
Check the oil level before each operation of the unit by using the oil dipstick.

Oil level check as follows:

- Pull out oil dipstick
- Wipe off oil residues
- Insert the oil dipstick as far as it will go back into its tube.
- Pull out oil dipstick again
The oil level should reach the upper maximum marking. Refill new compressor oil at least when the oil level reached the middle of the indicated area.
- Insert the oil dipstick as far as it will go back into its tube.



Oil dipstick



Oil level



Warning

- First oil change after 25 operating hours.

MAINTENANCE AND SERVICE

Oil change



Note

We recommend oil change at least once a year - depending on total operating hours.

A

Oil change as follows:

- Run compressor warm for about 2 minutes.
- Switch off and vent compressor
- Tilt the compressor aside
- Place a suitable oil drain tray under the drain plug
- Screw off oil drain plug carefully
- Drain oil
- Screw in oil drain plug and tighten
- Pull out oil dipstick and fill oil into the nozzle by a funnel
- Check oil level
- Check o-ring of the oil dipstick.
- Insert oil dipstick

The oil change is now completed.

Maintenance intervals

- First oil change after 25 operating hours (total hours).
- All further changes after each 250 operating hours.

Oil and oil capacity

Approx. 500 ml synthetic compressor oil is necessary for one oil change. Only use synthetic compressor oil which is recommended as suitable from L&W. (P/N: 000001)

Only LW 100 B

Drive motor oil change intervals: see manufacturer's specification for the drive motor.
(L&W P/N: 000004)

Manual condensation dump system



Note

The collected condensate can contain oil and has to be disposed according to regulations.

Oil- / water separators

The compressor comes as standard with a manual condensation dump system. Drain condensate separators every 15 to 30 minutes, depending to air moisture.

Option Automatic Condensate Drain: To release the complete condensate through the black plastic hoses we recommend using a 10 l container at least.

The drain noise can be kept to a minimum by using a silencer.

Manual drain



Warning

Open valve spindle max. 1.5 turns.
The pressure in the housing can shoot out the valve spindles at high speed.



Fig. 1 - Condensate drain valve 1.stage



Fig. 2 - Condensate drain valve 3.stage

To drain manually, open the condensate drain valve of the 2nd stage oil / water separator and the condensate drain valve of the filter housing (Fig. 2).

Open valve spindle max. 1.5 turns anti-clockwise. The condensate will be drained.

Then close valve spindle clockwise.

Maintenance intervals

We recommend to clean oil and water separators every 250 operating hours or at least once a year, to check for corrosion damage and to replace o-rings if necessary.

All oil / water separators have an integrated sinter filter which has to be replaced every 500 operating hours.

MAINTENANCE AND SERVICE

Oil / water separators 2nd stage - maintenance



Note

Clean all parts thoroughly before assembly.

Maintenance / cleaning of oil / water separators 2nd stage as follows:

- Loosen mounting screws (Fig. 1) and pipe connections (Fig. 2).
- Remove oil/water separator
- Use a suitable tool to turn off and remove separator head (Fig. 3)
- Loosen plastic nut (Fig. 4), change sinter filter (Fig. 5) and screw in plastic nut.
- Change o-ring, previously grease new o-ring (Fig. 6)
- Place separator head into the housing, turn in and tighten
- Connect pipe connections and tighten (Fig. 2).
- Mount and tighten mounting screws (Fig. 1)

The oil / water separator maintenance is now completed.



Fig. 1 - Loosen mounting screws



Fig. 2 - Loosen pipe connections



Fig. 3 - Turn off and remove separator head



Fig. 4 - Plastic nut



Fig. 5 - Change sinter filter



Fig. 6 - Change o-ring

MAINTENANCE AND SERVICE

Filter housing

The mole carbon filter housing is installed on the right hand side of the compressor housing.

Inside the filter housing a jet blows air on to the housing wall. Condensation water and oil are led by centrifugal force to the bottom of the housing. Air flows through the mole carbon filter cartridge, which purifies the air from residual moisture and odours.



Filter housing

Filter cartridge

The high-pressure compressor is equipped with an integrated breathing air purification system. Air is compressed up to 330 bar, dried and odour- and tasteless purified. Oil residues are bounded. The breathing air filter cartridge consists of a molecular sieve and activated-carbon filter.

The cartridges of petrol-driven versions are equipped with additional CO/CO₂ filters.

All breathing air filter cartridges are factory vacuum sealed.

We recommend unpacking the filter cartridges just before installation. Filter cartridges which are exposed too long could be saturated with moisture and become unusable.

Maintenance Intervals

Filter cartridges should be changed at the following intervals, at +20°C or more often, depending on humidity and ambient temperature:

- 18 hours for LW 100 E ECO / LW 100 E1 ECO / LW 100 E / LW 100 E1 (Order No.: 000644)
- 16 hours for LW 100 B ECO / LW 100 B (Order No.: 002309)

MAINTENANCE AND SERVICE

Filter cartridge change

Filter cartridge change as follows:

- Stop the compressor and open carefully the drain valves. Please wait till the filter housing is completely vented; this procedure takes approx. 1 - 2 minutes
- When no air discharges from the condensate release hoses, the pressure vessels are depressurized.
- Remove the end filter cover (Fig. 1 / Fig. 2). Remove the filter cover by using the filter tool. The housing can not be opened when it is still under pressure.
- After opening the housing, pull out the filter cartridge by the catch (Fig. 3).
- Open the packaging of the new filter cartridge and place it into the filter housing (press slightly).
- Screw the filter housing cover in by using the filter tool and turn it back 1/4 turn. This avoids tightening of the cover due to vibration.

The filter cartridge change is now completed.



Note

Ensure that the old filter cartridge is disposed correctly at an approved waste point.



Fig. 1 - Loosen filter housing cover by using the filter tool



Fig. 2 - Remove filter housing cover



Fig. 3 - Pull out the filter cartridge by the catch and insert a new cartridge

| P/N | Filtering | Models |
|--------|---|--------------------------------|
| 000644 | DIN EN 12021 (Breathing Air) | LW 100 E/E1 ECO LW 100 E/E1 |
| 002309 | DIN EN 12021 (Breathing Air) inkl. CO/CO2 | LW 100 B ECO LW 100 B |
| 002310 | Oil / odour removal ($<0,1\text{mg}/\text{m}^3$) | ALL LW 100 |
| 002311 | Air / inertgas drying only ($<15\text{mg}/\text{m}^3$) | ALL LW 100 |
| 002476 | CNG Filter, drying, oil removal | ALL LW 100 |

MAINTENANCE AND SERVICE

Filter housing - maintenance



Note

Clean all parts thoroughly before assembly.

Filter housing maintenance as follows:

- Unscrew filter housing cover by using the filter tool (Fig. 1).
- Change o-ring, previously grease new o-ring (Fig. 2)
- Screw the filter housing cover in by using the filter tool (Fig. 1).

The filter housing maintenance is now completed.



Fig. 1 - Remove/screw in filter cover



Fig. 2 - Change o-ring

MAINTENANCE AND SERVICE

Inlet Filter



Note

Dirty filters make air intake difficult and reduce delivery capacity. Risk of compressor overheating.

A paper dry filter is used for the inlet filter. Check air inlet filter regularly or replace it. Depending on the degree of contamination, the filter inlet can be cleaned by compressed air. Defective air inlet filters should be immediately replaced with a corresponding filter.

Maintenance intervals

We recommend that the filter cartridge should be replaced every 500 working hours (depending on pollution grade).



Inlet Filter

A

MAINTENANCE AND SERVICE

Check or change filter inlet



Note

Clean all parts thoroughly before assembly.

To properly change the filter inlet, proceed as follows:

- Disconnect the crankcase housing at the ventilation hose (Fig. 1).
- Remove mounting screw and pull out filter housing carefully (Fig. 2).
- Clean filter housing and o-rings and check if defective (fissures).
- Place o-ring into the housing (Fig. 3).
- Insert the new cartridge and assemble the housing. Place o-ring into the groove (Fig. 4).
- Place and align the filter housing carefully, inlet port up, hose connector 90° turned to the left (Fig. 5).
- Tighten mounting screw and connect the crankcase housing ventilation hose to the oil fill port (Fig. 6).

The filter inlet change is now completed.



Fig. 1 - Pull off ventilation hose at the oil fill port



Fig. 2 - Pull out filter housing carefully



Fig. 3 - Place o-ring into the filter housing



Fig. 4 - Place o-ring into the groove

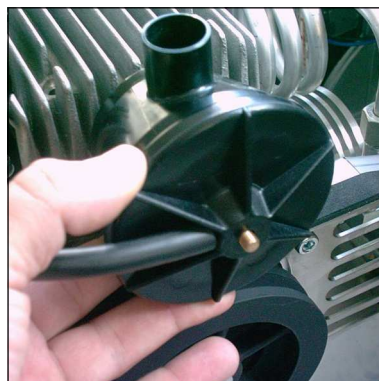


Fig. 5 - Place and align filter housing carefully

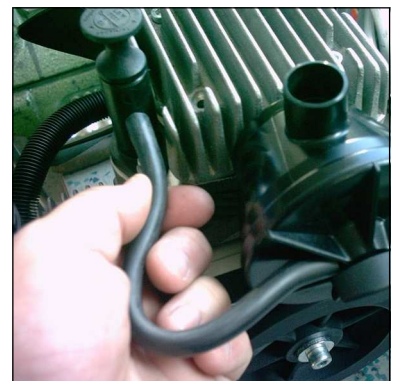


Fig. 6 - Connect ventilation hose at the oil fill port

MAINTENANCE AND SERVICE

Valve heads and valves

Inlet and outlet valves of the specific compressor stages are located between valve head and cylinder. Inlet valves open while piston downstroke; outlet valves open while upstroke or compression stroke.

Valves are subject to normal wear and tear and have to be replaced at specified intervals (depending on specific operating conditions). Dismount valve heads to change valves. All 3 valves are combined valves; inlet and outlet valves are a single unit.



Component parts inlet and outlet valve

Pistons and Cylinders

To guarantee highest economic efficiency and long lifetime of the unit, all compression cylinders of the LW 100 compressors are equipped with hardened, separate cylinder sleeves. These are plugged into the compressor housing and placed over the valve heads screws or valves. Special o-rings prevent air and oil loss.

All pistons are equipped with high quality steel piston rings. This ensures high and constant air supply as well as long service life even when often in use.



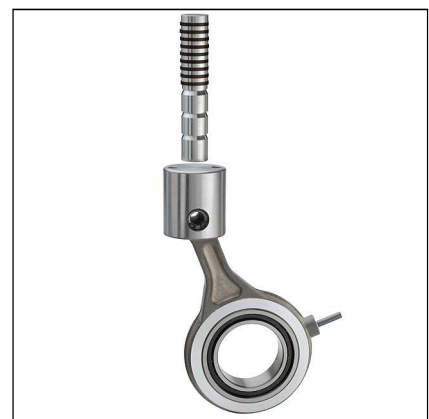
Cylinder sleeves

Cooling

The cooling pipes are made of non-corroding material and provide excellent cooling for the air after each stage of compression. The effective cooling system ensures that the air entering the final filter and separator housing is as low as possible. The air increases only 6° from inlet to outlet (at +20°C ambient temperature). This low temperature increase creates long filter times.

The free access to sufficient cooling air must be guaranteed.

Ensure the cooling pipes and the ribs on them are cleaned and free of dirt/dust.



Free compression & guide piston 3rd Stage

A

Replace inlet and outlet valve 1st stage



Note

The figures of the parts can differ due to the different stages.

Replace the inlet and outlet valve 1st stage as follows:

Remove inlet / outlet valve

- Loosen mounting screws of the fan protection cover (Fig. 1) and remove fan protection cover.
- Remove spring wire clamp of the crankcase ventilation hose (Fig. 2).
- Remove hose.
- Loosen pipe connections.
- Loosen valve head screws (Fig. 3).
- Remove valve head and check if defective (Fig. 4).
- Remove upper valve head gasket and inlet / outlet valve.

Install inlet / outlet valve - see following page



Fig. 1 - Loosen mounting screws of the fan protection cover



Fig. 2 - Remove spring wire clamp



Fig. 3 - Loosen valve head screws



Fig. 4 - Remove valve head

MAINTENANCE AND SERVICE

Replace inlet and outlet valve 1st stage - continued from previous page



Warning

The exact alignment of upper and lower valve gasket is very important. Inlet and outlet channels have to be exactly centred.

Install inlet / outlet valve

- Change o-ring, previously grease new o-ring (Fig. 5)
- Place new inlet / outlet valve.
CAUTION: Ensure correct positioning of the inlet / outlet valve. The engraved "S" (Fig. 6) must point to the inlet filter housing. Ensure that only one inlet channel is visible above.
- Place new upper valve head gasket
CAUTION: The exact alignment of the upper valve gasket is very important. Inlet and outlet channels have to be exactly centred (Fig. 7).
- Place valve head and spacing sleeves (Fig. 8).
- Screw in mounting screws at the inlet side.
- Slot fan protection cover below and screw in mounting screws at the top.
- Tighten mounting screws crosswise (tightening torque: 10N).
- Tighten pipe connections.
- Fix crankcase ventilation hose with the spring wire clamp (Fig. 9).

The inlet and outlet valves change is now completed.



Fig. 5 - Change o-ring



Fig. 6 - Engraved "S"



Fig. 7 - Inlet and outlet channels have to be exactly centred



Fig. 8 - Place spacing sleeves



Fig. 9 - Fix spring wire clamp

MAINTENANCE AND SERVICE

Replace inlet and outlet valves 2nd and 3rd stage



Note

The figures of the parts can differ due to the different stages.

Inlet and outlet valves change as follows:

- Loosen mounting screws of the fan protection cover and remove fan protection cover.
- Loosen pipe connections (Fig. 1).
- Loosen valve head screws (Fig. 2).
- Remove valve head with inlet / outlet valve (Fig. 3).
- Check valve head if defective
- Change o-ring of the compressor block, previously grease new o-ring (Fig. 4).
- Change o-ring of the valve head, previously grease new o-ring (Fig. 5).
- Place new inlet / outlet valve (Fig. 5).
CAUTION: Observe correct position between valve centre hole and valve head centre pin.
- Place valve head (Fig. 3)
- Tighten mounting screws crosswise (tightening torque: 10N).
- Tighten pipe connections (Fig. 1).
- Slot fan protection cover below and screw in mounting screws at the top.

The inlet and outlet valves change is now completed.



Fig. 1 - Loosen pipe connections



Fig. 2 - Loosen valve head screws



Fig. 3 - Remove valve head with inlet and outlet valve

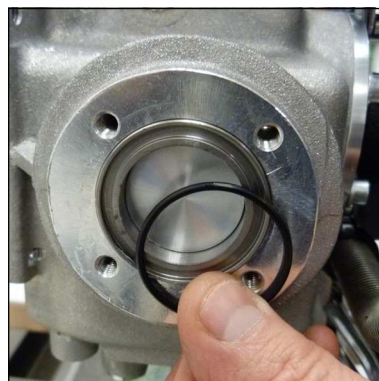


Fig. 4 - O-ring at the compressor block



Fig. 5 - Valve head

MAINTENANCE AND SERVICE

Safety valves

Every pressure stage is equipped with a separate over pressure safety valve. Safety Valves avoid a non permissible high pressure at the specific pressure stages and limit maximum operation pressure of the compressor.

Safety valves are adjusted to:

- 1st Stage: 8 bar
- 2nd Stage: 40 bar
- 3rd Stage: max. final pressure



Safety valves

The adjusted blow-off pressure [bar] of the safety valves is indicated on their housings.

All safety valves are factory sealed with special L&W safety seals to avoid manipulation of the limit value settings.

Safety valves with removed seals have to be immediately checked for the prescribed settings and replaced if necessary.

The safety valve of the final stage is furthermore equipped with a knurled screw to be activated once.

Turning the knurled screw clockwise could vent the valve completely and therefore the final filter housing.

During normal operation conditions, the knurled screw has to be turned anti-clockwise up to the upper stop. An integrated circlip avoids complete unscrewing.

If a safety valve blows off, it indicates problems with either inlet or outlet valve of the following stage.



Note

Replace defective safety valves immediately!

MAINTENANCE AND SERVICE

Pressure maintaining / non return valve

The pressure maintaining / non return valve combination is placed in the flow direction after the final filter housing.

Pressure maintaining valve

The pressure maintaining valve drains a large part of the water content of the compressed air mechanically by ensuring the minimum outlet pressure. This guarantees optimal drying and purification of the breathing air.

After starting the compressor, the pressure inside the final filter housing constantly increases. The pressure maintaining valve prevents the compressed air from blowing off (final pressure gauge = 0 bar).

When the adjusted opening pressure is reached (150 and 180 bar), the purified compressed air flows via pressure maintaining and non return valve to the filling valve.

The value of the opening pressure of the pressure maintaining valve can be read at the final pressure gauge. When opening pressure is reached, the pressure gauge value increases within a few seconds.

Adjust pressure maintaining valve see next page.

Non return valve

The non return valve which is placed after the pressure maintaining valve, prevents the purified breathing air from flowing back into the filter housing / condensate drain valves.

After compressor stop, the indicated filling pressure remains constant, if the non return valve is working correctly.



Drain valve and pressure maintaining / non return valve

A

Adjust pressure maintaining valve

- Vent filling valve and close afterwards (filling pressure gauge 0 bar)
- Start the compressor
- Observe filling pressure gauge
- When the opening pressure of the pressure maintaining valve is reached, the indicated filling pressure increases within some seconds from 0 bar up to the adjusted opening pressure.

If the opening pressure does not reach a value between 150 and 180 bar, adjust the pressure maintaining valve as follows:

Increase opening pressure:

- Vent filling valve (filling pressure 0 bar)
- Loosen clamp screw on the side
- Turn adjusting screw clockwise by using a suitable slotted screwdriver
- Start compressor and check opening pressure, adjust if necessary
- Tighten clamp screw on the side
- Check opening pressure again

Reduce opening pressure:

- Vent filling valve (filling pressure 0 bar)
- Loosen clamp screw on the side
- Turn adjusting screw anti-clockwise by using a suitable slotted screwdriver
- Start compressor and check opening pressure, adjust if necessary
- Tighten clamp screw on the side
- Check opening pressure again



Note

If the adjusted opening pressure of the pressure maintaining valve is higher than the final pressure of the compressor, the final pressure safety valve blows off before pressure maintaining valve opens (final pressure = 0 bar). When valve settings are not clear (e.g. after disassembly / repair), start the adjustment with a low basic setting (turn adjusting bolt 3 full turns in).

MAINTENANCE AND SERVICE

O-rings - filling valve and filling hose

Check o-rings from filling valve and filling hose regularly and change if necessary.



Note

Clean all parts thoroughly before assembly.

O-ring at the filling valve

- Change o-ring, previously grease new o-ring (Fig. 1)

O-ring at the filling hose

- Remove filling hose from the filling valve (Fig. 2)
- Change o-ring, previously grease new o-ring
- Connect filling hose to the filling valve and tighten



Fig. 1 - O-ring at the filling valve



Fig. 2 - O-ring at the filling hose

MAINTENANCE AND SERVICE

Motor change

The drive motors of the LW 100 series are generally interchangeable.



Warning

Do not carry out modifications when the unit is hot.

Motor change as follows:

- Switch off the compressor unit, pull the plug if necessary
- Remove V-belt cover
- Remove mounting screws of the motor flange
- Remove motor tensioner bolt
- Remove V-belt
- Remove motor v-belt pulley
- Remove motor carefully
- Place new motor
- Mount motor v-belt pulley
- Mount flange mounting screws and tighten nuts slightly
- Insert motor tensioner bolt
- Check/Ensure the alignment of both key slots (motor & compressor)
- Tension V-belt
- Tighten flange mounting screws
- Place V-belt cover and tighten mounting screws
- Ensure clearance of the V-belt cover



Note

Due to different construction heights, the motor carrying handle of the LW 100 E / LW 100 E1 versions is not identical to the LW 100 B. We recommend to use the specified carrying handle in case of modification.

MAINTENANCE AND SERVICE

Test of pressure equipment

According to the Pressure Equipment Directive (PED 97/23/EC) and TÜV Darmstadt (German supervising authorities). State: 10th of December, 2005

Subject pressure equipment with a product permissible operating pressure [bar] x content volume [litres] from 200 up to max. 1000.

Example: Filter housing 0.37 l

Maximum operating pressure: 350 bar

Content volume: 0.37 litres

$350 \text{ bar} \times 0.37 \text{ litres} = 129.5$

129.5 is smaller than the minimum of 200 -> therefore no test by a licensed expert is required.

1. Examination after 5 years by a qualified person or authorized organisations.

Visual inspection, inside and outside.

2. Examination after 10 years by a qualified person or authorized organisations.

Visual inspection, inside and outside.

In addition, a water pressure test is carried out at 1.5 times of the permissible vessel operating pressure.

The test methods described in point 1 and 2 must be repeated periodically - as described above.

Max. numbers of load cycles for operation with max. allowable pressure variation

| Final pressure [bar] | Load cycles | Operating hours [h] |
|----------------------|-------------|---------------------|
| 225 | 43750 | 10930 |
| 330 | 4400 | 1100 |



Caution

The filter container has to be replaced after 15 years!



A

MAINTENANCE RECORDS



MAINTENANCE RECORDS

Introduction form for the Operator

A

| No. | Surname, Name | Date | Place | Signature | Instructor |
|-----|---------------|------|-------|-----------|------------|
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By adding themselves to this list, the person that signs it confirms having been given a yearly introduction/instruction about the function and operation of the compressor unit. Furthermore, they have be informed about the relevant safety rules and regualtions (TRG, DGRL, BetrSichV, GSG, GSGV).



MAINTENANCE RECORDS

Top up oil, oil change

A

| Date | Operating hours | Oil quantity [l] | Name |
|------|-----------------|------------------|------|
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MAINTENANCE RECORDS

Cartridge change

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| Date | Operating hours | Difference | Name |
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MAINTENANCE RECORDS

Maintenance work

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| Description | Date, signature |
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STORAGE



Note

Please check the specific handbook of the petrol engine regarding conservation / storage, de-conservation and commissioning of the LW 100 B compressors.

A

Conservation / storage of the compressor

If the compressor unit is not to be used for an extended period of time, we recommend to carry out the following work before storage time:

- Run the compressor at 200 bar filling pressure for approximately ten minutes (control the flow with the filling valve to maintain constant pressure).
- Replace compressor oil, open filling valve(s) and run compressor for a few minutes.
- Stop compressor and open drain valves (depending on the compressor type, this may happen automatically).
- Remove top cap of final filter housing: clean throat, grease o-ring and throat with a food grade grease or silicone grease. Close filter housing.
- Remove intake filter cartridge and undo intake pipes on all valve heads.
- Start compressor unit.
- Spray a few drops of compressor oil into intake connectors.
- Stop compressor unit and insert intake filter cartridge.
- Bring intake pipes back in position and fix connections and nuts. Close filling- and drain valves.
- Store the compressor in a cool dry place free from dust and contamination. A dust cover is recommended as long as condensation can be avoided.
- If compressor unit should be stored for a period of more than one year, an oil change is strongly recommended before it's been re-used.
- Fuel driven units only: fill up fuel tank to top level to avoid corrosion.



STORAGE



Note

Please check the specific handbook of the petrol engine regarding conservation / storage, de-conservation and commissioning of the LW 100 B compressors.

A

De-conservation, commissioning

After the compressor has been stored, the following steps are to be taken:

- If compressor hasn't been used for longer than 12 months, we strongly recommend an oil change before any use.
- Replace intake filter cartridge and check oil level.
- Clean compressor unit, check for foreign objects.
- Check condition and tension of V-belts, replace if necessary.
- Check condition of filling hoses, replace if necessary.
- Secure hoses against whipping and open filling valves and run compressor for approximately 10 minutes.
- Check condition of final filter cartridge, replace if necessary.
- Close filling valves and run compressor up to final pressure.
- Check safety valve relief pressure of final stage and/or pressure switch setting.
- Check all connections and pipe work for leaks.

Once all above steps are completed, compressor unit is now ready for use.

STORAGE

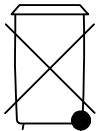
Transportation instructions

- Parts which need to be dismantled for transport purposes must be carefully replaced and secured before taking into operation.
- The transport may only be carried out by trained personnel.
- For transportation, only use lifting devices and equipment with sufficient lifting power.
- Do not stand or work under suspended loads.
- Also separate from minor relocation machinery / system of any external energy supply. Before recommissioning, reconnect the machine to the mains according to regulations.
- When recommissioning, proceed according to the operating instructions..

Disposal

The product must be disposed in accordance with national waste disposal regulations and by an appropriate waste disposal company.

Electric and electronic components



EU-wide regulations for the disposal of electric and electronic appliances which have been defined in the EU Directive 2002/96/EC and in national laws are effective from August 2005 and apply to this device.

Common household appliances can be disposed by using special collecting and recycling facilities. However, as this device has not been registered for household usage, it must not be disposed of through these means.

The device can be returned to L&W. Please do not hesitate to contact us if you have any further questions on this issue.



**ERSATZTEILLISTEN / SPARE PARTS LISTS
DETAILANSICHTEN / DETAILED VIEWS**

B



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ERSATZTEILLISTE / SPARE PART LIST

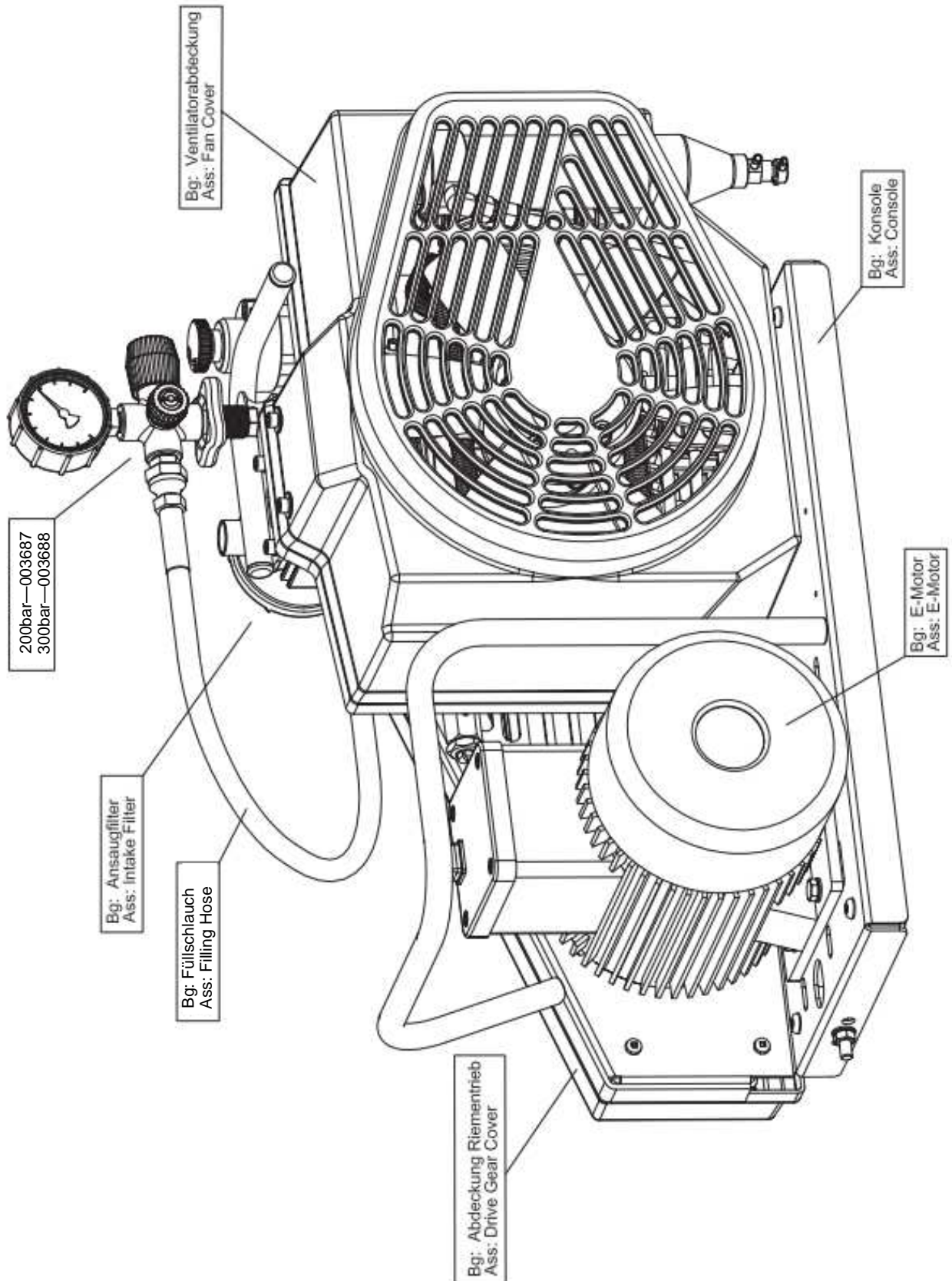
Baugruppe: Gesamtansicht / Overall View

| Best.-Nr. / Order No. | Benennung | Description |
|-----------------------|--|---|
| 001712 | Kühlrohr (Rippenrohr), 3 Stufe | Cooling Pipe (finned), 3rd st. |
| 001848 | Rohrschelle (Ø15-18mm) | Pipe Clamp, 8mm Finned Pipe |
| 003687 | Füllventil (drehbar) mit Manometer, 200bar | Filling Valve (rotatable) c/w gauge, 200bar |
| 003688 | Füllventil (drehbar) mit Manometer, 200bar | Filling Valve (rotatable) c/w gauge, 300bar |

B

DETAILANSICHT / DETAILED VIEW

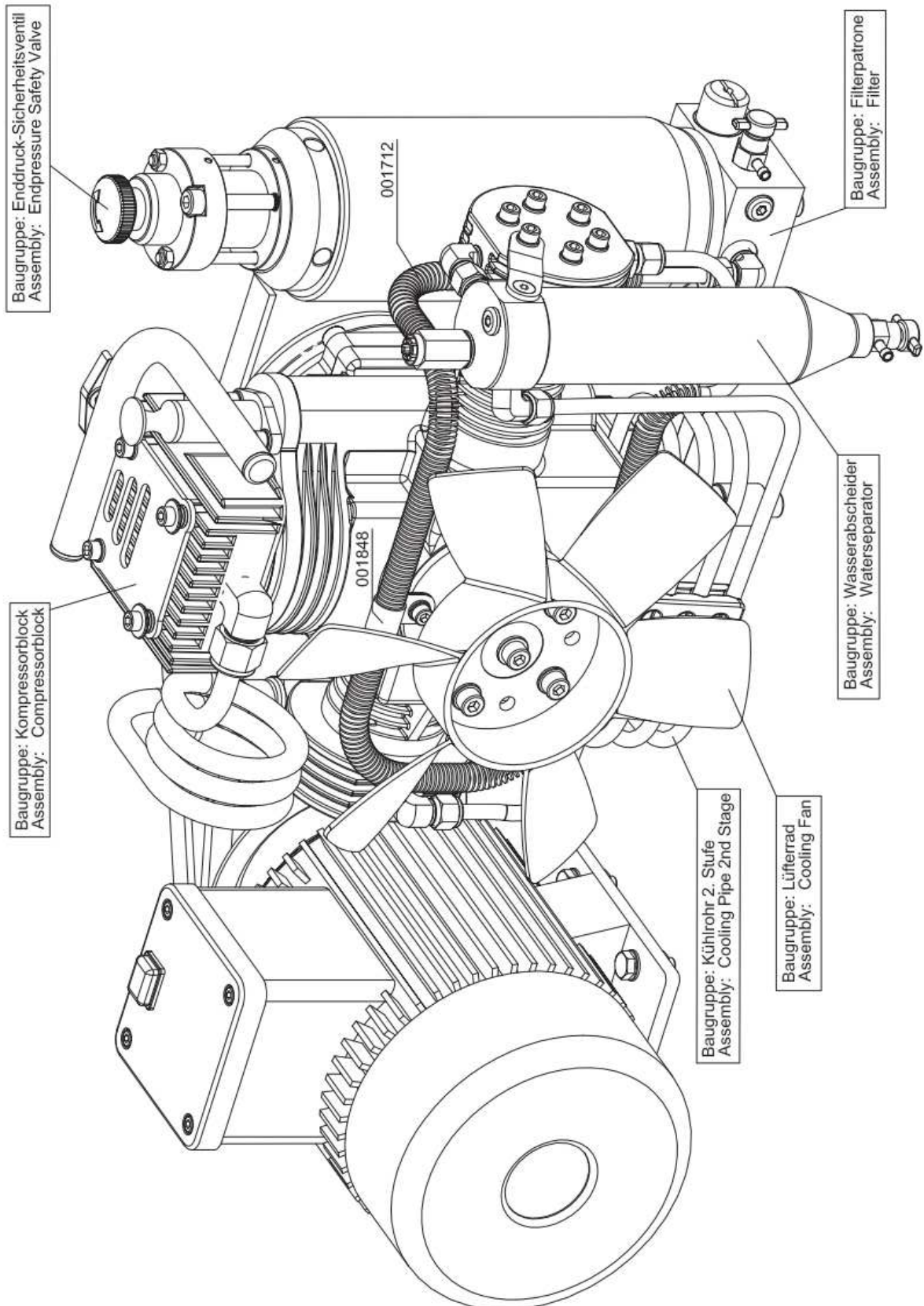
Baugruppe: Gesamtansicht / Overall View



B

DETAILANSICHT / DETAILED VIEW

Baugruppe: Gesamtansicht / Overall View



B



ERSATZTEILLISTE / SPARE PART LIST

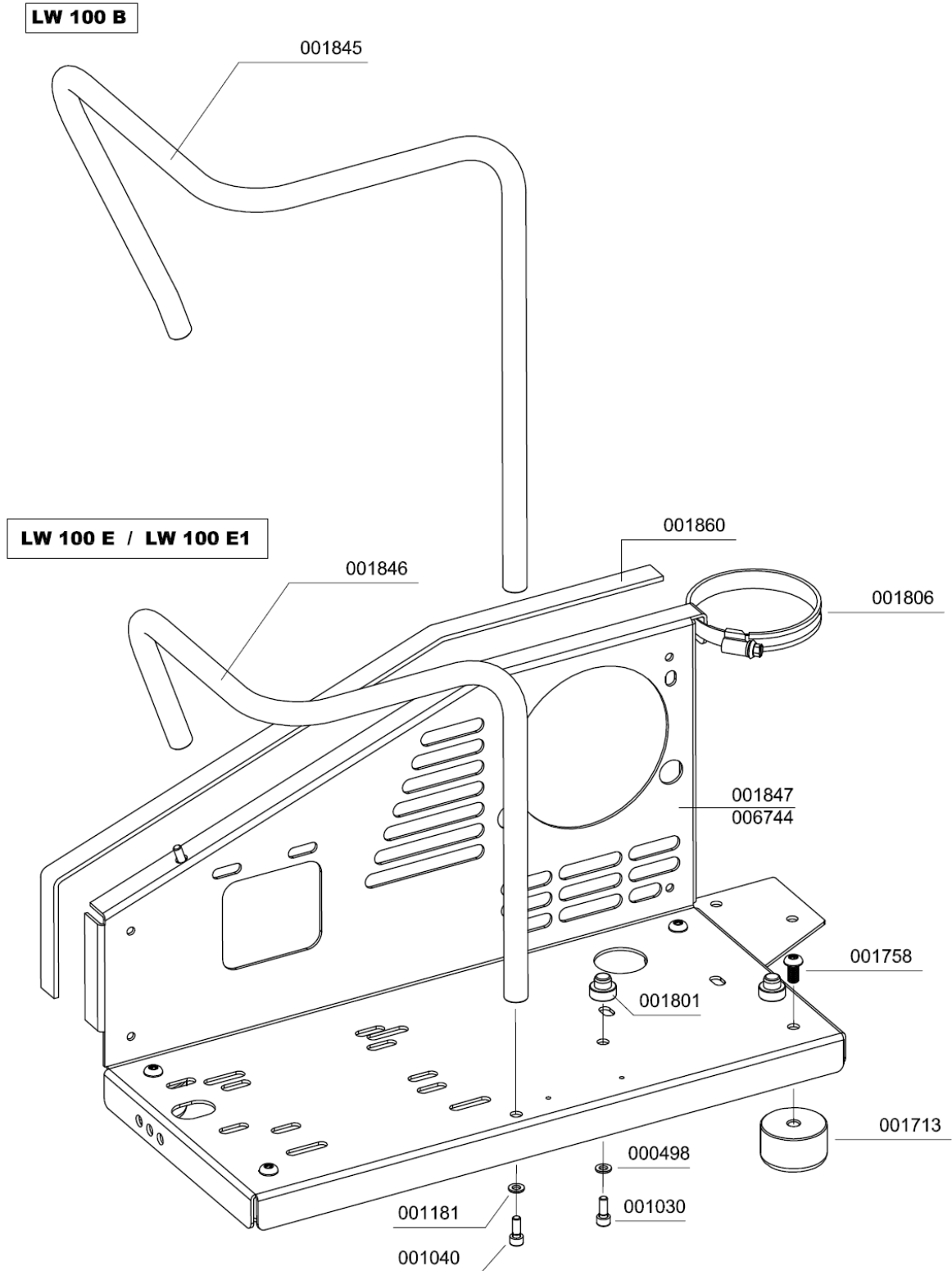
Baugruppe: Konsole / Assembly: Console

| Best.-Nr. / Order No. | Benennung | Description |
|-----------------------|---------------------------------------|--------------------------------------|
| 000498 | U-Scheibe A6 | Washer A6 |
| 001030 | Zylinderschraube | Allen Bolt |
| 001040 | Zylinderschraube | Allen Screw |
| 001181 | U-Scheibe A8 | Washer A8 |
| 001713 | Standfuss, Gummipuffer | Rubber Stand |
| 001758 | I-6kt-Schraube, | Hexagon Screw |
| 001801 | Aufsteckstutzen, Kompressorabdeckung | PVC Stud Plastic Cover |
| 001806 | Halteband Filtergehäuse - inkl. Gummi | Jubilee Clip Filter Housing |
| 001845 | Tragebügel | Carrying Handle |
| 001846 | Tragebügel | Carrying Handle |
| 001847 | Kompressorkonsole (Edelstahl) | Compressor Console (Stainless Steel) |
| 001860 | Dichtgummistreifen | Rubber Stripe |
| 006744 | Kompressorkonsole (Aluminium) | Compressor Console (Aluminum) |

B

DETAILANSICHT / DETAILED VIEW

Baugruppe: Konsole / Assembly: Console





ERSATZTEILLISTE / SPARE PART LIST

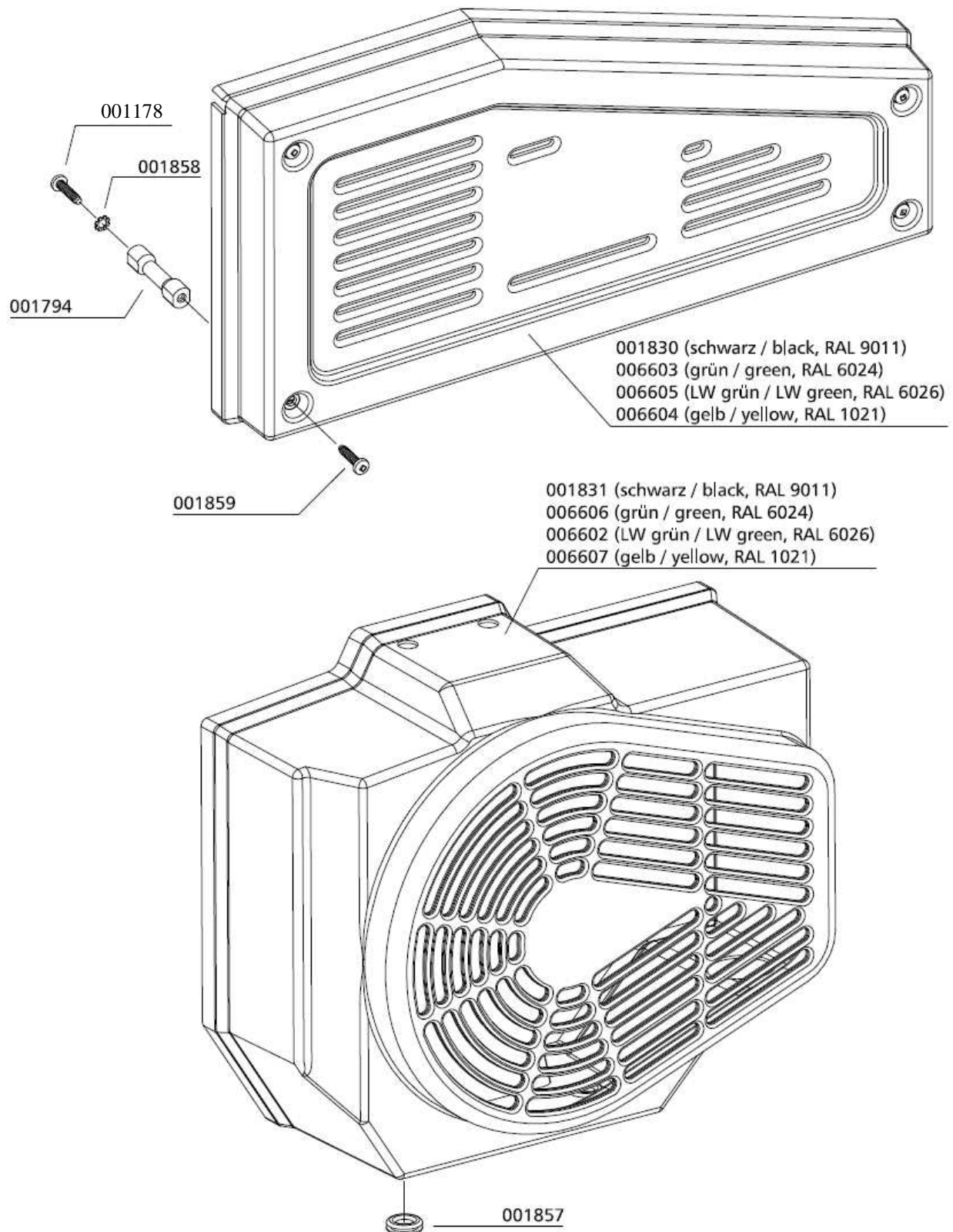
Baugruppe: Antriebsabdeckung / Assembly: Fan Guard & Drive Cover

| Best.-Nr. / Order No. | Benennung | Description |
|-----------------------|---|-------------------------------|
| 001794 | Abstandshalter für Keilriemenschutz | Spacer V-Belt Cover |
| 001830 | Abdeckung Riementrieb schwarz | Cover V-Belt black |
| 001831 | Ventilatorschutzabdeckung schwarz | Pulling Fan Cover (Black) |
| 001857 | Gummitülle, Aufsteckgum. Ventilatorsch. | Rubber Gaiter |
| 001859 | Befestigungsschraube Antriebsabdeckung | Fixing Bolt V-Belt Cover |
| 006602 | Ventilatorschutzabdeckung LW grün | Pulling Fan Cover - green L&W |
| 006603 | Abdeckung Riementrieb MSA grün | Cover V-Belt - green MSA |
| 006604 | Abdeckung Riementrieb gelb | Cover V-Belt - yellow |
| 006605 | Abdeckung Riementrieb L&W grün | Cover V-Belt - green L&W |
| 006606 | Ventilatorschutzabdeckung | Pulling Fan Cover - green MSA |
| 006607 | Ventilatorschutzabdeckung | Pulling Fan Cover - yellow |

B

DETAILANSICHT / DETAILED VIEW

Baugruppe: Antriebsabdeckung / Assembly: Fan Guard & Drive Cover



B



ERSATZTEILLISTE / SPARE PART LIST

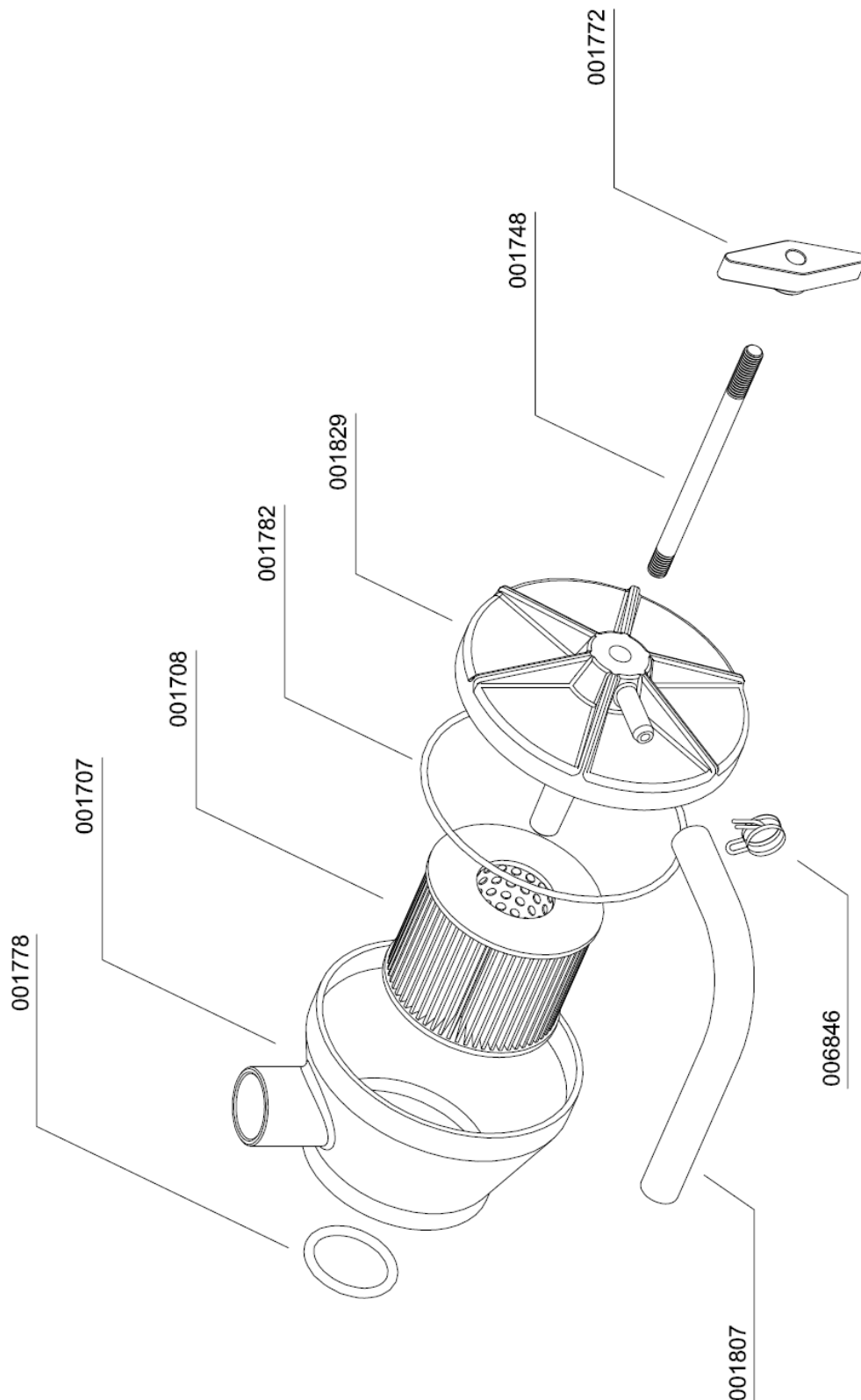
Baugruppe: Ansaugfilter / Assembly: Intake Filter

| Best.-Nr. / Order No. | Benennung | Description |
|-----------------------|--|-----------------------------|
| 001707 | Ansaugfiltergehäuse LW 100 | Air Intake Filter Housing |
| 001708 | Ansaugfilterpatrone | Air Intake Filter Cartridge |
| 001748 | Stehbolzen | Threaded Stud |
| 001772 | Flügelmutter, PVC-schwarz m. Messingein. | Winged Nut, PVC black |
| 001778 | O-Ring, Oeleinfüllrohr | O-Ring, oil filler pipe |
| 001782 | O-Ring, Ansaugfiltergehäuse | O-Ring |
| 001807 | Schlauch (Kurbelgehäuse-Entlüftung) | Hose Crankcase Vent |
| 001829 | Deckel Ansaugfiltergehäuse | Cover air intake housing |
| 006846 | Schlauchselle | Hose Clamp |

B

DETAILANSICHT / DETAILED VIEW

Baugruppe: Ansaugfilter / Assembly: Intake Filter



B



ERSATZTEILLISTE / SPARE PART LIST

Baugruppe: Kompressorblock / Assembly: Compressor Block

| Best.-Nr. / Order No. | Benennung | Description |
|-----------------------|-------------------------------|--------------------------------|
| 000498 | U-Scheibe A6 | Washer A6 |
| 000738 | Verschraubung | Connection |
| 000765 | Schneidring | Olive Seal |
| 000766 | Mutter | Nut |
| 000794 | T-Verschraubung | Connection with fixed nut |
| 000796 | Verschraubung | Elbow Connection |
| 000801 | Mutter | Union Nut 10L |
| 000802 | Schneidring 10mm | Olive Seal Ring |
| 000839 | Verschlussstopfen | Plug |
| 001009 | Zylinderschraube | Allen Bolt |
| 001012 | Zylinderschraube | Allen Bolt |
| 001029 | Zylinderschraube | Allen Bolt |
| 001030 | Zylinderschraube | Allen Bolt |
| 001041 | Zylinderschraube | Allen Screw |
| 001042 | Zylinderschraube | Allen Screw |
| 001043 | Zylinderschraube | Allen Screw |
| 001178 | U-Scheibe A6 | Washer A6 |
| 001182 | U-Scheibe A8 | Washer A8 |
| 001691 | Zylinderbuchse 3. Stufe | Piston Sleeve, 3rd Stage |
| 001692 | Zylinderbuchse, 2. Stufe | Piston Sleeve, 2nd Stage |
| 001694 | Zylinderbuchse 1. Stufe | Piston Sleeve Ø60mm |
| 001698 | Ventilkopf 1. Stufe | Valve Head 1st Stage |
| 001699 | Ventilkopf 2. Stufe | Valve Head 2nd Stage |
| 001700 | Ventilkopf 3. Stufe | Valve Head 3rd Stage |
| 001702 | Kurbelgehäuse | Crankcase |
| 001703 | Kühlrohr, Alu, 1. zu 2. Stufe | Cool.Pipe alloy 1st to 2nd St. |
| 001705 | Ventilkopfdichtung 1. Stufe | Valve Head Gasket, 1st Stage |
| 001709 | Oelmessstab | Oil Dip Stick LW 100 |
| 001710 | Oeleinfüllrohr | Oil Filler Tube |

B



ERSATZTEILLISTE / SPARE PART LIST

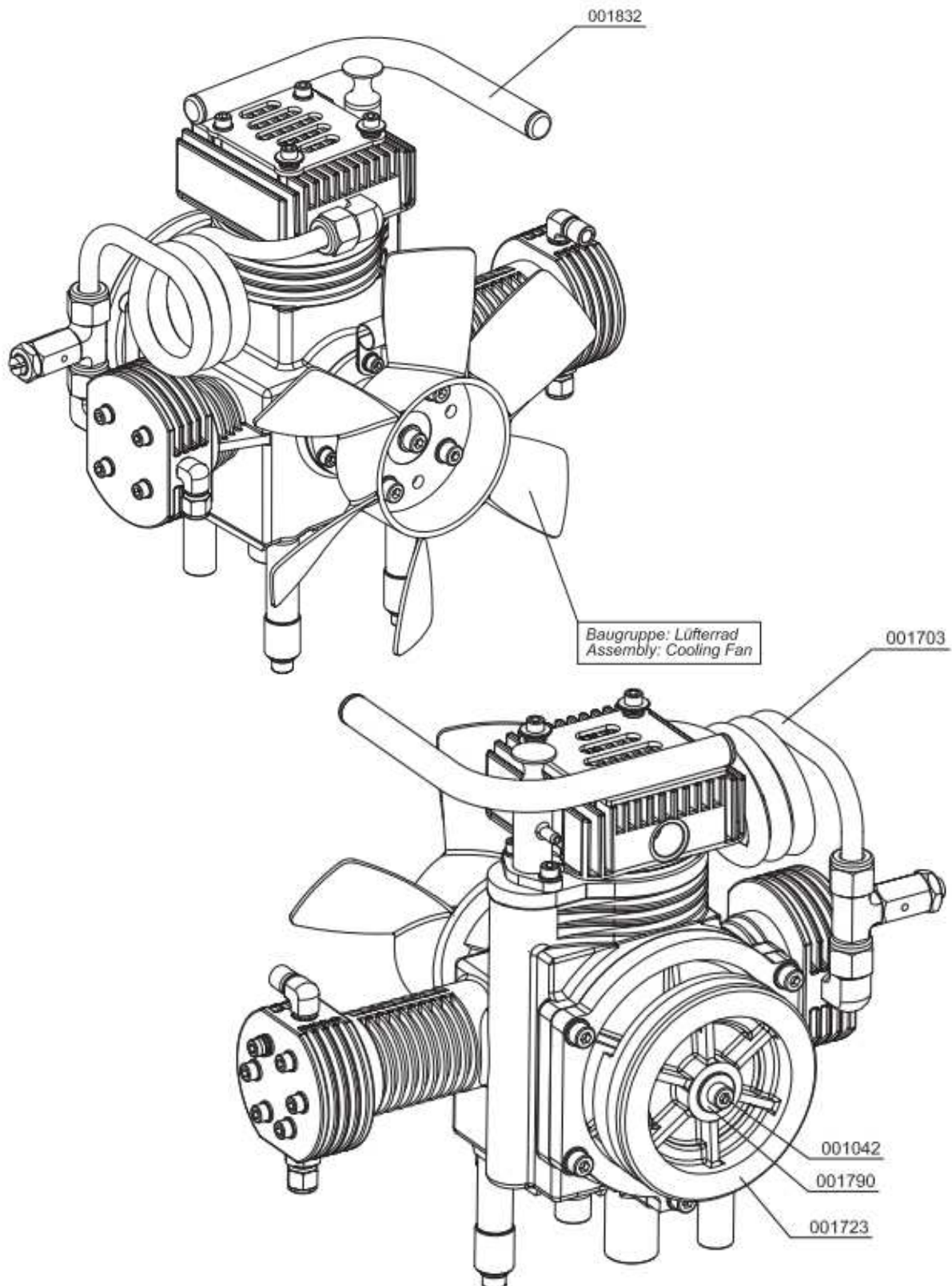
Baugruppe: Kompressorblock / Assembly: Compressor Block

| Best.-Nr. / Order No. | Benennung | Description |
|-----------------------|--|----------------------------------|
| 001723 | Schwungrad, Riemenscheibe-Kompres. | Flywheel, pulley compressor |
| 001726 | Gehäusedeckel | Bearing Cover |
| 001727 | Lagerdeckel | Bearing Cover |
| 001728 | Radial-Wellendichtring | Shaft Seal |
| 001729 | Kurbelwellen Hauptlager | Main Bearing Crankshaft |
| 001766 | O-Ring, Lagerdeckel | O-Ring Bearing Cover |
| 001767 | O-Ring, Zylinderbuchse, 1. Stufe | O-Ring Cylind. Sleeve, 1st St. |
| 001768 | O-Ring, Zylinderbuchse 2. Stufe | O-Ring Cylind. Sleeve 2nd St. |
| 001771 | O-Ring | O-Ring, Viton |
| 001775 | O-Ring, Oelmessstab | O-Ring, oil dipstick |
| 001776 | O-Ring, Ventilkopf 3. Stufe | O-Ring, valve head, 3rd Stage |
| 001777 | O-Ring | O-Ring, valve head, 2. +3. Stage |
| 001778 | O-Ring, Oeleinfüllrohr | O-Ring, oil filler pipe |
| 001779 | O-Ring, Zylinderbuchse 3. Stufe | O-Ring, cylinder liner, 3rd St. |
| 001780 | O-Ring, Gehäusedeckel | O-Ring, Crankcase cover |
| 001781 | O-Ring, Ventilkopf 1. Stufe | O-Ring, valve head, 1nd Stage |
| 001790 | U-Scheibe | Washer |
| 001791 | Distanzscheibe Ventilkopf 1. Stufe | Spacer, 1st Stage |
| 001800 | PVC-Verschlussstopfen für Tragegriff | PVC Plug for carrying handle |
| 001804 | Distanzstück (Konsole / Kompressorblock) | Spacer (Console / Block) |
| 001809 | Sicherheitsventil 1. Stufe | Safety Valve 1st Stage |
| 001832 | Tragegriff, kompl. mit Stopfen | Carrying Handle c/w plug |
| 001850 | Distanzröhrchen, Ventilkopf 1. Stufe | Spacer Tube Valve Head 1st St. |

B

DETAILANSICHT / DETAILED VIEW

Baugruppe: Kompressorblock / Assembly: Compressor Block

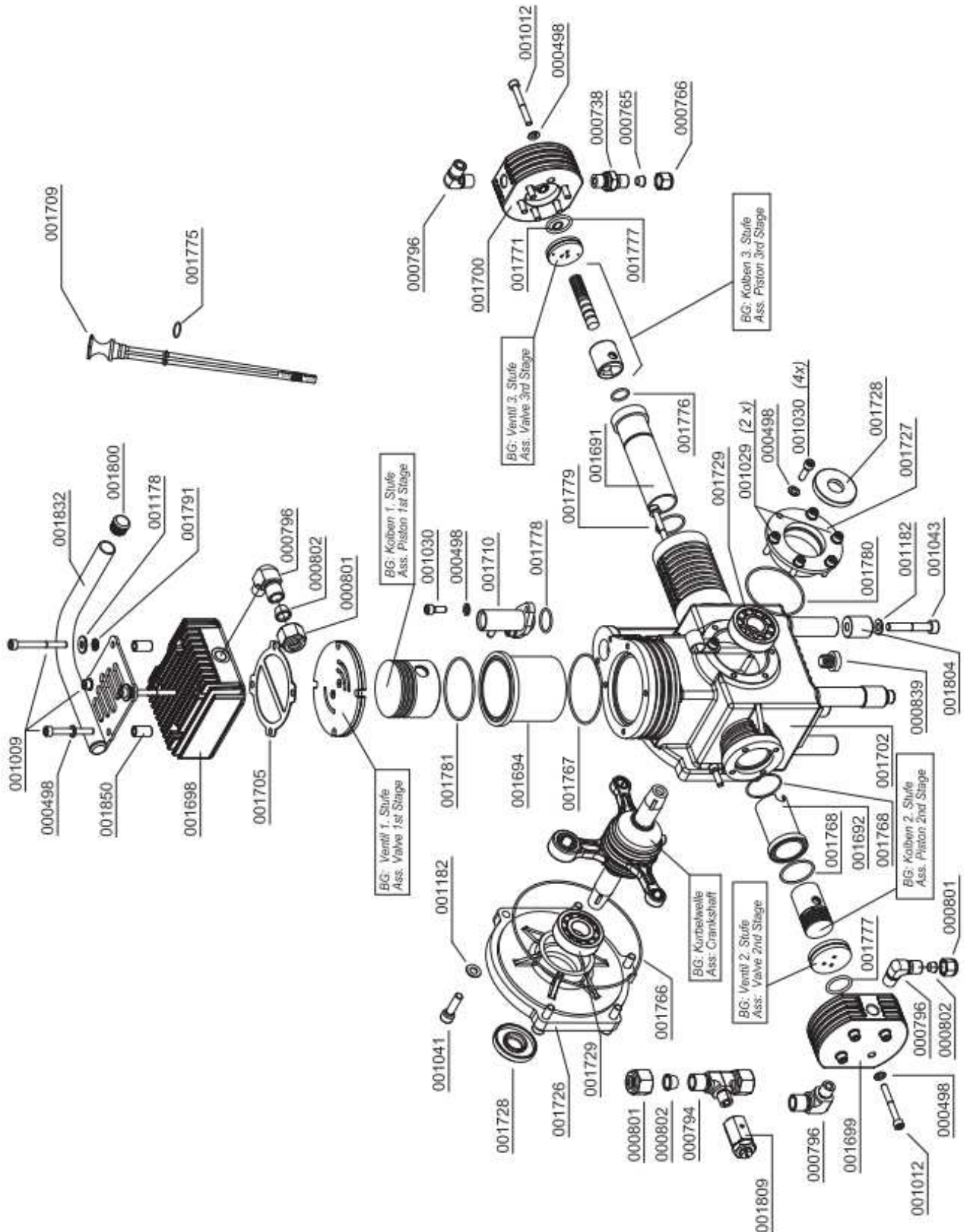


B

DETAILANSICHT / DETAILED VIEW

Baugruppe: Kompressorblock / Assembly: Compressor Block

B





ERSATZTEILLISTE / SPARE PART LIST

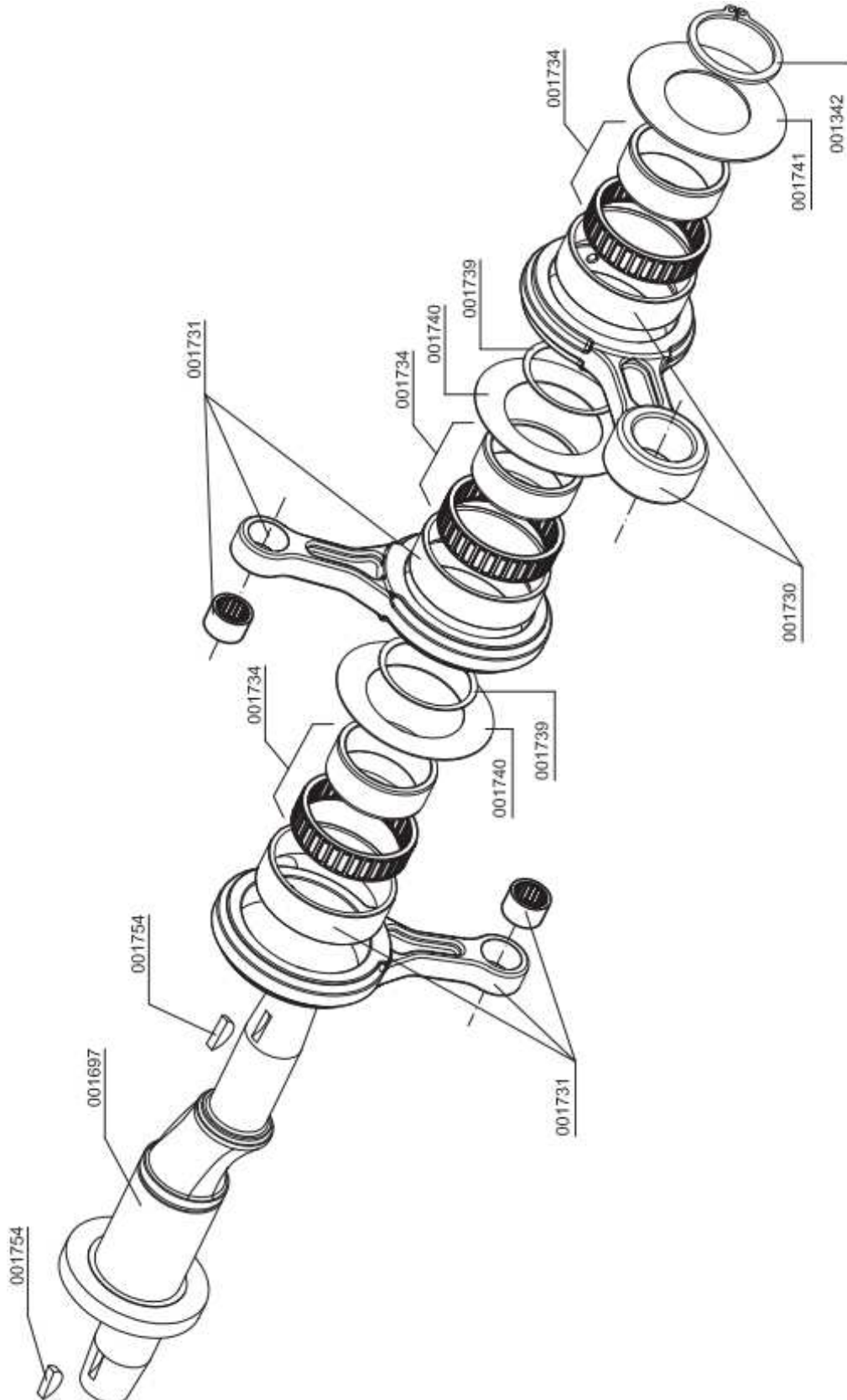
Baugruppe: Kurbelwelle / Assembly: Crankshaft

| Best.-Nr. / Order No. | Benennung | Description |
|-----------------------|-------------------------------------|----------------------------------|
| 001342 | Sicherungsring | Circlip A30 |
| 001697 | Kurbelwelle | Crankshaft |
| 001730 | Pleuel 1. Stufe | Connecting Rod 1st Stage |
| 001731 | Pleuel 2. und 3. Stufe | Connecting Rod 2nd / 3rd Stage |
| 001734 | Pleuellager | Small End Bearing |
| 001739 | Lagerdistanzscheibe | Thrust washer - small |
| 001740 | Distanzscheibe zwischen den Pleuel, | bracket spacer (connecting rods) |
| 001741 | Anlaufscheibe Pleuel | Thrust Washer (connecting rods) |
| 001754 | Scheibenfeder | Woodruff Key - Disc shaped |

B

DETAILANSICHT / DETAILED VIEW

Baugruppe: Kurbelwelle / Assembly: Crankshaft



B



ERSATZTEILLISTE / SPARE PART LIST

Baugruppe: Kolben 1. Stufe / Assembly: Piston 1st Stage

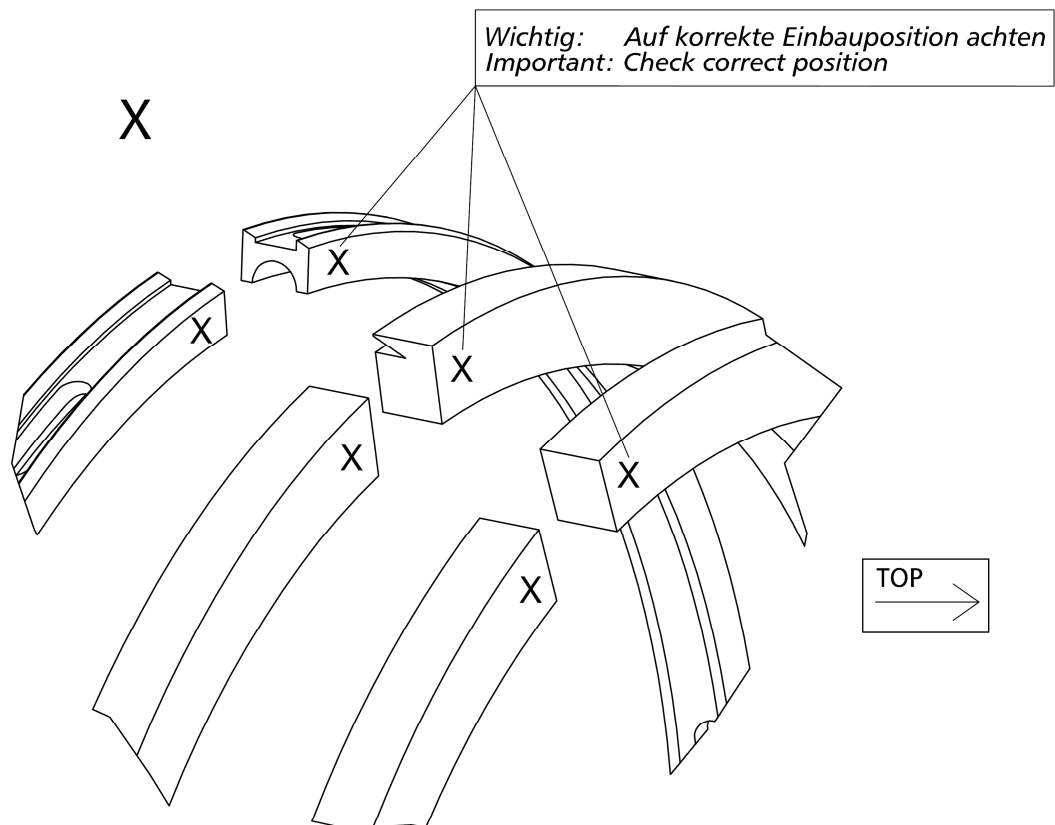
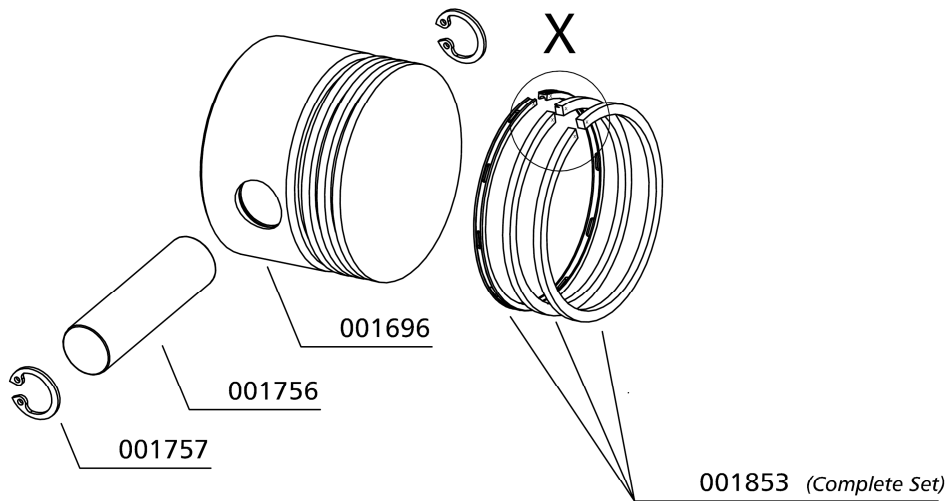
| Best.-Nr. / Order No. | Benennung | Description |
|-----------------------|---------------------------|----------------------------|
| 001696 | Kolben 1. Stufe | Piston 1st Stage |
| 001756 | Kolbenbolzen, 1. Stufe | Piston Pin 1st Stage |
| 001757 | Sicherungsring | Circlip I15 |
| 001853 | Kolbenringe 1. Stufe Satz | Piston Ring Set, 1st Stage |

B

DETAILANSICHT / DETAILED VIEW

Baugruppe: Kolben 1. Stufe / Assembly: Piston 1st Stage

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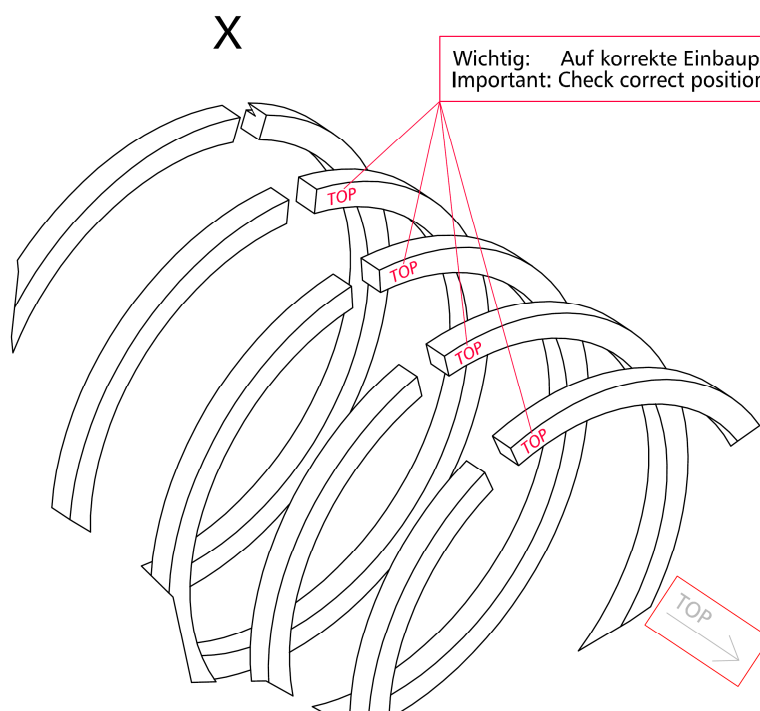
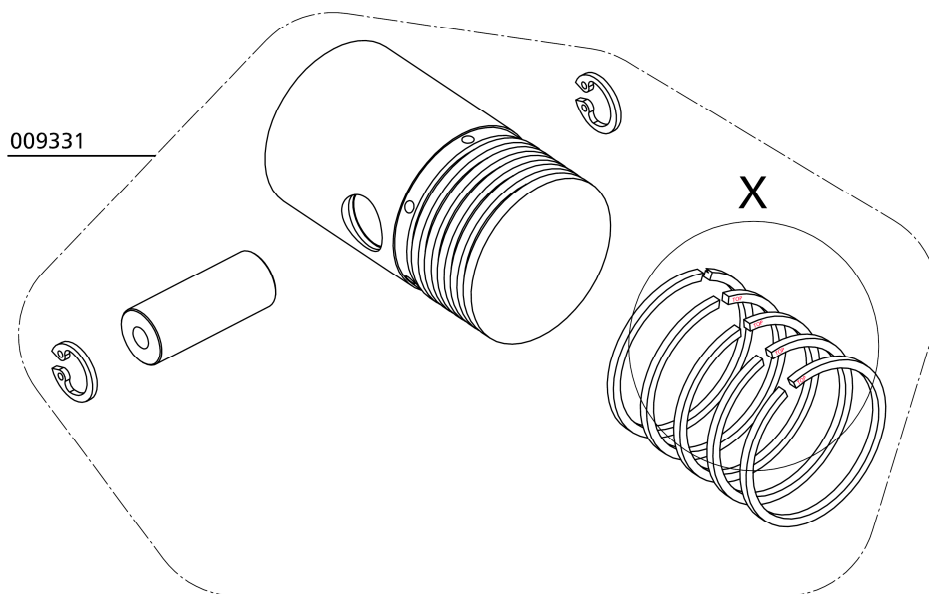


ERSATZTEILLISTE / SPARE PART LIST

Baugruppe: Kolben 2. Stufe / Assembly: Piston 2nd Stage

| Best.-Nr. / Order No. | Benennung | Description |
|-----------------------|--|--|
| 009331 | Kolben, Kolbenringe, Kolbenbolzen und Sicherungsring | Piston, Piston Rings, Piston Pin and Circlip |

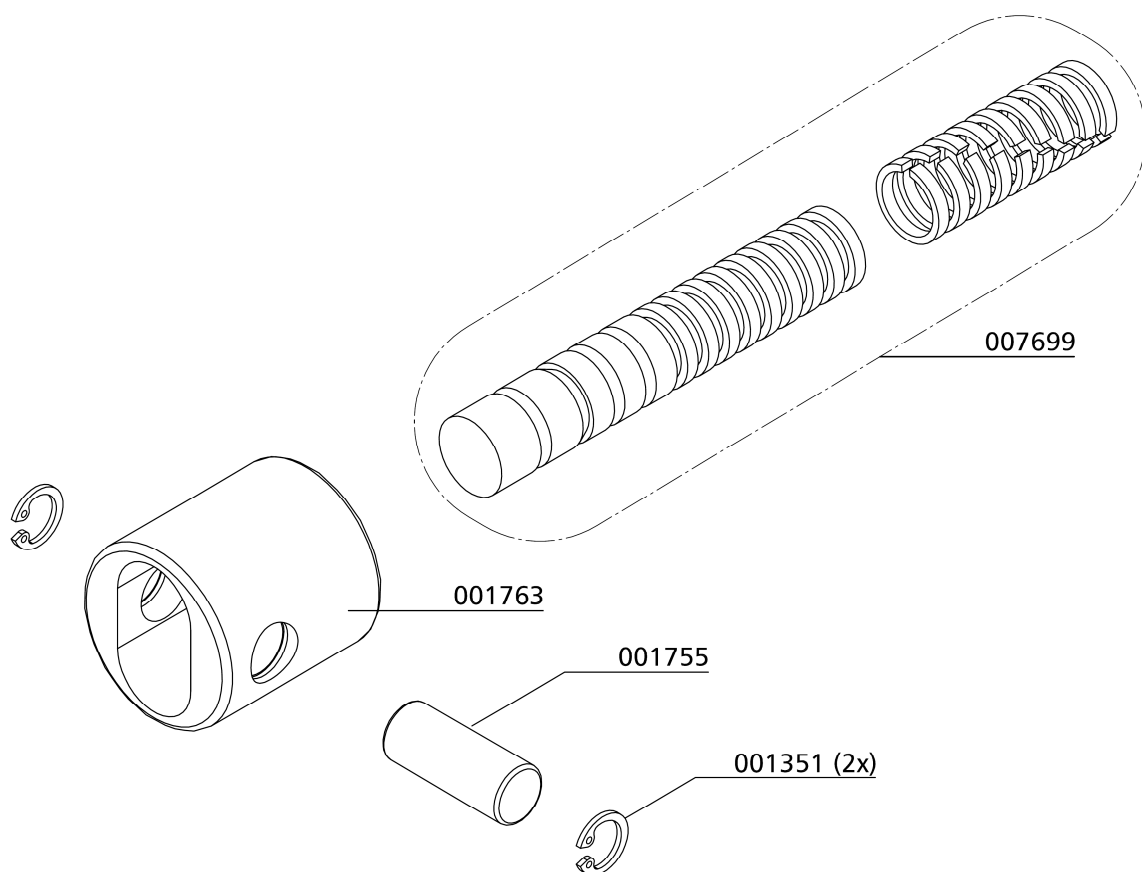
B



Baugruppe: Kolben 3. Stufe / Assembly: Piston 3rd Stage

| Best.-Nr. / Order No. | Benennung | Description |
|-----------------------|-------------------------------------|----------------------------|
| 001351 | Sicherungsring | Circlip I10 |
| 001755 | Kolbenbolzen, 2. + 3. Stufe | Piston Pin 2nd/3rd Stage |
| 001763 | Führungskolben 3. Stufe | Guide Piston 3rd Stage |
| 007699 | Kolben inkl. Kolbenringe (3. Stufe) | Piston 3rd Stage c/w rings |

B

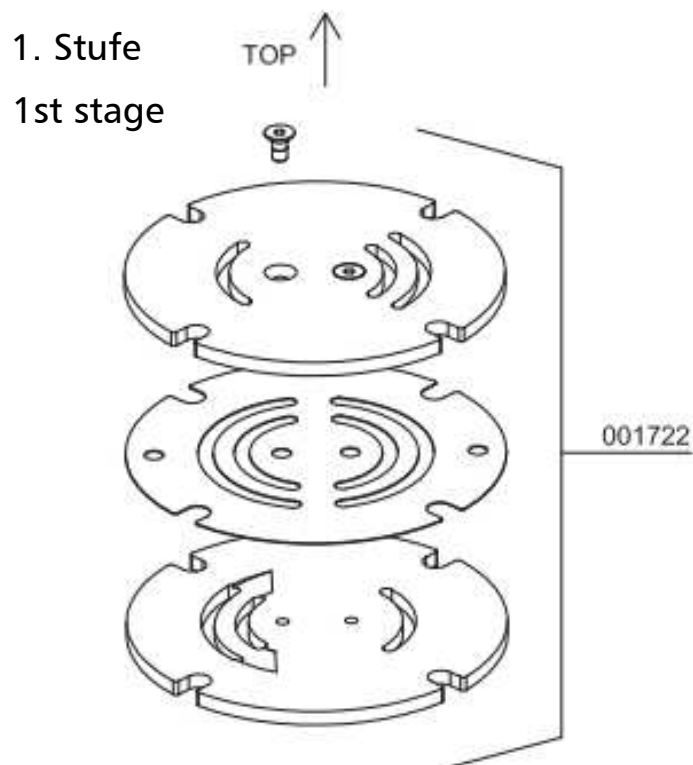


ERSATZTEILLISTE / SPARE PART LIST

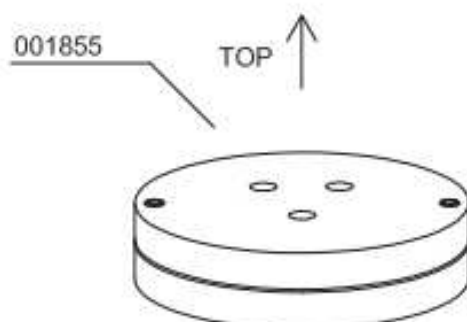
Baugruppe: Saug- & Druckventile / Assembly: In- & Outlet Valves

| Best.-Nr. / Order No. | Benennung | Description |
|-----------------------|------------------------------|------------------------------|
| 001722 | Saug- & Druckventil 1. Stufe | In- & Outlet Valve 1st Stage |
| 001855 | Saug- & Druckventil 2. Stufe | In- & Outlet Valve 2nd Stage |
| 001856 | Saug- & Druckventil 3. Stufe | In- & Outlet Valve 3rd Stage |

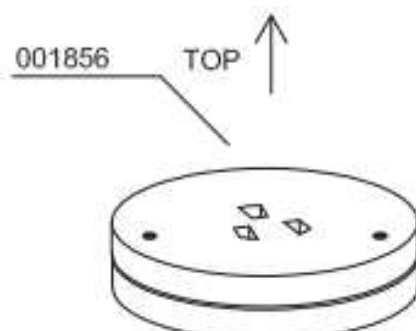
B



2. Stufe
2nd Stage



3. Stufe
3rd Stage





ERSATZTEILLISTE / SPARE PART LIST

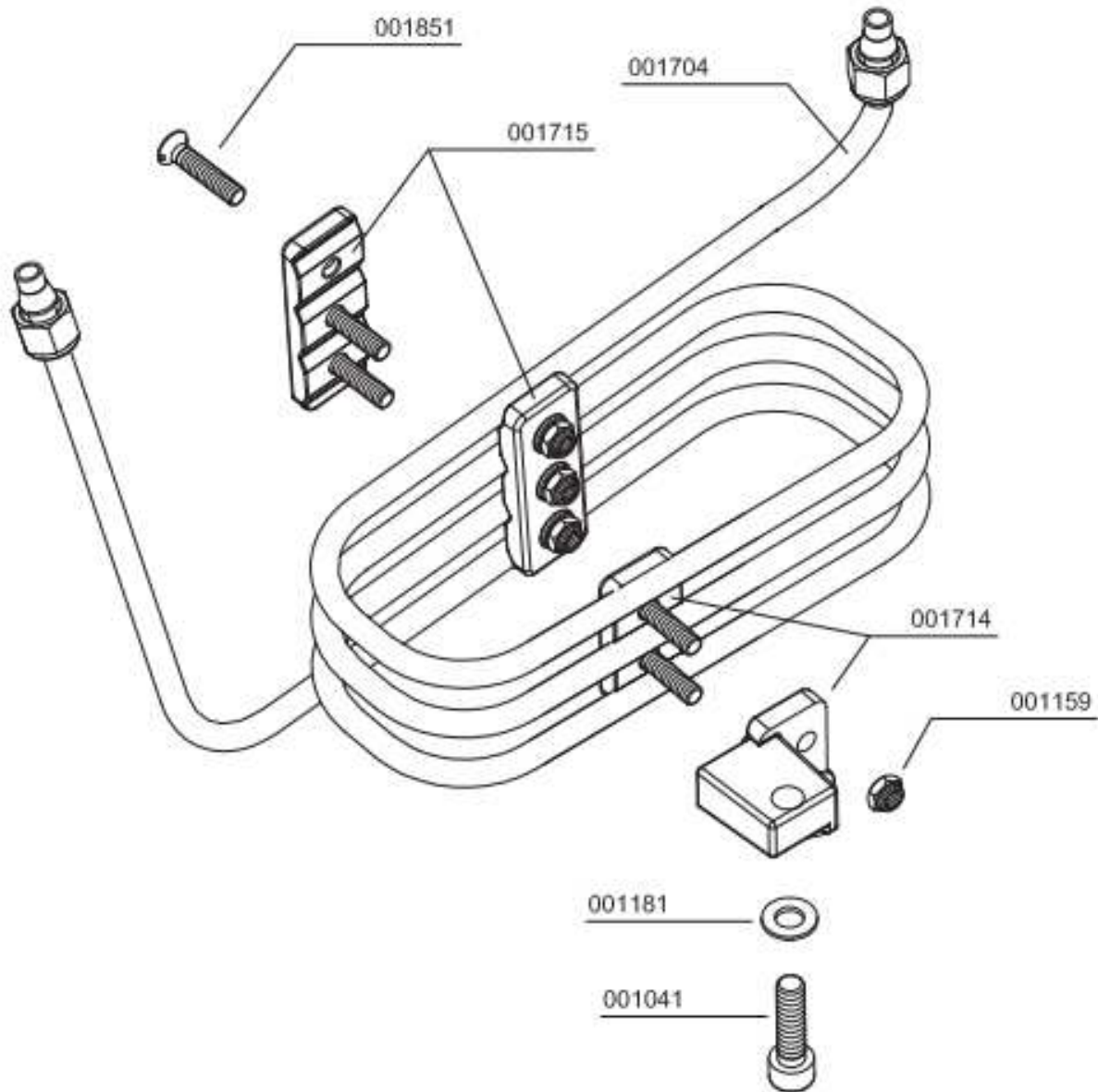
Baugruppe: Kühlrohr 2. Stufe / Assembly: Cooling Pipe 2nd Stage

| Best.-Nr. / Order No. | Benennung | Description |
|-----------------------|---|--------------------------------|
| 001041 | Zylinderschraube | Allen Screw |
| 001159 | Stopfmutter M8 | Lock Nut M8 |
| 001181 | U-Scheibe A8 | Washer A8 |
| 001704 | Kühlrohr, Alu, 2. Stufe zu Wasserabsch. | Cool.Pipe alloy 2nd to 3rd St. |
| 001714 | Klemmstück 3er, Alu, Kühlrohr 2. Stufe | Tube Clamp alloy, 3 pipe vers. |
| 001715 | Klemmstück 4er, Kühlrohr 2. Stufe | Tube Clamp alloy. 4 pipe vers. |
| 001851 | Senkschraube | Counter Sunk Screw |

B

DETAILANSICHT / DETAILED VIEW

Baugruppe: Kühlrohr 2. Stufe / Assembly: Cooling Pipe 2nd Stage



B



ERSATZTEILLISTE / SPARE PART LIST

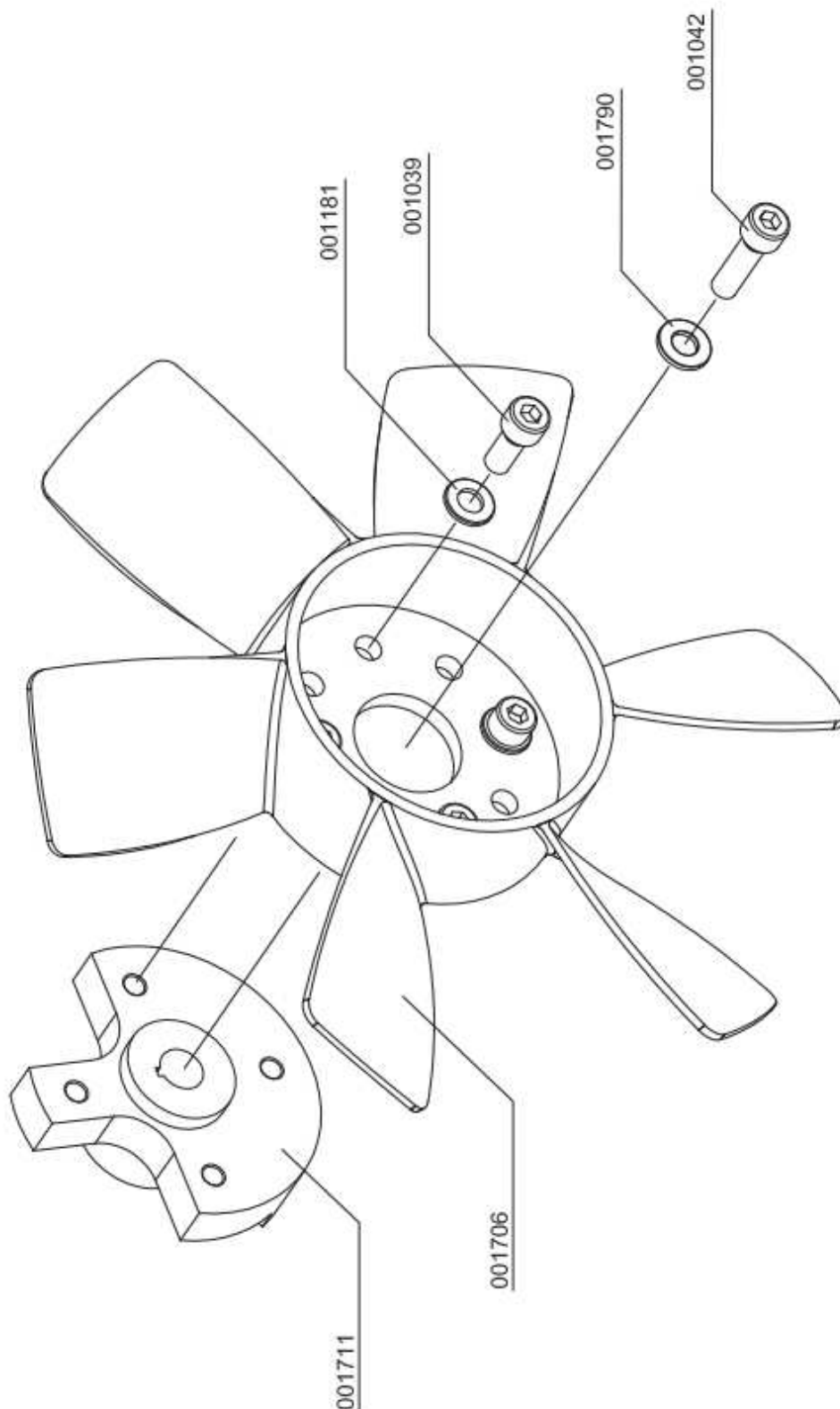
Baugruppe: Lüfterrad / Assembly: Cooling Fan

| Best.-Nr. / Order No. | Benennung | Description |
|-----------------------|---------------------------------|-------------------------------|
| 001039 | Zylinderschraube | Allen Screw |
| 001042 | Zylinderschraube | Allen Screw |
| 001181 | U-Scheibe A8 | Washer A8 |
| 001706 | Lüfterrad (Standard Ausführung) | Cooling Fan, Standard Version |
| 001711 | Gegengewicht Kurbelwelle | Counterweight Crankshaft |
| 001790 | U-Scheibe | Washer |

B

DETAILANSICHT / DETAILED VIEW

Baugruppe: Lüfterrad / Assembly: Cooling Fan



B

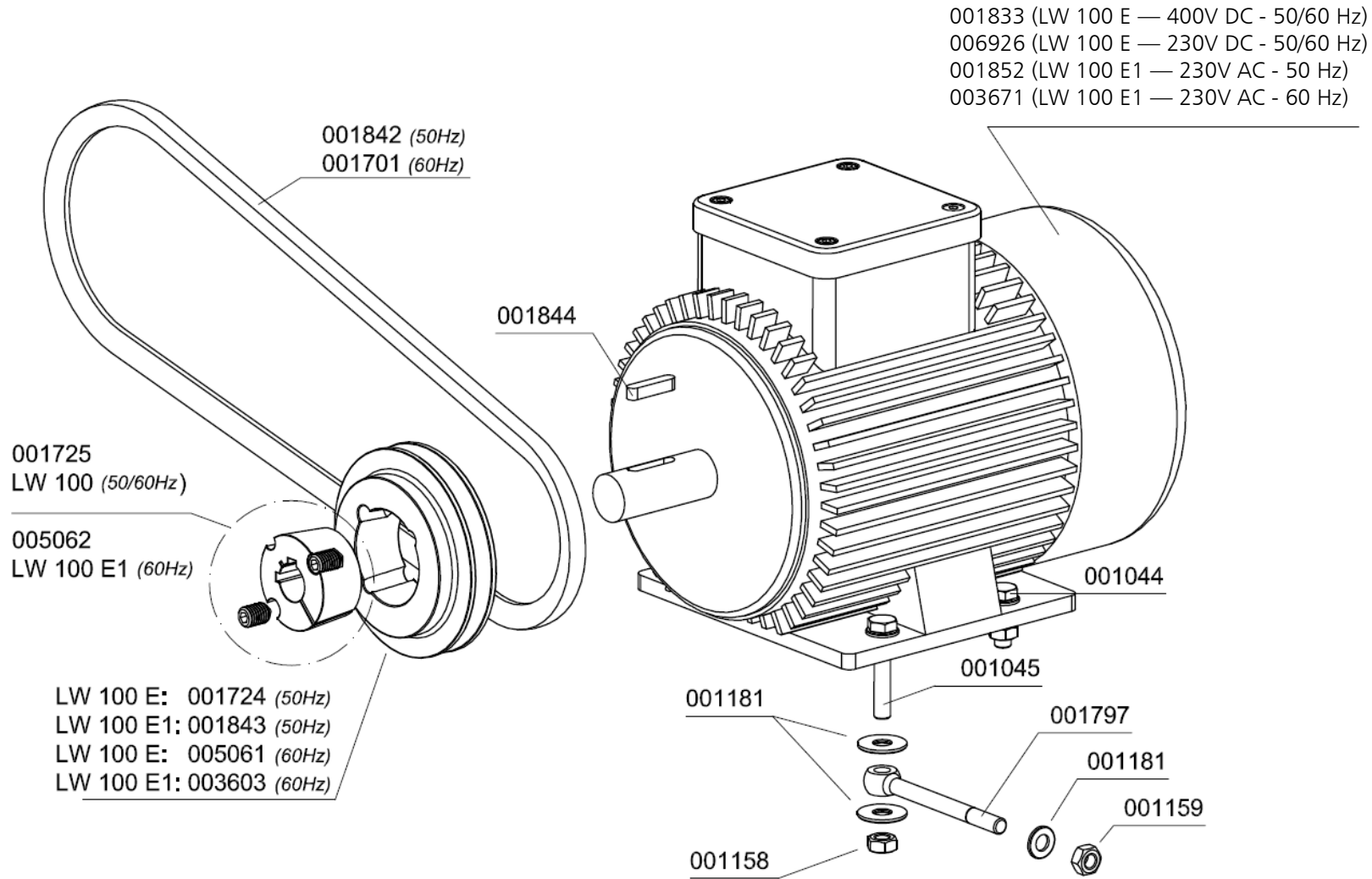


ERSATZTEILLISTE / SPARE PART LIST

Baugruppe: E-Motor / Assembly: E-Motor

| Best.-Nr. / Order No. | Benennung | Description |
|-----------------------|--|--------------------------------------|
| 001044 | Zylinderschraube | Allen Screw |
| 001045 | Zylinderschraube | Allen Screw |
| 001158 | Mutter M8 | Nut M8 |
| 001159 | Stopfmutter M8 | Lock Nut M8 |
| 001181 | U-Scheibe A8 | Washer A8 |
| 001701 | Keilriemen 60Hz | V-Belt 60Hz |
| 001724 | Riemenscheibe, E 50Hz | Pulley, E 50Hz |
| 001725 | TL Buchse Riemenscheibe, Spannbuchse | Pulley Hub |
| 001797 | Ankerschraube | V-Belt Tensioning Bolt |
| 001833 | Antriebsmotor, inkl. Riemenscheibe, 400V 50/60Hz | Drive Motor c/w pulley, 400V 50/60Hz |
| 001842 | Keilriemen 50Hz | V-Belt 50Hz |
| 001843 | Keilriemenscheibe, E1 50Hz | Pulley, E1 50Hz |
| 001844 | Passfeder | Woodruff Key |
| 001852 | Antriebsmotor, inkl. Riemenscheibe, 230V 50Hz | Drive Motor c/w pulley, 230V 50Hz |
| 003603 | Keilriemenscheibe, E1 60Hz | Pulley, E1 60Hz |
| 003671 | Antriebsmotor, inkl. Riemenscheibe, 230V 60Hz | Drive Motor c/w pulley, 230V 60Hz |
| 005061 | Keilriemenscheibe, E 60Hz | Pulley, E 60Hz |
| 005062 | TL Buchse Riemenscheibe LW100 E1 60Hz | Pulley Hub, E1 60Hz |

B



Baugruppe: E-Motor / Assembly: E-Motor

DETAILANSICHT / DETAILED VIEW





ERSATZTEILLISTE / SPARE PART LIST

Baugruppe: 4-Takt Motor / Assembly: 4-Stroke Motor

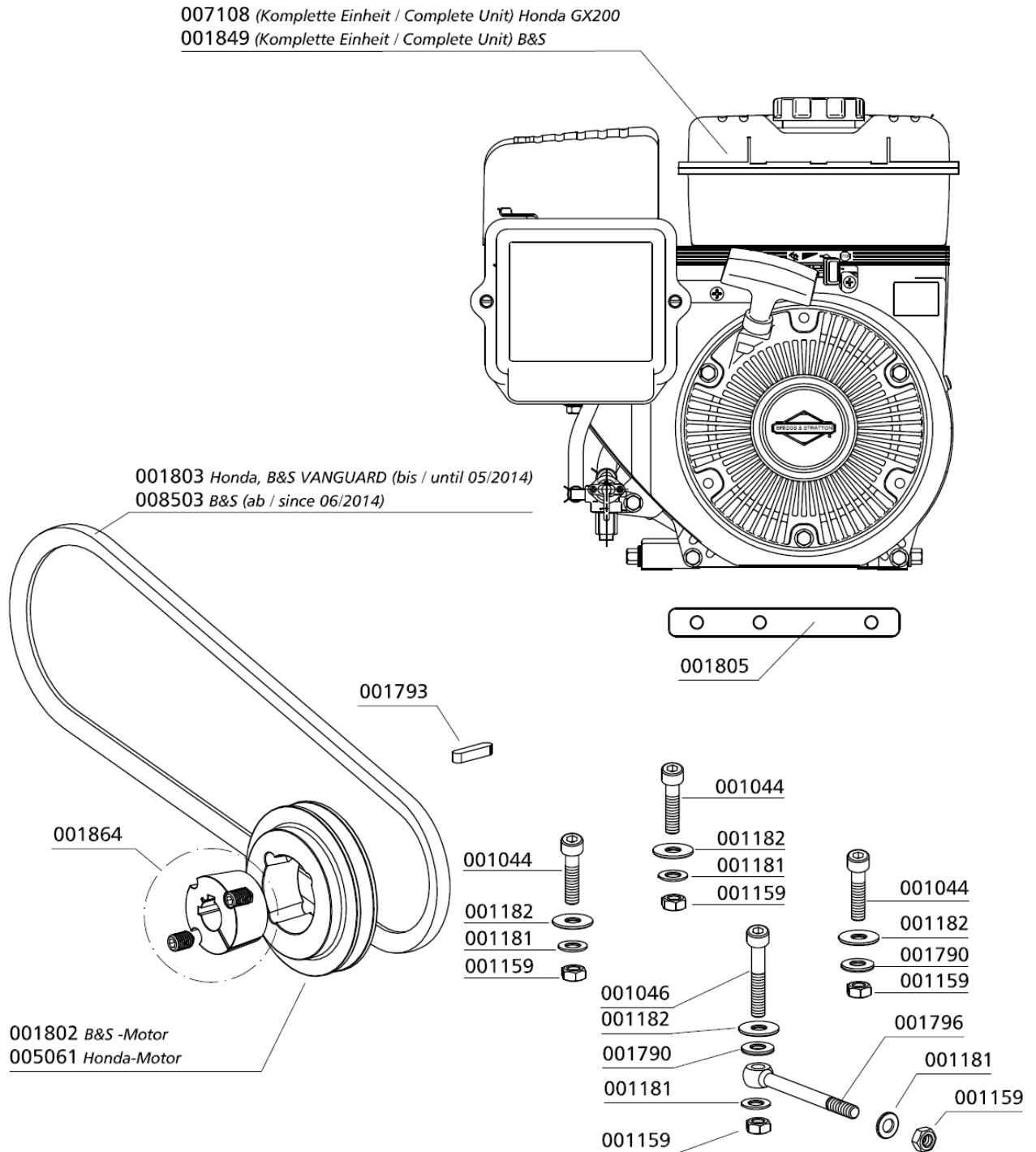
| Best.-Nr. / Order No. | Benennung | Description |
|-----------------------|--|---|
| 001044 | Zylinderschraube, M8x40mm DIN912 8.8 ZN | Allen Screw, |
| 001046 | Zylinderschraube, M8x50mm DIN912 8.8 ZN | Allen Bolt, M8x50mm DIN912 8.8 ZN |
| 001159 | Stopfmutter | Lock Nut M8 |
| 001181 | U-Scheibe, A8 DIN125 ZN | Washer, A8 DIN125 ZN |
| 001182 | U-Scheibe, A8 DIN9021 ZN | Washer, A8 DIN9021 ZN |
| 001790 | U-Scheibe, DIN6340 ZN | Washer, DIN6340 ZN |
| 001793 | Passfeder | Woodruff Key |
| 001796 | Ankerschraube | V-Belt Tensioning Bolt |
| 001802 | Keilriemenscheibe 2-teilig, B&S | Pulley, B&S |
| 001803 | Keilriemen, Honda, B&S VANGUARD (bis 05/2014) | V-Belt, Honda, B&S VANGUARD (until 05/2014) |
| 001805 | Motorklemmleiste | Motor Strip, scorp. mot.holder |
| 001849 | Antriebsmotor 4,5 kW, Briggs & Stratton Vanguard | Motor 4.5kW, Briggs & Stratton |
| 001864 | TL-Buchse für Riemenscheibe, Spannbuchse | TL-Bush for Pulley |
| 005061 | Keilriemenscheibe | Pulley |
| 007108 | Antriebsmotor Honda GX200, inkl. Riemenscheibe | Drive motor Honda GX200, c/w pulley |
| 008503 | Keilriemen, B&S (ab 06/2014) | V-Belt, B&S (since 06/2014) |

B

DETAILANSICHT / DETAILED VIEW

Baugruppe: 4-Takt Motor / Assembly: 4-Stroke Motor

B





ERSATZTEILLISTE / SPARE PART LIST

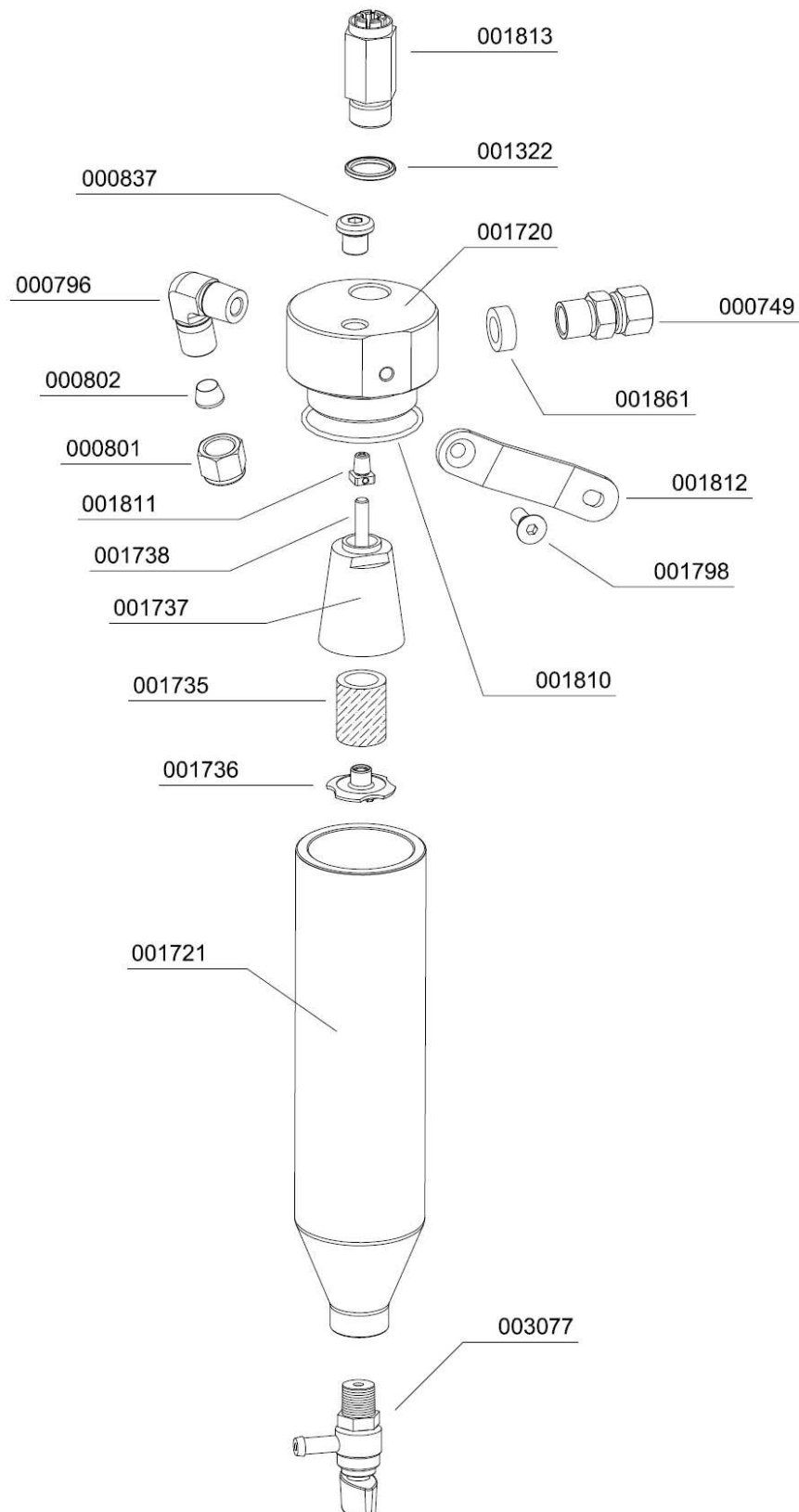
Baugruppe: Wasserabscheider / Assembly: Water Separator

| Best.-Nr. / Order No. | Benennung | Description |
|-----------------------|---------------------------------------|----------------------------------|
| 000749 | Verschraubung | Connection with fixed nut |
| 000796 | Verschraubung | Elbow Connection |
| 000801 | Mutter | Union Nut 10L |
| 000802 | Schneidring 10mm | Olive Seal Ring |
| 000837 | Verschlussstopfen | Plug |
| 001322 | CU-Ring | Copper Seal Ring |
| 001720 | Kopf Wasserabscheider 2. Stufe | Top Water Separator 2nd Stage |
| 001721 | Rohr Wasserabscheider 2. Stufe | Tube Water Separator 2nd Stage |
| 001735 | Sinterfilter Wasserabscheider | Sinter Filter Water Separator |
| 001736 | Kunststoffmutter, Wasserabscheider | Plastic nut water separator |
| 001737 | Trichter, Wasserabscheider 2. Stufe | Water Deflector 2nd stage |
| 001738 | Stehbolzen (Messing) | Threaded Stud, Brass |
| 001798 | Senkschraube | Counter Sunk Screw |
| 001810 | O-Ring, Wasserabscheider 2. Stufe | O-Ring Water Separator 2nd Stage |
| 001811 | Düse Wasserabscheider 2. Stufe | Jet Water Separator 2nd Stage |
| 001812 | Querstrebe, Wasserabscheider 2. Stufe | Bracket Water Separ. 2nd Stage |
| 001813 | Sicherheitsventil 2. Stufe | Safety Valve 2nd Stage |
| 001861 | Dichtring AL | Alloy Seal Ring |
| 003077 | Kondensatablassventil G1/4" AG | Condensate Drain Valve G1/4" |

B

DETAILANSICHT / DETAILED VIEW

Baugruppe: Wasserabscheider / Assembly: Water Separator



B



ERSATZTEILLISTE / SPARE PART LIST

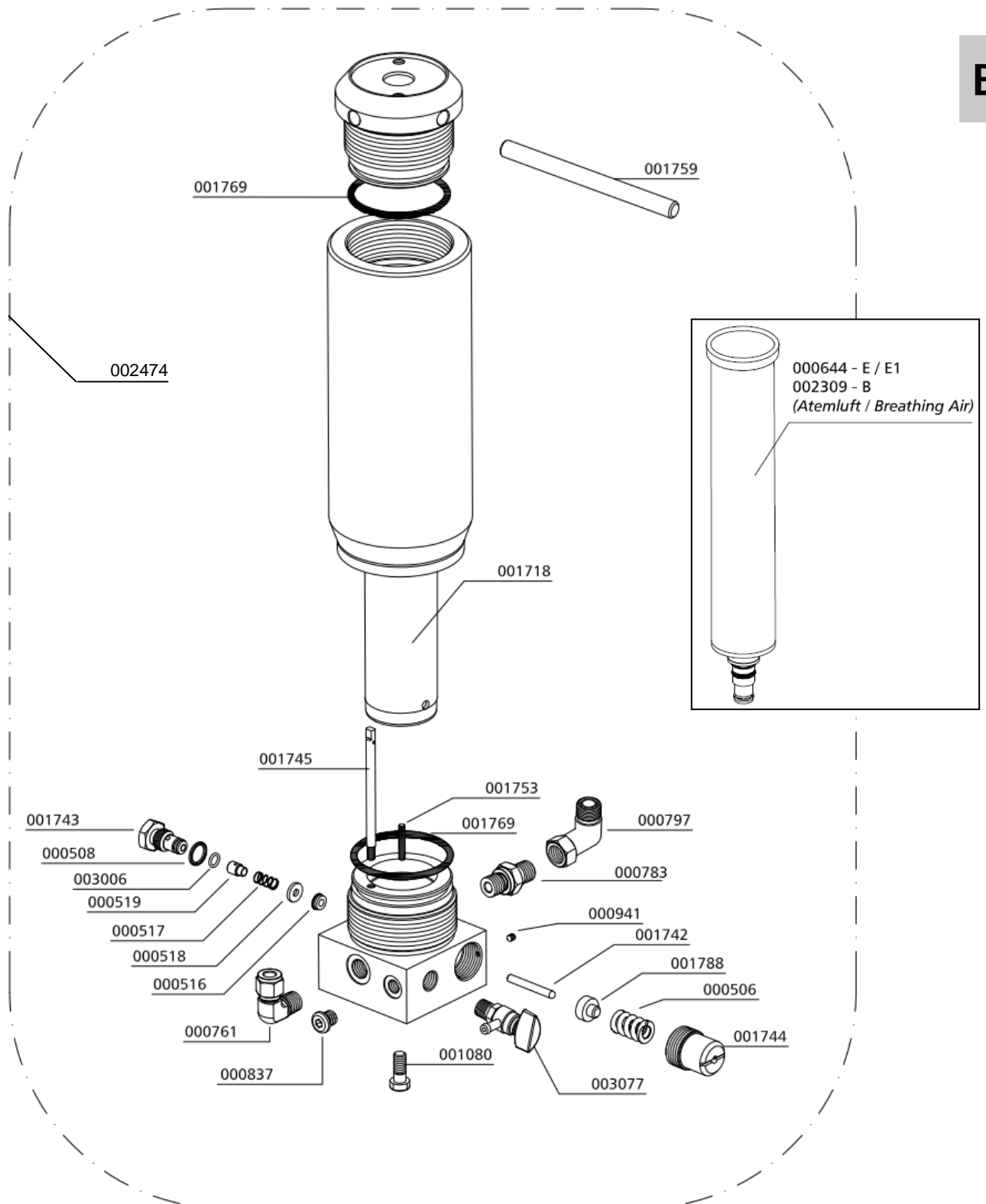
Baugruppe: Endfiltergehäuse / Assembly: Final Filter Tower

| Best.-Nr. / Order No. | Benennung | Description |
|-----------------------|--|------------------------------|
| 000506 | Druckfeder | Spring |
| 000508 | USIT Ring | Gasket Ring U-Sit |
| 000516 | Nutring, Druckhalte-/Rückschlagventil | Seal Ring PMV |
| 000517 | Feder | Coil Spring PMV |
| 000518 | Unterlegscheibe DIN 125, M5 | Washer, M5, brass |
| 000519 | Dichtkappe, Druckhalte-Rückschlagventil | Plastic Seal Piston PMV |
| 000644 | Filterpatrone | BA Filter Cartridge |
| 000761 | Verschraubung | Elbow Connection |
| 000783 | Verschraubung | Straight Connection |
| 000797 | Verschraubung | Elbow Connection |
| 000837 | Verschlussstopfen | Plug |
| 000941 | Madenschraube | Worm Screw |
| 001080 | 6-kant Schraube | Hexagon Screw |
| 001718 | Innenrohr Filtergehäuse | Inner Tube Filter Housing |
| 001742 | Druckstift , Ø5x40mm | Pressure Pin |
| 001743 | Einlassverschraubung | Inlet Connection |
| 001744 | Einstellschraube | Adjusting Bolt |
| 001745 | Düsenrohr, HD-Filter | Inlet Jet |
| 001753 | Patronenstift, Zylinder | Cartridge Pin |
| 001769 | O-Ring, Filtergehäuse | O-Ring Filter Housing LW 100 |
| 001788 | Federdruckstück | Spring Adapter |
| 002309 | Filterpatrone | Filter cartridge |
| 002474 | Filtergehäuse kompl. mit DHRV, Schlüssel | Filter housing c/w PMNRV |
| 003006 | O-Ring, Druckhalteventil | O-Ring, PMV |
| 003077 | Kondensatablassventil G1/4" AG | Condensate Drain Valve G1/4" |

B

DETAILANSICHT / DETAILED VIEW

Baugruppe: Endfiltergehäuse / Assembly: Final Filter Tower



B



ERSATZTEILLISTE / SPARE PART LIST

Baugruppe: Enddruck-Sicherheitsventil / Assembly: Final Pressure Safety Valve

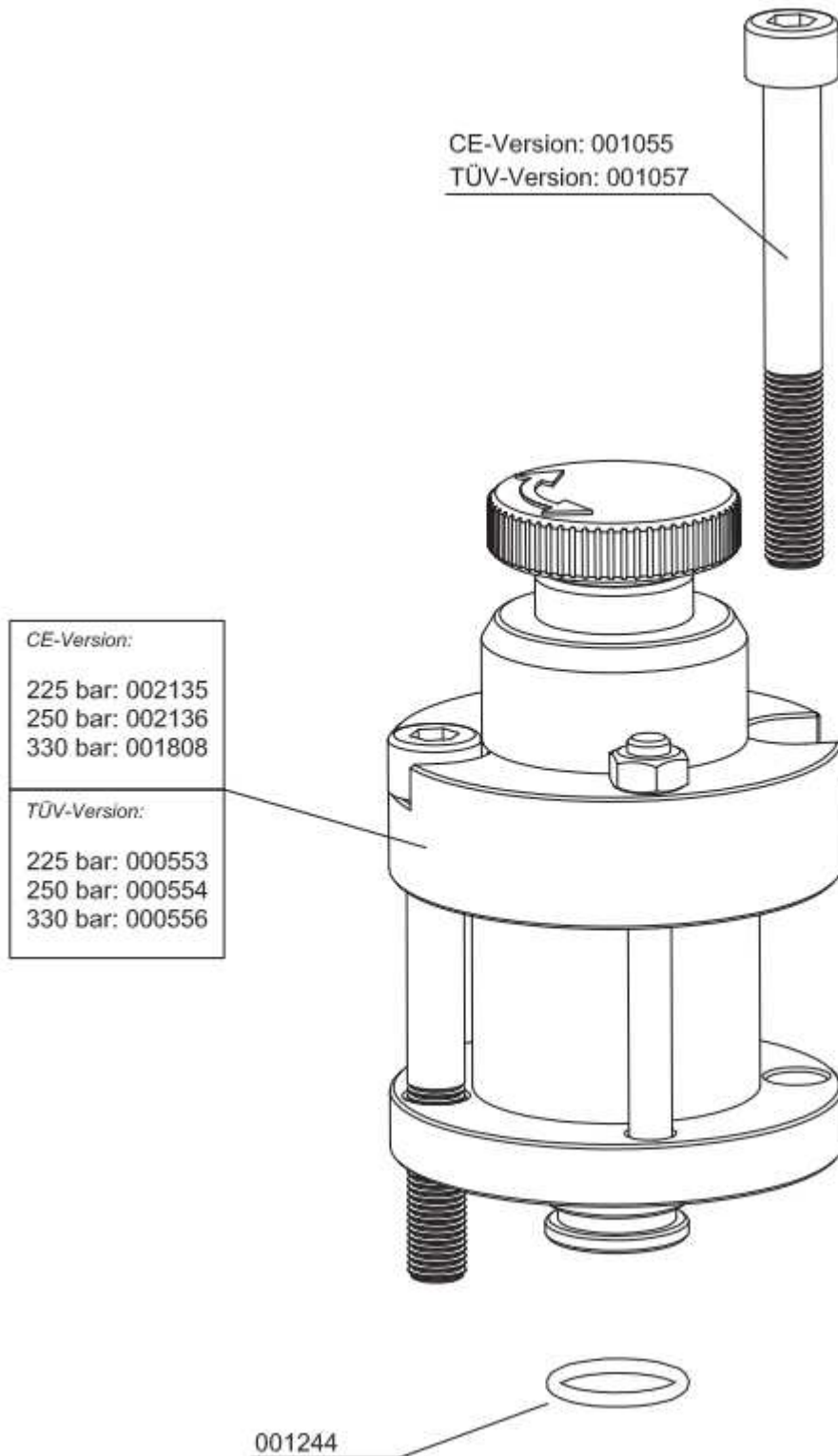
| Best.-Nr. / Order No. | Benennung | Description |
|-----------------------|------------------------------------|-----------------------------|
| 000553 | Sicherheitsventil - Bauteilgeprüft | Safety Valve TÜV 225 bar |
| 000554 | Sicherheitsventil - Bauteilgeprüft | Safety Valve TÜV 250 bar |
| 000556 | Sicherheitsventil - Bauteilgeprüft | Safety Valve TÜV 330 bar |
| 001055 | Zylinderschraube | Allen Bolt |
| 001057 | Zylinderschraube | Allen Bolt |
| 001244 | O-Ring | O-Ring, flange safety valve |
| 001808 | Sicherheitsventil 3. Stufe | Safety Valve 3rd Stage |
| 002135 | Sicherheitsventil 3. Stufe | Safety Valve 3rd Stage |
| 002136 | Sicherheitsventil 3. Stufe | Safety Valve 3rd Stage |

B

DETAILANSICHT / DETAILED VIEW

Baugruppe: Enddruck-Sicherheitsventil / Assembly: Final Pressure Safety Valve

B

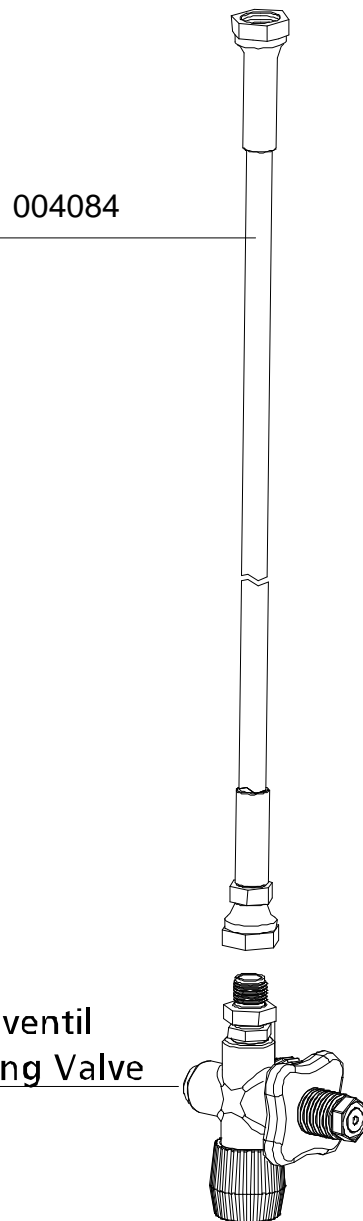


ERSATZTEILLISTE / SPARE PART LIST

Füllschlauch / Filling Hose

| Best.-Nr. / Order No. | Benennung | Description |
|-----------------------|--|---------------------------------------|
| 004084 | Hochdruckschlauch 10L / 8S, 800 mm, drehbar | HP-Hose 10L / 8S 800 mm, rotatable |

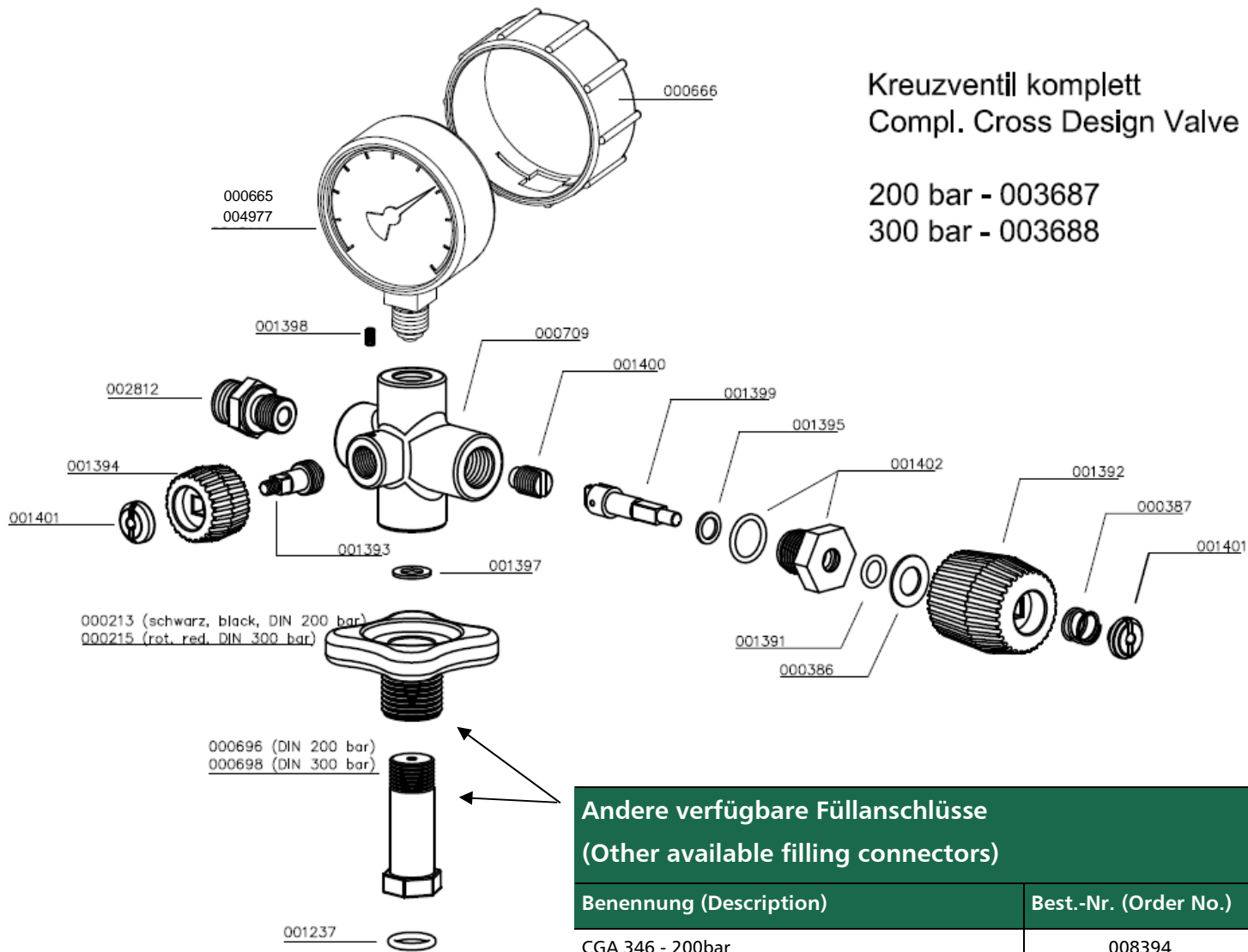
B



Baugruppe: Kreuzventil / Assembly: Cross Design Valve

| Best.-Nr. / Order No. | Benennung | Description |
|-----------------------|--|--|
| 000213 | Handrad, schwarz DIN 200bar | Hand Wheel DIN 200 bar, black |
| 000215 | Handrad rot DIN 300bar | Hand Wheel DIN 300 bar, red |
| 000386 | Gleitscheibe, Kreuzventil | Slide Washer |
| 000387 | Feder (Kreuzventil) | Coil Spring, cross d. valve |
| 000665 | Manometer, (Messing) | Pressure Gauge, (brass) |
| 000666 | Manometerschutzkappe Ø63mm | Protector Pressure Gauge Ø63mm |
| 000696 | Füllanschluss o. Handrad 200bar | Filling Connector w/o handwheel 200bar |
| 000698 | Füllanschluss o. Handrad 300bar | Filling Connector w/o handwheel 300bar |
| 000709 | Füllventil Kreuzbauweise, kompl. | Filling Valve cross design |
| 001237 | O-Ring DIN Flaschenanschluss | O-Ring DIN filling connector |
| 001391 | O-Ring | O-Ring |
| 001392 | Füllhandrad Kreuzventil | Hand Wheel Filling Valve cross |
| 001393 | Entlüftungsspindel | Vent Spindle |
| 001394 | Entlüftungshandrad | Vent Hand Wheel |
| 001395 | Gleitscheibe, schwarz, Kreuzventil | Slide Washer, plastic black |
| 001397 | Kupferdichtung | Copper Seal Ring |
| 001398 | Madenschraube | Worm Screw |
| 001399 | Oberspindel | Adapter Shaft |
| 001400 | Dichtspindel, Kreuzventil | Seal Spindle Filling Valve |
| 001401 | Schlitzmutter | Slotted Nut |
| 001402 | Gehäuseverschraubung komplett mit O- | Filling Spindle Body c/w O-Rings |
| 002812 | Verschraubung, Edelstahl | Connection, S/S |
| 003687 | Füllventil Kreuzbauweise komplett 200bar | Filling Valve cross complete unit 200bar |
| 003688 | Füllventil Kreuzbauweise komplett 300bar | Filling Valve cross complete unit 300bar |
| 004977 | Manometer, (Edelstahl) | Pressure Gauge, (s/s) |

B



Kreuzventil komplett
 Compl. Cross Design Valve

200 bar - 003687
 300 bar - 003688

| Andere verfügbare Füllanschlüsse (Other available filling connectors) | |
|--|-----------------------|
| Benennung (Description) | Best.-Nr. (Order No.) |
| CGA 346 - 200bar | 008394 |
| CGA 347 - 300bar | 006842 |
| INT / Yoke - 200/232 bar | 002307 |

DETAILANSICHT / DETAILED VIEW

Baugruppe: Kreuzventil / Assembly: Cross Design Valve





ERSATZTEILLISTE / SPARE PART LIST

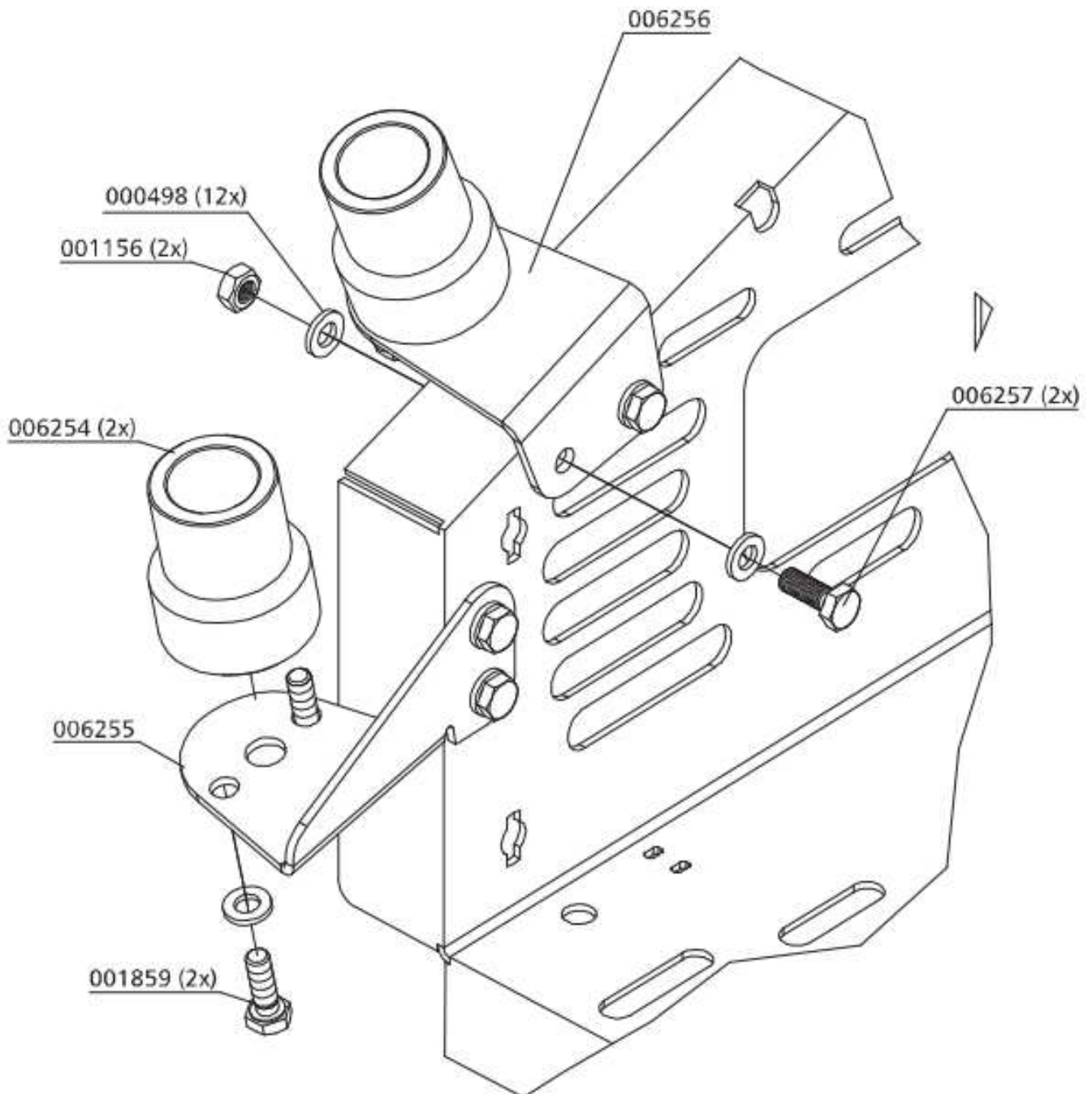
Baugruppe: Füllventilhalter / Assembly: Bracket for Filling Valve

| Best.-Nr. / Order No. | Benennung | Description |
|-----------------------|--|--------------------------------|
| 000498 | U-Scheibe A6 | Washer A6 |
| 001156 | Stoppmutter | Lock Nut M6 |
| 001859 | Befestigungsschraube Antriebsabdeckung | Fixing Bolt V-Belt Cover |
| 006254 | Füllventilhalter | Filling Valve Holder |
| 006255 | Halteblech 2 für Füllventilhalter | Bracket 2 for Filling Valve Ho |
| 006256 | Halteblech 1 für Füllventilhalter | Bracket 1 for Filling Valve |
| 006257 | Sechskantschraube | Hexagon Bolt |

B

DETAILANSICHT / DETAILED VIEW

Baugruppe: Füllventilhalter / Assembly: Bracket for Filling Valve



B



OPTIONS

C



Table of Contents

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| Switch Over Device 200+300bar | 4 |
| Automatic Condensation Drain | 8 |
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| Special Motors..... | 17 |
| Special Voltage..... | 26 |



ADDITIONAL FILLING HOSE

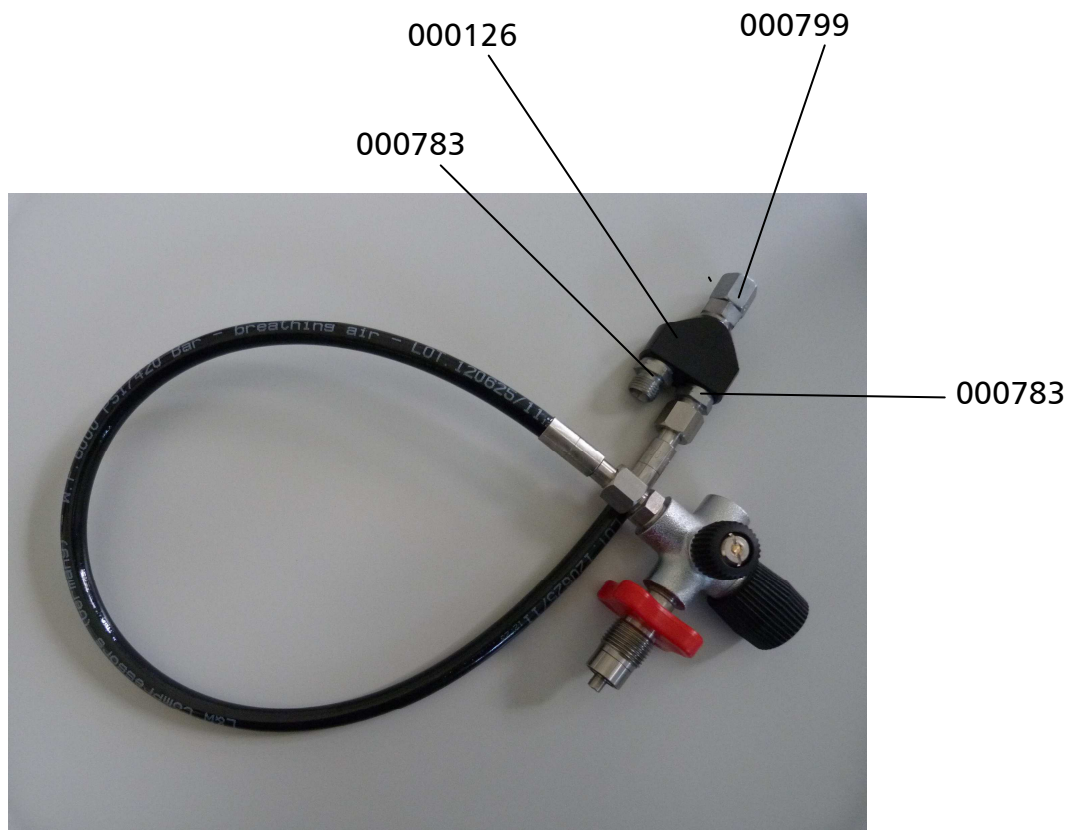
C

ADDITIONAL FILLING HOSE

The additional hose with filling valve allows to fill two bottles simultaneously. The hose with filling valve is available in 200 and 300 bar version.

Please refer to Chapter A for all information about the filling process.

| Best.-Nr. / Order No. | Benennung | Description |
|-----------------------|---------------------------------|---------------------------|
| 000126 | Y-Verteiler | Y-Connector |
| 000783 | Verschraubung | Connection |
| 000799 | Verschraubung mit fester Mutter | Connection with fixed nut |





SWITCH OVER DEVICE 200/300 BAR

C

SWITCH OVER DEVICE 200/300BAR

Operation:

300 bar

The pressure selector spindle (1) should be screwed fully in clockwise.

200 bar

The pressure selector spindle (1) should be screwed fully out anti clockwise.

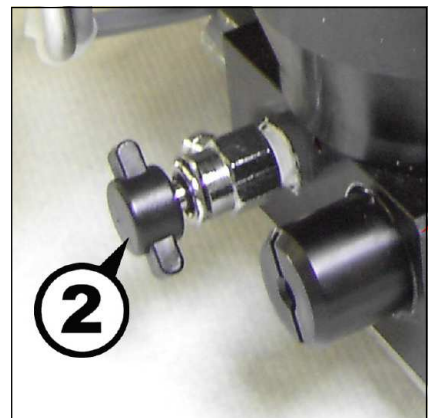


Switch over Device LW 100



ATTENTION

Operate 200/300bar pressure selector spindle (1) only if filterhousing has been vented by using the drainage valve (2).



Drain Valve at Final Filter Tower



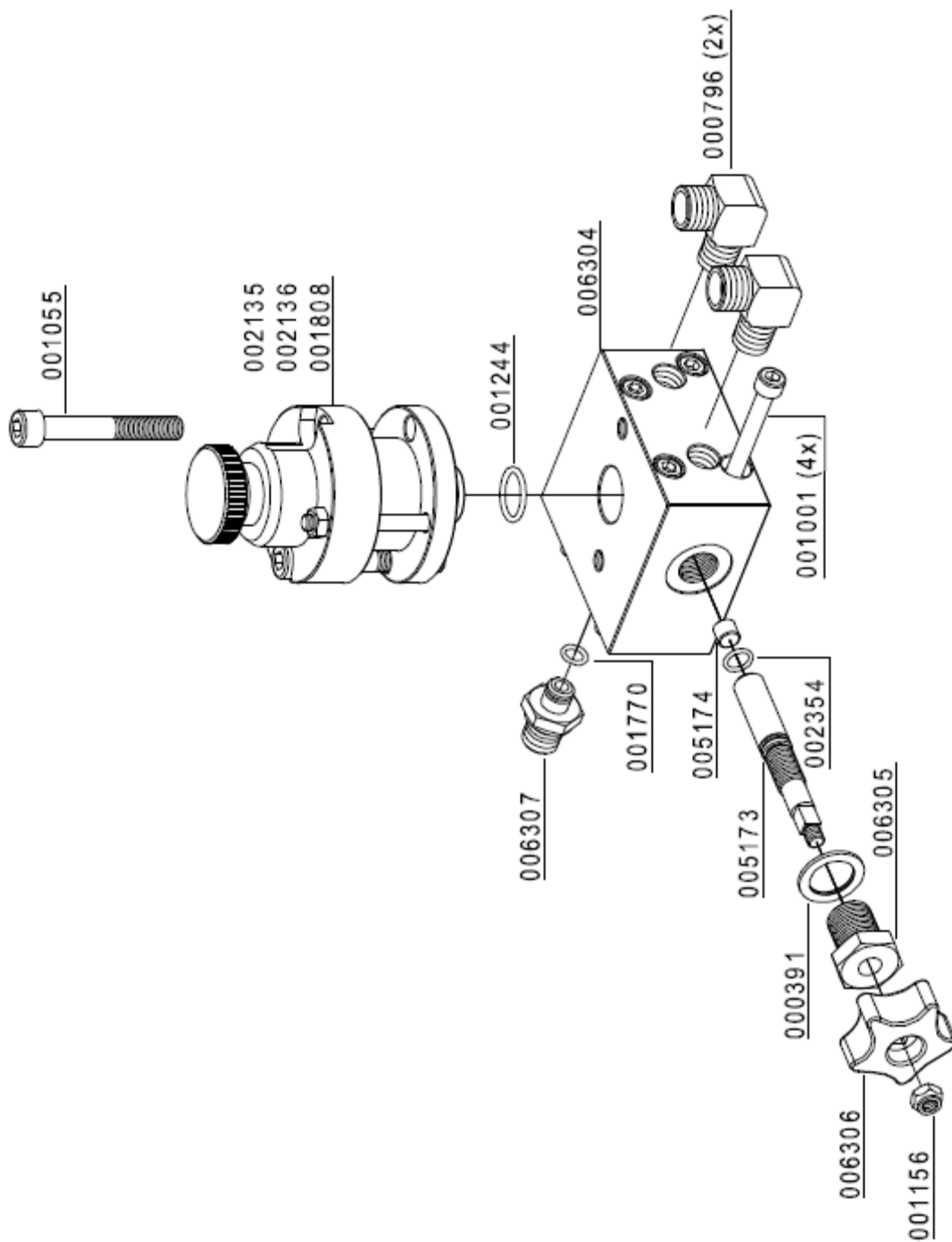
SWITCH OVER DEVICE 200/300BAR

Switch Over Device 200/300bar

| Best.-Nr. / Order No. | Benennung | Description |
|-----------------------|---|--------------------------------|
| 000391 | U-Sit Ring, | Seal Ring U-Sit |
| 000796 | Verschraubung | Elbow Connection |
| 001001 | Zylinderschraube | Allen Bolt |
| 001055 | Zylinderschraube | Allen Bolt |
| 001156 | Stopfmutter | Lock Nut M6 |
| 001244 | O-Ring | O-Ring, flange safety valve |
| 001770 | O-Ring, Düsen-schraube | O-Ring Inlet Jet |
| 001808 | Sicherheitsventil 3. Stufe 330bar | Safety Valve 3rd Stage 330bar |
| 002135 | Sicherheitsventil 3. Stufe 225bar | Safety Valve 3rd Stage 225bar |
| 002136 | Sicherheitsventil 3. Stufe 250bar | Safety Valve 3rd Stage 250bar |
| 002354 | O-Ring | O-Ring |
| 005173 | Spindel Druckumschaltung | Spindle, switch over device |
| 005174 | Dichtkegel Druckumschaltung 200/300 bar | Conical nipple,switch o.device |
| 006304 | Umschaltventilkörper | Housing |
| 006305 | Hohlschraube | Banjo Bolt |
| 006306 | Sterngriff | Star Shaped Grip |
| 006307 | Verbindungs-nippel | Nozzle |

SWITCH OVER DEVICE 200/300BAR

Switch Over Device 200/300bar



C



AUTOMATIC CONDENSATION DRAIN

C

AUTOMATIC CONDENSATION DRAIN

Automatic condensation dump system



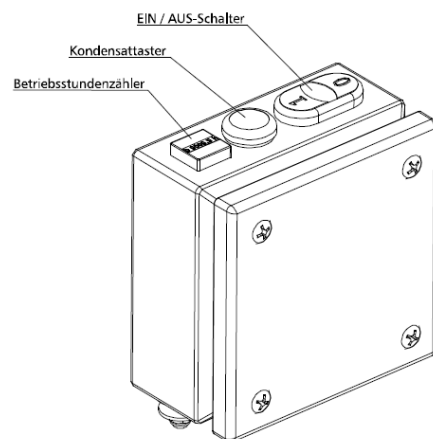
Note

The collected condensate can contain oil and has to be disposed according to regulations.

The LW 100 compressor can be optional equipped with an automatic condensation dump system.

A solenoid valve drains the 2nd and 3rd condensate separators every 20 minutes.

To test the system, press the blue condensate test drain button on the control box.



Oil / water separators

Condensate is separated after the 2nd and 3rd stage of compression. An electronic timer controlled the solenoid valve. The timer is located sideways at a small block and activates the dump valves about every 20 minutes.

To release the complete condensate through the black plastic hoses, we recommend using an 20 l container at least.

The drain noise can be kept to a minimum by using a silencer.



Automatic condensate drain LW 100

Maintenance intervals

We recommend to clean oil and water separators every 250 operating hours or at least once a year, to check for corrosion damage and to replace o-rings if necessary.

All oil / water separators have an integrated sinter filter which has to be replaced every 500 operating hours.



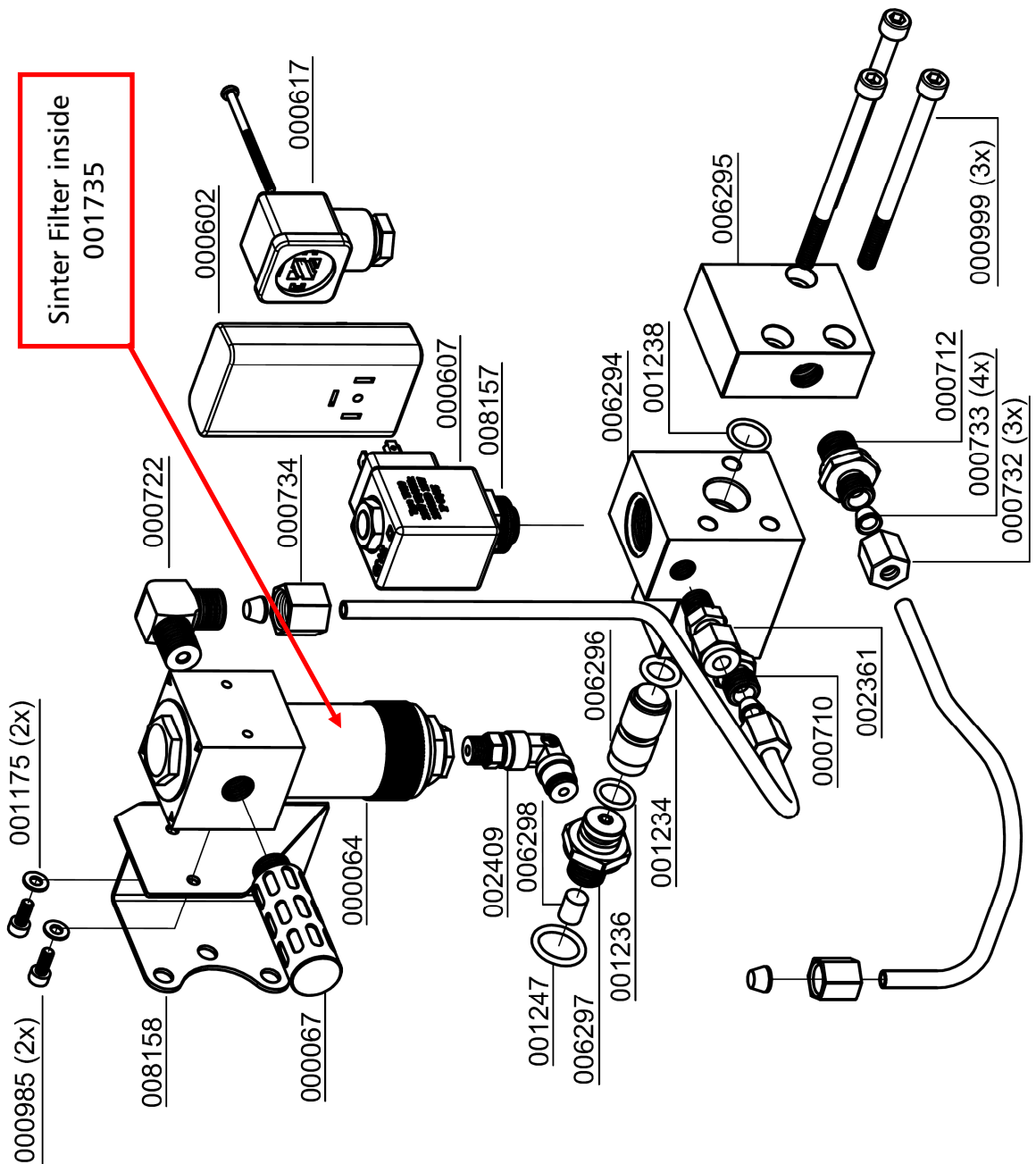
AUTOMATIC CONDENSATION DRAIN

Pneum. Kondensat-Ablassventil / Pneumatic Condensate Valve

| Best.-Nr. / Order No. | Benennung | Description |
|-----------------------|---------------------------------------|-------------------------------------|
| 000064 | Kondensatabscheider G1/4" | Condensate Separator G1/4" |
| 000067 | Schalldämpfer G1/4" | Silencer G1/4" |
| 000602 | Sandwichtimer | Sabdwichtimer 24-230V DC/AC |
| 000607 | Magnetspule NC 230V AC 40 bar | Solenoid Coil NC 230V AC 40bar |
| 000617 | Stecker, Magnetventil DIN Form A | Plug for Solenoid Shape A |
| 000710 | Verschraubung | Connection w/o nut& olive seal |
| 000712 | Verschraubung | Connection w/o nut& olive seal |
| 000722 | Verschraubung | Connection |
| 000732 | Mutter | Union Nut 06L |
| 000733 | Schneidring | Olive Seal SR 06 (Ø 6mm) |
| 000734 | Mutter | Nut 06S |
| 000985 | Zylinderschraube | Allen Bolt |
| 000999 | Zylinderschraube | Allen Bolt |
| 001175 | U-Scheibe A4 | Washer A4 |
| 001234 | O-Ring | O-Ring |
| 001236 | O-Ring | O-Ring |
| 001238 | O-Ring Füllstutzen zu Kipphebelventil | O-Ring |
| 001247 | O-Ring | O-Ring |
| 001735 | Sinterfilter (Öl-/Wasserabscheider) | Sinter Filter (Oil Water Separator) |
| 002361 | Schnellkupplung gerade | Quick rel. coupling, straight |
| 002409 | Winkelschnellkupplung | Quick release coupling elbow |
| 006294 | Kondensatventil Gehäuse | Autom. Condens. Drain Housing |
| 006295 | Kondensatventil Deckel | Autom. Condens. Drain Cover |
| 006296 | Kondensatautomatik Steuerkolben | Autom. Condens. Drain Piston |
| 006297 | Kondensatautomatik Düse | Autom. Condens. Drain Jet |
| 006298 | Kondensatautomatik Filter | Autom. Condens. Drain Filter |
| 008157 | Magnetventil | Solenoid Valve |
| 008158 | Halteblech Kondensatabscheider | Bracket Condensate Separator |

AUTOMATIC CONDENSATION DRAIN

Pneum. Kondensat-Ablassventil / Pneumatic Condensate Valve





AUTO SHUT DOWN

C

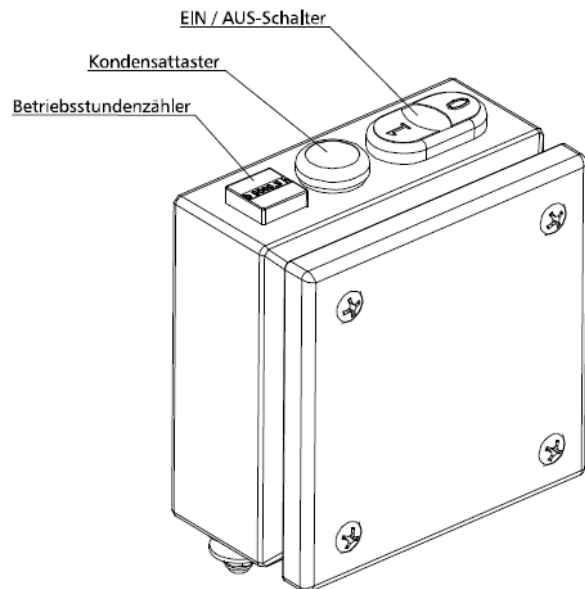
AUTO SHUT DOWN

Operation:

The compressor has a control box with an integrated hour counter.

Before starting the compressor, press the blue condensate button for 5 seconds. This needs to be done to vent the residual pressure and the condensate.

After this you can start the compressor by pushing the power button [I].



Final pressure switch

The pressure switch shuts off the compressor automatically when the selected final pressure is reached. The final pressure switch is already adjusted to the corresponding cut-out pressure.

The pressure can be adjusted with the upper adjusting screw as follows:

Increasing cut-out pressure:

Turn the adjusting screw clockwise

Reducing cut-out pressure:

Turn the adjusting screw anti-clockwise

Adjust the pressure switch in steps of a quarter turn.

Restart the compressor after every adjustment step to verify the actual cut-out pressure.



Enddruckschalter

Note

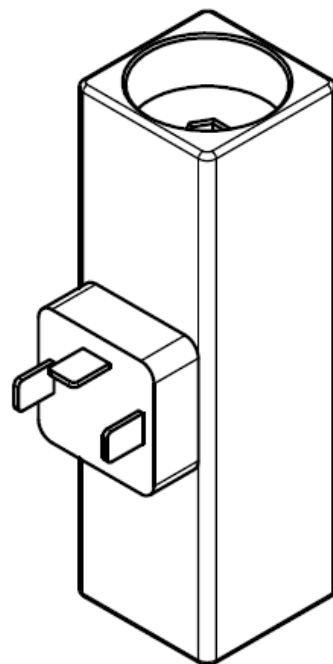
Do not adjust the final pressure switch to the safety valve pressure. The final pressure switch has to be adjusted to min. 10 bar below the safety valve pressure. Otherwise, the safety valve can open during operation. This considerably reduces the life of the safety valve.

| Safety valve | Max. Operating Pressure |
|--------------|-------------------------|
| 225 bar | 215 bar |
| 250 bar | 240 bar |
| 330 bar | 320 bar |

AUTO SHUT DOWN

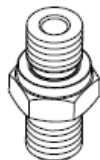
Druckschalter / Pressure Switch

| Best.-Nr. / Order No. | Benennung | Description |
|-----------------------|--------------------------|----------------------------|
| 000203 | Druckschalter 50-350 bar | Pressure Switch 50-350 bar |
| 000712 | Verschraubung | Connection |
| 000722 | Winkelverschraubung | Elbow Connection |



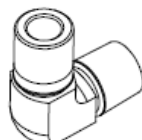
000203

Nur Abschaltautomatik
Only Auto-Stop



000712

Kondensatablassautomatik und Abschaltautomatik
Auto Drain and Auto-Stop

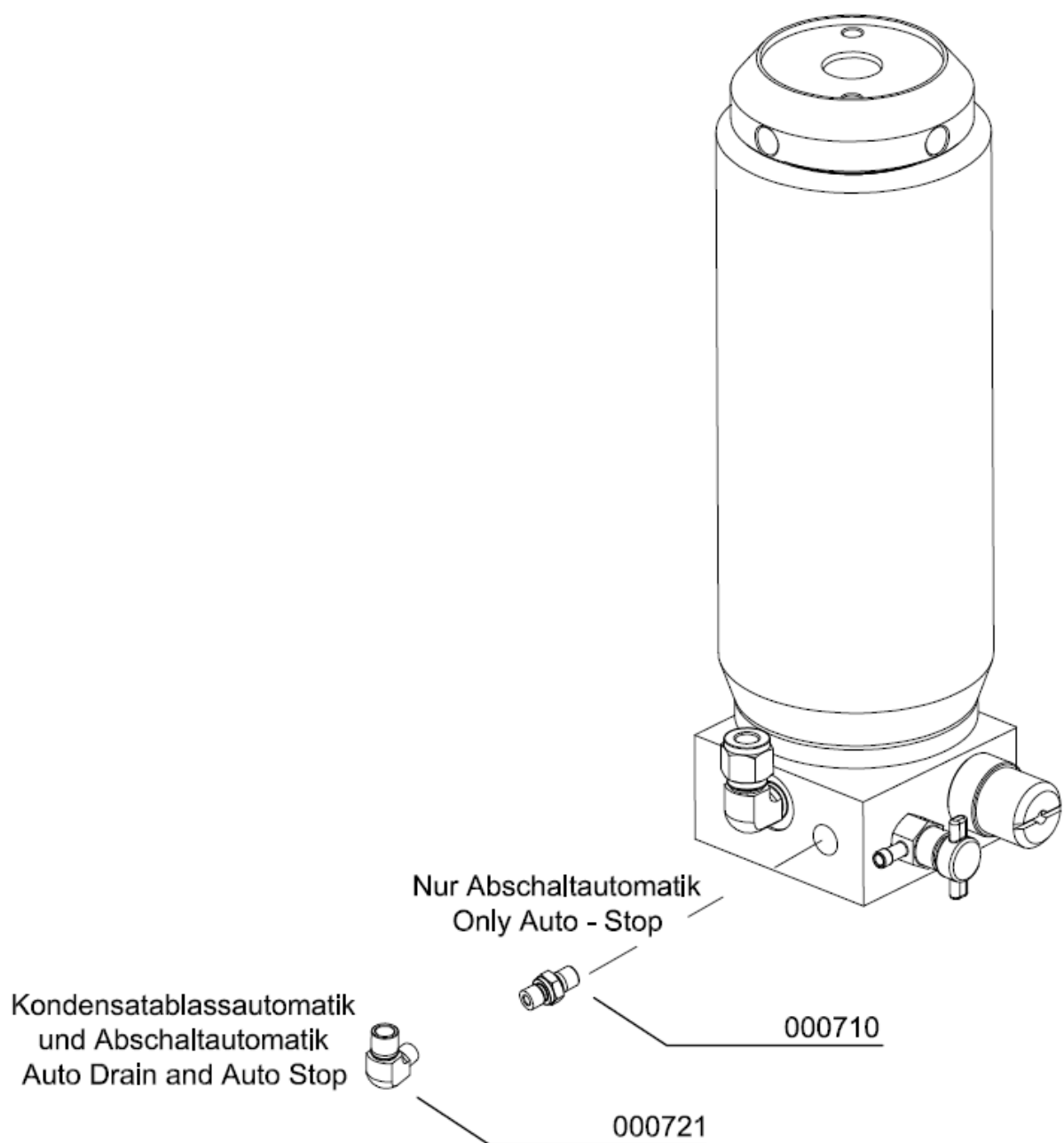


000722

AUTO SHUT DOWN

Endfiltergehäuse / Final Filter Housing

| Best.-Nr. / Order No. | Benennung | Description |
|-----------------------|---------------------|------------------|
| 000710 | Verschraubung | Connection |
| 000721 | Winkelverschraubung | Elbow Connection |

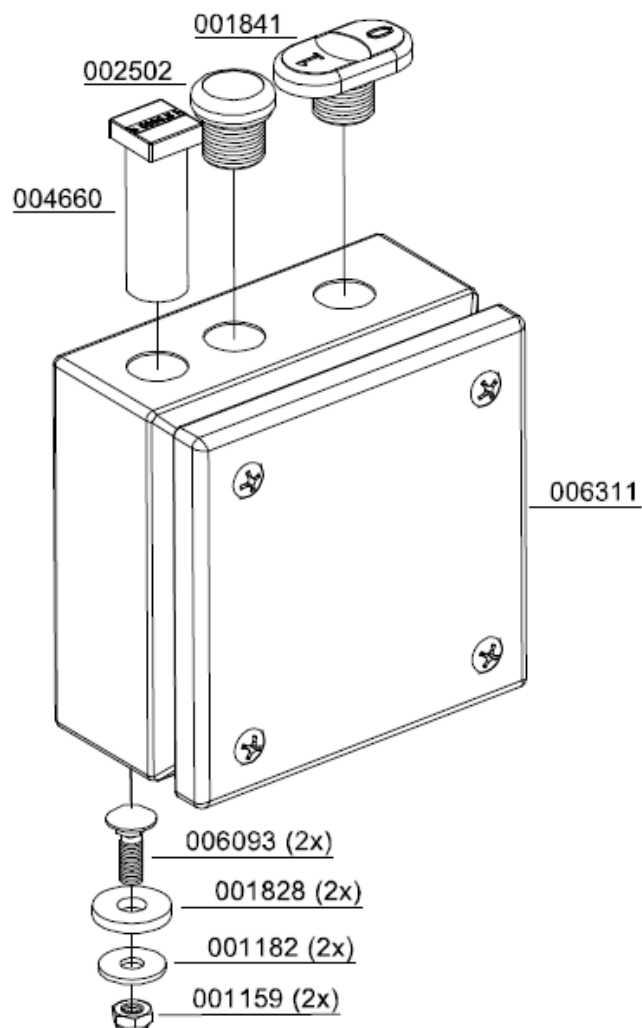


C

AUTO SHUT DOWN

Schaltkasten / Control Box

| Best.-Nr. / Order No. | Benennung | Description |
|-----------------------|-------------------------------------|-------------------------------|
| 001159 | Stoppmutter | Lock Nut M8 |
| 001182 | U-Scheibe A8 | Washer A8 |
| 001828 | U-Scheibe | Washer |
| 001841 | Ein / Aus Schalter | On / Off Switch |
| 002502 | Taster blau (Kondensattest), kompl. | Switch blue for condens. test |
| 004660 | Betriebsstundenzähler 230 V | Hour counter 230V |
| 006093 | Schlossschraube | Carriage Bolt |
| 006311 | Schaltkasten | Control Box |





SPECIAL MOTORS

C

SPECIAL MOTORS

Special Motors

The compressor can be equipped with different motors. The power of the compressor motor and the cooling air requirement can be different from the standard configuration.

In the following pages you will find the data sheets of different LW 100 models.



Note

If your required data sheet is missing, please contact us directly under service@lw-compressors.com.

C

Available motor for LW 100 - Models

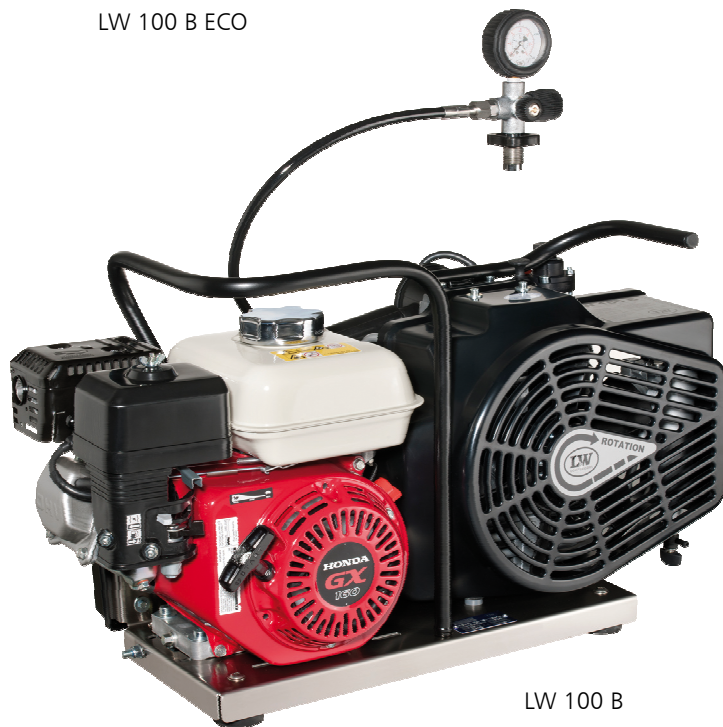
| Model | Motor Manufacturer | Characteristics |
|-----------------|--------------------|------------------|
| LW 100 B (ECO) | Honda | 4,1 kW |
| LW 100 E (ECO) | AC - Motor | Motor in IP 56 |
| LW 100 E1 (ECO) | AC - Motor | 230V / 60Hz / 1~ |
| LW 100 E1 (ECO) | AC - Motor | 110V / 60Hz / 1~ |
| LW 100 E1 (ECO) | Baldor | 110V / 60Hz / 1~ |

SPECIAL MOTORS

LW 100 B ECO / LW 100 B with Honda engine



LW 100 B ECO



LW 100 B

SPECIAL MOTORS

Technical Data

| Technical Data | LW 100 B / (ECO) |
|---|--------------------------------|
| Capacity [l/min]: | 100 |
| Max. Operating Pressure [bar]: | 350 |
| RPM [min ⁻¹]: | 2300 |
| Number of Pressure Stages: | 3 |
| Cylinder Bore 1st Stage [mm]: | Ø 60 |
| Cylinder Bore 2nd Stage [mm]: | Ø 30 |
| Cylinder Bore 3rd Stage [mm]: | Ø 12 |
| Medium: | Compressed Air / Breathing Air |
| Intake Pressure: | atmospheric |
| Oil Capacity [l]: | 0,5 |
| Intake Temperature [°C]: | 0 < +45 |
| Ambient Temperature [°C]: | +5 < +45 |
| Cooling Air Volume [m ³ /h]: | > 1230 |
| Voltage: | - |
| Protection Class Drive Motor: | - |
| Drive Power [kW]: | 4,1 |
| RPM Motor [min ⁻¹]: | 2890 |
| Start: | Hand start |
| Noise level [dB(A)]: | 93 |
| Dimensions L x W x H [mm]: | 780 x 380 x 400 |
| Weight [kg]: | approx. 46 / (42) |
| Content Volume Filter housing [l]: | 0.37 |



SPECIAL MOTORS

Prior to first commissioning, observe the following:

- Ensure that cooling air can flow freely.
- Position compressor in direction of wind so that exhaust fumes are blown away from the unit.
- Take protection measures to avoid damages or injury by exhaust gases/exhaust pipe.
- Check fuel capacity.
- Check drive motor oil level.
- Check the oil level of the compressor.
- Check all connections and tighten if necessary.
- Check if a filter cartridge is in place. (see "Service and Maintenance")
- Check V-belt tension. (see "Service and Maintenance")
- Read carefully the handbook of the petrol engine.
- Ensure that all filling valves are closed. Open one filling valve and hold tight manually!

Start the compressor

1. Open fuel valve (Fig. 1)
2. Switch motor switch in position 1
3. Pull start (Fig. 2)
4. Close condensate valves
5. Run the compressor for about 2 minutes
6. Close the open filling valve carefully
7. Run the compressor up to maximum pressure and check the function of the final pressure safety valve. If the compressor is equipped with an automatic stop system please check the automatic shut down at final pressure. If the final pressure switch does not shut off, switch off the compressor with the OFF button (see chapter "Remedying faults").
8. Check the compressor unit for leaks (see "Service and Maintenance")
9. Option: Automatic Condensate Drain
Now check the condensate drain valves:
 - Fix the black condensate hoses
 - Drain test - press the test button
 - If correct, air escapes
10. Stop the compressor by pushing the OFF button.
11. Open all filling valves carefully to vent.



Fig. 1 - Fuel valve



Fig. 2 - Speed control and pull start

SPECIAL MOTORS

LW 100 E mit AC- Motor in protection class IP 56

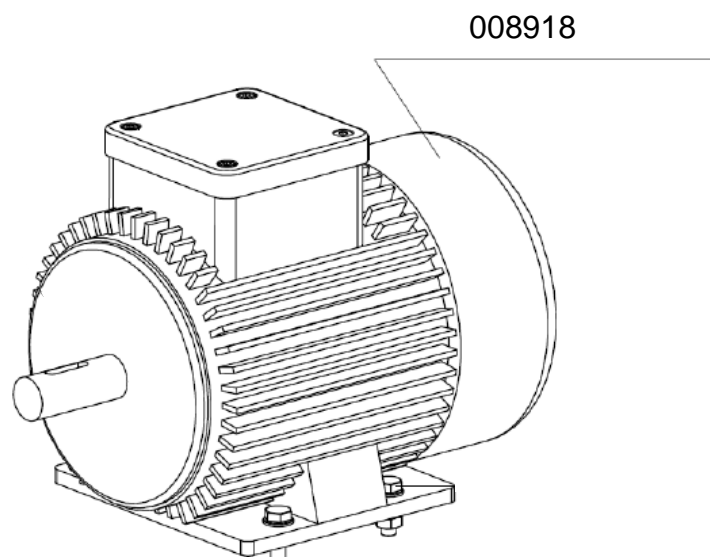


LW 100 E (Frontansicht)

C

Motor IP56

| Best.-Nr. / Order No. | Benennung | Description |
|-----------------------|-------------------------------|------------------------------|
| 008918 | Motor—3 Phasen 380-460V, IP56 | Motor—3 Phase 380-460V, IP56 |



SPECIAL MOTORS

Technical Data

| Technical Data | LW 100 E1 / (ECO) |
|---|--------------------------------|
| Capacity [l/min]: | 100 |
| Max. Operating Pressure [bar]: | 350 |
| RPM [min ⁻¹]: | 2300 |
| Number of Pressure Stages: | 3 |
| Cylinder Bore 1st Stage [mm]: | Ø 60 |
| Cylinder Bore 2nd Stage [mm]: | Ø 30 |
| Cylinder Bore 3rd Stage [mm]: | Ø 12 |
| Medium: | Compressed Air / Breathing Air |
| Intake Pressure: | atmospheric |
| Oil Capacity [l]: | 0,5 |
| Intake Temperature [°C]: | 0 < +45 |
| Ambient Temperature [°C]: | +5 < +45 |
| Cooling Air Volume [m ³ /h]: | > 660 |
| Voltage: | 380-460V / 3-Phase / 50/60Hz |
| Protection Class Drive Motor: | IP 56 |
| Drive Power [kW]: | 2.2 |
| RPM Motor [min ⁻¹]: | 2890 |
| Start: | Start / Stop switch |
| Noise level [dB(A)]: | 82 |
| Dimensions L x W x H [mm]: | 650 x 390 x 400 |
| Weight [kg]: | approx. 43 / (39) |
| Content Volume Filter housing [l]: | 0.37 |



SPECIAL MOTORS

LW 100 E1 with AC- Motor

Specification: 230V / 60Hz / 1~



LW 100 E1 (Front view)



LW 100 E1 (Back view)

SPECIAL MOTORS

Technical Data

| Technical Data | LW 100 E1 / (ECO) |
|---|--------------------------------|
| Capacity [l/min]: | 100 |
| Max. Operating Pressure [bar]: | 350 |
| RPM [min ⁻¹]: | 2300 |
| Number of Pressure Stages: | 3 |
| Cylinder Bore 1st Stage [mm]: | Ø 60 |
| Cylinder Bore 2nd Stage [mm]: | Ø 30 |
| Cylinder Bore 3rd Stage [mm]: | Ø 12 |
| Medium: | Compressed Air / Breathing Air |
| Intake Pressure: | atmospheric |
| Oil Capacity [l]: | 0,5 |
| Intake Temperature [°C]: | 0 < +45 |
| Ambient Temperature [°C]: | +5 < +45 |
| Cooling Air Volume [m ³ /h]: | > 660 |
| Voltage: | 230V / 1-Phase / 50Hz |
| Protection Class Drive Motor: | IP 55 |
| Drive Power [kW]: | 2.2 |
| RPM Motor [min ⁻¹]: | 2890 |
| Start: | Start / Stop switch |
| Noise level [dB(A)]: | 82 |
| Dimensions L x W x H [mm]: | 650 x 390 x 400 |
| Weight [kg]: | approx. 43 / (39) |
| Content Volume Filter housing [l]: | 0.37 |





SPECIAL VOLTAGE

C



SPECIAL VOLTAGE

Special Voltage

The compressor unit can be equipped with different voltages and frequencies. The power of the compressor motor can be lower and higher based on the needed requirement.

The following table will show possible voltages and frequencies. The associated data sheets can be found in the following pages.



Note

If your required data sheet is missing, please contact us directly under service@lw-compressors.com.

C

Possible special voltages and frequencies

| Voltage | Frequency |
|---------|-----------|
| 440 V | 50 Hz |
| 440 V | 60 Hz |
| 230 V | 50 Hz |
| 230 V | 60 Hz |

SPECIAL VOLTAGE

Technical Data

| Technical Data | LW 100 E / (ECO) |
|---|--------------------------------|
| Capacity [l/min]: | 100 |
| Max. Operating Pressure [bar]: | 350 |
| RPM [min ⁻¹]: | 2300 |
| Number of Pressure Stages: | 3 |
| Cylinder Bore 1st Stage [mm]: | Ø 60 |
| Cylinder Bore 2nd Stage [mm]: | Ø 30 |
| Cylinder Bore 3rd Stage [mm]: | Ø 12 |
| Medium: | Compressed Air / Breathing Air |
| Intake Pressure: | atmospheric |
| Oil Capacity [l]: | 0,5 |
| Intake Temperature [°C]: | 0 < +45 |
| Ambient Temperature [°C]: | +5 < +45 |
| Cooling Air Volume [m ³ /h]: | > 660 |
| Voltage: | 230V / 3-Phase / 50 Hz |
| Protection Class Drive Motor: | IP 55 |
| Drive Power [kW]: | 2.2 |
| RPM Motor [min ⁻¹]: | 2890 |
| Start: | Start / Stop switch |
| Noise level [dB(A)]: | 82 |
| Dimensions L x W x H [mm]: | 650 x 390 x 400 |
| Weight [kg]: | approx. 43 / (39) |
| Content Volume Filter housing [l]: | 0.37 |



SPECIAL VOLTAGE

Technical Data

| Technical Data | LW 100 E / (ECO) |
|---|--------------------------------|
| Capacity [l/min]: | 100 |
| Max. Operating Pressure [bar]: | 350 |
| RPM [min ⁻¹]: | 2300 |
| Number of Pressure Stages: | 3 |
| Cylinder Bore 1st Stage [mm]: | Ø 60 |
| Cylinder Bore 2nd Stage [mm]: | Ø 30 |
| Cylinder Bore 3rd Stage [mm]: | Ø 12 |
| Medium: | Compressed Air / Breathing Air |
| Intake Pressure: | atmospheric |
| Oil Capacity [l]: | 0,5 |
| Intake Temperature [°C]: | 0 < +45 |
| Ambient Temperature [°C]: | +5 < +45 |
| Cooling Air Volume [m ³ /h]: | > 792 |
| Voltage: | 230V / 3-Phase / 60 Hz |
| Protection Class Drive Motor: | IP 55 |
| Drive Power [kW]: | 2.64 |
| RPM Motor [min ⁻¹]: | 2890 |
| Start: | Start / Stop switch |
| Noise level [dB(A)]: | 82 |
| Dimensions L x W x H [mm]: | 650 x 390 x 400 |
| Weight [kg]: | approx. 43 / (39) |
| Content Volume Filter housing [l]: | 0.37 |



SPECIAL VOLTAGE

Technical Data

| Technical Data | LW 100 E / (ECO) |
|---|--------------------------------|
| Capacity [l/min]: | 100 |
| Max. Operating Pressure [bar]: | 350 |
| RPM [min ⁻¹]: | 2300 |
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| Cylinder Bore 1st Stage [mm]: | Ø 60 |
| Cylinder Bore 2nd Stage [mm]: | Ø 30 |
| Cylinder Bore 3rd Stage [mm]: | Ø 12 |
| Medium: | Compressed Air / Breathing Air |
| Intake Pressure: | atmospheric |
| Oil Capacity [l]: | 0,5 |
| Intake Temperature [°C]: | 0 < +45 |
| Ambient Temperature [°C]: | +5 < +45 |
| Cooling Air Volume [m ³ /h]: | > 660 |
| Voltage: | 440V / 3-Phase / 50 Hz |
| Protection Class Drive Motor: | IP 55 |
| Drive Power [kW]: | 2.2 |
| RPM Motor [min ⁻¹]: | 2890 |
| Start: | Start / Stop switch |
| Noise level [dB(A)]: | 82 |
| Dimensions L x W x H [mm]: | 650 x 390 x 400 |
| Weight [kg]: | approx. 43 / (39) |
| Content Volume Filter housing [l]: | 0.37 |





ATTACHMENT

D

Lenhardt & Wagner GmbH

**An der Tuchbleiche 39
D-68623 Lampertheim – Hüttenfeld**

www.lw-compressors.com



Operating Instruction

Safety valve

Typ:

SiV2 BKZ 989 TÜV.SV.12-989.5.G.V.P CE 0091 AlMgSi1 F31 1100* Lenhardt & Wagner

SiV BKZ TÜV.SV.14-1140.5.G.V.p CE 0091 AlMgSi1 F31 1100* Lenhardt & Wagner

| | |
|-------------------------|--|
| Set pressure: | see mark (hand wheel on top of valve) |
| Maximum outflow: | Set pressure 100-159 bar: 750 l / min Set pressure 160-350 bar: 1.100 l / min |
| Suitable media: | Media-resistant, non-corrosive gases |

The safety valve is used for protection of pressurized components, eg pipelines, pressure vessels, or the compressor itself.

The hand wheel on the top of the safety valve is marked with the adjusted set pressure.



Safety valve with socket

- 1) *Identification of set pressure*
- 2) *Seal*
- 3) *Fixing screws¹*
- 4) *Venting screw (hand wheel)*
- 5) *Identification serial number*
- 6) *Socket for safety valve*

¹ und die Anforderungen des AD 2000 Merkblatts W7 erfüllen. Schaftlänge 70mm. The fixing screws M8 must be strength class 8.8 and meet the requirements of Merkblatt AD 2000 leaflet W7. Shaft length 70mm.

In order to prevent manipulation of the set pressure, all safety valves are factory fitted with a seal.

A safety valve on which the seal has been removed, must be returned before further use to the manufacturer for repair / adjustment.

In addition, the safety valve has a venting device (hand wheel).

In the rotation direction clockwise, the safety valve and herewith also the filter housing of the final stage could be completely vented.

During normal operation, the screw is unscrewed to the upper stop anticlockwise, an integrated safety ring prevents that the screw can be completely unscrewed.

If a safety valve blow off, the system must be switched off immediately and investigate the cause of the error.

There are two possible reasons:

1. The safety valve is defective and blows off before the set pressure.

In this case the safety valve should be submitted immediately to the manufacturer for repair or replaced with a new one.

2. The safety valve opens properly, the problem is on the system.

A constant blowing of the safety valve is not permitted, the sealing seat of the valve can be damaged. The error on the system must be detected and repaired before further filling operations.

The safety valve may only be used if it is ensured that the maximum flowrate of the system does not exceed the blowoff rate of the safety valve.

The safety valve may only be used with the approved media.

Repair work on compressors must only be performed by trained personnel.

Dismantling of the safety valve

Ensure that on the safety valve is no pressure.

Loosen and remove the two M8 fixing bolts with a 6mm Allen key.

The safety valve can now be removed by turning and simultaneously pulling out of the socket.

Mounting

1. Clean the safety valve socket.

2. Oil the insert pin of the safety valve including the O-ring with 1 to 2 drops of oil.

3. Press the safety valve pin complete into the socket.

4. Fasten the safety valve with the two 8 mm allen screws into the socket

(Tightening torque: 10 Nm)

5. Screw the venting screw (hand wheel) anticlockwise to its upper limit.

6. Start the System (Compressor), check installation for leaks and proper function.

Manufacturer: Lenhardt & Wagner GmbH
An der Tuchbleiche 39
D-68623 Lampertheim – Hüttenfeld

Kontakt: E-Mail: service@lw-compressors.com
Web: www.lw-compressors.com
Tel.: +49 (0) 6256 – 85880 0
Fax: +49 (0) 6256 – 85880 14

Note:

*Use the safety valve only in a technically perfect condition, for its intended purpose, safety and danger awareness, in compliance with the operating instructions!
Especially disorders which could affect safety must be remedied immediately!*

Notes:

- The safety valve must be installed directly on the protected pressure vessel and / or the plant.
 - The safety valve must be installed in an upright position.
 - The flow area of the port must be greater than the valve opening.
 - Protect valve against splashes
-

Maintenance:

- The safety valve is periodically - in accordance with the currently valid Pressure Equipment Directives - to check on operation and reliability.
- Refill annually lubricating oil:
Oil filling position:
Hole on the spacer (see arrow, Figure 1)
- Oil level: Fill oil into the hole until oil comes out of the hole.

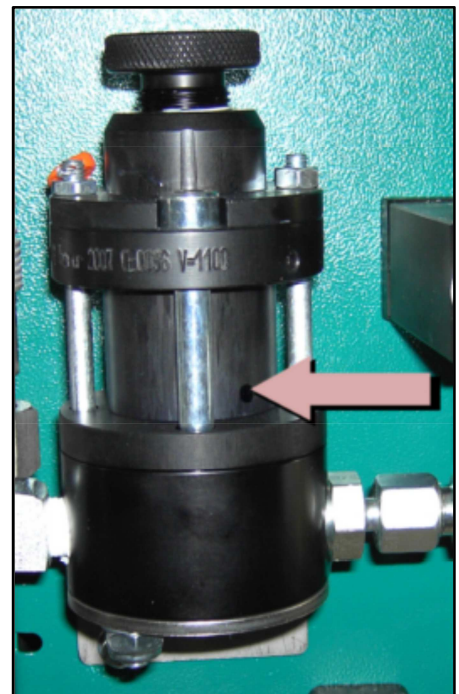


Figure 1: Position for oil refill

To be used lubricating oil for the safety valve: L&W Article Nr.: 008500 (content: 30 ml)

EG-KONFORMITÄTSERKLÄRUNG



Lenhardt & Wagner GmbH
An der Tuchbleiche 39
D-68623 Lampertheim - Hüttenfeld
Germany

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 Fax: 0 62 56 – 85 880 14
 www.lw-compressors.com



| EG-KONFORMITÄTSERKLÄRUNG IM SINNE DER EG-MASCHINENRICHTLINIE 2006/42/EG ANHANG II A UND IM SINNE DER EG-DRUCKGERÄTERICHTLINIE 2014/68/EU ANHANG VII EC-CONFORMITY DECLARATION IN ACCORDANCE WITH EC-MACHINERY DIRECTIVE 2006/42/EC APPENDIX II A AND EC PRESSURE EQUIPMENT DIRECTIVE 2014/68/EU APPENDIX VII | |
|--|---|
| Hiermit erklären wir, | Herewith we |
| Lenhardt & Wagner GmbH An der Tuchbleiche 39 D-68623 Lampertheim-Hüttenfeld Germany | |
| dass die nachfolgend bezeichnete Baueinheit aufgrund ihrer Konzipierung und Bauart sowie in der von uns in Verkehr gebrachten Ausführung, den einschlägigen grundlegenden Sicherheits- und Gesundheitsanforderungen der EG-Richtlinien entspricht. Die Baueinheit fällt in die Kategorie 3.3 der DGRL 2014/68/EU, wurde jedoch nach den Standards der DGRL 2014/68/EU aufgebaut und geprüft. Bei einer nicht mit uns abgestimmten Änderung der Baueinheit verliert diese Erklärung ihre Gültigkeit. | confirm that the below mentioned unit complies with the basic safety and health requirements of the EC directives concerning design, construction and putting the model into circulation. The unit falls into the category 3.3 of the PED 2014/68/EU, but has been built and tested according to the standards of the PED 2014/68/EU. This declaration is no longer valid if the unit has been modified without our agreement. |
| Bezeichnung der Baueinheit: Description of Unit: | Atemluftkompressor Breathing Air Compressor |
| Typ der Baueinheit: Type of Unit: | <input type="checkbox"/> ECO-Modell <input type="checkbox"/> Standard-Modell L&W <input type="checkbox"/> MSA <input type="checkbox"/> 100 E <input type="checkbox"/> 100 E1 <input type="checkbox"/> 100 B |
| Seriennummer der Baueinheit: Serial Number of Unit: | (Block-Nr: / Serie/ Monat/ Jahr) |
| max. Betriebsdruck: max. working pressure: | |
| Sicherheitsventil: Safety Valve: | Serien-Nr.: Serial-No.: |

EG-KONFORMITÄTSERKLÄRUNG



| | |
|---|--|
| | <p>Typ: SIV 2 Type:</p> <p>Bauteilkennzeichen-Nr: Type-test approval mark:</p> <p>Modul B according to PED 2014/68/EU Category: IV Certificate-No.: Z-IS-DDB-MAN-06-03-13637794-001 Test report No.: P-IS-DDB-MAN-05-10-13637794-001</p> <p>Modul F according to PED 2014/68/EU</p> |
| <p>Einschlägige EG-Richtlinien</p> | <p>Relevant EC-Directives</p> |
| <ul style="list-style-type: none"> • 2006/42/EG - Maschinenrichtlinie • 2014/68/EU - Druckgeräterichtlinie • 2003/10/EG - Gefährdung durch physikalische Einwirkungen (Lärm) • 2000/14/EG - RL Umweltlärm von Maschinen | <ul style="list-style-type: none"> • 2006/42/EC - Machinery Directive • 2014/68/EU - Pressure Equipment Directive • 2003/10/EC - Risks arising from physical agents (noise) • 2000/14/EC - Directive relating to the noise emission in the environment by equipment for use outdoors |
| <p>Angewandte harmonisierte Normen – insbesondere:</p> <p>EN ISO 12100:2010, DIN EN 12021:2014, DIN EN 1012-1:2010, DIN EN ISO 13850:2008, DIN EN ISO 13857:2008, DIN EN 60204-1:2006</p> | <p>Applicable and adapted Norms - particulary:</p> <p>EN ISO 12100:2010, DIN EN 12021:2014, DIN EN 1012-1:2010, DIN EN ISO 13850:2008, DIN EN ISO 13857:2008, DIN EN 60204-1:2006</p> |
| <p>Angewandte nationale Normen und technische Spezifikationen - insbesondere:</p> <ol style="list-style-type: none"> 1) AD 2000 Merkblätter 2) Technische Regeln Druckgase (TRG): TRG 400, 401, 402 (ohne Betriebsstätte) und TRG 790) | <p>Applicable national Norms and technical Specification – particulary:</p> <ol style="list-style-type: none"> 1) AD 2000 Bulletins 2) Technical Rules for compressed Gas (TRG 400, 401, 402 (without manufacturing facility) and TRG 790) |

Lampertheim - Hüttenfeld, den: 04.04.2017

| | | |
|---|--|--|
| <p>Lenhardt & Wagner GmbH</p> <p><i>B. Wagner</i> Bernd Wagner Geschäftsführer / Managing Director</p> | | |
|---|--|--|