Manual of Use and Maintenance

This booklet contains information for the use and maintenance of the high pressure compressor for breathable air. Operators must read and understand all the information contained in this manual.

WARNING. It is essential that this booklet is read fully before the machine is used.

SYMBOL DEFINITION:
A hazard symbol is used to draw attention to important issues of safety and the correct operation of the machine. The text beside this symbol explains things that all operators must be aware of.

GENERAL PRECAUTIONS:

Carefully read the following instructions before using the compressor:

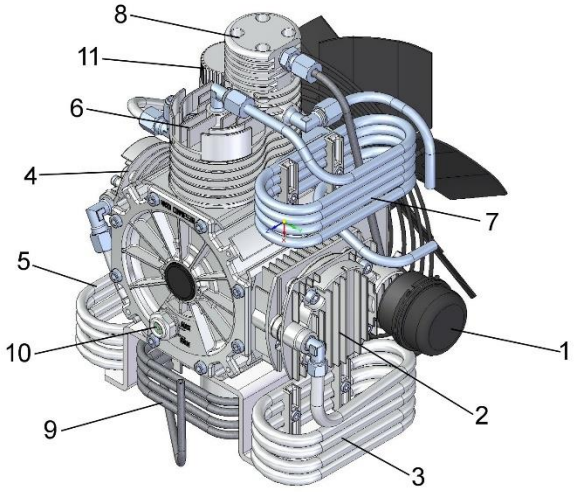
1. Carefully read all the instructions for the correct operation of the compressor.
2. Do not allow the compressor air output to be directed towards people or animals.
3. Do not operate the machine in humid unventilated environments.
4. Ensure that the compressor is located in a stable position.
5. The compressor's maximum pressure is clearly indicated on it.
6. When using the compressor, locate it in a cool environment away from sources of heat.
7. The compressor can reach high temperatures during operation.
8. Do not permit children to come into contact with the device even when it is switched off.
9. Do not intake/compress gasses other than air, or air with percentages of oxygen above 21%.

DESCRIPTION OF THE COMPRESSOR:

DESCRIPTION OF THE PUMP GROUP:

The ATLANTIC 100 pumping unit has a peak air pressure output of 330 bar (4700 psi).
The compressor has four stages driven by four pistons.
As can be seen in the following figure, the first stage in on one side, the second stage is on the opposite side to the first, and the third and fourth stages are, at the top of the compressor body.
The pumping unit, containing as much as 350 ml of oil, is integrated with the filters, which are positioned between the cooling coils of the various stages.
The unusual feature of the flywheel is its lightness. Thanks to the use of ultra-light alloys, the shaft does not need to balancing, automatically eliminating vibration of the compressor while also limiting its overall weight.
Movement is transmitted to the pistons with rods through roller bearings. The latter can resist very high loads and ensure that these mechanisms are very tough and precise.
The cylinders are in aluminium with a barrel in cast iron or steel, and internal lubrication bath. This feature makes the machine the most technologically advanced product of its class on the market.
The resulting benefit is very rapid dispersion of heat, improving compressor performance and ensuring higher quality breathable air, thanks also to a special guard cover that conveys and optimises the transit of the cooling air.
Furthermore, keeping the air at a lower temperature extends the life of the filter cartridges in the final filter, improving yield.

1. Compressor intake filter
2. 1st compression stage
3. 1st stage cooling coil
4. 2nd compression stage
5. 2nd stage cooling coil
6. 3rd compression stage
7. 3rd stage cooling coil
8. 4th compression stage
9. 4th stage cooling coil
10. Oil level indicator
11. Oil filling cap



DESCRIPTION OF THE ATLANTIC 100 COMPRESSOR:

The ATLANTIC 100 structure comprises a compressor support base entirely in aluminium with an external tube that encloses the whole machine, again in aluminium and protecting the compressor from impact, making the whole structure it tough, durable, corrosion resistant, while keeping the overall weight very low.
The cooling fan cover grid is metal and highly resistant to accidental impact, improving machine safety.
The intermediate separator is located close to the fan, keeping it cool and so optimizing condensation, the final filter is located on the back of the compressor group aligned with the cooling fan so that all the machine components are well cooled.
NARDI COMPRESSORI recommend releasing the condensate every 10 to 15 minutes. The two valves with red knobs on the separator and compressor filter should be opened slowly, one at a time.
If the compressor is equipped with automatic condensate release, check that the system is functioning correctly.

1. Filling hose with monometer and valve
2. Electrical motor (or internal combustion engine)
3. Tubular frame
4. Cooling fan
5. Air conveyor
6. Condensate release valves
7. Maximum pressure safety valve
8. Intake filter
9. Vibration damping feet

4. TECHNICAL DATA

Compressor Model	**ATLANTIC 100**	
Operating pressure	PN 200	PN 300
Air output	100 L/min. (± 5%)	100 L/min. (± 5%)
Safety valve max. pressure	225 Bar	330 Bar
Pumping Group	**ATLANTIC 100**	
Number of stages	4	
Intermediate pressure 1st stage	2.5 Bar	
Intermediate pressure 2nd stage	15 Bar	
Intermediate pressure 3rd stage	55 - 65 Bar	
Intermediate pressure 4th stage	225 - 330 Bar	
Oil sump capacity	0.350 Litres	
Oil Type	SHELL CORENA P150	
Ambient temperature operating limits	-5°C Min. +45°C Max. (+25°F Min. +113°F Max.)	
Max. permitted inclination	10°	
Max. air humidity	80%	
Max. altitude above sea level	2000 m a.s.l.	
Electrical motor	**Single phase**	**Three phase**
Type of current	230 Volt / 50–60 Hz	230-400-440 Volt / 50-60 Hz
Electrical motor power	3.0 Hp 2 poles	4 Hp 2 poles
Protection	IP 54	IP 54
Absorption	15 A	11.4 - 6.6 A
Internal Combustion Engine	**ROBIN EX17 6.0 Hp 4 STROKE**	
Start up	MANUAL PULL START	
Cylinder capacity	169 ml.	
Internal combustion engine power	4.4 Kw-6.00 HP / 3900 r.p.m.	

SAFETY RULES FOR USING THE COMPRESSOR

IDENTIFICATION OF SAFETY RULES FOR OPERATORS:

It is very important to identify and check the dangerous points on the machine before starting to use it.
For this purpose, stickers have been applied with symbols to inform users of the hazards of: high voltage, valves under pressure, rotating fans, hot points, etc.
The machine is also fitted with devices for the prevention of accidents and overall safety. These intervene in the case of malfunctions or faults in order to avoid danger to operators.
These devices must always be present and must **NOT** be modified. If it is necessary to intervene on these devices, contact our technicians.
Operators must check the good condition of the equipment and the efficient operation of the safety devices.
The compressor must be periodically checked by operators and technicians who will replace worn or damaged components.

SAFETY RULES FOR OPERATORS AND THE CORRECT USE OF THE COMPRESSOR:

The person responsible for the compressor must have technical knowledge about breathable air, be aware of the regulations in force, and must know all aspects of the operation of the machine. If operation is delegated, the operator must ensure that the substituting person is informed of all the operations to be carried.

The compressor is designed to produce breathable air pursuant to the DIN 12021 standards.
Air is drawn in from the surrounding environment (which the operator must ensure if free of fumes and/or harmful gasses), it passes through an intake filter and then enters a compression/filtering cycle until it reaches the high pressure air cylinders.

FUNDAMENTAL FOR SAFETY:

Carefully read the following instructions before using the compressor:

- **Only refill tested cylinders and never exceed the operating pressure.**
- **The compressor must not intake contaminated or polluted air, it must not be located in dusty areas or areas at danger of explosion, corrosion, or fire.**
- **If the compressor is driven by a petrol or diesel engine it is forbidden to use it in a closed environment. In all cases check that the intake is facing the opposite direction to the exhaust fumes.**
- **During maintenance or when replacing a part of the compressor, always ensure that it is not under pressure and that the power supply plug is disconnected from the electrical supply. Fuel filling must be conducted with the machine off.**
- **Replace the air purification filters regularly and only with original Nardi Compressori products.**
- **If the compressor has manual condensate release, this must be conducted every ten minutes. If it has automatic release, check that this happens at intervals of no longer than 10 minutes.**
- **When the compressor is out of use disconnect the power supply. Never tug the power cables and hold the plug to disconnect. Ensure that the power cable does not pass over sharp edges or bend sharply around corners (use extensions to avoid this).**
- **Periodically check the condition of the filling hoses (flexible pipes under high pressure) especially close to the connectors. If they exhibit minor defects have them replaced. They should in all cases be replaced every 2 years.**
- **Periodically check that the connectors are airtight.**
- **Replace damaged parts exclusively with original Nardi Compressori spare parts.**
- **Do not modify the machine without express written authorization from Nardi Compressori.**
- **If any component of the compressor shows visible signs of deterioration, do not use the machine until it is replaced with an original spare part and check that no other machine components have been damaged.**
- **Before switching on the machine, check that there are no people in contact with it. Beware of all moving parts and avoid contact with them.**
- **The compressor cooling fan must have clearance of at least 50 cm.**
- **When switching on check that the compressor does not turn in the opposite direction to that indicated by the arrow on the guard cover.**
- **The Manual of Use and Maintenance must be available at all times. It must be kept in an easily accessible place close to the machine and protected from accidental damage.**
- **All maintenance and repair work on the machine must be conducted by specialised personnel.**
- **Electrical maintenance work must be carried out by a qualified electrician or a skilled worker who abides by all electro-technical and safety standards.**
- **Before starting up the machine, visually check the condition of all the vulnerable components, like filling hoses and valves, for damage or breakage resulting from accidental impact, etc.**
- **In dangerous situations switch the machine off immediately, or disconnect the power plug directly from the electrical supply.**
- **Before starting any maintenance on the machine, clean it of sand, oil, any other substances. Clean all the connectors, the screw threads, the safety valves and all areas close to joints to be disconnected. It is also necessary to release the air pressure from all parts of the compressor.**
- **If the machine is to be washed with water, take care not to wet the electrical motor or control panel. Also be careful of all the openings on the compressor group.**

- Carefully monitor the condition of the reservoir.
- Never exceed the maximum operating pressure of the reservoir.
- If the reservoir is damaged it must be immediately and entirely replaced.
- The reservoir must be checked and documented in its entirety, with every individual component fitted. It is forbidden to replace any components without carrying out a subsequent check procedure.
- Regularly check the reservoir internally and externally for any damage caused by corrosion.
- For improved safety NARDI COMPRESSORI recommend replacing the reservoir every 15 years.

GENERAL SAFETY:

1. Operators authorized to use the machine must be aware of all the operating rules and machine controls, the instruments, indicators, and various sticker symbols.
2. Always have first aid materials and a CO2 fire extinguisher on hand. Ensure that the extinguisher is always full and operational.
3. When using the compressor wear suitable protective clothing including work shoes, protective goggles, gloves, etc.
4. Always disconnect the power supply cable when carrying out operations inside the compressor. Never carry out operations on the machine with the electrical power connected or during operation.

GUARANTEE/WARRANTY AND ASSISTANCE

COMPRESSOR GUARANTEE/WARRANTY:

The **ATLANTIC** compressor produced by **NARDI COMPRESSORI** is guaranteed for a period of twelve months from the date of purchase as indicated on the machine ID plate.
At the time of production and testing a plate is applied making the machine **compliant with EC standards** and bearing the CE symbol. The GUARANTEE is invalidated if this plate is removed or altered.
The guarantee is only valid if the purchaser has fulfilled all the contractual rules and if the compressor has been used as indicated without being subject to tampering or modifications, unless agreed and confirmed by NARDI COMPRESSORI.

The guarantee is not applicable:

- If the machine has been used incorrectly (not as indicted in the present Manual of Use and Maintenance).
- For consumable materials and those object of routine maintenance, in particular if utilized improperly.
- If non original NARDI COMPRESSORI spare parts are used.
- If gasses other than air, or air with percentages of oxygen above 21% are drawn in/compressed.

Replacement of faulty parts will be made free of charge at the Montecchio Maggiore site of Nardi Compressori, or at the premises of one of our authorized retailers.
Repairs and replacements conducted by NARDI COMPRESSORI or an authorized retailer, during the period of guarantee, do not extend the guarantee period.
If repairs are conducted outside of Nardi Compressori, the delivery expenses for the spare parts will be charged (defective components must only be replaced by technically trained personnel, assessed previously by NARDI COMPRESSORI or our authorized personnel).
If the replacement of a part requires the presence of a NARDI COMPRESSORI technician, the expenses for travel and accommodation will be payable by the purchaser.

ASSISTANCE AND MAINTENANCE:

Spare parts must be ordered by contacting or visiting our retailers in your local area.
In cases of difficulty finding parts, contact NARDI COMPRESSORI who can provide any necessary clarifications and who will put you into contact with the appropriate personnel.
If you need maintenance work or assistance, CONTACT THE RETAILER WHERE YOU PURCHASED THE COMPRESSOR. If you have problems with your retailer send your request directly to: **NARDI COMPRESSORI** info@nardicompressori.com or fax to +39.0444.159122

OPERATIONS FOR INITIAL START UP:

UNPACKING AND HANDLING:

The compressor is shipped on a pallet inside a cardboard box, fastened with strapping. After unpacking it is important to check for damage during transport and if any is identified it is important to inform the transporter and retailer as soon as possible, and in all cases not later than 7 days after delivery. The **ATLANTIC** compressor is designed for easy handling. Its tubular frame provides convenient side handles. The compressor is mounted on vibration dampers that limit transmission of vibrations to nearby objects. However, it must in any case be positioned on a stable surface.
The pump unit is not resistant to constant marine corrosion.
If it comes into contact with corrosive agents it is advisable to clean the surfaces and protect them with a protective anti-corrosion spray. Always be very careful with the electrical components.

LOCATION IN THE OPEN AIR:

To obtain breathable air it is very important to locate the compressor in an open space. It is essential that the compressor does not intake exhaust fumes from any internal combustion engine.

If this is impossible in the context it is necessary to fit an intake extension, which should be located above and as far as possible from the harmful gasses and away from any flammable agents.
Constantly monitor the direction of the wind and the movement of engine fumes.
The compressor must be located is a cool environment protected from weather.

LOCATION IN A CLOSED ENVIRONMENT AND MINIMUM CHARACTERISTICS OF THE ROOM:

If the compressor is located in a room it requires a constant circulation of breathable air.
There should be no liquids in the room that might evaporate (solvents, additives, etc.).
It is strictly forbidden to smoke in the compressor room.
The compressor must intake unpolluted air and it is preferable to locate it close to an open window while operating. Air circulation is essential both to guarantee the air quality for compression and to cool the compressor.
The minimum characteristics of the room are as follows:

- The room temperature must not be below 5 °C and not above 45 °C, while always maintaining an adequate ventilation.
- The room must be dry and clean, there must not be any dust deposits that could be drawn into the compressor.
- If two or more machines are located in the same room ensure that the room is big enough.
- If possible locate the compressor in the coolest area of the room. In the case of natural ventilation ensure that the compressor is as close as possible to the source of fresh air and that this is big enough. In addition, there should be an opening in the upper part of the room to permit hot air to escape, and this must also be adequately sized. The two openings should not be on the same wall, otherwise it is necessary to provide means of upward conveyance for the hot air.

INTAKE PIPE:

If it is decided to extend the intake to a different area from the compressor, an intake pipe can be connected. It is important that this pipe has a diameter of 40 mm or more.
Be very careful that the intake is not blocked or bent to create a bottleneck, and it is recommended to fit a filter on its end.
Once connected check the cylinder filling times to ensure that the compressor air output has not been reduced.
If this problem is observed it is necessary to immediately check the intake pipe. If the air output does not match the machine's technical specifications, this can be attributed to the following causes:

- Bottleneck in the pipe.
- Pipe excessively long (in this case the diameter has to be increased).

CONNECTION TO THE ELECTRICAL SUPPLY:

For electrical installation the following instructions must be followed:

- An electrician must check that the supply is compliant and can support the maximum absorption of the compressor indicated on the NARDI COMPRESSORI EC label.
- The motor is already fitted with a thermal protection device, but in any case it is recommended to fit a trip switch or fuses appropriate for the power absorption of the motor.
- Check that the supply delivers the voltage required by the compressor and that the plug to be used is not undersized.

WARNING: **during connection to the electrical supply check that the compressor fan rotates in the same direction as indicated by the arrow on the guard**. To change the direction of rotation it is necessary to invert two of the three power supply phases.
Your compressor may have a phase sequence that will not start up until the phase wires are inverted as indicated above.

- Check that the earth is well connected on the plug and electrical system.
- If the supply cable is changed, ensure that it is of adequate size.
- If wind-up extensions are used, it is necessary to completely unwind them before switching on, in order to avoid an anomalous absorption caused by the length of the cable and so overheating.

QUICK START UP GUIDE:

WARNING: This QUICK GUIDE does not substitute the Manual of Use and Maintenance, but is intended to assist operators when starting up the compressor with quick practical advice, which must be followed with extreme caution, and only after reading all the points in the present manual.
Remember to conduct routine maintenance on the compressor in order to avoid operating problems.

Preliminary operations:

- Position the compressor as required.
- Always check the oil level.
- Check that there is a filter cartridge in the filter.
- Connect the compressor to the electrical supply.
- Turn the main switch to I – ON.
- Close the condensate release valves.
- Check the direction of rotation of the electrical motor, if it turns in reverse or does not turn, invert two of the three phases on the electrical motor.
- The correct direction of rotation can be seen on the sticker on the fan guard.

Refilling operations:

- Connect the valve to the cylinders.
- Start up the compressor.
- Wait until the compressor reaches about 150 bar.
- Open the filling hose valve.
- Open the cylinder valve.
- Release the condensate from the separator and from the final filter at least once every 10 minutes.
- When the cylinder is full switch the compressor off (if it does not have automatic shutdown).
- Close the cylinder valve.

- Close the filling hose valve (this automatically releases the residual compressed air).
- Disconnect from the cylinder.
- Repeat the operations for the next cylinder.

Maintenance operations:

- Follow the maintenance operations described on the servicing sheets
- Periodically replace the intake filter
- Periodically replace the carbon and sieve filter cartridge
- Periodically replace the filling hoses
- Periodically check that the safety valves function correctly at the maximum pressure

Switching on the compressor:

Electrical compressor without automatic control system:
This completely manual model requires a work cycle in which the machine must never operate on its own but must be constantly monitored and controlled by a specialized operator.
The compressor is switched on simply by turning a switch and is switched off by the operator with the same switch.

The condensate that forms inside the two or three air/oil/water separation filters must be drained manually through three condensate release valves every 8 to 10 minutes.
The maximum pressure is indicated on the overload valve by the escape of air.
WARNING: the maximum pressure valve is calibrated and sealed by Nardi Compressori. Any modification or tampering to this invalidates all guarantees on the compressor.

Engine driven compressor with manual start up:
Before starting up the internal combustion engine it is first necessary to release the pressure in the filler hoses and from the condensate separators. After this the engine can be started up with the pull starter (manual start up).
The compressor has manual condensate release valves which must be opened every 8 to 10 minutes by the operator to drain the oil and water residues that form inside the separation filters.

ATTACHING THE VALVE TO A CYLINDER:

WARNING: The valve is a very delicate component that enables connection of a cylinder to the compressor. It must be treated with care without bumping against anything. It must not be cleaned with solvents or harmful products, and most importantly the pressure indicated on it must never be exceeded.

Compressors are normally fitted with 200 bar (black) or 300 bar (red) valves.
Valves must be attached to cylinders as follows:
Check that the compressor is off and the cylinder valves are all closed.
Fit the valve to the cylinder.
Open the cylinder valve to a ¼ turn less than maximum.
Switch on the compressor.
Open the compressor valve and fill the cylinder.
At maximum pressure close the cylinder valve and the connection valve.
Release the residual air between the cylinder and connector and unscrew the valve.

If a pressure above 220 bar is required, this must be requested from Nardi Compressori, who will supply the necessary materials for filling at greater pressures using different attachments and more highly calibrated safety valves.

MAINTENANCE AND ASSISTANCE

MAINTENANCE OPERATIONS:
In order for the machine to remain efficient over time it requires periodic attention. This will extend its working life and keep its performance constant and efficient.
During operation the compressor requires routine maintenance that must be executed by technicians trained by Nardi Compressori.
If this operation is not conducted by our technicians, it is extremely important to follow the guidelines on the servicing sheet in all details.

The following sheet sets out the routine maintenance operations to be followed on the basis of the number of hours of operation completed by the compressor.
It is very important to record any maintenance operations conducted on the compressor in order to provide a history of replaced parts, with the date of the day of maintenance, the number of operating hours of the compressor up to that moment, and the signature of the

qualified technician who worked on the machine.

IMPORTANT: **All maintenance operations must be conducted by NARDI COMPRESSORI technical personnel or by qualified technical personnel.**

IMPORTANT: **All maintenance operations must be conducted with the machine switched off and with the electrical power supply disconnected**

PERIODIC SERVICING SHEET:

AFTER **25 HOURS** OF WORK	DATE	OPERATOR'S SIGNATURE
Compressor oil level (ideal MAX)		
Check seal of O-rings (filters and cartridge)		
Check filling valve seal		
Check seal of cooling pipes		
Check manometer (with the compressor depressurized)		
Carbon/sieve filter cartridge (see illustration)		
EVERY **50 HOURS** OF WORK	DATE	OPERATOR'S SIGNATURE
Replace compressor oil (350 ml)		
Cleaning or replacement of intake filter cartridge		
Inspection and cleaning of breathable air filter		
EVERY **100 HOURS** OF WORK	DATE	OPERATOR'S SIGNATURE
Clean valve seats		
Replace intake filter cartridge		
Check effectiveness of safety valve		
EVERY **250 HOURS** OF WORK OR ANNUALLY	DATE	OPERATOR'S SIGNATURE
Check pulley belts		

EVERY **500 HOURS** OF WORK	DATE	OPERATOR'S SIGNATURE
Contact a Nardi Compressori technician		
Service KIT ATLANTIC - 500 hours		
ANNUALLY OR IF NECESSARY	DATE	OPERATOR'S SIGNATURE
Contact a Nardi Compressori technician		

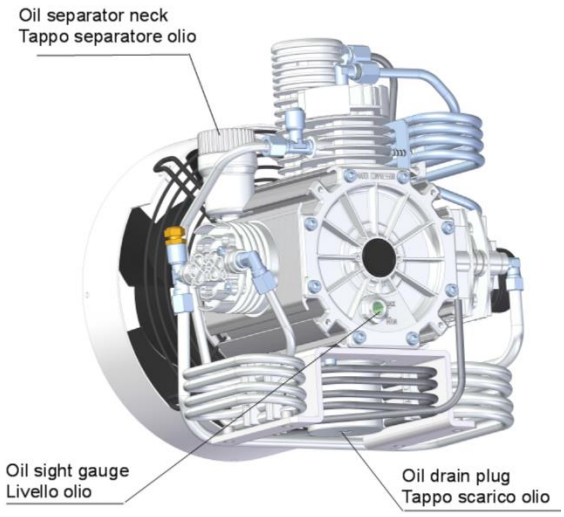
Check the air quality with an aero-test		
Calibration of automatic stop and safety valve		
AFTER EVERY REPAIR	DATE	OPERATOR'S SIGNATURE
Check operation and seal of filling attachments		
Clean intake filter		
Pipe and cooling pipe connector seals		
AFTER A LONG PERIOD OF INACTIVITY	DATE	OPERATOR'S SIGNATURE
Check operation and seal of filling attachments		
Clean intake filter		
Instruments, manometer zero		

OIL:
The oil is an extremely important component for the duration of the compressor over time.
Nardi Compressori have carefully designed the machine so that it has an adequate capacity in its reservoir to ensure constant lubrication.
A screw cap is provided below the oil sump for easy oil changing.
The use of the specific Nardi Compressori oil is recommended. This special oil normally supplied with the compressor was designed and tested specifically for this machine for producing normal breathable air, not for air mixtures (21% O^2).

Oil characteristics:
- Minimum deposits
- Anti-carbonization effect
- Excellent anti-corrosion properties
- Physiological and toxicological suitability

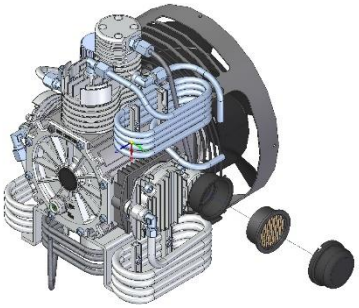
OIL CHANGE:
The oil change procedure is as follows:

Ensure that sufficient oil is available for changing (L 0.350)
Switch on the compressor for 15 - 20 minutes to warm up the oil and improve its fluidity.
Remove the oil fill cap and the oil vapour flange.
Remove the drain cap.



REPLACING THE INTAKE FILTER:
The filter serves to retain all the impurities present in the air.
It must be replaced at regular intervals as indicated in the maintenance table.
It must not be washed but instead blown clean with compressed air, or replaced.
The replacement procedure is as follows:

- Release the cover clips and extract the cartridge.
- Clean the inside of the casing and cover with a damp cloth.
- Insert the new cartridge/filter and close the cover.



INTERMEDIATE SEPARATORS:

The intermediate separators serve to separate the condensate generated from the air inside the compressor.
During the compression stage the air temperature is raised and between one stage and the next it is cooled in a series of cooling coils.
This sudden change in temperature generates condensate that accumulates inside the intermediate separators. It must be released by the operator at regular and constant intervals, with no more than 10 minutes between release operations.

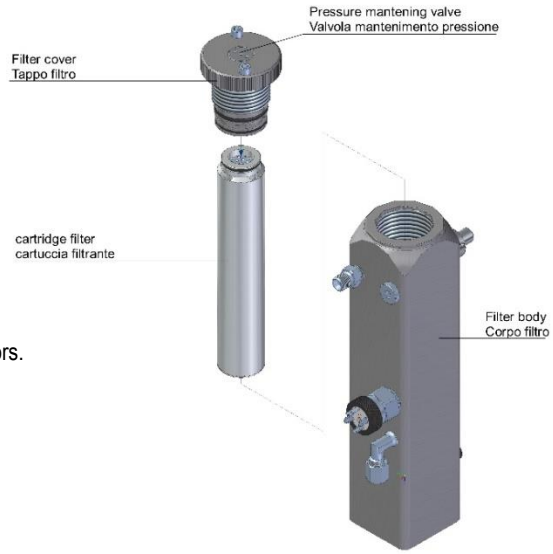
RELEASING CONDENSATE:

The condensate that forms inside the two air/oil/water separation filters must be manually drained through three condensate release valves every 8 to 10 minutes.
If the compressor is equipped with automatic release then this operation occurs automatically. Care must be taken that this functions correctly, at least during the first loading cycle or test it using the "TEST" button on the timer with the compressor running.
The release times can be adjusted on the timer as long as the OFF (PAUSE) time is not more than 15 minutes and the ON (RELEASE) time is not less than 3 seconds.
If the compressor has a petrol engine or three phase electrical motor, the automatic release has a battery which should be disconnected when not in use and it is important to check that it is charged so that the automatic condensate release functions.

CARBON FILTER FOR BREATHABLE AIR:

Carbon filters serve to remove any water and oil residues that pass through the intermediate separators.
The function of the filter is not mechanical but chemical, with materials that absorb the water and oil particles making the breathable and compliant with standard DIN EN12021.
The filter has two safety features:
The first comprises a hole in the filter body which is closed when the cartridge is inserted. It functions by making it impossible for an operator to fill cylinders in the absence of the cartridge.
The second safety feature activates if the top of the filter body accidentally becomes unscrewed, without decompressing the compressor. This safety device provides an release path for the air inside.

The operating life of the filter components depends on the number of operating cycles. The base and upper body are subject to dynamic loading caused by the pressurization and depressurization of the filter. Nardi Compressori recommend inspection by a specialized technician after every 500 hours of operation, and after 8000 cycles at 300 Bar or 21000 cycles at 225 Bar the entire filter should be replaced. Calculating approximately 4 cycles per hour at 300 bar the filter could be changed after 2000 hours of operation while at 225 Bar after about 5000 hours.



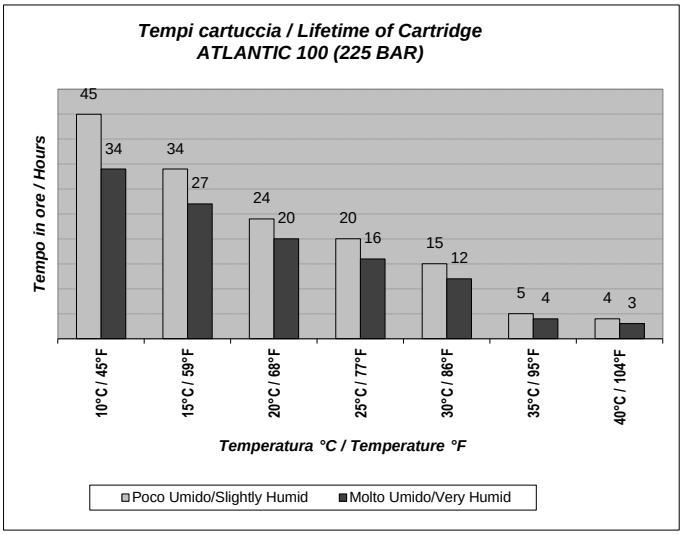
CARBON FILTER CARTRIDGE AND CARTRIDGE LIFE:

There are two types of cartridge: for electrical compressors and for engine driven compressors.
The cartridge replacement procedure is as follows:

- Depressurize the entire system before starting any operations.
- Unscrew the filter upper body handling it with care and avoiding any bumping.
- Unscrew the cartridge.
- Clean the inside of the filter with a clean cloth.
- Screw in the new cartridge.
- Check the condition of the filter O-ring - if damaged change with original spare O-ring.
- Screw on the upper filter body by hand (do not use tools).

The life of the cartridge depends on various parameters including ambient humidity, temperature, compressor air capacity, cartridge size, etc.
New cartridges must be stored in a dry environment.

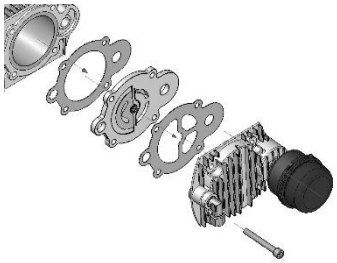
Cartridges are supplied packed under vacuum and must remain closed until installed.
The cartridge must always be changed following periods of inactivity of more than 2 months while mounted on the compressor. Use only original spare parts supplied by Nardi Compressori.
The original spare cartridges supplied by Nardi are sealed inside a vacuum pack and inside a paper tube to protect them from impact. Pay attention to the expiry date on the container.



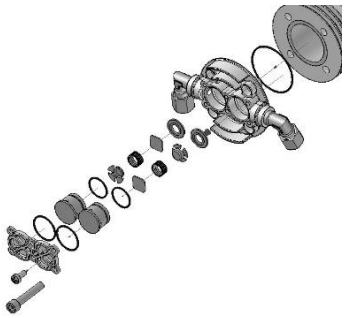
CONSTANT PRESSURE VALVE:
This type of valve serves to keep the final filter under constant pressure.
This makes it possible to eliminate a greater volume of water, improving the quality of the air and the duration of the cartridge.
When the compressor is switched on the valve remains closed until the entire system reaches **about 150 bar** and then opens.

The valve is calibrated by NARDI COMPRESSORI - if further calibration is required contact the assistance centre.

REPLACING THE 1ST STAGE VALVE:
Carefully study the figure for the correct positioning of the valve and check that the reed valve is turned with the nut towards the suction filter. Replace the gaskets or O-rings if they show signs of deterioration.



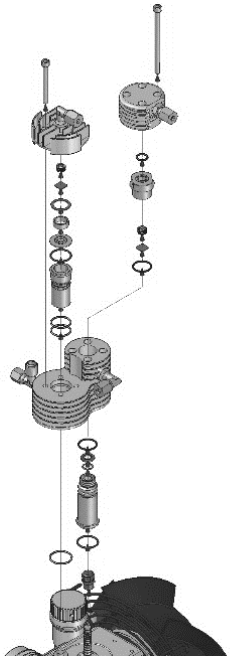
REPLACING THE 2ND STAGE VALVE:
This valve must be cleaned or replaced as follows:
Disconnect the cooling pipes from the connectors.
Release the screw and completely detach the head from the cylinder.
Clamp the head in a vice.
Unscrew the valve cover.
Clean and remove all incrustations. If there are signs of wear change the complete valve.
Reposition all the components in the same order changing the sealing rings.
Test the operation of the valve by blowing compressed air in the direction of flow.
Check the O-ring seals. If damaged replace them.
Fix the head to the cylinder.
Fix the cooling pipes.

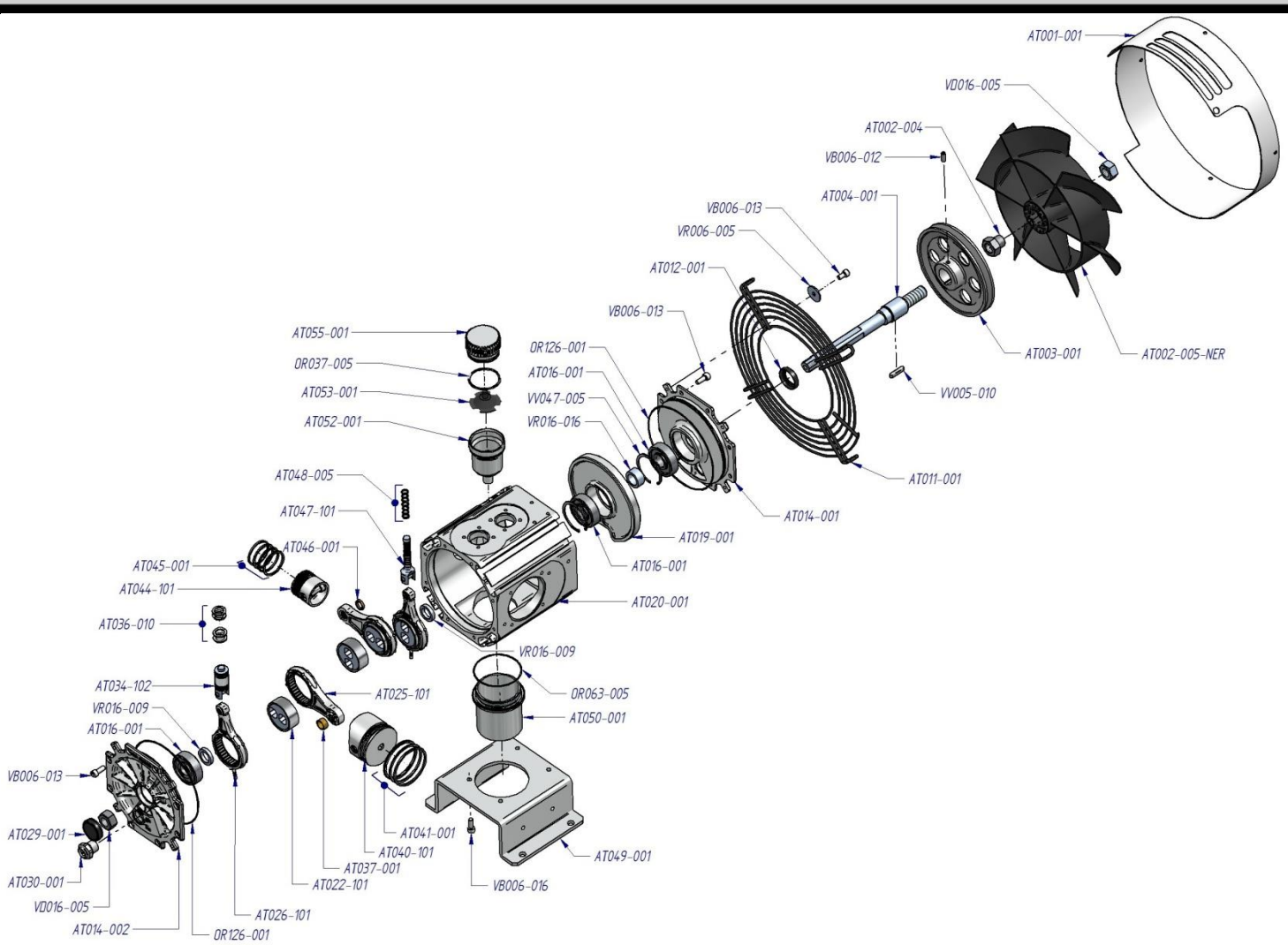


REPLACING THE 3RD TO 4TH STAGE VALVE:

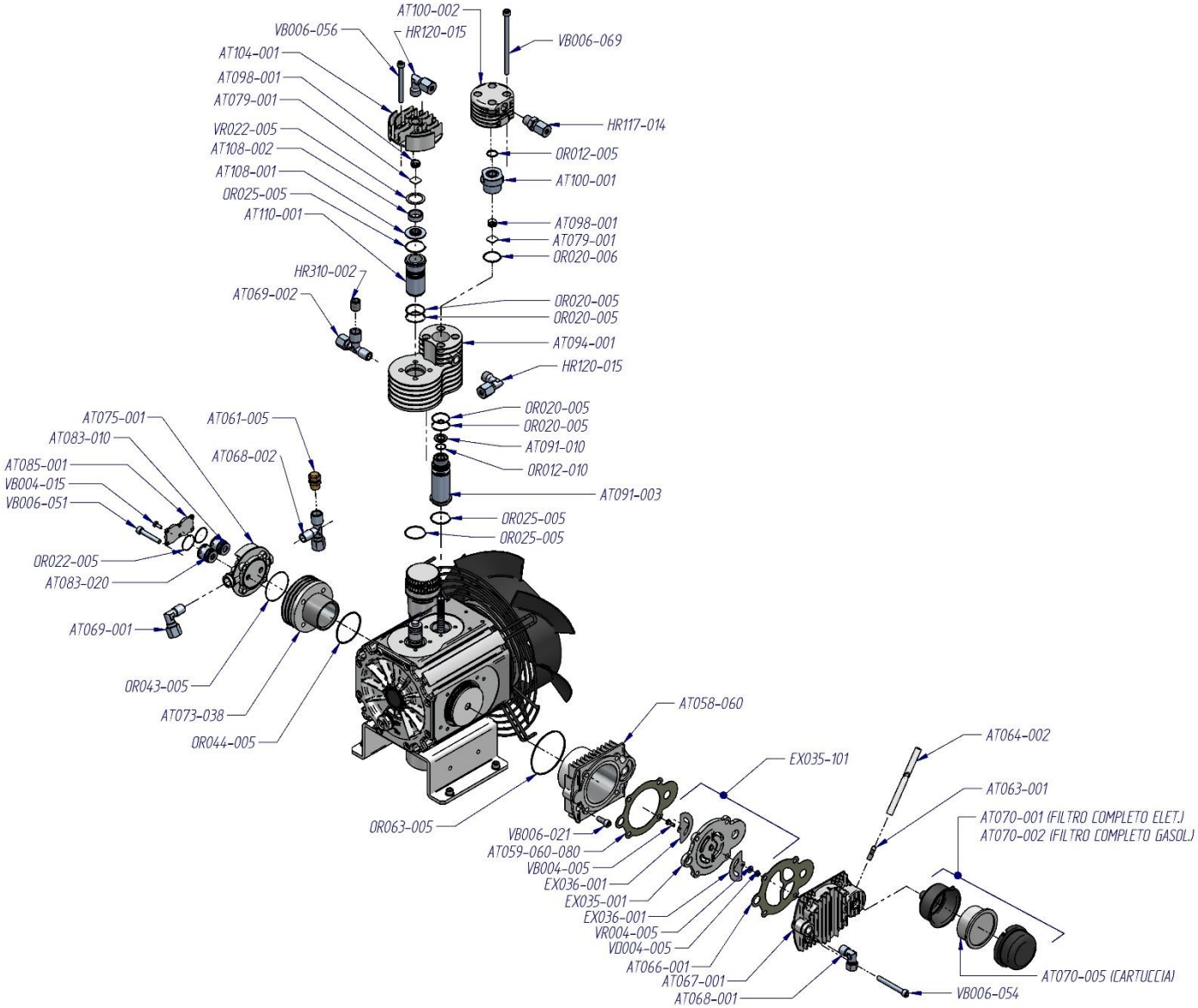
This valve must be cleaned or replaced as follows:

Disconnect the cooling pipes from the connectors.
Release the screw and completely detach the heads from the cylinders.
Clean and remove all incrustations. If there are signs of wear change the complete valve.
Reposition all the components in the same order changing the sealing rings and take particular care that when fixing the 4th stage head the final stage valve plate is not obstructed.
Check the O-ring seals. If damaged replace them.
Fix the head to the cylinder.
Fix the cooling pipes.

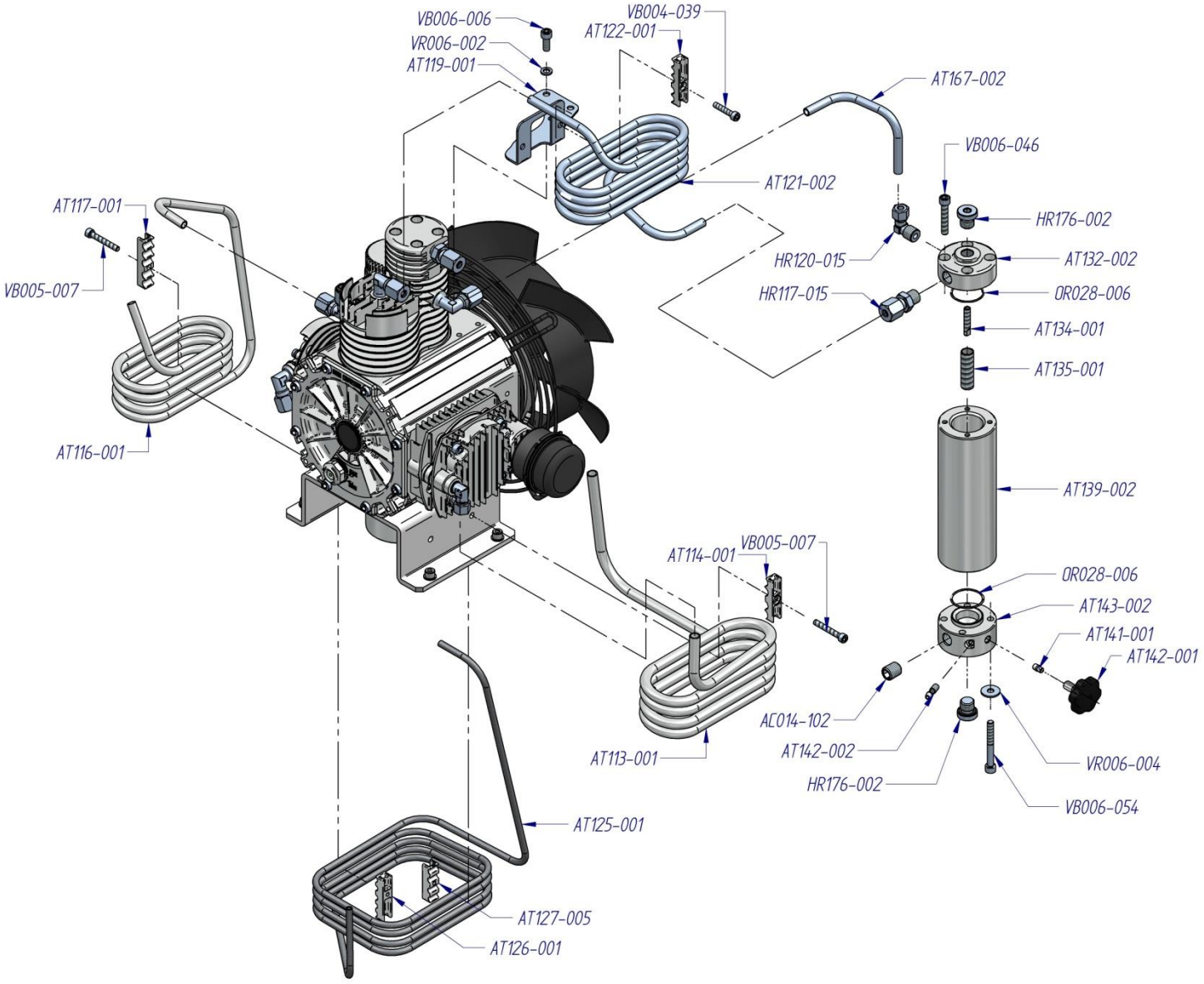




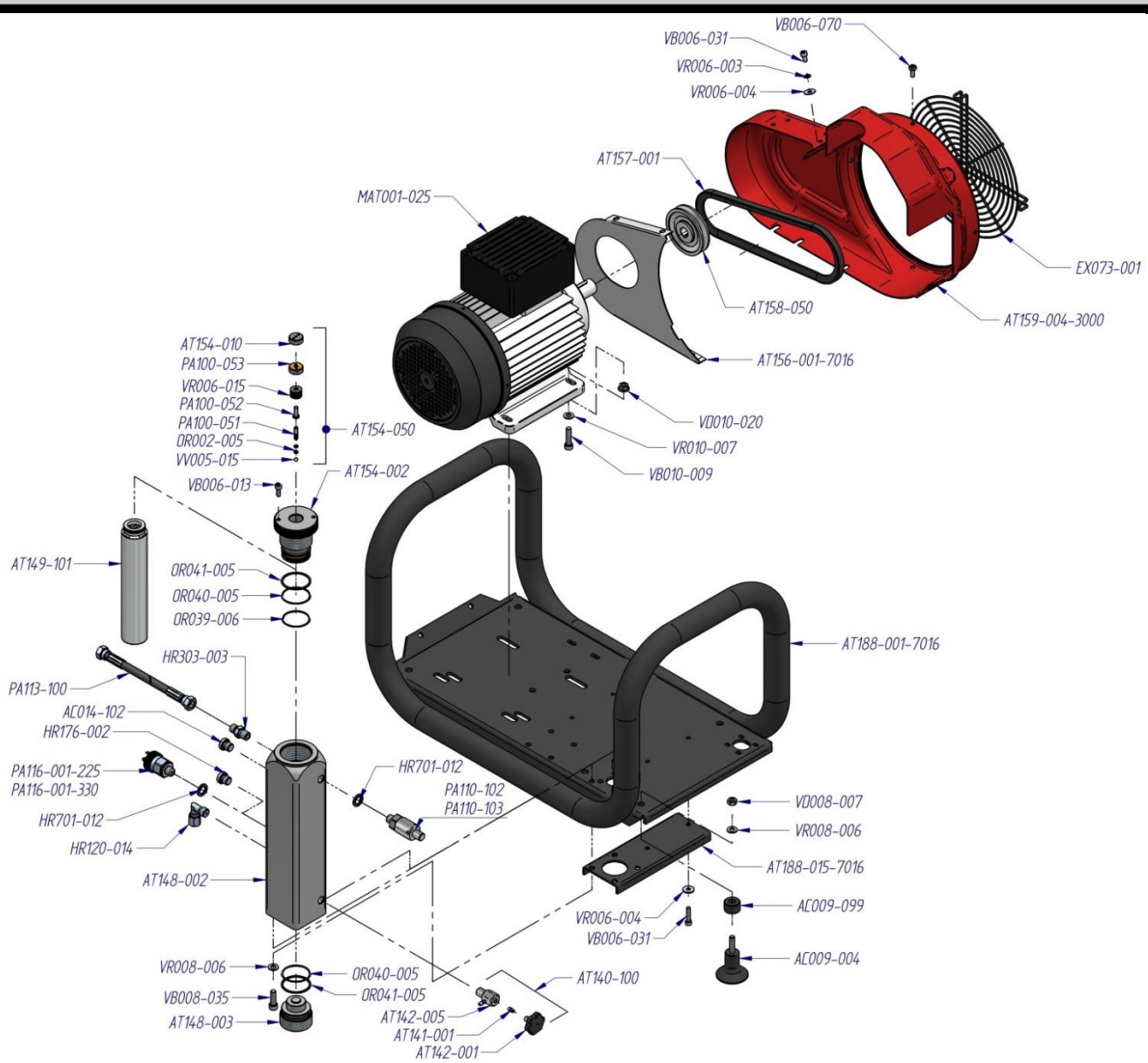
CODE	DESCRIPTION		CODE	DESCRIPTION		CODE	DESCRIPTION	
AT001-001	Metal Cover Fan		**AT029-001**	Cover Oil seal		**AT053-001**	Flange Oil vapour	
AT002-005-NER	Fan		**AT030-001**	Visual level plug oil		**AT055-001**	Oil filler cap	
AT002-004	Nut for fan		**AT034-102**	Piston 3rd stage with pin for cast-iron rings		**OR037-005**	O-ring	
AT003-001	Pulley		**AT036-010**	SET Piston rings 3rd stage cast-iron		**OR063-005**	O-ring	
AT004-001	Compressor shaft		**AT037-001**	Thickness connecting rod 1st stage		**OR126-001**	O-ring	
AT011-001	Metal Wire		**AT040-101**	Piston 1st stage with pin		**VB006-012**	Screw	
AT012-001	Oil seal		**AT041-001**	SET Piston rings 1st stage		**VB006-013**	Screw	
AT014-001	Flange		**AT044-101**	Piston 2nd stage with pin		**VB006-016**	Screw	
AT014-002	Flange		**AT045-001**	SET Piston rings 2nd stage		**VD016-005**	Nut	
AT016-001	Bearing		**AT046-001**	Thickness connecting rod 2nd st.		**VR006-005**	Thickness	
AT019-001	Flange		**AT047-101**	Piston 4th stage with pin		**VR016-009**	Thickness	
AT020-001	Compressor crankcase		**AT048-005**	SET Piston rings 4th stage		**VR016-016**	Thickness	
AT022-101	Handspike socket with ring		**AT049-001**	Compressor Bracket		**VV005-010**	Key	
AT025-101	Connecting rod 1st – 2nd St. with bearing		**AT050-001**	Oil cap		**VV047-005**	Safety O-ring	
AT026-101	Connecting rod 3rd – 4th St. with bearing		**AT052-001**	Vat Oil Vapour				



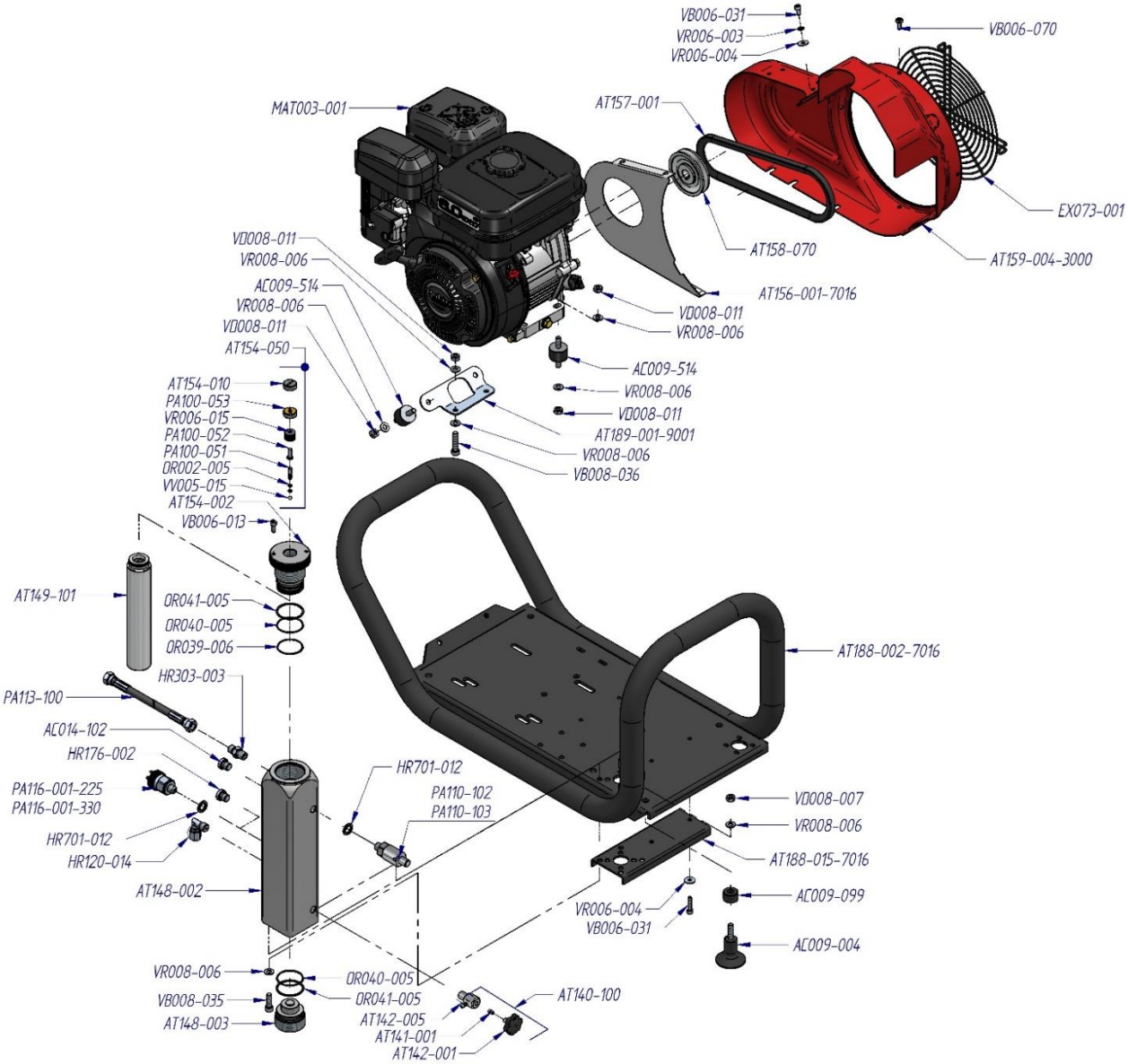
CODE	DESCRIPTION		CODE	DESCRIPTION		CODE	DESCRIPTION	
AT058-060	Cylinder 1st Stage		AT083-020	Pressure Valve 2nd stage		OR012-010	O-ring	
AT059-060-080	Cylinder Gasket 1st Stage		AT085-005	Cover valves		OR020-005	O-ring	
AT061-005	Safety valve 2nd stage		AT091-003	Cylinder 4th stage		OR020-006	O-ring	
AT064-002	Tube		AT091-010	Inferior body valve 4th stage		OR022-005	O-ring	
AT066-001	Top Gasket 1st stage		AT094-001	Aluminum cylinder 3rd – 4th stage		OR025-005	O-ring	
AT067-001	Head 1st stage		AT098-001	Spring valve 4th stage		OR043-005	O-ring	
AT068-001	Connection L 1/4'' tube 10mm		AT100-001	Inside head 4th stage		OR044-005	O-ring	
AT068-002	Connections T 1/4'' tube 10mm		AT100-002	Head 4th stage		OR063-005	O-ring	
AT069-001	Connections L 1/4'' tube 8mm		AT104-001	Head 3rd stage		VB004-015	Screw	
AT069-002	Connection a T 1/4"		AT108-001	Inferior body valve 3rd stage		VB006-021	Screw	
AT070-001	Complete suction Filter for electric mod.		AT108-002	Ring valve 3rd stage		VB006-051	Screw	
AT070-002	Complete suction Filter for gasoline mod.		AT110-001	Cylinder 3rd Stage		VB006-054	Screw	
AT070-005	Filter cartridge		EX035-101	Valve plate complete 1st stage		VB006-056	Screw	
AT073-038	Cylinder 2nd stage		HR117-014	Pipe fitting direct 1/4" for tube 6 mm		VB006-069	Screw	
AT075-001	Head 2nd stage		HR120-005	Pipe fitting "L" 1/4" for tube 8 mm		VR022-005	Screw	
AT079-001	Valve disc 3rd stage		HR310-002	Closure plug 1/4''				
AT083-010	Suction valve 2nd stage		OR012-005	O-ring				



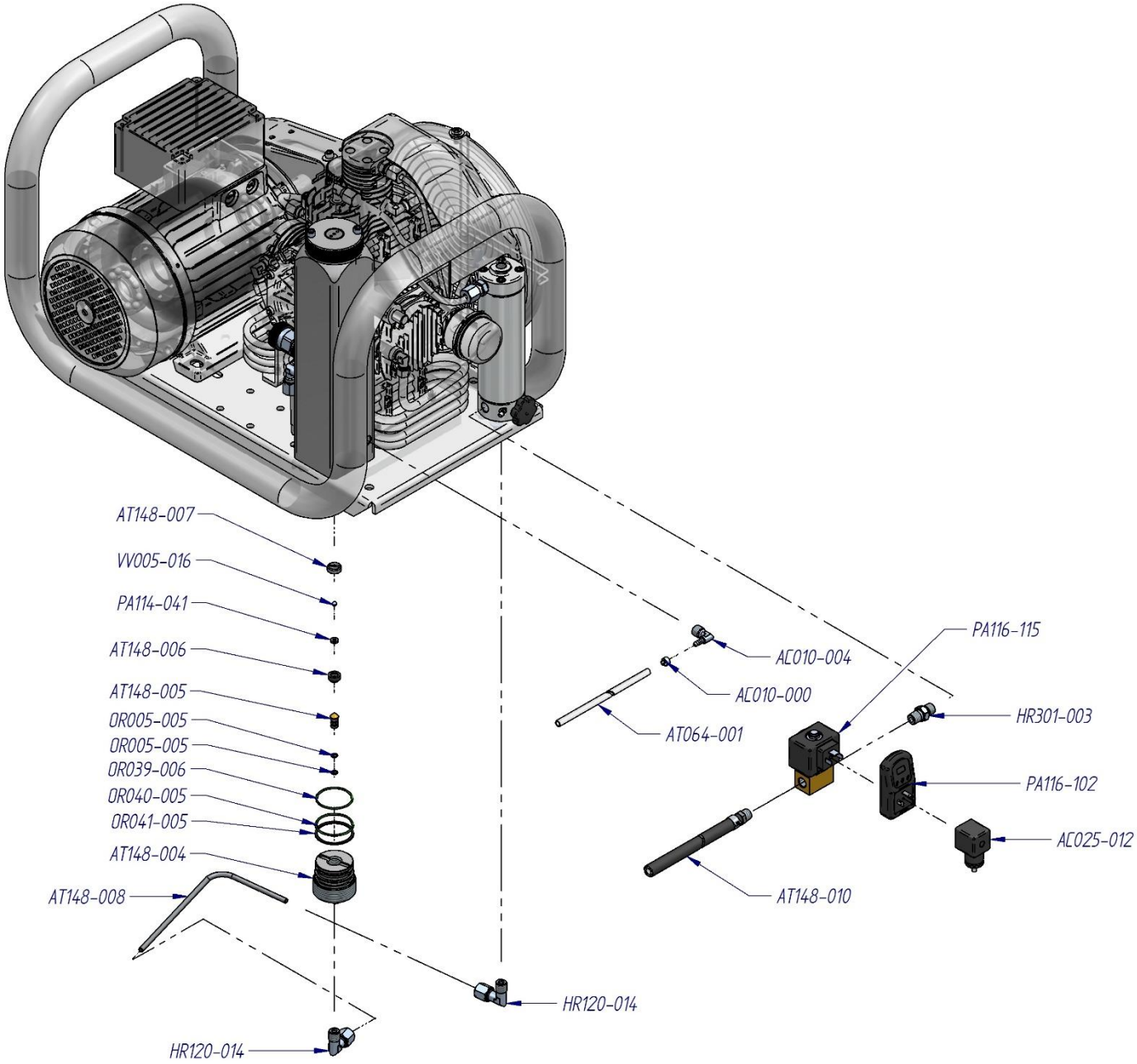
CODE	DESCRIPTION		CODE	DESCRIPTION		CODE	DESCRIPTION	
AC014-102	Headless Screw		AT134-001	Aluminum tube separator		VB004-039	Screw	
AT113-001	Cooling tube		AT135-001	Aluminum tube separator		VB005-007	Screw	
AT114-001	Support cooling tube		AT139-002	Body filter separator		VB006-006	Screw	
AT116-001	Cooling tube		AT141-001	Rilsan nut		VB006-046	Screw	
AT117-001	Support cooling tube		AT142-001	Black screw of discharge		VB006-054	Screw	
AT119-001	Bracket cooling tube		AT142-002	Condensate drain tube		VR006-002	Washer	
AT121-002	Cooling tube		AT143-002	Base filter separator		VR006-004	Washer	
AT122-001	Support cooling tube		AT167-002	Tube separator				
AT125-001	Cooling tube		HR117-015	Pipe fitting 1/4 " tube diam.8 mm				
AT126-001	Support cooling tube		HR120-015	Pipe fitting "L" 1/4 " tube diam.8 mm				
AT127-005	Support cooling tube		HR176-002	Closure plug				
AT132-002	Closure plug filter separator		OR028-010	O-ring				



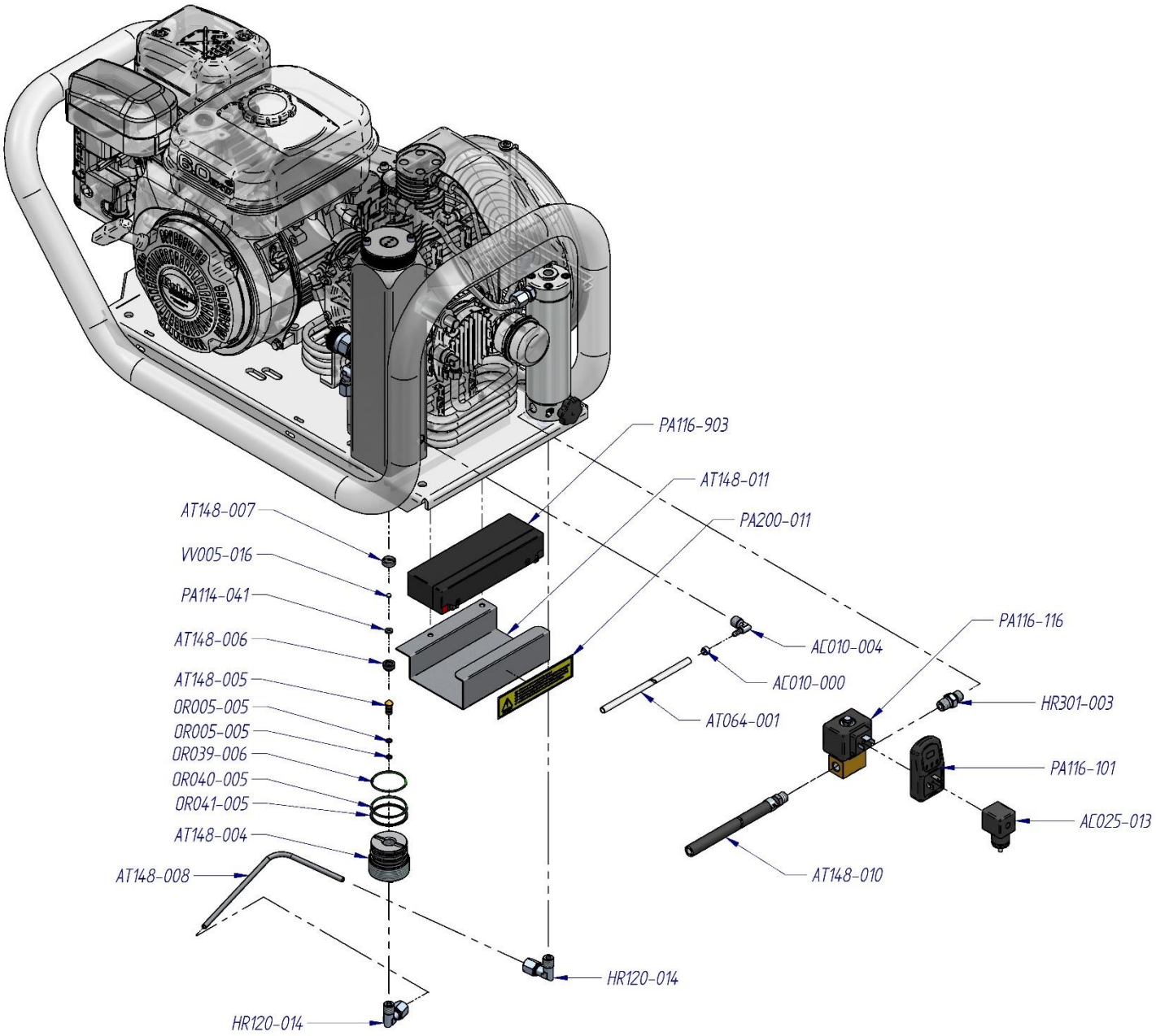
CODE	DESCRIPTION		CODE	DESCRIPTION		CODE	DESCRIPTION	
AC009-004	Rubber foot with thread		AT188-001-7016	Frame Atlantic P		PA113-100	Filling hose	
AC009-099	Plastic washer		AT188-015-7016	Bracket for Frame		PA116-001-225	Pressure switch 225 BAR	
AC014-102	Headless Screw		EX073-001	Metal protection		PA116-001-330	Pressure switch 330 BAR	
AT140-100	Drain valve complete		HR120-014	Pipe fitting "L"		VB006-013	Screw	
AT141-001	Rilsan nut		HR176-002	Closure plug 1/4''		VB006-031	Screw	
AT142-001	Black screw of discharge		HR303-003	Connection		VB006-070	Screw	
AT142-005	Drain valve housing		HR701-012	Washer		VB008-035	Screw	
AT148-002	Body filter Atlantic		MAT001-025	Electrical motor 230 Volt 50 Hz		VB010-009	Screw	
AT148-003	Base for filter Atlantic		MAT001-030	Electrical motor 230 Volt 60 Hz		VD008-007	Nut	
AT149-101	Filter cartridge - electric		OR002-005	O-ring		VD010-020	Nut	
AT154-002	Plug filter Atlantic		OR039-006	O-ring		VR006-003	Washer	
AT154-010	Plug top maintenance valve		OR040-005	O-ring		VR006-004	Washer	
AT154-050	Maintenance valve complete		OR041-005	O-ring		VR006-015	Washer	
AT156-001-7016	Metallic cover belt		PA100-051	Piston for maintenance valve		VR008-006	Washer	
AT157-001	Belt for electrical motor 50/60 Hz		PA100-052	Spring guide for maintenance valve		VR010-007	Washer	
AT158-050	Pulley for electrical motor 50 Hz		PA100-053	Plug for maintenance valve		VV005-015	Metallic sphere	
AT158-060	Pulley for electrical motor 60 Hz		PA110-102	Safety valve PN 200 Bar				
AT159-004-3000	Plastic cover belt for electric model		PA110-103	Safety valve PN 300 Bar				



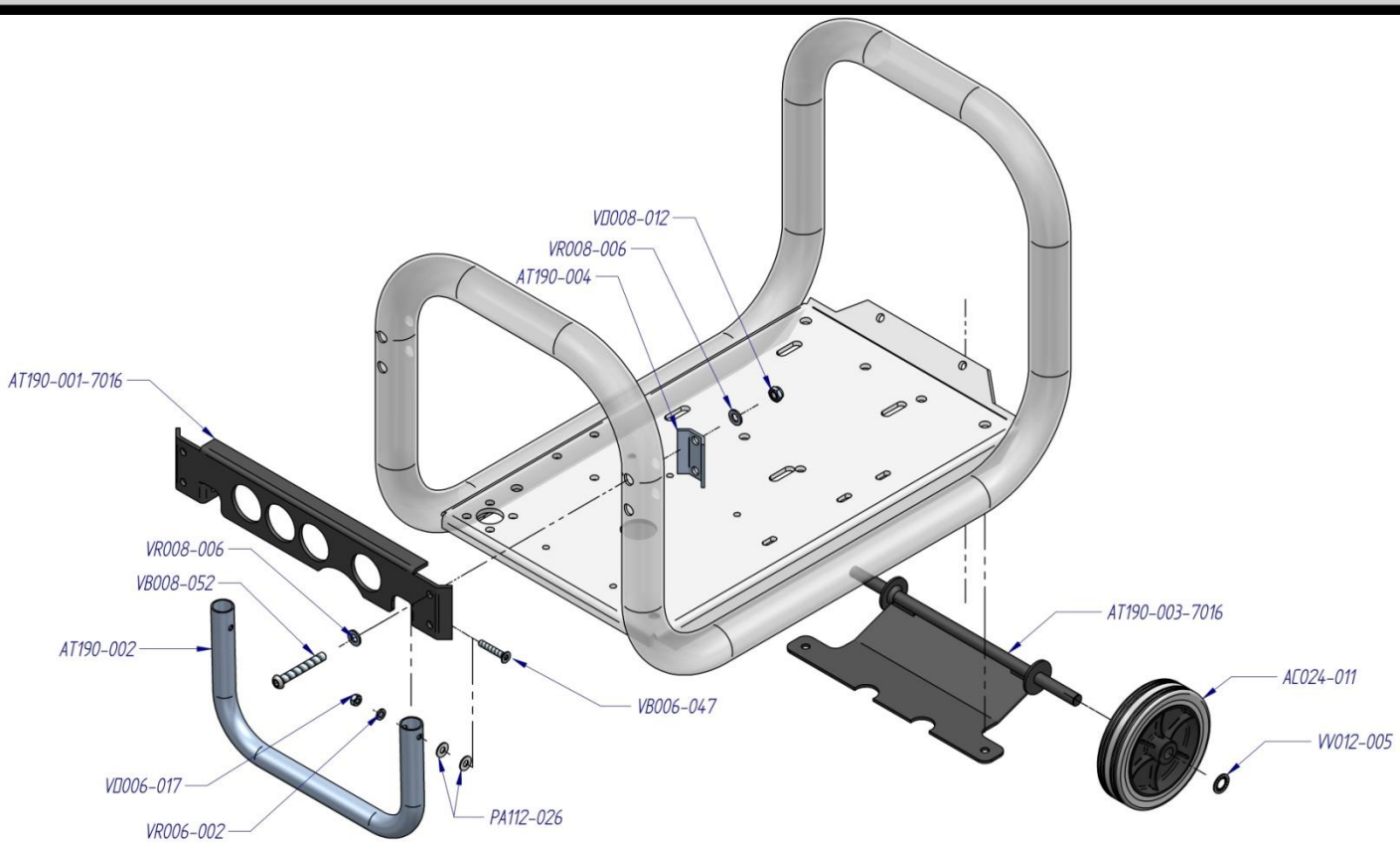
CODE	DESCRIPTION		CODE	DESCRIPTION		CODE	DESCRIPTION	
AC009-004	Rubber foot with thread		AT188-002-7016	Frame Atlantic G		PA113-100	Filling hose	
AC009-514	No – Vibration Rubber		AT188-015-7016	Bracket for Frame		PA116-001-225	Pressure switch 225 BAR	
AC009-099	Plastic washer		AT189-001-9001	Bracket motor		PA116-001-330	Pressure switch 330 BAR	
AC014-102	Headless Screw		EX073-001	Metal protection		VB006-013	Screw	
AT140-100	Drain valve complete		HR120-014	Pipe fitting "L"		VB006-031	Screw	
AT141-001	Rilsan nut		HR176-002	Closure plug 1/4''		VB006-070	Screw	
AT142-001	Black screw of discharge		HR303-003	Connection		VB008-035	Screw	
AT142-005	Drain valve housing		HR701-012	Washer		VB008-036	Screw	
AT148-002	Body filter Atlantic		MAT003-001	Gasoline motor 6Hp		VD008-007	Nut	
AT148-003	Base for filter Atlantic		OR002-005	O-ring		VD008-011	Nut	
AT149-101	Filter cartridge - electric		OR039-006	O-ring		VR006-003	Washer	
AT154-002	Plug filter Atlantic		OR040-005	O-ring		VR006-004	Washer	
AT154-010	Plug top maintenance valve		OR041-005	O-ring		VR006-015	Washer	
AT154-050	Maintenance valve complete		PA100-051	Piston for maintenance valve		VR008-006	Washer	
AT156-001-7016	Metallic cover belt		PA100-052	Spring guide for maintenance valve		VR010-007	Washer	
AT157-001	Belt for electrical motor 50/60 Hz		PA100-053	Plug for maintenance valve		VV005-015	Metallic sphere	
AT158-070	Pulley for gasoline engine		PA110-102	Safety valve PN 200 Bar				
AT159-004-3000	Plastic cover belt for electric model		PA110-103	Safety valve PN 300 Bar				



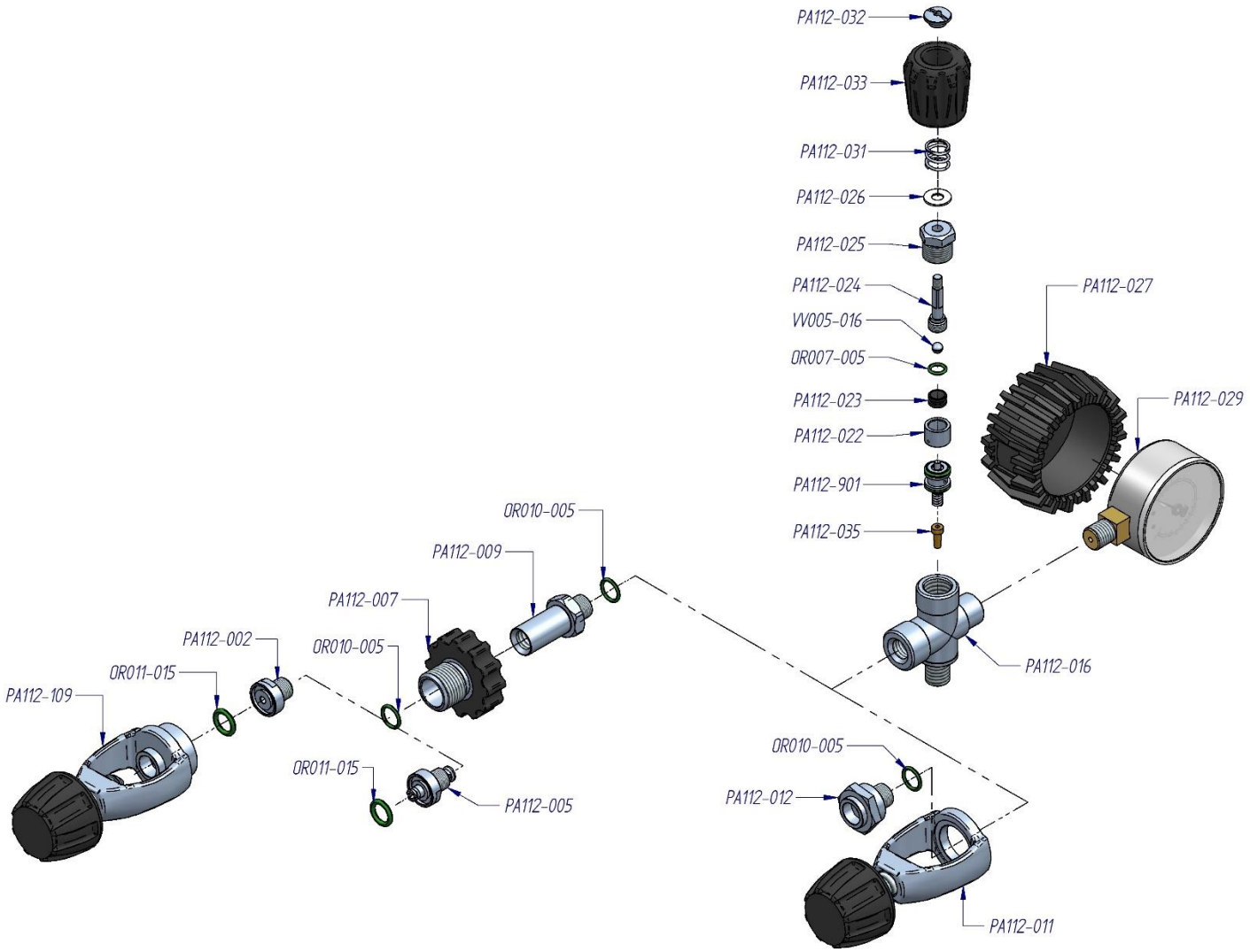
CODE	DESCRIPTION		CODE	DESCRIPTION		CODE	DESCRIPTION	
AC010-000	Clip for tube 8,5 mm		AT148-008	Tube		PA114-041	Reduction	
AC010-004	Pipe fitting "L"		AT148-010	Tube		PA116-102	Timer – solenoid valve	
AC025-012	Connector		HR120-014	Pipe fitting "L"		PA116-115	Solenoid valve	
AC064-001	Tube		HR301-003	Connection		VV005-016	Sphere	
AT148-004	Flange		OR005-005	O-ring				
AT148-005	Piston		OR039-006	O-ring				
AT148-006	Piston seal		OR040-005	O-ring				
AT148-007	Flange		OR041-005	O-ring				



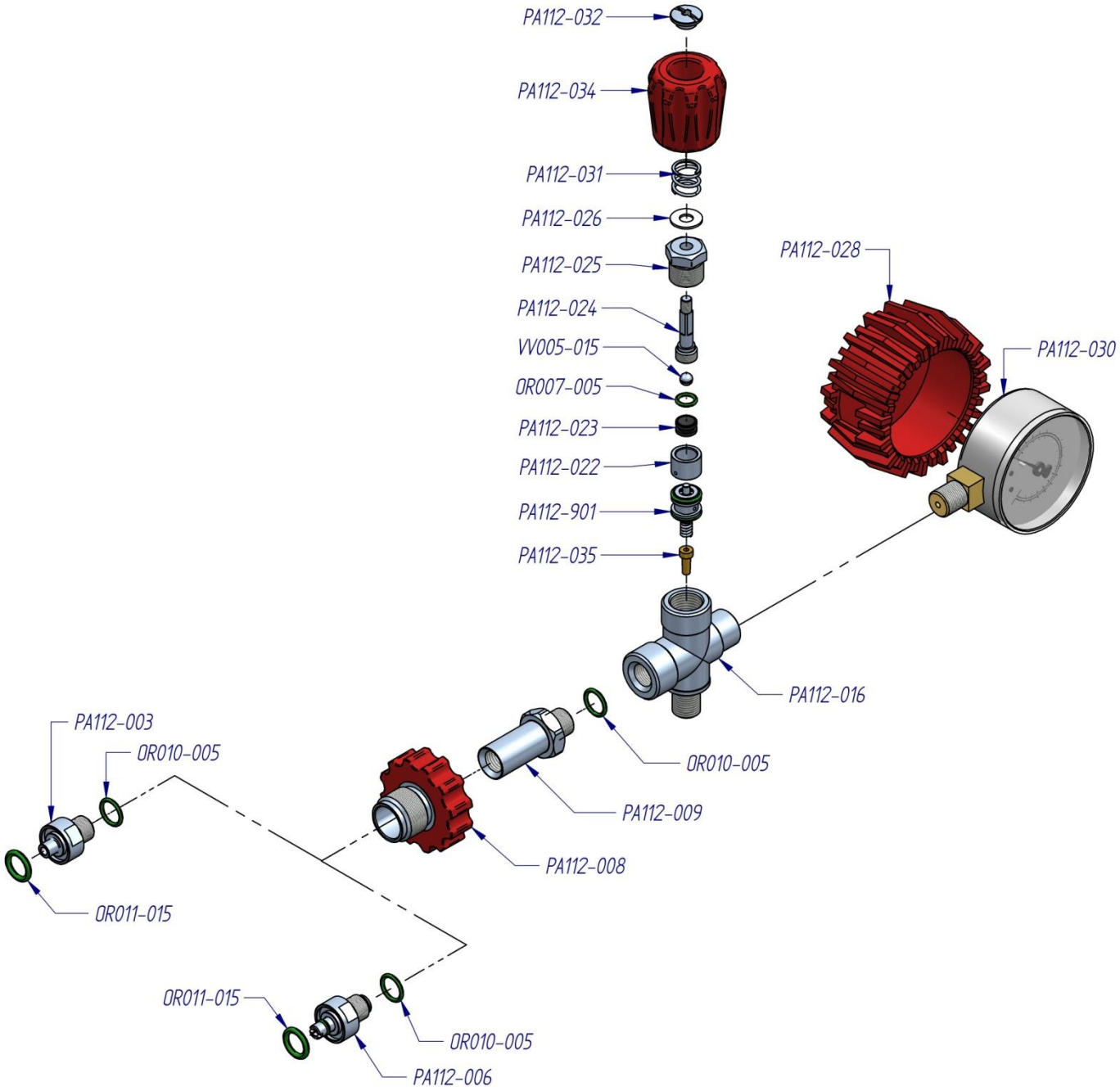
CODE	DESCRIPTION		CODE	DESCRIPTION		CODE	DESCRIPTION	
AC010-000	Clip for tube 8,5 mm		AT148-011	Sticker		PA116-903	Battery	
AC010-004	Pipe fitting "L"		HR120-014	Pipe fitting "L"		PA200-011	Sticker	
AC025-013	Connector		HR301-003	Connection		VV005-016	Sphere	
AC064-001	Tube		OR005-005	O-ring				
AT148-004	Flange		OR039-006	O-ring				
AT148-005	Piston		OR040-005	O-ring				
AT148-006	Piston seal		OR041-005	O-ring				
AT148-007	Flange		PA114-041	Reduction				
AT148-008	Tube		PA116-101	Timer – solenoid valve				
AT148-010	Tube		PA116-116	Solenoid valve				



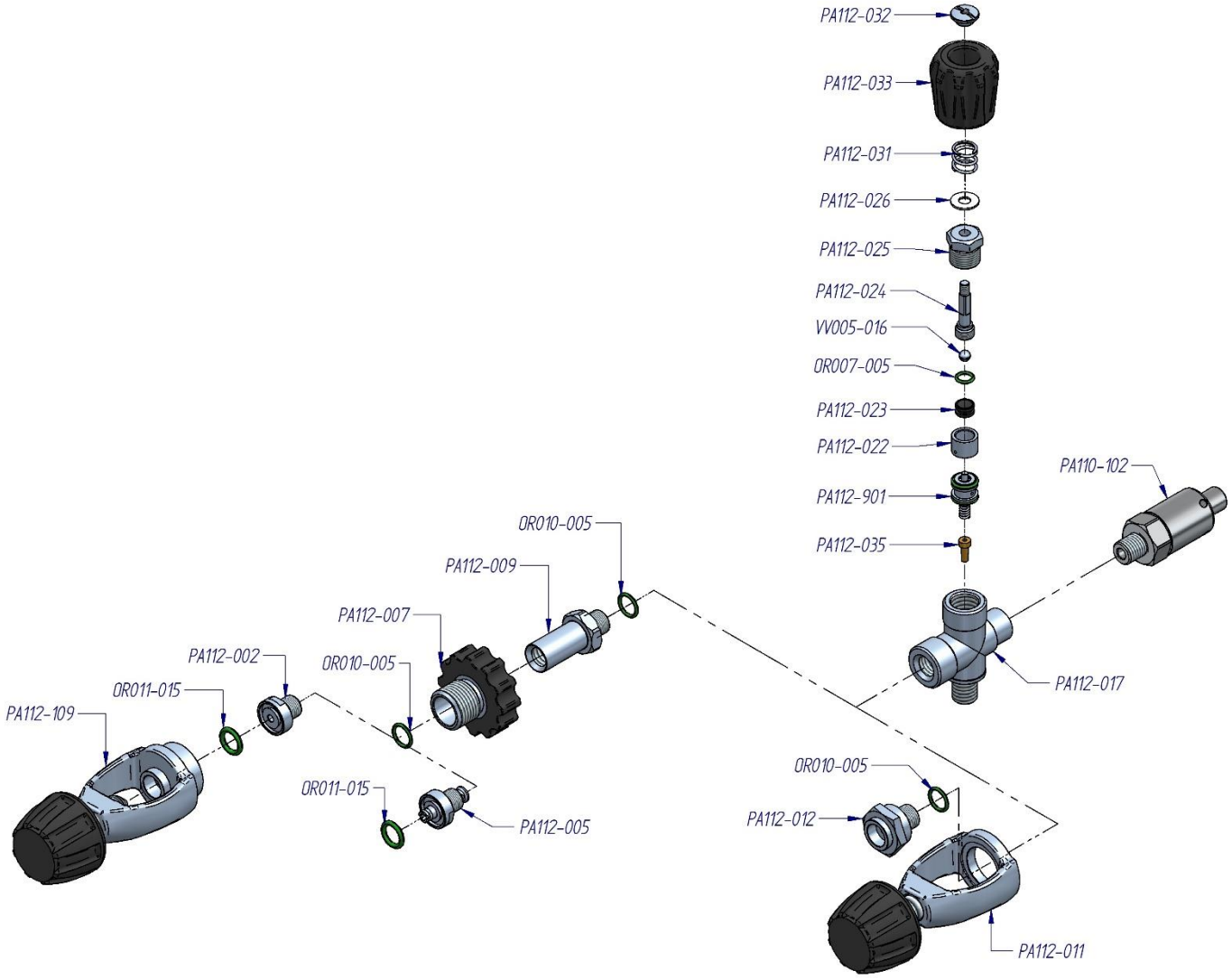
CODE	DESCRIPTION		CODE	DESCRIPTION		CODE	DESCRIPTION	
AC024-011	Wheel		VB006-047	Screw		VV012-005	Safety washer	
AT190-001-7016	Bracket for handle		VB008-052	Screw				
AT190-002	Handle		VD006-017	Nut				
AT190-003-7016	Bracket for wheels		VD008-012	Nut				
AT190-004	Bracket		VR006-002	Washer				
PA112-026	Washer		VR008-006	Washer				



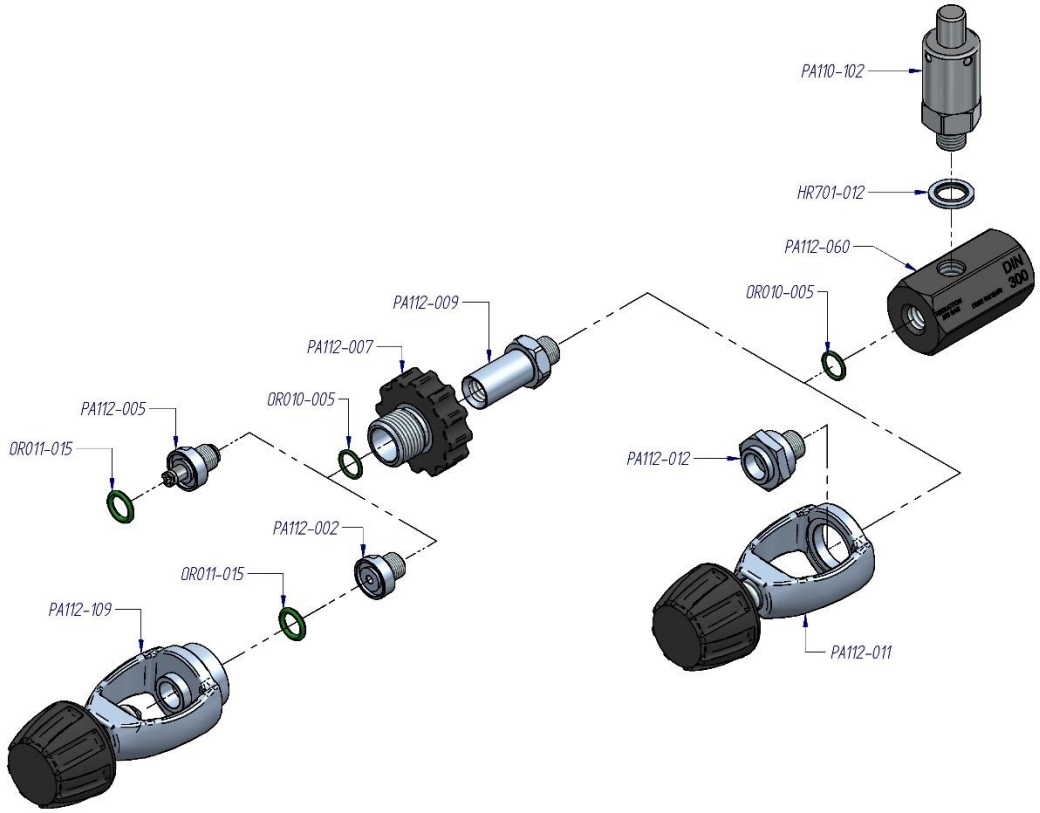
CODE	DESCRIPTION		CODE	DESCRIPTION		CODE	DESCRIPTION	
OR007-005	O-ring		PA112-016	Body valve		PA112-032	Nut	
OR010-005	O-ring		PA112-022	Cylindrical guide		PA112-033	Rubber knob black 200 bar	
OR011-015	O-ring		PA112-023	Piston valve insert		PA112-035	Filter	
PA112-002	Fitting connection 200 BAR		PA112-024	Valve shaft		PA112-109	International connection INT-CGA	
PA112-005	Fitting connection 200 BAR flow stop		PA112-025	Closure nut		PA112-901	Kit pressure valve	
PA112-007	Knob DIN 200 black		PA112-026	Washer		VV005-015	Sphere	
PA112-009	Knob guide DIN 200		PA112-027	Protection rubber black 200 BAR				
PA112-011	International connection INT-CGA		PA112-029	Pressure gauge 200 BAR				
PA112-012	Bracket blocks INT-CGA		PA112-031	Spring				



CODE	DESCRIPTION		CODE	DESCRIPTION		CODE	DESCRIPTION	
OR007-005	O-ring		PA112-016	Body valve		PA112-030	Pressure gauge 300 BAR	
OR010-005	O-ring		PA112-022	Cylindrical guide		PA112-031	Spring	
OR011-015	O-ring		PA112-023	Piston valve insert		PA112-032	Nut	
PA112-003	Fitting connection 300 BAR		PA112-024	Valve shaft		PA112-034	Rubber knob red 300 bar	
PA112-006	Fitting connection 300 BAR flow stop		PA112-025	Closure nut		PA112-035	Filter	
PA112-008	Knob DIN 300 red		PA112-026	Washer		PA112-901	Kit pressure valve	
PA112-009	Knob guide DIN		PA112-028	Protection rubber red 300 BAR		VV005-015	Sphere	



CODE	DESCRIPTION		CODE	DESCRIPTION		CODE	DESCRIPTION	
OR007-005	O-ring		PA112-012	Bracket blocks INT-CGA		PA112-033	Rubber knob black 200 bar	
OR010-005	O-ring		PA112-016	Body valve		PA112-035	Filter	
OR011-015	O-ring		PA112-022	Cylindrical guide		PA112-109	International connection INT-CGA	
PA110-102	Safety valve PN 200 Bar		PA112-023	Piston valve insert		PA112-901	Kit pressure valve	
PA112-002	Fitting connection 200 BAR		PA112-024	Valve shaft		VV005-015	Sphere	
PA112-005	Fitting connection 200 BAR flow stop		PA112-025	Closure nut				
PA112-007	Knob DIN 200 black		PA112-026	Washer				
PA112-009	Knob guide DIN 200		PA112-031	Spring				
PA112-011	International connection INT-CGA		PA112-032	Nut				



CODE	DESCRIPTION		CODE	DESCRIPTION		CODE	DESCRIPTION	
HR701-012	Washer		PA112-005	Fitting connection 200 BAR flow stop		PA112-060	Reduction Body	
OR010-005	O-ring		PA112-007	Knob DIN 200 black		PA112-109	International connection INT-CGA	
OR011-015	O-ring		PA112-009	Knob guide DIN 200				
PA110-102	Safety valve PN 200 Bar		PA112-011	International connection INT-CGA				
PA112-002	Fitting connection 200 BAR		PA112-012	Bracket blocks INT-CGA				