



USE AND MAINTENANCE MANUAL

MA-35i



IMPORTANT INFORMATION

BEFORE OPERATING

1



Read entire manual
before operating
compressor.

2



Follow the installation and
positioning procedures in
paragraph 5.3. Failure to do so
can result in compressor damage.

3



Change oil as directed in
paragraph 7.6. Use only
MaxLube 580 oil. Failure to
do so can result in damage
and warranty violation.

4



Install filter/dryer cartridge
prior to operation. See
paragraph 7.10 for details.

5



If the compressor will be
idle for more than 30 days,
follow procedures in
paragraph 8.2. Failure to do so
could result in compressor failure or
invalidation of warranty.



Max-Air®
HIGH PRESSURE BREATHING AIR COMPRESSORS

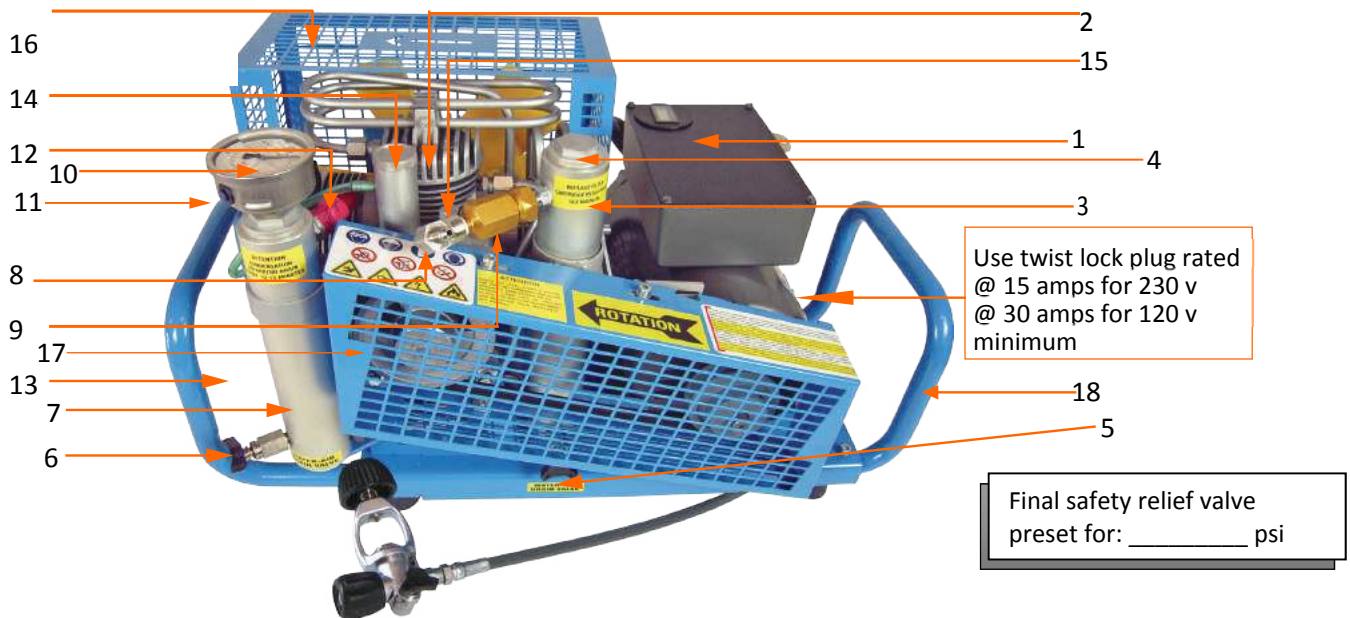
KEEP THIS CARD FOR REFERENCE

Date: _____

Serial #: _____

MA 35 ELEC 1 PHASE ☐ 3 PHASE ☐ 110 VAC ☐ 220 VAC ☐ 60 HZ ☐ 50 HZ ☐
 MA 35 Gas Honda ☐ MA 35 Gas Subaru ☐

Personal, portable, high pressure breathing air compressor
Non-continuous duty - do not use on air storage cylinders



1. 3 HP electric motor, single phase with On/Off switch (full load amps – 220 volt 15 amps – 110 volt 30 amps @ 3000psi)
2. Compressor heads, air cooled, 4 stages of compression
3. Purification chamber
4. Purification cap, unscrew counterclockwise for filter removal – Make sure power is off and #5 and #6 are open prior to attempting to remove cap – use LF-1001 purification disposable cartridge only – **read instructions on cartridge**
5. Purification drain tap – slowly open to drain every 20 minutes – if you get moisture you are not draining #6 sufficiently.
6. Moisture oil/vapor separator, drain every 10 minutes or more often if in hot and humid climate.
7. Separator
8. Purified air outlet – screw on fill hose assy (not shown) snugly (**NO TEFLON TAPE NEEDED**) will accept SCUBA and SCBA fill hose assy with On/Off bleed valve
9. Pressure maintaining valve to assure proper filtration and air quality. Will not open until compressor reaches 1600/1800 psi
10. Final pressure gauge – oil bubble is for contraction and expansion of shock dampening oil.
11. Intake air filter behind pressure gauge.
DO NOT OPERATE COMPRESSOR WITHOUT IT.
12. Final safety relief valve, factory preset to 3300 psi for SCUBA – 10% above the average scuba cylinder, cylinder or compressor must be turned off at rated pressure - 3000psi for SCUBA to avoid overworking relief valve.
DO NOT ATTEMPT RE-ADJUSTING.
13. Oil drain – not shown on side of crankcase – run unit 2 minutes and elevate opposite end for quicker drainage
14. Oil fill and dip stick – simply pull up, pour oil in slowly (capacity 20 oz) - use MaxLube 580 synthetic breathing compressor oil only. Change out break in oil after 15 hours – replace with MaxLube 580 provided, then every 50 hours thereafter.
15. Crankcase vent, remove cap prior to refilling oil & replace prior to start after oil changes
16. Fan guard – **DO NOT REMOVE**
17. Belt guard – **DO NOT OPERATE WITHOUT** (see manual for belt tension)
18. Retractable handle – can be removed for storage by loosening (2) retaining screws on retainer

NOTES: (the below rating A & B is based on a 80cft cylinder @ 3000 psi)

- A. The LF-1001 filter is rated for 2,440 cft of grade “E” air @ 72° F intake temperature, draining the condensate often = prox. 30 cylinders. For hot and humid climates you must de-rate by 10% for every 5° above 72° F.
- B. In order to keep the amps draw at a minimum the fill time is approx 15% longer than gas driven units.



IMPORTANT: BEFORE USING THE COMPRESSOR READ THIS MANUAL CAREFULLY.



IMPORTANT: BEFORE CARRYING OUT ANY WORK ON THE ENGINE CONSULT THE ATTACHED ENGINE USE AND MAINTENANCE MANUAL.



WARNING: This is a non-continuous duty compressor. It is recommended when filling, to only fill one tank at a time. For all operations, the continuous run time should never exceed 45 minutes. A minimum cool down period of 30 minutes should be given for every 45 minutes of operation.

HIGH PRESSURE COMPRESSORS FOR PURE BREATHING AIR AND TECHNICAL GASES

Dear Customer,

Thank you for choosing a Max-Air compressor. This manual is provided together with the compressor to aid you in the use of the machine and ensure that your work produces the best possible results.

Please read all the instructions and information provided on the following pages. Ensure that the manual is at the disposal of the personnel who will be using/managing the compressor and carrying out any maintenance on it.

Should you require any clarification, when using the compressor for the first time or at any other time it is used, please remember that Max-Air is at your complete disposal.

For routine or unscheduled maintenance note that Max-Air technical service is able to provide you with assistance and spare parts as and when required.

To ensure that your requests are handled quickly, the following information is provided:

QUICK GUIDE



WARNING:

- This guide is intended only as a rapid introduction to use of the compressor.
- This guide is not meant to replace the use and maintenance manual.
- This compressor must not be used before reading the entire use and maintenance manual.

Preliminary tasks:

- Position the compressor in the selected area (see section "5").
- If necessary connect the air intake extension (see section "5.3.2").
- Connect the refill hoses (see section "6.1.5").
- Check the oil level; if the compressor is new fill the oil sump with the oil supplied with the compressor (see section "7.6").
- Check that the cartridge is inside the filtration cartridge (see chap "7.10").

For compressors with combustion engines:

- Check fuel level and top off if necessary (see section "7.7").

For compressors with electric motors:

- Connect the electric motor to the main power (see section "5.3.3"). A dedicated 35 amp breaker is required for the 110v compressor.
- For compressors equipped with a three-phase electric motor, check that the cooling fan rotates in the direction indicated by the arrow on the cover; if it turns the other way reverse two of the three phases on the main power (see section "6.1.4").
- Switch on the compressor with the fill valve 1 connected to the closed bottle 2 and the condensate outlets 3 closed and check that free drainage of the safety valve occurs when the value on the gauge is the same as the calibration value of the valve (see section "6.2.4").

Bottle refill (see section "6.4"):

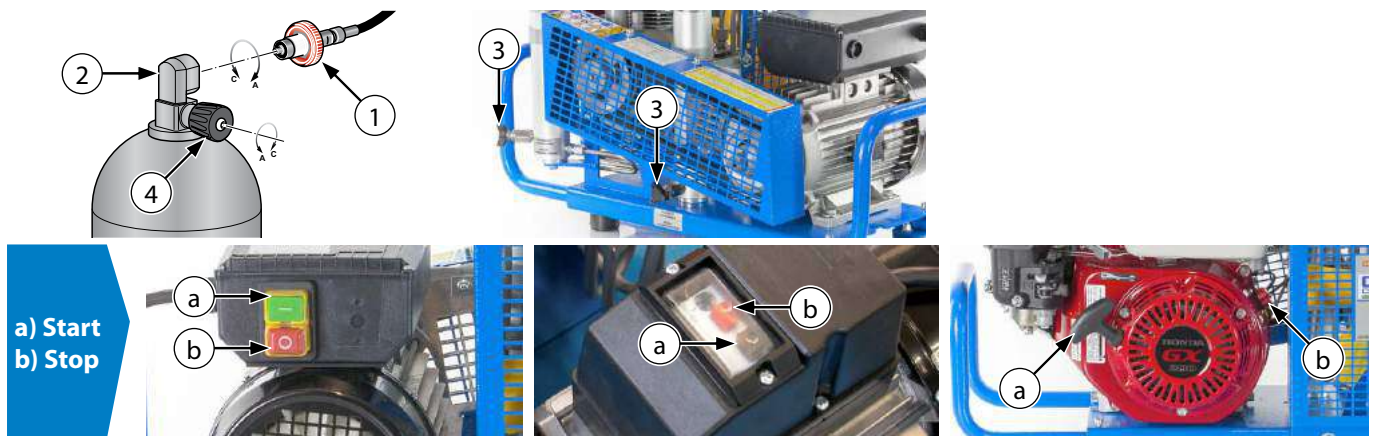
- fit the hose connector 1 on the bottle connector 2 (closed);
- open the condensate discharge valve 3 on the separator;
- start the compressor;
- close the discharge;
- open the tank valve 4;
- discharge the condensate every 10-15 minutes of use.

When refill is complete:

- switch off the compressor;
- close the bottle valve 4;
- open the condensate discharge valve 3 and let all the air bleed out;
- disconnect the coupling 1 from the bottle.

Maintenance:

- After the first 15 working hours change the oil again (see section "7.6").
- Check the lubricating oil level every 5 hours (see section "7.6").
- Change the lubricating oil every 50 hours (see section "7.6").
- Periodically change the air intake filter (see section "7.8").
- Discharge the condensate (see section "7.9").
- Periodically change the filtration cartridge (see section "7.10").
- Check transmission belt tension and if necessary change it (see section "7.11").
- Periodically change the hoses (see section "7.12").



CONTENTS

1 - GENERAL	7
1.1 Preliminary information	7
1.2 Required operator training	7
1.3 Important information for the user	7
1.4 Foreword	8
1.5 Warranty	9
1.6 Assistance	10
1.7 Responsibility	10
1.8 Purpose of the machine	11
1.9 Where the machine may be used	13
1.10 Running in and testing the compressor	13
1.10.1 Tightening torque values	14
2 - BASIC INFORMATION ON THE COMPRESSOR	14
2.1 Description of the compressor	14
2.2 General instructions	15
3 - SAFETY REGULATIONS	16
3.1 General safety rules	16
3.1.1 Know the machine	16
3.1.2 Protective clothing	16
3.1.3 Emergency equipment	16
3.1.4 Checks and maintenance	16
3.2 General precautions	17
3.2.1 Important safety information	19
3.2.2 Accident prevention	19
3.2.3 Working safety	19
3.2.4 Noise level	19
3.2.5 Residual risk zones	19
3.3 Safety info labels: location	20
3.3.1 Safety info labels: description	21
3.4 General safety regulations	23
3.4.1 Care and maintenance	23
3.4.2 Fire extinguishers and first aid	23
3.5 Maintenance precautions	24
3.5.1 Periodic replacement of essential safety parts	24
3.5.2 Tools	24
3.5.3 Personnel	24
3.5.4 Keeping the compressor clean	25
3.5.5 Warning signs	25
4 - TECHNICAL DATA	26
4.1 Technical characteristics	26
4.1.1 Crankcase, crankshaft, cylinder, piston	26
4.1.2 Valves	26
4.1.3 Safety valves	26
4.1.4 Lubrication	26
4.1.5 Cooling tubes	26
4.1.6 Frame, guards	26
4.1.7 Pressure gauges	26
4.2 Machine parts	27
4.3 Technical characteristics	28
4.4 Pressure circuit	30
5 - HANDLING AND INSTALLATION	31
5.1 Unpacking	31
5.2 Handling	31
5.3 Installation	32
5.3.1 Positioning	32
5.3.2 Air intake extension connection	33
5.3.3 Electrical connection	33
6 - USING THE COMPRESSOR	34
6.1 Preliminary checks before using for the first time	34
6.1.1 Filling with lubricating oil	34
6.1.2 Inserting filtration cartridge	34
6.1.3 Filling the engine with lubricating oil	34
(for internal combustion engine only)	
6.1.4 Checking for proper electrical connection	34
(for three-phase electric motor only)	
6.1.5 Refill hoses connection	35

6.2 Checks to be run at the start of each working day	35
6.2.1 Lubricating oil level check	35
6.2.2 Checking that the flex hoses are in good condition	36
6.2.3 Fuel level check	36
6.2.4 Checking the safety valves	36
6.2.5 Storing technical documentation	37
6.3 Starting and shutting down	37
6.3.1 Starting and shutting down with internal combustion engine	37
6.3.2 Starting and shutting down with electric motor	38
6.4 Tank refill	39
6.5 Optional	42
6.5.1 Automatic shutdown with pressure switch	42
6.5.2 Automatic condensate discharge	42
6.5.3 Hour counter	42
7 - MAINTENANCE	42
7.1 Foreword	43
7.2 General	43
7.3 Unscheduled work	43
7.4 Scheduled maintenance table	44
7.5 Troubleshooting	45
7.6 Checking and changing the lubricating oil	46
7.7 Checking fuel level and topping up	48
7.8 Changing the intake filter	48
7.9 Condensate discharge	49
7.10 Purifier filter	50
7.11 Transmission belt	52
7.12 Changing the flex hose	53
8 - STORAGE	54
8.1 Stopping the machine for a brief period	54
8.2 Stopping the machine for a long period	54
9 - DISMANTLING AND PUTTING OUT OF SERVICE	55
9.1 Waste disposal	55
9.2 Dismantling the compressor	57
10 - MAINTENANCE REGISTER	57
10.1 Assistance service	57
10.2 Scheduled maintenance	58
10.3 Using the compressor under heavy-duty conditions	58
10.4 The Customer Care Center	58
10.5 Scheduled maintenance registry coupons	59

1 – GENERAL

1.1 PRELIMINARY INFORMATION

Do not destroy or modify the manual and update it with inserts published by producer only.

Machine type: High pressure compressor for breathing air
and/or technical gases

Model: MA-35

Manufacturer's data: Max-Air
2807 Peddler Lane
Kerrville, Tx 78028

Telephone: +01 830-257-5006

[http: www.max-air.com](http://www.max-air.com)

e-mail: sales@max-air.com

1.2 REQUIRED OPERATOR TRAINING

This manual must be read carefully:

- all compressor operators / maintenance personnel must read this entire manual with due care and attention and observe the instructions/information contained herein.
- the operator must possess the required training for operation of the compressor and has taken the time to read the manual.

1.3 IMPORTANT INFORMATION FOR THE USER

The information/instructions for compressor use contained in this manual only concern the Max-Air Model:

MA-35

The instruction manual must be read and used as follows:

- read this manual carefully, treat it as an essential part of the compressor;
- the instruction manual must be kept where it can readily be consulted by compressor operators and maintenance staff;
- keep the manual for the working life of the compressor;
- make sure updates are incorporated in the manual;
- make sure the manual is given to other users or subsequent owners in the event of resale;
- keep the manual in good condition and ensure its contents remain undamaged;
- do not remove, tear or re-write any part of the manual for any reason;
- keep the manual protected from moisture and heat;
- if the manual is lost or partially damaged and its contents cannot be read it is advisable to request a copy from the manufacturer.

Important: you must understand the following symbols and their meaning. They highlight essential information:



IMPORTANT: Refers to additional information or suggestions for proper use of the compressor.



DANGER: Refers to dangerous situations that may occur during use of the compressor: aims to ensure worker safety.



WARNING: Refers to dangerous situations that may occur during use of the compressor: aims to prevent damage to objects and the compressor itself.

1.4 FOREWORD

The regulations/instructions for use contained in this manual constitute an essential component of the supplied compressor.

These regulations/instructions are intended for an operator who has already been trained to use this type of compressor. They contain all the information necessary and essential to safety and efficient, proper use of the compressor. Hurried or careless preparation leads to improvisation, which is the cause of accidents.

Before beginning work, read the following suggestions carefully:

- before using the compressor, gain familiarity with the tasks to be completed and the admissible working position;
- the operator must always have the instruction manual on hand;
- program all work with due care and attention;
- you must have a detailed understanding of where and how the compressor is to be used;
- before starting work make sure that safety devices are working properly and that their use is understood; in the event of any doubts do not use the compressor;
- observe the warnings given in this manual with due care and attention;
- constant and careful preventive maintenance will always ensure a high level of safety when using the compressor. Never postpone repairs and have them carried out by specialized personnel only; use only original spare parts.

1.5 WARRANTY



IMPORTANT: The materials supplied by Max-Air are covered by a 1 year warranty, the validity of which begins when the compressor is put into service as proven by the delivery document.

Max-Air shall repair or replace those parts it acknowledges to be faulty during the warranty period.

In replacing the faulty part Max-Air shall not be liable for any other expenses sustained by the dealer or his customer such as presumed damage (present or future), lost earnings or fines.

Routine and unscheduled maintenance must be carried out in compliance with the instructions contained in this manual. Should the required work not be covered by the manual or assistance be required you are advised to contact Max-Air in writing, even where agreements have already been made on the phone. Max-Air cannot be held liable for any delays or failure to execute work.

Max-Air cannot be held liable for any damage or malfunctions caused by work carried out on the compressor by unauthorised personnel.

Max-Air guarantees that its compressors are free from design defects, workmanship and the used materials for a period of 1 year starting from the date of delivery of the compressor; should the customer note any flaws and/or defects he must report them, in writing via email, to Max-Air within 7 days of delivery otherwise the warranty shall be rendered null and void. The warranty only covers flaws and faults that occur where the compressor is used properly in compliance with the instructions contained in this manual and where periodic maintenance is carried out. The warranty does not cover faults caused by improper use of the compressor, exposure to atmospheric agents (rain etc.) or damage during transport; all materials subject to wear and those subject to periodic maintenance are not covered by the warranty and are to be paid for by the

customer in full; in any event the warranty is rendered null and void if the compressor is tampered with or if work is carried out on it by personnel who have not been authorized by Max-Air. A compressor that has been acknowledged as faulty on account of flaws in design, workmanship or used materials shall be repaired or replaced free of charge by Max-Air at the plant in Kerrville, TX; costs regarding transport, delivery of spare parts and any materials subject to wear shall be met by the customer. Should warranty-covered work need to be carried out on the customer's premises, travel and accommodation costs for personnel sent by Max-Air shall be met by the customer. The act of taking delivery of machines and/or faulty components or the sending of technicians to assess the presumed defects and/or flaws reported by the customer does not in itself imply acknowledgement that the defect is covered by warranty. Repairs and/or replacements made by Max-Air during the the warranty period do not in any way prolong the latter itself. Acknowledgement that a defect is covered by warranty does not in itself mean that Max-Air is in any way liable to award compensation.

Max-Air cannot be held liable for any other direct or indirect damages imputable to compressor defects and flaws (loss of production or earnings etc.) except in cases where serious negligence is demonstrated.

1.6 ASSISTANCE

Max-Air technicians are at your disposal for all routine/unscheduled maintenance work.
Please forward your request for assistance to Max-Air by phone or email.

1.7 RESPONSIBILITY

Max-Air considers itself exonerated from any responsibility or obligation regarding injury or damage caused by:

- failure to observe the instructions contained in this manual that concern the running, use and maintenance of the compressor;
- violent actions or incorrect manoeuvres during use or maintenance of the compressor;
- modifications made to the compressor without prior written authorization from Max-Air;
- incidents beyond the scope of routine, proper use of the compressor.

In any case, should the user impute the incident to a defect of the compressor, he/she must demonstrate that the damage has been a major and direct consequence of this "defect".



WARNING: Maintenance and repairs must only be carried out using original spare parts.
Max-Air cannot be held liable for any damages caused by failure to observe this rule.
The compressor is guaranteed as per the contractual agreements made at the time of sale.
Failure to observe the regulations and instructions for use contained in this manual shall render the warranty null and void.

1.8 PURPOSE OF THE MACHINE

The compressors have been designed and built for the purpose of obtaining excellent quality breathing air by drawing it from the surrounding environment. The air, which must be free from any harmful fumes, is passed through an intake filter and, after the pumping and filtration cycle, is stored in bottles constructed to contain air at high pressure.

The compressor can also be used to obtain other non-breathable gases for industrial use such as:

- Nitrogen
- Helium
- Nitrox 40% max O₂

Any other use is inappropriate: the manufacturer cannot be held liable for any personal injury or damage to objects / the machine itself caused by improper use.



DANGER:

- Use only tested, certified bottles: do not exceed the working pressure indicated on them.
- Aspirate unpolluted air.
Use the compressor in areas free from dust, risk of explosion, corrosion and fire.
- It is forbidden to use the compressor with an internal combustion engine indoors.
Make sure that air intakes are a long way from fume exhausts.
- Improper use could have serious consequences for the user.
- Do not disconnect the hose from the fittings or the clamp when it is under pressure.
- Drain the condensate regularly as illustrated in section "7.9 Condensate discharge".
- Change the air purification filters regularly as described in section "7.10 Purifier filter".
- The power lead plug must be disconnected:
 - if there is a problem during use
 - before carrying out any cleaning or maintenance tasks.
- Never pull the plug out by tugging the lead. Make sure the lead is not bent at a sharp angle and that it does not rub against any sharp edges. Use of extensions is not recommended.
- Never run the compressor when:
 - the power lead is damaged;
 - there is evident damage;
 - the covers/guards are removed.
- All routine and unscheduled maintenance tasks must be

carried out with the compressor at standstill, the electrical power supply disconnected and the pumping circuit depressurised.

- After switching off the compressor wait about 30 minutes before carrying out any maintenance tasks so as to prevent burns.
- The high pressure flex hose that connects to the bottle (also called the refill hose) must be in good condition, especially in the areas near the fittings.

The plastic sheath that covers the pipe must not show any signs of abrasion otherwise damp could get in, corrode the steel braid and weaken it.

The hose must be changed periodically (yearly) or when it shows signs of wear.

Failure to observe this rule could seriously endanger the users' safety.

Make sure the minimum bending radius of the hose is no less than 250 mm.

To ensure maximum working efficiency, Max-Air has constructed the compressor with carefully selected components and materials. The compressor is tested prior to delivery. Continued compressor efficiency over time will also depend on proper use and maintenance as per the instructions contained in this manual.

All the components, connections and controls used in its construction have been designed and built to a high degree of safety so as to resist abnormal strain or in any case a strain greater than that indicated in the manual. Materials are of the finest quality; their introduction and storage in the company and their utilization in the workshop are controlled constantly so as to prevent any damage, deterioration or malfunction.



DANGER:

- Before carrying out any work on the compressor each operator must have a proficient understanding of how the compressor works, know how to use the controls and have read the technical information contained in this manual.
- It is discouraged to use the compressor under conditions / for purposes other than those indicated in this manual and Max-Aire cannot be held liable for breakdowns problems or accidents caused by failure to observe this rule.

- Check that the fittings provide a proper seal by wetting them with soapy water: eliminate any leaks.
- Do not attempt to repair high pressure hoses by welding them.
- Do not empty the bottles completely, not even during winter storage, so as to prevent damp air getting in.
- Do not tamper with, alter, or modify, even partially, the systems and equipment described in this instruction manual, especially as safety guards and safety symbols are concerned.
- Do not carry out work in any way other than that described or to neglect the illustrated safety tasks.
- The safety information and the general information given in this manual are highly important.

1.9 WHERE THE MACHINE MAY BE USED

The compressor must only be used in environments having the characteristics described in the following table.

AREA OF MACHINE USE: ESSENTIAL DATA TABLE		
Temperature ambient	°C - (°F)	Min.-15°C (+5°F) - Max.+45°C (+113°F)
Air humidity	%	max.80%
Tolerated weather conditions	rain	None
	hail	
	snow	
Max tilt angle (bank)	%	6%

Check that the area in which the compressor is to be positioned is adequately ventilated: good air exchange with no dust and no risk of explosion, corrosion or fire.

If ambient temperatures exceed 113°F (45°C) air conditioning will be required.

Make sure that lighting in the area is sufficient to identify every detail (such as the writing on the info plates/stickers); use artificial lighting where daylight on its own is insufficient.

1.10 BREAKING IN AND TESTING THE COMPRESSOR

Each compressor is carefully run and tested prior to delivery.

A new compressor must nevertheless be used with caution during the first 5 working hours so as to complete proper breaking in of its components.

If the compressor is subject to an excessive workload during initial use, its potential efficiency will be prematurely compromised and functionality soon reduced. During the breaking in period proceed as follows:

After the first 15 hours, in addition to the scheduled maintenance, carry out the following tasks:

- change the compressor oil;
- check and adjust nuts and bolts.

1.10.1 Tightening torque values

The table shows tightening torques for hexagonal-head or cylindrical-head recessed hexagonal bolts and screws, except for specific cases illustrated in the manual. Pipe connections (swivel nuts) should be finger tight plus an additional 1/2 turn.

Tightening torque values - Valores de par		6 and 4 bolt torque sequence - Secuencia de apretado para 6 y 4 pernos
Thread - Rosca	Max. torque - Par máx.	
M6 - 1/4"	10Nm (7ft-lbs)	
M8 - 5/16"	25Nm (18ft-lbs)	
M10 - 3/8"	45Nm (32ft-lbs)	
M12 - 1/2"	75Nm (53ft-lbs)	
M14 - 9/16"	120Nm (85ft-lbs)	
M16 - 5/8"	200Nm (141ft-lbs)	

2 - BASIC INFORMATION ON THE COMPRESSOR

2.1 DESCRIPTION OF THE COMPRESSOR



DANGER: The compressor may be used together with Nitrox mixers up to a maximum of 40% oxygen and only with certified systems that feature an alarm system and that prevent the introduction of oxygen percentages above the permitted maximum and/or incorrect mixes.



IMPORTANT: Max-Air compressors provide breathable air at high pressure in compliance with air quality requisites.

High pressure compressor for breathing air and technical gases.

Compatible process gases:

- Nitrogen
- Helium
- Nitrox 40% max O₂

2.2 GENERAL INSTRUCTIONS



WARNING:

- This manual must be read carefully before transporting, installing, using or carrying out any maintenance on the compressor.
- It must be preserved carefully in a place known to compressor users, managers and all transport/installation/maintenance/repair/final dismantling personnel.
- This manual indicates the purposes for which the compressor can be used and gives instructions for its transport, installation, assembly, adjustment and use. It also provides information on maintenance tasks, ordering spare parts, residual risks and staff training.
- It should be kept in mind that the use and maintenance manual can never replace proper experience; some maintenance jobs are particularly difficult and in this regard the manual only offers general guidelines on the most important tasks, which must be carried out by personnel with proper training (e.g. acquired during training courses run by the manufacturer).
- This manual is an integral part of the compressor and must be stored in a suitable container near the compressor until its final demolition. If the manual is lost or damaged a copy can be requested from the manufacturer.
- Make sure all users have understood the regulations for use and the meaning of the symbols on the compressor.
- In any case always observe national safety regulations.
- Do not remove or damage guards, labels or notices, especially those required by law.
- The adhesives attached to the compressor are there for safety purposes. They must be replaced if they become illegible.
- This manual reflects the technical knowledge available at the time the compressor was sold and cannot be considered inadequate simply because updated at a later time on the basis of new experience.
- The manufacturer reserves the right to update products and manuals, without any obligation to update preceding products or manuals except in exceptional circumstances.
- To request or receive any updates or additions to this use and maintenance manual (which shall be considered an integral part of the manual) apply via the contact numbers given in section "1.6 Assistance".
- Should you have any other queries or suggestions as to how to improve the manual please contact the manufacturer.
- Should you sell the compressor Max-Air invites you to provide us with the details of the new owner so that any new additions to the manual can be sent on.

3 - SAFETY REGULATIONS

3.1 GENERAL SAFETY RULES

3.1.1 Know the machine

The compressor must only be used by qualified personnel. They must have an understanding of the arrangement and function of all the controls, instruments, indicators, warning lights and the various info plates/labels.

3.1.2 Protective clothing

All operators must use accident prevention items such as gloves, hard hat, eye goggles, accident prevention shoes and ear defenders against noise.



3.1.3 Emergency equipment

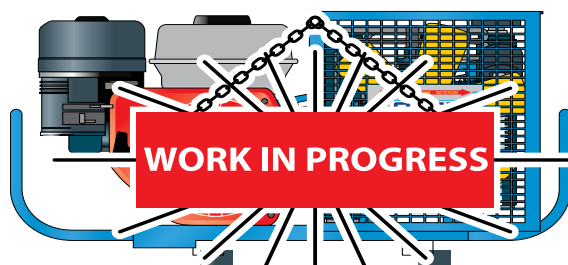
Make sure a first aid cabinet and a CO₂ Fire Extinguisher are near the compressor. An "ABC Fire Extinguisher" is recommended. Keep the extinguisher fully loaded. Use according to standards in force.



3.1.4 Checks and maintenance

Apply a sign with the legend "WORK IN PROGRESS" on all sides of the compressor.

Inspect the compressor carefully every day it is used as per the check list given in this manual.



3.2 GENERAL PRECAUTIONS

«DANGEROUS ZONE»: any zone inside and/or near a machine in which the presence of an exposed person constitutes a risk for his/her security and health.

«EXPOSED PERSON»: any person wholly or partially inside a dangerous zone.

«OPERATOR»: the person(s) charged with the task of installing, running, maintaining, cleaning, repairing and transporting the machine.



IMPORTANT:

- Before carrying out any task or operation with the compressor it is compulsory to read and follow the instructions given in the use and maintenance manual. Doing so during work is too late: improper use or an erroneous manuver could cause serious damage or injury.
- Operators should inform themselves about the risk of accident, especially risks deriving from noise, use of safety devices and the general accident prevention regulations provided for by international laws or standards or national standards within the country of use.
All operators must observe both international accident prevention standards and the national ones relevant to the country of use.
Bear in mind that the European Union has issued directives concerning worker health and safety which all operator are legally obliged to comply with.
- Before carrying out any work on the compressor each operator must have a perfect understanding of how the compressor works, know how to use the controls and have read the technical information contained in this manual.



IMPORTANT:

- Removing or tampering with any safety device is strictly forbidden.
- All installation, routine or unscheduled maintenance work must be carried out with the compressor at standstill and disconnected from the electrical power supply.
- Once the compressor has been cleaned the operator must

check for any worn, damaged or loose parts; in this case seek assistance from the maintenance technician.

It is especially important to check that flex hoses or other parts subject to wear are in good condition.

Check also for any leaking of oil or other dangerous substances. If such situations arise it is forbidden to restart the compressor before the situation is resolved. If these problems are observed at the end of the refilling the operator must, before leaving the machine unattended, place a sign on the compressor indicating that maintenance work is in progress and that it must not be restarted.

- Never place hands or introduce screwdrivers, keys or other tools into moving parts.
- Never clean with flammable fluids.
- Periodically check the information plates/labels and restore / replace them where necessary.
- The workplace must be kept clean, tidy and free from objects that might hinder movement.
- Operators must avoid carrying out "awkward" tasks in uncomfortable positions that might cause imbalance.
- Operators should be aware of the risk of entrapment caused by clothes or hair getting caught up in moving parts; wear a cap to contain long hair.
- Necklaces, bracelets and rings can also be a source of danger.
- Workplace lighting must be adequate for the work in progress. Insufficient or excessive lighting can generate risks.
- Always observe the instructions, accident prevention regulations and the warnings contained in this manual.



WARNING: It is forbidden to tamper with or replace compressor parts without obtaining prior authorisation from Max-Air.

The use of accessories, tools, materials subject to wear or spare parts other than those recommended by the manufacturer and/or illustrated in this manual can constitute a source of danger to operators and/or damage the machine.

Any modification to the compressor that has not been expressly authorized by Max-Air shall exonerate the manufacturer from any civil or penal liability.

3.2.1 Important safety information

This state of the art compressor has been designed and built according to, and complies with, technical regulations in force concerning compressors for the production of high pressure breathing air. The laws, regulations, standards and directives in force for such machines have been complied with.

Materials, parts, production procedures and quality controls all comply with the strictest safety and reliability standards.

Using the compressor for the purposes described in this manual, handling it with due diligence and carrying out maintenance and overhauls according to proper working practices will ensure long lasting performance and functionality.

3.2.2 Accident Prevention

The manufacturer cannot be held liable for accidents that occur during use of the compressor as a result of the user's non-observance of the laws, regulations, standards and directives in force for high pressure compressors. The compressor has been designed for use in weather conditions as refer to "1.9 Where the machine may be used".

3.2.3 Working safety

The manufacturer cannot be held liable for malfunction or damage if the compressor:

- is used for purposes other than that for which its is intended;
- is not handled or maintained according to the instructions specified in this manual;
- is not periodically and continually maintained as instructed or if non-original spare parts are used;
- machine parts are modified or replaced without written authorization from the manufacturer, especially where the efficiency of safety devices has been reduced or eliminated;
- where it is used outside the admissible temperature range.

3.2.4 Noise level



WARNING: Should the compressor be used where the daily noise exposure level is greater than 80 dBA, the operator must apply all the relevant health and safety measures. Where necessary operators must use personal protection such as hearing protection.

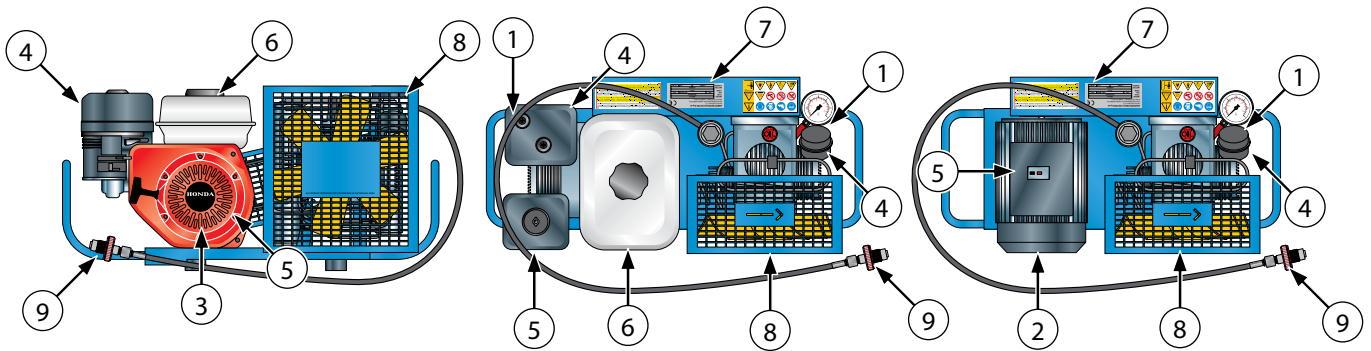
3.2.5 Residual risk zones



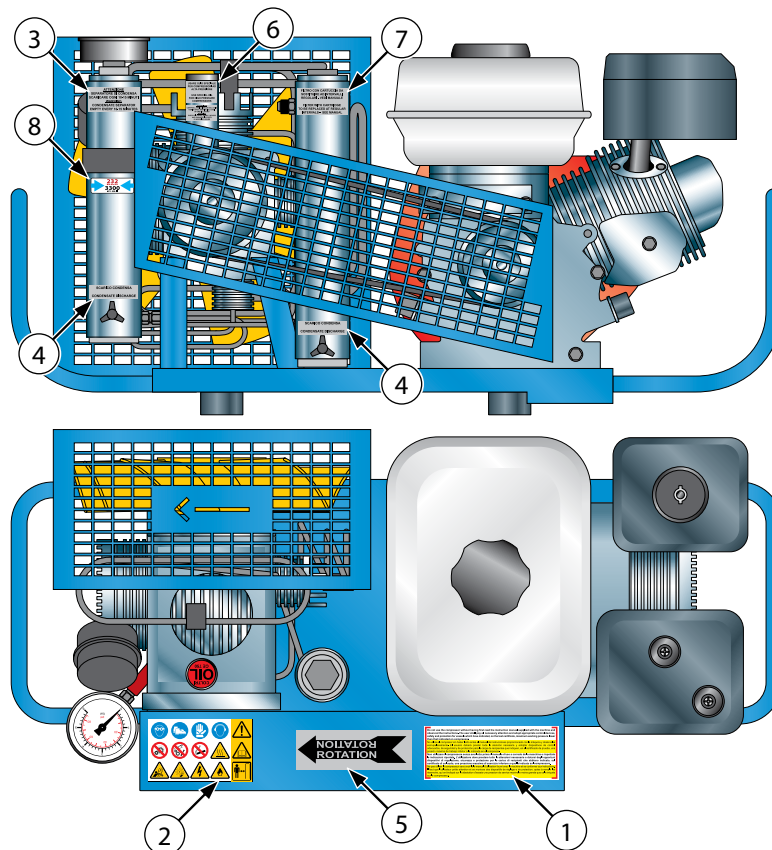
DANGER: In some compressor zones there remain residual risks that were not possible to eliminate at the design stage or for which safety guards could not be provided without compromising the functionality of the compressor. To prevent accidents all operators must be aware of the residual risks on this compressor.

Residual risk zones:

- 1 Danger of polluting the produced air due to the possibility of mixing exhaust fumes or lubricating oil vapors with the compressed air being produced.
- 2 Electrical dangers. Use the machine with suitable insulation, especially against water and humidity.
- 3 Dangers derived from use of internal combustion engine: Observe instruction in the relevant engine manual.
- 4 Heat-related dangers in exhaust pipe and compressor zone. Use the machine with suitable safety devices and after switching off the machine wait 30 minutes for the machine to cool down before carrying out maintenance work.
- 5 Danger deriving from noise emitted by the compressor.
- 6 Fire risk.
- 7 Risk of being crushed or dragged in the transmission belt zone.
- 8 Danger of impact/abrasion with the cooling fan.
- 9 Danger of direct contact with operator if hose breaks during bottle refill.



3.3 SAFETY INFO LABELS: LOCATION



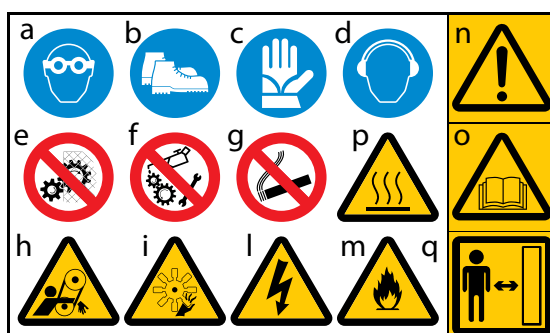
3.3.1 Safety info labels: description

1

Do not use the compressor without having first read the instruction manual supplied with the machine and observed the instructions. The user shall pay all necessary attention and adopt appropriate control devices, safety and protection for vessels which have indicated, on the test certificate, maximum working pressure lower than that indicated on compressor.

2

- a Safety goggles must be worn.
- b Safety shoes must be worn.
- c Safety gloves must be worn.
- d Hearing protection must be worn.
- e Forbidden to remove covers/guards
- f Forbidden to lubricate mechanical parts when they are moving: compressor must be switched off before any maintenance/lubrications tasks are carried out on it.
- g Smoking forbidden near compressor owing to presence of gases flammable
- h Hands at risk of being crushed in transmission belt zone
- i Moving parts in transmission belt and cooling zone fan
- l Live wires: risk of electric shock
- m Risk of fire
- n Warning info plates about the dangers that derive from a lack of knowledge about the compressor and its functions and the consequent risks.
- o Read the use and maintenance manual carefully before using the compressor.
- p Warning danger burns compressor area.
- q Stand at a safe distance for non-professionals to use the compressor.



3

Condensate separator info label.

Indicates that the condensate must be emptied via the drain valves every 10-12 minutes.



IMPORTANT: Except for version with automatic condensate discharge.

WARNING

**Empty condensate
every 10-12 minutes**

4

Condensate discharge info plate.

Indicates position of condensate discharge valve. To discharge the condensate see "7.9 Condensate discharge".

CONDENSATE DISCHARGE

5

Cooling fan direction of rotation info label.

When using the machine for the first time check that the fan rotates in the direction indicated by the arrow.

If, on a three-phase electric motor compressor, the fan rotates against the direction of the arrow reverse two of the three phases on the main power lead.



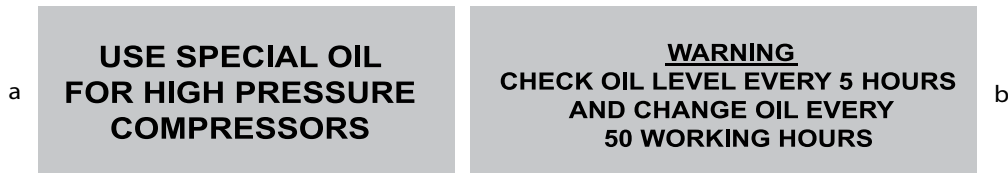
6

a Special oil info plate

Indicates that only special oils must be used for high pressure compressors. To choose the right oil see section "7.6 Checking and changing the lubricating oil".

b Oil level check info plate

Check lubricating oil level every 5 working hours and change it every 50 working hours. For information on how to check see "7.6 Checking and changing the lubricating oil". For information on how to change the oil see "7.6 Checking and changing the lubricating oil".



7

Cartridge change info label.

To change the cartridge refer to “7.10 Purifier filter”.

**FILTER WITH CARTRIDGE
TO BE REPLACED AT REGULAR
INTERVALS – SEE MANUAL**

3.4 GENERAL SAFETY REGULATIONS

3.4.1 Care And Maintenance

Damage and accidents are often caused by maintenance errors, such as:

- no oil,
- insufficient cleaning,
- compressed air circuit inefficiency (flex hoses damaged, loose pipes, screws etc.).

Maintenance work must be carried out with due care and attention: your safety depends on it.

Never postpone repairs.

Repairs must only be carried out by specialized or authorized personnel.

Always observe the following safety regulations, even when you become completely familiar with working procedures:

- Keep the compressor and the surrounding area clean at all times.
- Before starting work check that safety devices/guards are in good working order.
- Make sure no one is in the compressor danger zone. Interrupt work if anyone is in the danger zone and tell them to leave.
- Never leave the machine unattended when it is running.

3.4.2 Fire Extinguishers and First Aid

- Check that a fire extinguisher is present. Make sure all personnel know where it is.
- Periodically check that extinguishers are full and operators know how to use them.
- The location of the first aid cabinet must be known.
- Check the first aid cabinet periodically to make sure it contains disinfectant, bandages, medicines etc.

- Fire drills must be conducted to insure the safety of all involved.
- Make sure a phone number for emergency medical assistance is kept nearby. Keep your Latitude and Longitude location in a plain sight.

In the event of fire use a CO₂ extinguisher in compliance with the relevant standards in force. An "ABC Fire Extinguisher" is recommended.

Contact the fire department.



IMPORTANT: The provision of a fire extinguisher is the responsibility of the owner of the compressor.

3.5 MAINTENANCE PRECAUTIONS

3.5.1 Periodic Replacement of Essential Safety Parts

(Refer to the chart on page 44 of this manual)

Periodically check the following components, which are important for accident prevention:

- compressed air system: main compressed air circuit delivery hoses;
- bottle refill system: flex hoses for bottle refill.

Even though they may appear to be in good condition, these components must be periodically replaced with new ones. Over time these components tend to deteriorate.

Should any of these parts prove to be faulty, replace or repair them ahead of schedule.

3.5.2 Tools

Use only manufacturer-recommended tools; do not use worn, damaged, poor quality or improvised tools as they can cause injury.



WARNING: The manufacturer cannot be held liable for any damage or injury caused by the use of tools that are not prescribed or modified without authorisation.

3.5.3 Personnel

The routine maintenance tasks described in this manual must only be carried out by trained, authorized personnel.

For component maintenance/revision tasks not covered by this manual please contact Max-Air.

3.5.4 Keeping the compressor clean

Oil and grease stains, scattered tools or broken pieces constitute a danger to personnel as they may cause slips and falls. Always keep the compressor and the surrounding work area clean and tidy.

To clean the compressor, use gasoline or denatured alcohol, taking care to protect the electrical parts, plastic parts, transparent or colored. Do not use diesel, petrol or solvents as the former leave an oily film that causes dust to stick while solvents (even where weak) damage the paint work and can lead to rust.

If the water jet gets inside the electrical parts it could, in addition to oxidizing the contacts, prevent the machine being started or even cause a sudden, unexpected start.

For this reason never use water or steam jets on the compressor.

3.5.5 Warning signs

Before doing any maintenance work, stop the engine/motor and make sure the compressed air system is depressurized.

If other people start the engine or act on the control push buttons/keys while maintenance work is in progress there is a risk of serious injury or death.

To avoid these dangers always place warning signs around the compressor before carrying out maintenance.



4 - TECHNICAL DATA

4.1 TECHNICAL CHARACTERISTICS

4.1.1 Crankcase, crankshaft, cylinders, pistons

The crankcase is made of aluminium alloy; the flanges with roller bearings on the filter sides and ball bearings on the fan side that support the crankshaft are kept oil-tight with the crankcase by O-rings between flange and crankcase and the oil retainer between flange and motor shaft.

The crankshaft and the connecting rods run on bearings with roller cages only. The connecting rods are fitted on the crankshaft with a single crank angle.

The first and second stage cylinders are made of cast iron and feature traditional multiple sealing rings. The third stage cylinder is in tempered steel with carbon-graphite sealing rings. The fourth stage cylinder is in tempered steel with a lapping coupling, without sealing rings.

4.1.2 Valves

First stage valves are of the lamellar type; the second, third and fourth stage valves are of the diaphragm type with tempered recovery spring.

4.1.3 Safety valves

The safety valves are pre-adjusted during assembly of the compressor and prevent it being damaged in the event of a malfunction. The max pressure, as a function of the valve, as follows:

1 st stage safety valve	3,5Bar / 50PSI
2 nd stage safety valve	13Bar / 190PSI
3 rd stage safety valve	65Bar / 940PSI
4 th stage safety or final valve	232-300-330Bar / 3300-4300-4700PSI



WARNING: It is strictly forbidden to carry out any adjustments to the valve to raise its factory preset pressure. Tampering with the safety valve can cause serious damage and renders the warranty null and void.

4.1.4 Lubrication

Splash lubrication occurs by oil thrower pin screwed onto the 2nd stage connecting rod.

4th stage lubrication is of the oil vapor type.

4.1.5 Cooling tubes

The cooling tubes are made of stainless steel or aluminium.

4.1.6 Frame, guards

The compressor and motor are mounted on a welded steel frame that has been painted with epoxy resins.

Stainless steel frame available on request.

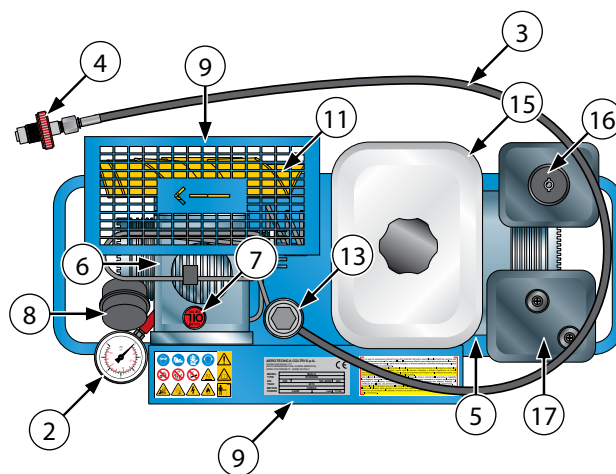
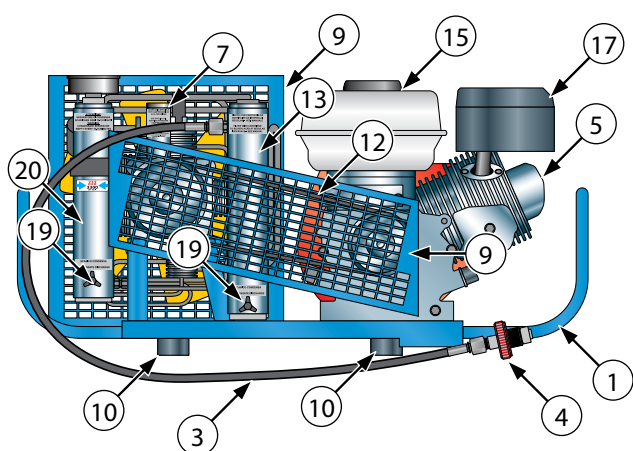
4.1.7 Pressure gauges



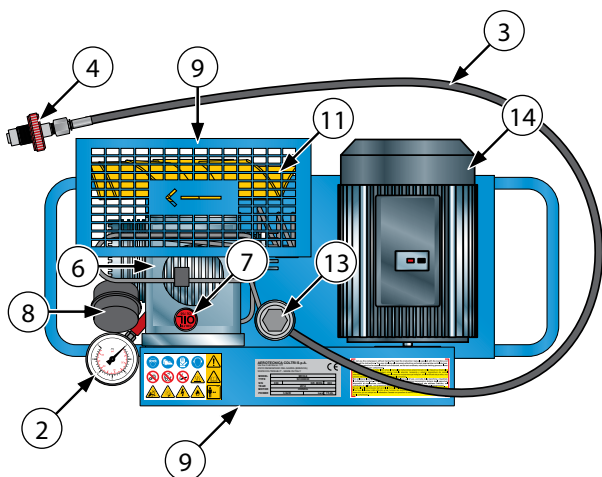
IMPORTANT: The gauges installed on Max-Air compressors have a precision class of 1.6 ($\pm 1.6\%$ on the full scale value).

4.2 MACHINE PARTS

MA35 GH



MA35 E1



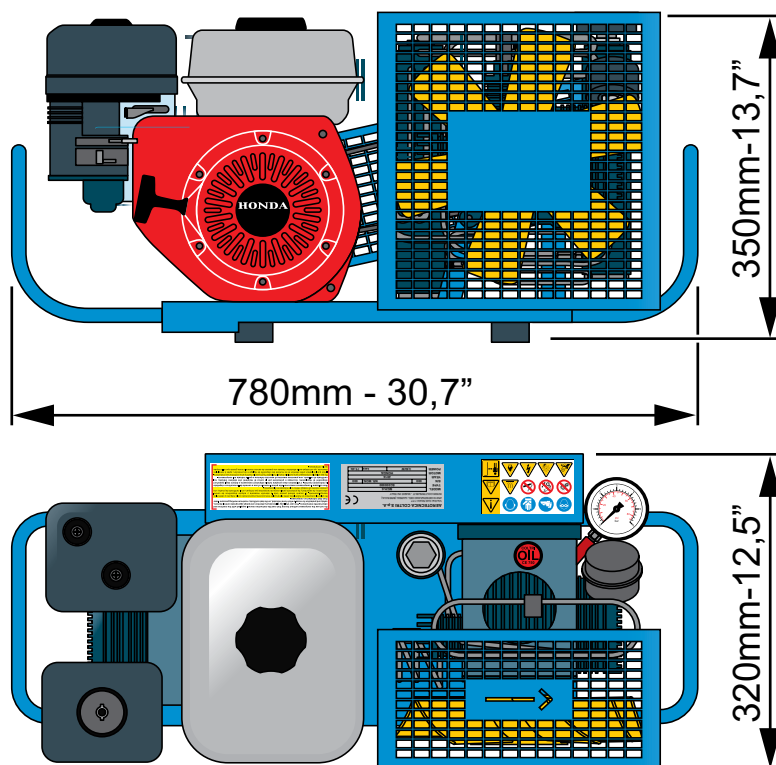
- | | |
|------------------------------|--|
| 1 Frame | 13 Purifier filter |
| 2 Pressure gauge | 14 Electric motor |
| 3 Hose | 15 Fuel tank |
| 4 Refill valve | 16 Internal combustion engine air filter |
| 5 Internal combustion engine | 17 Internal combustion engine exhaust pipe |
| 6 Compressor | 18 Safety valve |
| 7 Oil filler cap | 19 Condensate discharge |
| 8 Air filter | 20 Condensate separator |
| 9 Safety mesh | |
| 10 Anti-vibration devices | |
| 11 Cooling fan | |
| 12 Belt | |

4.3 TECHNICAL CHARACTERISTICS



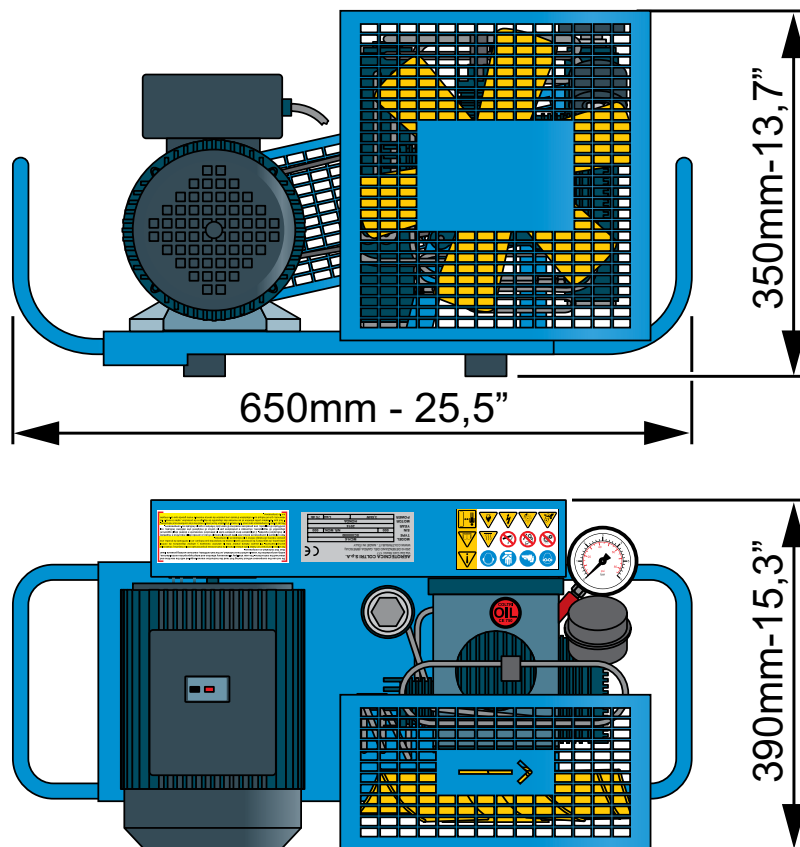
IMPORTANT:

For the MA-35 models: If the compressors are started with the circuit depressurized the MINIMUM power of the generator with unloaded start MUST be ~7 kVA. Do not start compressor while towers are under pressure.



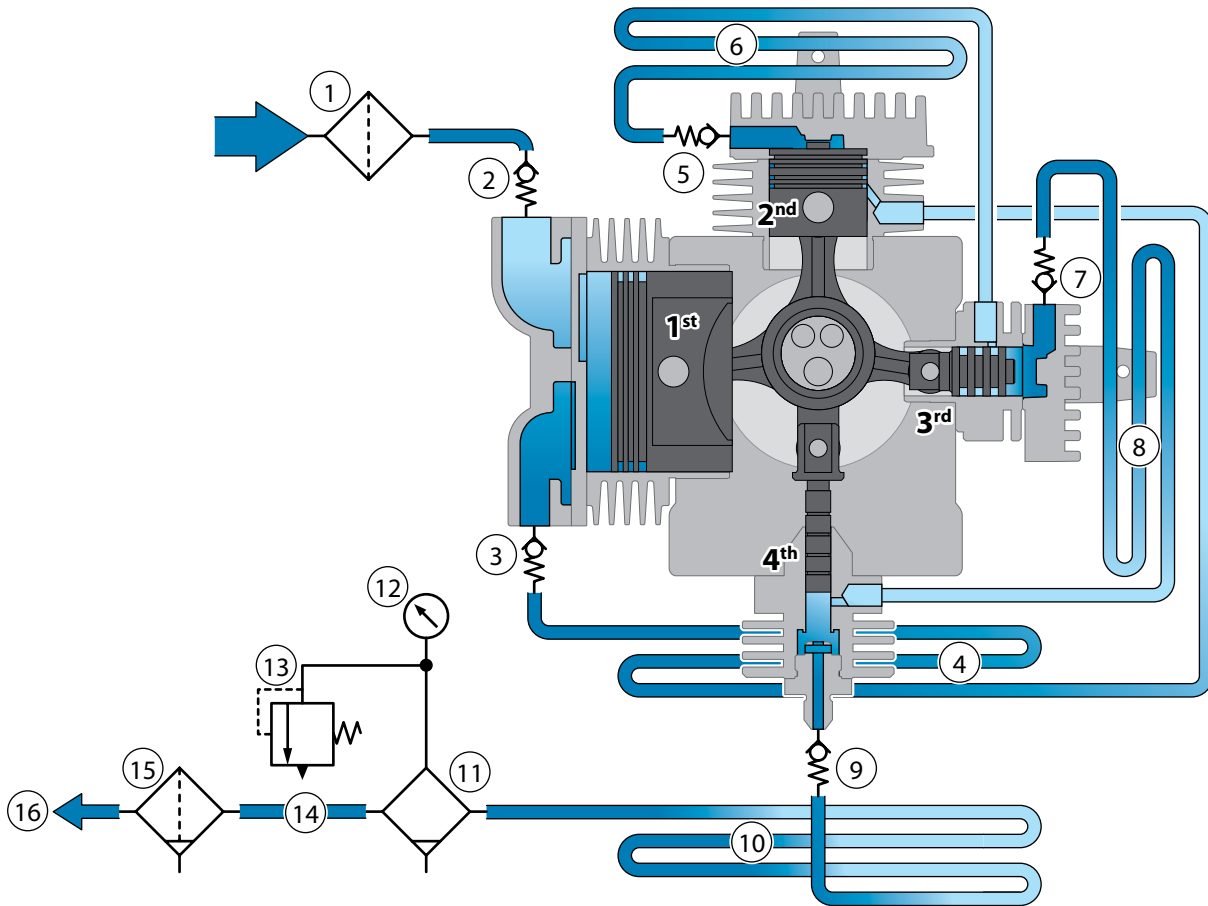
		MA35 GH
Engine gas		Honda
Engine power	(kW)	3,6
	(Hp)	4,8
Engine rpm	(giri/min)(rpm)	3600
Pumpin Unit	(giri/min)(rpm)	2800
Working pressure	(bar)	232-300-33
	(PSI)	3300-4300-4700
Delivery rate	(l/min)	100
	m³/h	6
	CFM	3,5
Refill time	10l / 0-200bar (min)	20
Noise level	Lwa (dB)	80,5
Dry weight	(Kg)	37
	(lb)	81,6
Dimensions	(mm)	780x350x320
	(inches)	30,7x13,7x12,5

MA35 E1



	MA35 E1	
Electric		Single phase
Engine power	(kW)	2,2
	(Hp)	3
Engine rpm	(giri/min)(rpm)	2800 3400
Voltage	(V)	230 115 230
Frequency	(Hz)	50 60 60
Absorption	(A)	14 29 14
Pumpin Unit	(giri/min)(rpm)	22
Working pressure	(bar)	232-300-330
	(PSI)	3300-4300-4700
Delivery rate	(l/min)	80
	m³/h	4,8
	CFM	2,8
Refill time	10l / 0-200bar (min)	25
Noise level	Lwa (dB)	91
Dry weight	(Kg)	39,5
	(lb)	87
Dimensions	(mm)	650x350x390
	(inches)	25,5x13,7x15,3

4.4 PRESSURE CIRCUIT



- | | |
|---|-----------------------------------|
| 1 Intake filter | 12 Pressure gauge |
| 2 Intake valve 1 st stage | 13 Safety valve |
| 3 Outlet valve 1 st stage | 14 Cooling pipe separator/ filter |
| 4 Cooling pipe 1 st -2 nd stage | 15 Purifier filter |
| 5 Outlet valve 2 nd stage | 16 Flex hose |
| 6 Cooling pipe 2 nd -3 rd stage | |
| 7 Outlet valve 3 rd stage | |
| 8 Cooling pipe 3 rd -4 th stage | |
| 9 Outlet valve 4 th stage | |
| 10 Final cooling pipe | |
| 11 Condensate separator | |

5 - HANDLING AND INSTALLATION

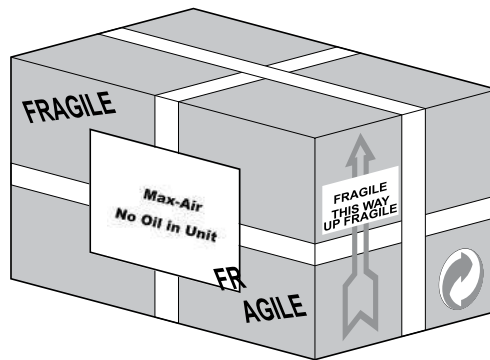
5.1 UNPACKING

The compressor is packed in a cardboard box on a pallet to simplify handling and transport.

The box containing the compressor must be moved according to the instructions shown on the box itself.

The machine is supplied with the following as standard:

- 1 4 foot fill whip;
- 1 Filling connection (Yoke, DIN or SCBA);
- 1 20 ounce bottle of lubricating oil for pumping unit;
- Lubricating oil for engines (installed for models with (combustion engines only));
- 1 Breathing air or dryer cartridge;
- 1 Use and Maintenance manual;
- 1 Use and maintenance manual internal combustion engine if equipped.



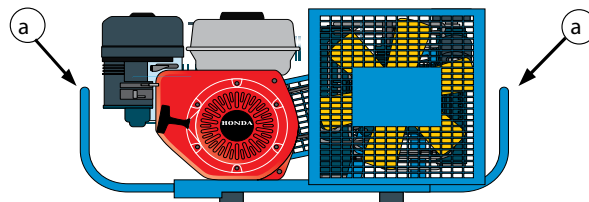
5.2 HANDLING

After separating the compressor from its packaging it can be transported to the designated placement area.

Transfer will require the use of a fork-lift, pallet jack or 2 people

To lift the compressor use the carry handles (a).

If the compressor is to be lifted manually make sure the task is done by two workers, once again using the carry handles (a).



WARNING: Manual lifting of the compressor requires at least two workers and in any case no individual worker should lift more than 66 lbs (30 Kg).



IMPORTANT: Proceed with the utmost care when lifting, transferring and positioning the compressor.

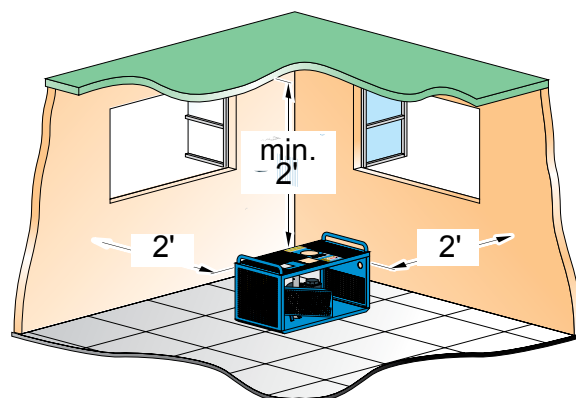
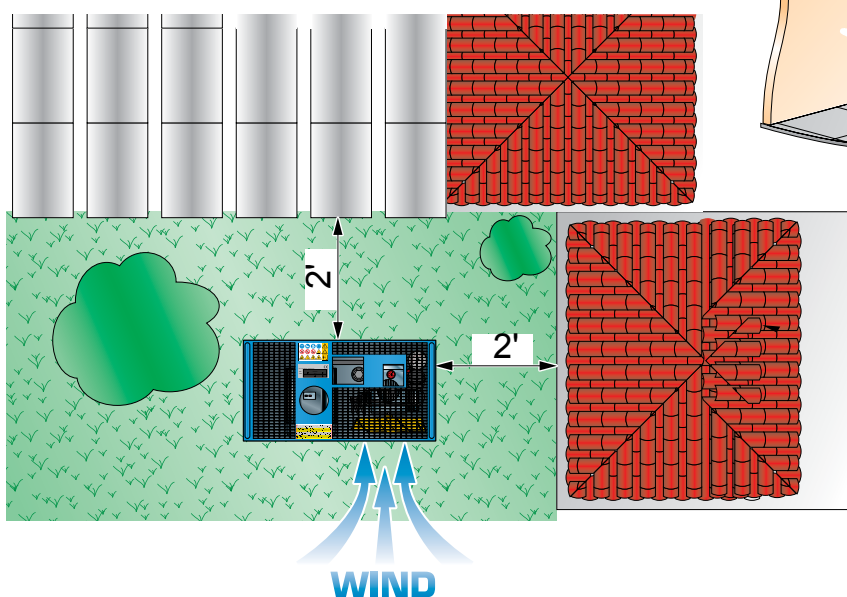
5.3 INSTALLATION



WARNING: Before proceeding with the installation tasks described below, read Chapter 3 "SAFETY REGULATIONS" carefully.

5.3.1 Positioning

- Position the compressor in the designated area and make sure it is level. For compressor dimensions please consult section 4.3 "Technical characteristics"
- Check that the area in which the compressor is to be positioned is adequately ventilated: good air exchange (more than one window), no dust and no risk of explosion, corrosion, fire and absence of harmful or toxic fumes and gases.
- If ambient temperatures exceed 113°F (45°C) air conditioning will be necessary.
- Position the compressor no closer than 24" to surrounding walls; the gap between compressor and ceiling should be at least 24 inches. These distances ensure proper compressor operation and proper cooling of the pumping unit.
- Make sure that lighting in the area is sufficient to identify every detail (such as the writing on the info labels); use artificial lighting where daylight is insufficient.

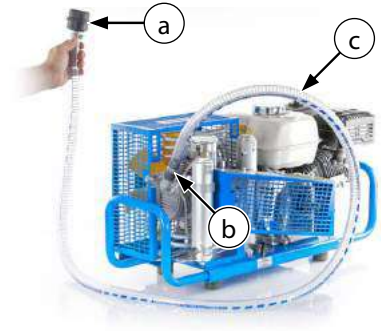
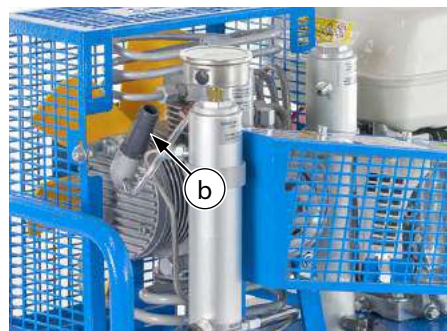
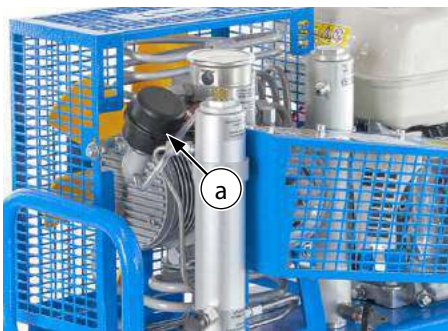


WARNING: Compressors with internal combustion engines must only be installed outdoors.

5.3.2 Air intake extension connection

If the compressor is installed in an area without the necessary ventilation requisites described in section 5.3.1 "Positioning", it will be necessary to install an air intake extension leading in from outdoors or a place with the cited ventilation requisites.

- The extension, supplied as an optional, must be connected to the intake connector.
- Remove the intake filter (a)
- Attach the fitting (b)
- Connect the extension hose (c) to the fitting (b).
- Fit the intake filter (a) on the other end of the extension pipe.
- Position the end of the extension with the air intake filter in a properly ventilated area sheltered from weather and exhaust fumes.
- Point the air intake against the wind.
- Check that there are no kinks or breaks along the pipe. If it is damaged replace it.



WARNING: Use only a flexible pipe with internal steel braiding reinforcement so as to prevent kinks and pinching. Do not aspirate harmful gases or exhaust fumes.

5.3.3 Electrical connection

The compressor is supplied with an electrical lead.

To connect to the power supply just insert the plug in the main power socket.

Check that the data on the compressor ID plate is compatible with main power supply, especially in regards to rated current and voltage.

The main power system must have an efficient ground (earth); check that the earth resistance value complies with the protection / operational requirements of the compressor electrical system.



WARNING: Before inserting the plug, check that the electrical system complies with the standards in force in the country of installation. A proper earth (ground) system is an essential safety requisite.

An efficient compressor ground (earth) system is an essential compressor safety requisite.

The mains power connection plug must be type-approved in compliance with the relevant standards and have an ON-OFF switch (not supplied).



DANGER: Check that the characteristics of the main power are compatible with those of the compressor.

6 - USING THE COMPRESSOR



IMPORTANT: For optimal use of the compressor it is recommended to respect the times of continuous use, and the shutdown time (for cooling) reported in the table.

Engine power (hp)	Use (minutes)	Cooling (minutes)
5+	45-60	30

6.1 PRELIMINARY CHECKS BEFORE USING FOR THE FIRST TIME

The operator must check that the compressor is supplied with:

- use and maintenance manual;
- use and maintenance manual of internal combustion engine (where applicable).

If the compressor is sold on the customer/user must provide the purchaser with a complete, undamaged use and maintenance manual.

6.1.1 Filling with lubricating oil

At the time of delivery the compressor does contain lubricating oil unless otherwise noted on the compressor.

For filling instructions see section "7.6 Checking and changing the lubricating oil".

6.1.2 Inserting filtration cartridge

At the time of delivery the compressor has no filtration cartridge fitted: the cartridge is supplied together with the compressor in a sealed vacuum-packed bag found inside the packaging.

For instructions on how to insert the filtration cartridge see section "7.10 Purifier filter".

6.1.3 Filling the engine with lubricating oil (for internal combustion engine only)

At the time of delivery those compressor motors equipped with a combustion engine do have any lubricating oil unless otherwise noted. For instructions on how to fill with oil see the attached engine use and maintenance manual.

6.1.4 Checking for proper electrical connection (for three-phase electric motors only)

Check for proper connection of electrical phases by checking that the cooling fan rotates in the direction indicated on the arrow (a) on the fan cover.

If the direction of rotation is not as indicated by the arrow it will be necessary to disconnect the electrical power supply and invert two of the three phases on the main power lead.



DANGER: Before carrying out this task disconnect the compressor from the main power supply.
Do not invert or disconnect the ground wire.

6.1.5 Refill hoses connection

At the time of delivery the compressor has no refill hoses fitted: the refill hose is supplied together with the compressor inside the packaging.
For instructions on connection see section "7.12 Hose replacement".

6.2 CHECKS TO BE RUN AT THE START OF EACH WORKING DAY

Inspect the exterior of the compressor (couplings, pipes, pneumatic components etc.) and check for any oil leaks. Replace parts where necessary or contact Max-Air.

6.2.1 Lubricating oil level check

Check that the lubricating oil level (a) is within acceptable limits (MIN.-MAX.).

Note that an excessive quantity of oil can cause infiltrations in the cylinders and leave deposits on the valves while too low a level prevents proper lubrication and could cause engine seizure.

If the oil level is not within the minimum and maximum limits top off or drain as described in section "7.6 Changing the lubricating oil".



Sight window
3/4 full

6.2.2 Checking that the refill flex hoses are in good condition

Inspect the refill hoses and make sure there are no cuts, holes, abrasions, leaks etc. If necessary replace with new hoses.

6.2.3 Fuel level check

To check the fuel level unscrew the cap (a), check that there is fuel and re-close the cap (a).

If a top-up is necessary refer to “7.7 Checking fuel level and topping off”.



DANGER: When topping off the fuel level make sure you do not spill any fuel as this could cause a fire. If fuel is spilled it must be wiped up immediately.

The fuel is flammable: therefore, never use open flames when refueling and do not use materials than can generate sparks.

Use protective gloves when topping up the fuel level.

Always make sure the fire extinguisher is at hand when topping off the fuel level.

6.2.4 Checking the safety valves

The final safety valve protects bottles and the compressor by excessive pressure; the valve setting is made at the time of testing the compressor. The safety valve are pre-adjusted to:

The safety valve must be tested at the beginning of each working day.

To check the safety valve:

After attaching the coupling to the bottle start the compressor with the bottle valves closed.

Once you have checked, using the gauge, that the safety valve trips properly at maximum working pressure, open the valves and start the refill.

Compressor with pressure switch for automatic shutdown:

Verify that the pressure switch interrupts the power supply on the compressor at the desired pressure.



IMPORTANT: The safety valves must be replaced every 5 years or 2000 hours.



DANGER:

Tampering with the safety valve to increase the pressure setting is strictly forbidden.

Tampering with the safety valve can seriously damage the compressor, cause serious injury to personnel and renders the warranty null and void.

Should the safety valve fail to work properly contact the Max-Air assistance service.

6.2.5 Storing technical documentation

The "*Use and Maintenance Manual*" and its appendices must be stored carefully and must always be kept where they can be accessed easily for immediate consultation.



WARNING: The "*Use and Maintenance Manual*" is an integral part of the compressor and must always be handed over in the event of a change of ownership.

6.3 STARTING AND SHUTTING DOWN

6.3.1 Starting and shutting down with internal combustion engine



IMPORTANT: These tasks must be carried out by qualified personnel who have been trained to use the compressor. Before starting the compressor read the attached engine use and maintenance manual carefully.

Before starting the engine open the condensate discharge points to prevent a "strained" start.

- shift the fuel lever (a) to ON.
- if the engine is cold shift the air lever (b) to the closed position.
- if the engine is hot the choke (b) must be in the open position.
- shift the accelerator lever (c) about a 1/3 of the way from its minimum position.
- turn the shutdown switch to the ON position.
- gently pull the starter handle (d) until the cord is taut then tug it sharply.
- re-accompany the handle gently back to its original position to prevent damage to the start mechanism.

- repeat the procedure if necessary.
- if the air lever was in the closed position at the start gradually shift it to the open position as the engine warms up.
- to stop the engine in the event of an emergency turn the shutdown switch (e) to the OFF position.
- to stop the engine under routine working conditions shift the accelerator lever to MIN.
- turn the shutdown switch (e) to the OFF position.
- shift the fuel valve lever (a) to OFF.



WARNING: Carbon monoxide is a toxic gas: Breathing it can cause loss of consciousness and death. Avoid areas or actions that will expose people to carbon monoxide.



IMPORTANT: When using the compressor with a gas or diesel engine the accelerator should be set to the maximum speed, do not operate the engine at low speed or the accelerator set to minimum.

6.3.2 Starting and shutting down with electric motor

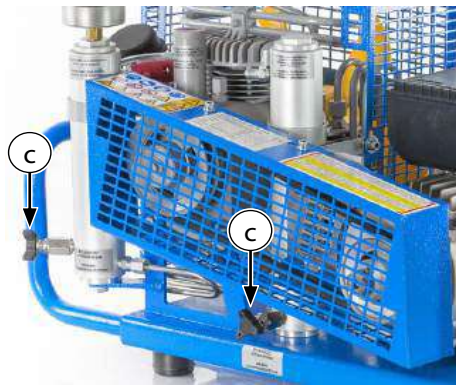


IMPORTANT: These tasks must be carried out by qualified personnel who have been trained to use the compressor.

Before starting the engine open the condensate discharge (c) points to prevent a "strained" start.

- Check the voltage and that there is a proper earth contact.
- connect the compressor up to the mains power supply.
- press the start pushbutton to ON position.
- close the condensate discharge points.

To switch the motor off again press the start pushbutton to OFF position (red pushbutton).



IMPORTANT: For models with three-phase electric motor check that the direction of rotation of the electric motor is as indicated by the arrow on the cover (if it is not refer to “6.1.4 Checking for proper electrical connection”).

6.4 TANK REFILL



IMPORTANT: During refill the operator must be in the work area.



WARNING: During bottle refill those not involved in the refill procedure must maintain a safety distance of at least 10 feet (3 meters). Also, it is forbidden to disconnect the hoses from the fittings or the fill valve while the machine is under pressure.



IMPORTANT: If an emergency situation arises during refill shut down the compressor immediately (see “6.4 Starting and shutting down”).

The compressor is nevertheless equipped with a safety system that shuts it down automatically when:

- Comes into operation the safety valve without shutting down the compressor.
- The pressure setting on the pressure switch has been reached.
- The electrical power supply is temporarily cut.
- The electric motor overload device is tripped.

Following an emergency shutdown always make sure the cause of the emergency has been eliminated before proceeding with another refill.



WARNING: Use only tested bottles (as proven by a test stamp and/or certificate).

The working and bottle refill pressures are shown on the bottles themselves.

It is forbidden to refill them at a pressure greater than that indicated.



Check that the bottles to be refilled are in good condition: they must have been tested by the relevant authorities (stamped and/or certified). Run a visual check on the exterior.

Check that the refill hose and relevant fitting are in good condition.

After being refilled do not empty the bottles completely, not even during winter storage or long periods of inactivity: this will stop humidity getting in.



DANGER: Should bottles show evident signs of internal/external corrosion, do not refill them even if they have been tested.

The available bottle refill connectors are:

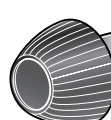
Di serie - Standard



DIN 232 BAR
6-05-024

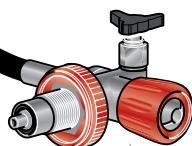


DIN 300 BAR
6-05-024/300

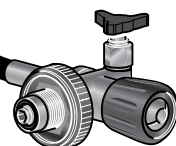


INT
6-05-025

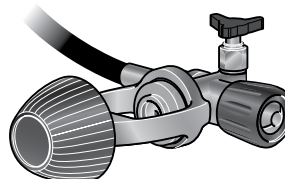
A richiesta - On request



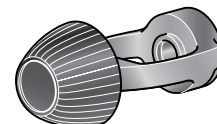
BC DIN 300 BAR
SC000460



BC DIN 232 BAR
SC000470



BC INT
SC000450



Reducer DIN/INT
RE100350

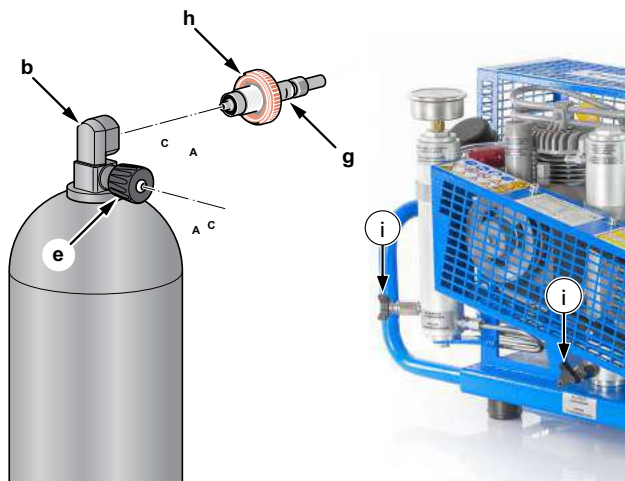
To refill bottles with standard connectors (1):

- Fit the hose connector (g) to the bottle valve (b).
- Screw in the fixing knob (h) until it is completely tightened.
- Start the compressor.
- Open the valve (e) by rotating it counterclockwise.
- When the refill has been completed shut the compressor down.
- Close the valve (e) by rotating it clockwise.
- Open the condensate drain valves (i) (see "7.9 Condensate discharge") until all the residual air in the compressor has been expelled.
- Unscrew the fixing knob (h) by rotating it counterclockwise.
- Disconnect the bottle coupling.

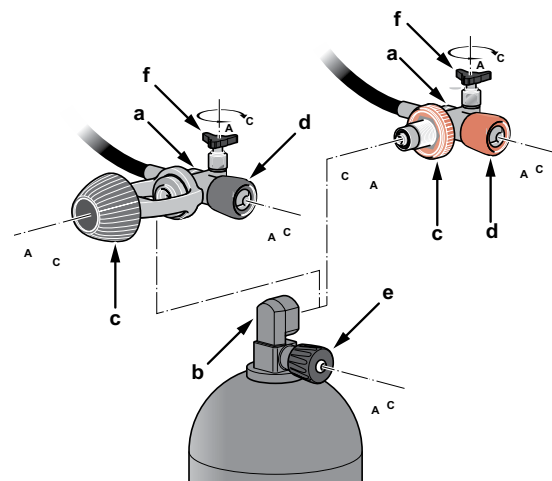
To refill bottles with BC connectors (2):

- Fit the hose connector (a) to the bottle valve (b).
- Screw in the fixing knob (c) until it is completely tightened.
- Check that the bleed valve (f) is closed by rotating it clockwise.
- Open the valve (d) by rotating it counterclockwise.
- Start the compressor.
- Open the valve (e) by rotating it counterclockwise.
- When the refill has been completed shut the compressor down.
- Close valves (d) and (e) by rotating them clockwise.
- Open the bleed valve (f) by rotating it counterclockwise until all the residual air in the fitting has been expelled.
- Unscrew the fixing knob (c) by rotating it counterclockwise
- Disconnect the bottle coupling.

1



2



6.5 OPTIONAL

6.5.1 Automatic shutdown with pressure switch

The compressor can be equipped with a pressure switch (a) so that it shuts down automatically when it reaches the pressure set by the manufacturer. When the set pressure is reached the compressor stops.

6.5.2 Automatic condensate discharge

If the compressor is equipped with an automatic condensate discharge, the compressor will automatically drain the condensate every 10 minutes for 8 seconds.

6.5.3 Hour meter

The hour meter indicates the number of working hours of the compressor: this provides a time reference for scheduled maintenance.

7 - MAINTENANCE



WARNING: Maintenance tasks must only be carried out by the Max-Air Customer Assistance Service or qualified personnel.

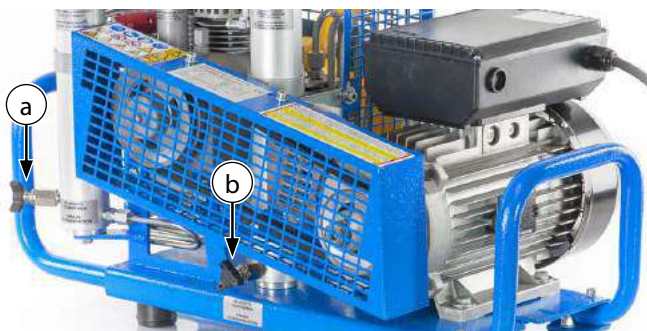


DANGER: Do not carry out maintenance tasks if the compressor has only just shut down; wait for the compressor to cool.

All maintenance work must be carried out with the compressor OFF and the power supply lead unplugged from the mains socket.

Depressurize the entire compressor circuit before carrying out any maintenance tasks.

To depressurize the entire compressor circuit open the drain valves (a) and (b) in sequence and collect the condensate in an appropriate recipient.



7.1 FOREWORD

To obtain the best possible performance from the compressor and ensure a long working life for all its parts it is essential that personnel follow the use and maintenance instructions with extreme diligence.

It is thus advisable to read the information below and consult the manual every time an inconvenience arises.

For further information please contact Max-Air.

7.2 GENERAL

- Proper preservation of the compressor requires thorough cleaning.
- This type of refill station, designed and built according to the most advanced technological criteria, requires only minimum preventive and routine maintenance.
- Before carrying out any maintenance tasks, run checks and/or controls on the compressor, switch off the compressor, remove the plug from the main socket.
- The residual pressure present in the compressor (pumping circuit) must be released.
- During disassembly and re-assembly of the compressor, always use suitable wrenches/tools so as not to damage the relevant components.
- Loosen stiff parts with a copper or plastic mallet.
- When refitting parts make sure they are clean and lubricated sufficiently.
- Compressor maintenance tasks must only be carried out by authorized personnel and recorded in the chapter "10 Maintenance register" of this manual.

7.3 UNSCHEDULED WORK

Involves repair and/or replacement of the mechanical parts of one or more compressor components:

This work normally needs doing only after some years of use. If substantial modifications are made, the manufacturer cannot be held liable for any dangers that might arise.

This work must be carried out by the assistance center.

7.4 SCHEDULED MAINTENANCE TABLE

Before every refill		Hours												Years				
Maintenance - Mantenimiento		5	10	25	50	100	250	500	1000	1500	2000	3000	4000	1	2	3	4	5
Condensate discharge	○																	
Intake filter				○		●								●				
Lubricating oil	○				●									●				
Belt wear and tension				○				●						●				
1 st , 2 nd , 3 rd stage valves							○	●										
4 th stage valves							○	●										
Condensate separator							○					●						●
HP filter							○					●						●
1 st , 2 nd , 3 rd stage segments								●										
4 th stage								●										
HP flex hoses				○				○				●						●
Fitting/hose leak							○											
General check-up								○										
Pumping unit, general overhaul											○							
Safety valve	○										●							●

○ = Checking and cleaning ● = Change



IMPORTANT: Maintenance interval times are indicative only and may vary according to the conditions under which the compressor is used.

7.5 TROUBLESHOOTING

Problem	Cause	Solution
• The electric motor does not start	• Phase missing	• Check fuses or condenser
• Rotation speed and flow rate decrease	• Motor power too low	• Check the motor and the line
	• The belt slips	• Restore proper belt tension
• The flow rate diminishes without rpm decreasing	• Valves not working	• Contact technical assistance
	• 4th stage piston worn	• Contact technical assistance
	• Fittings loose / leaking seals	• Check for leaks with soapy water and eliminate them
	• Intake filter clogged	• Replace
	• Intake extension kinked	• Straighten, use stiffer pipe
	• Piston or piston rings worn	• Contact technical assistance
• Air smells of oil	• Filter cartridge exhausted	• Replace
	• Piston rings worn	• Contact technical assistance
• Compressor overheats	• Direction of rotation wrong	• Correct direction of rotation
	• Cooling tubes dirty	• Contact technical assistance
	• Incomplete valve closure (causing overload of another stage)	• Contact technical assistance

7.6

CHECKING AND CHANGING THE LUBRICATING OIL

After putting the compressor into service the lubricating oil must be changed after the first 15 working hours.

The lubricating oil must be changed every 50 hours working hours or annually.



IMPORTANT: The compressor must be placed on a solid surface with a tilt of no more than 5°.



DANGER: Do not carry out these tasks if the compressor has only just shut down; wait for the compressor to cool.

Any oil spilled during the oil change could cause personnel to slip; wear protective garments and anti-slip footwear and remove any traces of oil immediately.

Both oil for compressor and engine, if applicable, are classified as special wastes and must therefore be disposed of in compliance with the anti-pollution laws in force.

All maintenance work must be carried out with the compressor OFF and the power supply lead unplugged from the main socket.

Oil table	
Sump capacity	20 oz.
Oil	MAXLUBE 580



To avoid warranty violation and ensure optimum performance of your compressor, use only MaxLube 580 oil. This is a specially formulated tri-ester blend designed to provide the best protection for the compressor.

Checking the oil level

The oil level must be checked every 5 working hours of the compressor.

The oil level must be between the minimum and the maximum shown on the dipstick (a).

If the oil level is above the maximum level:

- position a recipient under the drain valve (b) so that the oil flows into the exhausted oil recipient;
- open the push-lock plug (c);
- open the drain valve (b) and let the oil flow out until the oil level returns to approximately the 3/4 level of the site bubble
- close the drain valve (b).

If the oil level is below the minimum level:

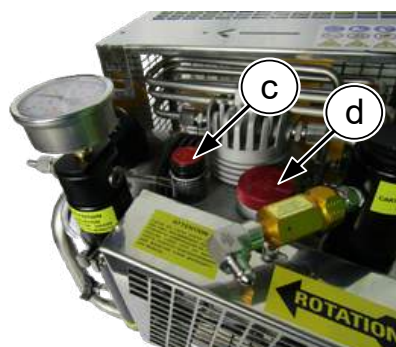
- top off with oil until the level returns to approximately the 3/4 level of the site bubble
- close the top-up plug (c) by exerting a slight pressure on it.

Changing the lubricating oil

The lubricating oil must be changed after the first 15 working hours (breaking in) then every 50 working hours or annually.

To change the oil proceed as described:

- position a recipient under the drain plug (b) so that the oil flows into the exhausted oil recipient (recipient capacity of at least 1 quart required);
- remove the dip stick (c)
- open the plug (b) and let all the oil flow out;
- close the drain plug (b);
- remove oil fill tube cap (d);
- fill the oil sump with 20 ounces of oil from top oil plug (see "7.6 Oil table");
- replace oil fill tube cap (d);
- replace the dip stick (c);
- switch on the compressor and run it depressured for 30 seconds;
- switch off the compressor and wait 5 minutes;
- check the oil level (a); if it is not approximately 3/4 of the bubble (a) proceed with the tasks described in paragraph "Checking the oil level"



7.7 CHECKING FUEL LEVEL AND TOPPING UP



IMPORTANT: Before carrying out any work on the engine consult the attached engine *"Use and Maintenance Manual"*.

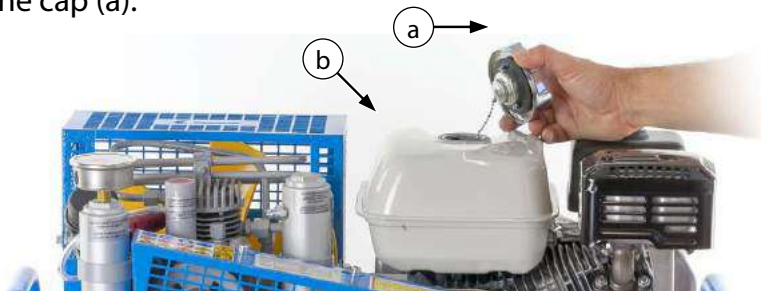
The fuel level must be checked at the start of every working day.

To check the fuel level:

- unscrew the cap (a);
- check that there is fuel inside the tank (b);
- re-tighten the cap (a).

To top up the fuel level:

- unscrew the cap (a);
- top up with fuel: do not fill to the brim of the tank (b) but leave a space for expansion;
- re-tighten the cap (a).



DANGER: When topping up the fuel level make sure you do not spill any fuel as this could cause a fire. If fuel is spilled it must be wiped up immediately.

The fuel is flammable: therefore, never use naked flames when refuelling and do not use materials that can generate sparks.

Use protective gloves when topping up the fuel level.

Always make sure the fire extinguisher is at hand when topping up the fuel level.

7.8 CHANGING THE INTAKE FILTER



DANGER: Do not carry out these tasks if the compressor has only just shut down; wait for the compressor to cool.

All maintenance work must be carried out with the compressor OFF and the power supply lead unplugged from the main socket.

The air intake filter should be changed every 100 working hours or annually.

To change the filter proceed as follows:

- turn the air filter cover (a) by pushing down and rotating it counter-clockwise;
- remove the air filter cartridge (b);
- replace the cartridge with a new one;
- re-close the cover (a)



7.9 CONDENSATE DISCHARGE

Condensate can be drained while unit is running. This will not affect the fill time.

Condensation accumulates in the condensate separator; the condensate must be discharged every 10-15 minutes of compressor use.

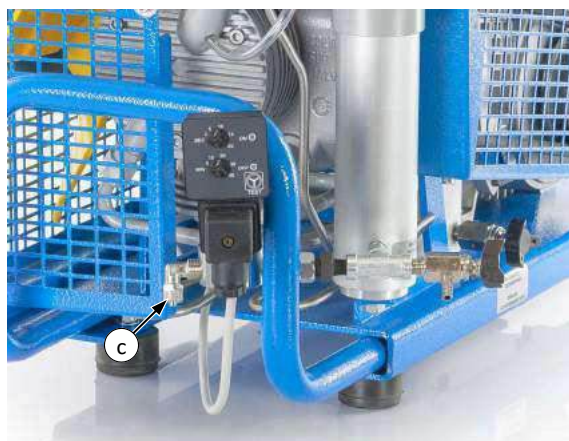
To discharge the condensate open the drain valves (a) and (b) in sequence and collect the condensate in an appropriate recipient.

Close the valves.

For compressors with automatic condensate discharge the condensate must be collected at the discharge point (c) in appropriate recipients.

An outflow of condensate water with lubricating oil is normal during refills: the quantity will depend on the level of humidity in the air.

Condensate must be disposed of according to the instructions shown in section “9.1 Waste disposal”.





IMPORTANT: Every 5 years or ever 3000 hours it will be necessary to change the condensate separator body.



IMPORTANT: Every 5 years or ever 3000 hours it will be necessary to change the drain valves.



DANGER: You **MUST** drain the condensate at the specified intervals. Failure to observe this instruction can place staff in serious danger and could cause serious damage or injury.

7.10 PURIFIER FILTER

The filtration cartridge must be replaced at intervals calculated on the basis of the characteristics of the environment in which the compressor is located. To calculate these intervals refer to the table below.

The filtration cartridge must nevertheless be replaced before the air becomes malodorous.



IMPORTANT: If the compressor is used in an environment where CO (exhaust fumes) may be present it is compulsory to use CO-fixing filtration cartridges; these can be supplied on request.



IMPORTANT: For compressors used in the USA and CANADA the use of LAWRENCE FACTOR filtration cartridges is recommended.



DANGER: Do not carry out these tasks if the compressor has only just shut down; wait for the compressor to cool.

All maintenance work must be carried out with the compressor OFF and the power supply lead unplugged from the mains socket.

Depressurise the entire compressor circuit before carrying out any maintenance tasks.

To depressurise the entire compressor circuit proceed as follows in the section "Condensate discharge".



DANGER: You **MUST** replace the filtration cartridge at the specified intervals. Failure to observe this instruction can place staff in serious danger and could cause serious damage or injury.

Filter cartridge replacement frequency calculation table *					
Temperature		Filter duration (work hours)		n° bottles by 15l (Recharge 0-200bar)	
°C	°F	80 l/min	100 l/min	80 l/min	100 l/min
40	104	5	4	8	8
30	86	7	6	11	12
20	68	12	10	19	20
10	50	18	15	29	30
0	32	33	28	53	56
-5	23	53	44	85	88

* The values shown in the table were obtained with pressure maintenance valve calibrated at 200bar.

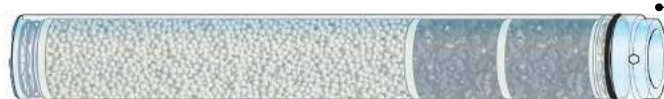
Changing the filtration cartridge

To change the filtration cartridge (b) proceed as follows:

- vent all the compressed air inside the circuit;
- unscrew the filter cap (a);
- remove the filtration cartridge (b) and replace it with a new one;
- change the O-ring (c) on the cap (a) yearly or if damaged;
- close the filter cap (a).



X-156712 Dryer Cartridge
Molecular sieve



LF-1001 Filter Cartridge
Hopkalite/Active carbon/Molecular sieve



WARNING: The filtration cartridge are classified as special waste: they must be disposed of in compliance with the anti-pollution standards in force.



IMPORTANT: It is essential that there be a filtration cartridge (b) inside the purifier filter (d) every time the compressor is used.



IMPORTANT: Every 5 years or ever 3000 hours it will be necessary to change the filter body (d).

7.11 TRANSMISSION BELT

Belt tension must be checked monthly.

The transmission belts must be replaced every 500 working hours of the compressor or annually.



DANGER: Do not carry out these tasks if the compressor has only just shut down; wait for the compressor to cool.

All maintenance work must be carried out with the compressor OFF and the power supply lead unplugged from the mains socket.

Checking transmission belt tension / changing belts

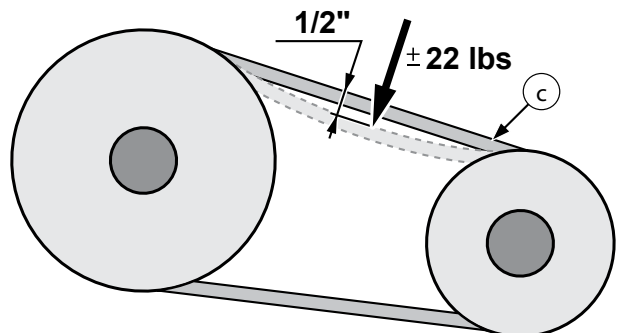
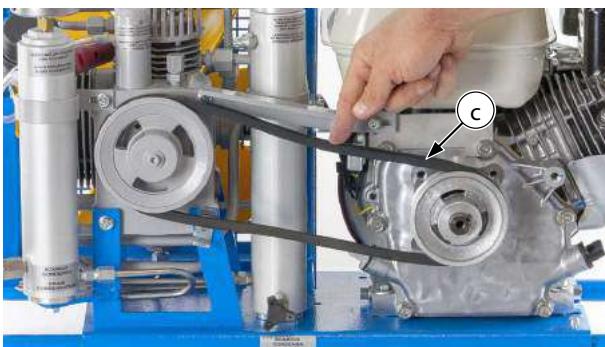
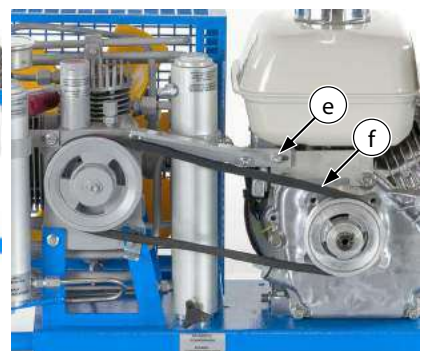
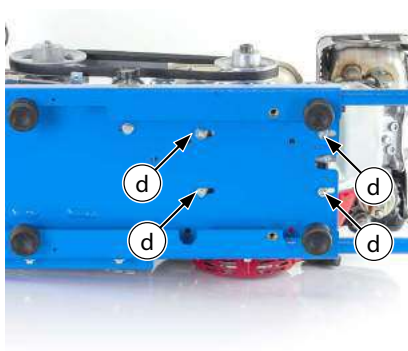
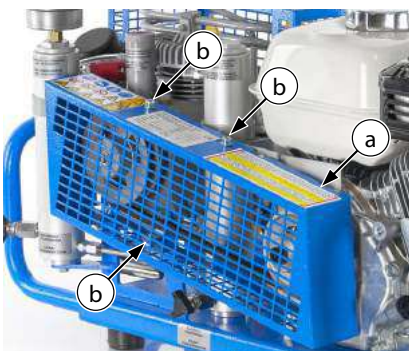
The transmission belt must be replaced annually or every 500 working hours of the compressor.

To check belt tension remove the cover (a) by removing the fixing screws (b) and exert a pressure of approximately 22 lbs. on the belt (c); check that the belt does not flex by more than 1/2" with respect to its original position.

Should it flex more than this:

- loosen the engine fixing screws (d);
- loosen the screw (e);
- if the belt is worn or close to its scheduled time for replacement change it with a new one (f);
- remove the belt (c);
- withdraw the engine by about 1/4";
- fix the screws (d);
- tighten the screw (e);
- re-fit the belt (c);
- re-check belt tension;
- re-fit the cover (a).

If the tension of the new belt still fails to comply with the necessary requisites contact Max-Air assistance service.



7.12 CHANGING THE FLEX HOSES



IMPORTANT: The hoses must be changed periodically (every 5 years or ever 3000 hours) or when they show signs of abrasion/wear/damage.

The bending radius of the hoses must not be less than 250 mm.



DANGER:

Do not carry out these tasks if the compressor has only just shut down; wait for the compressor to cool.

Compressor OFF and the power supply lead unplugged from the mains socket.

Vent the air from the compressor before carrying out any maintenance tasks.

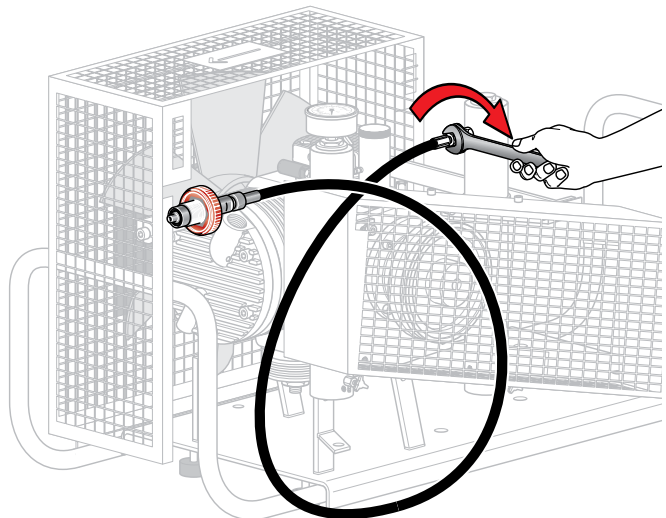
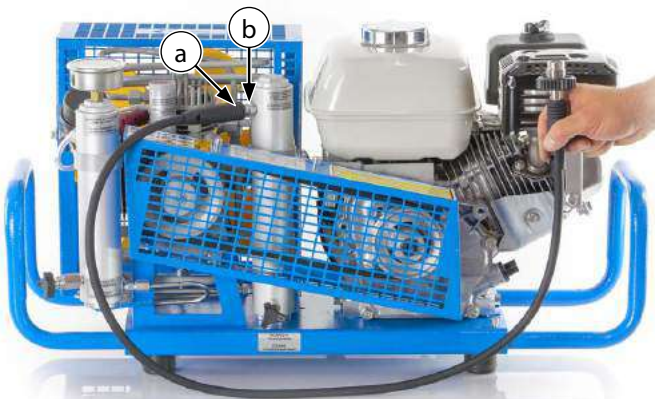
Tank refill pressure is very high; therefore, before refilling the tanks check that the hoses are perfectly connected and in good condition. Check also that the valves on any unused hoses are closed properly so as to prevent the dangers that derive from hose whiplash.

When the tanks are being refilled unauthorised personnel must remain at a distance of at least 10 feet (3 meters).

Fittings or refill valve when the machine is under pressure.

To change the bottle refill hose proceed as follows:

- disconnect the bottle refill hoses by unscrewing the fitting (a) at its extremity (17 mm wrench);
- replace the old hose with a new one;
- screw the hose onto the connector (b) hand tight, snug up with wrench



8 - STORAGE

Should the compressor not be used, it must be stored in a dry sheltered area at an ambient temperature of between 41°F and 113°F (5 °C and 45 °C).

Store the compressor away from sources of heat, flames or explosive.

8.1 STOPPING THE MACHINE FOR A BRIEF PERIOD

If you do not intend to use the compressor for a brief period proceed with general cleaning.

8.2 STOPPING THE MACHINE FOR A LONG PERIOD

If you do not intend to use the compressor for an extended period of time (30 days or more) you have 2 options. **First option**, remove the filtration cartridge and run the compressor for a few minutes without actually filling bottles so as to flush out all the residual condensate. Stop the compressor and remove the intake filter from its housing. Restart the compressor and slowly add 2 teaspoons of oil into the air intake hole in the middle of the black filter housing. Stop the compressor and reinstall the air intake filter. Clean the external parts: eliminate any moisture, salt or oil deposits. Protect the compressor from dust and water by storing it in a clean, dry place. Switch off the machine via the main switch and remove the plug from the power source.

Second option, every 30 days, run the compressor for 30 minutes. Drain condensate every 10 minutes during this cycle. This procedure will ensure all parts stay lubricated and will remove any moisture that may collect internally.

Proceed with a thorough general clean of all machine parts.

For combustion engine compressors, if the compressor must stop for more than 1 month, remove the fuel from the tank, close the fuel valve and start the engine to idle until the residual internal fuel runs out. Alternatively, add a fuel additive like Seafoam or Stabil to prolong the life of the fuel.

9 - DISMANTLING AND PUTTING OUT OF SERVICE

Should you decide not to use the compressor or any of its parts any longer you must proceed with its dismantling and putting out of service.

These tasks must be carried out in compliance with the standards in force.



WARNING: Should the compressor, or a part of it, be out of service its parts must be rendered harmless so they do not cause any danger.



WARNING: Bear in mind that oil, filters or any other compressor part subject to differentiated waste collection must be disposed of in compliance with the standards in force.

9.1 WASTE DISPOSAL

Use of the compressor generates waste that is classified as special. Bear in mind that residues from industrial, agricultural, crafts, commercial and service activities not classified by quality or quantity as urban waste must be treated as special waste. Deteriorated or obsolete machines are also classified as special waste.

Special attention must be paid to filtration cartridge as they shouldn't be included in urban waste: observe the waste disposal laws in force where the compressor is used.

Bear in mind that it is compulsory to record loading/unloading of exhausted oils, special wastes and toxic-harmful wastes that derive from heavy/light industry processes. Exhausted oils, special wastes and toxic-harmful waste should be collected by authorized companies.

It is especially important that exhausted oils be disposed of in compliance with the laws in the country of use.

9.2 DISMANTLING THE COMPRESSOR



IMPORTANT: Disassembly and demolition must only be carried out by qualified personnel.

Dismantle the compressor in accordance with all the precautions imposed by the laws in force in the country of use. Before demolishing request an inspection by the relevant authorities and relative report.

Disconnect the compressor from the electrical system.

Eliminate any interfaces the compressor may have with other machines, making sure that interfaces between remaining machines are unaffected.

Empty the tank containing the lubricating oil and store in compliance with the laws in force.

Proceed with disassembly of the individual compressor components and group them together according to the materials they are made of: the compressor mainly consists of steel, stainless steel, cast iron, aluminium and plastic parts.

Then scrap the machine in compliance with the laws in force in the country of use.



IMPORTANT: At every stage of demolition observe the safety regulations contained in this manual carefully.

10 - MAINTENANCE REGISTER

10.1 ASSISTANCE SERVICE

Customers continue to receive assistance after the purchase of a compressor. Max-air will recommend service technicians in customer's area of use.



IMPORTANT: Our qualified technicians are at your disposal at any time to carry out maintenance work or repairs; we use only original spare parts so as to ensure quality and reliability.

10.2 SCHEDULED MAINTENANCE

The scheduled maintenance program is designed to keep your compressor in perfect working order.

Some simple tasks, described in this manual, can be carried out directly by the customer; others, however, require that the work be carried out by trained personnel. For the latter we recommend you always contact our assistance network.

This section provides a simple tool with which to request assistance and register completed scheduled maintenance work.

Start-up and maintenance checks/tasks, once completed by our qualified technician, are registered in this maintenance chapter by way of an official stamp, signature and inspection date; the number of working hours is also registered.

The maintenance schedules/coupons easily let you know when our assistance service should be contacted to carry out work.

10.3 USING THE COMPRESSOR UNDER HEAVY-DUTY CONDITIONS

Where compressors are used in particularly difficult conditions (high levels of pollution, presence of solid particulate in suspension, etc.), scheduled maintenance tasks must be carried out more frequently as per the advice given by our assistance network.

10.4 THE CUSTOMER CARE CENTRE

Our qualified technicians are constantly in contact with the head offices of our company where there is an assistance network coordination and support centre, better known as the Customer Care Centre.

To contact us:

Telephone: +01 830-257-5006 01 830-955-8188
Fax: +01 830-257-3720
http: www.max-air.com
e-mail: sales@max-air.com

10.5 SCHEDULED MAINTENANCE REGISTRY COUPONS

TYPE OF WORK AND NOTES	"ASSISTANCE" SERVICE STAMP	
	TECHNICIAN'S SIGNATURE	
	DATE	

TYPE OF WORK AND NOTES	"ASSISTANCE" SERVICE STAMP	
	TECHNICIAN'S SIGNATURE	DATE

TYPE OF WORK AND NOTES	"ASSISTANCE" SERVICE STAMP	
	TECHNICIAN'S SIGNATURE	DATE

TYPE OF WORK AND NOTES	"ASSISTANCE" SERVICE STAMP	
	TECHNICIAN'S SIGNATURE	
	DATE	

NOTES

[illegible]

CARBON MONOXIDE ELEMENT #MI-4002R

DESCRIPTION

This detector consists of a 'Visual' indicator (#MI-4000), into which a small (15 mm diameter) replaceable disc is inserted. The 'Visual' indicator has a clear sight lens through which the disc may be seen. The disc changes color in the presence of low concentrations of carbon monoxide within 5 to 10 minutes of exposure and therefore acts as a clear visible warning before the proportion of gas reaches an unacceptable level. If higher and more dangerous concentrations of carbon monoxide are present, the disc changes color within a few seconds.

USAGE

The detection disc is specially treated to prolong its life. A color change from tan to dark grey will occur in the presence of carbon monoxide. The rate of change of color is directly related to the concentration of carbon monoxide present. The detector will change color in five to ten minutes at 50 –100 ppm of carbon monoxide, but will change color within a few seconds if the level reaches 500-1,000 ppm (0.05%-0.1%), at which concentration it can be lethal.

BENEFIT

The detector is a quick, inexpensive and simple means of showing the presence of carbon monoxide in the sample air. There is no need for troublesome sampling equipment or expensive analytical equipment. The change in color is easy to spot and the results can be interpreted by non- specialist staff.

Assembly and Disassembly Model MI-4000 Visual Indicator

Item	Qty	Part No.	Description
1	1	583	Body
2.	1	584	Cap
3	1	593	Window
4	1	592-1	O ring 2-018
5	1	592-2	O ring 2-019
6	1	592-3	Spring
7	1	592-5	Indicator humidity (blue)
8	1	592-6	Indicator CO (beige)

NOTES:

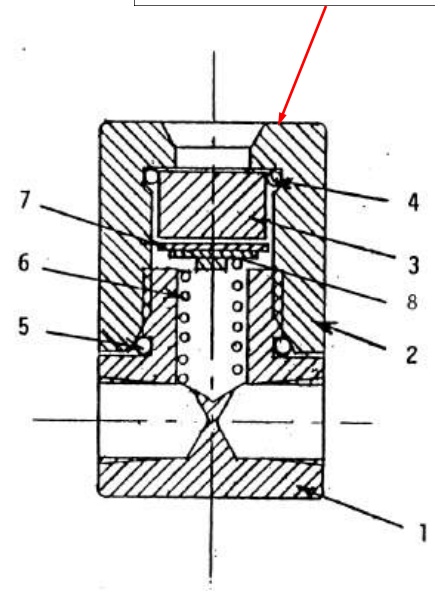
1. Technical bulletin – 588
2. Use Dow silicone grease 111 or equivalent on seals and threads
3. Tighten cap hand tight only
4. Install window (3) with smooth, small diameter against O ring (4)
5. Insure window (3) is fully against shoulder of cap (2)
6. Avoid spring or other hard objects touching window
7. Install so both elements can be seen through window, insure spring is in place to hold element against window
8. When installing humidity element place it in cap (2) with blue face against window
9. COLOR CHANGE:
 - Blue to pink means high humidity
 - Beige to dark brown means dangerous levels of carbon monoxide

NOTE:

1. **DO NO TOUCH ELEMENTS WITH HANDS
USE CLEAN TWEEZERS OR CLEAN NEEDLE
NOSE PLIERS**
2. **MAKE SURE COMPRESSOR AND FILTER
HOUSING ARE COMPLETELY DRAINED OF
ALL AIR PRESSURE PRIOR TO ATTEMPTING
REMOVAL OF CAP FOR MAINTENANCE.**

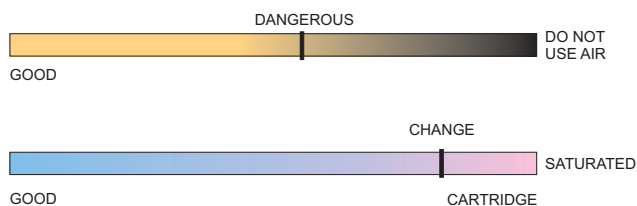
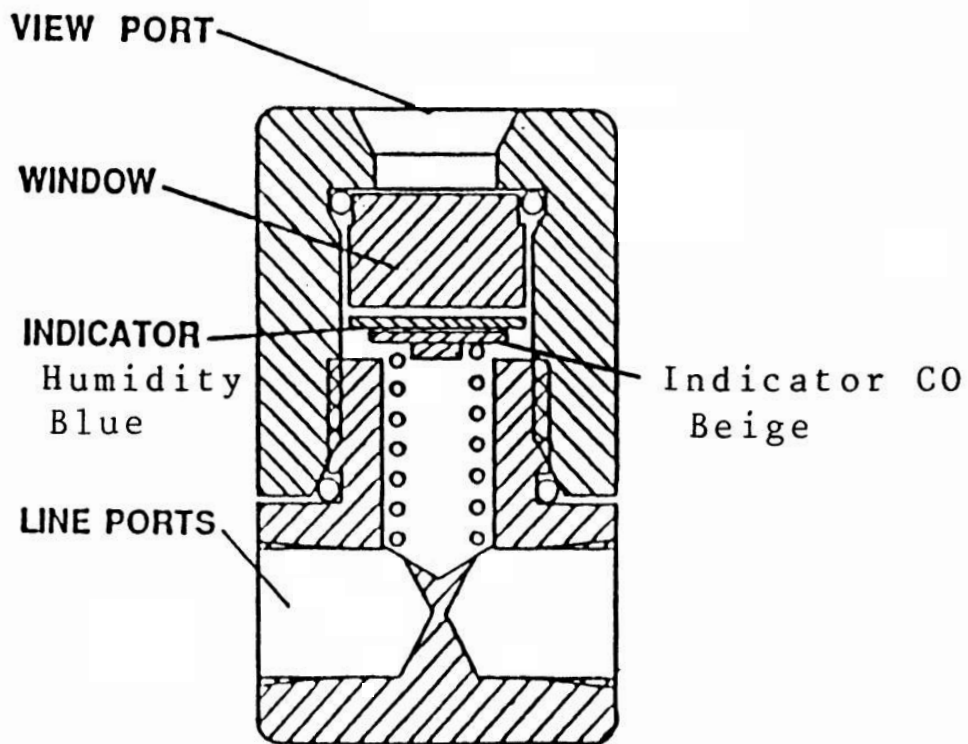
**BLEED ALL PRESSURE FROM
UNIT AND SHUT OFF POWER**

Unscrew by hand , counter-clockwise,
to remove and replace elements.
Reinstall cap hand tight.



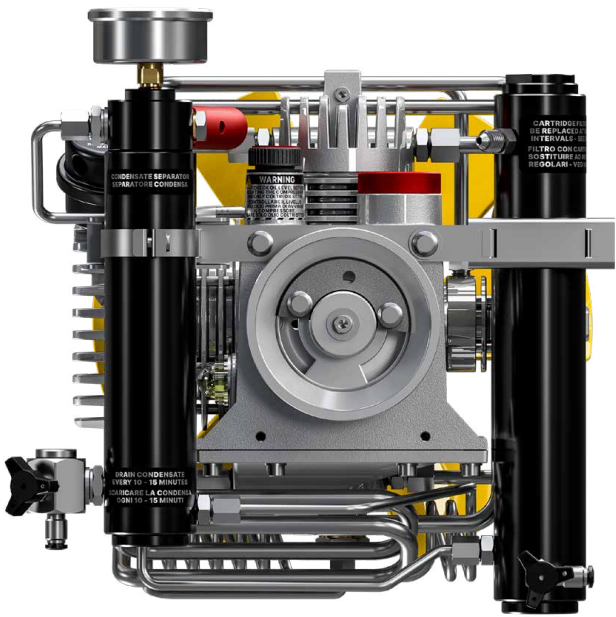
MI-4000K

Remove top half of element housing and invert.
 Place the blue moisture indicator down inside element against the glass taking care not to touch the blue element with your fingers.
 Place the beige element on top of the spring.
 Re-attach the top half of the element housing hand tight.



Good Conditions: INNER RING - YELLOW
 OUTER RING - BLUE

Index	page
Flange - Cooling fan	4
Crankshaft	6
1st Stage	8
2nd Stage	10
3rd Stage	12
4th Stage	14
Pressure Circuit	16
Condensate separator	18
Filter	20
Basic Frame	22
Compact Frame	24
Safety info labels	26
Engine/Pulley/Transmission belt	28
Refill connectors	30
Lubrication oil and silicone grease	30
Autodrain with timer	32
Autostop	32
Gaskets pumping group MCH-6	34

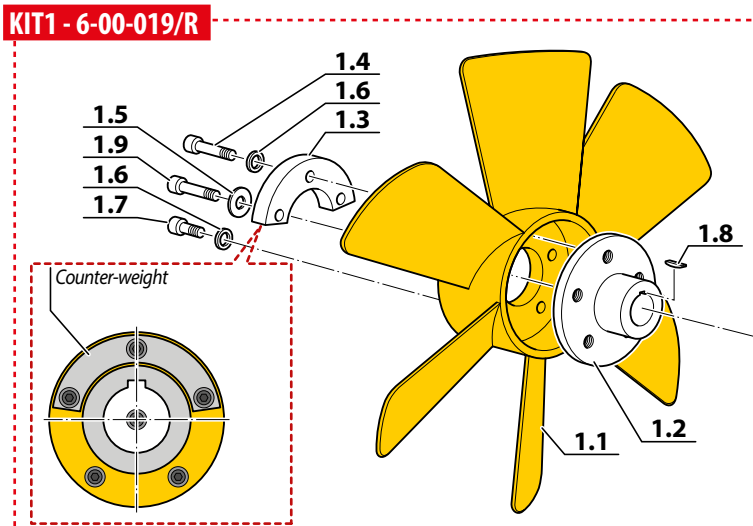
List	Model	Code
PUMPING GROUP		SC000160

FLANGE - COOLING FAN

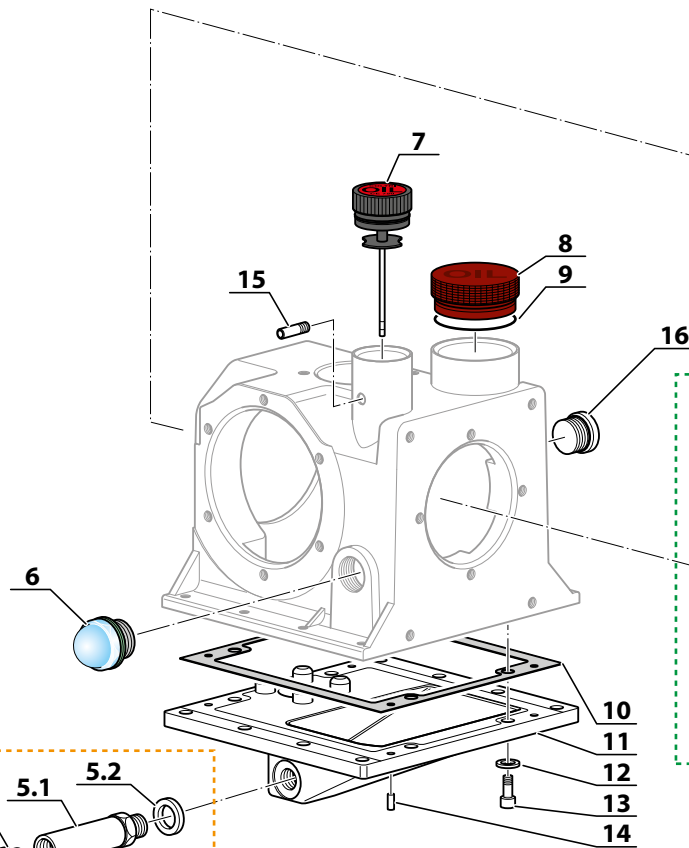
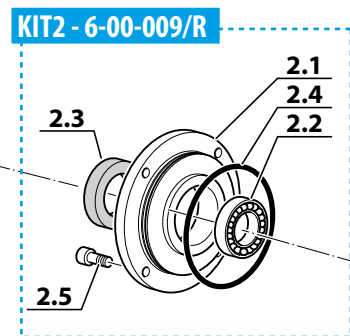
POS.	QTY	CODE	DESCRIPTION		
KIT1	1	6-00-019/R	COOLING FAN KIT		
1.1	1		COOLING FAN		
1.2	1		COOLING FAN FLANGE		
1.3	1		COUNTER-WEIGHT		
1.4	3		SCREW T.C.E. INOX 6X30 DIN 912		
1.5	1		WASHER 6,5x18x2 FLAT INOX		
1.6	5		WASHER 6.5X12.5X1.5 INOX		
1.7	2		SCREW T.C.E. INOX 6X20 DIN 912		
1.8	1		KEY		
1.9	1		SCREW T.C.E. INOX 6x30 DIN 912		
KIT2	1	6-00-009/R	LARGE FLANGE KIT		
2.1	1		LARGE FLANGE		
2.2	1		BEARING 6302		
2.3	1		O-RING 2300 NBR 70		
2.5	4		SCREW TCEI 6X16 INOX		
KIT3	1	6-00-008/R	SMALL FLANGE KIT		
3.1	1		SMALL FLANGE		
3.2	1		BEARING 6302		
3.3	1		OIL SEAL 15X35X7		
3.4	1		O-RING 2250 NBR 90SH		
3.5	4		SCREW TCEI 6X16 INOX		
KIT4	1	6-00-023/R	100MM PULLEY KIT		
4.1	1		PULLEY DIAM.100		
4.2	1		SCREW TCEI 6X16 INOX		
4.3	1		WASHER 6X18X1.5 FLAT INOX		
4.4	1		KEY		
KIT5	1	6-00-028/R	KIT OIL DRAIN PLUG		
5.1	1		FITTING FOR OIL DRAIN		
5.2	1		WASHER WITH OR 1/4 BONDED (13X21X2)		
5.3	1		PLUG 1/4" GAS E.I. WITH OR		
6	1	6-00-007	OIL LEVEL VIEWER WITH GASKET		
7	1	07.0.P6S5.0005	OIL DIPSTICK MCH-7		
8	1	06.0.N2S3.0005	RED OIL CAP FOR MCH-3/6		
9	1	99.0.E2S5.0020	O-RING 3150 NBR 70 SH (Ø37,77 x 2,62)		
10	1	07.0.E3S5.0005	MONOBLOCK-BOTTOM GASKET MCH-6/7		
11	1	06.4.F9S3.0010	BOTTOM MCH-6		
12	12	RON6I	WASHER M6 DIN 125 FLAT INOX		
13	12	VITE0614I	SCREW T.C.E. INOX 6x14		
14	4	99.0.B9S5.0010	CYLINDRICAL PIN Ø3X10 ISO-2338		
15	1	6-05-004F	PIN RECOVERY OIL		
16	1	13-00-0063	PLUG 1/2" WITH OR		

FLANGE - COOLING FAN

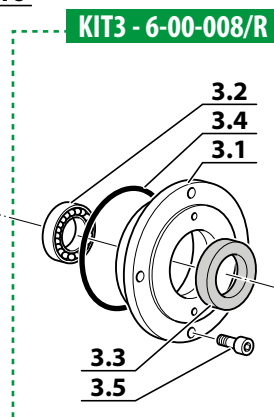
KIT1 - 6-00-019/R



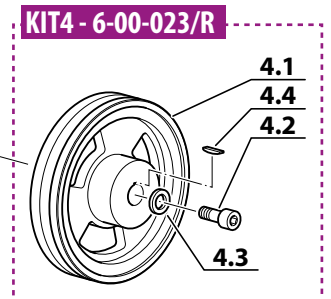
KIT2 - 6-00-009/R



KIT3 - 6-00-008/R



KIT4 - 6-00-023/R



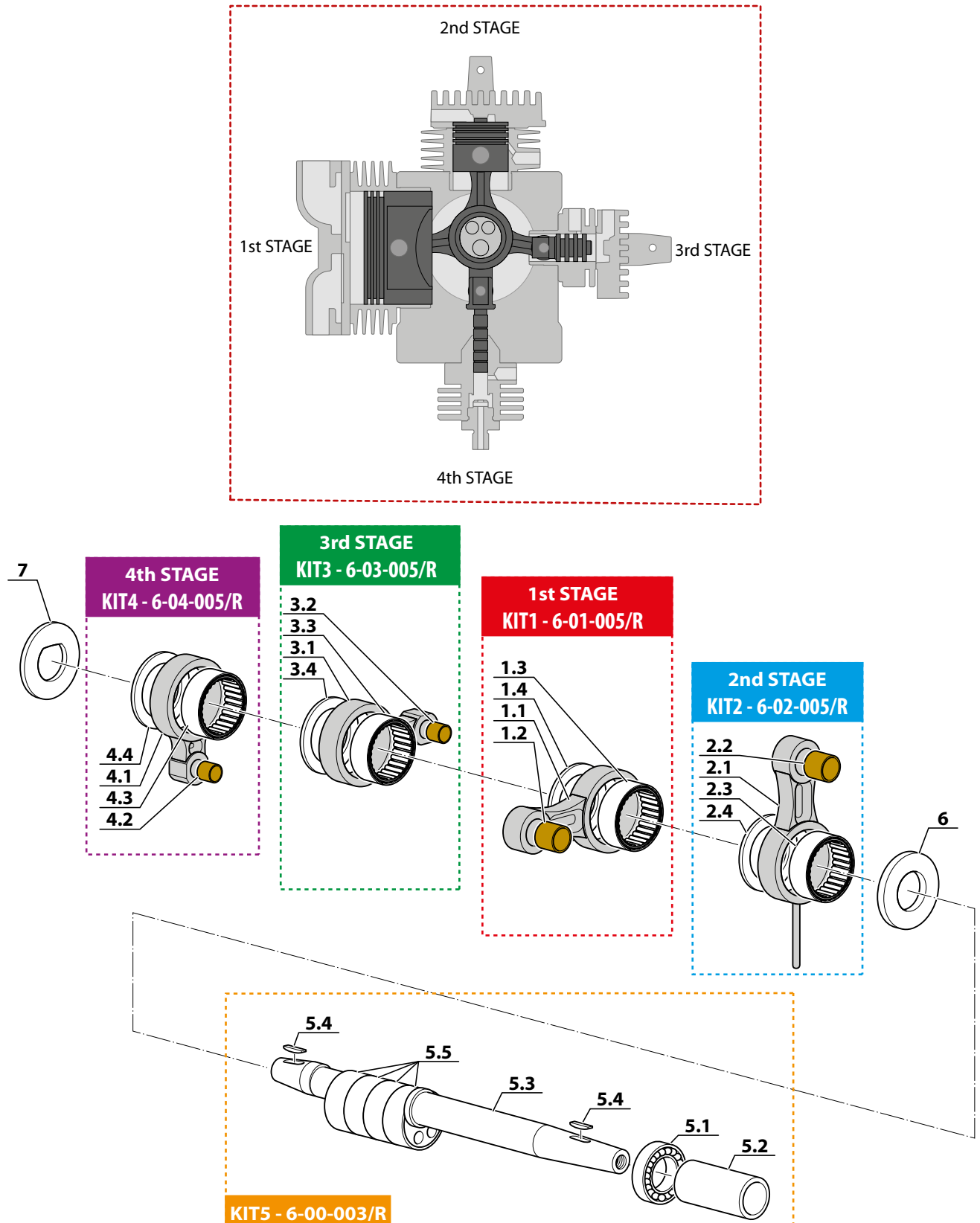
KIT5 - 6-00-028/R



CRANKSHAFT

POS.	QTY	CODE	DESCRIPTION		
KIT1	1	6-01-005/R	1ST STAGE CONNECTING ROD KIT		
1.1	1		CONNECTING ROD 1ST STAGE		
1.2	1		BRONZE BUSH A 12-15-12		
1.3	1		BEARING SCE 188		
1.4	1		BEARING WASHER 28.8X42X0.6		
KIT2	1	6-02-005/R	2ND STAGE CONNECTING ROD KIT		
2.1	1		CONNECTING ROD 2ND STAGE		
2.2	1		BRONZE BUSH A 12-15-12		
2.3	1		BEARING SCE 188		
2.4	1		BEARING WASHER 28.8X42X0.6		
KIT3	1	6-03-005/R	3RD STAGE CONNECTING ROD KIT		
3.1	1		CONNECTING ROD 3RD STAGE		
3.2	1		BRONZE BUSH A 7-10-10		
3.3	1		BEARING SCE 188		
3.4	1		BEARING WASHER 28.8X42X0.6		
KIT4	1	6-04-005/R	4TH STAGE CONNECTING ROD KIT		
4.1	1		CONNECTING ROD 4TH STAGE		
4.2	1		BRONZE BUSH A 7-10-10		
4.3	1		BEARING SCE 188		
4.4	1		BEARING WASHER 28.8X42X0.6		
KIT5	1	6-00-003/R	CRANKSHAFT KIT		
5.1	1		BEARING 6302		
5.2	1		LONG SPACER		
5.3	1		CRANKSHAFT		
5.4	2		KEY		
5.5	4		HARDENED RING IR 24X28,57X13,5		
6	1	06.0.Q2S5.0030	BEARING WASHER Ø34X3 CENTRAL BEARING SIDE		
7	1	06.0.Q2S5.0025	BEARING WASHER Ø34X2 FLANGE SIDE		

CRANKSHAFT



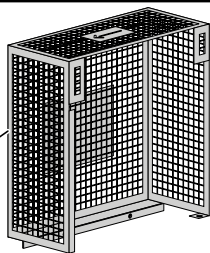
1ST STAGE

POS.	QTY	CODE	DESCRIPTION		
KIT1	1	6-01-015/R	1ST STAGE CYLINDER HEAD COVER KIT		
1.1	1		CYLINDER HEAD COVER 1ST STAGE		
1.2	1		CONNECTION 1/4NPT - 10MM TUBE		
1.3	1		CYLINDER HEAD COVER GASKET		
1.4	5		SCREW T.C.E. 6X75 INOX A-2 DIN 912 UNI 5931		
1.5	1		SCREW TCE 6X70 INOX		
1.6	1		PIN RECOVERY OIL		
KIT2	1	6-01-008/R	1ST STAGE CYLINDER HEAD KIT		
2.1	1		CYLINDER HEAD 1ST STAGE		
2.2	1	6-01-009	CYLINDER HEAD GASKET		
2.3	1	6-01-025	CYLINDER HEAD COVER GASKET		
KIT3	1	6-01-001/R	1ST STAGE KIT		
3.1	1		1ST STAGE CYLINDER 78MM DIAMETER		
3.2	1		CYLINDER HEAD GASKET		
3.3	1		O-RING 82,28X1.78 NBR 90SH		
3.4	1		1ST STAGE PISTON KIT		
KIT4	1	6-01-003/R	1ST STAGE PISTON KIT		
4.1	1		1ST STAGE PISTON WITH RING SET		
4.2	1		Ø12xØ8x35 PISTON PIN		
4.3	2		SEEGER Ø12MM		
KIT5	1	SC000360/R	CARTRIDGE AIR INTAKE FILTER KIT		
5.1	1	SC000345	CARTRIDGE AIR INTAKE FILTER		
6	1	6-01-003/S	PISTON DIAM. 78 RING SET		
7	1	TUBO/BENZ/4X7	TRANSPARENT FUEL PIPE Ø4X7		

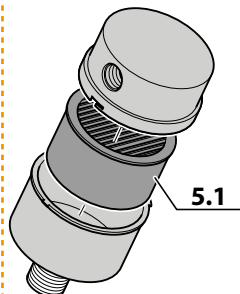
1ST STAGE

For MCH-6/EM and MCH-6/ET models when replacing of KIT1, the fan cover must also be replaced.

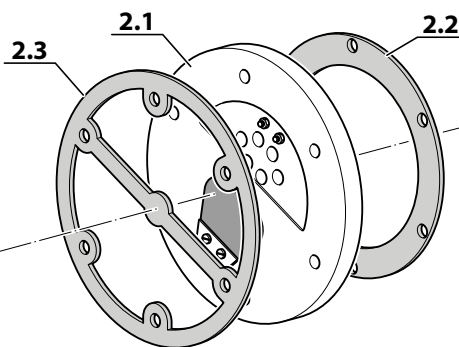
Page 21
Ref.2.3



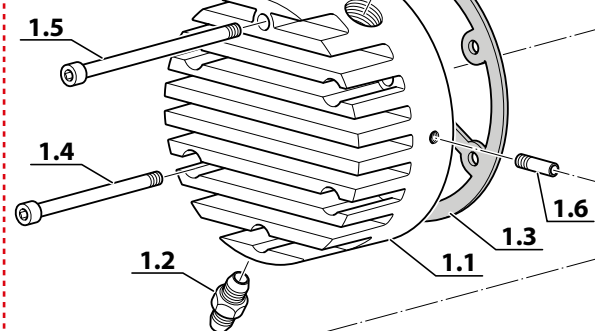
KIT5 - SC000360/R



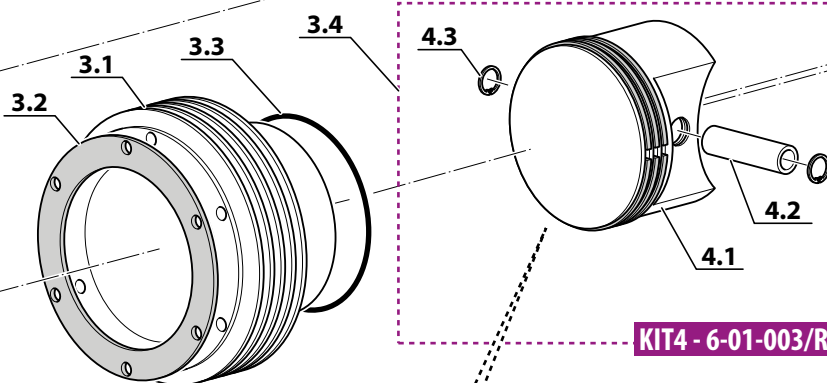
KIT2 - 6-01-008/R



KIT1 - 6-01-015/R

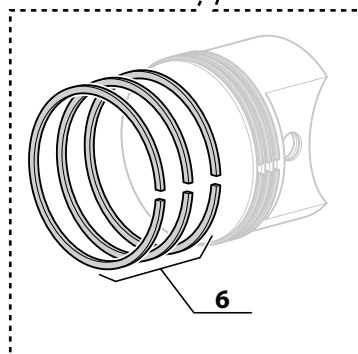


7

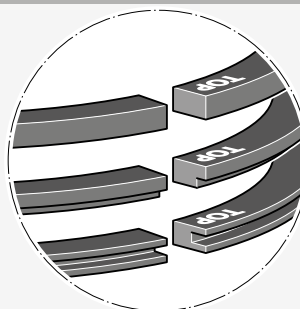


KIT3 - 6-01-001/R

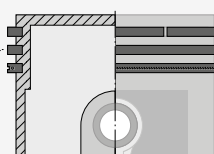
KIT4 - 6-01-003/R



Direction of assembly of segments



Head cover



Connecting rod

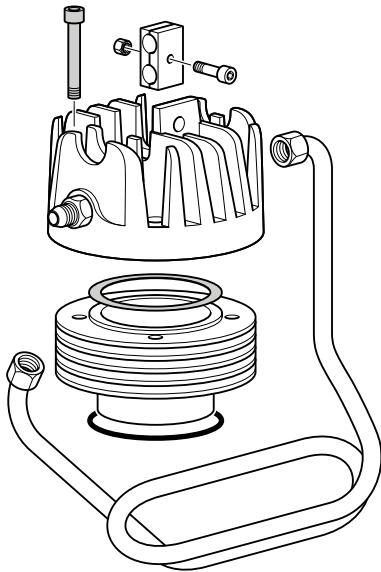
2ND STAGE

POS.	QTY	CODE	DESCRIPTION		
KIT1	1	06.2.F7S4.0005/R	2ND STAGE CYLINDER HEAD 2G KIT		
1.1	1		2G CYLINDER HEAD 2ND STAGE		
1.2	1		FITTING ERMETO TUBE Ø8 1/4 NPT		
1.3	4		SCREW T.C.E. 6X50 INOX		
1.4	1		FITTING TUBE 10MM 1/4 NPT INOX		
1.5	1		2ND STAGE VALVE		
1.6	1		O-RING 2112 VITON 70 VERDE (28.3 X 1.78)		
1.7	1		SEAL RING Ø44x41x1,6 PTFE G300		
1.8	2		SCREW TPCE PG INOX A-2 DIN 7991 UNI 5933 M4x10		
KIT2	1	6-02-101/R	2ND STAGE CYLINDER KIT		
2.1	1		2ND STAGE CYLINDER 38MM DIAMETER		
2.2	1		O-RING 41X1.78 NBR 70SH		
2.4	1		2ND STAGE PISTON KIT		
KIT3	1	6-02-003/R	2ND STAGE PISTON KIT		
3.1	1		2ND STAGE PISTON WITH RING SET		
3.2	1		2ND STAGE PISTON PIN		
3.3	2		SEEGER Ø12MM		
KITR	1	06.2.T6S4.0005	KIT RETROFIT 2ND STAGE		
4	1	6-02-003/S	PISTON RING 2ST STAGE DIA38MM MCH/6		

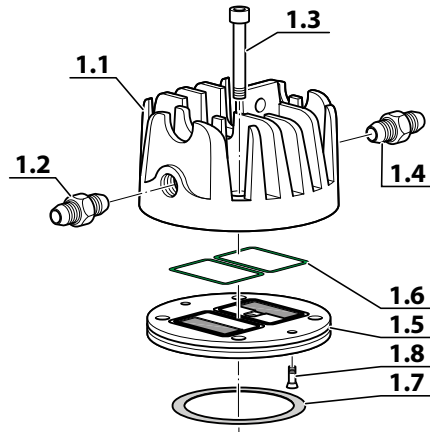
2ND STAGE

06.2.T6S4.0005

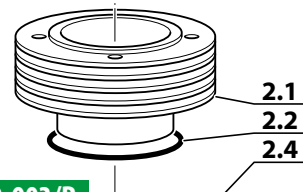
New 2nd stage replacement kit
for models produced up to 12-2021



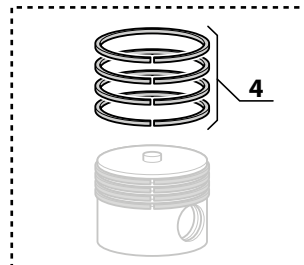
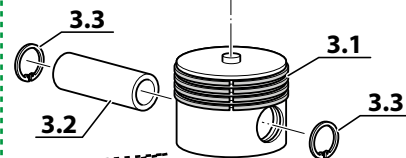
KIT1 - 06.2.F7S4.0005/R



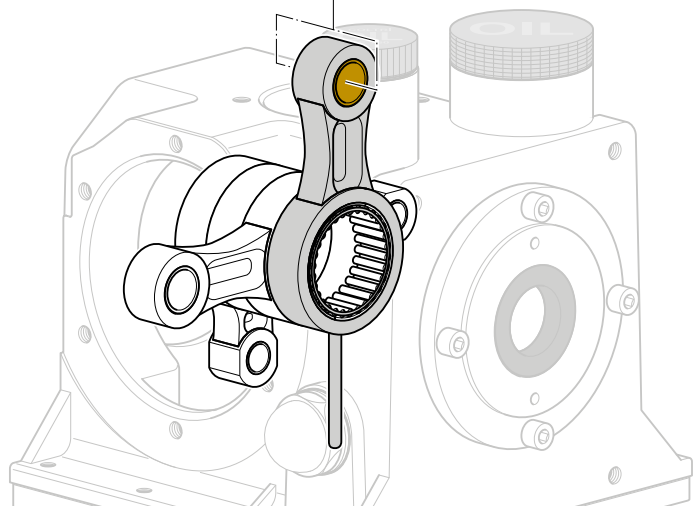
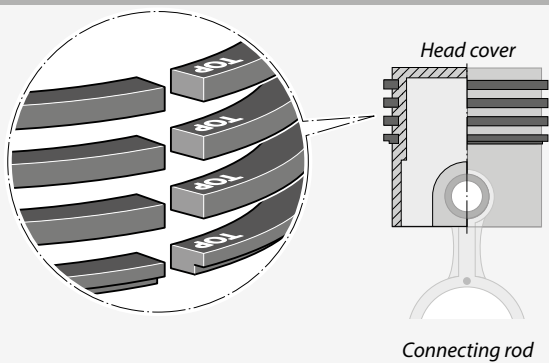
KIT2 - 6-02-101/R



KIT3 - 6-02-003/R



Direction of assembly of segments

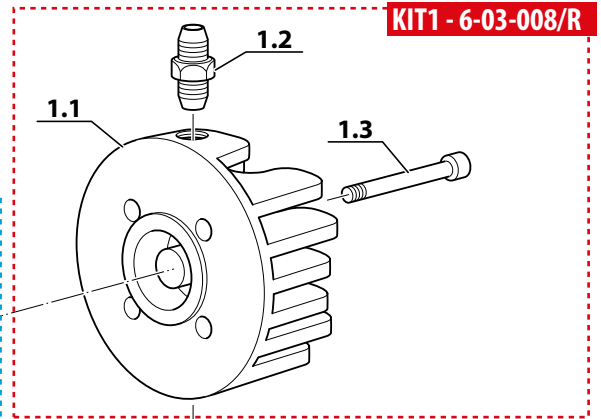


3RD STAGE

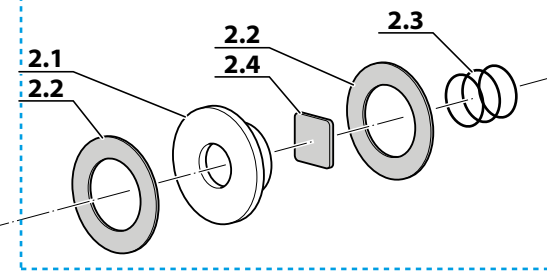
POS.	QTY	CODE	DESCRIPTION		
KIT1	1	6-03-008/R	3RD STAGE CYLINDER HEAD KIT		
1.1	1		CYLINDER HEAD 3RD STAGE G2		
1.2	1		CONNECTION 1/8NPT - 8MM TUBE		
1.3	4		SCREW T.C.E. INOX 6X55 DIN912		
KIT2	1	6-03-007/R	3RD STAGE VALVE KIT		
2.1	1		3RD STAGE VALVE BODY		
2.2	2		COPPER WASHER 20,2X31X0,3		
2.3	1		SPRING		
2.4	1		VALVE PLATE		
KIT3	1	6-03-001/R	3RD STAGE CYLINDER KIT		
3.1	1		3RD STAGE CYLINDER (*)		
3.2	1		O-RING 23.52X1.78 NBR 90SH		
3.3	1		CONNECTION 1/8NPT - 8MM TUBE		
3.4	1		3RD STAGE PISTON (*)		
3.5	1		PISTON RING SET 3 ELEMENTS		
3.6	1		RETAINING PIN 3RD STAGE 7X17		
4	1	6-05-122	120 BAR 1/8 NPT STAGE SAFETY VALVE		

3RD STAGE

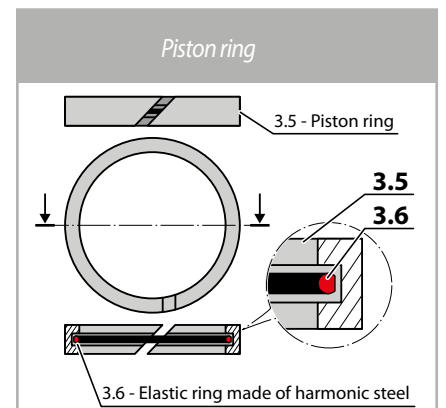
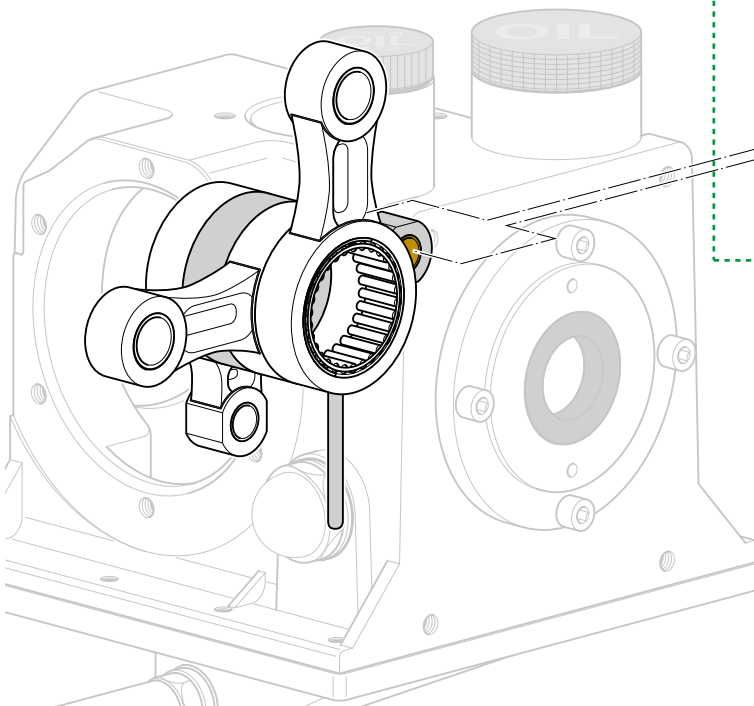
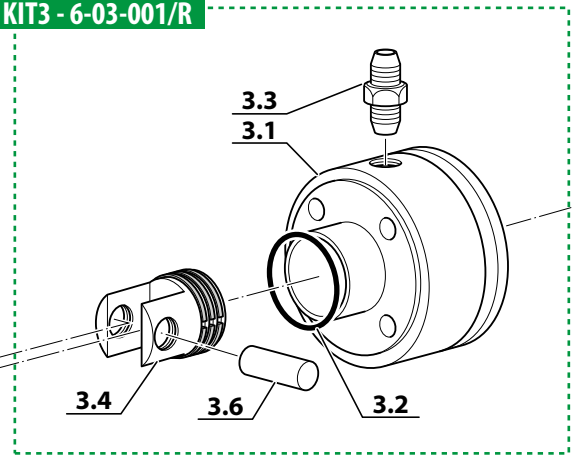
KIT1 - 6-03-008/R



KIT2 - 6-03-007/R



KIT3 - 6-03-001/R

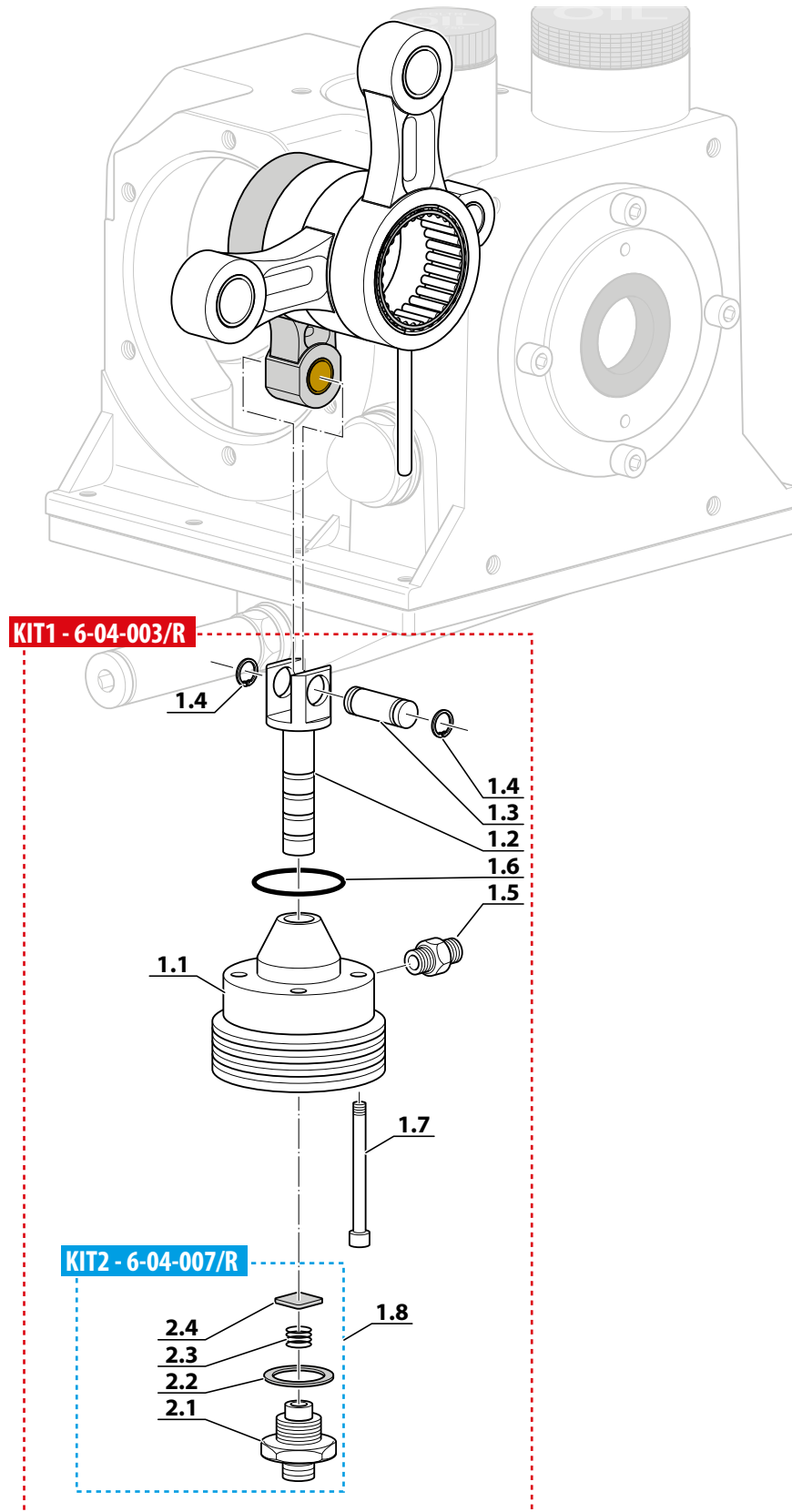


(1) The valve must be tightened with a torque of 11 ft-lb of torque or 15 Nm

4TH STAGE

POS.	QTY	CODE	DESCRIPTION		
KIT1	1	6-04-003/R	4TH STAGE CYLINDER KIT		
1.1	1		4TH STAGE CYLINDER (*)		
1.2	1		4TH STAGE PISTON (*)		
1.3	1		RETAINING PIN 3RD STAGE 7X22		
1.4	1		RING J7		
1.5	1		CONNECTION 1/8NPT - 8MM TUBE		
1.6	1		O-RING 26.7X1.78 NBR 90SH		
1.7	4		SCREW TCE 6X25 INOX		
1.8	1		4TH STAGE CYLINDER HEAD KIT		
KIT2	1	6-04-007/R	4TH STAGE CYLINDER HEAD KIT		
2.1	1		4TH STAGE CYLINDER HEAD		
2.2	1		COPPER WASHER 18X26X1.5		
2.3	1		SPRING		
2.4	1		VALVE PLATE		

4TH STAGE

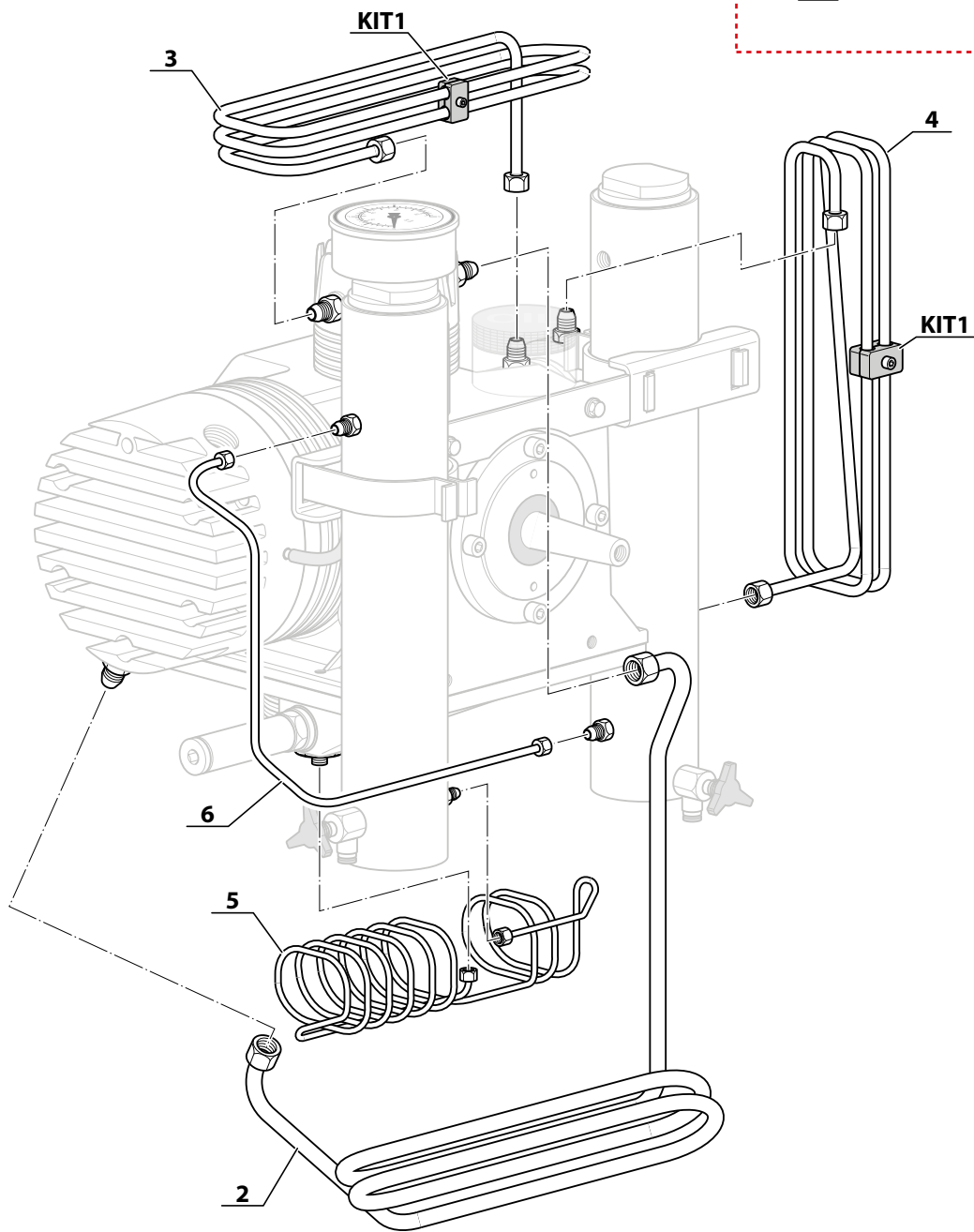
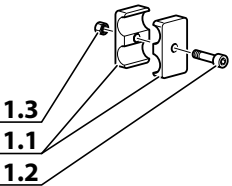


PRESSURE CIRCUIT

POS.	QTY	CODE	DESCRIPTION		
KIT1	1	13-00-0135/R	ALUMINUM BRACKET KIT FOR HOSE HOLDER Ø8		
1.1	1		ALUMINUM HOSE BRACKET 1 HOLE 2 SEATS Ø8		
1.2	1		SCREW TCE 5X25 INOX		
1.3	1		SELF-LOCKING NUT M5		
2	1	06.1.D1S5.0020 (*)	TUBE Ø10 INOX 1st STAGE - 2nd STAGE		
3	1	6-02-014A/R (*)	TUBE Ø8 INOX 2nd STAGE - 3rd STAGE		
4	1	6-02-014/R (*)	TUBE Ø8 INOX 3rd STAGE - 4th STAGE		
5	1	06.4.D1S4.0005 (*)	TUBE Ø6 INOX 4th STAGE - CONDENSATE SEPARATOR		
6	1	03.0.D1S5.0010 (*)	TUBE Ø6 INOX CONDENSATE SEPARATOR - FILTER		

PRESSURE CIRCUIT

KIT1 - 13-00-0135/R

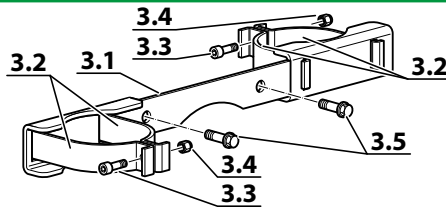


CONDENSATE SEPARATOR / FILTER

POS	QTY	CODE	DESCRIPTION		
KIT1	1	06.0.M1S4.0010/R	MANUAL CONDENSATE SEPARATOR KIT MCH-3/6 LSE		
1.1	1		SEPARATOR BODY		
1.2	1		TOP CAP INTERMEDIATE SEPARATOR G2		
1.3	1		SEPARATOR/FILTER BOTTOM PLUG MCH-6		
1.4	2	OR-4112/90	O RING 4112 NBR 90 (28,17X3,53)		
1.5	1		DIFFUSOR SEPARATOR		
1.6	1		MANOMETER 0-500 BAR MCH/6		
1.7	1	6-05-003	COPPER WASHER Ø9.5 X Ø5.3 X H 3.2		
1.8	1		FITTING INOX 1/8 NPT - M12X1,25		
1.9	2		WASHER WITH OR 1/4 BONDED (13X21X2)		
1.10	1		FITTING 1/4 G - TUBE Ø6MM ERMETO INOX		
1.11	1		FITTING G1 / 4 - 1/8 NPT WITH 1/8 GAS THREAD		
1.12	1	06.0.W4S4.0005	MANUAL CONDENSATE DRAIN TAP MCH-6		
1.13	1		STRAIGHT MALE FITTING M6X1 TUBE 6		
1.14	1	13-00-0162/1	CONDENSATE DISCHARGE NYLON		
1.15	1		FITTING 1/8 NPT - TUBE Ø6 ERMETO		
1.16	1		M8 WASHER FLAT INOX		
1.17	1		SCREW T.E. INOX 8X16 DIN 933		
KIT2	1	6-05-021/R	MCH-6 FILTER KIT		
2.1	1		FILTER TOP PLUG		
2.2	2	OR-4112/90	O RING 4112 NBR 90 (28,17X3,53)		
2.3	1		CONNECTION 1/8NPT - 6MM TUBE		
2.4	1		CONNECTION 1/8NPT - 7/16 6MM TUBE		
2.5	1		FITTING MM M6X1 TUBE 6		
2.6	1		FILTER BODY		
2.7	1		SCREW T.C.E. INOX M8X25 DIN 912		
2.8	1		FILTER SPRING		
2.9	1		SEPARATOR/FILTER BOTTOM PLUG MCH-6		
2.10	1		M8 WASHER FLAT INOX		
2.11	1	13-00-0162/1	CONDENSATE DISCHARGE NYLON		
2.12	1	16.0.M3S4.0005	CONDENSATE DISCHARGE VALVE 1/8 NPT		
KIT3	1	06.0.T5S4.0020/R	FILTER HOLDER BRACKET KIT		
3.1	1		MCH-6 SEPARATOR / FILTER SUPPORT FOR SUPER LIGHT FRAME		
3.2	4		BRACELET FOR SEPARATOR / FILTER MCH-6		
3.3	2		SCREW T.C.E. INOX 6x14		
3.4	2		NUT INOX SELF-LOCKING M6 DIN 982 UNI 7473		
3.5	2		SCREW T.E. INOX 6X20 WITH WASHER		
4	1	OR-114/90	O-RING 114 NBR 90SH		
5a	1	6-05-015/3/232	SAFETY VALVE 232 BAR		
5b	1	6-05-015/3/300	SAFETY VALVE 300 BAR		
5c	1	6-05-015/3/330	SAFETY VALVE 330 BAR		
6	1	6-05-018/VMP/R	FILTER MAINTENANCE VALVE MCH-6		
7	1	OR-136-4112/90	O-RING 28.17X3.53 NBR 90SH		
8a	1	SC000340/ABS	FILTER ACTIVE CARBON/MOLECULAR SIEVE CARTRIDGE		
8b	1	SC000340/ABS/SM	FILTER MOLECULAR SIEVE CARTRIDGE		
8c	1	SC000340/ABS/CARB	FILTER ACTIVE CARBON CARTRIDGE		
8d	1	SC000340/ABS/CO-CAT	FILTER CARBON/SIEVE/HOPKALITE CARTRIDGE		

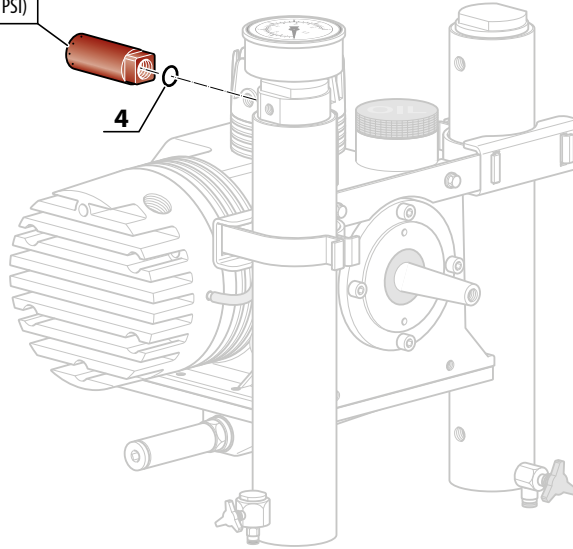
CONDENSATE SEPARATOR / FILTER

KIT3 - 06.0.T5S4.0020/R

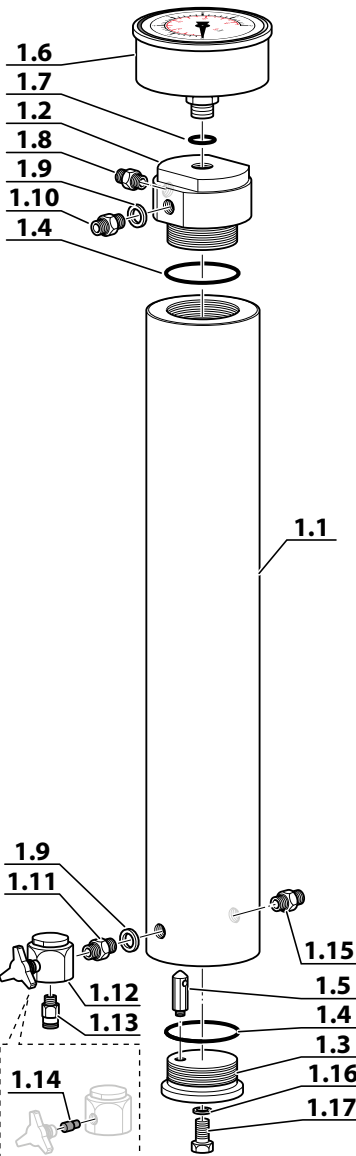


5c (330 bar / 4700 PSI)
5b (300 bar / 4300 PSI)
5a (232 bar / 3300 PSI)

4



KIT1 - 06.0.M1S4.0010/R



MOLECULAR SIEVE
ACTIVE CARBON

8a



MOLECULAR SIEVE

8b



ACTIVE CARBON

8c

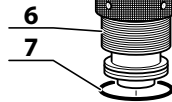


MOLECULAR SIEVE
ACTIVE CARBON
HOPKALITE

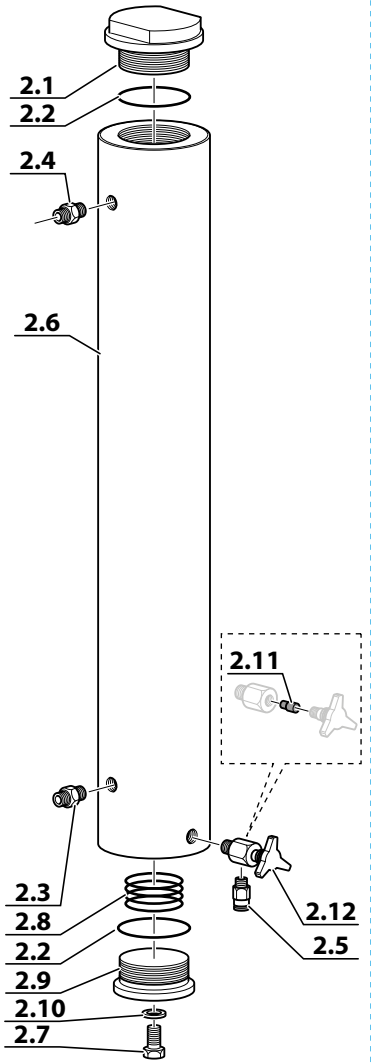
8d



OPTIONAL



KIT2 6-05-021/R



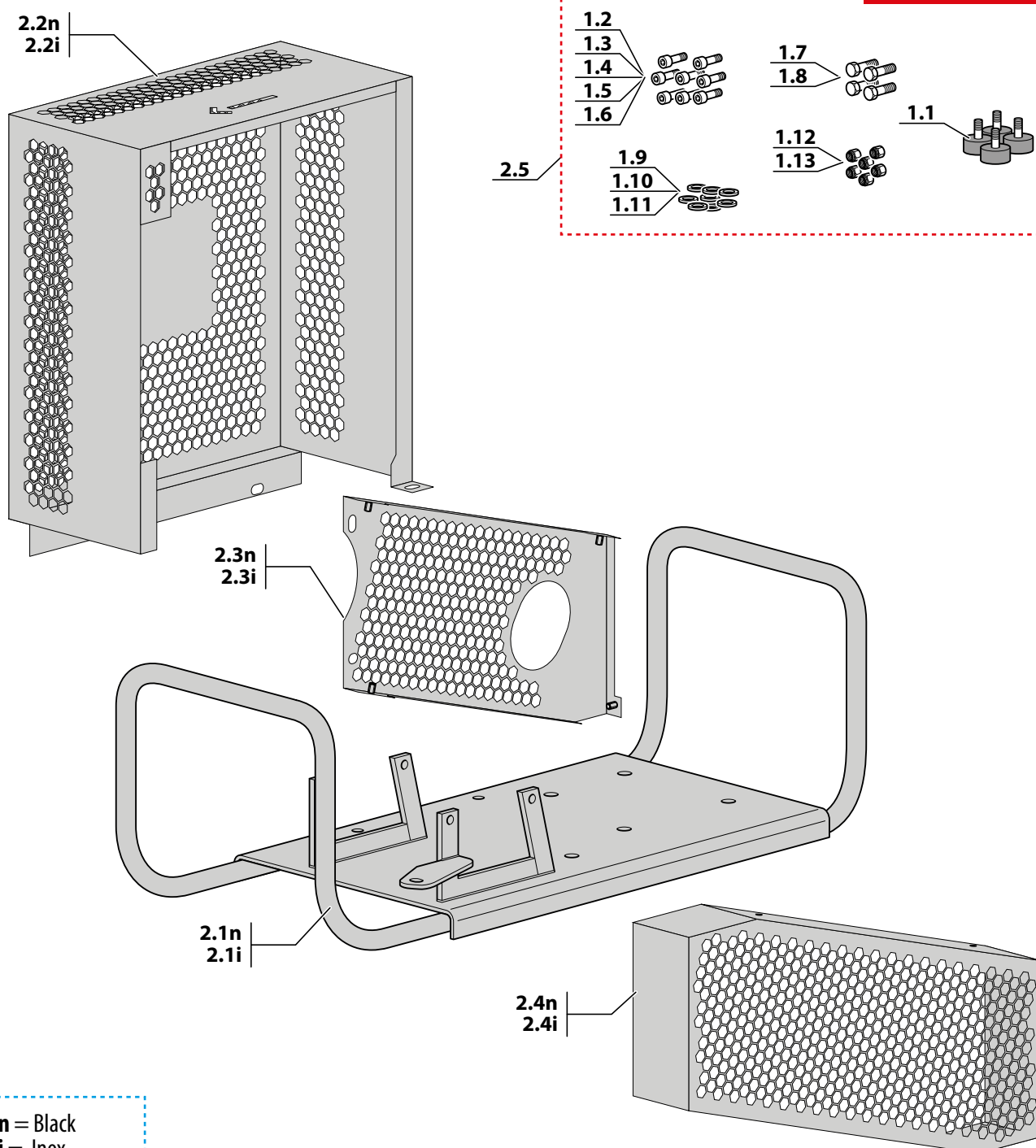
ICON FRAME

POS	QTY	CODE	DESCRIPTION		
KIT1	1	6-10-0004/R	KIT BRACKET-RUBBER FOOT-SCREW-WASHER MCH-6 BASIC		
1.1	4		RUBBER FOOT		
1.2	4		SCREW TCE 6X8 INOX		
1.3	4		SCREW TCE 6X10 INOX		
1.4	1		SCREW TCE 6X14 INOX		
1.5	2		SCREW TCE 6X20 INOX		
1.6	1		SCREW TCE 6X70 INOX		
1.7	6		SCREW TE 6X20 INOX WITH WASHER		
1.8	2		SCREW TE 8X16 INOX		
1.9	3		WASHER 6.5X18X1.5 FLAT INOX		
1.10	8		WASHER M6 INOX DIN125		
1.11	2		WASHER M8 INOX		
1.12	2		SELF LOCKING INOX NUT M6 UPPER		
1.13	1		SELF LOCKING INOX NUT M6 LOWER		
KIT2n	1	03.0.Q1S4.0005/R	KIT ICON CHASSIS BLACK		
2.1n	1		BASE MCH-3/6 LSE BLACK		
2.2n	1		FAN COVER BLACK		
2.3n	1		INTERNAL BELT COVER BLACK		
2.4n	1		BELT COVER BLACK		
2.5	1		KIT BRACKET-RUBBER FOOT-SCREW-WASHER MCH-6 BASIC		
KIT2i	1	03.0.Q1S4.0020/R	KIT ICON CHASSIS INOX		
2.1i	1		BASE MCH-3/6 LSE INOX		
2.2i	1		FAN COVER INOX		
2.3i	1		INTERNAL BELT COVER INOX		
2.4i	1		BELT COVER INOX		
2.5	1		KIT BRACKET-RUBBER FOOT-SCREW-WASHER MCH-6 BASIC		

ICON FRAME

KIT2n - 03.0.Q1S4.0005/R
KIT2i - 03.0.Q1S4.0020/R

KIT1 - 6-10-0004/R



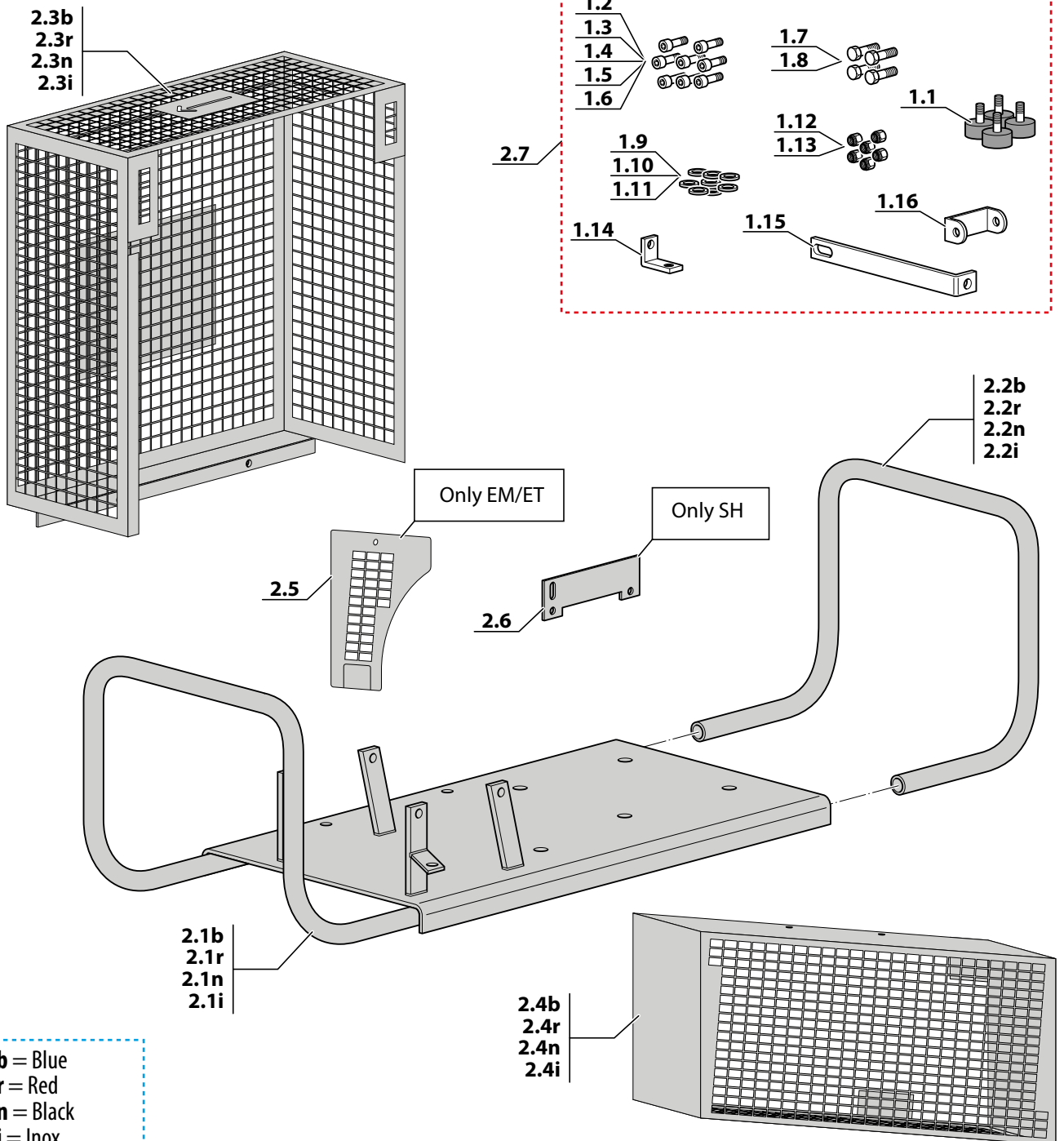
BASIC FRAME

POS	QTY	CODE	DESCRIPTION		
KIT1	1	6-10-0001/R	KIT BRACKET-RUBBER FOOT-SCREW-WASHER MCH-6 BASIC		
1.1	4		RUBBER FOOT		
1.2	4		SCREW TCE 6X8 ZINC		
1.3	4		SCREW TCE 6X10 ZINC		
1.4	1		SCREW TCE 6X14 ZINC		
1.5	2		SCREW TCE 6X20 ZINC		
1.6	1		SCREW TCE 6X70 ZINC		
1.7	6		SCREW TE 6X20 ZINC WITH WASHER		
1.8	2		SCREW TE 8X16 INOX		
1.9	3		WASHER 6.5X18X1.5 FLAT ZINC		
1.10	8		WASHER 6.5X12.5X1.5 ZINC		
1.11	2		WASHER M8 INOX		
1.12	2		SELF LOCKING ZINC NUT M6 UPPER		
1.13	1		SELF LOCKING INOX NUT M6 LOWER		
1.14	1		BRACKET "L"		
1.15	1		COVER SUPPORT BRACKET "L" NEW CHASSIS		
1.16	1		COVER SUPPORT BRACKET "U" NEW CHASSIS		
KIT2b	1	6-05-029B/R	KIT BASIC CHASSIS BLUE		
2.1b	1		BASIC CHASSIS COMPLETE BLUE		
2.2b	1		CHASSIS HANDLES BLUE		
2.3b	1		FAN COVER NEW CHASSIS BLUE		
2.4b	1		DRIVE BELT COVER NEW CHASSIS BLUE		
2.5	1		GRID PROTECTION BELT MCH-6/SH		
2.6	1		HONDA FIXING BRACKET		
2.7	1		KIT BRACKET-RUBBER FOOT-SCREW-WASHER MCH-6 BASIC		
KIT2r	1	6-05-029R/R	KIT BASIC CHASSIS RED		
2.1r	1		BASIC CHASSIS COMPLETE RED		
2.2r	1		CHASSIS HANDLES RED		
2.3r	1		FAN COVER NEW CHASSIS RED		
2.4r	1		DRIVE BELT COVER NEW CHASSIS RED		
2.5	1		GRID PROTECTION BELT MCH-6/SH		
2.6	1		HONDA FIXING BRACKET		
2.7	1		KIT BRACKET-RUBBER FOOT-SCREW-WASHER MCH-6 BASIC		
KIT2n	1	6-05-029N/R	KIT BASIC CHASSIS BLACK		
2.1n	1		BASIC CHASSIS COMPLETE BLACK		
2.2n	1		CHASSIS HANDLES BLACK		
2.3n	1		FAN COVER NEW CHASSIS BLACK		
2.4n	1		DRIVE BELT COVER NEW CHASSIS BLACK		
2.5	1		GRID PROTECTION BELT MCH-6/SH		
2.6	1		HONDA FIXING BRACKET		
2.7	1		KIT BRACKET-RUBBER FOOT-SCREW-WASHER MCH-6 BASIC		
KIT2i	1	6-05-029I/R	KIT BASIC CHASSIS INOX		
2.1i	1		BASIC CHASSIS COMPLETE INOX		
2.2i	1		CHASSIS HANDLES INOX		
2.3i	1		FAN COVER NEW CHASSIS INOX		
2.4i	1		DRIVE BELT COVER NEW CHASSIS INOX		
2.5	1		GRID PROTECTION BELT MCH-6/SH		
2.6	1		HONDA FIXING BRACKET		
2.7	1		KIT BRACKET-RUBBER FOOT-SCREW-WASHER MCH-6 BASIC		

BASIC FRAME

KIT2b - 6-05-029B/R
KIT2r - 6-05-029R/R
KIT2n - 6-05-029N/R
KIT2i - 6-05-029I/R

KIT1 - 06-10-0001/R



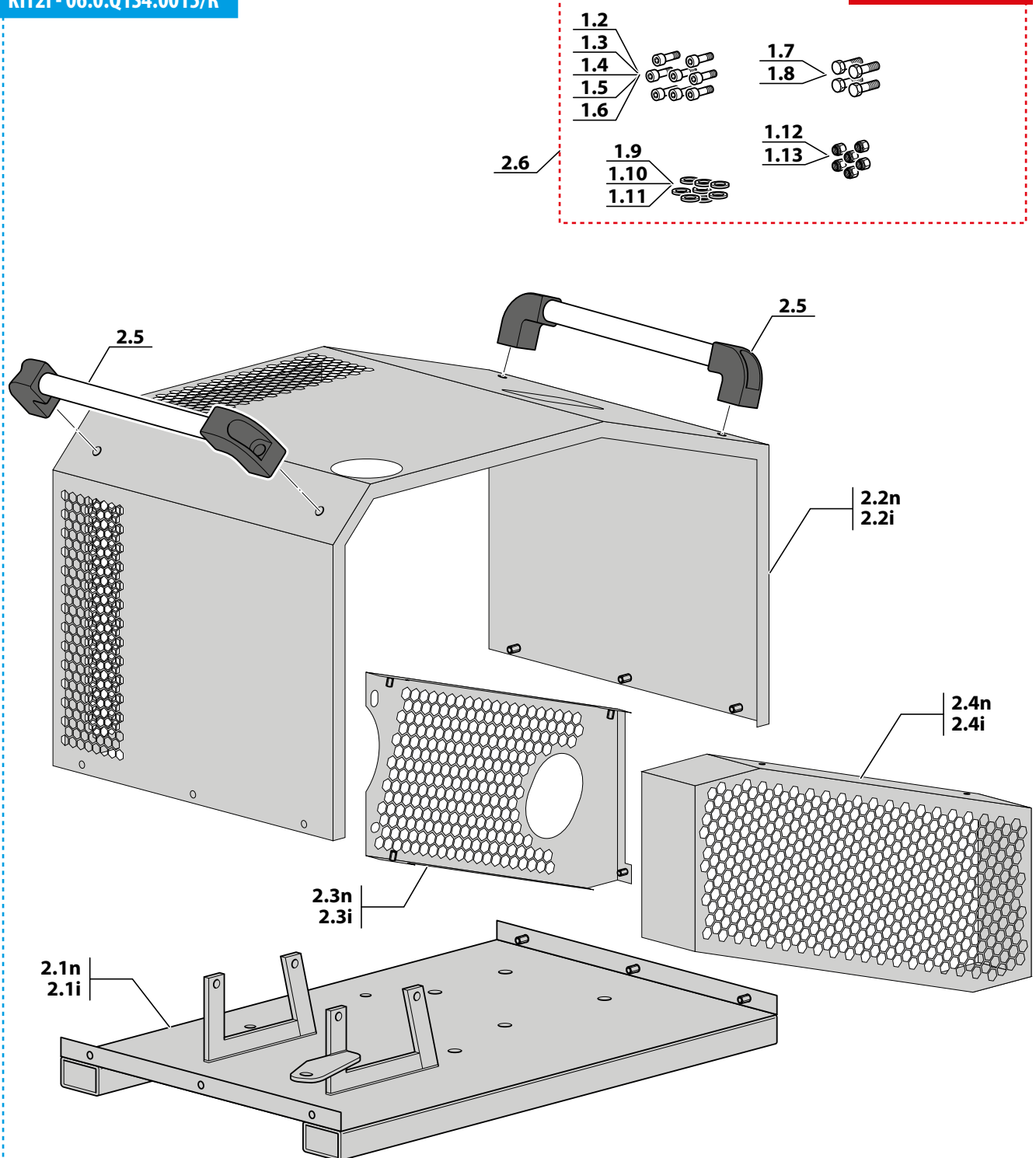
MINI COMPACT ELECTRIC FRAME

POS.	QTY	CODE	DESCRIPTION		
KIT1	1	6-10-0005/R	KIT BRACKET-RUBBER FOOT-SCREW-WASHER MCH-6 BASIC		
1.2	4		SCREW TCE 6X8 ZINC		
1.3	4		SCREW TCE 6X10 ZINC		
1.4	1		SCREW TCE 6X14 ZINC		
1.5	2		SCREW TCE 6X20 ZINC		
1.6	1		SCREW TCE 6X70 ZINC		
1.7	6		SCREW TE 6X20 ZINC WITH WASHER		
1.8	2		SCREW TE 8X16 INOX		
1.9	3		WASHER 6.5X18X1.5 FLAT ZINC		
1.10	8		WASHER 6.5X12.5X1.5 ZINC		
1.11	2		WASHER M8 INOX		
1.12	2		SELF LOCKING ZINC NUT M6 UPPER		
1.13	1		SELF LOCKING INOX NUT M6 LOWER		
KIT2n	1	06.0.Q1S4.0005/R	KIT MINICOMPACT CHASSIS BLACK		
2.1n	1		BASE MINICOMPACT BLACK		
2.2n	1		MINICOMPACT COVER BLACK		
2.3n	1		INTERNAL BELT COVER BLACK		
2.4n	1		BELT COVER BLACK		
2.5	2		MANIGLIE MINICOMPACT		
2.6	1		KIT BRACKET-RUBBER FOOT-SCREW-WASHER MINICOMPACT		
KIT2i	1	06.0.Q1S4.0015/R	KIT MINICOMPACT CHASSIS INOX		
2.1i	1		BASE MINICOMPACT INOX		
2.2i	1		MINICOMPACT COVER INOX		
2.3i	1		INTERNAL BELT COVER INOX		
2.4i	1		BELT COVER INOX		
2.5	2		MANIGLIE MINICOMPACT		
2.6	1		KIT BRACKET-RUBBER FOOT-SCREW-WASHER MINICOMPACT		

MINI COMPACT ELECTRIC FRAME

KIT2n - 06.0.Q1S4.0005/R
KIT2i - 06.0.Q1S4.0015/R

KIT1 - 6-10-0005/R



n = Black
i = Inox

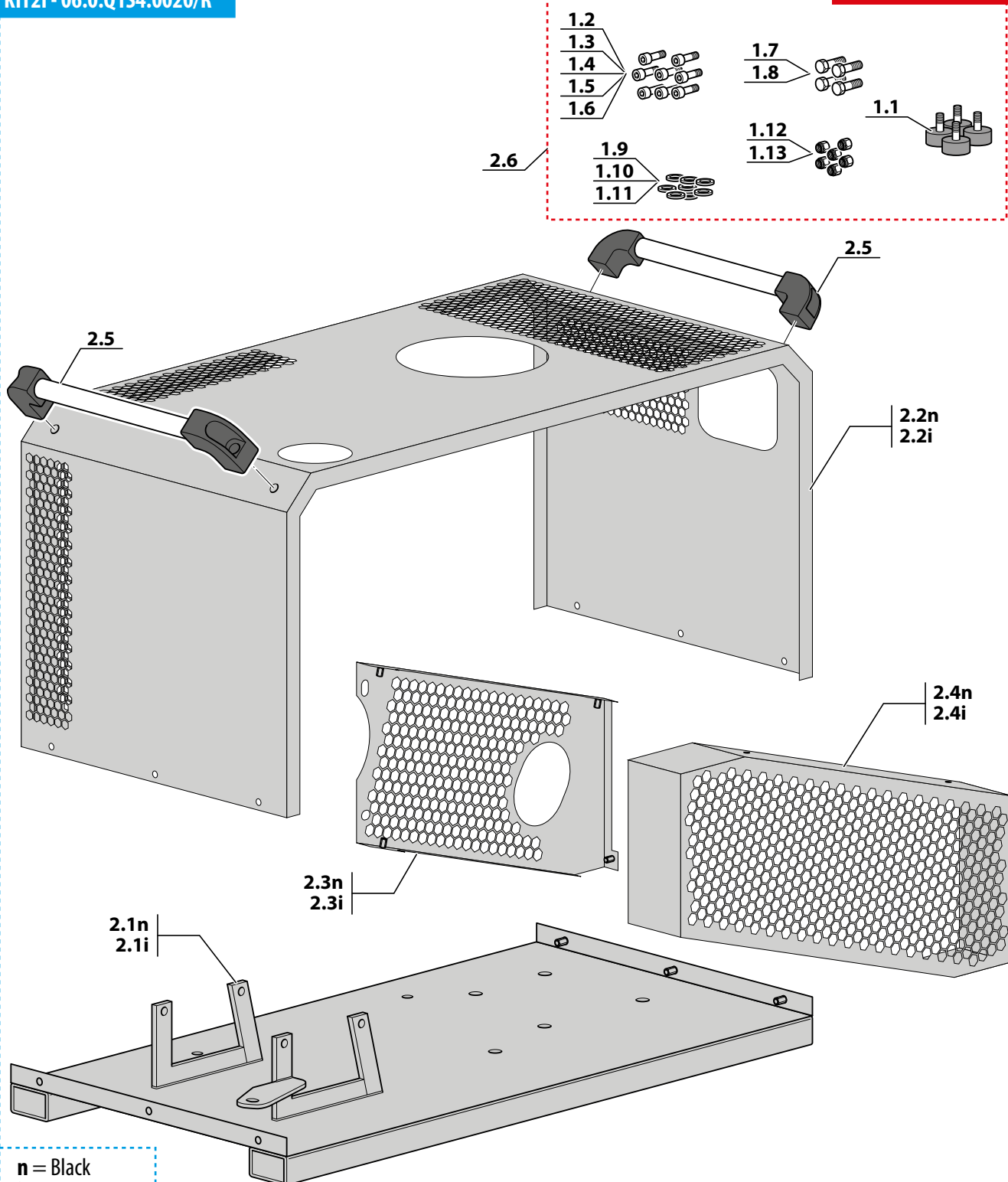
MINI COMPACT GAS FRAME

POS	QTY	CODE	DESCRIPTION		
KIT1	1	6-10-0005/R	KIT BRACKET-RUBBER FOOT-SCREW-WASHER MCH-6 BASIC		
1.2	4		SCREW TCE 6X8 ZINC		
1.3	4		SCREW TCE 6X10 ZINC		
1.4	1		SCREW TCE 6X14 ZINC		
1.5	2		SCREW TCE 6X20 ZINC		
1.6	1		SCREW TCE 6X70 ZINC		
1.7	6		SCREW TE 6X20 ZINC WITH WASHER		
1.8	2		SCREW TE 8X16 INOX		
1.9	3		WASHER 6.5X18X1.5 FLAT ZINC		
1.10	8		WASHER 6.5X12.5X1.5 ZINC		
1.11	2		WASHER M8 INOX		
1.12	2		SELF LOCKING ZINC NUT M6 UPPER		
1.13	1		SELF LOCKING INOX NUT M6 LOWER		
KIT2n	1	06.0.Q1S4.0010/R	KIT MINICOMPACT GAS CHASSIS BLACK		
2.1n	1		BASE MINICOMPACT PETROL BLACK		
2.2n	1		MINICOMPACT PETROL COVER BLACK		
2.3n	1		INTERNAL BELT COVER BLACK		
2.4n	1		BELT COVER BLACK		
2.5	2		MANIGLIE MINICOMPACT MINICOMPACT GAS		
2.6	1		KIT BRACKET-RUBBER FOOT-SCREW-WASHER MINICOMPACT GAS		
KIT2i	1	06.0.Q1S4.0020/R	KIT MINICOMPACT PETROL CHASSIS INOX		
2.1i	1		BASE MINICOMPACT GAS INOX		
2.2i	1		MINICOMPACT GAS COVER INOX		
2.3i	1		INTERNAL BELT COVER INOX		
2.4i	1		BELT COVER INOX		
2.5	2		MANIGLIE MINICOMPACT GAS		
2.6	1		KIT BRACKET-RUBBER FOOT-SCREW-WASHER MINICOMPACT		

MINI COMPACT GAS FRAME

KIT2n - 06.0.Q1S4.0010/R
KIT2i - 06.0.Q1S4.0020/R

KIT1 - 6-10-0005/R



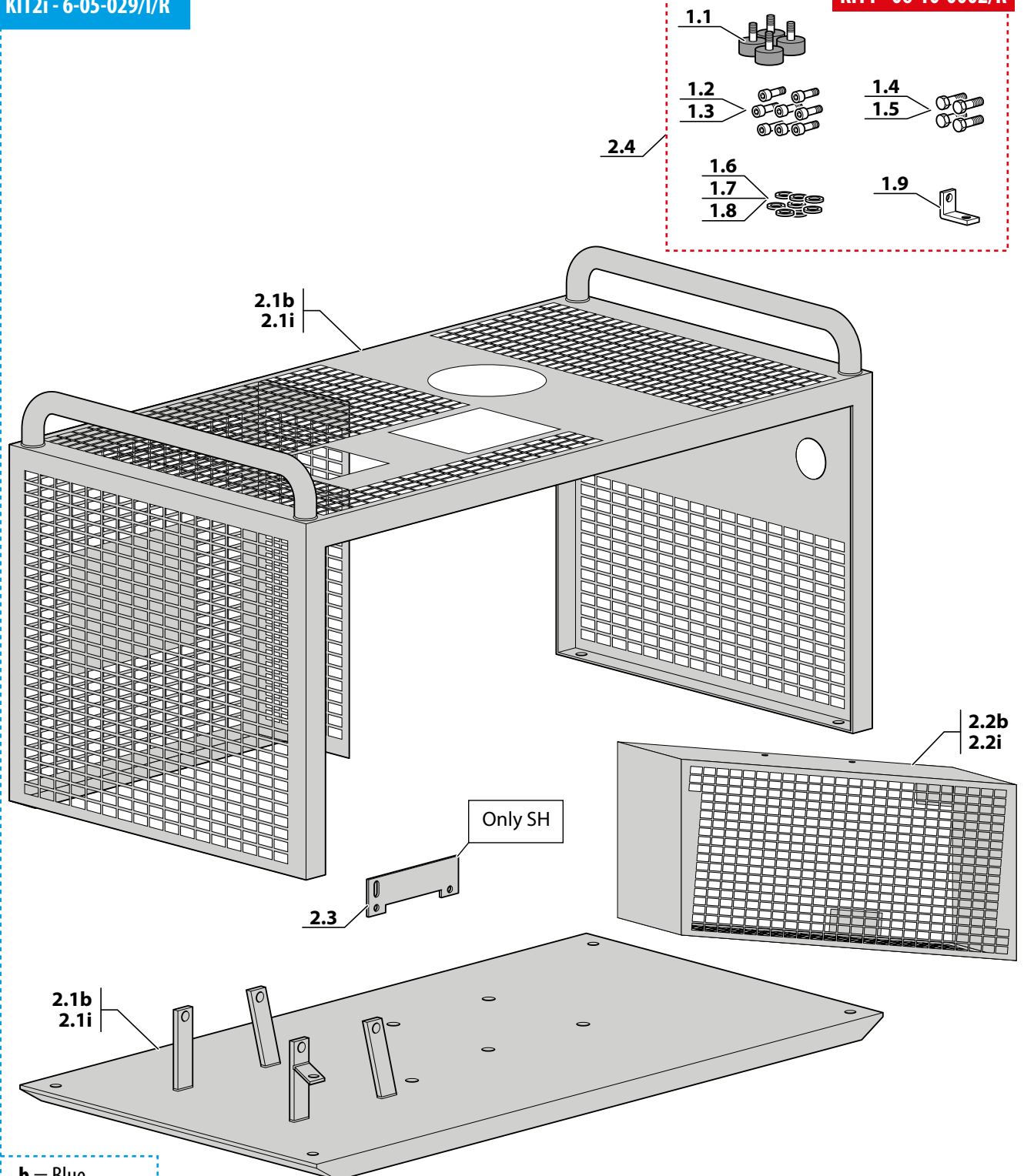
COMPACT FRAMES

POS	QTY	CODE	DESCRIPTION		
KIT1	1	06-10-0002/R	KIT BRACKET - RUBBER FOOT - SCREW - WASHER MCH-6 COMPACT		
1.1	4		RUBBER FOOT		
1.2	4		SCREW TCE 6X8 ZINC		
1.3	6		SCREW TCE 6X20 ZINC		
1.4	6		SCREW TE 6X20 ZINC WITH WASHER		
1.5	2		SCREW TE 8X16 INOX		
1.6	1		WASHER 6.5X18X1.5 FLAT ZINC		
1.7	2		WASHER 6.5X12.5X1.5 ZINC		
1.8	2		WASHER M8 INOX		
1.9	1		BRACKET "L"		
KIT2b	1	6-05-029/KIT	KIT COMPACT CHASSIS BLUE		
2.1b	1		COMPACT CHASSIS BLUE		
2.2b	1		DRIVE BELT COVER NEW CHASSIS BLUE		
2.3	1		HONDA FIXING BRACKET		
2.4	1		KIT BRACKET - RUBBER FOOT - SCREW - WASHER		
KIT2i	1	6-05-029/I/R	KIT COMPACT CHASSIS INOX		
2.1i	1		COMPACT CHASSIS COMPLETE INOX		
2.2i	1		DRIVE BELT COVER NEW CHASSIS INOX		
2.3	1		HONDA FIXING BRACKET		
2.4	1		KIT BRACKET - RUBBER FOOT - SCREW - WASHER		

COMPACT FRAMES

KIT2b - 6-05-029/KIT
KIT2i - 6-05-029/I/R

KIT1 - 06-10-0002/R



b = Blue
i = Inox

ENGINE/PULLEY/TRANSMISSION BELT

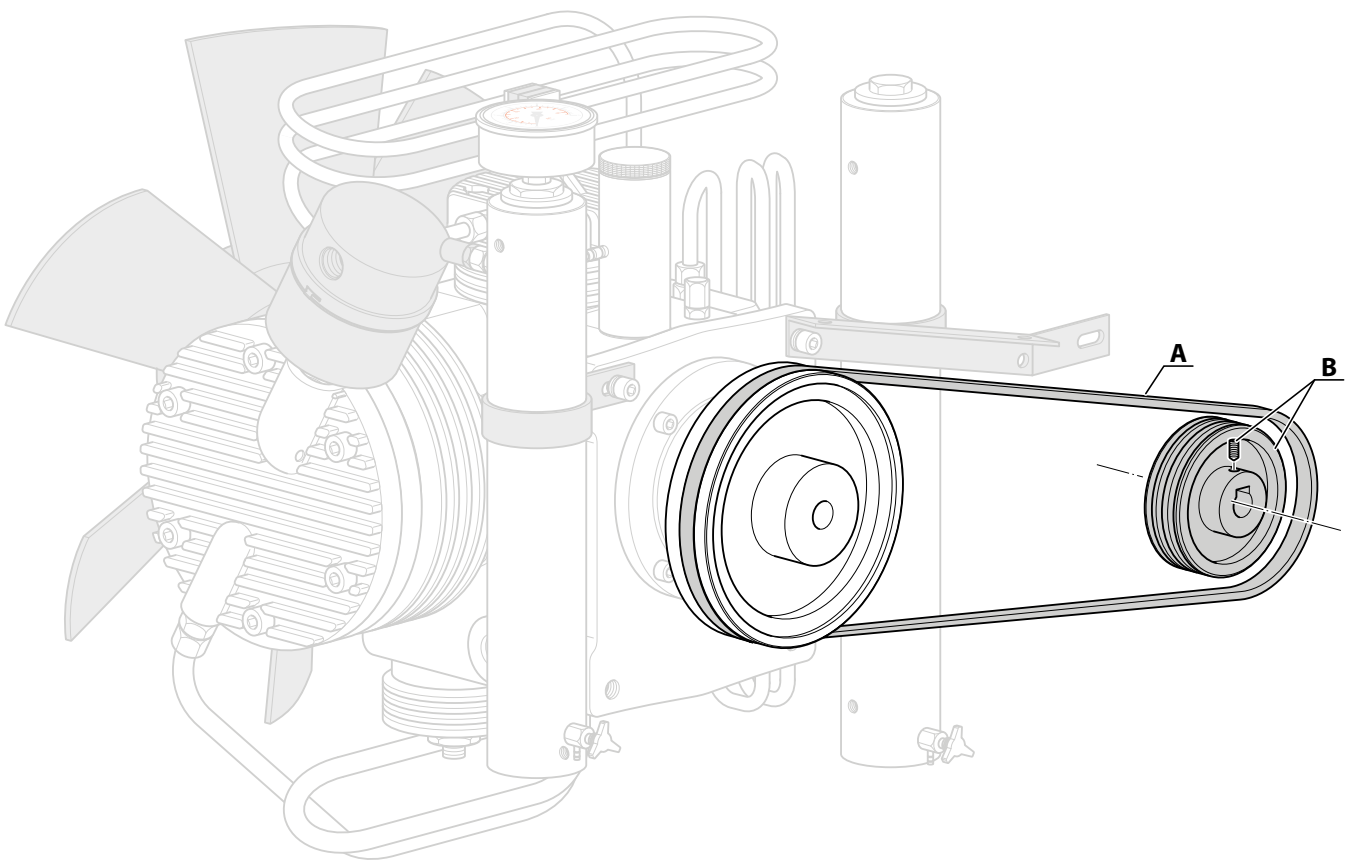
	COMPRESSOR	POWERED BY		BELT (A)	PULLEY (B)			
		TYPE	CODE	CODE	Ø MM	CODE		
PETROL ENGINE	ICON 100 SH	HONDA GP200	SC000781	CINGA31.5	80	SC000402		
	ICON 100 SK	KOHLER	99.0.1354.0005	CINGA31.5	80	SC000402		
	MINI COMPACT 100 SH	HONDA GP200	SC000781	CINGA31.5	80	SC000402		
ELECTRIC MOTOR	ICON LSE 100 EM	SINGLE PHASE 230V 50HZ	159500	CINGA30	80	SC000402		
		SINGLE PHASE 115V 60HZ	SC000383					
		SINGLE PHASE 230V 60HZ	SC000382					
	MINI COMPACT 100 EM	SINGLE PHASE 230V 50HZ	159500	CINGA31	80	SC000402		
		SINGLE PHASE 115V 60HZ	SC000383					
		SINGLE PHASE 230V 60HZ	SC000382	CINGA29	70	SC000402/B		
	ICON LSE 100 ET	THREE PHASE 230V 50HZ	SC000386	CINGA30	80	SC000403		
		THREE PHASE 400/440V 50HZ	SC000387	CINGA30	80	SC000403		
		THREE PHASE 230V 60HZ	SC000386					
		THREE PHASE 400/440V 60HZ	SC000387					
	MINI COMPACT 100 ET	THREE PHASE 230V 50HZ	SC000386					
		THREE PHASE 400/440V 50HZ	SC000387					
		THREE PHASE 230V 60HZ	SC000386					
		THREE PHASE 400/440V 60HZ	SC000387					

ENGINE/PULLEY/TRANSMISSION BELT

For models up to 12-2021

	COMPRESSOR	POWERED BY		BELT (A)	PULLEY (B)			
		TYPE	CODE	CODE	Ø MM	CODE	BELT (A)	PULLEY (B)
GAS ENGINE	MCH6/SH	HONDA GX200	SC000398/R/N/QX4	CINGA31.5	80	SC000404		
		HONDA GX200/EU	SC000398/R/N/S	CINGA31.5	80	SC000404		
	MCH6/SH Compact	HONDA GX200	SC000432/R	CINGA31.5	80	SC000404		
		HONDA GX200/EU	6-07-005/EU	CINGA31.5	80	SC000404		
	MCH6/SR	SUBARU-ROBIN	SC000377	CINGA31.5	80	SC000404		
	MCH6/SR Compact	SUBARU-ROBIN	SC000377	CINGA31.5	80	SC000404		
ELECTRIC MOTOR	MCH6/EM	SINGLE PHASE 230V 50HZ	SC000381	CINGA31	80	SC000402		
		SINGLE PHASE 115V 60HZ	SC000383/UL	CINGA30	70	SC000402/B		
		SINGLE PHASE 230V 60HZ	SC000382	CINGA30	70	SC000402/B		
	MCH6/EM Compact	SINGLE PHASE 230V 50HZ	SC000381	CINGA31	80	SC000402		
		SINGLE PHASE 115V 60HZ	SC000383/UL	CINGA30	70	SC000402/B		
		SINGLE PHASE 230V 60HZ	SC000382	CINGA30	70	SC000402/B		
	MCH6/EM Compact (3KW)	SINGLE PHASE 230V 50HZ	SC000384	CINGA32	100	SC000403/1		
		SINGLE PHASE 230V 60HZ	SC000385	CINGA31	80	SC000402		
	MCH6/ET	THREE PHASE 230V 50HZ	SC000386	CINGA32	100	SC000403		
		THREE PHASE 400V 50HZ	SC000387	CINGA32	100	SC000403		
		THREE PHASE 440V 50HZ	SC000387	CINGA32	100	SC000403		
		THREE PHASE 230V 60HZ	SC000386	CINGA31	80	SC000404		
		THREE PHASE 400V 60HZ	SC000387	CINGA31	80	SC000404		
		THREE PHASE 440V 60HZ	SC000387	CINGA31	80	SC000404		
		THREE PHASE 230V 50HZ	SC000386	CINGA32	100	SC000403		
	MCH6/ET Compact	THREE PHASE 400V 50HZ	SC000387	CINGA32	100	SC000403		
		THREE PHASE 440V 50HZ	SC000387	CINGA32	100	SC000403		
		THREE PHASE 230V 60HZ	SC000386	CINGA31	80	SC000404		
		THREE PHASE 400V 60HZ	SC000387	CINGA31	80	SC000404		
		THREE PHASE 440V 60HZ	SC000387	CINGA31	80	SC000404		

ENGINE/PULLEY/TRANSMISSION BELT

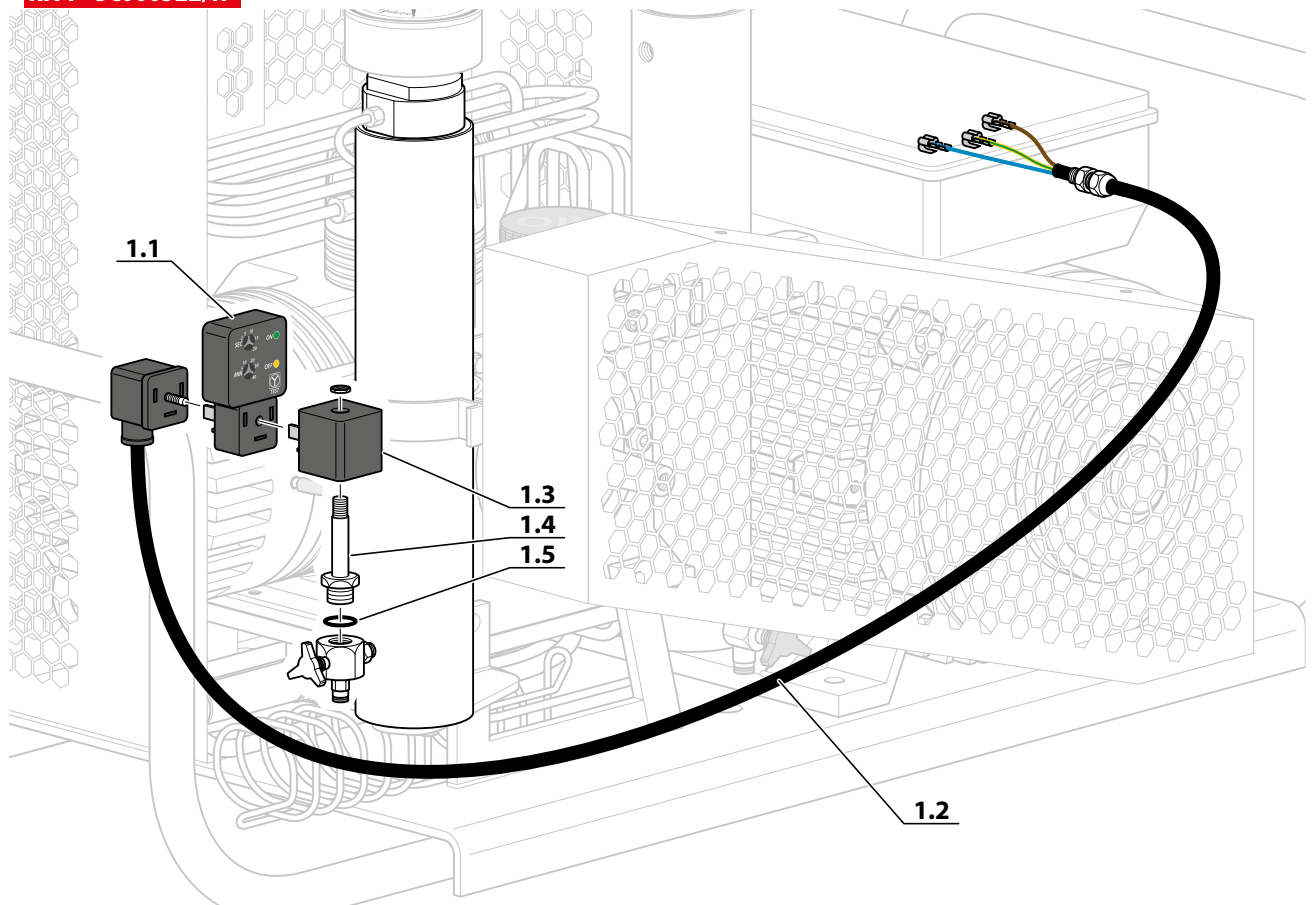


AUTODRAIN WITH TIMER AUTOSTOP

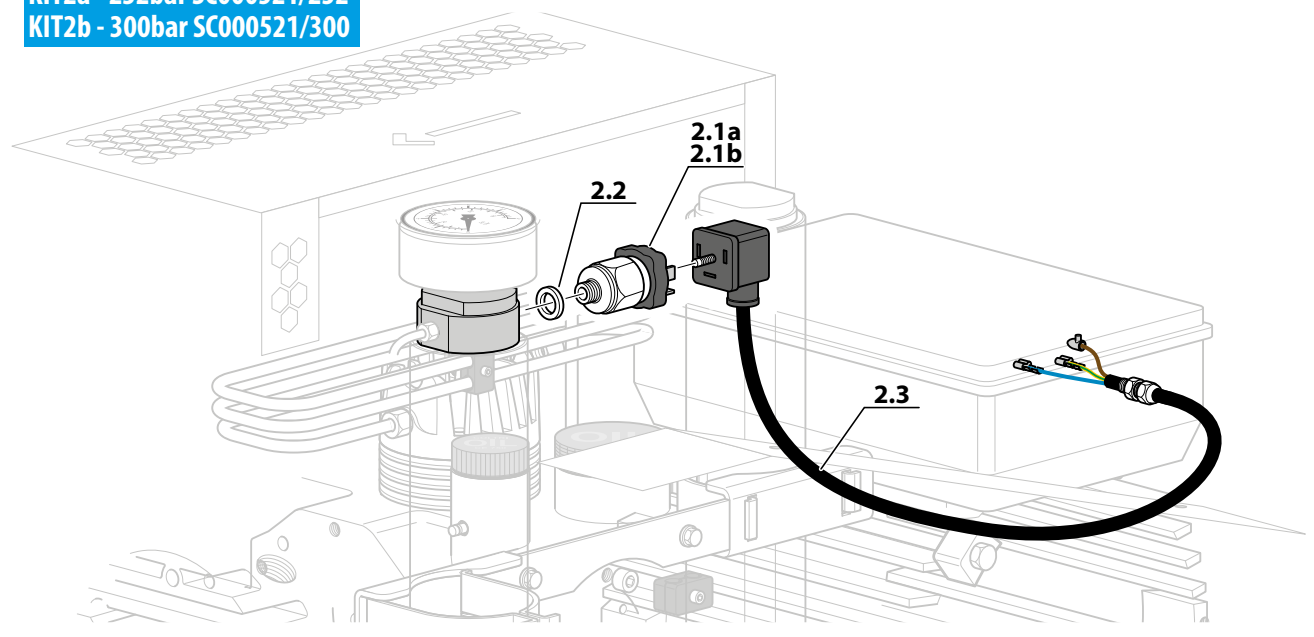
POS	QTY	CODE	DESCRIPTION		
KIT1	1	SC000522	KIT AUTODRAIN WITH TIMER		
1.1	1		TIMER MOD. TSF3 24-240V 0,8A		
1.2	1		SQUARE CONNECTOR		
1.3	1		AVV. 30MM 220/50-60 MC58		
1.4	1		SOLENOID COIL ELETTR2 VIE V.220/50-60		
1.5	1		O-RING 2075 NBR 90 SH (Ø18,77 x 1,78)		
KIT2a	1	SC000521/232	KIT AUTOSTOP 232BAR		
KIT2b	1	SC000521/300	KIT AUTOSTOP 300BAR		
2.1a	1		PRESSURE SWITCH 232BAR		
2.1b	1		PRESSURE SWITCH 300BAR		
2.2	1		WASHER WITH OR 1/4 BONDED (13X21X2)		
2.3	1		SQUARE CONNECTOR BLACK H12 RE4		

AUTODRAIN WITH TIMER AUTOSTOP

KIT1 - SC000522/N



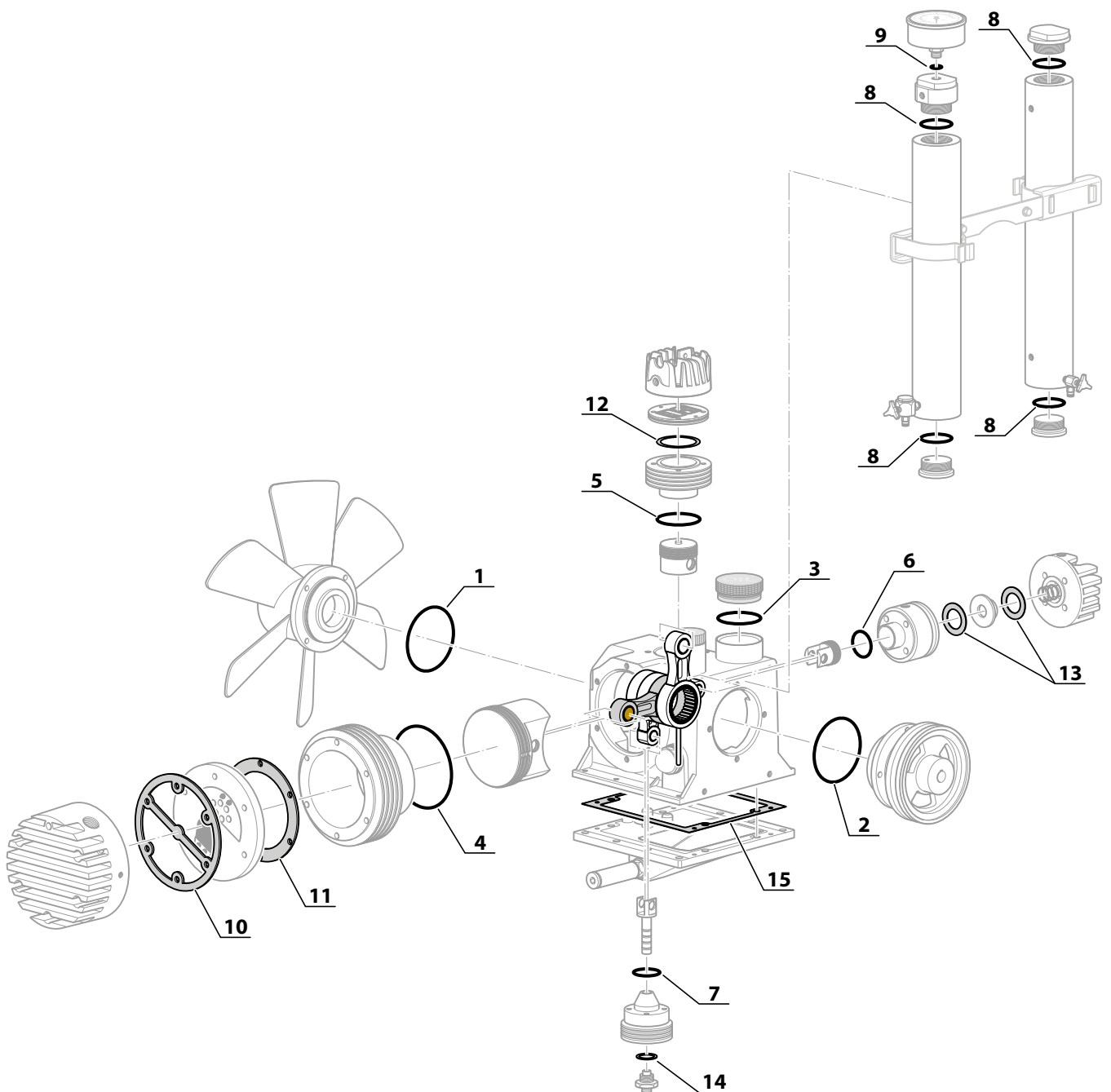
KIT2a - 232bar SC000521/232 KIT2b - 300bar SC000521/300



GASKETS PUMPING GROUP

POS	QTY	CODE	DESCRIPTION		
1	1	OR-2300	O-RING 2300 NBR 70		
2	1	OR-2250	O-RING 2250 NBR 90SH		
3	1	99.0.E2S5.0020	O-RING 3150 NBR 70 SH (Ø37,77 x 2,62)		
4	1	OR-2325	O-RING 82,28X1.78 NBR 90SH		
5	1	OR-2162	O-RING 41X1.78 NBR 70SH		
6	1	OR-2093	O-RING 23.52X1.78 NBR 90SH		
7	1	OR-2106	O-RING 26.7X1.78 NBR 90SH		
8	4	OR-4112/90	O RING 4112 NBR 90 (28,17X3,53)		
9	1	6-05-003	COPPER WASHER Ø9.5 X Ø5.3 X H 3.2		
10	1	6-01-025	CYLINDER HEAD COVER GASKET		
11	1	6-01-009	CYLINDER HEAD GASKET		
12	1	06.2.E3S5.0005	SEAL RING Ø44x41x1,6 PTFE G300		
13	2	6-03-009	COPPER WASHER 20,2X31X0,3		
14	1	6-04-008	COPPER WASHER 18X26X1.5		
15	1	07.0.E3S5.0005	MONOBLOCK-BOTTOM GASKET MCH-6/7		

GASKETS PUMPING GROUP



10 O-RING

O-rings are sold in 10 pcs
each type set