



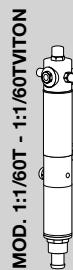
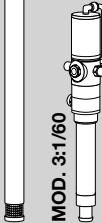
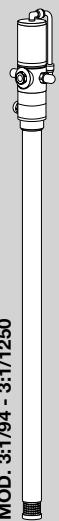
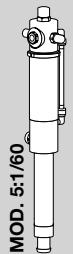
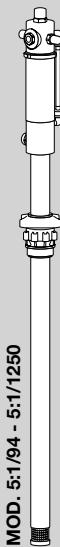
V568-RAASM_REV10-06/23

**PNEUMATIC TRANSFER PUMPS**

Translation from Italian

**PNEUMATIC PUMPS FOR OIL DELIVERY**

Translation from Italian

R = 1:1**R = 3:1****R = 5:1**

Thank you for choosing a RAASM product.

GB



READ THIS INSTRUCTIONS MANUAL THOROUGHLY BEFORE USING THE EQUIPMENT.
It is the responsibility of the dealer (or exporter) to ensure that this user manual is translated into the language of the country where the product is purchased.

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GENERAL WARNINGS AND INFORMATION FOR THE RECIPIENT

Important safety instructions.

 Read all the warnings and instructions given in this manual and in related manuals. Keep all instructions.

 **These instructions have been drawn up by the manufacturer and are an integral part of the product.**

These instructions must be kept in a safe place, known and accessible to the personnel in charge, until the equipment is demolished.

They must be looked after with care, so as to avoid damage.

The pages and contents must not be removed, rewritten or in any case modified.

The operations described are intended for adequately trained and qualified operators.

The chapters that make up this manual contain the information the manufacturer provides so the product meets the Essential Safety Requirements established by the **Machinery Directive – European Directive 2006/42/CE** (for UK only: S.I. 2008 No. 1597).

The instructions include important directions for safe installation, use and maintenance, as well as important warnings with regard to residual risks that remain even when all the precautions and measures described therein have been taken.

They are intended for all those involved in the transport, installation, commissioning, testing, training of the personnel responsible for the use, maintenance and demolition of the equipment.

Failure to comply with these instructions shall relieve the manufacturer of any liability in the event of breakdown and/or accidents to people, things or animals or to the equipment.

The employer is responsible for ensuring all workers who will interact with the equipment are made familiar with this document.

They must ensure the instructions are read, understood and applied.

 **Read these instructions carefully before carrying out any operation on the equipment, making sure you have understood the operating conditions and the dangerous situations to be avoided. In case of doubts on their correct interpretation, contact the manufacturer.**

 **The instructions must be available at all times to personnel authorised to operate, maintain or any other intervention on the equipment.**

The following prescriptions must also be respected:

- Do not modify parts of the equipment, e.g. to adapt it to external devices and equipment, unless expressly authorised by the manufacturer.
- Start the equipment when it is placed in an area completely free from external objects that could cause damage to persons or property.
- Make sure to keep the workplace clear and clean.
- Pay attention to all pictograms, symbols and warnings displayed on the equipment.

 **Failure to comply with the following safety standards may result in injury to persons or damage to the equipment and/or other equipment and/or property.**

The equipment may only be put into operation after carefully reading the operation and maintenance instructions.

The equipment must only be used for its intended purpose.

It is absolutely necessary to switch off the air supply when carrying out maintenance work and/or replacing parts.

Do not load foreign objects onto the equipment as this could affect its stability.

The connection to the mains or pneumatic distribution system must be made using suitable fittings and using sealing sealant at the connection points.

Never use without a silencer.

Remember that frequent bending of the hoses at very tight angles could eventually compromise the integrity of the hose, facilitating cracking.

Do not subject the hose to shocks or abrasion that will compromise its integrity and avoid damage to people or property.

The use of open flames and hot work in the vicinity of the pump is prohibited.

Do not expose pump, fittings, piping and accessories to heat sources and protect them from foreseeable mechanical shocks in relation to the installation environment.

It is important to thoroughly deburr and clean the entire hydraulic system of pipes and fittings by totally removing swarf, emery and dirt in order to ensure proper functioning of the system components.

It is recommended to flush the entire system with a fluid compatible with the operating fluid.

All repair and special maintenance work must be carried out by qualified personnel.

In the event of repairs, only original spare parts expressly authorised by the manufacturer may be used.

Spare parts exploded views are available at www.raasm.com in the SUPPORT section.

 **For reasons of safety and integrity of the product, the operator should limit him/herself to routine maintenance (filters, silencer, cleaning, etc.), while for any repairs or extraordinary maintenance he/she should contact our sales and service centres.**

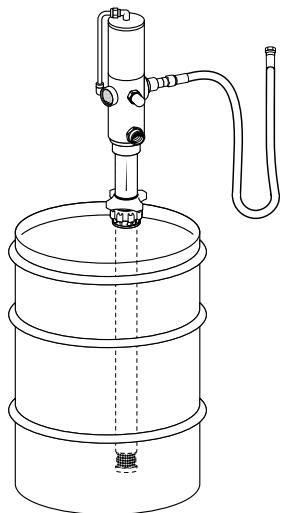
 **Take care when hoses are lying on the floor and be sure to cordon off the work area with the appropriate signage, so as to avoid the danger of tripping over and the risk that vehicles could pass over the hoses, causing them to be crushed, worn and ruptured.**

 **Pay attention to any oil stains on the floor as they are a falling or slipping hazard and can have serious consequences for your physical health. Clean oil stains on the floor thoroughly before resuming work. Wear suitable footwear that ensures a better fit.**

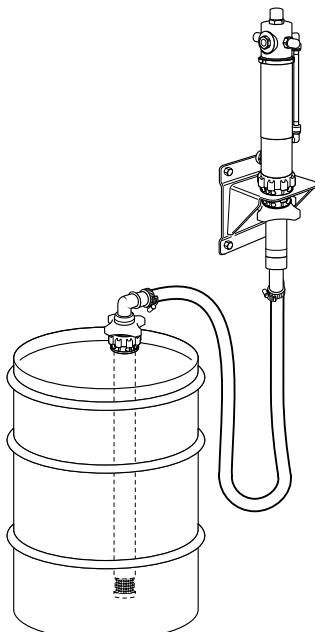
For a safe and tidy working environment after the equipment has been used:

- **Retract the delivery hose and hook it onto the equipment itself where possible.**
- **Store the equipment in a safe place protected from the weather.**

All pump models are supplied without piping and/or fittings for connection to the pneumatic supply network. Please refer to PNEUMATIC CONNECTION section on **page 20** for detailed instructions.



1



2

PRESENTATION

TRANSFER PUMPS

(23 - 40 l/min / 6.1 - 10.6 gpm)

Pneumatically operated piston pumps suitable for transferring lubricating oil, waste oil and antifreeze liquid that is chemically compatible with their materials.

It is supplied in the following versions:

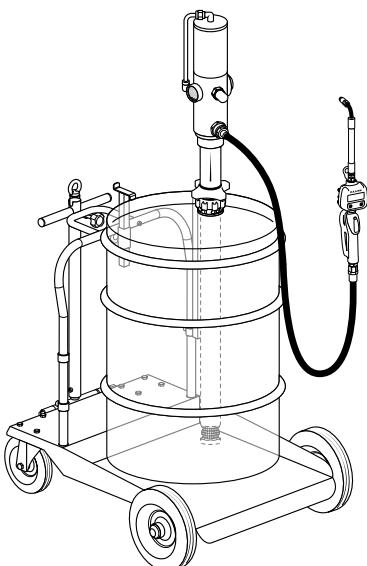
- Direct drum application:
MOD. 1:1/94E - 1:1/94ENBR - 1:1/94EVITON - 1:1/94T - 1:1/94TVITON.
- Wall application:
MOD. 1:1/60E - 1:1/60ENBR - 1:1/60EVITON - 1:1/60T - 1:1/60TVITON.

PNEUMATIC PUMPS FOR OIL DISTRIBUTION

Pneumatically operated pumps suitable for the distribution of high and medium viscosity oils, antifreeze liquid. They cannot therefore be used for fluids other than those mentioned.

It is supplied in the following versions:

- Direct drum application:
MOD. 5:1/94 - 5:1/73 - 3:1/94 - 3:1/73.
- Wall application:
MOD. 5:1/60 - 3:1/60.



3



4

INTENDED USE AND LIMITATIONS OF USE

This equipment is only suitable for professional use by operators who have been adequately trained and instructed in its correct use.

The equipment may be used under standard environmental conditions (temperature range: -10 °C ÷ +50 °C / 14 °F ÷ 122 °F).

All pump models:

- They are not suitable for use with gases, solvents and flammable liquids.
- Are not suitable for use with food.
- They are not intended for use in corrosive environments.
- Not intended for uses involving operation in environments with potentially explosive atmospheres.
- They are not intended for underground works in the mining industry or surface facilities that may be exposed to the risk of release of firedamp and/or flammable dust (coal dust).
- They are not intended for dispensing fluids with temperatures outside the prescribed limits.
- This equipment is not intended to work with pressures above the expected limits.
- This equipment is not intended for use in environments with oxygen concentrations higher than 21 vol. %.
- This is not portable equipment or equipment to be transported by people.

Any use other than the intended context/use is excluded.



5

⚠ Do not inhale corrosive or flammable liquids, fig. 4.

⚠ Do not direct the fluid outlet end towards people or animals, electrical equipment, fig. 5, or other equipment that could be easily damaged.

⚠ For safety reasons, only liquids with a flash point above 55 °C/131 °F must be used in accordance with Regulation (EC) No. 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures.

OPERATING PRINCIPLE

Suction and delivery are produced by the reciprocating movement of the air pump.

The compression ratio (R) of the pump means the direct relationship between the inlet pressure of the compressed air supplying the pump and the outlet pressure of the fluid.



The models represented in this manual have different compression ratios (the compression ratio R results approximately from the ratio of the diameter of the air motor piston to the diameter of the fluid pumping piston); i.e: R = 1:1 - R = 3:1 - R = 5:1.

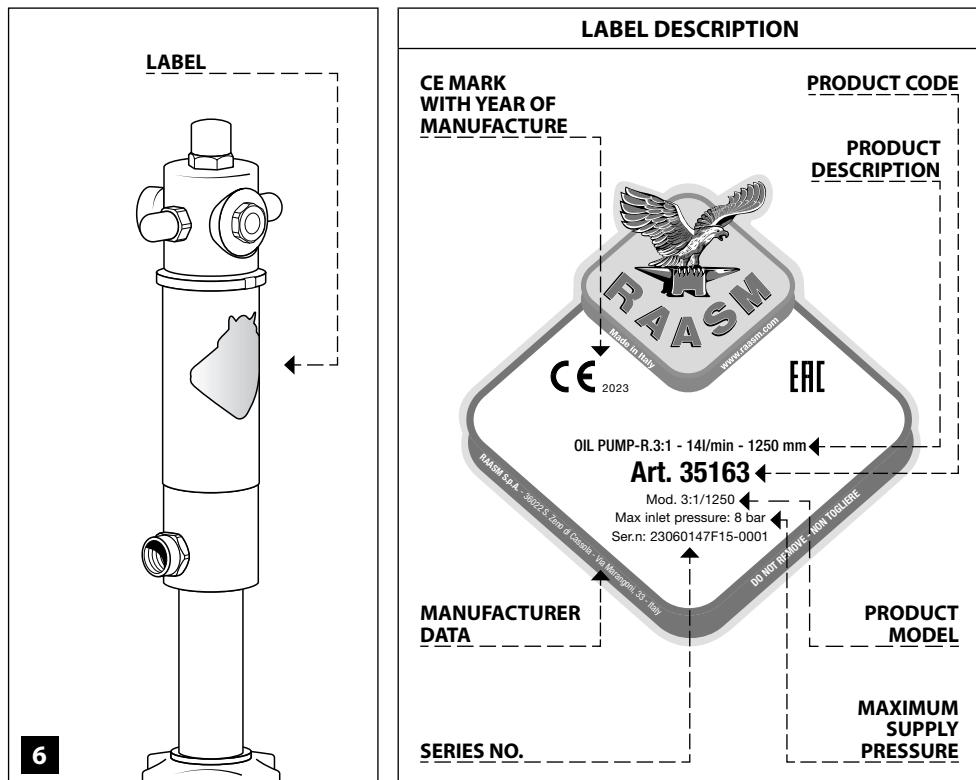
The theoretical fluid pressure at the fluid outlet of the pump is calculated by multiplying the maximum compressed air supply pressure by R.

Example: the **R = 5:1** model supplied with compressed air at **max. 8 bar/116 psi** has a maximum fluid pressure at the outlet port of the pump of approx. **40 bar (8 x 5 = 40) / 580 psi (116 x 5 = 580)**.

Pumps with higher ratio (5:1) have higher outlet pressure and are therefore able to deliver more viscous fluids over longer distances.

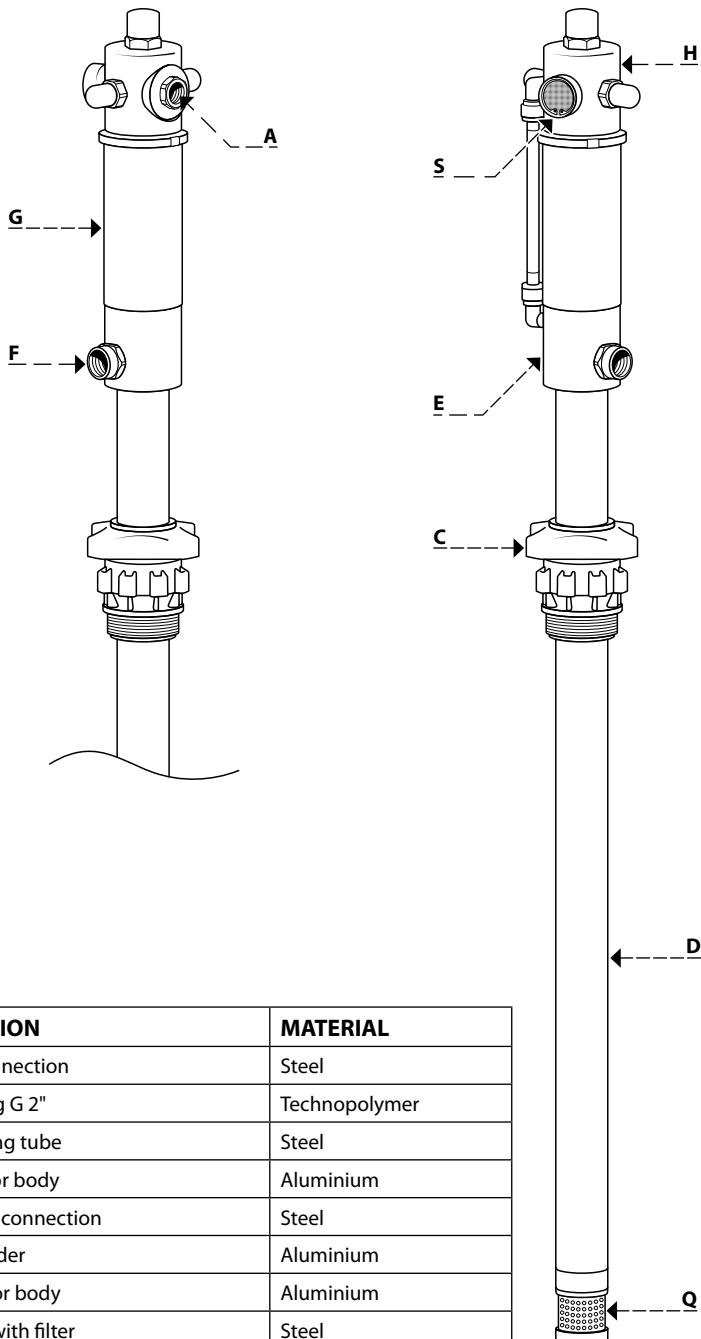
PRODUCT IDENTIFICATION

Each model is identified by a label showing the compression ratio, **fig. 6.**



DESCRIPTION OF COMPONENTS

GB



TECHNICAL CHARACTERISTICS

| Description | Mod. | 5:1/94 | 5:1/73 | 5:1/60 | 3:1/94 | 3:1/73 | 3:1/60 |
|---|------------------------------------|----------------|------------------|--------------|----------------|------------------|--------------|
| Ratio of compression | / | 5:1 | 5:1 | 5:1 | 3:1 | 3:1 | 3:1 |
| Connection air inlet | / | 1/4" | 1/4" | 1/4" | 1/4" | 1/4" | 1/4" |
| Connection oil outlet | / | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" |
| Oil flow rate at 8 bar/116 psi (free outlet) | l/min gpm | 18 4.8 | 18 4.8 | 18 4.8 | 14 3.7 | 14 3.7 | 14 3.7 |
| Max. air pressure | 8 bar/116 psi | | | | | | |
| Priming diameter | mm in | 42 1.7" | 42 1.7" | / | 42 1.7" | 42 1.7" | 42 1.7" |
| Air consumption | l/min gpm | 270 71.3 | 270 71.3 | 270 71.3 | 250 66 | 250 66 | 250 66 |
| Level of sound pressure LpA | 79,6 dB | | | | | | |
| Disposable oil temperature | -10 °C ÷ +50 °C / +14 °F ÷ +122 °F | | | | | | |
| Max. disposable oil viscosity | SAE | 240 | 240 | 240 | 130 | 130 | 130 |
| Suitable for drums: | kg lbs | 180-220 400 | 50-60 110-132 | / | 180-220 400 | 50-60 110-132 | / |
| Net weight | kg lbs | 5,9 13 | 5,4 12 | 4,1 9 | 5,7 12.5 | 5,1 11.2 | 3,8 8.4 |
| Priming length | mm in | 940 37" | 730 28.8" | 270 10.6" | 940 37" | 730 28.8" | 270 10.6" |
| Type of seals | / | NBR | NBR | NBR | NBR | NBR | NBR |

TECHNICAL CHARACTERISTICS

GB

| Description | Mod. | 1:1/94E 1:1/94ENBR 1:1/94EVITON | 1:1/60E 1:1/60ENBR 1:1/60EVITON | 1:1/94T 1:1/94TVITON | 1:1/60T 1:1/60TVITON |
|---|--------------|---------------------------------------|---------------------------------------|-------------------------|-------------------------|
| Ratio of compression | / | 1:1 | 1:1 | 1:1 | 1:1 |
| Connection air inlet | / | 1/4" | 1/4" | 1/4" | 1/4" |
| Connection oil outlet | / | 1/2" | 1/2" | 3/4" | 3/4" |
| Oil flow rate at 8 bar - 116 psi (free outlet) | l/min gpm | 23 6.1 | 23 6.1 | 40 10.6 | 40 10.6 |
| Max. air pressure | | 8 bar/116 psi | | | |
| Priming diameter | mm in | 42 1.7" | / | 42 1.7" | / |
| Air consumption | l/min gpm | 230 60.7 | 230 60.7 | 270 71.3 | 270 71.3 |
| Level of sound pressure LpA | | 79,6 dB | | | |
| Disposable oil temperature | | -10 °C ÷ +50 °C / +14 °F ÷ +122 °F | | | |
| Max. disposable oil viscosity | SAE | 80 | 80 | 130 | 130 |
| Suitable for drums: | kg lbs | 180-220 400 | / | 180-220 400 | / |
| Net weight | kg lbs | 6 13.2 | 4 8.8 | 6,5 14.3 | 5 11 |
| Priming length | mm in | 940 37" | / | 940 37" | / |
| Type of seals | / | Teflon® NBR Viton® | Teflon® NBR Viton® | Teflon® Viton® | Teflon® Viton® |

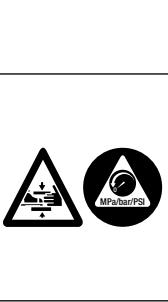
The oil flow rate shown in the table was obtained with SAE 30 oil at room temperature (18 °C/64.4 °F).

SAFETY WARNINGS

IDENTIFICATION OF WARNINGS

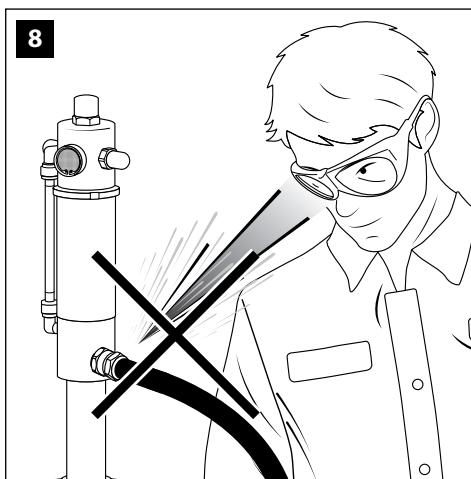
The following warnings refer to all operations involving transport, installation, commissioning, testing, training of operators in charge of, maintenance, utilization and final decommissioning and demolition of the equipment. The exclamation symbol alerts you to general warnings and the "danger" symbol refers to specific procedures and/or risks.

When these symbols appear on the manual refer to the warnings included here.

| <h3> IMPORTANT NOTICES</h3> | |
|--|---|
|  | <p>RISK OF INJURIES</p> <p>Fluid discharged under pressure from guns, nozzles, or due to leakage due to cracks in pipes or damage to components can cause damage, even serious, to the skin and/or other parts of the body.</p> <ul style="list-style-type: none">Devices delivering pressurized fluids must never be pointed at persons and/or body parts and/or animals.Do not place your hands at the outlet of the dispensing device or in front of the other delivery/dispensing points.Never attempt to reduce or interrupt spray by means of hands or other parts of the body, gloves, etc.When work is finished, do not leave the equipment under pressure, the same applies before carrying out any work on the equipment.Before operating the equipment, check that the hoses are securely connected to the respective parts.Check the hoses and the relative fittings every time before using the equipment, to verify their state of wear. |
|  | <p>RISK FROM MOVING PARTS</p> <p>Moving parts can crush, wound and possibly sever fingers and/or other body parts (e.g. feet).</p> <ul style="list-style-type: none">Do not put your hands and/or other body parts inside the areas marked in this manual.Do not tamper with the equipment, or operate without the appropriate PPE (if specified).Before carrying out any checks, handling, transport, maintenance operation, remove the supply pressure. |
|  | <p>RISK DERIVING FROM IMPROPER USE</p> <p>Use of the equipment other than those described in this manual may lead to death or serious injury. Improper use invalidates all forms of warranty and relieves the manufacturer from all liability.</p> <ul style="list-style-type: none">Never undertake any work using the equipment and the relative accessories if tired, or under the influence of drugs and/or alcohol.Do not exceed the maximum operating pressure and/or permissible temperature range for the use of the equipment, as indicated in this manual.Do not leave the equipment unattended in the work area when pressurised.When not in use, do not leave the equipment under pressure.Check the state of the equipment before every use.Renew any damaged and/or worn parts immediately, using RAASM original parts.Do not make modifications to the equipment. Any intervention must be approved in advance by the manufacturer. Modifications, if not approved, will result in the voiding of the warranty and any liability for the manufacturer, as well as possible damage to the equipment and risks to one's own health and the health of third parties.Do not allow children and/or animals near the work area.Abide by all current provisions concerning matters of safety. <p>All hoses and accessories connected to the pump delivery must have a working pressure value equal to or greater than the maximum delivery pressure generated by the pump itself.</p> |

! IMPORTANT NOTICES

| | |
|--|---|
|  | <p>RISK OF TOXIC FLUIDS AND VAPOURS Toxic fluids and vapours can cause serious injury if inhaled or swallowed, or if they come into contact with the eyes, skin or other parts of the body.</p> <ul style="list-style-type: none"> Always read the safety data sheet of the product you intend to use to ascertain the specific risks involved. Store hazardous fluids in suitable containers. Dispose of in accordance with the regulations in force in the country of destination. |
|  | <p>RISK OF INJURY DURING TRANSPORT, UNPACKING, DISPOSAL Mishandling during transport can cause the packaging to fall, possibly resulting in injury to persons in the vicinity and/or damage to the item.</p> <ul style="list-style-type: none"> When opening the packaging, take care not to cut yourself using a cutter or similar sharp instruments. |
|  | <p>PERSONAL PROTECTIVE EQUIPMENT</p> <ul style="list-style-type: none"> When working with equipment, plan to wear protective equipment (including goggles with side protection, protective gloves, safety shoes and protective overalls). |



RESIDUAL RISKS

The equipment is designed to eliminate as far as possible crushing and cutting hazards for the operator and people around him. The following residual risks remain despite the measures taken.

HIGH PRESSURE RISK



Be careful near the connection points, **fig. 8**.



PACKAGING

The equipment is supplied with standard packaging designed for ground transport in covered, non-humid vehicles. Standard packaging consists of a wooden base (pallet) and several triple-wave cardboard boxes. The boxes are joined by polypropylene straps of a suitable size. Upon receipt of the product, the packaging must be intact:

- It must not show any signs of impact or breakage.
- It must not show any signs that it has been subjected to heat, water, etc.
- It must not show any signs of tampering.



STORAGE

The storage location must be a sheltered and closed environment with a temperature of not less than -5 °C/23 °F, not higher than +40 °C/104 °F and with a humidity rate not exceeding 80%. Furthermore, any packaging must not be subjected to shocks, vibrations and overhanging loads.



TRANSPORT AND HANDLING LOADS



Transport must take place by means of a pallet truck, fork-lift or similar means, specially designed for handling goods on pallets.

During transport, ensure that the packaging cannot move, tilt or fall as a result of shocks.

It is the responsibility of the personnel (customer) to ensure safety during lifting and transport operations by means of suitability and conformity of the handling equipment and accessories.



Pay attention to the mass of the equipment.

Equipment lifting and transport operations must be carried out by specialised personnel.



Special care and caution must be exercised during such operations.

Should it become necessary to transport the equipment after having removed it from its packaging, if it cannot be put back in, take all measures and precautions to ensure that the product is securely fastened inside the transport vehicle.

WEIGHT INFORMATION

| Nº | Model | External dimensions of the boxes | Gross weight | Volume |
|----|---------------------------------------|----------------------------------|--------------|----------------------|
| 1 | 5:1/94 | 100 mm x 100 mm x 1330 mm | 6,65 kg | 0,018 m ³ |
| | | 3.94" x 3.94" x 52.36" | 14.66 lbs | 0.63 ft ³ |
| 1 | 5:1/73 | 100 mm x 100 mm x 1090 mm | 5,61 kg | 0,016 m ³ |
| | | 3.94" x 3.94" x 42.91" | 12.36 lbs | 0.56 ft ³ |
| 1 | 5:1/60 | 100 mm x 100 mm x 750 mm | 4,22 kg | 0,010 m ³ |
| | | 3.94" x 3.94" x 29.52" | 9.30 lbs | 0.35 ft ³ |
| 1 | 3:1/94 | 100 mm x 100 mm x 1330 mm | 6,46 kg | 0,017 m ³ |
| | | 3.94" x 3.94" x 52.36" | 14.24 lbs | 0.60 ft ³ |
| 1 | 3:1/73 | 100 mm x 100 mm x 1090 mm | 5,90 kg | 0,014 m ³ |
| | | 3.94" x 3.94" x 42.91" | 13.00 lbs | 0.49 ft ³ |
| 1 | 3:1/60 | 100 mm x 100 mm x 750 mm | 5,46 kg | 0,010 m ³ |
| | | 3.94" x 3.94" x 29.52" | 12.03 lbs | 0.35 ft ³ |
| 1 | 1:1/94E 1:1/94ENBR 1:1/94EVITON | 100 mm x 100 mm x 1330 mm | 6,00 kg | 0,017 m ³ |
| | | 3.94" x 3.94" x 52.36" | 13.22 lbs | 0.60 ft ³ |
| 1 | 1:1/60E 1:1/60ENBR 1:1/60EVITON | 100 mm x 100 mm x 510 mm | 3,70 kg | 0,007 m ³ |
| | | 3.94" x 3.94" x 20.07" | 8.15 lbs | 0.24 ft ³ |
| 1 | 1:1/94T 1:1/94TVITON | 100 mm x 100 mm x 1460 mm | 7,40 kg | 0,018 m ³ |
| | | 3.94" x 3.94" x 57.48" | 16.31 lbs | 0.63 ft ³ |
| 1 | 1:1/60T 1:1/60TVITON | 100 mm x 100 mm x 750 mm | 5,32 kg | 0,010 m ³ |
| | | 3.94" x 3.94" x 29.52" | 11.72 lbs | 0.35 ft ³ |



If, on the other hand, the pump has already been used, it must be thoroughly drained of the oil contained in the dipstick before being stored or handled. To do this, simply turn the pump upside down as shown, **fig. 9**, and recover the oil in a suitable container.

Any used oil must be disposed of according to national regulations.

RAASM promotes the eco-sustainability of its production process, from design to sale.

UNPACKING



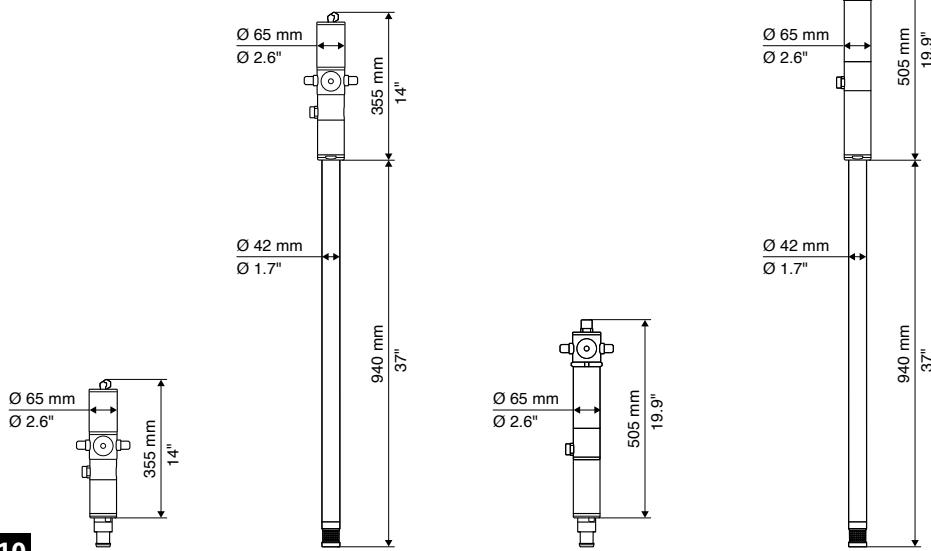
To remove the packaging, cut the strapping and separate the cardboard from the wooden base. Use a cutter or scissors to cut the straps.

Depending on the model, the box will also contain varying quantities of protective cardboard spacers and plastic bags designed to protect the product from impact.

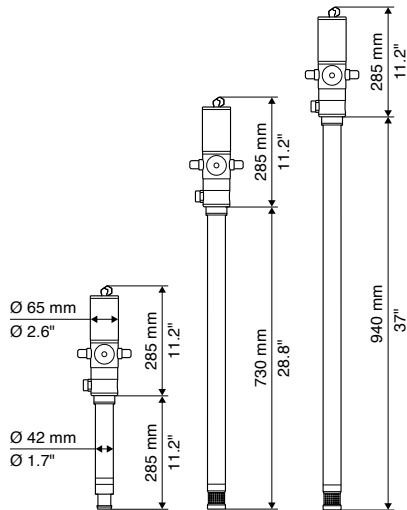
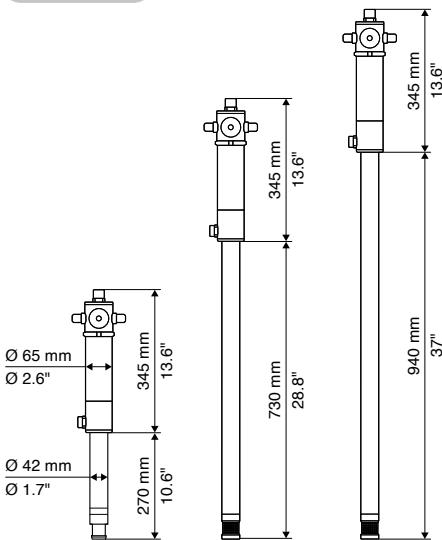


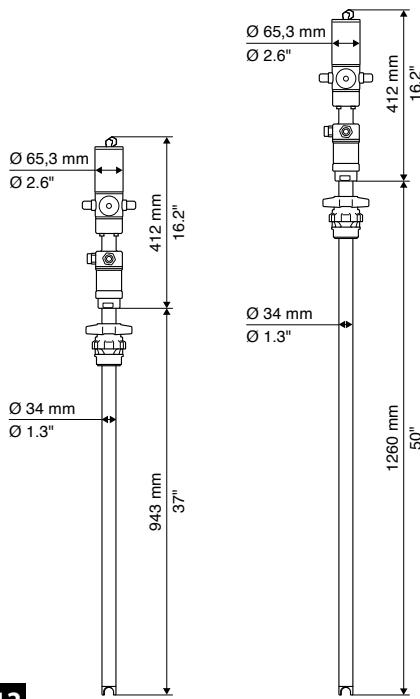
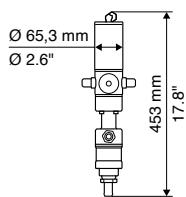
All packaging (including cardboard, plastic bags, etc.) must also be disposed of in accordance with current legislation in the country of use.

OVERALL DIMENSIONS (PUMPS 1:1)

R=1:1

OVERALL DIMENSIONS (PUMPS 3:1 - 5:1)

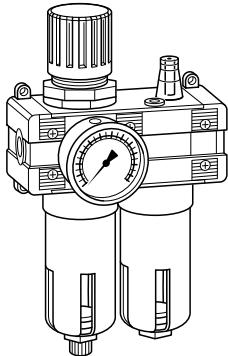
R=3:1**R=5:1**

R = 1:1 in stainless steel

12

PUMPS 1:1 IN STAINLESS STEEL

| TECHNICAL DATA | 1:1/60l | 1:1/94l | 1:1/126l |
|------------------------------------|------------------------------------|-------------------|---------------------|
| Compression ratio | 1:1 | | |
| Air inlet | | 1/4" | |
| Fluid outlet | | 1/2" | |
| Maximum air pressure | 8 bar 116 psi | | |
| Medium air consumption | 370 l/min 13 cfm | | |
| Flow rate | 30 l/min 7.9 gpm | | |
| Level of sound pressure LpA | | 79,6 dB | |
| Fluid temperature | -10 °C ÷ +50 °C / +14 °F ÷ +122 °F | | |
| Max. fluid viscosity | | SAE 50 | |
| Priming length | Modular | 940 37" 50" | 1260 34 1.33" |
| Priming diameter | - | 1.33" | 1.33" |
| Seals | Viton® | Viton® | Viton® |



13

INSTALLATION AND COMMISSIONING



⚠ Installation must be carried out in a workmanlike manner. The installation of the equipment (assembly, hose assembly, pneumatic connection) must be carried out by qualified and authorised personnel.

If the general compressed air system lacks a treatment system, it is necessary to install an assembly commonly called FRL (Filter Regulator Lubricator), which is essential for the proper functioning and long life of the pump, fig. 13.

During installation, there must be no moving equipment that could jeopardise the safety of those carrying out the installation.

The pump has been tested with engine lubricating oil (emulsified water for stainless steel models).

Should this contaminate the fluid to be pumped, run it long enough to thoroughly clean the pump and pipes.

The pumps are delivered already assembled and ready for installation and use.

RELATED MANUALS

| NUMBER | DESCRIPTION |
|--------|--|
| V756 | Pressure regulator unit with condensate drain filter, Air lubricator and pressure gauge (FRL) |

⚠ It is the responsibility of the installer to ensure that the accessories meet the requirements for the safe and proper functioning of the pump.

⚠ The fluids to be pumped must be clean and free of swarf, sawdust, sand or foreign bodies.

All pump models shown in this instruction manual are supplied without piping and/or fittings for connection to the pneumatic supply network.

Please refer to PNEUMATIC CONNECTION section on **page 20** for detailed instructions.

TUBE COMPATIBILITY

All pump models shown in this instruction manual are supplied without hoses.

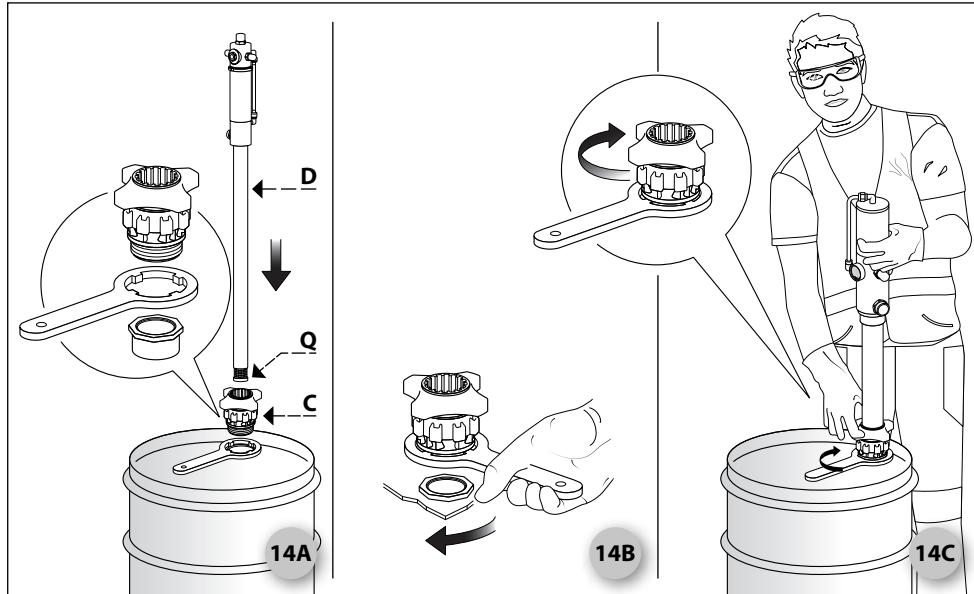
The type of hose and its fittings and nipples to be installed must be chemically compatible with the fluid to be dispensed.

⚠ The type of hose and its fittings, nipples must be capable of withstanding pressures equal to or greater than the maximum operating pressure at the pump outlet.

⚠ The manufacturer accepts no liability for any malfunctions, problems or dysfunctions caused by the type of hose or the way in which it has been assembled by the dealer, user or others other than the manufacturer.

DRUM PUMP INSTALLATION

GB



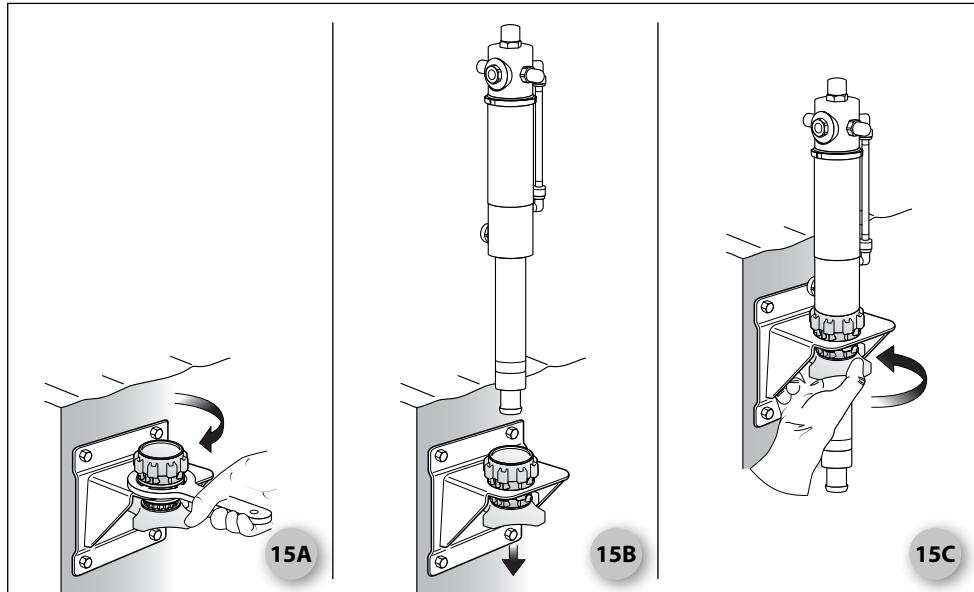
Remove the plastic protective cap from the filter with foot valve [Q].

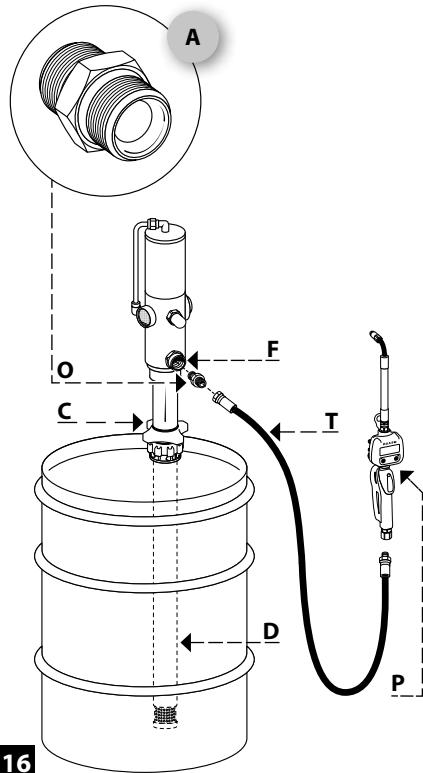
Screw the black ring nut [C], **fig. 14A**, onto the 2" G (BSP) hole in the drum cover and tighten it securely using the spanner supplied, **fig. 14B**.

Slightly loosen the red knob to allow the priming tube [D] to enter the hole.

Tighten the red knob to secure the priming tube well [D], **fig. 14C**.

WALL PUMP INSTALLATION





16

FLUID DELIVERY HOSE, fig. 16

Remove the plastic protective cap from the fluid outlet connection [F].

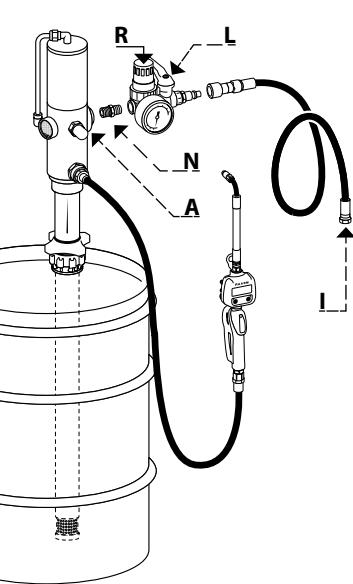
⚠ Observe the mounting direction of the nipple [O] indicated in detail [A], the countersink of the hole must face the pipe connection [T].

Screw a nipple [O] onto the hole of the fluid outlet port [F] using sealant and tighten it firmly using a spanner.

Screw the fluid delivery tube connection [T] onto the nipple [O] and tighten it securely using a spanner.

DISPENSING GUN

Screw the swivel connection of the gun [P] onto the fluid delivery hose connection [T] using sealant and tighten it securely using a spanner.



17

PNEUMATIC CONNECTION, fig. 17

Remove the plastic protective cap from air inlet connection [A].

Screw a 1/4" nipple [N] onto the air inlet port hole using sealant and tighten it securely using a spanner. Install a pressure regulator with pressure gauge [R] equipped with a ball valve with lever [L] in the closed position and a hose suitable for compressed air [I] using 1/4" threaded connections.

Connect the compressed air hose to the compressed air distribution network.

Slowly open the ball valve by actuating lever [L]. Slowly increase the value of the compressed air pressure supplying the pump by turning the pressure regulator knob with pressure gauge [R].

⚠ The compressed air pressure to supply the pump must not exceed 8 bar/116 psi.

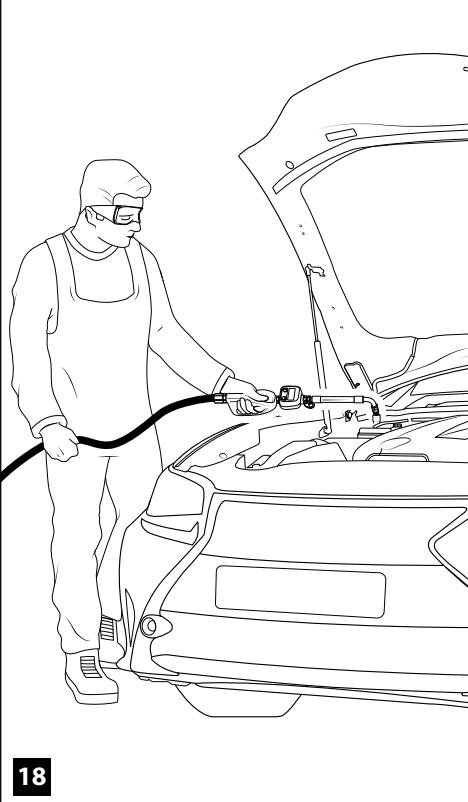
FLUID SUPPLY, fig. 18

Press the gun lever [P] to release the air in the pipes and dispense the fluid.

Release the gun lever [P] to stop fluid delivery and stop the reciprocating movement of the pump.

⚠ In an emergency, release gun lever [P] and close the ball valve by acting on lever L to cut off the compressed air supply.

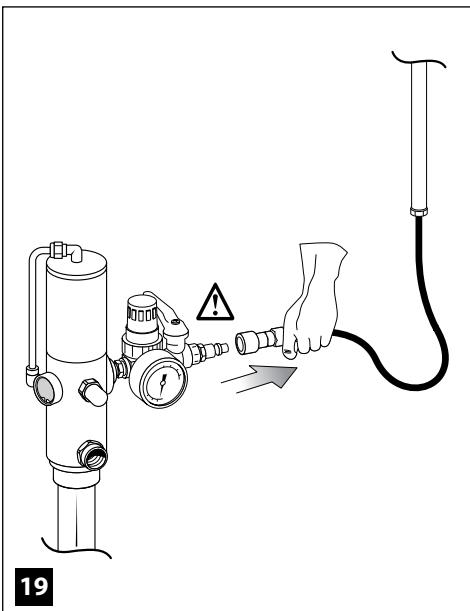
The dispensing gun lever should only be pressed when the operator is certain that the dispensed oil reaches the desired points without dispersing, **fig. 18**. At the end of the job, position the nozzle in such a way that it cannot accidentally open the circuit by dispensing oil that could spill on the ground.



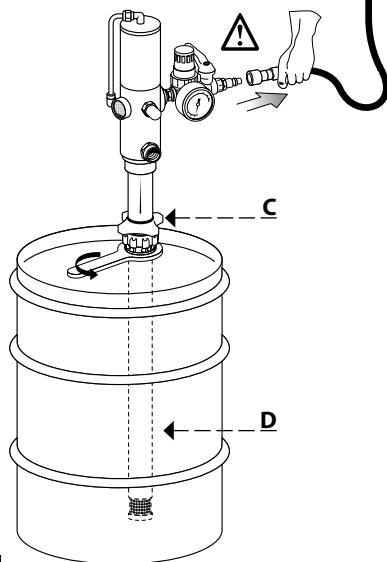
18

⚠ At the end of the work, disconnect the connection to the compressed air supply and relieve all pressures in the system, **fig. 19.**

⚠ In the event of failure to deliver due to the fluid running out in the tank, stop using the pump, as running empty will lead to wear and damage to components.



19



REPLACING THE DRUM

⚠ Remove the connection to the compressed air supply and release all the pressures present in the system before replacing the drum, fig. 20.

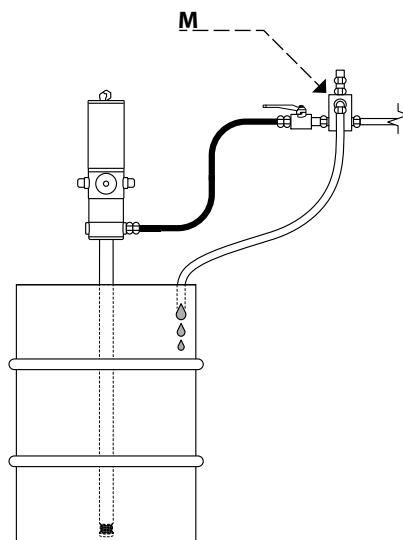
Unscrew the red knob of the ring nut [C] a few turns to unlock the priming tube [D].

Lift and pull the pump out of the drum.

Completely unscrew the black ring nut [C] from the 2" G (BSP) hole in the drum cover using the spanner provided.

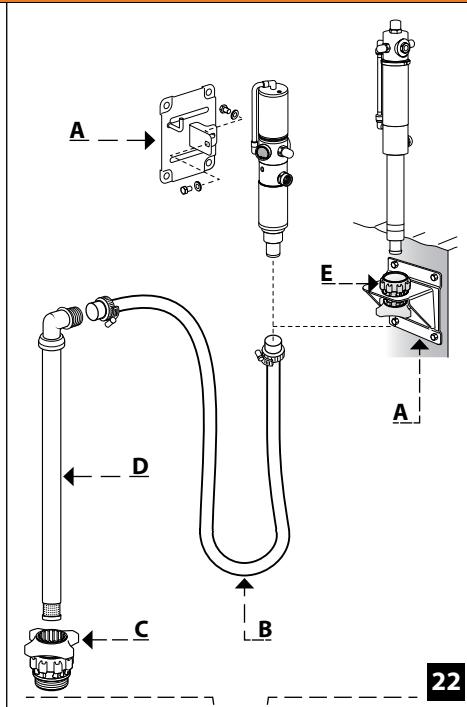
Replace the drum and reassemble the pump as described above.

⚠ Never place the pump and its accessories on dirty surfaces or in the presence of chips, sawdust, sand or foreign bodies.

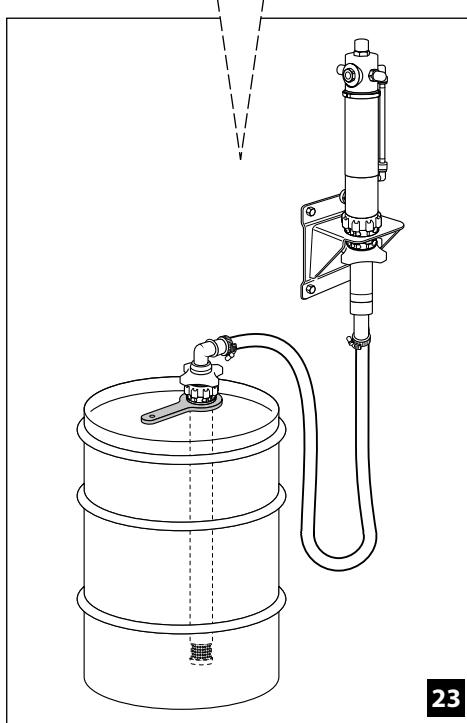


OVERPRESSURE PROTECTION

Install a pressure relief valve [M], fig. 21, at the pump outlet to prevent over-pressurisation of the system and consequent breakage of the pump or pipe. Over-pressurisation can be caused by thermal expansion of the fluid in the outlet pipe.



22



23

WALL PUMP INSTALLATION

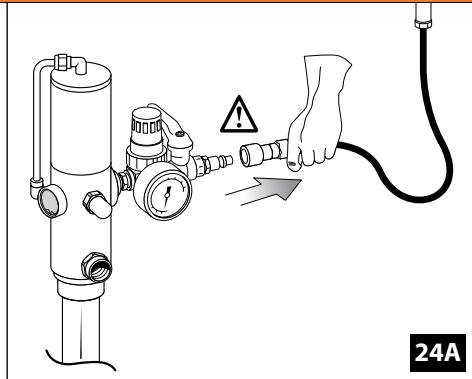
To install the wall-mounted oil distribution pump, it must first be fitted with its standard accessories. **fig. 22:**

- A.** Wall bracket
- B.** Flexible priming
- C.** Ring nut
- D.** Rigid priming

Then proceed as follows:

- 1.** Fix the bracket to the wall with appropriate wall plugs at a height of approx. 1200 mm/47.3" for drums, and at a height appropriate to the tank size (if used for tanks). First check the consistency and thickness of the wall and check that the holes for the dowels do not intercept plumbing pipes or electrical cables.
- 2.** Fix the pump to bracket **[A]** by securing it with the screws provided or with ring nut **[E]**.
- 3.** Connect the flexible priming **[B]** to the pump with the elastic band supplied.
- 4.** Connect the other end of the flexible priming to the rigid priming **[D]**, securing it with the elastic band provided.
- 5.** Screw ring nut **[C]** onto the drum hole.
- 6.** Insert the rigid priming **[D]** into the drum and then screw in the ring nut knob to secure it firmly.

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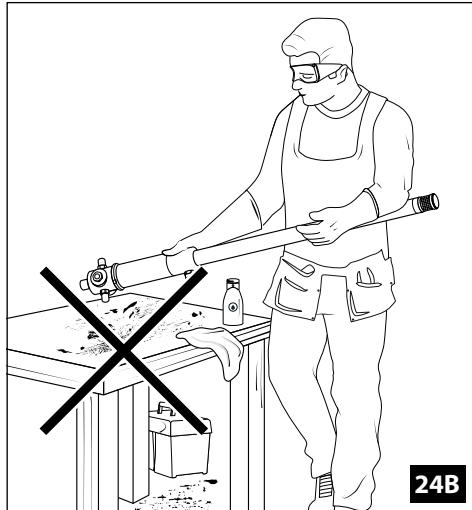
24A

MAINTENANCE AND CHECKS



Proper maintenance of the equipment means maintaining the technical performance over time.

⚠ Remove the connection to the compressed air supply and discharge all the pressures present in the system before carrying out any intervention (cleaning, maintenance, replacement of spare parts), fig. 24A.



24B

⚠ In the event of repairs, only original spare parts expressly authorised by the manufacturer may be used. Spare parts exploded views are available at www.raasm.com in the SUPPORT section.

⚠ It is forbidden to disperse oil in the environment, it must be collected and disposed of in accordance with the regulations of the country of origin.

⚠ Never place the instrument and its components on dirty surfaces or in the presence of chips, sawdust, sand or foreign bodies, fig. 24B.

ROUTINE MAINTENANCE

Routine maintenance involves all of those actions performed directly by the user that are instrumental in guaranteeing long service of the equipment.

If any abnormalities are observed, stop using the equipment and contact the manufacturer or the dealer from which it was purchased, without delay.

EXTRAORDINARY MAINTENANCE

Extraordinary maintenance is only required if the equipment is not working.

It includes both what is described in routine maintenance and the replacement of some recommended spare parts.

Extraordinary maintenance must be carried out taking care not to damage the parts of the article during disassembly, and therefore it is necessary to hand over the appliance to an authorised dealer for a more specific check.

MAINTENANCE AND CHECKS

GB

| MAINTENANCE | TYPE OF MAINTENANCE | OPERATOR | FREQUENCY |
|--|---------------------|----------|---|
| Pump body control | Routine | User | Monthly Check for dents, rust, engine body integrity. If you notice noticeable signs of degradation discontinue use and contact a service centre. |
| Rigid priming tube control. Accessory control (fittings, nipples) | Routine | User | Weekly If you notice signs of wear, cracks, cuts on the surfaces, stop work and replace. |
| Air inlet filter | Routine | User | Every 200 working hours Completely unscrew the air inlet connection [A] of the KR3307 using a 25 mm spanner. Turn the pump with the air inlet downwards to prevent dirt or foreign bodies from entering, and in this position drop the sintered filter 0254. Remove any impurities and in particular clean the sintered 0254 filter with solvent or blow with compressed air. Turn the pump with the air inlet upwards and insert the sintered filter 0254 in the correct position. Check the wear condition of the O-ring of air inlet connection [A]. Screw air inlet connection [A] back on using a 25 mm spanner. |
| Silencer | Routine | User | Every 200 working hours Remove the KR3304 seeger using a seeger ring pliers. Dismantle the two sintered 0258 silencers and the O-ring seal. Remove any impurities, in particular clean the two sintered 0258 silencers with solvent and blow them out with compressed air. Reassemble components as per parts exploded view. |
| Priming filter with foot valve | Routine | User |  The pre-drilled sheet metal filter must not show any deformations, if damaged, replace KR3308 or 10/20. Every 200 working hours Remove any impurities and clean the priming filter with foot valve KR3308 or 10/20 with compressed air or solvent. If necessary, unscrew the priming filter with foot valve, remove any impurities and clean the ball seat with compressed air or solvent. |

MAINTENANCE AND CHECKS

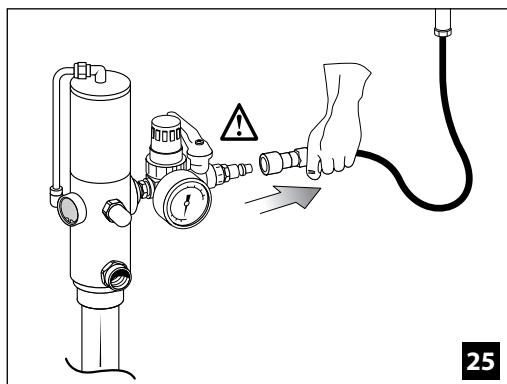
| MAINTENANCE | TYPE OF MAINTENANCE | OPERATOR | FREQUENCY |
|--|---------------------|----------|---|
| Flexible piping | Routine | User | Every 200 operating hours of the pump Check the integrity of the flexible hoses connected to the pump (compressed air supply and fluid outlet) for cuts or obvious wear and tear (potential causes of leakage) and, if necessary, replace them immediately. |
| Pressure regulator with condensate drain | Routine | User | Every 200 operating hours of the pump Check the oil level in the lubricator of the FRL unit and in case of a low level, insert an oil for pneumatic systems as indicated in the instruction manual V756. |

CLEANING



For routine cleaning of the equipment use a clean cloth and a non-aggressive detergent. Dry at the end of the job.

TROUBLESHOOTING



Disconnect the compressed air supply and relieve all pressures in the system before carrying out any work (cleaning, maintenance, repair and replacement of parts), fig. 25.

TROUBLESHOOTING

GB

| PROBLEM | POSSIBLE CAUSE | SOLUTION |
|--|--|---|
| Presence of air bubbles in the dispensed fluid (emulsion) | Failure or insufficient purging of air in the fluid supply line. | At first start-up, the pump must slowly make reciprocating motion for a sufficient number of cycles in order to properly prime and purge all air in the delivery line. |
| | The pump sucks in air because the fluid level in the tank is too low. |  Close the ball valve by acting on lever [L] to cut off the compressed air supply to the pump, as running empty will lead to wear and damage to components. Fill the tank or replace with a full one. |
| | Problems on the suction line, pipes or fittings do not make a tight seal and suck in air from outside. | Carefully check the integrity of the rigid and flexible suction hose, the sealing and correct tightening of the threaded connections and hose clamps. |
| | The priming bottom filter valve is damaged, dirty and does not seal. | Dismantle and carefully clean the priming bottom filter valve; if damaged, replace it. |
| The pump does not perform the reciprocating movement | The pump is not powered by compressed air. | Check and restore the correct compressed air supply to the pump and also check the cleanliness of the air inlet filter O254 of the KR3307 as described in the chapter MAINTENANCE AND CHECKS on page 25. |
| | The value of the compressed air pressure supplying the pump is too low. |  The compressed air pressure to supply the pump must not exceed 8 bar/ 116 psi. Slowly increase the value of the compressed air pressure supplying the pump by turning the pressure regulator knob with pressure gauge. |
| | Deformed priming tube. | Replace the priming tube. For reasons of safety and product integrity, please contact an authorised service centre with specialised personnel for this type of operation. |
| The pump does not make the reciprocating motion, the compressed air feeds the pump and exits through the KR3304 silencer | One of the two levers of the KR3305 is out of place. |  Do not disassemble the KR3305. Dismantle the KR3307, completely unscrew the air inlet cap using a socket spanner to gain access to the engine body compartment. In the event that one of the KR3305's two levers is out of place, use narrow-nose pliers to reposition it correctly in place. For reasons of safety and product integrity, please contact an authorised service centre with specialised personnel for this type of operation. |

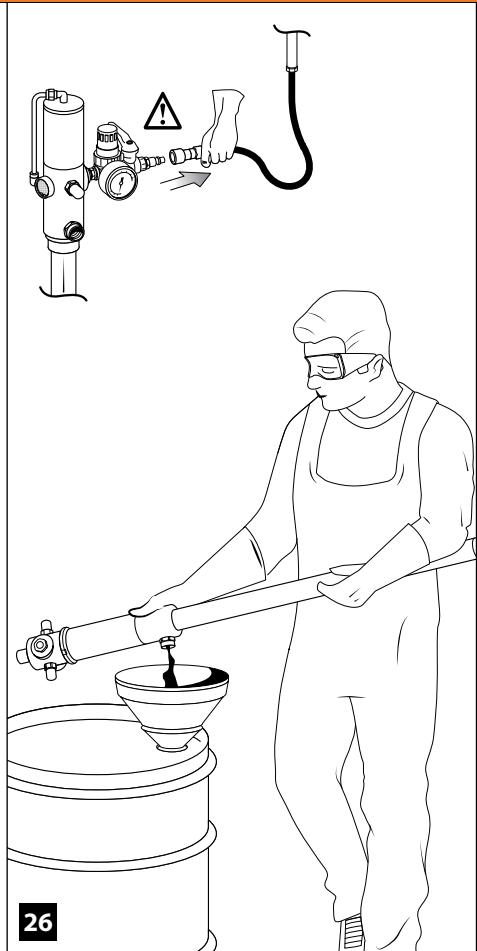
TROUBLESHOOTING

| PROBLEM | POSSIBLE CAUSE | SOLUTION |
|--|---|---|
| The pump does not make the reciprocating motion, the compressed air feeds the pump and exits through the KR3304 silencer | Deterioration of gasket H038 or H126. | In such cases, it is essential to dismantle the parts concerned in order to clean them or, if damage has been established, to replace them. For reasons of safety and product integrity, please contact an authorised service centre with specialised personnel for this type of operation. |
| | Deterioration of the I012 distributor on the engine cylinder. | |
| | Deterioration of piston KC105. | |
| The pump performs the reciprocating motion without delivering fluid | The fluid level in the reservoir is insufficient. | Fill the tank or replace it with a full one. |
| | The foot valve of the KR3308 or 10/20 does not seal or is worn or damaged. | Unscrew the priming filter with foot valve, remove any impurities and clean the components and in particular the ball seat with compressed air or solvent. In case of wear or damage replace KR3308 or 10/20. |
| | Only for 3:1 and 5:1 ratio pumps. Gasket H012 of KR3604 is worn or damaged. The ball valve of the KR3604 does not seal due to wear or the presence of foreign bodies. | For reasons of safety and product integrity, please contact an authorised service centre with specialised personnel for this type of operation. |

TROUBLESHOOTING

GB

| PROBLEM | POSSIBLE CAUSE | SOLUTION |
|--|---|--|
| Poor or slow delivery of fluid | The O254 filter of the air inlet connection is clogged. | <p>Completely unscrew the air inlet connection [A] of the KR3307 using a 25 mm spanner. Turn the pump with the air inlet downwards to prevent dirt or foreign bodies from entering, and in this position drop the sintered filter O254.</p> <p>Remove any impurities and in particular clean the sintered O254 filter with solvent or blow with compressed air.</p> <p>Turn the pump with the air inlet upwards and insert the sintered filter O254 in the correct position.</p> <p>Check the wear condition of the O-ring of air inlet connection [A].</p> <p>Screw air inlet connection [A] back on using a 25 mm spanner.</p> |
| | The two O258 filters in the silencer are clogged. | <p>Remove the KR3304 seeger using a seeger ring pliers.</p> <p>Dismantle the two sintered O258 silencers and the O-ring seal.</p> <p>Remove any impurities, in particular clean the two sintered O258 silencers with solvent and blow them out with compressed air.</p> <p>Reassemble components as per parts exploded view.</p> |
| | Condensation in the engine cylinder and silencer. This problem can cause cylinder icing and subsequent slowdowns in operation. | <p>Install an FRL unit (Filter Regulator Lubricator) and initially increase the lubrication of the compressed air to restore the functionality of the engine cylinder, and then decrease it as indicated in the instruction manual V756.</p> |
| The pump runs continuously even when the dispensing gun is closed (lever not actuated) | Leaks in the fluid delivery system. | Check the fluid delivery system for leaks. |
| Oil from the lubricator of the FRL unit flows out of the silencer | Too much oil in the compressed air lubrication. The lubricator of the FRL unit is not correctly adjusted. | <p>Decrease lubrication by acting on the lubricator of the FRL unit (Filter Regulator Lubricator).</p> <p>Remove the KR3304 seeger using a seeger ring pliers.</p> <p>Dismantle the two sintered O258 silencers and the O-ring seal.</p> <p>Remove any impurities, in particular clean the two sintered O258 silencers with solvent and blow them out with compressed air and replace them if they are too clogged.</p> <p>Reassemble components as per parts exploded view.</p> |
| Fluid flows out of the silencer | Deterioration of seals. | <p>Replace the gaskets.</p> <p>For reasons of safety and product integrity, please contact an authorised service centre with specialised personnel for this type of operation.</p> |
| Formation of condensation on the pump motor housing | Possibly a particularly warm environment, which in contact with cold air from the pump (greater if used often) causes condensation. | <p>None, the pump will still make condensation but it is not a problem if it forms on the outside.</p> |



DISMANTLING, SCRAPPING/ DISPOSAL



The individual parts that make up the equipment are easily separable in order to facilitate the separate disposal of the various materials upon disposal. Such disposal must be carried out in accordance with the regulations in force in the country where the equipment is installed.

To differentiate materials once separated, please refer to the chapter DESCRIPTION OF COMPONENTS on page 9.

Separation of components must be performed by a qualified and authorised operator. Please contact an authorised waste disposal company to dispose of the product.

⚠ Carefully drain the oil contained in the pump before separating the components, fig. 26.

⚠ It is forbidden to disperse waste oil in the environment, it must be collected and disposed of in accordance with the regulations of the country of origin.



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EU DECLARATION OF CONFORMITY PURSUANT TO ANNEX II, PART A OF DIRECTIVE
2006/42/EC

GB



RAASM S.p.A.
Via Marangoni, 33
36022 S. Zeno di Cassola - Vicenza - Italy

DECLARATES THAT THE MACHINE MODELS LISTED BELOW, PNEUMATIC PISTON PUMPS, COMPLY IN ALL THEIR PARTS WITH THE FOLLOWING APPLICABLE EUROPEAN DIRECTIVES: 2006/42/CE

AND COMPLY WITH THE FOLLOWING HARMONISED STANDARDS: UNI EN ISO 12100:2010

**Mod. 1:1/94EVITON, Mod. 1:1/94ENBR, Mod. 1:1/60E, Mod. 1:1/94E,
Mod. 1:1/60EVITON, Mod. 1:1/60ENBR, Mod. 1:1/94TVITON,
Mod. 1:1/60TVITON, Mod. 1:1/60T, Mod. 1:1/94T, Mod. 1:1/60I,
Mod. 1:1/94I, Mod. 1:1/126I**

Mod. 3:1/94, Mod. 3:1/73, Mod. 3:1/60, Mod. 3:1/1250

Mod. 5:1/94, Mod. 5:1/73, Mod. 5:1/60, Mod. 5:1/1250

The legal entity authorised to compile the technical file is RAASM S.r.l. via Marangoni, 33 - 36022 S. Zeno di Cassola (VI)

Date
05/2023

Place
S. Zeno di Cassola

The legal Representative


Giovanni Menon



RAASM S.p.A.

UK
CA**UK DECLARATION OF CONFORMITY**

| | |
|----------------------|---|
| Manufacturer details | RAASM S.p.A. |
| | Via Marangoni, 33 36022 S. Zeno di Cassola (VI) Italy |
| | P. IVA 02313320240 info@raasm.com www.raasm.com |

The manufacturer hereby declare under his sole responsibility that the product:

| | |
|--------------|--|
| Description: | Pneumatic piston pump for oil |
| Model: | Mod.1:1/94EVITON, Mod.1:1/94ENBR, Mod.1:1/60E, Mod.1:1/94E, Mod.1:1/60EVITON, Mod.1:1/60ENBR, Mod.1:1/94TVITON, Mod.1:1/60TVITON, Mod.1:1/60T, Mod.1:1/94T, Mod.1:1/60I, Mod.1:1/94I, Mod. 1:1/126I Mod.3:1/94, Mod.3:1/73, Mod.3:1/60, Mod.3:1/1250 Mod.5:1/94, Mod.5:1/73, Mod.5:1/60, Mod.5:1/1250 |

Complies with the prescriptions of the following UK Regulations and designated standards:

| | |
|--|--|
| The Supply of Machinery (Safety) Regulations 2008 No. 1597 (as amended) | HEALTH AND SAFETY 2008 No. 1597 |
|--|--|

The manufacturer declare furthermore under his sole responsibility

| | | |
|---|---------|--|
| The Responsible Person for drawing up the technical documentation is: | Name | Marco |
| | Surname | Lunardon |
| | | HEALTH & SAFETY PROJECT ENGINEERING LTD |
| The Authorised Representative in UK is: | | Address: 47 Newtown Road, Bishop's Stortford, CM23 3SB, Hertfordshire, UK |
| | | e-mail: ivano.manfrin@engineer.uk.net |

| | | |
|--------------|-----------------------------|---------------------------------|
| Manufacturer | Date: | Authorized Representative in UK |
| Name | Giovanni | 17/05/2023 |
| Surname | Menon | |
| Role | Legal representative | Role |
| Sign | | Sign |





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