



PRIMA™ 01D100

User Manual 582195110

2023-08-14

Index C

Translation from the original instructions

Sames



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Evolution table of the document

Recording revisions				
Editor	Object	Revision	Date	Modified by
C. HUSSON	Pump, model 01D100	A	Week 12/2022	N. PLANTARD
C. HUSSON	EPDM version added, Modification § 10.6 : Wear part numbers	B	Week 12/2023	-
C. HUSSON	Removal of directive 1999/92/EC, Modification drawings for ind. 4 / 5 + Screwing torque, Modification § 10.6 : Add mention 01D100E for 144 936 400 / 144 936 600, Wear part numbers : 109 130 694 → 109 130 695 (+ ind. 9.4 / 10.4 EPDM version), + suction rods Ø, Ind.15a / 15b → 15	C	Week 28/2023	N. PLANTARD

Dear customer, you have just purchased your new equipment and we thank you for it.

We have taken the utmost care, from design to manufacture, so that this equipment gives you complete satisfaction.

For good use and optimal availability, we invite you to read this manual carefully before using your equipment.

Warranty

Sames grants a contractual warranty for a period of twelve (12) months from the date of availability to the customer provided that the conditions of use indicated in this technical manual are complied with.

In order to be implemented, the warranty claim must define precisely, in writing the malfunction in question, must be accompanied by the defective material and/or component, and must be informed of the conditions of acquisition by the customer of the material from **Sames**.

Sames will only accept or refuse the implementation of the warranty after analysis of the 'defective' material. The warranty granted by **Sames** is limited to the replacement of the Material in its entirety or to the partial replacement of the defective component.

Sames will only bear the cost of the parts necessary to replace the defective material.

No guarantee will be granted by **Sames**:

- For defects and deteriorations resulting from abnormal conditions of storage and/or conservation at the customer's premises or for maintenance or use of the equipment not conforming to the rules of art or not respecting the prescriptions of the present technical manual given to the customer by **Sames**,
 - For defects and damage resulting from replacement parts not approved by **Sames** or which have been modified by the customer or in the event that the replacement of a component of the equipment by the customer would damage other elements,
 - If the equipment is dismantled without prior agreement from the supplier's technical support,
 - For all damages resulting from negligence or lack of supervision on behalf of the customer,
 - In the event of normal wear and tear of the equipment and/or its components or in the event of deterioration or accident resulting from faulty and/or abnormal use thereof.
-

Meaning of the pictograms

			
Danger, general signal (user)	Danger: high pressure	Explosive materials	Danger: Electricity
			
Toxic substances	Corrosive materials	Harmful or irritating materials	Danger of pinching, crushing
			
Risk of product emanation	Danger: hot parts or surfaces	Danger of automatic start, moving parts	Danger: flammability hazard
			
General obligation	Grounding	Refer to the manual/instruction leaflet	Gloves must be worn
			
Protective helmet	Hearing protection	Mandatory respiratory protection	Safety shoes
			
Protective clothing	Protective visor	Wearing of glasses is mandatory	Material recycling

Personnel qualifications



Tasks on the pump must only be performed in accordance with existing rules and statutory regulations, by personnel who have been instructed and are qualified in this regard, in compliance with due diligence obligations.

The following requirements must be fulfilled:

- ✓ Personnel must have special skills and experience in the respective technical area. This particularly applies for maintenance and repair tasks on mechanical and pneumatic fixtures of the pump.
- ✓ Personnel must have knowledge of applicable standards, directives, accident prevention regulations and operating conditions.
- ✓ Personnel must have been authorised by the person responsible for safety to perform the respectively required tasks.
- ✓ Personnel must be capable of recognising and avoiding possible dangers.

The required personnel qualifications are subject to different statutory regulations depending on the implementation site. The owner must ensure compliance with the applicable laws.

1 Safety instructions

1.1 Personal safety

Overview



The equipment at your disposal is for professional use only. It must be used only for the purpose for which it was intended.

Read carefully all operating instructions and device labels before putting the equipment into service.

Personnel using this equipment must have been trained in its use.

The workshop manager must ensure that the operators have fully understood all the instructions and safety rules of this equipment and other elements and accessories of the installation.

Misuse or operation can cause serious injury.

Do not modify or transform the equipment. Parts and accessories must only be supplied or approved by **Sames**.

The equipment must be checked periodically. Defective or worn parts must be replaced.

Never exceed the maximum working pressures of the equipment components.

Always respect the laws in force regarding security, fire, electricity of the destination country of the equipment.

Only use fluids or solvents that are compatible with the parts in contact with the material (see material manufacturer's technical data sheet).

Security devices



Attention

Security devices are set up for safe use of the equipment.

The manufacturer cannot be held responsible for any bodily injury as well as failures and / or damage to the equipment resulting from the destruction, hiding or total or partial removal of the safety devices.

Pressure hazards



Safety requires that a **pressure relief air** shut-off valve must be installed in the pump motor supply system to allow trapped air to escape when the supply is shut off.

Without this precaution, residual air from the motor may cause the pump to operate and cause a serious accident.

Also, a **fluid drain valve** must be installed in the fluid system so that the fluid can be drained (after shutting off motor air and decompressing it) before any intervention on the equipment. These valves must remain closed for air and open for the product during the intervention.

Fire hazards, explosion, static electricity



Incorrect grounding, insufficient ventilation, flames or sparks can cause an explosion or fire that could result in serious injury.

In order to avoid these risks, especially when using pumps, it is imperative:

- ✓ to ground the equipment, the parts to be treated, the cans of products and cleaners,
- ✓ to ensure good ventilation,
- ✓ to keep the working area clean and free of rags, papers, solvents,
- ✓ to store all liquids outside of the working areas.
- ✓ to use material with the highest possible flash point to avoid any risk of formation of flammable gases and vapors (refer to product safety data sheets).
- ✓ to equip the drums with a lid to reduce the diffusion of gases and vapors in the cabin.
- ✓ The pumping of explosive media or gases is prohibited.
- ✓ During the assembly and disassembly, during the transport to/from the place of use and during the repair, there is the risk involved of generating sparks, e.g. through friction, impact or grinding processes or through electrostatic charge.

Ensure that during these work intervals, these hazards will be reliably prevented or that no explosive atmosphere will exist.

- ✓ Clean the surface of the pump housing regularly and remove the layers of dust or paint.

The medium to be conveyed can corrode or destroy the pump or cause it to leak. This may lead to the formation of an explosive mixture.

The conveying of explosive media and the employment in an explosion-hazardous area is only permitted according to regulations by Directive 2014/34/EU marked on the rating plate of the pump:

CE  **II 2 G Ex h IIB T6 Gb X**

The pump may only be used in potentially explosive environments (e.g. paint shops), if this is appropriately marked on the rating plate of the pump.

Toxic chemicals hazards



Toxic materials or vapors can cause serious injury through contact with the body, in the eyes, under the skin, but also by ingestion or inhalation. It is imperative:

- ✓ to know the type of material used and the dangers it represents,
- ✓ to store the materials to be used in appropriate areas,
- ✓ to contain the material used during the application in a container designed for this purpose,
- ✓ to dispose the materials in accordance with the legislation of the country where the equipment is used,
- ✓ to wear clothing and protection designed for this purpose,
- ✓ to wear goggles, hearing, gloves, shoes, coveralls and respiratory masks.



ATTENTION

The use of halogenated hydrocarbon solvents and products containing these solvents in the presence of aluminum or zinc is prohibited.

Failure to follow these instructions could result in an explosion hazard causing serious injury or death.

1.2 Integrity of the material

Pump



- ✓ Instructions on the pump instruction manuals.
- ✓ Before starting up or using the pump unit, read carefully the PRESSURE RELIEF PROCEDURE.
- ✓ Check that the pressure relief and drain air valves are working properly.
- ✓ Use only genuine **Sames** accessories and spare parts designed to withstand the operating pressure of the pump.

Pump feeding phase / Pump paint phase and pressure gun / Flushing the pump / Pump defusing/



- ✓ It is compulsory to wear PPE (goggles + gloves + safety shoes) → pump and gun under pressure during the phase of painting.
- ✓ Do not look at the gun nozzle when the gun is under pressure.
- ✓ The maximum pressures engraved on the equipments must be strictly adhered to.
- ✓ Flush at a maximum of 1 bar / 14.5 psi on the air equipment manometer (pressure varies according to the length of the hoses).

Force-feeding cycle

- ✓ The force-feeding cycle must be carried out at a maximum of 1 bar / 14.5 psi on the pressure gauge of the air equipment, keeping the gun open. Progressive manual ascent to the air regulator.

Hoses

Recommendations for hoses:

- ✓ Keep hoses away from traffic areas, moving parts and hot areas.
- ✓ Never subject hoses to temperatures above 60 ° C / 140° F or below 0 ° C / 32° F.
- ✓ Do not use hoses to pull or move equipment.
- ✓ Tighten all connections as well as the hoses and junction fittings before commissioning the equipment.
- ✓ Check hoses regularly and replace them if damaged.
- ✓ Never exceed the maximum working pressure stated on the hose (MWP).
- ✓ For the assembly of the hoses and the gun: the wearing of PPE is mandatory.
- ✓ Tighten to the stop (Hoses + Gun).

Normal stop

To make a normal stop:

- ✓ Use the air regulator to gradually depressurize the pump.
-

Materials used

Given the diversity of the materials implemented by the users and the impossibility of listing all the characteristics of the chemical substances, their interactions and their evolution over time

Sames cannot be held responsible:

- ✓ Poor compatibility of materials in contact,
- ✓ Inherent risks to personnel and the environment,
- ✓ Wear and tear, malfunctions, material or equipment malfunctions, as well as the quality of the finished.

The user shall identify and prevent from potential dangers inherent to the materials used, such as:

- ✓ Toxic vapors,
- ✓ Fire,
- ✓ Explosions.

It will determine the risks of immediate reactions or reactions due to repeated exposures to personnel.

Sames declines any responsibility, in case of:

- ✓ Physical or mental injury,
- ✓ Direct or indirect material damage due to the use of chemical substances.

The following points must be observed if the hazard analysis conducted by the operator reveals that a possible leakage of the medium poses an increased risk:

- ✓ The installation of shut-off valves at the fluid inlets and outlets to shut off the fluid flow in case of a leakage on the pump.
 - ✓ Install in the pump with shut-off valve, 3-way valve and check valve in the compressed air supply line. These 3 components prevent the pumped fluid from entering the compressed air system in the case of a diaphragm rupture.
 - ✓ If the diaphragms are completely defective, the fluid can enter the compressed air circuit, damage it and exit via the sound absorber. Depending on the pumped fluid, the sound absorber must be replaced by a suitable pipe or hose connection to avoid danger. The outlet is to be removed to a safe place.
 - ✓ If the diaphragms are completely defective, the fluid to be pumped can react with materials in the compressed air circuit. The operator must evaluate the risk before taking it into operation and take appropriate measures.
-

Environment

The equipment is installed on a horizontal, stable and flat floor (e.g. concrete slab).

Non-movable equipment must be fixed to the ground by suitable mounting devices (spit, screws, bolts, etc.) to ensure its stability during use.

To avoid risks due to static electricity, the equipment and its components must be grounded. The rods are conductive.



- ✓ **For pumping equipment** (pumps, lifts, chassis, etc.), a 3.3 mm section wire is attached to the equipment. Use this wire to connect the equipment to the general "ground". In the case of severe environments (insufficient mechanical protection of the earthing wire, vibrations, moving equipment, etc.) where damage to the earthing function is likely, the user must replace the 3.3 mm wire supplied, by a device more suited to its environment (larger wire section, earth braid, fixing by eye lug,...).
- ✓ Have the ground continuity checked by a qualified electrician. If ground continuity is not assured, check terminal, wire and grounding point. Never operate the equipment without first resolving this problem.
- ✓ The gun must be 'grounded' through the air hose or fluid hose.
- ✓ The equipments to be painted must also be 'grounded' by means of clamps fitted with cables or, if suspended, by means of hooks which must be kept clean permanently.

Note: all objects in the work area must also be grounded.

- ✓ **Do not store** more flammable materials than necessary inside the work area.
- ✓ These materials must be stored in approved, grounded containers.
- ✓ Use only grounded **metal pails** for flushing solvents.
- ✓ **Cardboard and papers are to be banned.** They are very bad conductors, even insulators.

Material markings



Each appliance is fitted with a nameplate bearing the name of the manufacturer, the appliance reference number, important information for the use of the appliance (pressure, power, etc.) and sometimes the pictogram shown opposite.

The equipment is designed and manufactured with high quality materials and components that can be recycled and reused.

The 2012/19/EU European Directive applies to all devices marked with this logo (crossed-out waste bin). Find out more about the collection systems available for electrical and electronic appliances.

Follow the rules in your locality and **do not dispose of your old appliances with your household waste**. Proper disposal of this old appliance will help prevent negative effects on the environment and human health.

2 Declarations



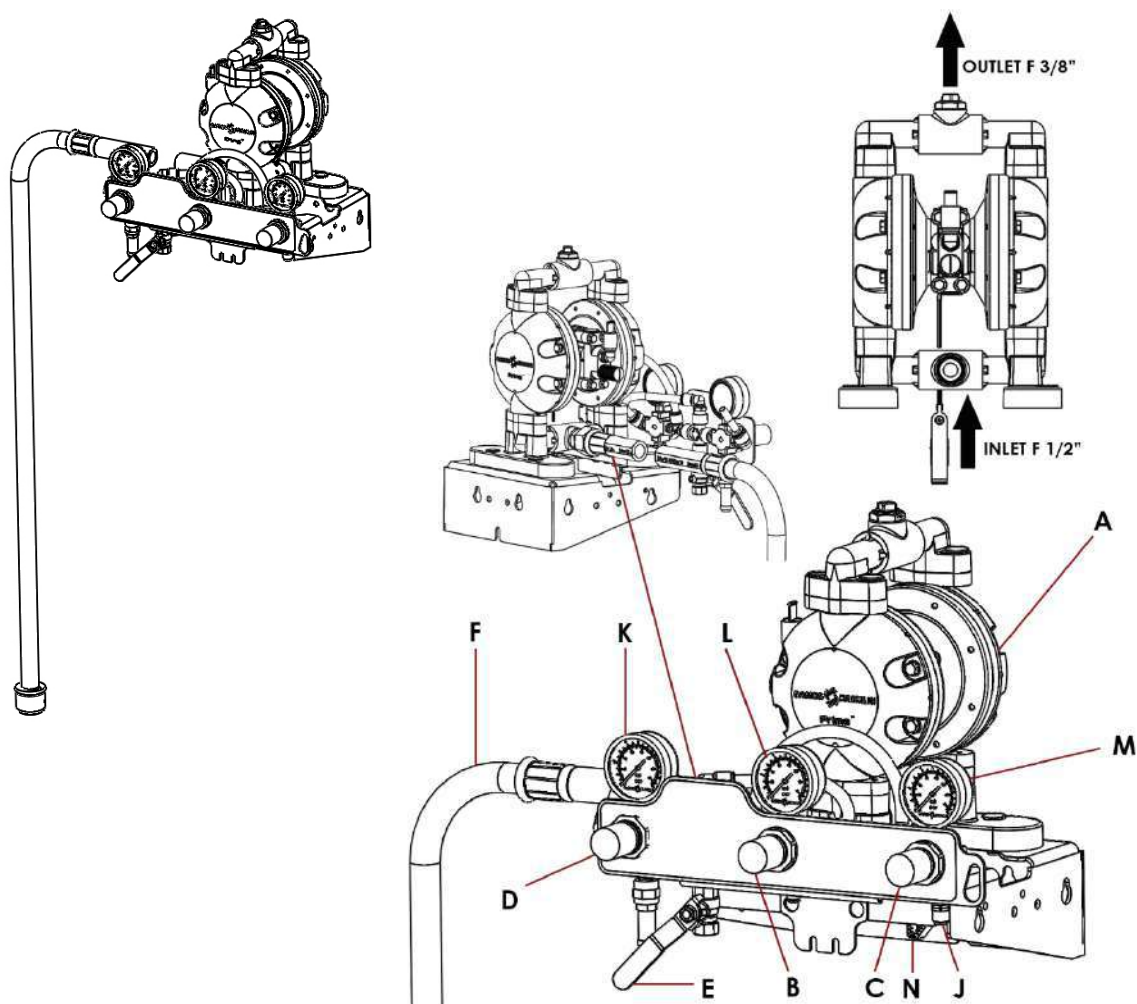
WARNING

Please refer to [§ 11 Appendices](#) for more information.

3 Presentation of the material

3.1 Complete system

3.1.1 Visual generic presentation



Ind	Description	Ind	Description
A	Pump	J	Dissipative fluid hose
B	FLUID AIR regulator	K	Gauge
C	GUN SPRAYING AIR regulator	L	Gauge
D	PUMP AIR regulator	M	Gauge
E	Air inlet valve	N	Ground cable
F	Suction rod	-	Spraying gun*
-	Dissipative air hose*		

* not shown on the visual

Context of use and performances

The PRIMA™ 01D100 pump is a low pressure double diaphragms pump.

- ✓ Low maintenance and ease of use,
- ✓ No fluid packing,
- ✓ Easy flushing.

This pump offers a wide range of applications for the industry.

Combined with **Sames** spray guns and Airspray hoses, it will allow you to apply your coatings with consistency and precision for an impeccable finish quality. It is compatible with most products thanks to the PTFE or PU diaphragms.

The pneumatic dual diaphragms pump, model 01D100 is recommended for:

- ✓ Installation in spray booth,
- ✓ Supplying one or two spray guns,
- ✓ The following materials:
 - Paints, epoxy, adhesives,
 - Water-based and solvent-based materials.

The PRIMA™ 01D100 pump has been designed to allow you:

- ✓ A total control of your application,
- ✓ A start-up from 1.1 bar / 15.9 psi without chocking,
- ✓ A modular installation,
- ✓ An easy maintenance.

We also provide you different [accessories](#) to meet your different application needs.

Non-intended use or foreseeable misuse

A use other than the use described in the paragraph, "Intended use" and in this operating manual, and any use that extends beyond the specified intended use, shall apply as non-intended use. The manufacturer shall not be liable damage resulting from non-intended use. This risk is borne solely by the user.

The following points describe improper or prohibited use:

- ✓ Conveyance of fluids that does not meet the product specification.
 - ✓ Modify or alter the pump in any way,
 - ✓ Use a damaged pump,
 - ✓ Use, maintenance, repair of the installation or commissioning of the pump by unauthorized, untrained personnel or by a private user.
 - ✓ Use the pump without grounding.
 - ✓ Use the pump outside the indicated parameters / service data.
 - ✓ Use the pump in a place where there is a risk of ignition due to ignition sources in the vicinity of the pump.
 - ✓ Install the pump on unsuitable supports.
 - ✓ Failure to observe the maintenance intervals.
 - ✓ Immersing the pump in the medium to be conveyed or any other medium.
 - ✓ Operating the pump in potentially explosive gas or dust areas of zone 0 or operating it in potentially explosive areas without the operator having first taken measures in accordance with the requirements of Directive 2014/34/EU and the applicable national regulations on explosion protection.
 - ✓ Initial start-up without prior inspection of the area and the pump by an authorized person.
 - ✓ Pumping of products which are chemically incompatible with the materials used for the construction of the pump: the operator of the pump must check the chemical compatibility of the products conveyed.
 - ✓ Pumping of products whose characteristics (e.g. ignition temperature) are not compatible with the pump identification.
 - ✓ Bypassing safety devices of the pump.
-

3.2 Description of the main elements of the system

Expected use

- ✓ Easy design: easy operation and maintenance.
- ✓ Compact diaphragms technology: constant and extremely low pulsation delivery for superior finish.
- ✓ Distributor with spring to leave the piston in up stroke to prevent from the pump stopping.
- ✓ Feet at the lower collectors for better stability of the pump.
- ✓ Designed for enamels and water-based and solvent-based materials (by selecting the appropriate diaphragms).

Performance

- ✓ Simple and robust pump.
- ✓ Compatible with water-based and solvent-based materials due to its treated fluid section and components.

Productivity

- ✓ Possibility to use a large range of materials with a viscosity up to 2000 Cps thanks to large outlets.
- ✓ Compatible with a wide range of materials thanks to the choice of diaphragms for the fluid section.
- ✓ Less waste during flushing to prevent material loss.

Sustainability

- ✓ Easy operation and maintenance due to its simple and optimized design.
 - ✓ Most high grade materials improves abrasion resistance and low friction.
-

4 Identification of the equipment

4.1 Description of the label marking

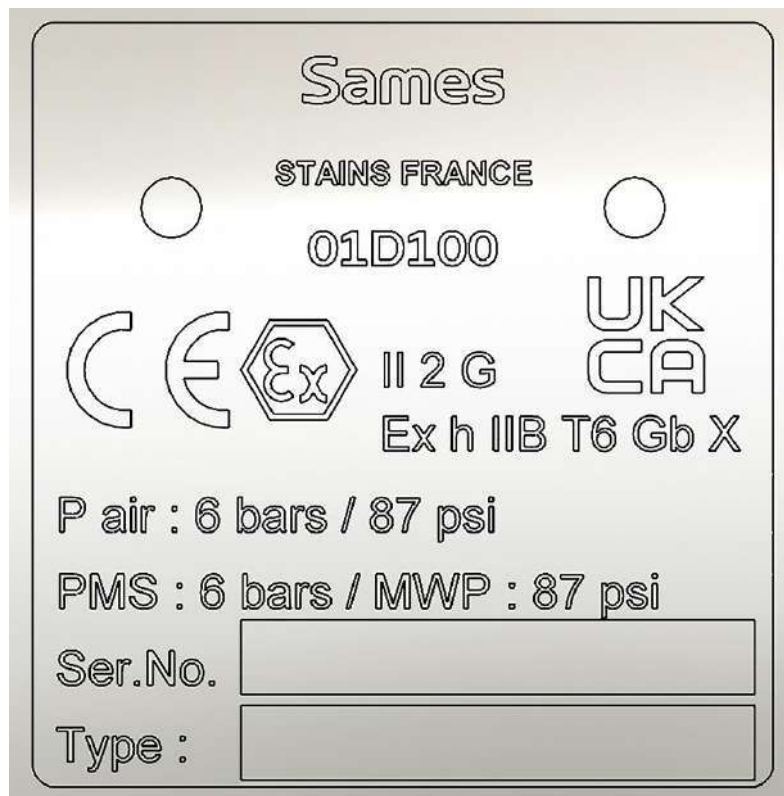
Principles

Paint pumps are designed to be installed in a paint booth.

This equipment complies with the following provisions:

- ✓ ATEX Directive (2014/34 / EU:  II 2 G - group II, category 2, gas).

The EU declaration of conformity and the UKCA declaration (specific for the British market) are included in this document.



Description	
Sigle Sames	Manufacturer's identification
CE	CE : European conformity
 II 2 G	 : Use in explosive area II : group II 2 : category 2 Surface material intended for an environment in which explosive atmospheres due to gases, vapors, mists are likely to occasionally occur during normal operation. G : gas
h	h : Mode of protection for non electrical device
IIB T6	IIB : Reference gas for equipment qualification T6 : Temperature class - Maximum surface temperature : 85°C / 185° F*
Gb	Gb : Equipment protection level (Gas zone1)
X	X : Special conditions that apply for a safe use. Refer to instructions listed in the instruction manuals accompanying your purchase.
UK CA	UK CA : UK Conformity Assesment Marking required for certain products placed on the market in Great Britain (England, Wales, Scotland) on January 2021
P air (BAR/PSI)	Maximum air pressure
PMS (BAR/PSI)	Maximum working pressure
SER.No	Number given by Sames . The first 2 digits indicate the manufacture year.
TYPE	Model of the pump

* Temperature class

Temperature class	Maximum surface temperature
T6	85°C / 185°F

4.2 Standards and guidelines applied

The standards applied are as follows:

EN ISO 80079-36 Juin 2016 / EN ISO 80079-36 June 2016:

non-electrical equipment for use in potentially explosive atmospheres - Methodology and requirements - Explosive atmospheres.

- Part 36: non-electrical equipment for use in potentially explosive atmospheres - Methodology and requirements.

EN ISO 80079-37 Juin 2016 / EN ISO 80079-37 June 2016:

Explosive atmospheres - Part 37: Non-electrical equipment for use in explosive atmospheres - Non-electrical protection mode by constructional safety "c", by ignition source control "b", by immersion in liquid "k" - Explosive atmospheres - Part 37: Non-electrical equipment for explosive atmospheres - Non-electrical protection mode by constructional safety "ch", by ignition source control "bh", by immersion in liquid "kh"

EN 1127 Août 2019 / EN 1127 August 2019: Explosive atmospheres - Explosion prevention and protection - Part 1: Basic concepts and methodology - Explosive atmospheres - Explosion prevention and protection - Part 1: Basic concepts and methodology.

The directives applied are the following:

Directive Machines 2006/42/CE / Machinery Directive 2006/42/EC: on machinery

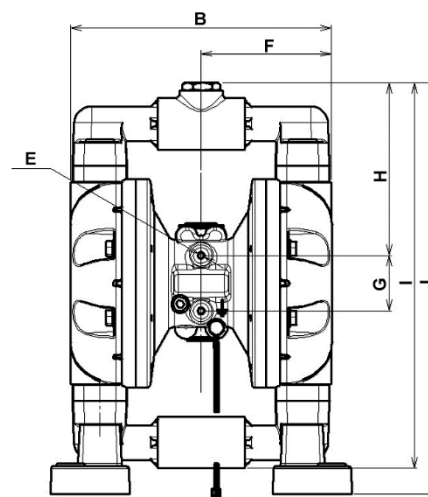
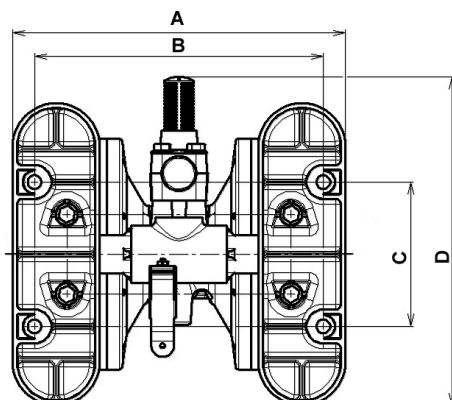
Directive ATEX 2014/34/UE / ATEX Directive 2014/34/EU:

equipment and protective systems intended for use in potentially explosive atmospheres.

SI 2016 No. 1107: Equipment and Protective Systems Intended for use in Potentially Explosive Atmospheres Regulations 2016.

4.3 Equipment plans

4.3.1 Bare pump, model 01D100

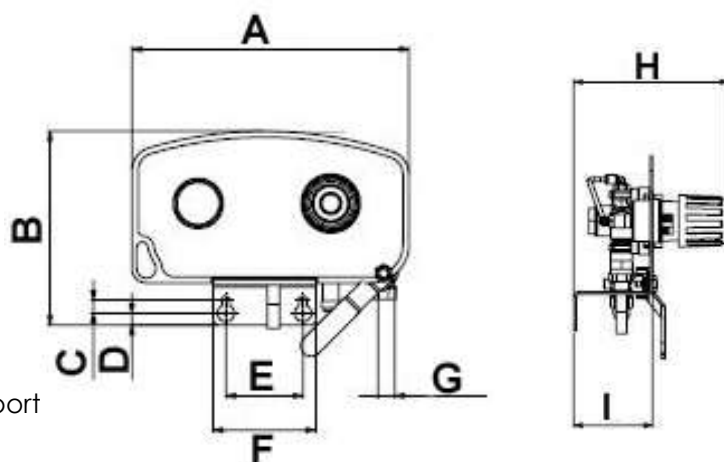


Ind	cm / "
A	216,7 cm / 85"
B	188 cm / 74"
C	94 cm / 37"
D	214 cm / 84.2"
E	2 x M6
F	94 cm / 37"
G	40 cm / 15.7"
H	124 cm / 48.8"
I	277 cm / 109"
J	296 cm / 116.5"

4.3.2 Pump, model 01D100 + air equipment with 1 regulator

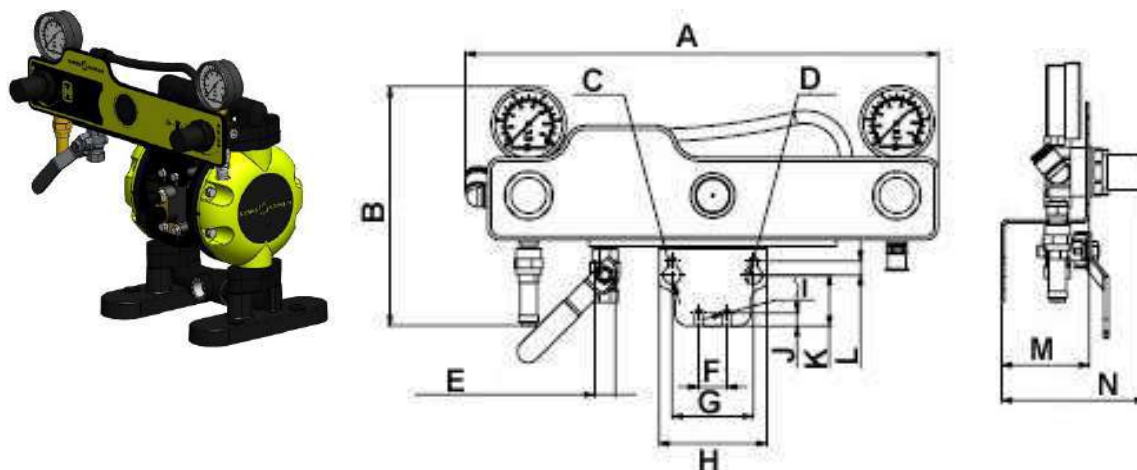


View with wall-mounting support



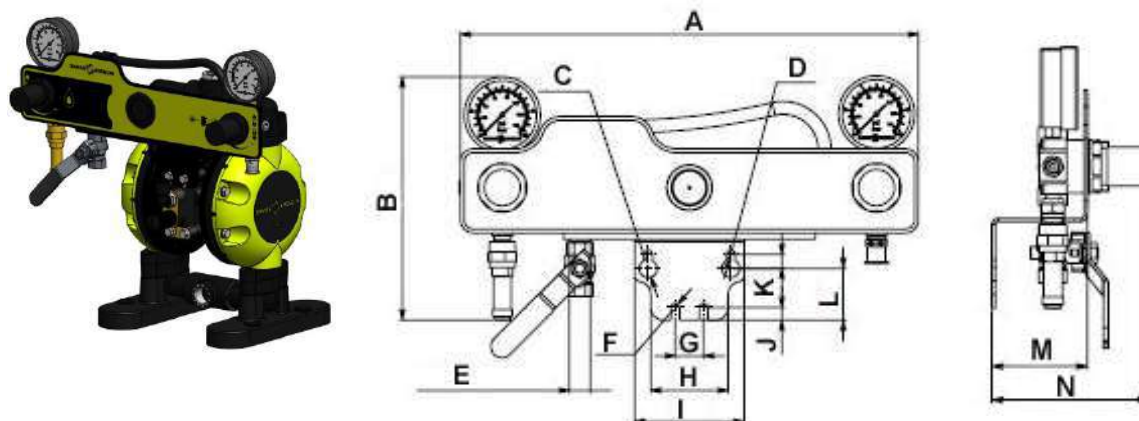
Ind	cm / "
A	230 cm / 90.5"
B	161 cm / 63.4"
C	11 cm / 4.3"
D	10 cm / 3.9"
E	64 cm / 25.2"
F	85 cm / 33.4"
G	F G 3/8"
H	143 cm / 56.3"
I	73 cm / 28.7"

4.3.3 Pump, model 01D100 + air equipment with 2 regulators (pump motor + atomizing air)



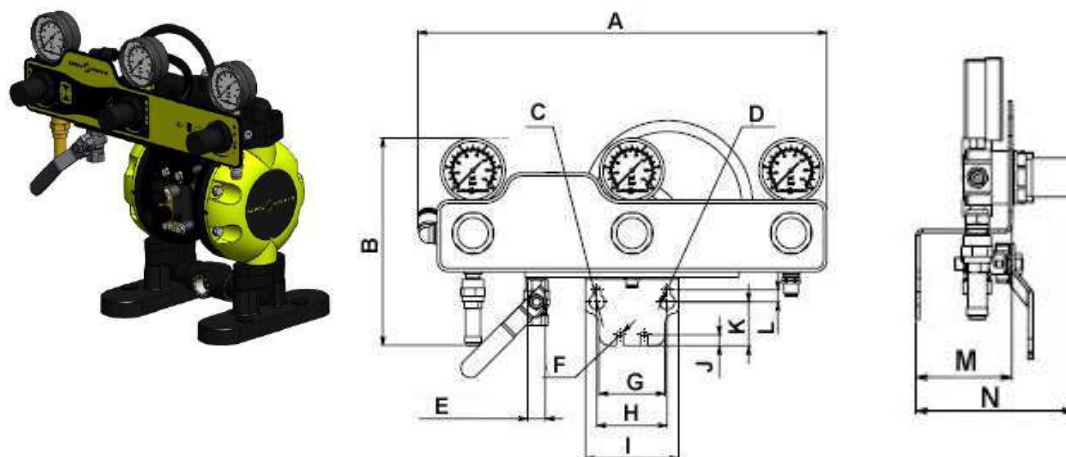
Ind	cm / "
A	373 cm / 146.8"
B	188 cm / 74"
C	Ø 14
D	Ø 7
E	F G 3/8"
F	22 cm / 8.6"
G	64 cm / 25.2"
H	85 cm / 33.4"
I	Ø 7
J	10 cm / 3.9"
K	40 cm / 15.7"
L	11 cm / 4.3"
M	69 cm / 27.1"
N	114 cm / 44.8"

4.3.4 Pump, model 01D100 + air equipment with 2 regulators (atomizing air + material regulation control)



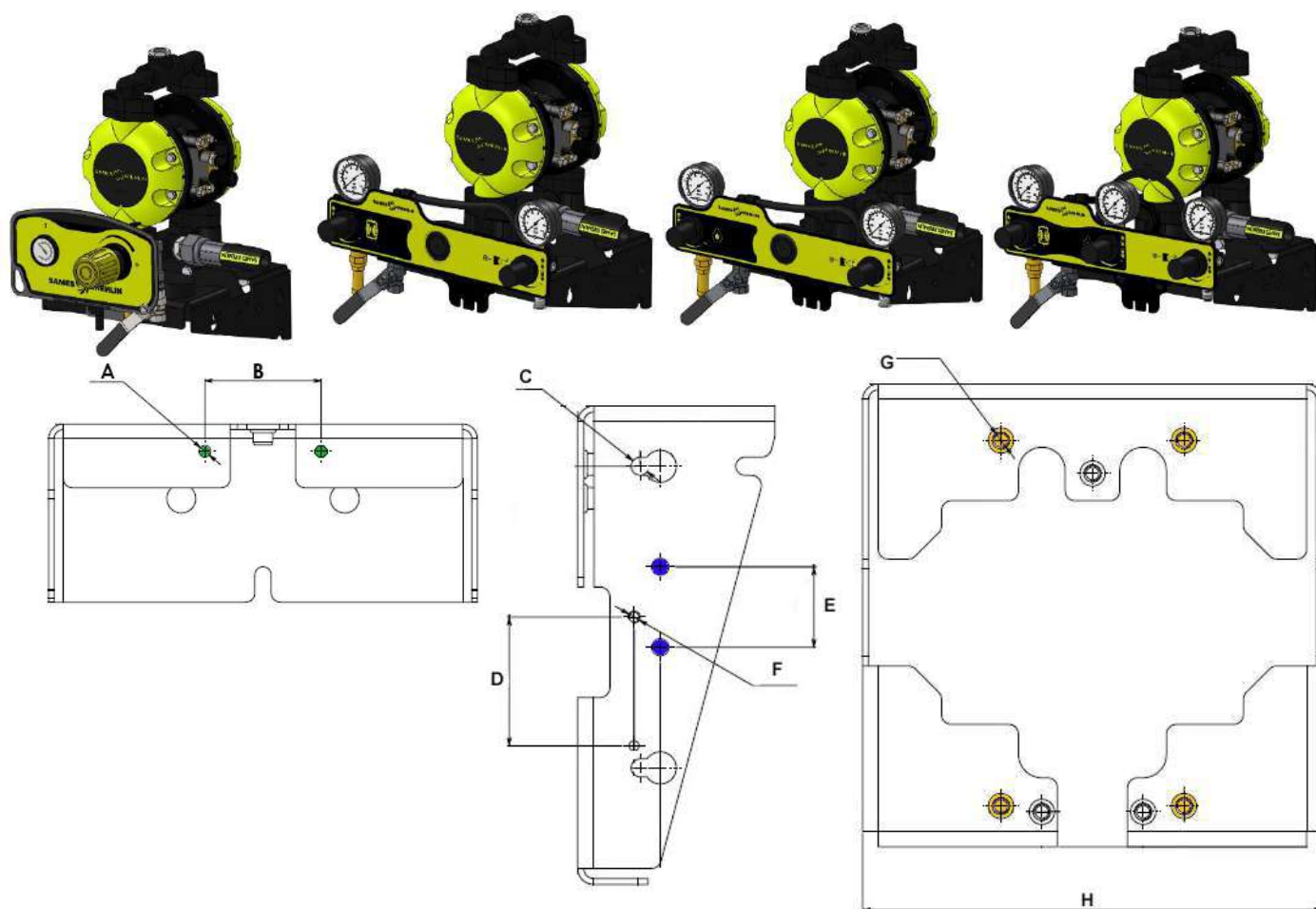
Ind	cm / "
A	355 cm / 139.7"
B	188 cm / 74"
C	Ø 14
D	Ø 7
E	F G 3/8"
F	Ø 7
G	22 cm / 8.6"
H	60 cm / 23.6"
I	85 cm / 33.4"
J	10 cm / 3.9"
K	11 cm / 4.3"
L	40 cm / 15.7"
M	69 cm / 27.1"
N	114 cm / 44.8"

4.3.5 Pump, model 01D100 + air equipment with 3 regulators (pump motor + atomizing air + material regulation control)

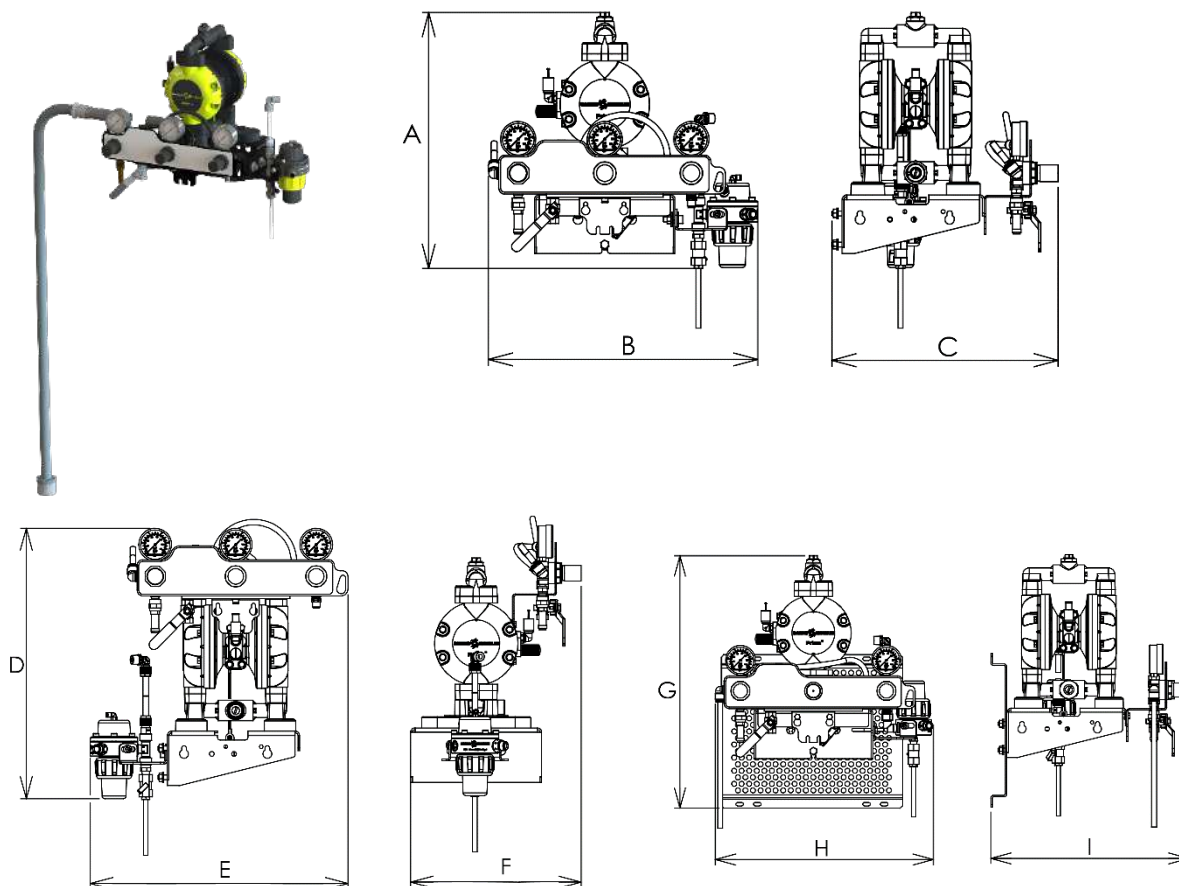


Ind	cm / "
A	373 cm / 146.8"
B	189 cm / 74.4"
C	Ø 14
D	Ø 7
E	F G 3/8"
F	Ø 7
G	60 cm / 23.6"
H	64 cm / 25.2"
I	85 cm / 33.4"
J	10 cm / 3.9"
K	40 cm / 15.7"
L	11 cm / 4.3"
M	69 cm / 27.1"
N	114 cm / 44.8"

4.3.6 Pump, model 01D100 + air equipment + wall-mounted support

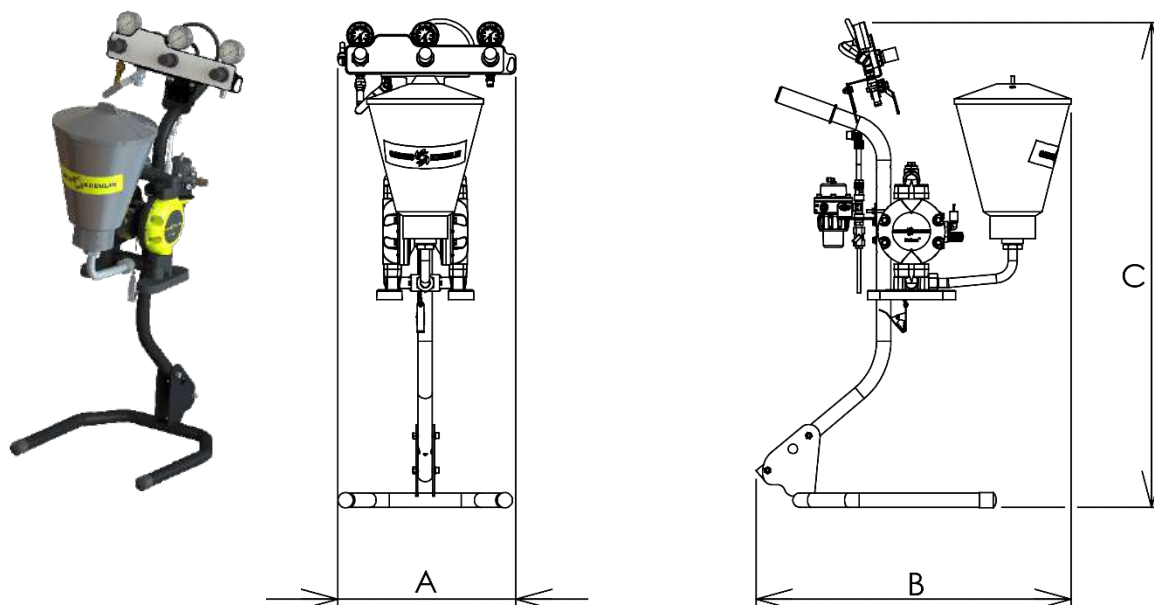


Ind	cm / "	Fixing
A	Ø 6.5	Plate
B	64 cm / 25.2"	-
C	Ø 9	-
D	64 cm / 25.2"	-
E	40 cm / 15.7"	Filter / Regpro
F	2 x M6	-
G	7 x M6	-
H	236 cm / 92.9"	PRIMA™



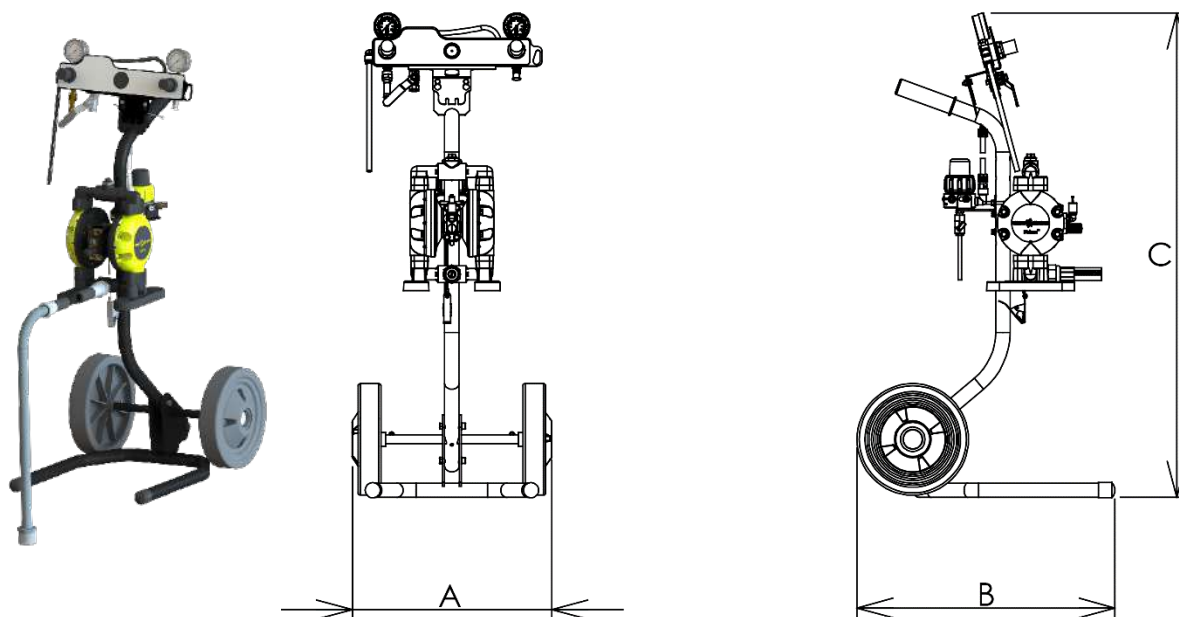
Ind	cm / "
A	428.4 cm / 168.5"
B	451.6 cm / 177.5"
C	378.6 cm / 148.8"
D	486.2 cm / 191.3"
E	463.5 cm / 182.3"
F	307.1 cm / 120.9"
G	501.9 cm / 197.2"
H	433 cm / 170.5"
I	393.6 cm / 154.7"

4.3.7 Tripod pump, model 01D100



Ind	cm / "
A	397.1 cm / 156.3"
B	702.2 cm / 276.4"
C	1079.8 cm / 424.8"

4.3.8 Cart pump, model 01D100



Ind	cm / "
A	447.2 cm / 176"
B	578.3 cm / 227.5"
C	1085.1 cm / 427.2"

4.4 Composition

The PRIMA™ 01D100 pump is available in several versions:

- ✓ PTFE or FKM seals,
- ✓ PTFE diaphragm (standard) or PU diaphragm (01D100E) particularly suitable for enamels and ceramics.

Please refer to the [spare parts](#) section for more information.

4.5 Options

We offer you a wide choice of [accessories](#) to be installed with your PRIMA™ 01D100 pump.

- ✓ Air pilot plate:
 - 1 regulator for the pump motor,
 - 2 regulators for the pump motor and the spraying air,
 - 3 regulators for the pump motor, the spraying air and the Regpro filter-regulator.
- ✓ Several suction rods or a 6L cup for the material inlet,
- ✓ Regpro 2 in 1 filter-regulator or the low pressure filter.
- ✓ Pump bracket: wall mounting, tripod or cart.

To complete your spraying system, you can choose from:

- ✓ The FPRO P, FPRO LOCK P, FSTART P spraying guns and the electrostatic NANOGUN gun.
- ✓ The air and materials hoses (different length and diameter choices).

Please refer to the [Spare parts](#) section as well as the instruction manuals for the different components for more information.

5 Technical features and operating principle

5.1 Technical features

Capacity	50cc
Delivery per cycle	100cc
Fluid pressure ratio	1 : 1
Fluid inlet connection	F 1/2" BSPP
Fluid outlet connection	F 3/8" BSPP
Air inlet connection (with elbow)	Hose 8x10
Air inlet connection (without elbow)	G 3/8"
Maximum conveying output at 6 bar / 87 psi	9.5 l/mn
Minimum air inlet pressure	1.1 bar / 15.9 psi
Maximum air inlet pressure	6 bar / 87 psi
Minimum fluid outlet pressure	1 bar / 14.5 psi
Maximum fluid outlet pressure	6 bar / 87 psi
Max. viscosity of conveyed product	2000 Cps
Bare pump weight	3.6 kg / 6.6 Lbs
Wall mounted pump with Regpro	24 kg / 52.9 Lbs
Pump weight on base support with Regpro	23 kg / 50.7 Lbs
Tripod pump weight	26 kg / 57.3 Lbs
Cart pump weight	28 kg / 61.7 Lbs
Maximum operating temperature	50°C / 122°F
Maximum fluid temperature	50°C / 122°F
Weighted sound pressure (LAeq)	69 dB(A)

Wetted parts

	01D100	
	Standard version	Version for enamel
Fluid diaphragms	PTFE	PU
Air diaphragms	Rubber canvas	
Flanges	PP 30% carbon fiber filled	
Collectors and ball cage	PP 30% fiberglass	
Seals (fluid part)	FKM or EPDM	
Seals (air part)	Nitrile	
Seats and balls	STEEL	
Pump central body (air part)	Aluminium	
Piston	POM C	
Cover	POM C	

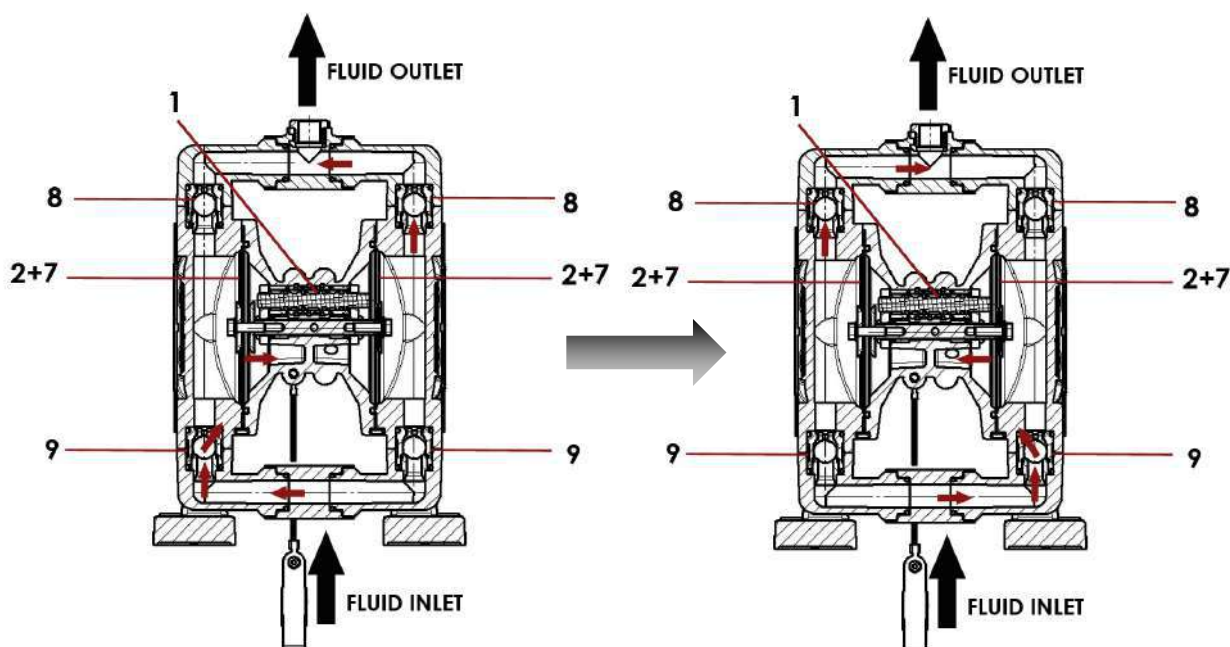
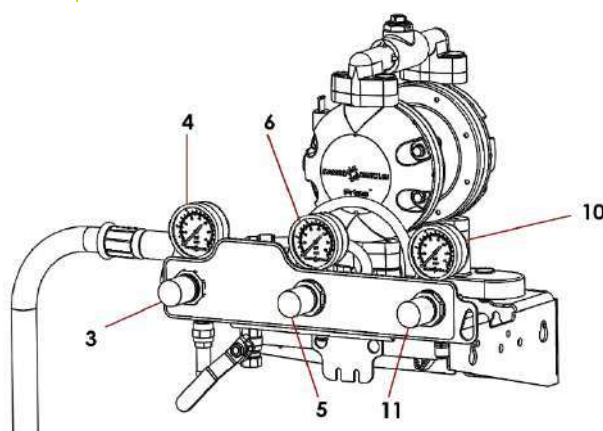
5.2 Operating principle



NOTA

The operating principle below mentions the materials you will need to purchase (air equipment, suction rod, regulator, etc.) to operate the PRIMA™ 01D100 pump correctly.

Please refer to the [Accessories](#) section for more information.



Operating principle with PRIMA™ 01D100 pump fitted with a 3 regulators air equipment

This pumping technology is a pneumatic pump used for delivering fluid at low pressure. It can also be used for paint circulating system or as transfer pump.

The pump consists of:

- ✓ A central air motor (1),
- ✓ Two identical fluid chambers (2) located on either side of the motor.

The motor is directly supplied with compressed air from the air pressure network (maximum 6 bar / 87 psi) or via an air regulator (depending on the model). An air chamber is alternatively supplied by an air distributor, thus causing the motion of the diaphragms (7). Each of the two fluid chambers includes a suction valve (8) and an exhaust valve (9). Alternatively, material is siphoned and exhausted by each chamber.

At the pump outlet, on request, a fluid regulator with pilot (5) provides a constant fluid pressure and flow rate. The fluid pressure is equal to the pressure read on the gauge (6).

The pilot air pressure is adjusted by means of the air regulator (3). The pressure is read on the gauge (4).

The atomizing air pressure is adjusted by means of the air regulator (11). The pressure is read on the gauge (10).

6 Installation



WARNING

Personnel are in danger due to improper installation.

- ✓ Connections are to be used whose material is compatible with the pumped fluid and with the material of the pump.
- ✓ The pump has no separate pneumatic shut-off valve. If the pump cannot be switched off by simply, safely disconnecting or switching off the compressed air supply, an additional, easily accessible shut-off valve must be installed in front of the compressed air connection.
- ✓ The pump must be integrated into the compressed air system so that it can be put out of operation by switching off the compressed air.
- ✓ Select the location where the pump is to be installed or set up so as to exclude shocks that may cause ignition.
- ✓ The compressed air supply (hoses,...) must be installed so as to exclude any danger.
- ✓ Use a pressure relief valve in the compressed air supply if there is a risk of exceeding the operating parameters.
- ✓ **The pump must never be submerged.**
- ✓ Ensure that access routes, work areas and aisle widths are consistent with proper use.
- ✓ Install the pump on a flat and horizontal surface using the feet provided. The pump will only operate in this position. When the pump is on a tripod or cart, there is a risk of the pump moving or tipping over.
- ✓ Make sure that the pump is in a stable position. Position the pump on its feet on a horizontal plane.
- ✓ Provide a compressed air hose of Ø 10 mm from the compressed air network to the pump. **The air supply hose length must not exceed 1.5 m / 4.9 ft.**
- ✓ Provide the suction rod and connect it by screwing it (to the coupling) with a suitable spanner.
- ✓ Make sure that the diameter of the hoses is in accordance with the viscosity of the product.



WARNING

The air and product hoses must be dissipative.

6.1 Transport

If possible, only transport the pump in its original packaging to avoid transport damage.

6.2 Check the scope of delivery

- ✓ Remove the transport packaging of the pump.
- ✓ The pump is tested in our factory by an automatic test bench. A test report is provided in the package. The validation conditions are checked in this report.
- ✓ Comply with the rules in force in your locality.
- ✓ Examine the pump for any transport damage.
 - Transport damage must be immediately communicated to the transport company and **Sames** in writing.
 - Protect the pump from further damage.
- ✓ Use the packing slip to verify the completeness of the delivery.

6.3 Recommendation materials



- ✓ Do not use the pump as a support for the pipework system.
- ✓ When moving the pump, make sure that it cannot fall down.
- ✓ Never move the pump by pulling on the hoses: risk of damaging the pump and/or the hoses.
- ✓ Ensure that the system components are properly supported to prevent an overload on the pump parts.
- ✓ Ensure that regulations relating to the protective earthing system are observed.
- ✓ **No electrical connection is required, apart from the earth grounding. The pump is self-priming.**
- ✓ The diaphragm pump is a reciprocating pump and produces a pulsating flow. These pulsations are sometimes incompatible with certain transfer processes. **To mask these pulsations, add a Sames [Regpro filter-regulator](#).**

6.4 Storage

Place the equipment away from moisture after closing the various air inlets and various openings (plugs).

- ✓ Storage conditions have a detrimental effect on the service life of the diaphragms.
- ✓ Thoroughly cleaning is mandatory before put away the pump for storage.
- ✓ Extreme storage conditions accelerate the ageing process.
- ✓ We recommend a storage temperature between +10°C / 50°F and +25°C / 77°F.
- ✓ The diaphragms must not be exposed to sources of heat or direct sunlight.
- ✓ Exclude the effect of ozone or ionising radiation.
- ✓ Store the diaphragms such that they are not under tension.
- ✓ We recommend the replacement of the diaphragms at the latest after one year of storage under the storage conditions stated above.

6.5 Handling

No slinging foreseen for the pump due to its weight (3.6 kg / 6.6 Lbs). The pump must therefore be moved manually.

7 Start up



WARNING

Please refer to [§ 1 Safety Instructions](#) for more information.

7.1 Commissioning instructions

- ✓ During operation, make sure that the pump is always completely filled with liquid.
- ✓ Make sure that the outlet point of the fluid to be conveyed is not clogged or closed.
- ✓ The pump fluid can react with the material of the pump. Before pumping the fluid, check the suitability of the pump materials for the fluid to be pumped.
- ✓ Operation of the pump above the permissible flow rate and longer dry operation can cause overheating of the pump.
- ✓ Risk of dangerous heating of the fluid during the exhaust phase.
- ✓ The special operating conditions of the pump must be kept in mind and adhered to.
- ✓ First commissioning of the pump must be conducted through a person qualified for that purpose.
- ✓ If the pump is not mounted on a horizontal, even surface with the pump feet at the bottom, vent the pump chambers.
- ✓ Adjust the air pressure between 1 / 14.5 psi to 6 bar / 87 psi. The pump is ready for operation.
- ✓ Operate the pump with a maximum air pressure of 6 bar / 87 psi.



WARNING

Risk of pump destruction and bursting due to excessive air pressure.

Risk of diaphragms destruction due to excessive air pressure.

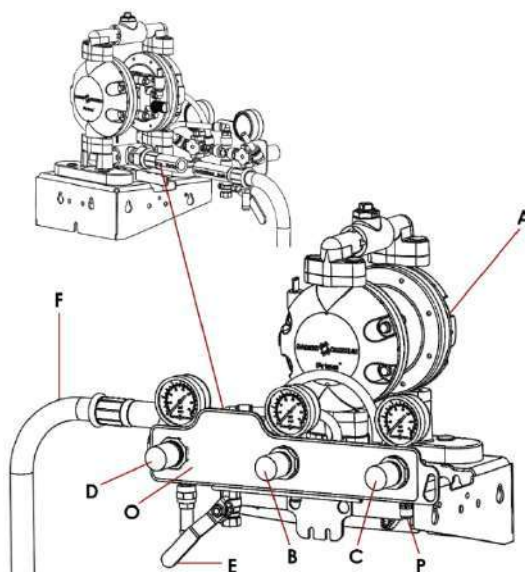
7.2 User settings



NOTA

The start-up below mentions the materials you will need to purchase (air equipment, suction rod, regulator, etc.) to operate correctly the PRIMA™ 01D100 pump.

Please refer to the [Accessories](#) section for more information.



Visual with PRIMA™ 01D100 pump fitted with a 3 regulators air equipment

Ind	Description	Ind	Description
A	Pump	-	Dissipative air hose*
B	FLUID AIR regulator	-	Dissipative fluid hose*
C	GUN SPRAYING AIR regulator	-	Spray gun*
D	PUMP AIR regulator		
E	Air shut-off valve		
F	Suction rod		
O	Plate		
P	Spraying air hose connection		

* not shown on the visual

Before starting up, connect the pump to the ground.

Then:

- ✓ Turn counterclockwise the air regulators (B, C & D).
 - ✓ Interconnect the equipment with the air pressure network (clean dry air, maximum air pressure = 6 bar / 87 psi). Install a water drop, model 3/8 if necessary.
 - ✓ Connect all the hoses (air hoses and material hose) as well as the spray gun.
 - ✓ Immerse suction rod (F) into the material drum.
 - ✓ Open the spray gun (without spraying aircap) towards the material container and trigger the gun.
 - ✓ Open the air shut off valve (E) ($P \geq 1.1$ bar / 15.9 psi).
 - ✓ Gradually turn clockwise the pump air regulator (D) and/or the fluid regulator (B) so that the pump runs slowly.
 - ✓ When material flows out regularly, release the gun trigger to stop it.
 - ✓ Install an aircap on the spray gun.
 - ✓ Supply air pressure to the spray gun (C).
 - ✓ Adjust the pump air regulator (D) and/or the fluid regulator (B) to get the appropriate material pressure and flow rate.
 - ✓ Gradually open air regulator (C) to adjust spraying air to obtain the required spray pattern.
-

8 Diagnostic help / Troubleshooting guide

Troubleshooting

Before any intervention on the pump, hoses or outlet valve, it is imperative to carry out a general procedure of decompression and drain.

In order to avoid the risk of personal injury, product injections, injuries caused by moving parts or arcing, it is essential to follow the following procedure before any intervention during system shutdown, assembly, cleaning or changing the nozzle.

- ✓ Lock the guns (valve, tap, etc.) to OFF.
- ✓ Shut off the air inlet via the pressure relief valve to remove residual air from the motor.
- ✓ Unlock the gun (valve, tap ...).
- ✓ Bring the gun (valve, tap ...) to a metal bucket to collect the fluid. Hold it against the wall of this bucket to avoid interrupting the continuity of the earthing (use the wire with stirrup to put the metal bucket to earth).
- ✓ Open the gun (valve, tap) to drain the network.
- ✓ Lock the gun (valve, tap) to OFF.

Check the conformity of the wiring before intervention.

Drain the pump before changing components.

8.1 Possible symptoms of faults / Causes of faults / Remedies to apply - fast operation



WARNING

Before any intervention, it is imperative to follow the [decompression procedure](#) and the [safety instructions](#).

- ✓ Shut off the air inlet then depressurize the fluid network by opening the gun.

Defaults	Possible causes	Remedies
The pump performs a single cycle	Distributor or intermediate tightness seals incorrectly installed	Check the installation of the distributor (notch).
		Check for the presence of all base seals. Replace them if necessary.
	Distributor piston missing or deformed	Check the presence of the plug seals. Replace them if necessary.
The pump does not run or carries out one cycle and then stops	Ball stuck in the seat or worn out due to overpressure or use of abrasive or corrosive products	Remove the distributor. Check the piston condition. Replace it if necessary.
		Replace the ball and the seat.
		Do not exceed the maximum fluid pressure of 6 bar / 87 psi.
The pump does not start	Incorrect air supply	Check the chemical or technical compatibility of the product.
		Check the pump air supply. Check the size and length of the air line.
The pump does not work or the pressure varies	Polluted product. Pump not properly installed or badly used	Check the power supply. Follow the installation and operating instructions in the instruction manual.

Defaults	Possible causes	Remedies
The pump does not work or works slowly	Hose cross section too small	Change the hose using an hose with a larger cross section.
	Defective air distributor	Disassemble and inspect the air distributor and pilot spool.
	Exhaust pipe blocked or collectors clogged	Check that the exhaust line valves have not been inadvertently closed. Clean the exhaust line or collectors.
	Network pressure greater than or equal to the air inlet pressure	Increase the pump air pressure to a maximum of 6 bar / 87 psi.
	Air exhaust line muffler clogged	Take off the muffler cover. Clean or/and remove ice. Reinstall the muffler.
	Presence of pumped fluid in the muffler of the air exhaust line	Disassemble the pump chambers. Check for damage to the fluid and/or air diaphragms. Replace them if necessary. Check the tightness of the diaphragm washers (tightening torque: 7.5 N.m. / 5.5 ft/Lbs).
	Pumping chamber blocked	Disassemble and inspect wetted chambers. Remove or empty any items causing the blockage.
	Valve leaks	Change the valve(s) and the tightness seals.

Defaults	Possible causes	Remedies
Priming trouble	Bubbles on the suction side	Check the suction and tightness conditions between the pump and the suction rod (or cup). Bring the pump closer to the product.
		Check the condition of the seals on the collectors. Replace them if necessary.
	Non-return valve clogged. Valve ball(s) incorrectly installed or stuck	Remove the fluid side of the pump and manually unclog the non-return valve pocket.
		Clean the areas around the valve ball cage and valve seat. Replace ball and seat if necessary (always replace both at the same time). Do not apply grease to the valve seats to prevent the ball from sticking.
	Valve ball(s) missing or pushed into chamber or collector	Check the ball(s) and/or the valve seat for wear. Replace if necessary.
	Ball(s) and seat(s) of the valve damaged or attacked by a product	Check the direction of reassembly of the ball valves. Refer to the chemical resistance guide for product compatibility information.
	Ball valve or/and seat worn or badly positioned	Check the ball valve and/or the seat. Check the assembly. Replace it(them) if necessary.
		Check for dirt between the seat and the ball. Clean if necessary.
	Valves mounted in the wrong direction	Check the direction of assembly. If necessary, reassemble the valves using the notches provided for this purpose.
	Suction line clogged	Remove or empty any items causing the blockage. Check and empty all suction screens and strainers.
	Excessive suction height	If liquid is sucked in from a height of more than 6 m / 236", the pump will prime if the chambers are filled with liquid.

Defaults	Possible causes	Remedies
	Air leakage on the suction side or presence of air in the product	Inspect all tightness seals and fittings - suction side. Replace them if necessary.
		Check the condition of the air diaphragms. Replace them if necessary.
		Check the tightness of the diaphragm washer on the air side (tightening torque: 7.5 N.m. / 5.5 ft/Lbs).
	Gun closed	Be sure the spray gun is fully opened and air is evacuated through this one.
	Air is always coming out from the spray gun	Check air intake at the fitting or at the suction rod.
		Air intake at the collector at the suction valves.
	Air or material do not come out from the spray gun	Make sure the pressure read at the fluid regulator is equal to 1 or 2 bar / 14.5 or 29 psi (minimum).
	Presence of pumped fluid in the muffler of the air exhaust line	Disassemble the pump chambers. Check for damage to the fluid and/or air diaphragms. Replace them if necessary.
		Check the tightness of the diaphragm washers (tightening torque: 7.5 N.m. / 5.5 ft/Lbs).

Defaults	Possible causes	Remedies
Pump running slowly, irregularly or stalling; poor flow	Presence of ice	Remove the muffler cover. Clean and/or remove ice. Reassemble the muffler. Install an air dryer.
	Collectors clogged	Clean the collectors to allow good circulation of the product.
	Network pressure greater than or equal to the air inlet pressure	Increase the pump air inlet pressure.
	Bubbles on the suction side	Check the suction and tightness conditions between the pump and the suction rod (or cup). Bring the pump closer to the product.
	Lack of air	Check the size and length of the air line and the capacity of the compressor. Check for grease in the air ducts Clean them if necessary.
	Excessive suction height	If liquid is sucked in from a height of more than 6 m / 236", the pump will prime if the chambers are filled with liquid.
	Air inlet pressure and / or volume too high	Decrease the pressure and / or the volume.
	Inappropriate suction line	Use a pipe size equal to or larger than the pump connection. Change the suction rod if necessary.
	Restrictive or inappropriate air supply	Use an air hose that fits the inlet connection. The total length of the hose should not exceed 1.5 m / 4.9 ft. Check the condition of the air hose. Change it if necessary.
	Air leakage on the suction side or presence of air in the product	Inspect all tightness seals and fittings - suction side. Replace them if necessary.
	Suction line clogged	Remove or empty any items causing the blockage. Check and empty all suction screens and strainers.

Defaults	Possible causes	Remedies
	Presence of pumped fluid in the muffler of the air exhaust line	Disassemble the pump chambers. Check for damage to the fluid and/or air diaphragms. Replace them if necessary.
		Check the tightness of the diaphragm washers (tightening torque: 7.5 N.m. / 5.5 ft/Lbs).
	Ball valve clogged	Remove the fluid side of the pump and manually unclog the non-return valve.
	Ball valve or / and seat worn or badly positioned	Check the ball valve or / and the seat. Check the assembly. Replace it (them) if necessary.
	Presence of air or steam in the chamber(s)	Drain the chambers using the drain plugs in the chamber(s).
Liquid leakage through the exhaust pipe	Diaphragms failure or loose diaphragm washers	Check the diaphragms; change them if necessary. Check the tightness of the diaphragm washers (tightening torque: 7.5 N.m. / 5.5 ft/Lbs).
	Stretched diaphragms around center hole or bolt holes	Check that the inlet pressure or the air pressure is not too high. Refer to the Chemical Resistance Guide for information on compatibility with products, degreasers, operating temperatures and lubrication.

Defaults	Possible causes	Remedies
Diaphragm damaged, defective or leaking	Bubbles on the suction side	Check the suction and tightness conditions between the pump and the suction rod (or cup). Bring the pump closer to the product. Check the condition of the seals on the collectors. Replace them if necessary.
	Excessive submerged suction pressure	Move the pump closer to the fluid. Raise the pump or place it on a tank to reduce inlet pressure. Install a back pressure device. Add an accumulation tank or pulsation damper.
	Misuse (chemical / physical incompatibility)	Refer to the Chemical Resistance Guide for information on compatibility with products, degreasers, operating temperatures and lubrication.
	Diaphragm plates upside down, badly positioned or worn	Refer to the instruction manual for more information on the part and its installation. Check that the outer plates of the diaphragms are not worn due to a sharp angle. Replace them if necessary.
	Compressed air present in the product or product present in the central block	Check the diaphragms. Change them if necessary.
	Fluid leakage through air outlet	

Defaults	Possible causes	Remedies
The pump operates but does not convey fluid or stops	Valves clogged up	Clean the pump with the appropriate cleaning solvent. Clean or change the valves.
	Valves worn or/and incorrectly mounted	Check and change the parts.
	Exhaust hose clogged	Clean or change the exhaust hose.
	Hoses leaks, air intake, suction drop	Check fittings and tighten them up. Repair and Repair and eliminate sources of leakage.
	No suction at the inlet and pressure at the outlet	Check ports and if necessary, change the tightness seals.
	Viscosity of the fluid too high	High-viscosity fluids are not conveyable (for limit value refer to chapter "Technical features")
	There are cracks or small hoses on the exhaust hose	Change the exhaust hose.
	Air in the pump chamber	Drain the pump.
	Air bubble in material	Check the tightness of the diaphragm washers (tightening torque: 7.5 N.m. / 5.5 ft/Lbs).
Pump does not stop when gun trigger is released	Defective valves	Check suction and exhaust valves. Change them if necessary.
Spraying trouble	Defective spray gun	Refer to spray gun instruction manual.
Specific problems with accessories	-	Refer to the instructions for the accessories .

9 Maintenance

9.1 Preventive Maintenance Plan



WARNING

Please refer to the preventive maintenance plan in [§ 11 Appendices](#) for more information.

9.2 Required qualification levels - intervention described

As the pump is easy to disassemble, this type of intervention can be carried out by an authorized technician of average qualification, on site, with portable tools (wrench, screwdriver,...) defined by the maintenance instructions and the disassembly/reassembly procedures.

9.3 Precautions to ensure material integrity



WARNING

Before any intervention, it is imperative to follow the [pressure relief procedure](#) and the [safety instructions](#).

Make sure that the pump is clean and in good condition to increase equipment working life.

The diaphragm pump is very resistant to wear, apart from the diaphragm. The quality of the compressed air supply, the properties of the conveyed fluid and the conditions of use can have a negative effect on the service life of the pump.

We therefore recommend regular inspection of the pump and the pneumatic valve.

Should a malfunction nonetheless occur or the conveying output decrease, you can simply carry out the following work:

- ✓ Replace the diaphragm(s),
- ✓ Clean the valves,
- ✓ Replace the seals,
- ✓ Clean and grease the pneumatic valve.

Make sure that the suction strainer is clean and in good condition. Regularly clean it and change it if necessary.

Flush the pump as often as necessary, especially when spraying pigment-filled material.

Ensure that the material hoses and other components are able to withstand the fluid pressure generated by this pump.

Ensure that the pneumatic valve, the outlet area for the compressed air and the suction and pressure side for the fluid are clean and functioning correctly.

Depending on the operating conditions and the operating mode of the pump, fluid may escape from the smuffler in the event of a diaphragm failure.

The released product may accumulate inside the pump and be released into the environment during prolonged malfunction. Therefore, the necessary safety measures must be taken during operation, maintenance and repairs depending on the product.

Take all precautionary measures when venting the chambers using the vent plugs.

**WARNING**

Whatever the case, when stopping the pump, always leave it filled with fluid.

For a short duration shutdown, if the flushing has not been carried out, leave the pump filled with fluid.

For a long duration shutdown, after flushing the fluid, leave the pump filled with solvent.

Comply with the usual instructions of spray gun servicing (refer to spray gun instruction manual).



WARNING - Hazard to persons due to insufficient lighting.

Only carry out installation work on the pump in a sufficiently illuminated and air-conditioned environment.

9.4 Maintenance and monitoring periods

It is recommended to schedule a routine maintenance after a set number of hours of operation.

This is defined by the user's maintenance department and is based on the product, the work rate and the usual pressure.

This maintenance consists of replacing parts with cuts or wear and cleaning organs with compatible products without using abrasive materials that could damage them.

The O-rings are mounted with special "pneumatic" grease. Make sure that none of them get damaged; cutting one of them may cause the motor to malfunction.

Be familiar with [disassembly/reassembly](#) procedures and [spare parts](#).

9.5 Cleaning

It is recommended to clean the pump with compatible products without using abrasive materials that could damage them.

In order to drain the excess product and remove residual traces that may cause deterioration of the balls, it is recommended to clean the pump inclined.

Particular attention should be paid to the diaphragms, valves and seals. If these cannot be cleaned, they must be replaced.

9.6 Disassembly / Reassembly operations



WARNING

Before any intervention, it is imperative to follow the [pressure relief procedure](#) and the [safety instructions](#).

Preliminary operations

- ✓ If the pump is fitted with an air assembly:
 - Turn counterclockwise the spraying air regulator or disconnect spray gun air inlet.
 - ✓ Remove air cap from the spray gun and put it into solvent.
 - ✓ Remove suction rod from the material container and immerse it in a solvent filled container. Take all the appropriate precautions in the presence of flammable solvents.
 - ✓ Point the spray gun towards the material container and press the gun trigger. When the solvent flows out, point the spray gun into a recovery container.
 - ✓ When the solvent flows out clear and clean, release the gun trigger.
 - ✓ Fully turn counterclockwise fluid regulator and shut off the compressed air supply.
 - ✓ Trigger the gun again to decompress the hoses.
-

Please refer to the corresponding disassembly/reassembly sections for more information:

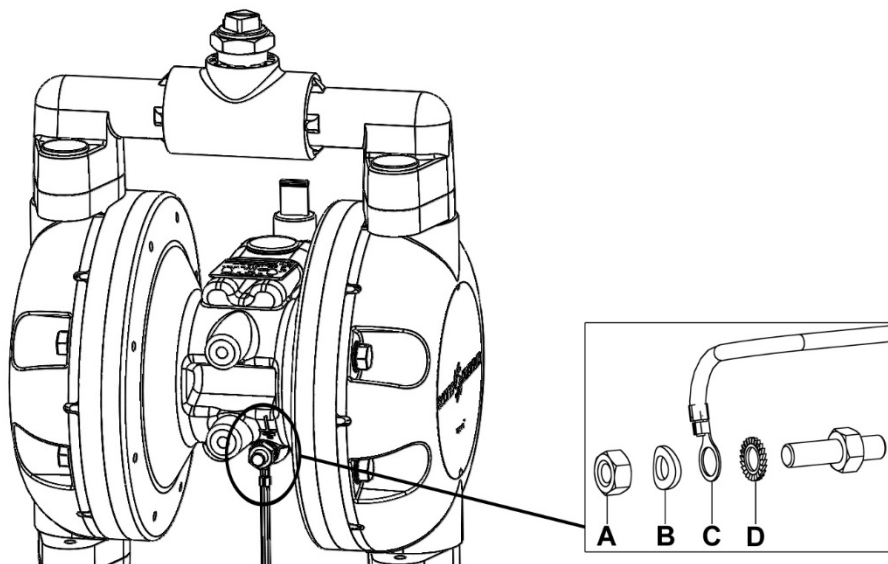
- ✓ [§ 9.6.1: Grounding cable,](#)
- ✓ [§ 9.6.2: Disassembly complete pump,](#)
 - [Step 3: Disassembly of the exhaust valves,](#)
 - [Step 9: Disassembly of the suction valves,](#)
 - [Step 11: Disassembly of the diaphragms and of the pilot-spool,](#)
 - [From steps 15 to 17: Disassembly of the distributor,](#)
 - [From steps 18 to 20: Reassembly of the distributor,](#)
 - [Step 21: Reassembly of the diaphragms and of the pilot-spool,](#)
 - [Step 28: Disassembly of the collector seals - Lower part,](#)
 - [Step 29: Reassembly of the collector seals - Lower part,](#)
 - [Step 30: Reassembly of the suction valves,](#)
 - [Step 34: Reassembly of the exhaust valves,](#)
 - [Step 35: Disassembly of the collector seals - Upper part,](#)
 - [Step 36: Reassembly of the collector seals - Upper part.](#)

For disassembly and reassembly of the accessories ([Regpro](#), [filters](#), [tripod](#) and [cart](#)), please refer to the corresponding instruction manuals.

9.6.1 Disassembly of the grounding cable (29)

Time required

1 minute 50



- ✓ Hold the grounding terminal with a 10 mm wrench and unscrew the lock nut (A) with the other key.
- ✓ Manually remove the washer (B), the lug (C) with its grounding wire and the washer (D).

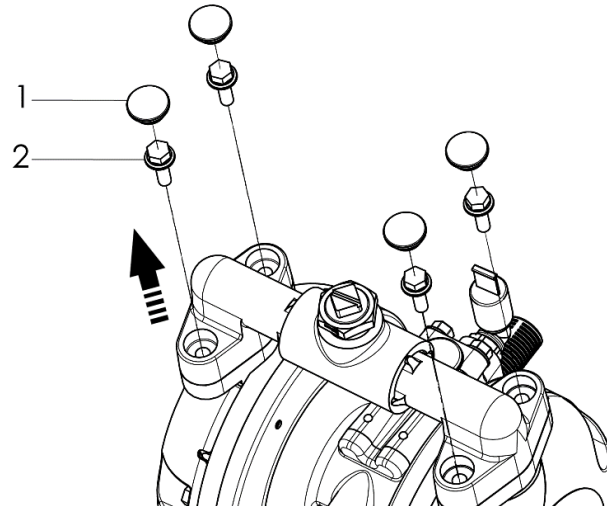
9.6.2 Disassembly / Re-assembly of the pump

Time required
– Complete operation

15 minutes

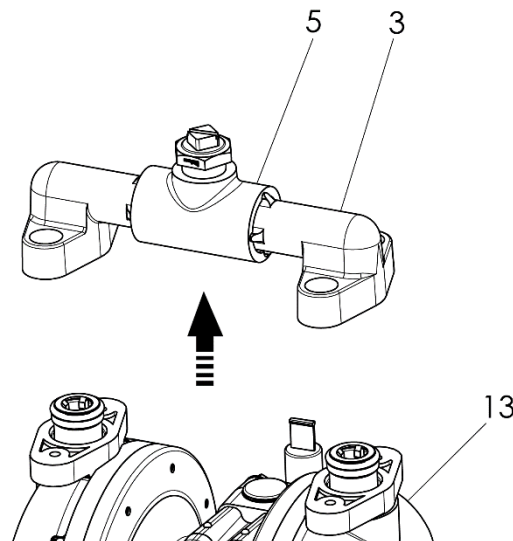
Disassembly of the pump

Step 1



- ✓ Take off the plugs (1) by levering with a flat screwdriver, then unscrew the 4 screws (2) by means of a 10 mm socket wrench.

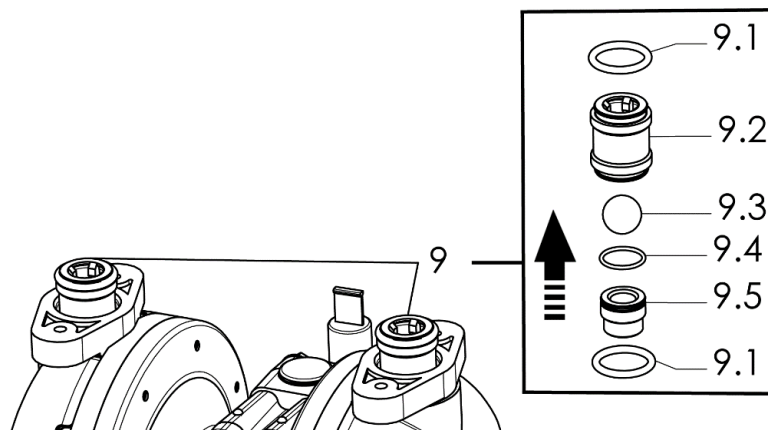
Step 2



- ✓ Separate the upper part of the pump that consists of the elbows (3) and coupling (5) assembly from the flanges (13).



To replace the seals in the elbows (3) and coupling (5) assembly, see steps [35](#) and [36](#).

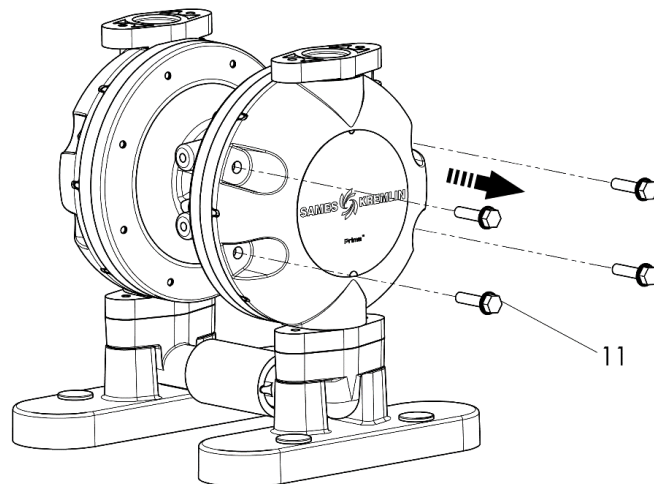
**Disassembly of the exhaust valves
- Time required****2 minutes****Step 3**

- ✓ To remove the exhaust valves (9), use a 24 mm flat wrench.
- ✓ Remove the ball cage (9.2), the ball (9.3) and the seat (9.5) or remove the seat (9.5), the ball (9.3) and the ball cage (9.2) by means of a 7mm socket.
- ✓ Check the seals (9.1) and (9.4).



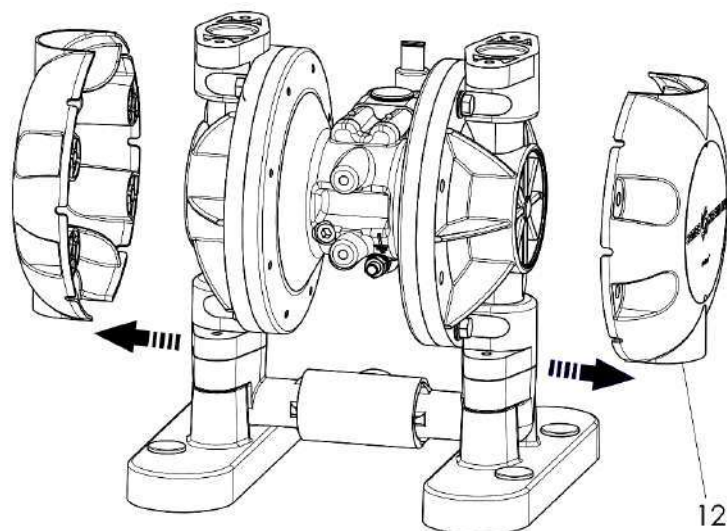
To replace the exhaust valves (9), see step [34](#).

Step 4

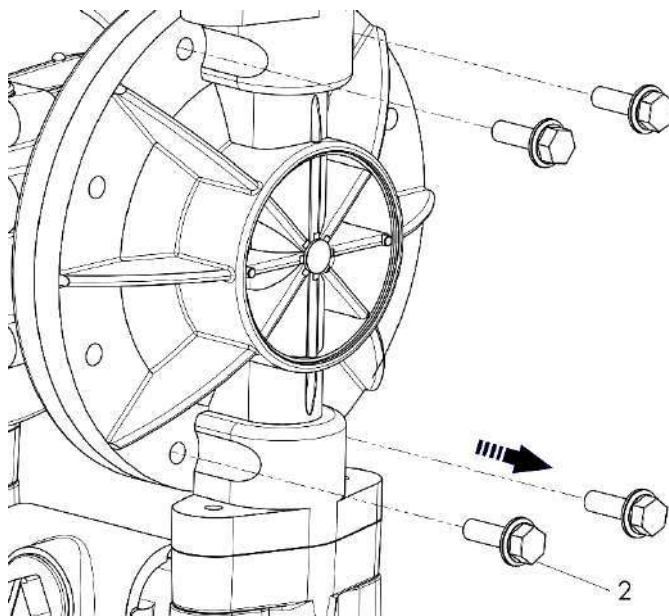


- ✓ Unscrew the 4 screws (11) by means of a 10 mm socket wrench.
- ✓ Carry out the same procedure on the other side of the pump by unscrewing the 4 other screws (11).

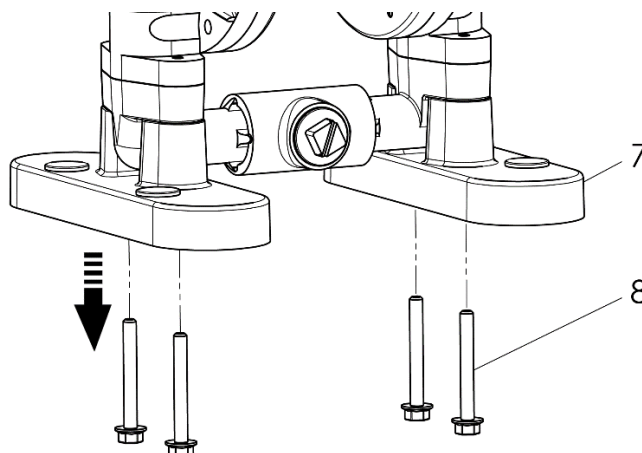
Step 5



- ✓ Remove the covers (12).

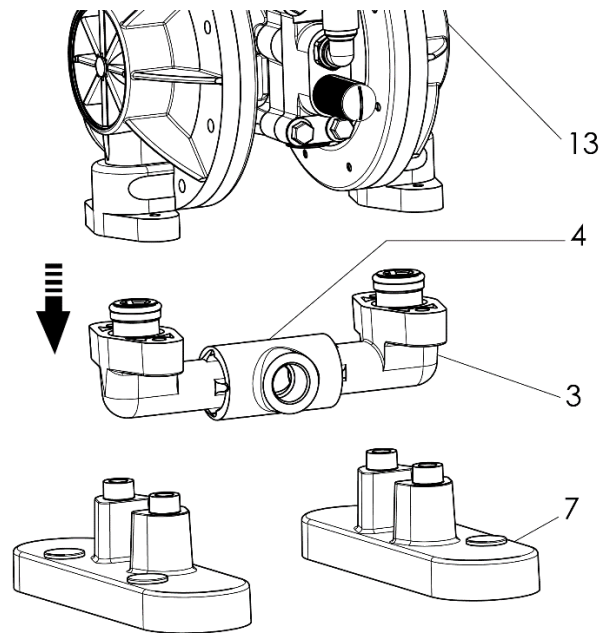
Step 6

- ✓ Unscrew the 4 screws (2) by means of a 10 mm socket wrench.
- ✓ Carry out the same procedure on the other side of the pump by unscrewing the 4 other screws (2).

Step 7

- ✓ Unscrew the 4 screws (8) located under the feet (7) by means of a 10 mm socket wrench.
-

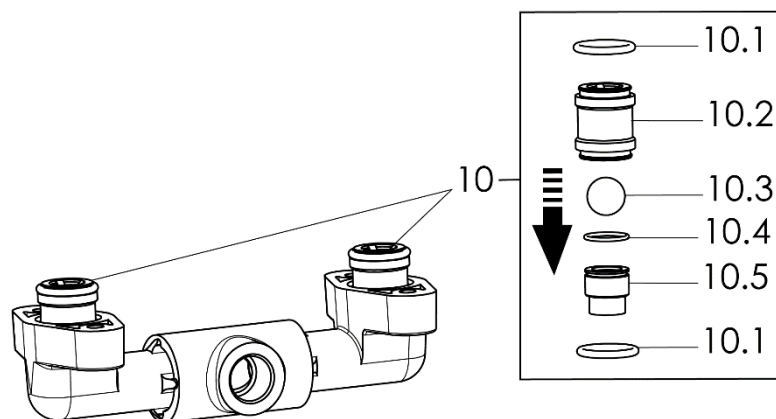
Step 8



- ✓ Remove the 2 feet (7) from the flanges (13) as well as the lower part for the pump that consists of the elbows (3) and coupling (4) assembly.



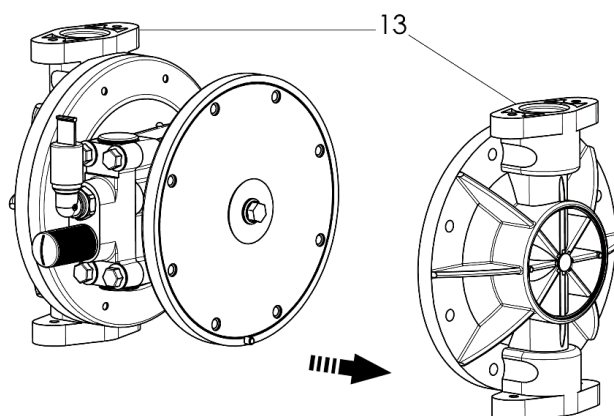
To replace the seals in the elbows (3) and couplings (4) assembly, see steps [28](#) and [29](#).

**Disassembly of the suction valves
- Time required**
2 minutes
Step 9


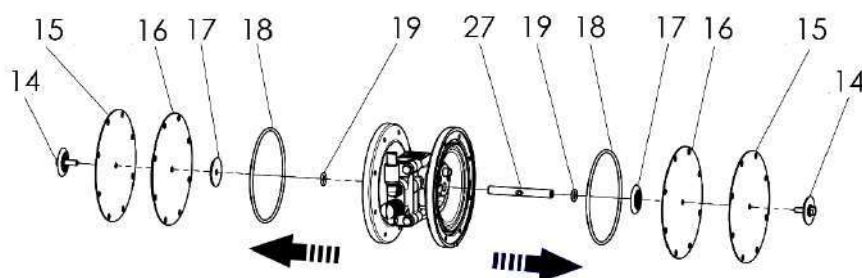
- ✓ To remove the suction valves (10), use a 24 mm flat wrench.
- ✓ Remove the ball cage (10.2), the ball (10.3) and the seat (10.5) or remove the seat (10.5), the ball (10.3) and the ball cage (10.2) by means of a 7mm socket.
- ✓ Check the seals (10.1) and (10.4).



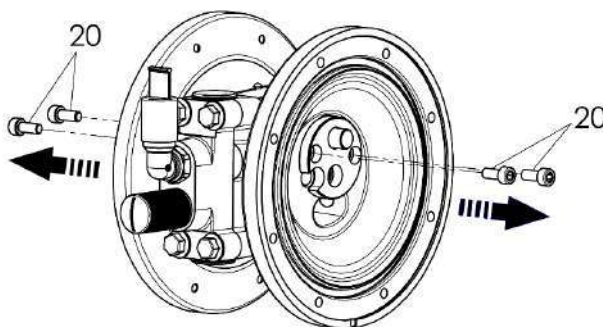
To replace the suction valves (10), see step [30](#).

Step 10


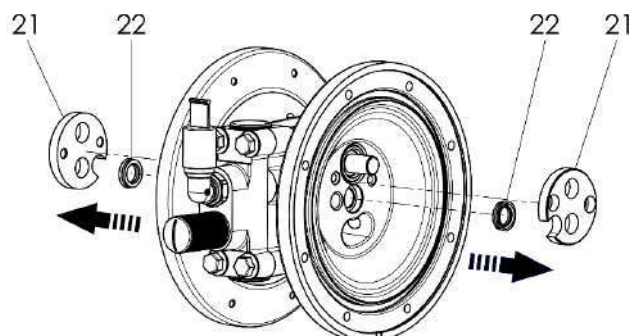
- ✓ Remove the flanges (13).

**Disassembly of the diaphragms and of the pilot-spool
- Time required**
5 minutes
Step 11


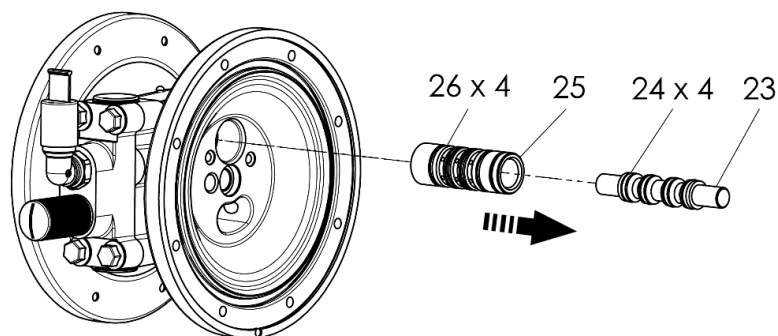
- ✓ Unscrew the screw-washer fluid section (14) assembly by means of a 10 mm socket wrench. Counterlock on the other side using another 10 mm socket wrench.
- ✓ Manually remove the fluid diaphragm (15), the air diaphragm (16) and the washer (17).
- ✓ Take off the 2 seals (19). Check that the seals are in place and in good condition. Change them if necessary.
- ✓ Take off the coupling axis (27) by pushing it and remove the fluid diaphragm (15), the air diaphragm (16) and the washer (17) from the other side of the pump.
- ✓ Using a pin driver placed in the hole of the coupling axis (27), unscrew the screw-washer fluid section (14) with a 10 mm socket wrench.
- ✓ Remove the seals (18) **with a non-metal tools to avoid damaging the seals.**
- ✓ Check that the seals (18) are in place and in good condition. Change them if necessary.

Step 12


- ✓ Unscrew the 4 screws (20) by means of a 4 mm BTR wrench.

Step 13

- ✓ Take off the 2 flat washers (21) and the 2 seals (22). Check that the seals are in place and in good condition. Change them if necessary.

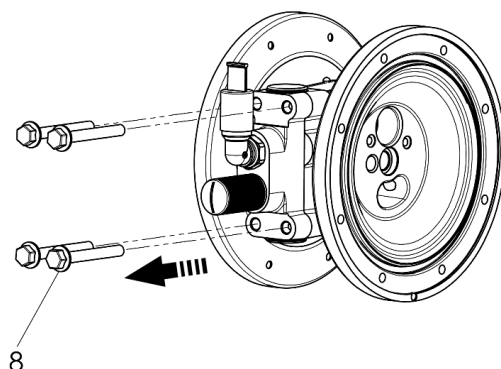
Step 14

- ✓ Take off the pilot-spool (23) with the seals (24) by pushing them. Check that the seals are in place and in good condition. Change them if necessary.
- ✓ Take off the pilot-spool sleeve (25) with the seals (26) by pushing them. Check that the seals are in place and in good condition. Change them if necessary.

**Disassembly of the distributor
- Time required**

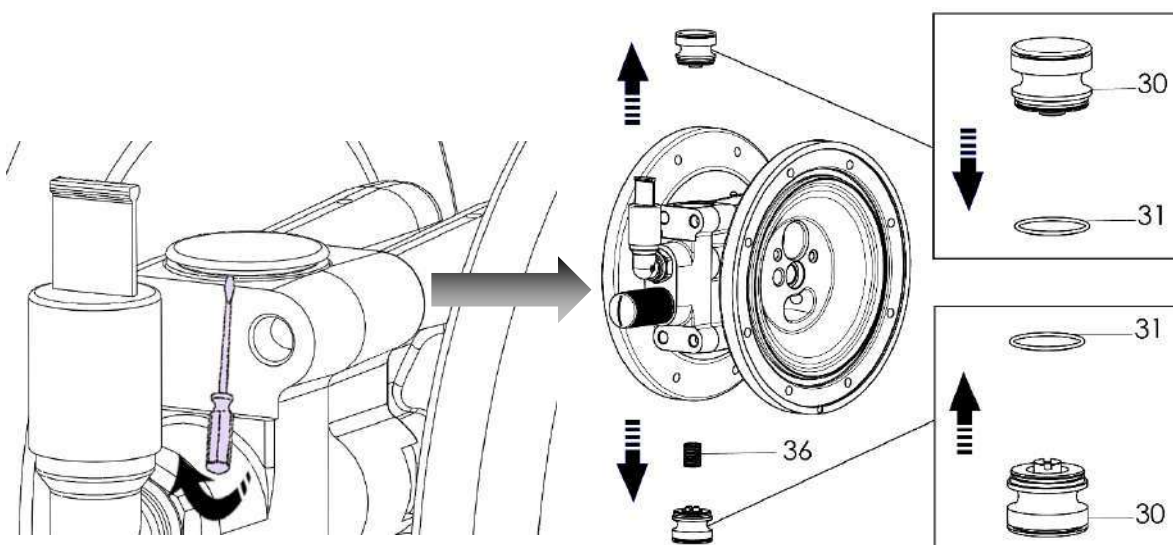
6 minutes

Step 15

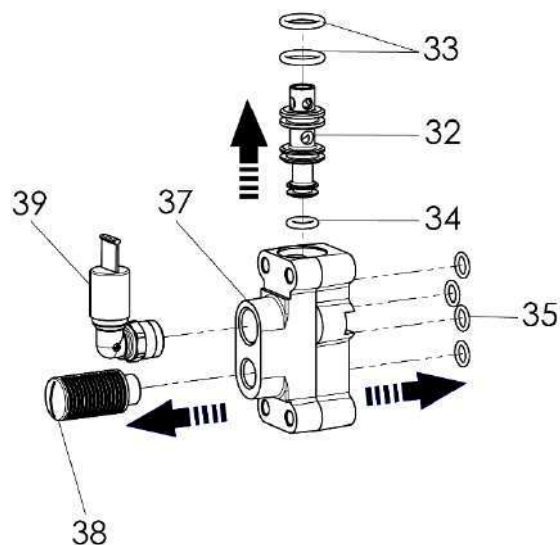


- ✓ Unscrew the 4 screws (8) by means of a 10 mm socket wrench to separate the distributor from the motor body.

Step 16



- ✓ Remove the plugs (30) using a flat screwdriver in the groove for leverage. A click is heard to indicate that they are out of their housing. The spring (36) goes out from the distributor body.
- ✓ Remove the seals (31) from the plugs (30) **with a non-metal tools to avoid from damaging the seals.**

Step 17

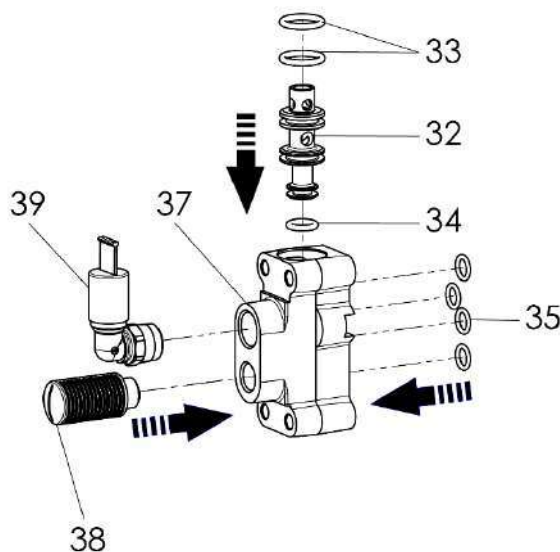
- ✓ Take off the air valve spool (32) from the distributor body (37).
 - ✓ Take off the seals (33 and 34) **with a non-metal tools to avoid damaging the seals.**
 - ✓ Remove manually the muffler (38).
 - ✓ Unscrew the fitting (39) by means of a 17 mm flat wrench.
 - ✓ Take off the seals (35) **with a non-metal tools to avoid damaging the seals.**
 - ✓ Clean and/or change the seals (33, 34, 35) if necessary.
-

Reassembly of the pump

Reassembly of the distributor – Time required

6 minutes

Step 18



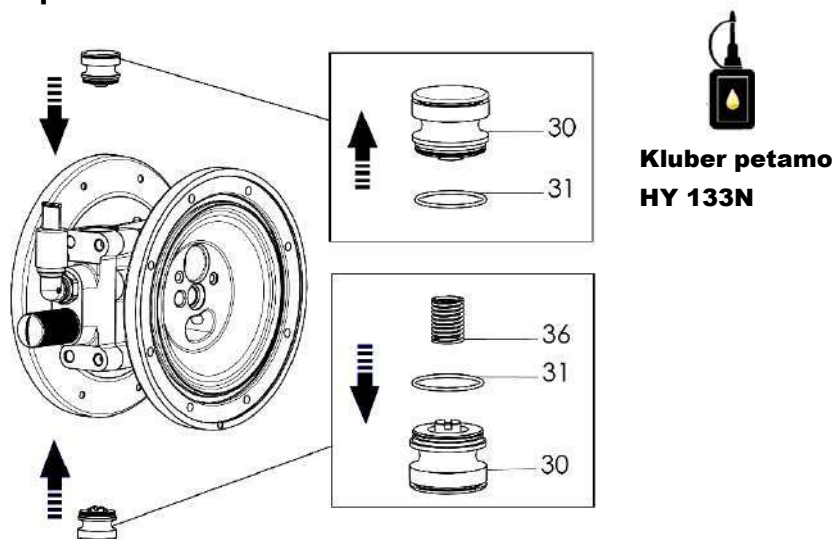
**Kluber petamo
HY 133N**

- ✓ Screw the fitting (39) by means of a 17 mm flat wrench.
- ✓ Install manually the muffler (38).
- ✓ Grease the inside of the distributor body (37).



Caution: Do not apply too much grease to avoid clogging the holes.

- ✓ Reinstall the seals (33 and 34) to the air valve spool (32) by greasing the entire seal contours evenly with grease.
- ✓ Manually push the air valve spool (32) to install it into the distributor body (37).
- ✓ Reinstall the seals (35) to the distributor body (37) by greasing the entire seal contours evenly with grease.

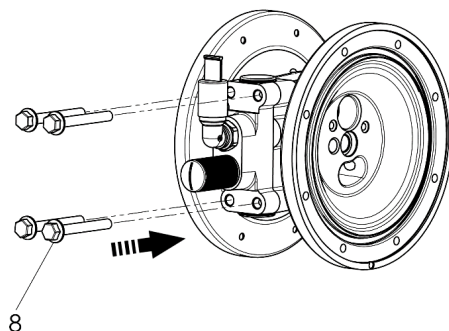
Step 19

- ✓ Reinstall the seals (31) on the plugs (30) by greasing the entire seal contours evenly with grease.
- ✓ Reinstall the upper plug (30) with its seal (31) on the pump. A click is heard to indicate that it is in place.
- ✓ Place the spring (36) on the lower plug (30) with its seal (31). Then place the other end of the spring (36) in the groove of the air valve spool (32).
- ✓ Reinstall the assembly on the pump. A click is heard to indicate that it is in place.



Caution: if you do not hear a click when installing the upper and lower plugs (30), you cannot install the screws (8) afterwards.

Step 20



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- ✓ Apply glue to the threads of the 4 screws (8) and screw them by means of a 10 mm torque wrench to reinstall the distributor on the motor body.
Screwing torque: 7.5 N.m / 5.5 ft /lbs.



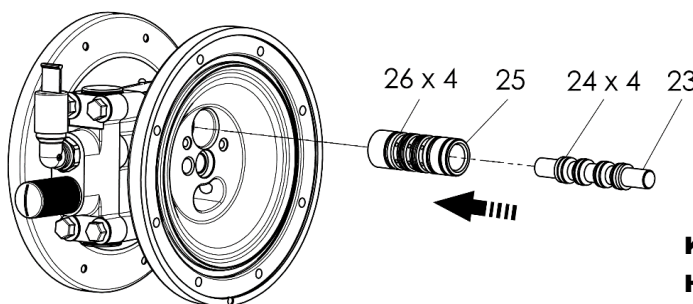
Caution: If the screws (8) do not slide into their housings, there will be play between the parts. This is due to incorrect assembly of the lower plug (30) with the spring (36).

Repeat the steps for reassembling the seals, air valve spool, plugs, spring,... to finalize the reassembly of the screws (8).

Reassembly of the diaphragms and the pilot-spool - Time required

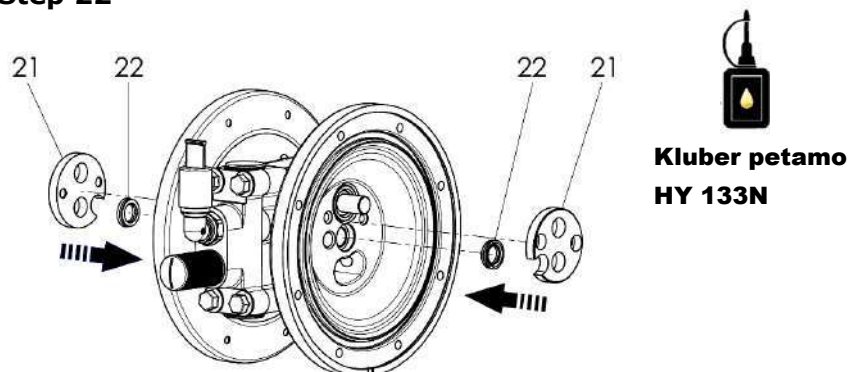
5 minutes

Step 21



**Kluber petamo
HY 133N**

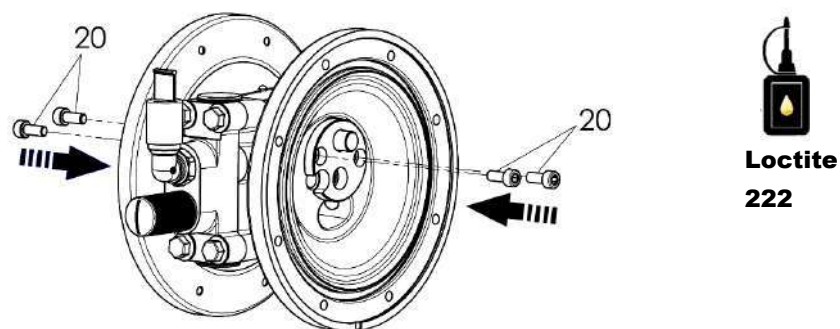
- ✓ Reinstall the seals (24 and 26) greasing the entire seal contours evenly with grease.
- ✓ Reinstall the pilot-spool (23) and the pilot-spool sleeve (25) by pushing them.

Step 22

- ✓ Reinstall the 2 seals (22) and the 2 flat washers (21) greasing the entire seal contours evenly with grease.

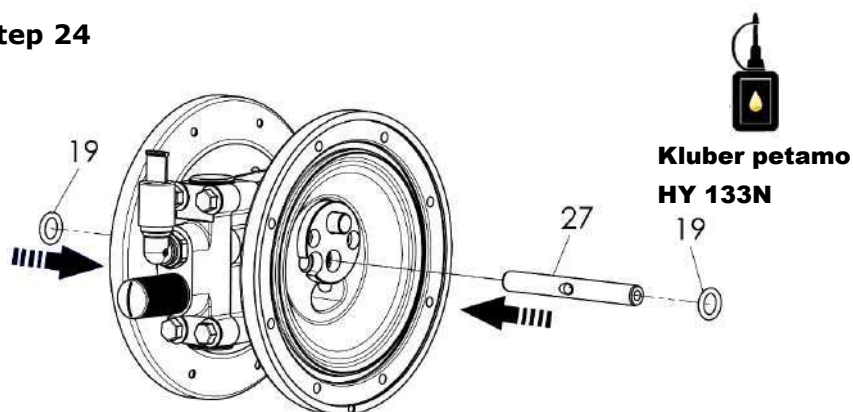


Caution: Observe the mounting direction of the spacer washers. A notch allows you to mount the washers in the right direction. If they are mounted in the wrong direction, there will be play when mounting the other parts.

Step 23

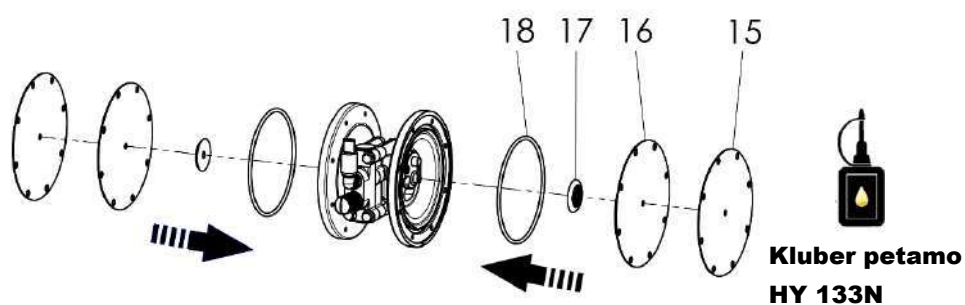
- ✓ Apply glue to the threads of the 4 screws (20) and screw them by means of a 4 mm BTR wrench.

Step 24

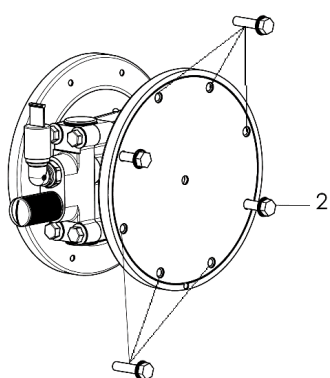


- ✓ Reinstall the 2 seals (19) greasing the entire seal contours evenly with grease.
- ✓ Reinstall the coupling axis (27) by pushing it.

Step 25



- ✓ Reinstall the seals (18) greasing the entire seal contours evenly with grease, the washers (17), the new air diaphragms (16) and the new fluid diaphragms (15).

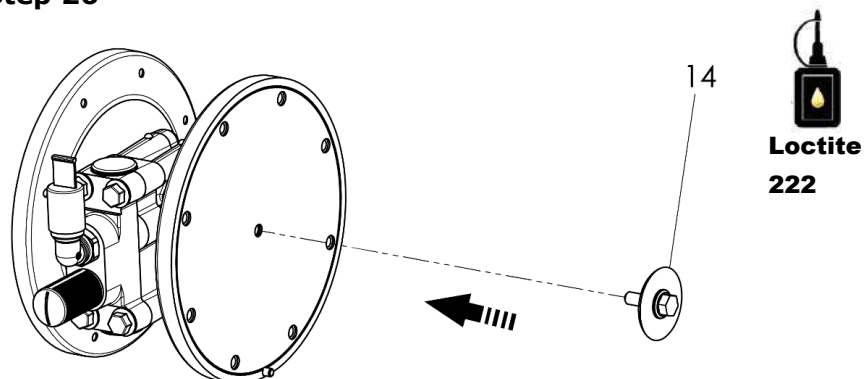


Warning: Comply with the installation direction of the diaphragms.

Match the holes in the diaphragms to each other and then to the holes in the motor body.

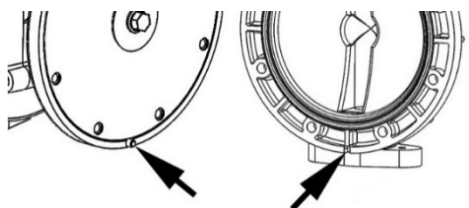
To help you and prevent displacement of the diaphragms, you can mount 8 screws (2) on both sides of the pump.

Step 26

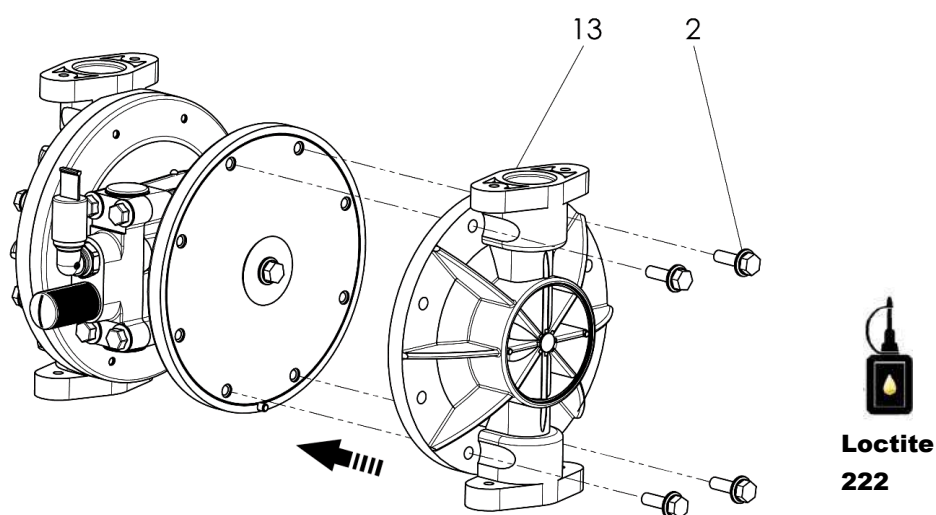


- ✓ Apply glue to the threads of the screw-washer fluid section assembly (14) and tighten the diaphragms with a 10 mm torque wrench, counter-clamping on the other side with a 10 mm pipe wrench.
Screwing torque: 7.5 N.m / 5.5 ft /lbs.
- ✓ Carry out the same procedure on the other side of the pump.

Step 27



A notch on the collector side and a notch on the diaphragm side (pin) allow the collector to be mounted in the right direction.





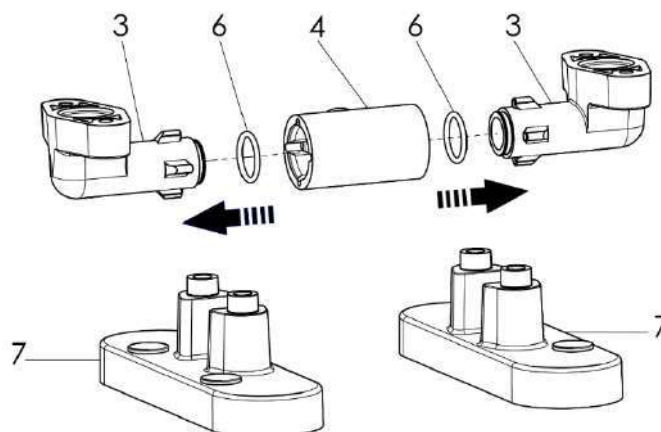
Caution: The screws (2) mounted in [step 25](#) to help you when mounting the diaphragms must be removed first.

- ✓ Apply glue to the threads of the screws (2) and reinstall the 2 flanges (13) by screwing crosswise the screws (2) by means of a 10 mm torque wrench.
Screwing torque: 7.5 N.m / 5.5 ft /lbs.

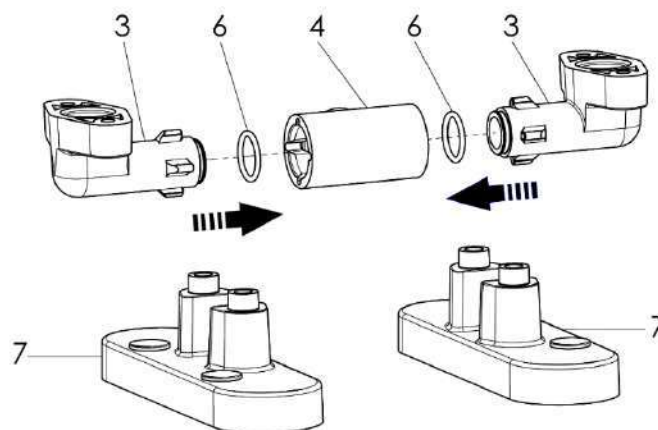
**Disassembly of the collector seals - Lower part
- Time required**

2 minutes

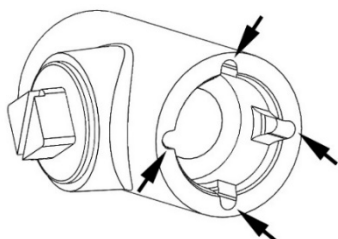
Step 28



- ✓ Remove the elbows (3) and coupling (4) assembly from the 2 feet (7) if you did not do this in step 8.
- ✓ Separate the elbows (3) from the coupling (4).
- ✓ Remove the 2 seals (6). Check seals. Change them if necessary.

**Reassembly of the collector seals - Lower part
- Time required**
2 minutes
Step 29

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- ✓ Reinstall the 2 seals (6) by greasing the entire seal contours evenly with grease.
- ✓ Reinstall the elbows (3) on the coupling (4).



On reassembly, depending on the customer's requirements and its siting constraints, the coupling (4) can be turned thanks to the 4 notches provided for this purpose.

When assembling a fitting to it, apply a maximum screwing torque of 10 N.m. / 7.3 ft/lbs.

- ✓ Reinstall the elbows (3) and coupling (4) assembly on the 2 feet (7).

Recommendations for suction and exhaust valves



Warning: Comply with the installation direction of the valves.

→ Risk of damaging the pump.

There are two versions of valves: the suction valves and the exhaust valves.

The suction valves cannot be installed in place of exhaust valves (different parts).

As a reminder, the suction valves are mounted on the lower part of the pump; the exhaust valves on the upper part.

Opposite visual representing the suction valve.



Opposite visual representing the exhaust valve.



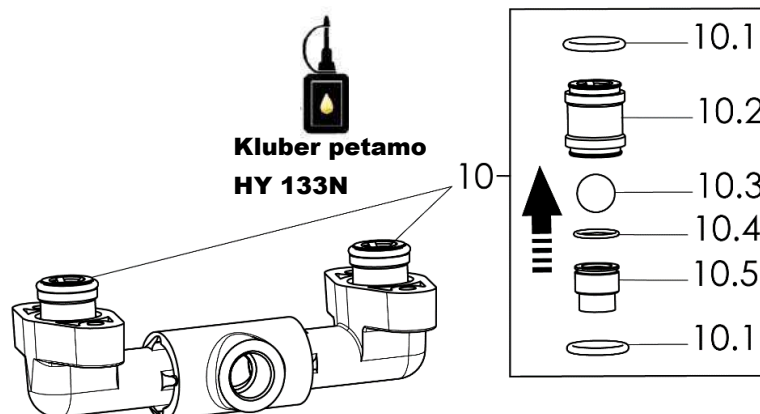
Caution: Do not apply grease on the balls (9.3 and 10.3) and the seats (9.5 and 10.5) → Risk of sticking.



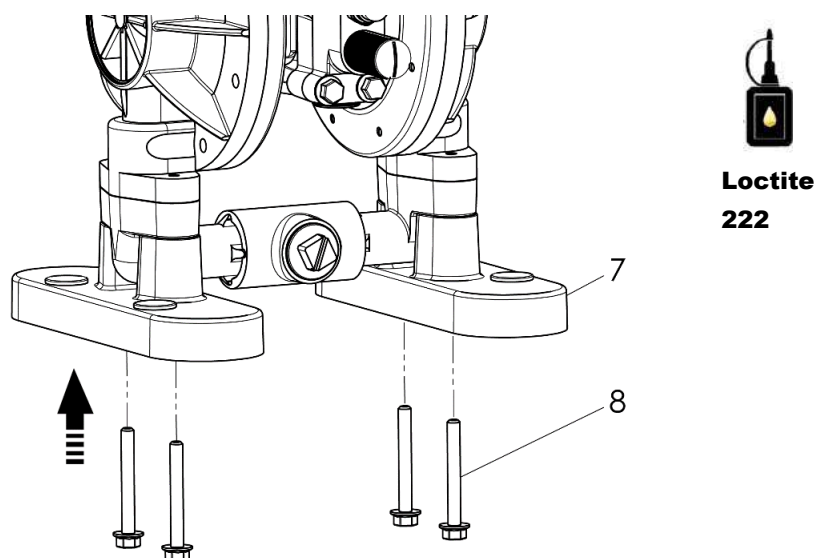
Caution: Make sure that the valves are installed in the correct direction. If the valves are installed in the wrong direction or if you have installed the exhaust valves instead of the suction valves or the exhaust valves onstead of the suction valves, there will be a gap between the parts.



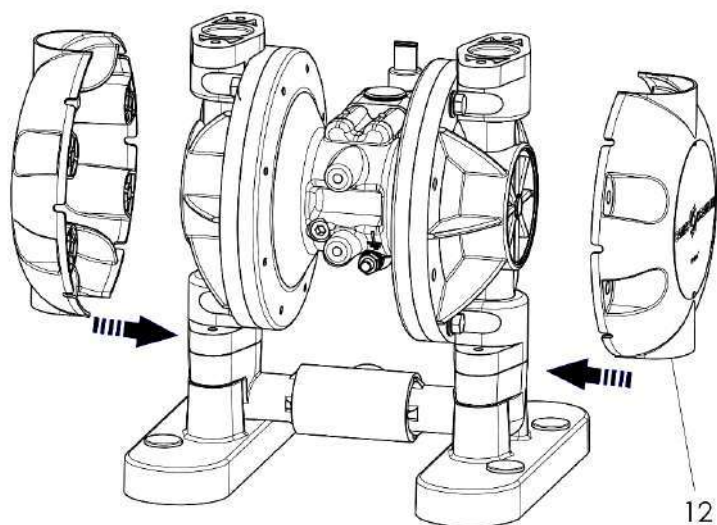
Caution: When mounting valves on the flanges, do not mount the valves crosswise, as this may damage the seals.

**Reassembly of the suction valves
- Time required**
2 minutes
Step 30


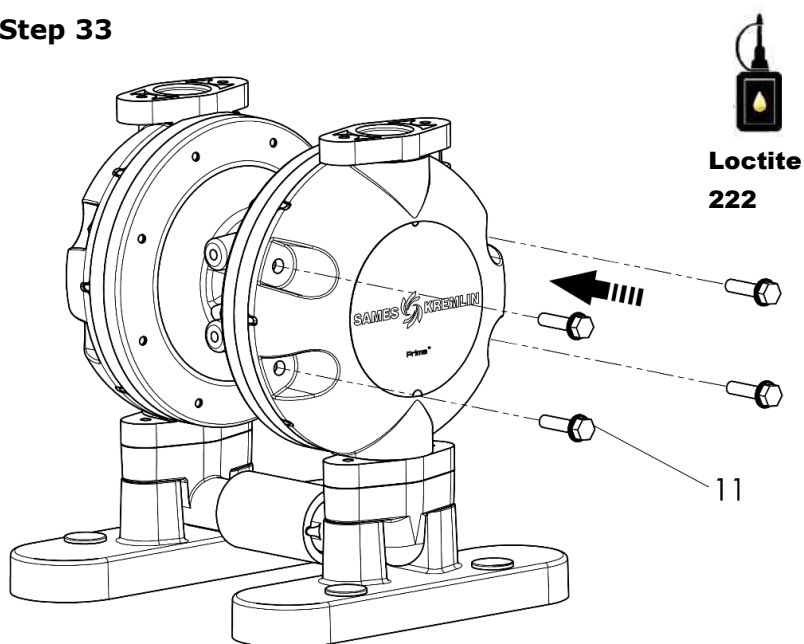
- ✓ Change the seals (10.1) and (10.4) if necessary.
- ✓ Reinstall them by greasing the entire seal contours evenly with grease.
- ✓ Reinstall the parts (10.2), (10.3) and (10.5).

Step 31


- ✓ Apply glue to the threads of the 4 screws (8) and screw them under the feet (7) by means of a 10 mm torque wrench. Screwing torque: 7.5 N.m / 5.5 ft /lbs.

Step 32

- ✓ Reinstall the covers (12).

Step 33

- ✓ Apply glue to the threads of the 4 screws (11) and screw them by means of a 10 mm torque wrench.
Screwing torque: 7.5 N.m / 5.5 ft /lbs.
- ✓ Carry out the same procedure on the other side of the pump by screwing the 4 screws (11).

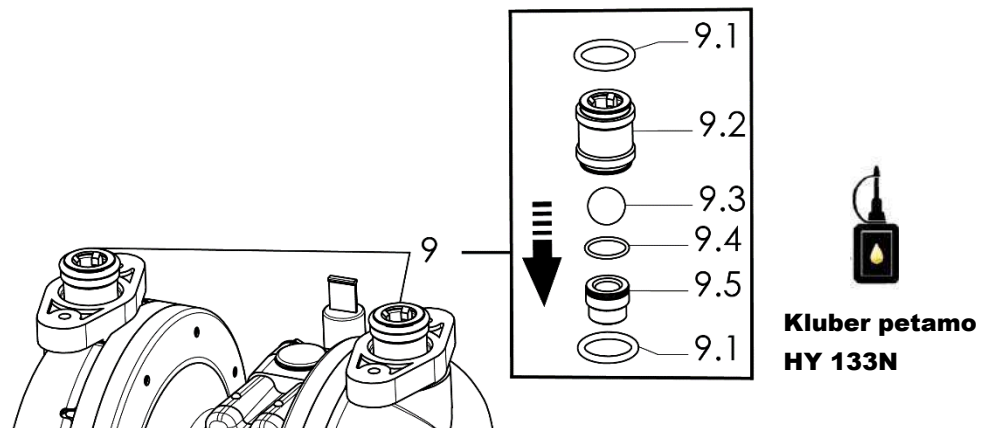
**Reassembly of the exhaust valves
- Time required**

2 minutes

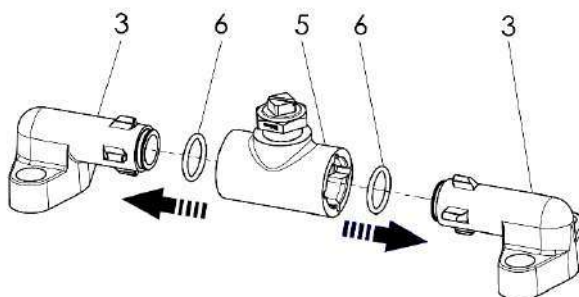
Step 34



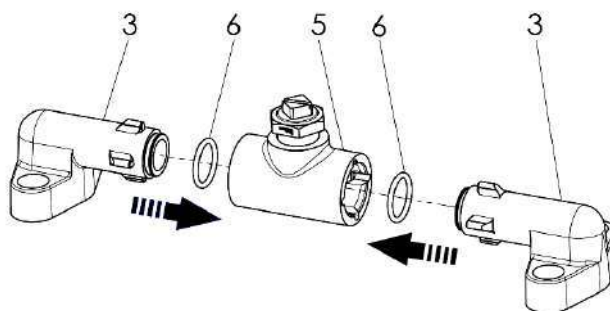
Caution: Please refer to the section [Recommendations for suction and exhaust valves.](#)



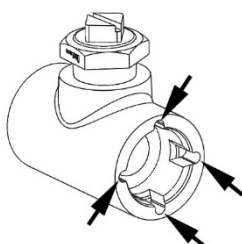
- ✓ Change the seals (9.1) and (9.4) if necessary.
- ✓ Reinstall them by greasing the entire seal contours evenly with grease.
- ✓ Reinstall the parts (9.2), (9.3) and (9.5).

**Disassembly of the collector seals – Upper part
- Time required**
2 minutes
Step 35


- ✓ Separate the elbows (3) from the coupling (5).
- ✓ Remove the 2 seals (6). Check seals. Change them if necessary.

**Reassembly of the collector seals – Upper part
- Time required**
2 minutes
Step 36

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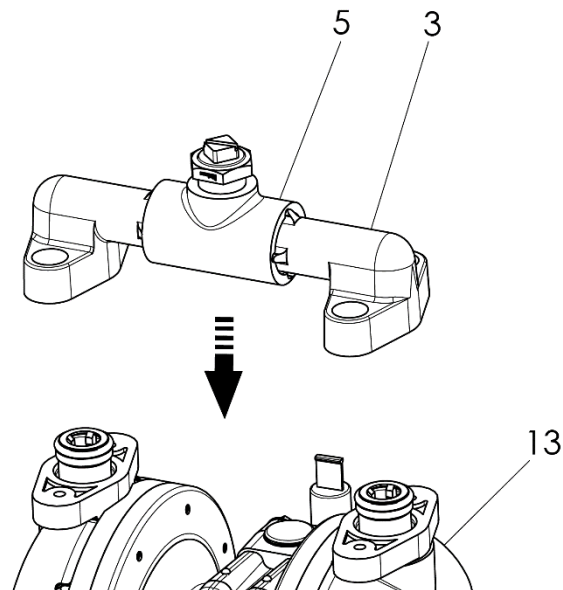
- ✓ Reinstall the 2 seals (6) by greasing the entire seal contours evenly with grease.
- ✓ Reinstall the elbows (3) on the coupling (5).



On reassembly, depending on the customer's requirements and its siting constraints, the coupling (5) can be turned thanks to the 4 notches provided for this purpose.

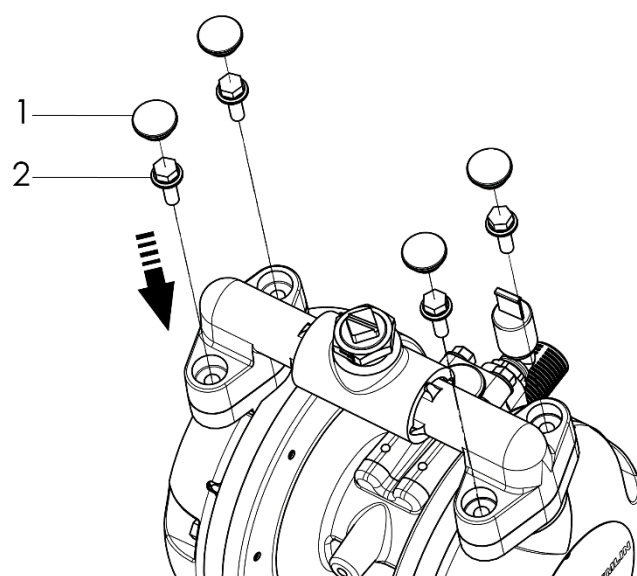
When assembling a fitting to it, apply a maximum screwing torque of 10 N.m. / 7.3 ft/lbs.

Step 37



- ✓ Reinstall the upper part of the pump that consists of the elbow (3) and coupling (5) assembly on the flanges (13).

Step 38



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- ✓ Apply glue to the threads of the screws (2) and reinstall them by means of a 10 mm torque wrench. Screwing torque: 7.5 N.m / 5.5 ft /lbs.
- ✓ Reinstall the plugs (1).

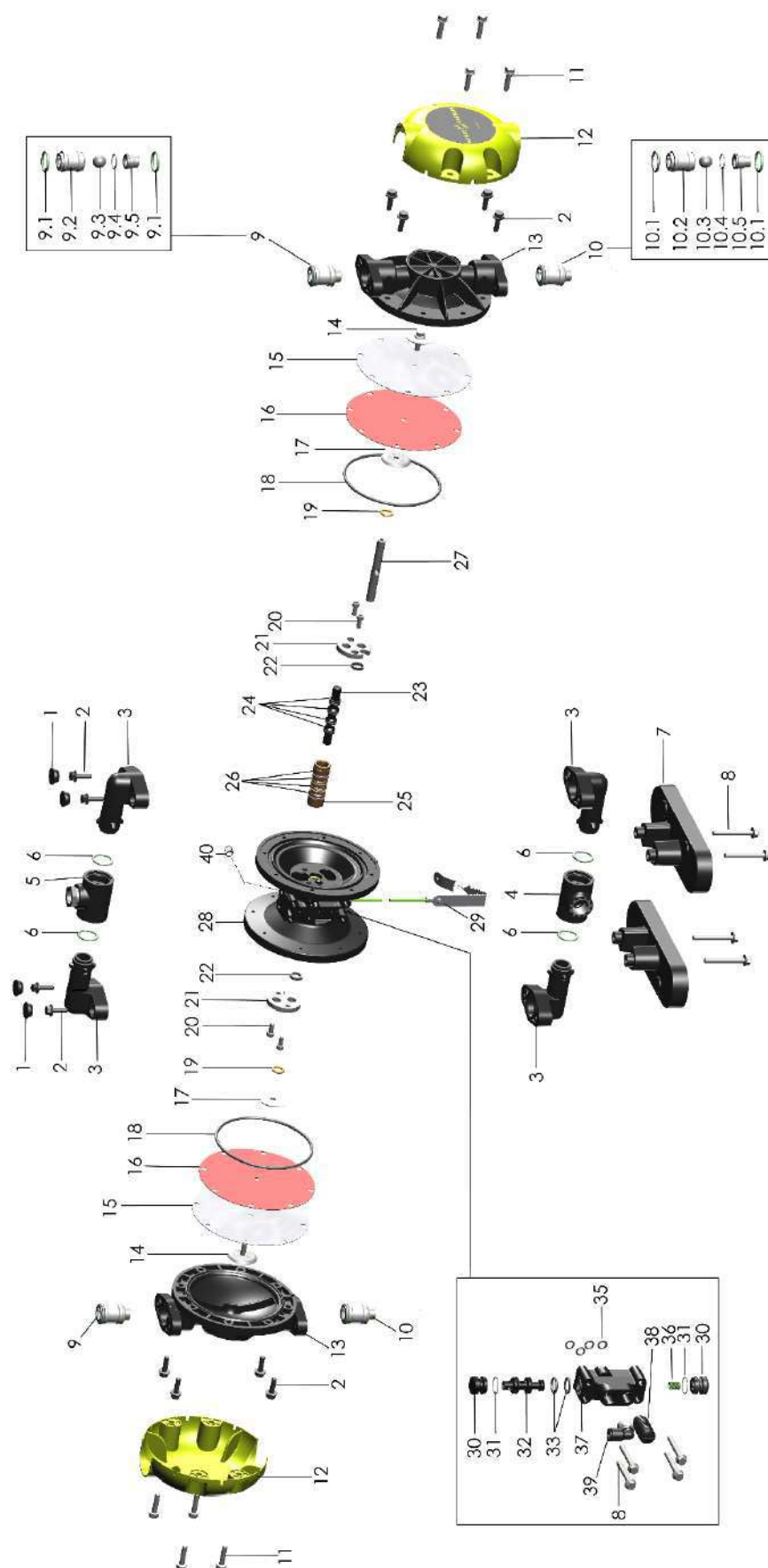
10 Spare parts

Use only genuine Sames accessories and spare parts designed to withstand the operating pressures of the pump.

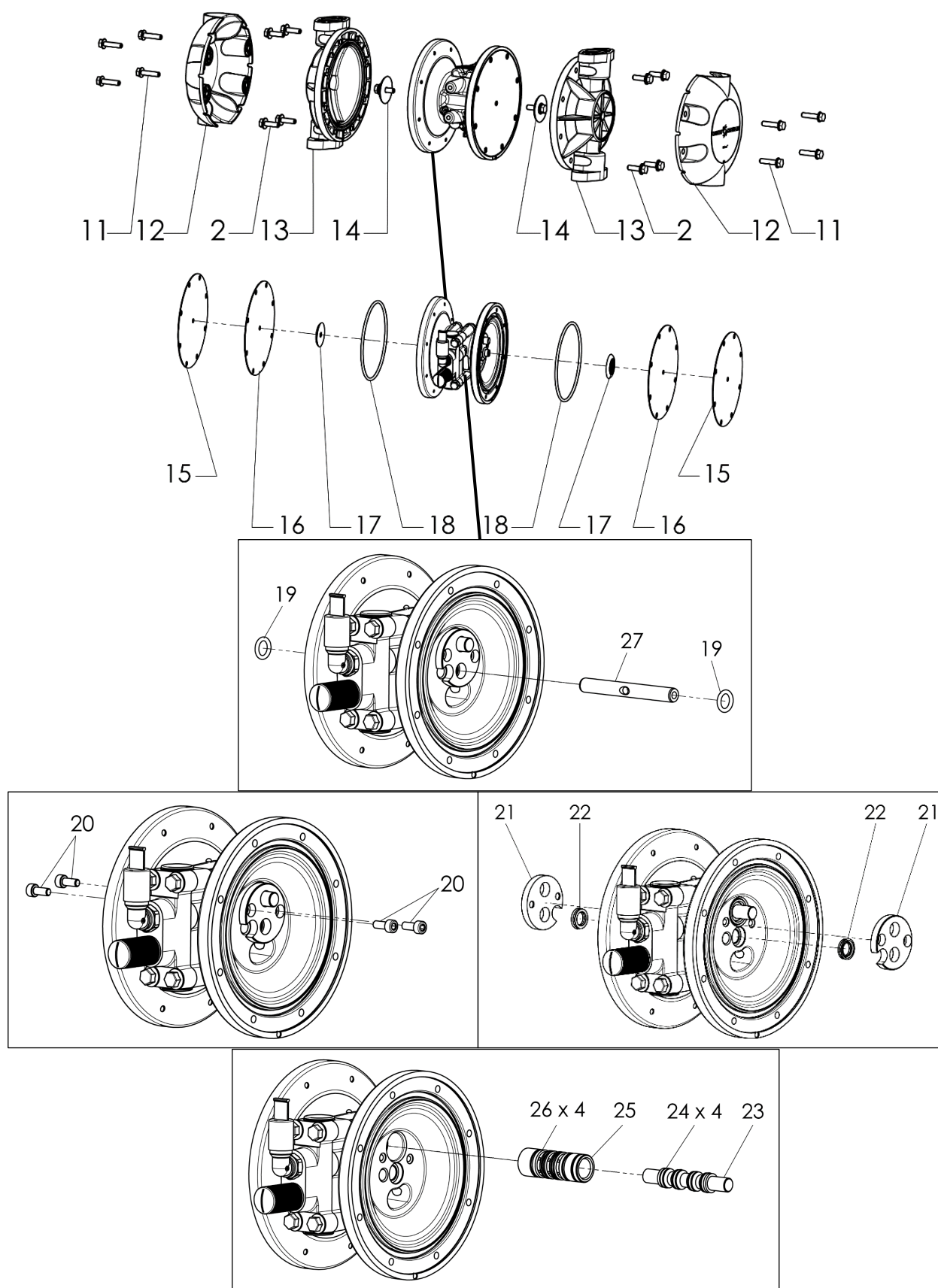
Please refer to the relevant sections for more information:

- ✓ [§ 10.1: Exploded overview.](#)
 - ✓ [§ 10.2: Diaphragm assembly and pilot chamber.](#)
 - ✓ [§ 10.3: Upper part and exhaust valves.](#)
 - ✓ [§ 10.4: Lower part and suction valves.](#)
 - ✓ [§ 10.5: Distributor.](#)
 - ✓ [From § 10.6: Spare parts references.](#)
 - [Accessories.](#)
-

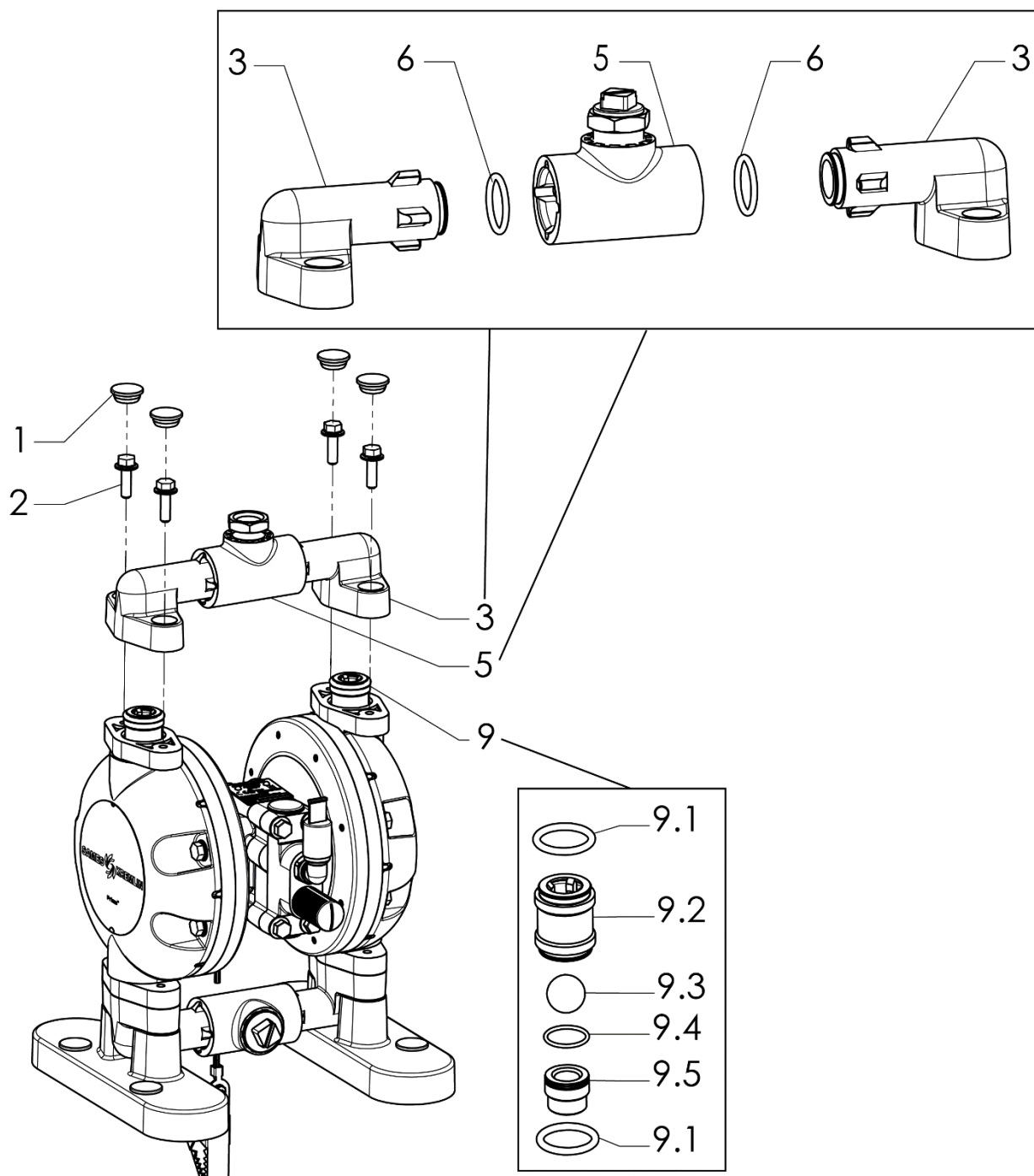
10.1 Exploded overview



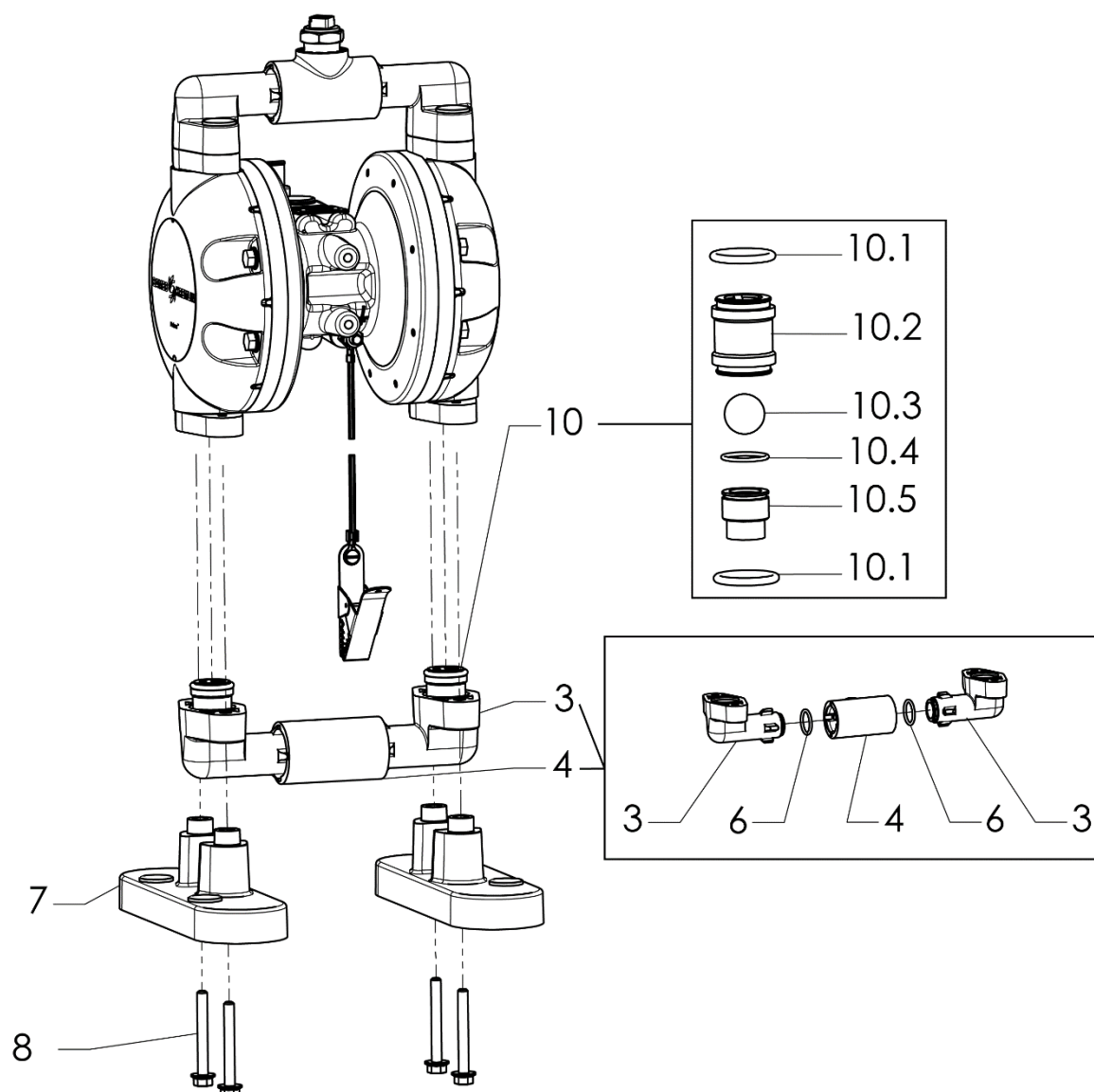
10.2 Diaphragms assembly and pilot chamber



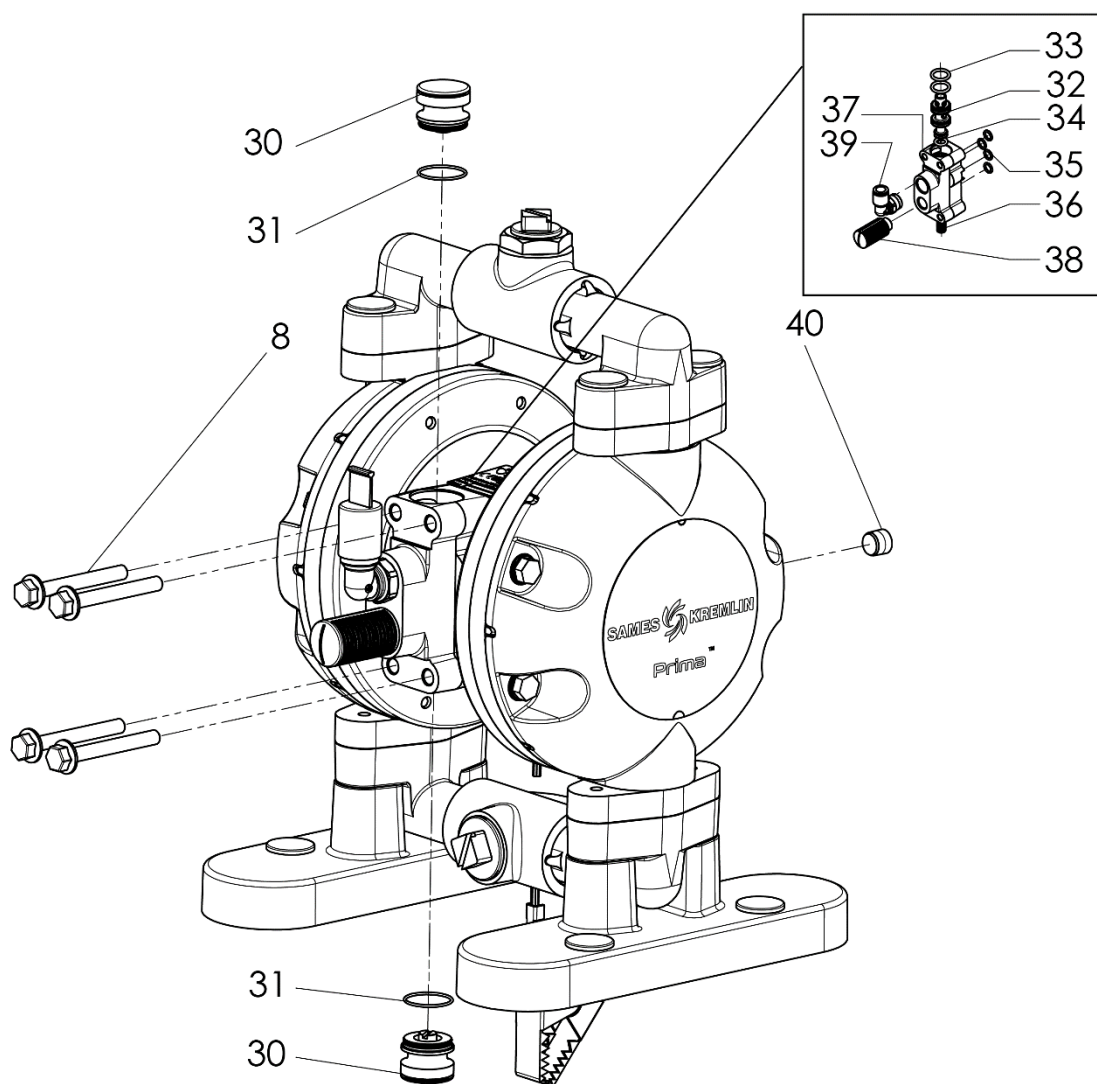
10.3 Upper part and exhaust valves



10.4 Lower part and suction valves



10.5 Distributor



10.6 Wear part numbers

Ind	# Part number	Description	Qty
-	144 936 300	PRIMA™ 01D100 EPDM / PTFE diaphragms pump	1
-	144 936 400	PRIMA™ 01D100E EPDM / PU diaphragms pump	1
-	144 936 550	PRIMA™ 01D100 PTFE / FKM diaphragms pump	1
-	144 936 600	PRIMA™ 01D100E PU / FKM diaphragms pump	1

Common parts

Ind	# Part number	Description	Qty	Level**
1	906 380 905	Plug 300F	8	0
2	931 231 277	Screw HM 6x20 CL. 8.8 black oxidized (pack of 12)	12	0
3	144 936 512	Elbow	4	3
4	144 936 032	Inlet, T connection F BSP 1/2"	1	3
5	144 936 037	Outlet, T connection F BSP 3/8"	1	3
7	144 936 013	Foot	2	3
8	933 231 548	Screw HM 6x50 CL. 8.8 zinc (pack of 1)	8	0
11	144 936 093	Screw HM 6x25 CL. 8.8 zinc (pack of 8)	8	0
12	144 936 036	Cover	2	3
13	144 936 014	Fluid flange	2	3
14	144 936 040	Screw washer fluid section	2	2
*16	NS included in pack	Air diaphragm	2	1
*17	144 936 008	Washer air section	2	3
*18	NC included in packs	NBR black seal 80 SH Ø int 110.72 - Ø tore 3.53	2	1
*19	909 130 411	NBR black seal 90 SH 10.50 x 2.70	2	1
20	88 121	Steel screw CHc M 5x12	4	0
21	144 936 002	Flat washer	2	3
*22	109 060 301	Seal type U (pack of 10)	2	1
23	044 930 003	Pilot-spool	1	3
*24	NC included in packs	NBR black seal 80 SH Ø int 8.9 - Ø tore 2.7	1	1
25	044 930 005	Sleeve pilot-spool for air distributor	1	3
*26	109 420 283	Blue seal 70 SH Ø int 15.6 - Ø tore 1.78 (pack of 10)	4	1
27	044 930 004	Coupling axis	1	3

Ind	# Part number	Description	Qty	Level**
29	901 180 024	Ground wire	1	3
*-	144 936 540	Complete air distributor	1	1
30	144 936 521	▪ Plug for air distributor (pack of 2)	2	3
*31	NS included in packs	▪ NBR black seal 70 SH Ø int 18.5 - Ø tore 1	2	1
32	144 936 241	▪ Air valve spool	1	3
*33	NS included in packs	▪ NBR seal 80 SH Ø int 15.1 - Ø tore 2.7	2	1
*34	NS included in packs	▪ NBR black seal 80 SH Ø int 8.9 - Ø tore 2.7	1	1
*35	NS included in packs	▪ NBR seal 70 SH Ø int 8 - Ø tore 1.9	4	1
*36	150 314 207	▪ Spring	1	3
**37	NS	▪ Distributor body	1	3
38	903 210 301	▪ Silencer 1/4	1	3
39	905 120 951	▪ Elbow fitting 90° - 8x10	1	3
40	906 333 106	Plug 5x10 (1/8)	1	3

* Recommended maintenance parts.

N S: Denotes parts are not serviceable.

**Level 0: Parts are not spare parts.

Level 1: Preventive maintenance.

Level 2: Corrective maintenance.

Level 3: Exceptional maintenance.

Specific parts for PRIMA™ 01D100 PTFE / FKM

Ind	# Part number	Description	Qty	Level**
6	NS included in packs	FKM seal 70 SH Ø int 20 - Ø tore 3	4	1
*9	144 936 060	Exhaust valve	2	1
*9.1	NS included in packs	▪ FKM seal 70 SH Ø int 20 - Ø tore 3	2	1
*9.2	144 936 003	▪ Ball cage PP alone	1	1
*9.3	907 414 242 included in pack	▪ Stainless steel ball Ø 16	1	1
*9.4	NS included in packs	▪ FKM seal 70 SH Ø int 16 - Ø tore 1.5	1	1
*9.5	144 936 033	▪ Stainless steel seat top	1	1
*10	144 936 061	Suction valve	2	1
*10.1	NS included in packs	▪ FKM seal 70 SH Ø int 20 - Ø tore 3	2	1
*10.2	144 936 003	▪ Ball cage PP alone	1	1
*10.3	907 414 242 included in pack	▪ Stainless steel ball Ø 16	1	1
*10.4	NS included in packs	▪ FKM seal 70 SH Ø int 16 - Ø tore 1.5	1	1
*10.5	144 936 034	▪ Stainless steel seat bottom	1	1
*15	NS included in pack	PTFE fluid diaphragm	2	1

Specific parts for PRIMA™ 01D100E PU / FKM

Ind	# Part number	Description	Qty	Level**
6	NS included in packs	FKM seal 70 SH Ø int 20 - Ø tore 3	4	1
*9	144 936 060	Exhaust valve	2	1
*9.1	NS included in packs	▪ FKM seal 70 SH Ø int 20 - Ø tore 3	2	1
*9.2	144 936 003	▪ Ball cage PP alone	1	1
*9.3	907 414 242 included in pack	▪ Stainless steel ball Ø 16	1	1
*9.4	NS included in packs	▪ FKM seal 70 SH Ø int 16 - Ø tore 1.5	1	1
*9.5	144 936 033	▪ Stainless steel seat top	1	1
*10	144 936 061	Suction valve	2	1
*10.1	NS included in packs	▪ FKM seal 70 SH Ø int 20 - Ø tore 3	2	1
*10.2	144 936 003	▪ Ball cage PP alone	1	1
*10.3	907 414 242 included in pack	▪ Stainless steel ball Ø 16	1	1
*10.4	NS included in packs	▪ FKM seal 70 SH Ø int 16 - Ø tore 1.5	1	1
*10.5	144 936 034	▪ Stainless steel seat bottom	1	1
*15	NS included in pack	PU fluid diaphragm	2	1

Specific parts for PRIMA™ 01D100 EPDM / PTFE

Ind	# Part number	Description	Qty	Level**
6	NS included in packs	FKM seal 70 SH Ø int 20 - Ø tore 3	4	1
*9	144 936 460	Exhaust valve	2	1
*9.1	NS included in packs	▪ Black EPDM seal 70 SH Ø int 20 - Ø tore 3	2	1
*9.2	144 936 003	▪ Ball cage PP alone	1	1
*9.3	907 414 242 included in pack	▪ Stainless steel ball Ø 16	1	1
*9.4	NS included in packs	▪ Yellow EPDM seal 70 SH Ø int 16 - Ø tore 1,25	1	1
*9.5	144 936 033	▪ Stainless steel seat top	1	1
*10	144 936 461	Suction valve	2	1
*10.1	NS included in packs	▪ Black EPDM seal 70 SH Ø int 20 - Ø tore 3	2	1
*10.2	144 936 003	▪ Ball cage PP alone	1	1
*10.3	907 414 242 included in pack	▪ Stainless steel ball Ø 16	1	1
*10.4	NS included in packs	▪ Yellow EPDM seal 70 SH Ø int 16 - Ø tore 1,25	1	1
*10.5	144 936 034	▪ Stainless steel seat bottom	1	1
*15	NS included in pack	PTFE fluid diaphragm	2	1

Specific parts for PRIMA™ 01D100 EPDM / PU

Ind	# Part number	Description	Qty	Level**
6	NS included in packs	FKM seal 70 SH Ø int 20 - Ø tore 3	4	1
*9	144 936 460	Exhaust valve	2	1
*9.1	NS included in packs	▪ Black EPDM seal 70 SH Ø int 20 - Ø tore 3	2	1
*9.2	144 936 003	▪ Ball cage PP alone	1	1
*9.3	907 414 242 included in pack	▪ Stainless steel ball Ø 16	1	1
*9.4	NS included in packs	▪ Yellow EPDM seal 70 SH Ø int 16 - Ø tore 1,25	1	1
*9.5	144 936 033	▪ Stainless steel seat top	1	1
*10	144 936 461	Suction valve	2	1
*10.1	NS included in packs	▪ Black EPDM seal 70 SH Ø int 20 - Ø tore 3	2	1
*10.2	144 936 003	▪ Ball cage PP alone	1	1
*10.3	907 414 242 included in pack	▪ Stainless steel ball Ø 16	1	1
*10.4	NS included in packs	▪ Yellow EPDM seal 70 SH Ø int 16 - Ø tore 1,25	1	1
*10.5	144 936 034	▪ Stainless steel seat bottom	1	1
*15	NS included in pack	PU fluid diaphragm	2	1

10.7 Part numbers for spare parts or repair kits

Repair kits

Ind	# Part numbers	Description	Qty
9.3 / 10.3	144 849 901	Pack of 4 stainless steel balls Ø 16	1
15 (x2), 16 (x2)	144 936 090	PTFE fluid and air diaphragm kit	1
15 (x2), 16 (x2)	144 936 095	PU fluid and air diaphragm kit	1

Packs of seals

Ind	# Part numbers	Description	Qty
31 (x2), 33 (x2), 34 (x1), 35 (x4)	144 936 022	Pack of seals for air distributor	1
18 (x2), 19 (x2), 22 (x5), 24 / 34 (x5), 26 (x4), 31 (x2), 33 (x2), 35 (x4)	144 936 045	Pack of seals for air motor	1
6 / 9.1 / 10.1	109 420 313	Pack of 12 FKM seals 70 SH Ø int 20 - Ø tore 3	1
9.4 / 10.4	109 420 312	Pack of 4 FKM seals 70 SH Ø int 16 - Ø tore 1.5	1
6 / 9.1 / 10.1 (x12), 9.4 / 10.4 (x4)	144 936 089	Pack of fluid FKM seals	1

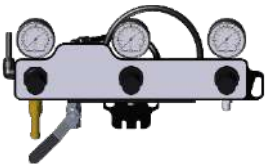
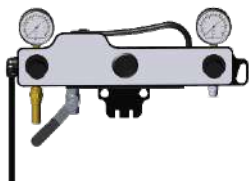
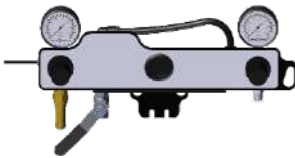
Ind	# Part numbers	Description	Qty
9.1 / 10.1	109 130 693	Pack of 12 black EPDM seals 70 SH Ø int 20 - Ø tore 3	1
9.4 / 10.4	109 130 695	Pack of 4 EPDM seals 70 SH Ø int 16 - Ø tore 1,25	1
6 / 9.1 / 10.1 (x12), 9.4 / 10.4 (x4)	144 936 088	Pack of fluid EPDM seals	1
18	109 420 272	Pack of 10 NBR black seals 80 SH Ø int 110.72 - Ø tore 3.53	1
33	144 519 915	Pack of 10 NBR seals 80 SH Ø int 15.1 - Ø tore 2.7	1
34	109 130 410	Pack of 10 NBR black seals 80 SH Ø int 8.9 - Ø tore 2.7	1
35	144 579 910	Pack of 10 NBR seals 70 SH Ø int 8 - Ø tore 1.9	1

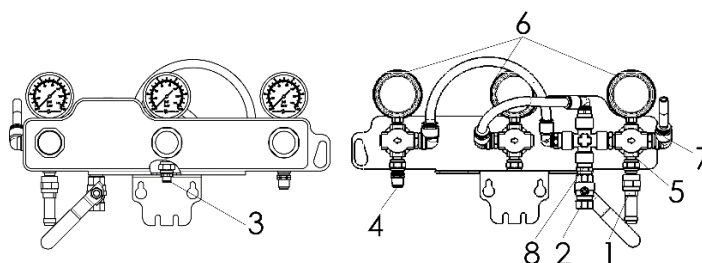
Option

# Part numbers	Description
104 790	Ground wire terminal
907 414 142	Stainless steel ball 316L Ø 16 (recommended for low Ph products)

Accessories

Plates and their spare parts

-	# Part number	Description
	151 751 206	Air plate 3 regulators (pump motor + atomizing air + material regulation control)
	151 751 212	Air plate 2 regulators (pump motor + atomizing air)
	151 751 213	Air plate 2 regulators (atomizing air + material regulation control)
	151 140 080	Air plate 1 regulator



Ind	# Part number	Description	Qty
1	903 080 401	Discharge valve, 6.5 bar / 94.2 psi G 1/4	1
2	903 090 209	Brass pressure relief valve, F 3/8 G	1
3	552 253	Fitting, 1/4G x T4	1
4	050 102 624	Fitting, M R 1/4 – M 1/4 NPS	1
5	903 130 801	Regulator, 0-8 bar / 0-116 psi G 1/4	3
6	90 048	Gauge, 0-10 bar / 0-148 psi, G 1/8	3
7	905 230 002	Elbow, 1/4 G CYL T 8x10	3
8	552 463	Nipple, MM 3/8"	1

NOTA: Spare parts are valid for all plates (only the quantities of the parts differ).

Other accessories

-	# Part number	Description
	144 907 070	Wall mounting bracket for diaphragm pump
	149 596 150	Suction rod Ø 25 for drum 60L - F 26x 125
	149 596 160	Suction rod Ø 25 for drum 200L - F 26x 125
	149 596 050	Suction rod Ø 16 for drum 60L - F 26x 125
	149 596 060	Suction rod Ø 16 for drum 200L - F 26x 125

-	# Part number	Description
	151 140 250	Gravity cup 6L with L adaptor
	050 102 437	Fitting M 1/2 – M 26 X 125 stainless steel
	155 581 641	LP low pressure filter - screen n°6 outlet 3/8 NPS (Refer to Doc. 582.216.110)
	155 581 741	Regpro regulator- filter - screen n°6 3/8 NPS (Refer to Doc. 582.215.110)
	155 581 742	Regpro regulator- filter - screen n°6 1/2 JIC (Refer to Doc. 582.215.110)
	129 140 030	Fluid filter for Airspray gun
	050 102 418	Fitting, MM 18 x 125 - 15 x 21 stainless steel

-	# Part number	Description
	151 730 130	Tripod (Refer to Doc. 582.220.110)
	151 730 140	Cart kit (tripod + wheels) (Refer to Doc. 582.220.110)
	144 936 561	Cart conversion kit (shaft + wheels) (Refer to Doc. 582.220.110)

10.8 Consumable references

# Part number	Description
560 420 005	Box of grease (450 gr / 1lb)
560 440 005	Box of grease Kluber petamo HY 133N (1 Kg / 2.2 lbs)
554 180 010	Loctite 222 (50 ml / 1.7 oz)
554 180 015	Loctite 5772 (50 ml / 1.7 oz)

11 Appendices

11.1 Appendix A Declarations



DECLARATION OF INCORPORATION
OF PARTLY COMPLETED MACHINERY
EU DECLARATION OF CONFORMITY

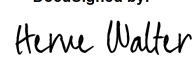
(1) The manufacturer herewith declares that the equipment is in conformity with the relevant Union harmonization legislation.

(2) Equipment type	PNEUMATIC DIAPHRAGM PUMP PRIMA™ 01D100		
(3) Applicable Directives	2006/42/CE	(4) The relevant technical documentation was compiled as specified in annex VII, part B.	
		The essential health and safety requirements mentioned in the Directive 2006/42/CE on Machinery have been applied. Articles: 1.1 , 1.1.2 ,1.1.3, 1.1.5 , 1.2 , 1.2.2, 1.2.3, 1.2.4, 1.2.4.1 , 1.2.4.3 , 1.2.6, 1.3 ,1.3.1, 1.3.2, 1.3.3, 1.3.4, 1.3.6, 1.3.7, 1.5, 1.5.2, 1.5.3, 1.5.4, 1.5.5, 1.5.6, 1.5.7, 1.5.8, 1.6, 1.6.1 , 1.6.2, 1.6.3, 1.6.4, 1.7, 1.7.1, 1.7.2	
	(5) That partly completed machinery is also in conformity with the provisions of		
	2014/34/UE	(6) Marking	Pump  II 2G Ex h IIB T6 Gb X Ex h => Protection par sécurité de construction (c) / Protection by constructional safety (c) Conditions spéciales d'utilisation, le signe X indique de se référer aux prescriptions figurant dans le manuel d'instructions qui accompagnent le produit. - Specific conditions of use, X indicates to refer to the prescriptions specified in the instructions manual that accompanies the product.
		(7) Harmonised standards	EN ISO 80079-36 : 2016 EN ISO 80079-37 : 2016 EN 1127-1 : 2019
		(8) Conformity assessment procedure	Module A Technical documentation (Annex VIII)
(9) Notified body		INERIS 0080 – 60550 Verneuil-en-Halatte – France – INERIS : 037441/22	
(10) This partly completed machinery must not be put into service until the final machinery in which it is to be incorporated has been declared in conformity with Directive 2006/42/CE on Machinery. Sames is allowed to compile the technical documentation. Sames undertakes to transmit, in response to a reasoned request by the national authorities, relevant information on the partly completed machinery in the most appropriate form. This declaration of incorporation of partly completed machinery and this declaration of conformity are issued under the sole responsibility of the manufacturer.			

Director of the STAINS site - Executive Management (EM)

Hervé WALTER

Established in Stains, on 18/04/2023

DocuSigned by:

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DEC EU 578154130



DECLARATION OF INCORPORATION
OF PARTLY COMPLETED MACHINERY
UK DECLARATION OF CONFORMITY

(1) **The manufacturer herewith declares that the equipment is in conformity with the UK statutory requirements.**

(2) Equipment type	PNEUMATIC DIAPHRAGM PUMP PRIMA™ 01D100		
(3) Applicable Directives	2008 No. 1597	(4) The relevant technical documentation was compiled as specified in annex VII, part B.	
		The essential health and safety requirements mentioned in Supply of Machinery (Safety) Regulations 2008 have been applied. Articles: 1.1 , 1.1.2 ,1.1.3, 1.1.5 , 1.2 , 1.2.2, 1.2.3, 1.2.4, 1.2.4.1 , 1.2.4.3 , 1.2.6, 1.3 ,1.3.1, 1.3.2, 1.3.3, 1.3.4, 1.3.6, 1.3.7, 1.5, 1.5.2, 1.5.3, 1.5.4, 1.5.5, 1.5.6, 1.5.7, 1.5.8, 1.6, 1.6.1 , 1.6.2, 1.6.3, 1.6.4, 1.7, 1.7.1, 1.7.2	
	(5) That partly completed machinery is also in conformity with the provisions of		
	2016 No. 1107	(6) Marking	Pump Ex II 2G Ex h IIB T6 Gb X Ex h => Protection par sécurité de construction (c) / Protection by constructional safety (c) Conditions spéciales d'utilisation, le signe X indique de se référer aux prescriptions figurant dans le manuel d'instructions qui accompagnent le produit. - Specific conditions of use, X indicates to refer to the prescriptions specified in the instructions manual that accompanies the product.
			(7) Designated standards EN ISO 80079-36 : 2016 EN ISO 80079-37 : 2016 EN 1127-1 : 2019
		(8) Conformity assessment procedure	Module A Technical documentation (Annex VIII)
(9) Approved body		CLM 2503 - Ellesmere Port - United Kingdom / CML n° 22UKEXT288 Issue 0	
(10) This partly completed machinery must not be put into service until the final machinery in which it is to be incorporated has been declared in conformity with Supply of Machinery (Safety) Regulations 2008. Sames is allowed to compile the technical documentation. Sames undertakes to transmit, in response to a reasoned request by the national authorities, relevant information on the partly completed machinery in the most appropriate form. This declaration of incorporation of partly completed machinery and this declaration of conformity are issued under the sole responsibility of the manufacturer.			

Director of the STAINS site - Executive Management (EM)

Hervé WALTER

Established in Stains, on 18/04/2023

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DEC UK 578154130

11.2 Appendix B Preventive Maintenance Plan

Numéro d'ordre Serial		PLAN DE MAINTENANCE PREVENTIVE / PREVENTIVE MAINTENANCE PLAN														SAMES KREMLIN 13, chemin de Malacher - Inovallée 38243 MEYLAN - France	
		Sous ensemble Sub assembly	Désignation de l'élément Designation of the assembly	Pour 1 ensemble - For 1 assembly					Acteurs Métiers Operators - skill (3)		Niveau Level (4)		Notice d'utilisation Instruction manual	Outil Tool			
				Action à effectuer Action to carry out	Temps prévu Estimated Time (1)		Périodicité Periodicity (H / hour) (2)										
Ensemble - Assembly														Notef - Note			
(1) Temps moyen d'intervention d'un intervenant, en fonction des équipements SAMES KREMLIN utilisés / The given periodicities are averages based on Sames Kremlin experience. It is the responsibility of the operators to adapt them to the conditions of their installation, in particular with respect to the nature of the products being used, the work speeds, etc. Sames Kremlin reserves the right to change the information in this document without notice.																	
(2) Les périodicités mentionnées sont des moyennes basées sur l'expérience de Sames Kremlin. A charge des utilisateurs de les adapter aux conditions de leur installation notamment en fonction de la nature des produits utilisés, des vitesses de travail, etc. Sames Kremlin se réserve le droit de modifier les informations mentionnées dans ce document, sans préavis / The given periodicities are averages based on Sames Kremlin experience. It is the responsibility of the operators to adapt them to the conditions of their installation, in particular with respect to the nature of the products being used, the work speeds, etc. Sames Kremlin reserves the right to change the information in this document without notice.																	
(3) M : Mécanicien - F : Spécialiste fluide - E : Electricien - A : Automaticien / M : Mechanic - F : Fluid specialist - E : Electrician - A : automation specialist																	
(4) B = Niveau de Base, A = Niveau Avancé / B = Basic level, A = Advanced level																	
Avant toute intervention, se référer au chapitre sécurité du manuel de l'équipement Before any intervention, see chapter safety equipment manual																	
Avant toute intervention sur la pompe, couper l'alimentation en air comprimé et décompresser les circuits Before working on the pump, shut off the compressed air circuits and decompress																	
1	Pompe pneumatique à double membranes 01D100 Double diaphragm pump 01D100	Equipement Equipment	Corps de pompe Body	Vérification mise à la terre Checking ground connection	8.33	5	–			X		1					Avant chaque début de production Before each production start
2		Canne aspiration Aspiration pipe	Crépine aspiration Inlet filter aspiration	Vérification propreté et absence corps étranger Checking for cleanliness and foreign substances.	8.33	5	–		X			1					Avant chaque début de production Before each production start
3		Equipement Equipment	Chambre de pilotage Pilot chamber	Vérification fonctionnement et inversion Checking correct operation and reversal	3.33	2	8	X				1					
4		Equipement Equipment	Régulateur d'air de pompe Pump air regulator	Vérification état et bon fonctionnement Checking the state and proper functioning	3.33	2	40	X				1					
5		Equipement Equipment	Régulateur d'air produit Product air regulator	Vérification état et bon fonctionnement Checking the state and proper functioning	3.33	2	40	X				1					
6		Equipement Equipment	Régulateur de peinture Paint regulator	Vérification état et bon fonctionnement Checking the state and proper functioning	3.33	2	40	X				1					
7		Equipement Equipment	Manomètre pression d'air de pompe Pump air pressure gauge	Vérification état et bon fonctionnement Checking the state and proper functioning	3.33	2	40	X				1					
8		Equipement Equipment	Manomètre pression d'air produit Product air pressure gauge	Vérification état et bon fonctionnement Checking the state and proper functioning	3.33	2	40	X				1					
9		Equipement Equipment	Manomètre pression peinture Paint regulator	Vérification état et bon fonctionnement Checking the state and proper functioning	3.33	2	40	X				1					
10		Canne aspiration Aspiration pipe	Crépine aspiration Inlet filter aspiration	Nettoyage et rinçage Cleaning and rinsing	8.33	5	40	X				1					
11		Régulateurs Regulators	Tuyaux et raccords Hoses and fittings	Contrôle usure / fuite Wear / Leakage check	3.33	2	40		X			1					
12		Equipement Equipment	Equipement Equipment	Rinçage circuit Circuit flushing	8.33	5	40		X			1					
13		Equipement Equipment	Corps de pompe Body	Contrôle fuite Leakage control	3.33	2	40		X			1					A chaque arrêt de production Every break time
14		Canne aspiration Aspiration pipe	Crépine aspiration Inlet filter aspiration	Remplacement Replacement	8.33	5	2000 (1 fois/an)	X					2				
15		Corps de pompe Body	Membranes d'air et produit Air and product diaphhragms	Remplacement Replacement	33.33	20	2000 (1 fois/an)	X					2				
16		Collecteur Manifold	Joints FKM Ø20 - Ø3 Ø20 - Ø3 FKM Seals	Remplacement Replacement	8.33	5	2000 (1 fois/an)	X					2				A remplacer si endommagé
17		Clapet de refoulement Discharge valve	Joints FKM Ø20 - Ø3 Ø20 - Ø3 FKM Seals	Remplacement Replacement	8.33	5	2000 (1 fois/an)	X					2				A remplacer si endommagé
18			Joints FKM Ø16 - Ø1.5 Ø16 - Ø1.5 FKM Seals	Remplacement Replacement	8.33	5	2000 (1 fois/an)	X					2				A remplacer si endommagé
19			Siège et bille Seat and ball	Remplacement Replacement	8.33	5	2000 (1 fois/an)	X					2				
20			Joints FKM Ø20 - Ø3 Ø20 - Ø3 FKM Seals	Remplacement Replacement	8.33	5	2000 (1 fois/an)	X					2				A remplacer si endommagé

Numéro d'ordre Serial		PLAN DE MAINTENANCE PREVENTIVE / PREVENTIVE MAINTENANCE PLAN														SAMES KREMLIN 13, chemin de Malacher - Inovallée 38243 MEYLAN - France	
		Sous ensemble Sub assembly	Désignation de l'élément Designation of the assembly	Pour 1 ensemble - For 1 assembly				Acteurs Métiers Operators - skill (3)				Niveau Level (4)		Notice d'utilisation Instruction manual	Outil Tool		
	Action à effectuer Action to carry out			Temps prévu Estimated Time (1)		Périodicité Periodicity (H / hour) (2)	Ensemble - Assembly									100eme H	mn
										M	F	E	A	I	2		
21		Clapet d'aspiration Suction valve	Joints FKM Ø16 - Ø1.5 Ø16 - Ø1.5 FKM Seals	Remplacement Replacement	8.33	5	2000 (1 fois/an)	X					2			A remplacer si endommagé	
22	(notice 582174110)		Siège et bille Seat and ball	Remplacement Replacement	8.33	5	2000 (1 fois/an)	X					2				
23	REG Pro	Filtre Filter	Tamis Screen	Contrôle usure / fuite Wear / Leakage check	3.33	2	40		X				1				
24		Equipement Equipment	Tuyaux et raccords Hoses and fittings	Contrôle usure / fuite Wear / Leakage check	3.33	2	40		X				1				
25		Filtre Filter	Tamis Screen	Remplacement Replacement	8.33	5	1000		X				1				
26		Corps de regulateur Body	Membrane air produit Air product diaphhragm	Remplacement Replacement	16.67	10	2000 (1 fois/an)	X						2			
27		Corps de regulateur Body	Siège, ressort et bille Seat spring and ball	Remplacement Replacement	8.33	5	2000 (1 fois/an)	X						2		Changer l'ensemble	
28		Filtre Filter	Joints Seals	Remplacement Replacement	3.33	2	2000 (1 fois/an)	X						2			
29	Filtre Filter	Filtre Filter	Tamis Screen	Contrôle usure / fuite Wear / Leakage check	3.33	2	40		X				1				
30		Equipement Equipment	Tuyaux et raccords Hoses and fittings	Contrôle usure / fuite Wear / Leakage check	3.33	2	40		X				1				
31		Filtre Filter	Tamis Screen	Remplacement Replacement	8.33	5	1000		X				1				
32		Filtre Filter	Joints Seals	Remplacement Replacement	3.33	2	2000 (1 fois/an)	X						2			
33	Platine Frame	Equipement Equipment	Tuyaux et raccords Hoses and fittings	Contrôle usure / fuite Wear / Leakage check	3.33	2	40		X				1				
34		Equipement Equipment	Régulateur d'air de pompe Pump air regulator	Vérification état et bon fonctionnement Checking the state and proper functioning	3.33	2	40	X					1				
35		Equipement Equipment	Régulateur d'air produit Product air regulator	Vérification état et bon fonctionnement Checking the state and proper functioning	3.33	2	40	X					1				
36		Equipement Equipment	Régulateur de peinture Paint regulator	Vérification état et bon fonctionnement Checking the state and proper functioning	3.33	2	40	X					1				
37		Equipement Equipment	Manomètre pression d'air de pompe Pump air pressure gauge	Vérification état et bon fonctionnement Checking the state and proper functioning	3.33	2	40	X					1				
38		Equipement Equipment	Manomètre pression d'air produit Product air pressure gauge	Vérification état et bon fonctionnement Checking the state and proper functioning	3.33	2	40	X					1				
39		Equipement Equipment	Manomètre pression peinture Paint regulator	Vérification état et bon fonctionnement Checking the state and proper functioning	3.33	2	40	X					1				
40	Pièces de rechange Spare parts	Stock Stock	Pièces de rechange Spare parts	Vérification disponibilité des pièces de première urgence Checking availability of spare parts	8.33	5	2 fois/an	X	X				1	2			

SAMES KREMLIN		PIÈCES DE RECHANGE / SPARE PARTS					SAMES KREMLIN 13, chemin de Malacher - Inovallée 38243 MEYLAN - France	
Numéro d'ordre Serial	Ensemble Assembly	Sous-ensemble Sub assembly	Désignation de l'élément Designation of the assembly	Référence Reference	Qté Qty	Pièces de rechange Spare parts		Remarques Comments
						Usure Wear	1^{ère} Urgence 1st Emergency	
1	Pompe pneumatique à double membranes 01D100 Double diaphragm pump 01D100	Partie supérieure Upper part	Joint torique	909 420 313	2	X		
2			Clapet de refoulement	144 936 060	2	X	X	
3		Clapet de refoulement Discharge valve	Bille Inox D16	907 414 242	2	X		
4			Siège inox supérieur	144 936 033	1	X		
5			Joint torique	909 420 313	4	X		
6			Joint torique FKM Dint16 Tore 1,5	909 420 312	2	X		
7			Joint torique FKM Dint320 Tore 3	909 420 313	2	X	X	
8			Clapet d'aspiration	144 936 061	2	X		
9			Siège inox inférieur	144 936 034	1	X		
10			Joint torique FKM Dint320 Tore 3	909 420 313	2	X		
11			Joint torique FKM Dint16 Tore 1,5	909 420 312	2	X		
12		Corps pompe Body	Membrane produit PTFE	NC	2	X		Inclus dans pochette maintenance
13			Membrane produit PU	NC	2	X		Inclus dans pochette maintenance
14			Membrane Air	NC	2	X		Inclus dans pochette maintenance
15			Joint NBR noir 80 SH Ø int 110,72 - Ø tore 3,53	909 420 272	2	X		
16		Moteur Motor Pompe Pump	Pochette de joints moteur air	144 936 045	1		X	
17			Pochette de joints pompe complète	144 936 050	1		X	
18		Equipement Equipment	Collecteur supérieur complet	144 936 520	1		X	
19			Collecteur inférieur complet	144 936 525	1		X	
20			Ensemble membrane produit PTFE et air	144 936 090	1		X	
21			Ensemble membrane produit PU et air	144 936 095	1		X	
22			Pochette de 8 vis HM 6x50 CL. 8,8 zinguée	930 151 598	1			
23			Boîte de graisse 450g	560 420 005	1	X		
24			Boîte de graisse kluber petamo HY 133N 450kg	560 460 005	1	X		

SAMES  KREMLIN		PIÈCES DE RECHANGE / SPARE PARTS					SAMES KREMLIN 13, chemin de Malacher - Inovallée 38243 MEYLAN - France	
Numéro d'ordre <i>Serial</i>	Ensemble <i>Assembly</i>	Sous-ensemble <i>Sub assembly</i>	Désignation de l'élément <i>Designation of the assembly</i>	Référence <i>Reference</i>	Qté <i>Qty</i>	Pièces de rechange <i>Spare parts</i>		Remarques <i>Comments</i>
						Usure <i>Wear</i>	1^{ère} Urgence <i>1st Emergency</i>	
25			Loctite 222 (50 ml) Loctite 222 (50 ml)	554 180 010	1	X		
26			Loctite 5772 (50 ml) Loctite 5772 (50 ml)	554 180 015	1	X		
27		Distributeur d'air équipé <i>Air distributor equipped</i>	Joint NBR noir 70 SH Ø int 18,5 - Ø tore 1 O-ring	909 420 300	2	X		
28			Joint NBR noir 80 SH Ø int 8,9 - Ø tore 2,7 O-ring	909 130 410	1	X		
29			Joint NBR 80 SH Ø int 15,1 - Ø tore 2,7 O-ring	909 130 414	2	X		
30			Joint NBR 70 SH Ø int 8 - Ø tore 1,9 O-ring	909 130 308	4	X		
31			Pochette de joints distributeur air Air distributor seal kit	144 936 055	1		X	
32		Chambre de pilotage <i>Pilot chamber</i>	Joint Bleu 70 SH Ø int 15,6 - Ø tore 1,78 O-ring	109 420 283	4	X		
33			Joint U O-ring	109 060 301	2	X		
34			Joint Noir 90 SH 10,5 x 2,70 O-ring	909 130 411	2	X		
	(notice 582174110)							