Please read this manual before operating the equipment

The equipment contained in this box should only be used by trained personnel wearing appropriate personal protective equipment for the fluid contained.

1000ML – 2000ML - 5000ML – 1000CL- 2500CL ST AGITATED Series Reservoirs Operating Manual



This manual contains Important Warnings and Instructions

Read and retain for future reference



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The ST-AG Series Reservoirs fall in the Pressure Equipment Directive 2014/68/EU article 4, Clause 3 – Sound Engineering Practice and has been certified safe to use by SR-TEK.

Safety Warnings

/! Halogenated Hydrocarbon Fluid Hazard

NEVER USE halogenated hydrocarbon solvents or fluids containing such solvents in this equipment. Examples of halogenated hydrocarbon solvents are: trichloroethane, methylene chloride, fluids with the prefix "fluoro-", "chloro-", "bromo-" or "iodo-", etc.

These solvents can cause an explosion when used in a pressurised fluid pumping system. The resulting explosion may cause death, serious bodily injury or substantial property damage.

List of fluid recommended

The following is a non-exhaustive list of examples of fluids recommended with our reservoirs.

Accelerators Activators Anaerobic Conformal coating Cyanoacrylate adhesives Electrolytes **Epoxies** Liquid fluxes Low viscosity greases Low viscosity silicones Inks Oils Optical dyes Lacquers and Optical lacquers Paints Primers Reagents Saline solutions UV adhesives and UV inks Water and Water based fluids White glue

We recommend placing the fluid bottle inside the tank or the use of a plastic liner.

For all other fluids, please refer to the manufacturer technical data sheet or contact us for compatibility check.

If you have any questions, please contact us for assistance.

E-mail technical@sr-tek.com

Pressurized Equipment Hazard

High pressure fluid can cause serious injury. This equipment is for professional use only. Observe all warnings.

Read and understand all applicable instruction manuals before placing equipment into service.

Equipment Misuse Hazard

GENERAL SAFETY – Any use of the reservoir and related accessories not consistent with that described in this manual, such as modifying or removing parts, over pressurising, using incompatible fluids and chemicals, or using worn, damaged or incompatible parts can cause them to rupture resulting in serious bodily injury, including fluid splashed in the eyes or on the skin, or fire, explosion or other property damage.

NEVER alter or modify any part of this equipment, as doing so may cause it to malfunction.

CHECK all reservoir components regularly and replace any worn or damaged parts with only SR-TEK supplied or approved parts. BE SURE that all connected equipment and accessories are rated to withstand the maximum operating pressure of the reservoir.

Personal Protective Equipment

Wear all protective eyewear, gloves, clothing and respirator as recommended by the manufacturer of the fluid used.

System Pressure

NEVER exceed the maximum reservoir pressure of 6.9 bar gauge (100 psi). The maximum supply pressure to the reservoir regulator must not exceed 10 bar gauge (150psi).

(i) **BE SURE** that all connected equipment and accessories are rated to withstand the maximum operating pressure of the reservoir.

If an Air filter regulator is not used, be certain your plant air is properly filtered and dry. Oil or particles in the air supply line can cause erratic performance and can contaminate the fluid contained, if not properly filtered.

(i) Fluid Compatibility

BE SURE that all fluids, including their vapours, contained in the reservoir are compatible with all materials on the wetted materials list on page 22 of this manual. Read the fluid manufacturer's literature, including the MSDS (Material Safety Data Sheet) and observe all warnings before pouring the fluid into the reservoir.

If in doubt, contact SR-TEK for chemical compatibility between your fluid and the wetted parts of the tank. It is the operator's responsibility to ensure safe installation and use of the product.

Serious injuries to people and equipment around may result from improper installation, use of the device, wrong operation, non-observance of the safety instructions, inappropriate removal of reservoir components, including lid, inappropriate repair or modifications to the product.

Fill Level

DO NOT over fill the reservoir. The recommended maximum fill level is indicated by the mark inside the reservoir.

Tipping and Dropping Hazard

BE SURE that the reservoir is placed on a hard levelled surface and that all tubing lengths are of sufficient length to allow free motion of all movable components attached to the reservoir.

DO NOT pull on tubing to move the reservoir.

Tipping the reservoir or otherwise supporting it on its side can cause fluid to enter both the pressure regulator and pressure relief valve and interfere with their normal function. A damaged pressure regulator and/or damaged pressure relief valve may lead to an over-pressure condition within the reservoir. If the reservoir tips or the pressure regulator and/or pressure relief valve otherwise become blocked, they must be replaced with SR-TEK supplied or approved parts.

Dropping the reservoir from any height can damage the pressure regulator, pressure relief valve, and fittings and/or compromise the integrity of the reservoir body and cover. A damaged pressure regulator and/or damaged pressure relief valve may lead to an over-pressure condition within the reservoir. A damaged reservoir body and/or cover can be an explosion hazard. If the reservoir falls from any height, it must be thoroughly inspected for cracks or damages to the pressure regulator and pressure relief valve. If damage to a component is suspected, it must be replaced with SR-TEK supplied or approved parts.

Tubing Safety

Pressurised tubing can be very dangerous. Tubing whose integrity is compromised due to any kind of wear, damage or misuse can develop a leak, spraying the contents of the tank at high pressure. This spray can enter the eyes or cover the skin or cause other serious bodily injury, fire or property damage.

Before pressurising the reservoir:

1. BE SURE all fluid connections to the reservoir are properly secured.

2. Examine all tubing for cuts, wear, bulges and leaks. If any of these conditions exist, replace the tubing immediately with SR-TEK supplied or approved tubing. Do not try to repair a damaged tube.

3. BE SURE that the fluid to be pressurised is compatible with the tubing. Contact the fluid manufacturer and confirm that the fluid is compatible with the tubing material specified on page 22 (Wetted Materials List) of this manual.

4. BE SURE that the tubing will not be exposed to operating temperatures in excess of 38 °C or below 4 °C in the application.

Operating Data

* The usable volume refers to the stationary use of the pressure tank. This value does not include any reduction in volume due to internal fittings and/or the use of internal containers (e.g. jars or insert liners). Depending on the operating conditions, the usable volume must be reduced by the operator if necessary in order to avoid damage to the fittings and the internal parts (air inlet, safety devices, agitators, etc.) caused by penetration by the operating medium.

Technical Data

Air motor Series MRD25 for 1L, 2L and 5L

Power	0.25kW
Speed under load	235rpm
Torque	10Nm
Start torque	15Nm
Maximum torque	20Nm
Free Speed	470rpm
Air consumption	5.3L/sec
Tubing ID	6mm
Shaft OD	10mm
Maximum input pressure	7bar
Rotation	Clockwise
Rating	ATEX
Construction	Stainless Steel
Lubrication	Required
Mixing blade	Stainless Steel

Air motor Series MRD38 for 10L

Power	0.38kW
Speed under load	160rpm
Torque	23Nm
Start torque	35Nm
Maximum torque	43Nm
Free Speed	320rpm
Air consumption	8.3L/sec
Tubing ID	8mm
Shaft OD	12mm
Maximum input pressure	7bar
Rotation	Clockwise
Rating	ATEX
Construction	Stainless Steel
Lubrication	Required
Mixing blade	Stainless Steel

Above data are based on 6.3bar working pressure.

Rules and Regulations for the use of agitated pressure tanks

a. Reservoir

The following information applies only to pressure tanks within the scope of the Pressure Equipment Directive 97/23/EC. Material pressure tanks that fall below the limit values of Category 1 ("C0", product of pressure PS and volume V lower than 25 bar L) are not covered by the directive.

The 1L, 2L, 5L and 10L pressure tanks fall into product group II (article 9 – 2.2 of PED 97-23-EC).

Operators must observe and comply with all safety regulations and other rules and regulations relevant for the specific application as well as for the place of use, in particular those regulations imposed by trade and industry law, transport law and water protection law. Before the pressure tank is used for the first time, it is recommended to contact an authorised inspection agency to supervise pressure equipment of the corresponding category in order to determine the rules and regulations covering the specific application and coordinate further procedures.

The pressure tank has been designed, approved and marked by the manufacturer in accordance with the EU Pressure Equipment Directive 97/23/EC. The category in which the equipment is classified, the scope of the assessment (vessel or assembly) and the applied conformity module can be found in the Certificate of Conformance.

All pressure equipment within the scope of the Pressure Equipment Directive is subject to surveillance in accordance with legislation governing safety of equipment and industrial safety.

Any person using equipment within the scope of the Regulations on Industrial Safety is required to perform an assessment of the dangers involved in using the equipment and to determine the measures necessary to ensure safe installation and operation of the equipment. In particular, this includes those dangers relating to the operation of the equipment itself as well as any dangers at the workplace resulting from interaction with other equipment or with materials or with the working environment.

Any person using pressure equipment is required to keep the equipment in an orderly condition, to operate the equipment in accordance with the rules and regulations, to monitor the condition of the equipment, to perform any necessary maintenance work without delay and to ensure that all the relevant safety measures relating to the specific application have been taken. If the equipment is found to have defects that might endanger its safe operation, it must be taken out of operation immediately.

Pressure equipment is subject to prescribed tests before being put into operation, including after any refitting or maintenance work have been carried out.

Inspection before first use

The pressure tank may be used for the first time only after it has been inspected by an approved inspection agency and has been judged to be in an orderly condition with regards to its assembly, installation, mounting conditions and safe operation.

Recurrent inspections

The pressure equipment must be periodically monitored by the inspection agency at specified intervals to ensure that it is in orderly condition. These inspections consist of internal inspections and strength tests.

Unless otherwise stipulated, internal inspections must be carried out by the inspection agency at least every 5 years, and strength tests must be performed at least every 10 years.

Inspection in special cases

If the pressure tank has been modified in any way, it must not be put into operation again until it has been checked by the notified body and its operation found to be fault-free, so far as it is affected by the modification(s).

If the allowable operating parameters (maximum allowable operating pressure, maximum allowable operating temperature) have been exceeded due to the specific application or as a result of external influences, or if the values have fallen below the minimum levels, the pressure tank must not be put in operation again until it has been checked by the notified body and has been found to be in a fault-free condition. This also applies if the tank has been exposed to fire.

b. Agitator

The agitator is intended for mixing fluids of low and medium viscosities. The pneumatic agitator's speed can be adjusted by manual control of the air input or output pressure (Silencer throttle).

The agitator may only be used for the purpose it is designed for. The observance of the instructions and technical data contained in this manual is mandatory. Other applications shall be implemented only after consulting with SR-TEK.

Dismantling, change or replacement of components (accessories and fixtures) is not recommended and can void the warranty. For all repair work, please contact SR-TEK direct.

Usage and operation include reading, understanding and observing all instructions and information contained in this operation manual.

Functional Description

<u>a. Reservoir</u>

In its standard design, an SR-TEK material pressure tank consists of a container with a removable lid, a compressed air inlet fitting assembly comprising of an air pressure regulator with back pressure control, a pressure gauge, a tested safety relief valve, a material outlet fitting (also on the lid) consisting of a pipe to the material outlet.

The tank operates as a feed system to the user's fluid dispensing or spraying device. SR-TEK material pressure tanks are suitable for multiple fluid applications such as dosing, spraying and mixing.

The required delivery pressure or fluid flow rate is adjusted by a pressure regulator with a back pressure control in the air input side. Once the operating pressure has been set, the tank ensures an even flow of the fluid to the user's device.

b. Agitator

The operation of the tank should be performed under mandatory observance of the instructions described in this operation manual.

The air motor along with its components must not be disassembled or opened. The prescribed intervals of maintenance and check-up should be observed.

It is the operator's responsibility to make sure the fluid loaded in the tank does not cause the motor to stall. In the event of regular stalling or unusual motor behaviour, contact SR-TEK.

(i) Standard agitated tanks **must not** be used in potentially explosive and hazardous areas.

In general, the agitator assembly is used in a vertical position. It is necessary that the agitator is equipped with a mixing blade or mixing mechanism that is suitable for the fluid used. The mixing blade, which is included in the standard delivery, is suitable for most industry fluids. Other mixing devices can be supplied. For more information, contact SR-TEK.

SR-TEK shall not be held responsible for damages occurred as a result of use of inappropriate mixing mechanisms.

The agitator operation is only allowed when the blade is covered by the fluid.

Avoid axial load of the agitator shaft as it might cause damage to its bearing.

Upon connecting the air line, the direction of the agitator must be taken into consideration and should not be changed.

The lifetime of the pneumatic motor is influenced by the hours in operation, the resistance between mixing blade (blade design) and fluid (fluid density) and the quality of the compressed air. Compressed air should be prepared using a dust and moisture filter prior connecting to the air motor and reservoir. Compressed air containing excess of moisture and dirt will increase motor wear and cause failure. Operation with other gases or liquids is not allowed.

Depending on the motor series supplied, lubrication might be or might not be required (see Technical data page 7).

If the air motor supplied requires lubrication, it should be connected to an oil pulveriser. The operator must make sure it is fitted with the appropriate lubricating oil and is correctly set.

Air motors which do not require any form of lubrication are very sensitive to dirty and humid compressed air.

The agitator can operate under the maximum air pressure it is connected to and as described in the Technical data (page 7). The maximum number of revolutions are specified and set by the manufacturer for best performance and working life. Removing the throttle diaphragm is not permitted and will void the warranty.

Air motor gears are designed to be adjusted for manual operations involving open containers. Their adjustment is not allowed for applications involving closed and pressurised containers.

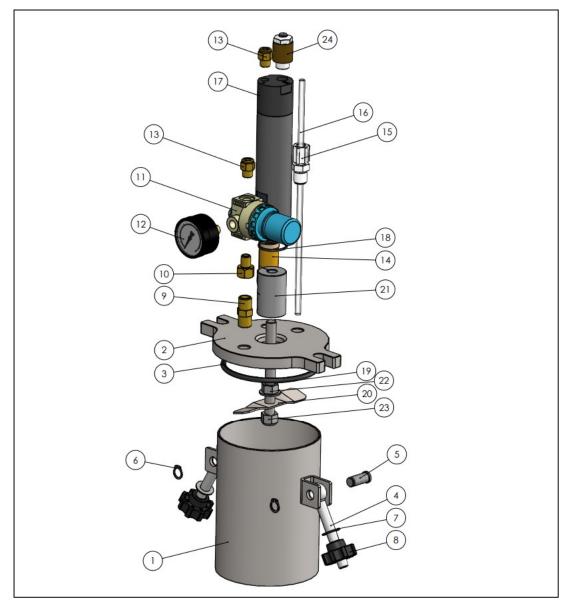
Peripherals such as oil pulveriser, dust and moisture filters are not supplied as standard.

If you require such accessories, contact SR-TEK.

If you have any questions, please contact us for assistance.

E-mail technical@sr-tek.com

1000ML-STAG Exploded View



1000ML Specifications

Capacity:	1 litre
Maximum Operating Pressure:	6.9 bar (100 psi)
Maximum Operating Temperature:	38 °C
Minimum Operating Temperature:	4°C
Weight:	2.8 kg
Height:	323 mm
Diameter (Cover Maximum):	172 mm

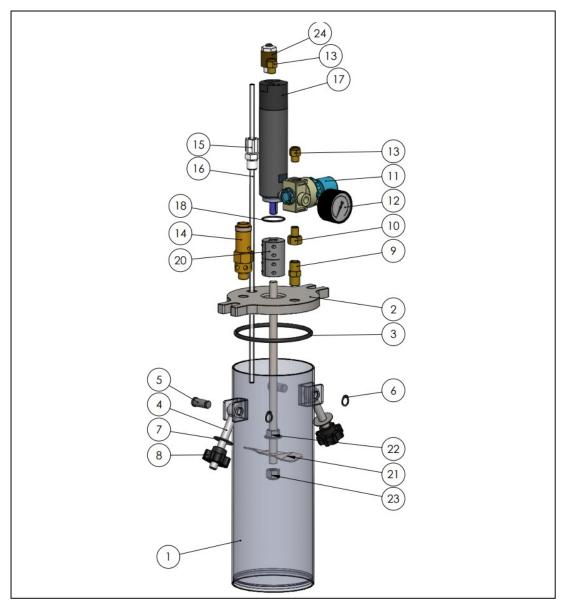
1000ML-STAG Replacement Parts

Part number	Description	Quantity
1.1011B	Reservoir body	1
2. 1010L-AG	Reservoir lid	1
3. OR-4.5-90	Lid O-ring Viton	1
4. BM10x75SSSWING	Swing bolt M10	2
5. 1015	Dwel pin	2
6. HCIRCLIPEXT10	Circlip external M10	2
7. WM10-19SS	Washer M10	2
8. NM10PLSTAR	Plastic brass star grip	2
9. HNIPPLE0.25	Nipple NPT 1/4"	1
10. HADAPTERF.25-M.125	1/8 Male to ¼ female Nipple Adapter	1
11. HREGULATORAIR100	100psi pressure regulator	1
12. AN-100-G	100psi Pressure Gauge	1
13. HADAPTER0.125-6 Adapte	er G1/8 x 6mm	1
14. 100-SV	100psi Safety valve	1
15. FIT-0.25-COMP-6	Compression adapter 1/4NPT to 6mm	1
16. 6PE-CL-1L	Fluid tubing 6mm (not supplied)	1
17. 1017-AM	Air motor	1
18. OR-2-26	O-ring 26mm ID x 2mm	1
19. 1021	Mixing shaft	1
20. 1L-9010-SINGLE	Mixing Impeller Blade single	1
21.HCOUPLING1010	Shaft coupler 10 10	1
22. NM10SSFLANGE	Flange nut M10	1
23. NM10SSLOCK	Locking Nut M10	1
24. HAIRTH	Throttle	1

Accessories

Part number 1000ML-JAR 1022-Pxx **Description** Plastic jar Alternative mixing blade

2000ML-STAG Exploded View



1000ML Specifications

Capacity:	2 litre
Maximum Operating Pressure:	6.9 bar (100 psi)
Maximum Operating Temperature:	38 °C
Minimum Operating Temperature:	4°C
Weight:	2.8 kg
Height:	459 mm
Diameter (Lid Maximum):	172 mm

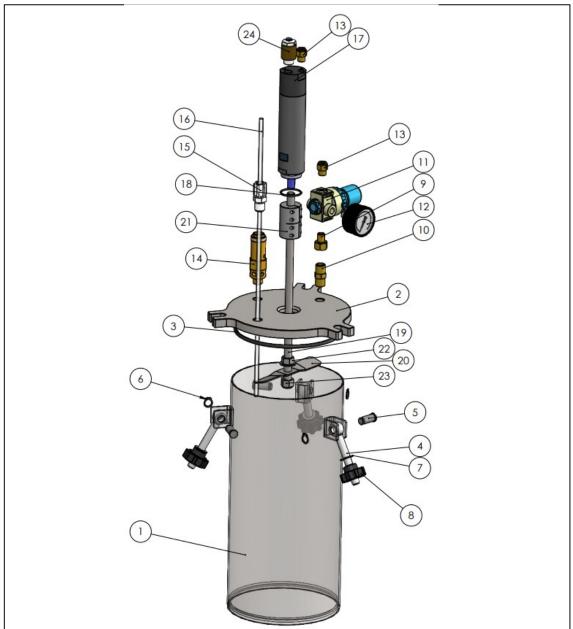
1000ML-STAG Replacement Parts

Part number	Description	Quantity
1. 2011B	Reservoir body	1
2. 1010L-AG	Reservoir lid	1
3. OR-4.5-90	Lid O-ring Viton	1
4. BM10x75SSSWING	Swing bolt M10	2
5. 1015	Dwel pin	2
6. HCIRCLIPEXT10	Circlip external M10	2
7. WM10-19SS	Washer M10	2
8. NM10PLSTAR	Plastic brass star grip	2
9. HNIPPLE0.25	Nipple NPT 1/4"	1
10. HADAPTERF.25-M.125	1/8 Male to ¼ female Nipple Adapter	1
11. HREGULATORAIR100	100psi pressure regulator	1
12. AN-100-G	100psi Pressure Gauge	1
13. HADAPTER0.125-6	Adapter G1/8 x 6mm	1
14. 100-SV	100psi Safety valve	1
15. FIT-0.25-COMP-6	Compression adapter 1/4NPT to 6mm	1
16. 6PE-CL-1L	Fluid tubing 6mm (not supplied)	1
17. 1017-AM	Air motor	1
18. OR-2-26	O-ring 26mm ID x 2mm	1
19. 1021	Mixing shaft	1
20. 1L-9010-SINGLE	Mixing Impeller Blade single	1
21.HCOUPLING1010	Shaft coupler 10 10	1
22. NM10SSFLANGE	Flange nut M10	1
23. NM10SSLOCK	Locking Nut M10	1
24. HAIRTH	Throttle	1

Accessories

Part number 2000ML-JAR 1022-Pxx **Description** Plastic jar 1022-Pxx Alternative mixing blade

5000ML-STAG Exploded View



5000ML Specifications

Capacity:	5 litres
Maximum Operating Pressure:	6.9 bar (100 psi)
Maximum Operating Temperature:	38 °C
Minimum Operating Temperature:	4°C
Weight:	7.8 kg
Height:	505 mm
Diameter (Lid Maximum):	197 mm

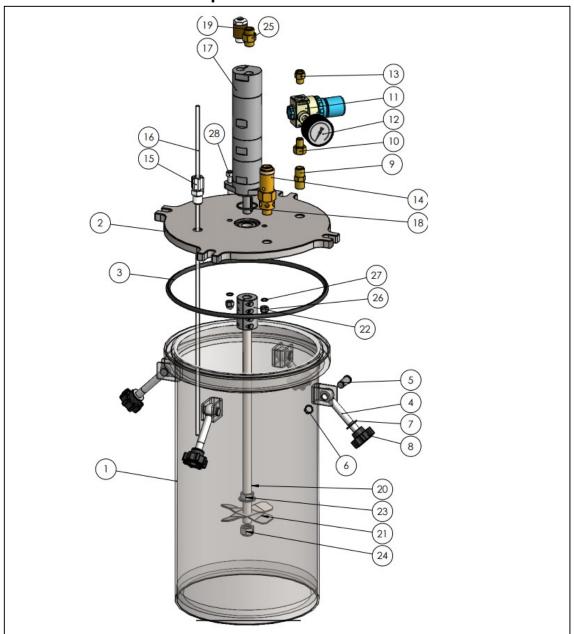
5000ML-STAG Replacement Parts

Part number	Description	Quantity
1. 5011B	Reservoir body	1
2. 5010L-AG	Reservoir lid	1
3. OR-4.5-140	Lid O-ring Viton	1
4. BM10x75SSSWING	Swing bolt M10	3
5. 1015	Dwel pin	3
6. HCIRCLIPEXT10	Circlip external M10	3
7. WM10-19SS	Washer M10	3
8. NM10PLSTAR	Plastic brass star grip	3
9. HNIPPLE0.25	Nipple NPT 1/4"	1
10. HADAPTERF.25-M.125	1/8 Male to ¼ female Nipple Adapter	1
11. HREGULATORAIR100	100psi pressure regulator	1
12. AN-100-G	100psi Pressure Gauge	1
13. HADAPTER0.125-6	Adapter G1/8 x 6mm	1
14. 100-SV	100psi Safety valve	1
15. FIT-0.25-COMP-6	Compression adapter 1/4NPT to 6mm	1
16. 6PE-CL-1L	Fluid tubing 6mm (not supplied)	1
17. 1017-AM	Air motor	1
18. OR-2-26	O-ring 26mm ID x 2mm	1
19. 1021	Mixing shaft	1
20. 1L-9010-SINGLE	Mixing Impeller Blade single	1
21.HCOUPLING1010	Shaft coupler 10 10	1
22. NM10SSFLANGE	Flange nut M10	1
23. NM10SSLOCK	Locking Nut M10	1
24. HAIRTH	Throttle	1

Accessories Part number

5000ML-ST-BTL 1022-Pxx **Description** Plastic jar Alternative mixing blade

1000CL-STAG Exploded View



1000CL Specifications

Capacity:	10 litres
Maximum Operating Pressure:	6.9 bar (100 psi)
Maximum Operating Temperature:	38 °C
Minimum Operating Temperature:	4°C
Weight:	18.0 kg
Height:	604 mm
Diameter (Cover Maximum):	237 mm

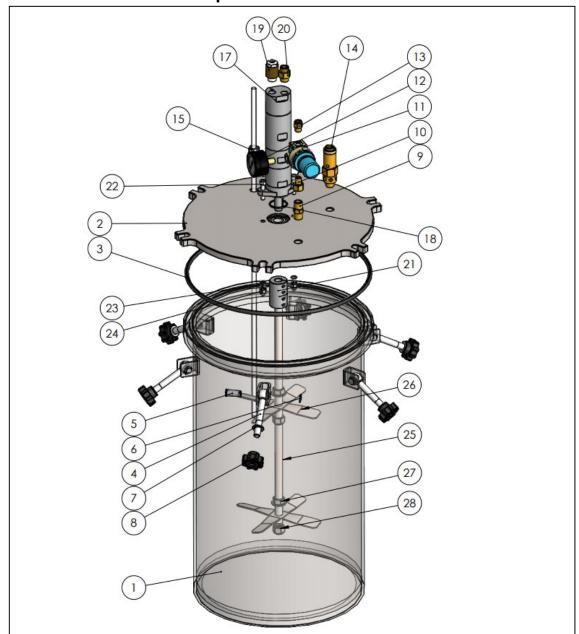
1000CL-STAG Replacement Parts

Part number 1. 1111B	Description Reservoir body	Quantity
2. 1110L-AG	Reservoir lid	1
3. OR-6-219	Lid O-ring Viton	1
4. BM10x75SSSWING	Swing bolt M10	4
5. 1015	Dwel pin	4
6. HCIRCLIPEXT10	Circlip external M10	4
7. WM10-19SS	Washer M10	4
8. NM10PLSTAR	Plastic brass star grip	4
9. HNIPPLE0.25	Nipple NPT 1/4"	1
10. HADAPTERF.25-M.125	1/8 Male to ¼ female Nipple Adapter	1
11. HREGULATORAIR100	100psi pressure regulator	1
12. AN-100-G	100psi Pressure Gauge	1
13. HADAPTER0.125-6	Adapter G1/8 x 6mm	1
14. 100-SV	100psi Safety valve	1
15. FIT-0.25-COMP-6	Compression adapter 1/4NPT to 6mm	1
16. 6PE-CL-10L	Fluid tubing 6mm (not supplied)	1
17. 2517-AM	Air motor	1
18. OR-2-26	O-ring 26mm ID x 2mm	1
19. HAIRTH	Throttle	1
20. 1121	Mixing shaft 10L	1
 21. 1L-9010-DOUBLE 22. HCOUPLING1212 23. NM12SSFLANGE 24. NM12SSLOCK 25. HADAPTER0.25-8 26. NM6SSBLIND 27. W6.7SSBONDED 28. BM6x28SSCAP 	Mixing Impeller Blade double Shaft coupler 1212 Flange nut M12 Locking Nut M12 Straight adapter R1/4 x 8mm Cap nut M6 Bonded seal Cap head bolt M6	1 1 1 1 2 2 2

Accessories

Part number 1000CL-JAR 1022-Pxx **Description** Plastic jar Alternative mixing blade

2500CL-STAG Exploded View



2500CL Specifications

Capacity:	25 litres
Maximum Operating Pressure:	6.9 bar (100 psi)
Maximum Operating Temperature:	38 °C
Minimum Operating Temperature:	4°C
Weight:	22.0 kg
Height:	708 mm
Diameter (Cover Maximum):	358 mm

2500CL-STAG Replacement Parts

Part number 1. 2511B	Description Reservoir body	Quantity
2. 2510L-AG	Reservoir lid	1
3. OR-6-293	Lid O-ring Viton	1
4. BM10x75SSSWING	Swing bolt M10	6
5. 1015	Dwel pin	6
6. HCIRCLIPEXT10	Circlip external M10	6
7. WM10-19SS	Washer M10	6
8. NM10PLSTAR	Plastic brass star grip	6
9. HNIPPLE0.25	Nipple NPT ¼"	1
10. HADAPTERF.25-M.125	1/8 Male to ¼ female Nipple Adapter	1
11. HREGULATORAIR100	100psi pressure regulator	1
12. AN-100-G	100psi Pressure Gauge	1
13. HADAPTER0.125-6	Adapter G1/8 x 6mm	1
14. 100-SV	100psi Safety valve	1
15. FIT-0.25-COMP-6	Compression adapter 1/4NPT to 6mm	1
16. 8PE-CL-10L	Fluid tubing 6mm (not supplied)	1
17. 2517-AM	Air motor	1
18. OR-2-26	O-ring 26mm ID x 2mm	1
19. HAIRTH	Throttle	1
20. HADAPTER0.25-8	Straight adapter R1/4 x 8mm	1
21. HCOUPLING1212 22. BM6x28SSCAP 23. W6.7SSBONDED 24. NM6SSBLIND 25. 2521 26. 25L-15012-DOUBLE 27. NM12SSFLANGE 28. NM12SSLOCK	Shaft coupler 1212 Cap head bolt M6 Bonded seal Cap nut M6 Mixing shaft 25L Mixing Impeller blade double Flange Nut M12x1.75 Locking nut M12 x 1.75	1 2 2 1 2 2 2 2

Accessories

Part number 2500CL-JAR 1022-Pxx **Description** Plastic jar Alternative

Conditions of use

<u>a. Reservoir</u>

Material pressure tanks are designed to be used for delivering low to medium viscosity fluids and materials that are put under pressure by a gas (compressed air and other inert gases).

The tank must be used only within the operating parameters specified in the Operating data (page 7 of this manual).

SR-TEK undertakes the responsibility for the device subject of delivery (e.g. for the pressure device and other components of the equipment supplied). Operators are obliged to observe the applicable regulations, instructions and be personally responsible for the equipment.

This implies that operators have read, understood and observed all instructions set out in this manual. SR-TEK Ltd cannot be held responsible for property damages, injuries or any other form of losses if operating and safety instructions described in this manual have not been followed.

Before filling the tank, make sure the fluid is compatible with all wetted parts of the equipment. Information about fluid compatibility can be found on page 3 of this manual and technical data sheet of the fluid manufacturer. In doubt, please contact SR-TEK for compatibility check. Follow the safety instructions provided by the fluid manufacturer during filling operation.

The pressure tank must not be operated solely with liquid pressure (e.g. filled to the top flange).

The pressure tank must not be pressurised using toxic, flammable or aggressive gases. Pressurising the tank with pure oxygen is strictly prohibited: **RISK OF**

EXPLOSION!

The pressure tank must not be operated with nitrogen unless additional safety devices have been fitted.

The pressure tanks must not be used for transporting materials. Exceptions are permissible only if suitable measures have been taken by the customer to allow the tank being used at various locations within the same plant.

The pressure tank must not be used for long-term storage of materials.

The pressure tank must not be used for materials that are incompatible with the tank and all other wetted parts in the tank.

No changes or modifications should be made to the pressure tank and its components prior consulting SR-TEK.

The components and accessories fitted to the tank (safety valve, regulator, gauge, etc...) must not be changed or tempered with. The tank should be protected against dirt and contamination.

b. Agitator

The agitators are meant for vertical assembly over pressure tanks containing fluids.

SR-TEK products are supplied fully assembled. The air motor agitator assembly is fitted prior supply to ensure airproof seal between motor and lid. The pneumatic agitator consist of an air motor with gears, fittings for compressed air supply, O-ring, shaft coupler, shaft and mixing blade. The air motor has two to three grades of planetary gears. The revolutions and moment of rotation are specified and regulated through that air pressure and volume. Depending on the type of motor, the revolutions and throttle are adjusted through the air input and output.

The motor requires connection to the factory's compressed air system. It is recommended to have trained operators or maintenance engineers performing the installation.

If you have any questions, please contact us for assistance.

E-mail technical@sr-tek.com

Instructions

(i) Read carefully this operation manual before handling the device and before putting it into operation.

This operation manual is part of the product and should be kept close to it. The product should always be used by trained operators.

Observe all the safety instructions from this manual to avoid damage to the equipment and risk to the operators and staff working in close proximity of the pressure tank.

If the tank is placed in an area with risk of electrostatic charges, the pressure tank, the air line, fluid line, air motor, mixer and all electric conductive surfaces within the working area of the tank must be earthed.

Technical details of the specific modifications and construction may differ from this manual. In any doubt, contact us for further clarification.

The agitated reservoir should be supplied fully assembled. Upon reception, the product should be checked for:

- Any visible damages from storage or transportation. Special attention must be paid to body parts including shaft, seals, lid and all components pre-installed on the reservoir.
- Oil leakage
- Signs of corrosion resulting of improper storage or storage in humid environment.
- Packaging materials damaged or removed.

Air quality and connection conditions

We strongly recommend the use of 5µm coalescing filter to achieve clean and dry compressed air. Prescribed air quality as per DIN ISO 8573-1, Quality Class 4. We recommend using the following:

- Residual maximum dust particle size: 5µm
- Residual maximum dust concentration: 8mg/m3
- Residual maximum humidity concentration: 6g/m3

Before connecting air lines to the air motor, make sure the tubing used is free from dirt and moisture.

Before connecting the motor, check the water level in your compressed air as water, corrosion etc. in the pipes can cause rust in the motor and thus high motor wear or failure and whether the motor requires lubrication during operation. If lubrication is required, make sure the motor is connected to an oil pulverisater.

Be aware of pressure drop and therefore performance drop when using air tubing over 3 meters long.

(i) Recommended lubricants

- As lubricating oil: Resin- and acid-free oil in viscosity class HL 32.
- As lubricating grease: Multi-purpose grease for roller bearings, plain bearings and gears, resin- and acid-free. NLGI class: 2 | Saponification: Lithium | Drop point: 185° C | Worked penetration: 265 – 295

Applications in the food industry:

- Food oil: Oil that complies to USDA-H1 or FDA 178.3570 viscosity class 32
- Lubricating grease: USDA-H1 or FDA 178.3570, NLGI class: 2 DIN 51818

Oil-free motors

In the case of completely dry compressed air without any added oil, the neutral speed may drop depending on the running time of the motor. However if the compressed air does contain small quantities of oil, the functional capability will not be affected.

Rotation direction of the motors

Depending on the motor type and side of air inlet, different directions of rotation are possible.

The reversible motor has two air connections: L for counter-clockwise and R for clockwise operation. When connecting up the motor, ensure that the side not subject to pressure is vented. Most SR-TEK agitated tanks are supplied with motors used for only one direction of rotation. The second air connection (exhaust) is not sealed but fitted with a silencer throttle. Never use the motor with the throttle fully closed as this would cause the motor to malfunction.

Clockwise | Counter-clockwise

Compressed air motors type MRD supplied on SR-TEK pressure tanks, rotate clockwise.

The motor is operated with a speed throttle silencer, fitted to the exhaust connection of the motor. The air intake is fitted with a 6mm compression fitting to connect to factory air.

Note: the motor's rotation is factory set and it is not possible to changeover from counter-clockwise to clockwise respectively from clockwise to counter-clockwise!

If you have any questions, please contact us for assistance. E-mail technical@sr-tek.com

Setup

<u>a. Reservoir</u>

1. Install the air tubing into the reservoir regulator already installed on the reservoir lid. Maximum pressure is 100 psi (6.9 bar). If no air filter regulator is available, please install one.

2. Remove the tank cover and temporarily store it by re-attaching one of the clamps. When filling or refilling the tank, use a cup (not included) to catch any excess material that drips from the feed tube.

3. Cut the fluid feed tubing to an appropriate length adding 180mm to go inside the tank. Cut one end of the feed tubing at an angle and push the tubing through the compression fitting and adjust the inside length so it sits just off the bottom of the tank. Tighten the compression nut to secure the tube.

4. Attach the other end of the fluid feed tubing to the other part of your system.

5. Fill the tank either by pouring material directly into the tank or placing a plastic SR-TEK jar or a manufacturer's bottle inside the tank.

6. Install the cover. If you are using a manufacturer's bottle, ensure the feed tube is inserted into the bottle.

7. Secure the swing bolts on the lid and tighten the eye nuts securely.

8. Adjust the tank air regulator to a pressure sufficient to pressurise the material. Typical settings are 5 to 10 psi (0.3 to 0.6 bar) for low viscosity and 40 to 80 psi or (2.8 to 5.5 bar) for high viscosity fluids.

Compatibility between the equipment described in this manual, the fluid, the usage and the application remain the responsibility of the operator. Special attention must be paid to potential risks of corrosion and abrasion forming inside the tank. If signs of corrosion or abrasion are detected, safely disconnect the equipment and remove the tank away from the working area.

If, while operating with the equipment, something unusual is noticed, immediately stop all operations involving the pressure tank and contact SR-TEK.

If the tank is not installed and connected correctly, not maintained regularly, used in a different way than its intended purpose, modified in any ways or safety instructions not followed, serious injuries to operators and staff working in clause proximity can result out of it. SR-TEK cannot be held responsible for misuse of the equipment.

b. Agitator

Most agitated reservoirs are supplied fully assembled by SR-TEK. The information given below only applies when the agitator is delivered separately from the reservoir.

If you assemble the agitator yourself, it is important to make sure the mixing blade do not touch the internal wall and bottom flange of the tank when in operation. The minimum recommended distance between the blade and the bottom of the tank should be no less than 20mm.

The connection between the different elements is displayed on the exploded view present in this manual. Fastening of the different components is made with Allen Keys and adjustable spanners.

If manual assembly is required, please refer to the exploded view on page 12 and 14.

Once the agitation assembly has been fitted, follow the instruction below.

1. Install the air inlet fitting selecting L or R for rotation clock wise or anti-clockwise.

2. Install the silencer throttle supplied on the output of the air motor. Make sure the throttle screw is fully open before starting the motor.

3. Connect the factory air to the inlet fitting. The maximum pressure is 100 psi (6.9 bar). Make sure the air is filtered and check whether the motor requires lubrication. If no air filter regulator or oil pulveriser is available, please install one.

4. Fill the tank with fluid to a third of its capacity, close it, pressurise the motor and check working order. Try adjusting speed to make sure motor and throttle are responding.

5. After trial, turn off air pressure, open the tank and check agitated fluid. Fill the tank and start production.

If you have any questions, please contact us for assistance.

E-mail technical@sr-tek.com

Pressure Relief Procedure

To reduce the risk of body injury, including fluid splashing into the eyes, **NEVER** attempt to open the reservoir without first performing this procedure.

1. Turn pressure to 0 on the reservoir air regulator.

2. Actuate the air relief valve. Hold the relief valve open until any hissing sounds end.

3. Confirm that the indicated gauge pressure is zero. If the gauge reads zero, slowly release the cover clamps and remove the cover.

4. If the pressure gauge does not read zero after performing Steps 1 and 2, remove the air input hose from the air regulator and set the regulator pressure to zero. A hissing sound should be heard from the regulator during this step. Once the gauge reads zero, return to Step 3. Do not use the reservoir until the air relief valve is replaced.

Refilling

To open the tank, follow the Pressure Relief Procedure above. Follow setup steps 1-8 to refill, make sure the air pressure is off or disconnected from the air motor.

Note: When pressurised, it is normal to hear a hissing sound coming from the regulator. This is due to the constant-bleed regulator feature.

Wetted Parts List

The following materials come in contact with the fluid during normal use:

- 1. Polyethylene (fluid feed tubing)
- 2. For all ST models: Stainless steel grade 304 (reservoir body and lid)
- 3. For all STAG models stainless steel grade 304 (mixing shaft and blade)
- 4. Optional polyethylene jar

If you have any questions, please contact us for assistance.

E-mail technical@sr-tek.com

Troubleshooting

Maintenance and repair work may be carried out only on a tank which has been completely depressurised and fully disconnected from both fluid and air lines.

Trouble:	le: Cannot set or maintain reservoir pressure	
	Possible Cause	Solution
	Cover clamps not secured	Make sure all cover clamps are secured hand-tight.
	Leaking feed tube compression fitting	Make sure compression fitting is assembled per instructions. If leak continues after proper installation, replace with new fitting.
	Damaged cover O-ring seal	Replace damaged O-ring seal.
	Damaged/malfunctioning air relief valve	Replace with new air relief valve.
	Kinked air supply line	Make sure air supply line is straight and protected from other equipment.
	Cover seal surface dirty or damaged	Clean both the tank's flange and the lid Do not use sharp or pointy tools. Make sure cover sealing surface is free from debris or other contamination. The reservoir or the lid should be replaced if there is a cut or gouge in the sealing surface deep enough to prevent the tank from achieving its set pressure.
	Damaged/malfunctioning air regulator	Replace with new air regulator.
	Damaged/malfunctioning Pressure gauge	Replace with new pressure gauge.
	Air supply is fluctuating	Supply system regulator is required. Set the regulator to the lowest plant air fluctuation.

Trouble:	Air leak from agitator	
	Possible Cause	Solution
	Air motor not sealed properly	Check sealing motor O-ring. If leak continues after changing O-ring, replace motor.
Trouble:	Bad quality mix or no agitation	
	Possible Cause	Solution
	Slipping shaft, shaft coupling or mixing blade	Make sure the shaft, shaft coupling and mixing blade a tightened properly.
	Low air pressure or no air supply	Check factory air pressure. Check for any signs of leak in the tubing and fittings connected to the air motor. Check for signs of pollution in the air line, filter and motor.
	High viscosity fluid	Check compatibility between equipment and fluid viscosity.

Trouble:	Vibration during operation	
	Possible Cause	Solution
	High viscosity fluid	Check compatibility between equipment and fluid viscosity.
	Bent shaft	Check shaft alignment. Replace shaft.
	Loose coupling	Check shaft coupling tightness.
	Faulty bearing	Replace air motor.

Trouble:	Overheating motor	
	Possible Cause	Solution
	Motor is overloaded	Check compatibility between equipment and fluid viscosity. Upgrade air motor or change mixing blade design.

Maintenance and Cleaning

The ST-AG series reservoirs are very simple and reliable reservoirs that require little routine maintenance. However, the following items should be checked monthly to assure continued trouble-free operation:

1. The air relief valve must be cycled with the reservoir pressurised at least once per month. The valve should operate smoothly with normal finger pressure. If the valve requires excessive force to operate or is visibly contaminated, it must be replaced.

2. The condition of the O-ring should be checked for cuts, tears, etc. Any spills on the sealing surface of the reservoir should be wiped clean immediately with a soft, damp cloth and mild soapy water.

3. The pressure regulator should be checked at regular intervals to ensure that it is fully functional.

If further cleaning is required, please follow the safety instruction below. Make sure the tank has been completely depressurised and discounted from both air line and fluid line.

If cleaning agents are being used on the tank, observe the manufacturer's safety instruction, especially for aggressive and corrosive cleaning agents.

Always wear proper protective clothing and breathing protection when carrying out cleaning work with chemicals.

During cleaning, ensure that material residues do not react and are not ignited by the tools and cleaning agents used.

The use of highly flammable materials means that there is an increased risk of explosion and fire in the working area.

Agitator assembly (coupling, shaft and blade)	
Intervals	Actions
Regular	Inspection of shaft coupling for tightness
	Inspection of sealing O-ring
After 500hrs	Inspection of air motor
After 2000hrs	Inspection of shaft coupling
After 20,000hrs	Thorough inspection of the whole equipment

(i) Agitator Assembly Inspection and Maintenance intervals

For cleaning the tank, use only cleaning agents which **DO NOT** contain the following components: halogenated hydrocarbons (such as trichloroethane, methylene chloride, etc...) acids, and acidic cleaning agents, regenerated solvents (so-called cleaning solvents) or paint removers. These components cause chemical reactions and can result in corrosion damage.

Clean only the mixing components that have been in contact with the fluid (e.g. mixing shaft and blade).

Do not use hard or sharp objects to clean the tank to avoid scratching the surface.

Care must be taken for not bending the mixing mechanism when cleaning the tank. The air must be switched off and discounted from both the tank and air motor before taking the tank out of operation.

Never immerse the complete tank in solvent or any other cleaning agent as the chemicals will damage the components mounted on the lid and temper their safety function. The tank will no longer be guaranteed.

Do not use cleaning methods which could cause corrosion or which reduce the thickness of the walls (e.g mechanical sanding or sand blasting).

Waste materials produced as a result of cleaning and maintenance work must be properly disposed of, in accordance with the laws and regulations of your country.

Maintenance and repair work may be carried out only on a tank which has been completely depressurised and fully disconnected from both fluid and air lines.

The use of compressed air and regular maintenance will ensure that serious faults will hardly ever occur.

We recommend maintenance after 500 operating hours to guarantee a long service life of the motor.

The maintenance intervals should be shortened for extreme operating conditions. It is advisable for maintenance to be carried out by the manufacturer's service technicians. If you proceed with maintenance yourself, the planetary gears, needle bearings and motor seals must be lubricated with suitable grease (see lubricants). Please note that the lamellae's long service life is not guaranteed when the compressed air is totally dry.

/ Warning

The motor lamellae contain PTFE. Please comply with the normal health and safety recommendations for these materials. Avoid open flames to prevent any ignition/fumes forming from particles detached from the lamellae. Fumes caused by PTFE particles can cause allergic reactions under certain conditions.

(i) Important

After you have performed any maintenance work on the motor, check that it will work properly. To do so, drip 2 - 3 drops of oil in the air intake and let the motor run for a few seconds in idle mode.

All regulating and safety components must, if they have been supplied by SR-TEK, be replaced only by original SR-TEK parts. List of replacement parts can be found on page 13 and 15. Wearing parts are marked in Bold. **Contact us if you require replacement parts.**

Disposal

Materials that remain after cleaning and maintenance must be disposed in compliance with the laws and regulations in place in the country where the equipment is being used. Materials, fluids, cleaning agent improperly disposed endangers the environment and health of beings.

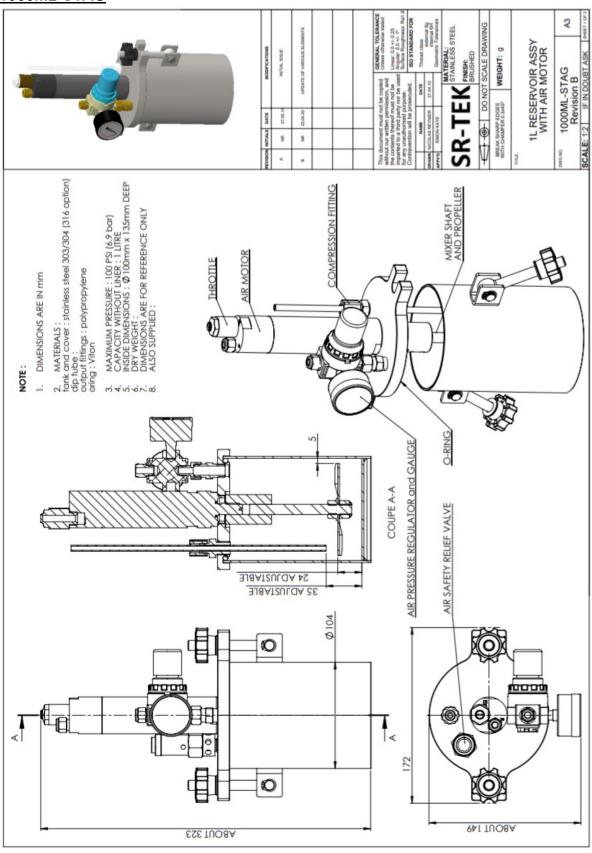
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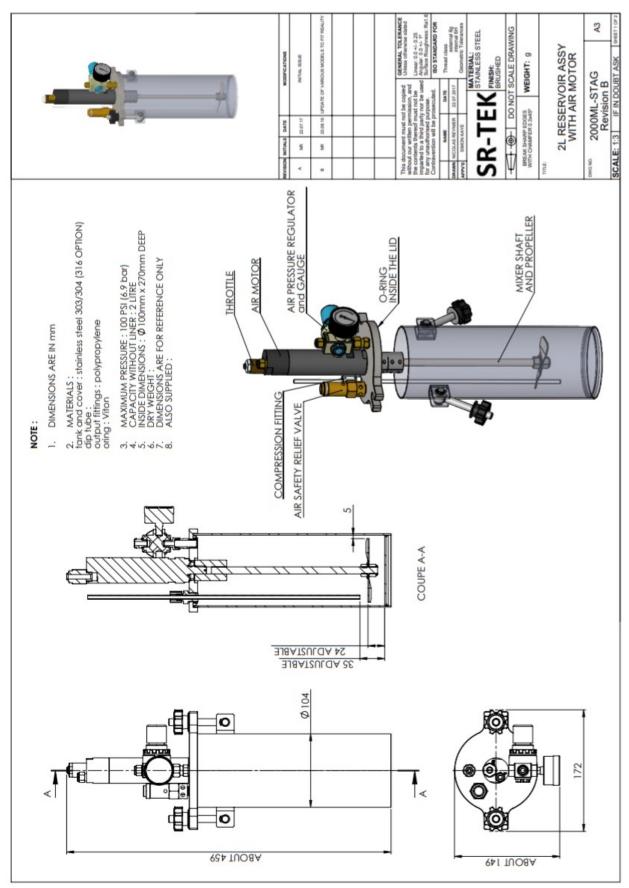
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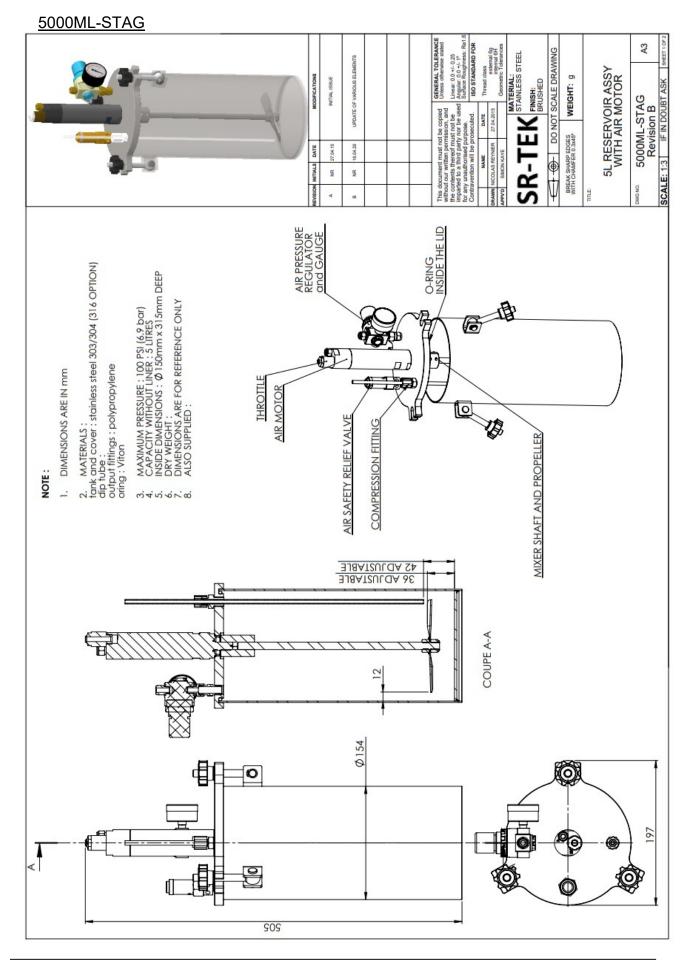


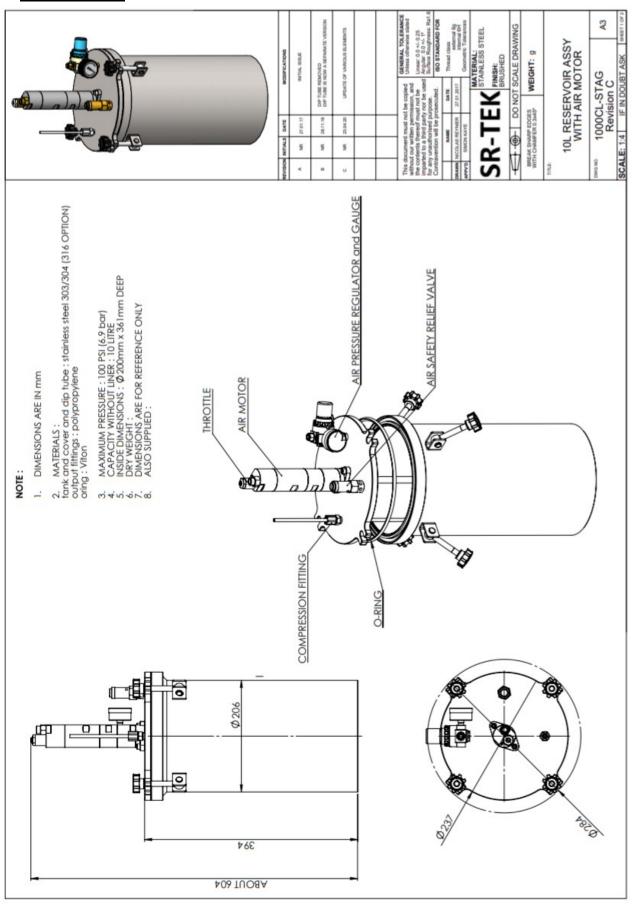
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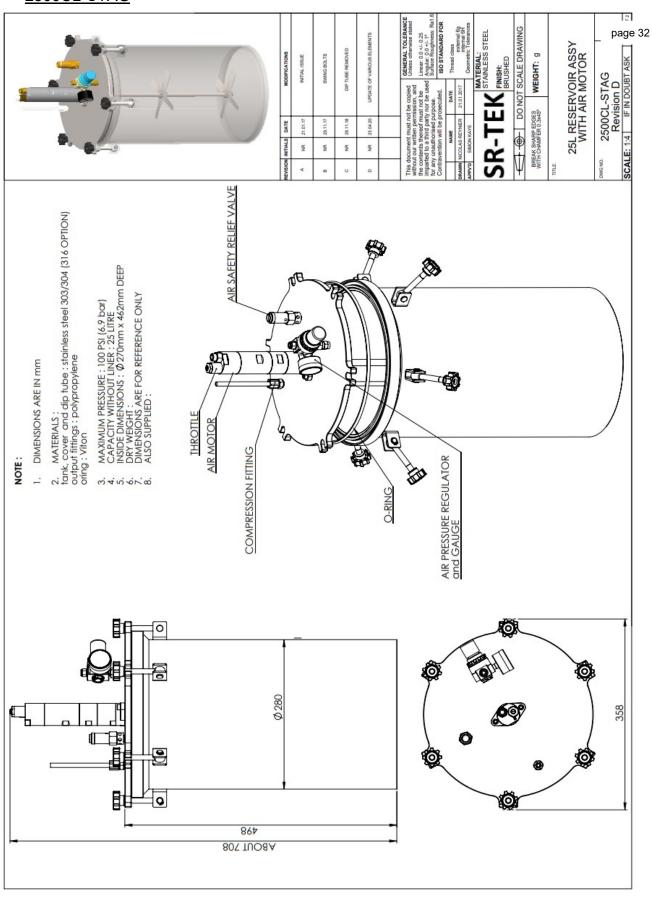


2000ML-STAG





1000CL-STAG



2500CL-STAG

Warranty

It is the customer's duty to inspect the goods immediately after delivery. In the event of damage or defect, to raise any complaints in writing to SR-TEK. Complaints must be made within a period of 2 working days after receipt of goods. The above also applies to excess or shortage of delivery.

SR-TEK does not accept any liability for damages or loss resulting of misuse, improper installation or operation by the customer or by third parties, normal wear and tear, incorrect or careless usage, the use of unsuitable fluids, substitute materials, defective construction work and unsuitable construction locations or from chemical, electrochemical or electrical influences, unless they are the result of our negligence.

In the event of a warranty claim, we are entitled to choose whether to repair the defect at our own expense or to provide a replacement within a reasonable period of time. If we are not prepared or able to replace or repair, or if a delay occurs for any reasons, the customer is entitled to request a partial or full refund. The warranty period is six months.

We do not accept liability for any damage other than the delivery item itself. In the event that liability has not been excluded, our liability to provide compensation is limited to the foreseeable damage; this does not apply if the cause of the damage is the result of wilful action.

In the case of second hand goods, we will accept liability only if these have been overhauled by us and brought to a technical state which approaches the technical state of new goods in accordance with the justified expectation of the customer. The warranty period on second hand goods is three months.

If you have any questions, please contact us for assistance.

E-mail technical@sr-tek.com