SSB Retractor Stroke 120 Air-to-Air

Models: TE75P131, TE75P131-04, TE75P151 & TE75P151-04

Covering

- **Standard Machines**
- **Machines delivered with ATEX Certification in accordance with Directive 94/9/EC**

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Contents

Introduction

The SSB Retractor is a pneumatically operated targeted spray ball which has been designed to achieve fast effective cleaning of all equipment used in the production process, including Ductwork, Vent Lines, Cyclones and many other applications where access is impossible

This manual has been prepared as a guide for the persons who will be operating and maintaining your tank cleaning machine. The key to long life for your tank cleaning machine will always be a system of carefully planned maintenance; you will appreciate that a tank cleaning machine which has a rough and dirty job to do will need more frequent attention than one working in ideal conditions.

It is in your own interest to get the best and most economical performance from your tank cleaning machine. Neglect of maintenance means poor performance, unscheduled stoppages, shorter life and expense. Good maintenance means good performance; no unscheduled stoppages and better total economy.

You will find the information contained in this manual simple to follow, but should you require further assistance, our Customer Service Department and world-wide net of Distributors will be pleased to help you. Please quote the type and serial number with all your enquiries; this will help us to help you.

The type and serial number are placed on the side of the body of the tank cleaning machine.

Note: The illustrations and specifications contained in this manual were effective at the date of printing. However, as continuous improvements are our policy, we reserve the right to alter or modify any unit specification on any product without prior notice or any obligation.

Intended Use

It is to be verified by the end-user:

- that the tank cleaning machine is in conformity with respect to tank, vessel, container or duct size in which it will be used.
- that the construction materials (both metallic and non-metallic) are compatibility with product, flushing media, cleaning media, temperatures and pressure under the intended use.

Patents and trademarks

This Instruction Manual is published by Alfa Laval Tank Equipment A/S without any warranty. Improvements and changes to this Instruction Manual may at any time be made by Alfa Laval Tank Equipment A/S without prior notice. Such changes will, however, be incorporated in new editions of this Instruction Manual.

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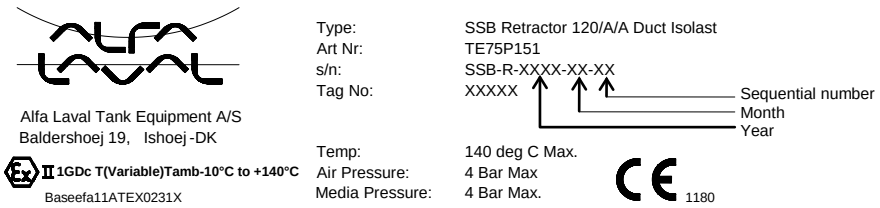
If ordered with ATEX certificate:
ATEX Marking

The SSB Retractor - Mini Retract-A-Ball is certified as category I components. The certification is carried out by the notified body Baseefa, who has issued the certificate Baseefa 11ATEX0231X. The marking on the ATEX certified SSB Retractor - Mini Retract-A-Ball is as follows:



Note:

TE75P131-04 and TE75P151-04
These machines are approved for 180°C max: Tamb -10°C to +180°C.

Changes to the machine are not allowed without approval by the person responsible for the ATEX certification at Alfa Laval Tank Equipment A/S. If changes are made – or spare parts other than Alfa Laval original spare parts are used - the EC Type Examination certification (the ATEX Directive) is no longer valid.

Important ATEX information:

Also see page 20 regarding special conditions for repair of ATEX certified machines.

Design Overview

The unit has been specifically designed to ensure good self draining so that there is no hold up of cleaning media after operation; this is achieved by a sealed cleaning housing and telescopic actuation and air cylinder design which ensures the minimum surface area becomes wetted. After operation the SSB Retractor can be held open pneumatically while the spray stem self drains before closure. This provides the opportunity to purge the spray stem if required.

Applications

The SSB Retractor can be used to clean from simple tanks and ductwork, to complex process applications with agitators where it is not possible to use fixed spray balls. Applications such as Storage Tanks, Reactors, Mixers and Spray Dryers including Ductwork and Vent Lines can all be cleaned by use of one or multiple SSB Retractor units.

ATEX Warning:	The speed at which the Sprayball is deployed (extended to the open position) must not exceed 0.5m/s. Ensure that the control air pressure is regulated to 4 bar max.

Options

The units are available in a range of operating strokes. As standard there are two sizes of SSB Retractor—60mm and 120mm. However, both units can be adjusted during manufacture by increments of 10mm. This allows the units to be fine tuned to accurately position the spray ball optimising the effectiveness.

As standard the units are available with all machined components in 316L Stainless Steel and standard seals in EPDM and Carbon filled PTFE. However, the units are available with wetted components in Hastelloy C22 and seals manufactured from Perfluorolastomer should the environment require.

The spray balls are offered with standard spray patterns or can be target drilled to direct cleaning to certain features such as access covers etc.

SSB Retractor Unit in extended position

Figure 1 SSB, extended position

Accessories

The unit can be supplied with proximity sensors to indicate that the unit is either fully open, fully closed, or both. If this option is required, a sensor part number: TE75P507 will be required for each position.

If the SSB Retractor is being ordered with ATEX Certification it is important to note that if a sensor is fitted the ATEX Category & Zone in which the SSB Retractor can be used will be effected.
The SSB Retractor is ATEX Category 1 but if sensors are fitted the unit will assume the lower ATEX rating of the Proximity Sensor.

If sensors are required for an ATEX environment please consult Alfa Laval.

ATEX Warning:	It is important to note that the SSB Retractor is ATEX Category 1 for installations in zone 0/20.
	However, if Proximity sensors are fitted the overall ATEX rating of the SSB Retractor will assume the lower ATEX rating of the proximity sensor.

Technical Data

Model /Article No.	TE75P131 TE75P151	TE75P131-04 TE75P151-04

Weight of Unit	:	3.5kg	3.5kg
Operating Air Pressure	:	3.5-4 bar (50-58 psi)	3.5-4 bar (50-58 psi)
Cleaning Fluid Pressure	:	2 - 4 bar (29 - 58 psi)	2 - 4 bar (29 - 58 psi)
Flow Rate Approx.	:	2.8m³ / hr at 3 bar	2.8m³ / hr at 3 bar
Max. Cleaning Fluid temp.	:	95º C (203 deg F)	95º C (203 deg F)
Max. Process temp.	:	140º C (284 deg F)	180º C (356 deg F)
Ambient temp.	:	-10°C to +140°C (95º C – 140°C - when **not** operated)	-10°C to +180°C (95º C – 180°C - when **not** operated)

Materials

Components	:	Stainless Steel 316L	Stainless Steel 316L
Spring	:	Stainless Steel 301S81	Stainless Steel 301S81
Seals	:	EPDM, Carbon Filled PTFE	Isolast-(Perfluorolastomer), Carbon Filled PTFE
Gaskets	:	PTFE	PTFE

Connections

Air Connection	:	⅛" BSP Parallel—internal thread is fitted as Standard with 6mm outside diameter push fit Connector.
Cleaning Media Connection	:	1" ISO Flange
Vessel Mounting	:	2" ISO Flange
Body Tube Joints	:	Flanged/Clamped to DIN 40 (DIN 32676)

Technical Data (continued)

Available add-ons (documentation)

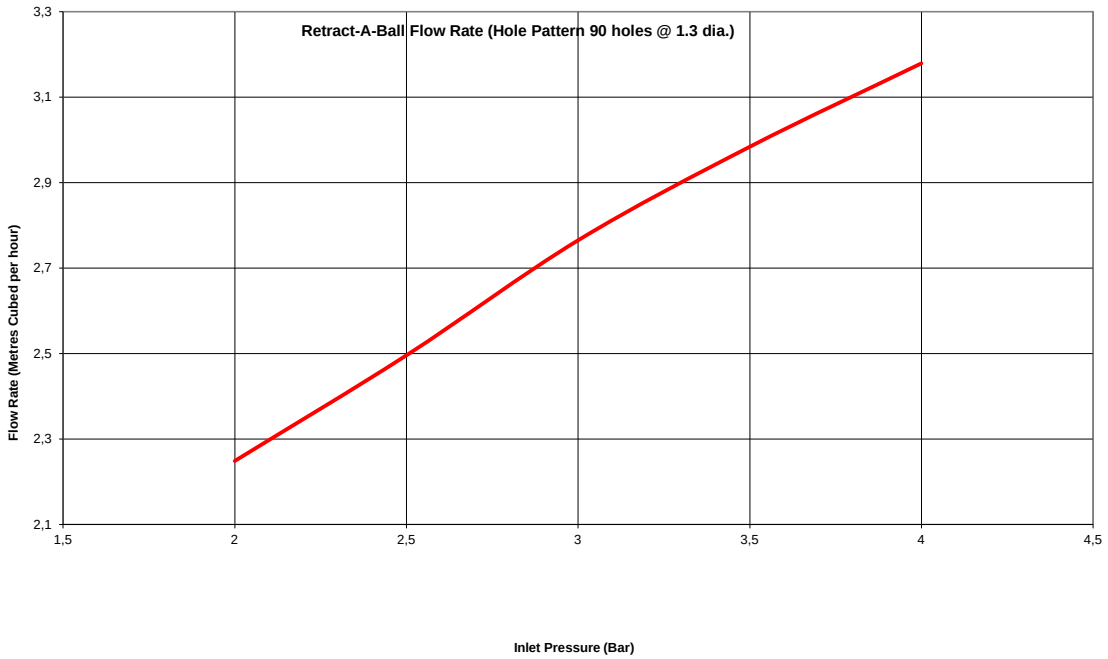
TE75P1X1-70	EPDM + ATEX
TE75P1X1-80	EPDM + ATEX + 3.1 cert.
TE75P1X1-90	EPDM + 3.1 cert.
TE75P1X1-74	FFKM + ATEX
TE75P1X1-84	FFKM + ATEX + 3.1 cert.
TE75P1X1-94	FFKM + 3.1 cert.

Explanation to Add-on´s:

ATEX includes:

ATEX approved machine for use in explosive atmospheres. Category 1 for installation in zone 0/20 in accordance to Directive 94/9/EC. Ex II 1GD c T(Variable) Tamb -10°C to +140°C or Ex II 1GD c T(Variable) Tamb -10°C to +180°C.

Flow Rate Data



The above Flow Chart shows the typical flow rate through the SSB Retractor fitted with a standard spray ball with 90 holes at 1.3mm dia.

Flow Rates can be changed by different drilling patterns if required.

Installation dimensions and connections

Dimensions

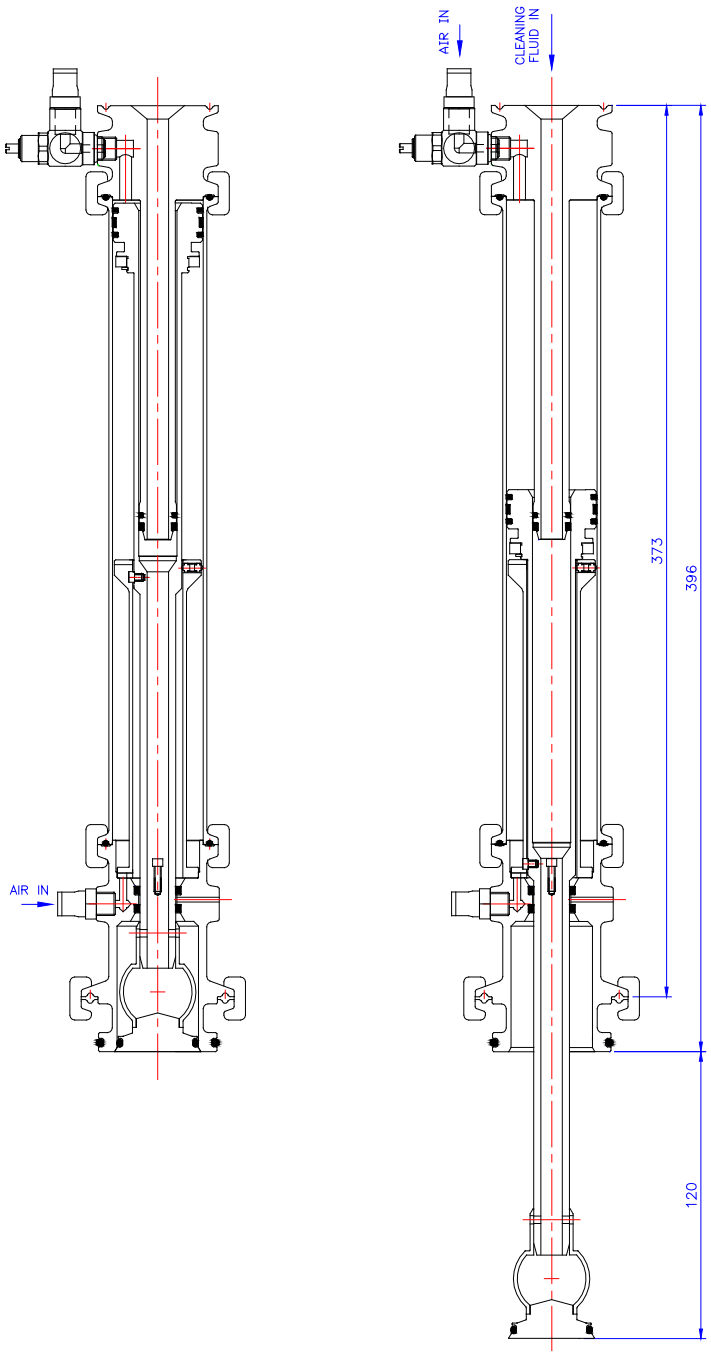


Figure 2 Dimensions

Installation dimensions and connections

NOTES:

1.MATERIALS:	MACHINED COMPONENTS: STAINLESS STEEL - GRADE 316L
2. SEALS:	MACHINED CARBON FILLED PTFE, EPDM or ISOLAST O-RINGS
3. BODY JOINTS:	DIN 40 FLANGES.
	DESIGNED IN ACCORDANCE WITH DIN 32676. (SAFETY CLAMPS)
4. PRESSURES:	CONTROL AIR: 3.5-4 bar (50-58 psi) CLEANING LIQUID: 2-4 bar (29-58 psi)
5. TEMPERATURES:	CLEANING LIQUID: 95ºC (203ºf) MAX PROCESS:140ºC (284ºf)
6. AIR CONNECTION:	1/8” BSP PARALLEL INTERNAL THREAD, FITTED AS STANDARD WITH 6MM OUTSIDE DIA.PUSH FIT CONNECTOR.
7. LIQUID CONNECTION:	1" ISO FLANGE
8. BODY MOUNTING:	2" ISO FLANGE

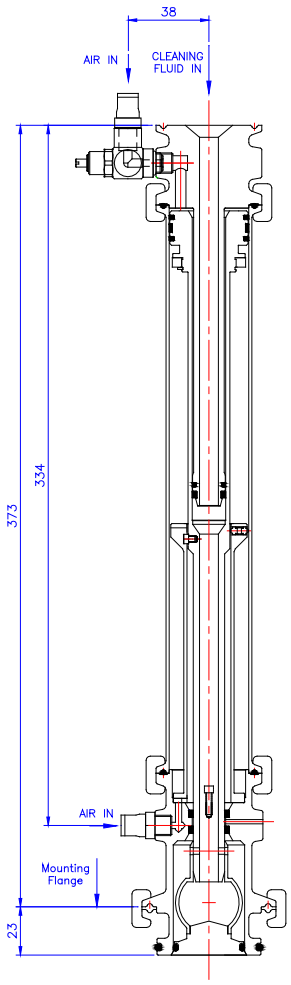
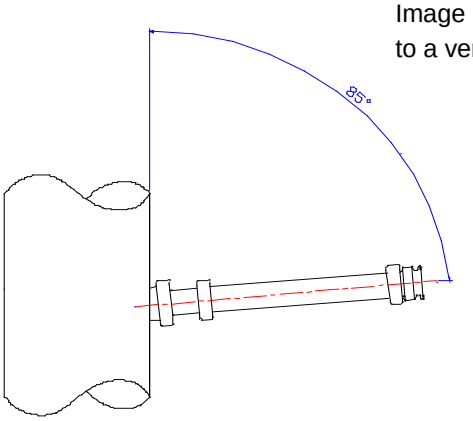


Figure 3 Connections

Installation

The SSB Retractor is mounted to a 2" ISO Ferrule using the 2" ISO gasket and clamp supplied. The unit must be mounted so that it is a minimum for 5º above horizontal. This is important to allow the Home Chamber to drain when cleaning has finished. See Figure 4.

Image Shows unit mounted to a vertical duct.



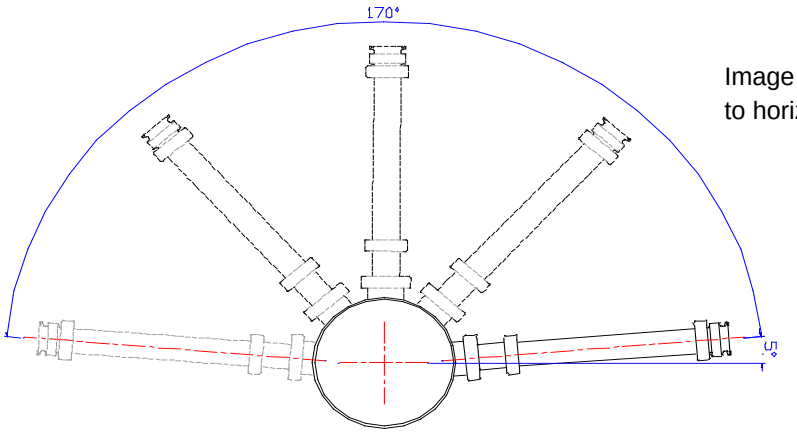


Image shows unit mounted to horizontal duct.

Figure 4 Installation

Installation (continued)

General Safety and Installation Instructions

Note: The machine shall be installed in accordance with national regulations for safety and other relevant regulations and standards.
Precautions shall be made to prevent starting of the cleaning operation, while personnel are inside the tank or otherwise can be hit by jets from the nozzles.
In EU-countries the complete system must fulfil the EU-Machine Directive and depending of application, the EU-Pressure Equipment Directive, the EU-ATEX Directive and other relevant Directives and shall be CE-marked before it is set into operation.

Warning:

If the machine is used in potential explosive atmospheres, tapes or joint sealing compounds which are electrical insulators must not be used on threads or joints, unless an electrical connection is otherwise established to ensure an effective earthing. In addition, connecting pipe work, must be electrically conductive and earthed to the tank structure. The resistance between the nozzles and the tank structure should not exceed 20,000 Ohm. This is essential to avoid the build-up of static electricity on the machine.

For further information see DS/CLC/TR 50404:2003 Safety of Machinery, guidance and recommendations for the avoidance of hazards due to static electricity.

Electrical equipment such as magnetic valves and electric actuators must not be installed in Ex-zones without type approval and marking, corresponding to the EX-class in question.

Installation (continued)

Special Conditions for Safe Use in accordance with the ATEX Certification, Directive 94/9/EC

ATEX Warning: 	The unit shall be connected to a fully earthed pipeline/duct or tank/vessel.

ATEX Warning: 	The pipeline/duct shall not exceed a diameter of 3m, and the tank/vessel shall not exceed 100m³.

ATEX Warning: 	The air operated unit shall only be operated with inert gas or clean air.

ATEX Warning: 	The unit shall only be purged with inert gas or clean air

In addition to the above mentioned precautions relating to the ATEX guidelines Directive 94/9/EC of March 23 1994, the Safety Precautions on page 14 must be observed.

Installation (continued)

Special Conditions for Safe Use in accordance with the ATEX Certification, Directive 94/9/EC - Continued.

ATEX Warning: 	Do not allow the unit to be operated when process media is in the pipeline or tank.

ATEX Warning: 	Do not allow the air pressure to exceed 5.5 bar.

ATEX Warning: 	Do not allow the cleaning media to exceed 4 bar.

ATEX Warning: 	When an external sensor is fitted to indicate the open or closed position it shall be suitable for the zone in use.

In addition to the above mentioned precautions relating to the ATEX guidelines Directive 94/9/EC of March 23 1994, the Safety Precautions on page 14 must be observed.

Installation (continued)

Special Conditions for Safe Use in accordance with the ATEX Certification, Directive 94/9/EC –(continued)

Temperature

ATEX Warning: 	Atmosphere/surface temperature: In potentially explosive atmospheres, the temperature must not exceed the maximum surface temperature according to the temperature class for the combustible gas or liquid.

ATEX Warning: 	Steam cleaning: Tanks with capacities greater than 100 m^3 that could contain a flammable atmosphere should not be steam cleaned, as steam issuing from a nozzle could contain charged droplets. Tanks smaller than this may be steam cleaned providing that: the steam nozzles and other metal parts of the system are reliably earthed and grounded to the tank structure.

Pressure

Avoid hydraulic shocks. Increase pressure gradually. Do not exceed 4 bar inlet pressure. Recommended inlet pressure: 2-4 bar. High pressure in combination with high flow rate will increase consumption of wear parts. High pressure will also reduce the cleaning effect.

ATEX Warning: 	Steam cleaning pressure: If stream cleaning is done through the machine, the steam pressure must not cause the machine to rotate.

ATEX Warning: 	Draining: If the machine is drained using compressed air, then the compressed air pressure must not cause the machine to rotate.

Installation (continued)

Orientation

As the Spray Ball on the SSB Retractor is often targeted it is important that the unit is installed in the correct orientation. The Spray balls are keyed to the Home Chamber. The Home Chamber has a roll pin fitted through its side. See Figure 5

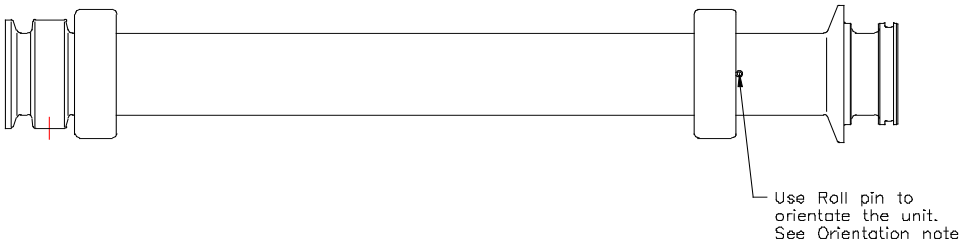


Figure 5 Installation orientation

Once the unit is mounted into the 2" ISO mounting ferrule it should be rotated so that the roll pin points parallel to the duct work to which it is mounted, before the mounting clamp is tightened. This will ensure the correct orientation for the Spray Ball.

In some instances the units may be specially drilled to target certain features or may not be mounted into ductwork. In these instances, the roll pin should again be used to orientate the unit but there will be an instruction enclosed with the unit to advise the direction the pin should point.

It is recommended that a filter with 0.5mm holes is fitted to the supply line.

Before connecting the Cleaning Media Pipe work to the unit it is recommended that the supply lines and valves should be flushed in order to remove any foreign particles.

Air Connection

A supply of dry, clean air is required to operate the SSB Retractor unit. The Inlet Adaptor has a 1/8” BSP FEMALE THREAD which is fitted as standard with a 6mm push fit fitting. The air pressure required is 3.5-4 bar.

Note: IT IS IMPORTANT THAT A NON-RETURN VALVE IS FITTED INTO THE AIR SUPPLY LINE. THIS IS IMPORTANT IN CASE THE AIR SEAL INSIDE THE SSB RETRACTOR SHOULD FAIL. THIS COULD ALLOW THE CLEANING MEDIA TO TRAVEL BACK THROUGH THE AIR LINE.

Installation (continued)

Cleaning Media

The media must be compatible with Stainless Steel 316L, EPDM or ISOLAST and carbon filled PTFE. Normal detergents, moderate solutions of acids and alkaline are acceptable.

After Use Cleaning

After use the units should always be flushed with fresh water. Cleaning media should never be allowed to dry inside the unit due to possible ‘salting out’ or scaling of the cleaning media.

Warnings

Warning:

The unit is operated by compressed air. It is important that the operating pressure is released and isolated before any work is carried out on the unit.

The Body Tube Clamps **must not** be released until the air pressure is released and isolated.

The clamps used on the body of the unit are safety clamps and **cannot** come away from the unit if the clamping nut is accidentally slackened, however great care must be taken.

Fluid and air connections

The unit is supplied with both cleaning media (fluid) at pressure & also air to open & close the unit. Ensure that both supplies are fitted with a non return valve.

Important recommendation for installation

It is recommended that the media connection to the SSB Retractor is always by means of a flexible, not fixed, coupling/pipe work. This is important to ensure that there is no undue force applied to the unit which can cause internal misalignment and therefore damage.

Service and Repair of ATEX Approved Machines

In order to ensure compliance with the ATEX regulations for service and repair in accordance with EN 60079-19, all service and repair of ATEX approved machines should be performed by Alfa Laval Tank Equipment A/S, Ishoej, Denmark.

Warning:

ATEX requirements regarding repair of ATEX approved machines according to EN 60079-19.

A tag with the following labelling information must be attached to the machine:
- Repair symbol R
- Alfa Laval logo and address
- Repair number
- Date of repair
- Machine serial number

The tag must be laminated and attached to the machine using a cable tie.

If a customer wishes to carry out service or repair himself, it is the responsibility of the repair shop to ensure that the ATEX requirements are met in any way possible. After performing service or repair, the repair shop thus carries the full responsibility for the ATEX approval of the machine.

Recommended Service Intervals

Inspection every 500 working hours. After 2000 working hours: inspection every 200 hours.

An Inspection consists of: SEE PAGE 23.

Component parts

List of parts

Model No.	TE75P131	TE75P131-04	TE75P151	TE75P151-04			
Pos.no.	Ref. No.	Ref. No.	Ref. No.	Ref. No.	Description	QTY	Remarks
1	TE75P526	TE75P526	TE75P526	TE75P526	Body Tube	1	Spare Part
2	TE75P524	TE75P524	TE75P524	TE75P524	Orientation & Stop Body	1	Spare Part
3	TE75P578	TE75P578	TE75P578	TE75P578	Spray Stem	1	Spare Part
4	TE75P529	TE75P529	TE75P531	TE75P531	Spray ball assembly (drilled)	1	Spare Part
5	TE75P583	TE75P583	TE75P583	TE75P583	Housing 2" ISO	1	Spare Part
6	TE75P522	TE75P522	TE75P522	TE75P522	M3 x 10 socket cap head	2	Spare Part
7	TE75P581	TE75P581	TE75P581	TE75P581	Inlet Adaptor	1	Spare Part
8			TE75P502	TE75P502	Orientation Screw	1	Spare Part
9	TE75P503	TE75P503	TE75P503	TE75P503	External Circlip	1	Spare Part
10	TE75P504	TE75P504	TE75P504	TE75P504	Magnet	1	Spare Part
11	TE75P505	TE75P505	TE75P505	TE75P505	Mounting Clamp	1	Spare Part
12	TE75P506	TE75P506	TE75P506	TE75P506	Body Clamp	2	Spare Part
13	TE75P512	TE75P512	TE75P512	TE75P512	Home Chamber/Stem Seal	1	Wear Part
14	TE75P538	TE75P508	TE75P538	TE75P508	Home Chamber/Spigot Seal	1	Wear Part
15	TE75P539	TE75P509	TE75P539	TE75P509	Home Chamber/Stem Seal	1	Wear Part
16	TE75P550	TE75P550	TE75P550	TE75P550	Gasket Home Chamber	1	Spare Part
17	TE75P511	TE75P511	TE75P511	TE75P511	O-Ring	2	Wear Part
18	TE75P513	TE75P513	TE75P513	TE75P513	Stem Product Seal	1	Wear Part
19	TE75P501	TE75P501	TE75P501	TE75P501	Earth Contacts	2	Spare Part
20	TE75P500	TE75P500	TE75P500	TE75P500	Earth Contact Spring	1	Spare Part
21	TE75P514	TE75P514	TE75P514	TE75P514	Piston Slide Ring	1	Wear Part
22	TE75P515	TE75P515	TE75P515	TE75P515	Piston Seal	2	Wear Part
23	TE75P516	TE75P546	TE75P516	TE75P546	Energising O-Ring	2	Wear Part
24	TE75P517	TE75P517	TE75P517	TE75P517	Adaptor Product Seal	1	Wear Part
25	TE75P518	TE75P518	TE75P518	TE75P518	Adaptor Air Seal	1	Wear Part
26	TE75P519	TE75P549	TE75P519	TE75P549	Energising O-Ring	1	Wear Part
27	TE75P520	TE75P520	TE75P520	TE75P520	Ball Securing Pin	1	Spare Part
28	TE75P523	TE75P523	TE75P523	TE75P523	Air Connector	1	Spare Part
29	TE75P521	TE75P521	TE75P521	TE75P521	Air Flow Restrictor	1	Spare Part

Component parts (continued)

Parts drawing

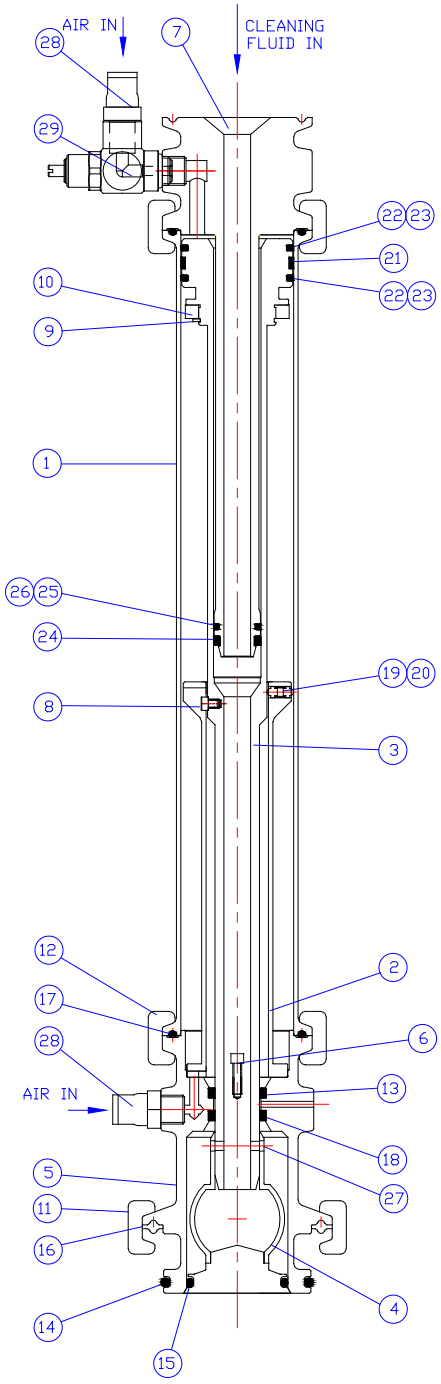


Figure 6 Component Parts

Maintenance

The units are designed to be self cleaning and should require very little or no maintenance between service intervals.

The units are a simple design with only the central telescopic bore being wetted. Performance will be effected by contamination from debris or particles where the CIP system is inadequately filtered or swarf in the system after installation.

Deterioration of the seals will also affect the unit's performance.

It is for this reason that it is recommended that the units are inspected every 500 working hours. After 2000 working hours inspect every 200 working hours.

A spares seal kit is available and does require simple tooling to fit the seals. The part No. for both the seal kit and Seal installation tools are listed in the Spare Parts section of this Manual on page 46.

Dismantling the Unit for Inspection

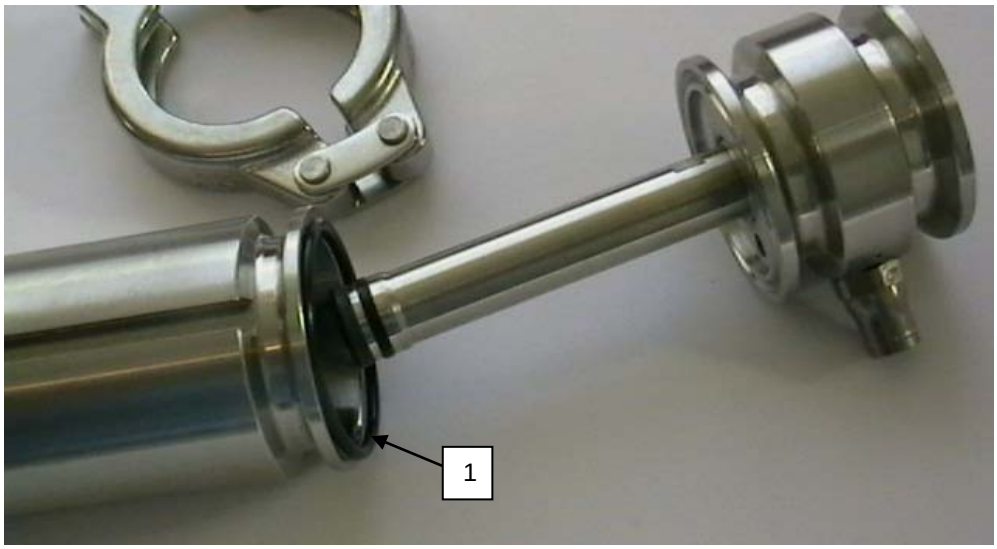
1. Always release the air pressure to the unit before disconnecting the air supply to the unit.
2. Remove the unit from its mounting so that the work can be carried out in the workshop. To remove the unit release the 2" ISO clamp which retains it to the 2" ISO mounting ferrule (it is the largest clamp on the unit). Carefully draw the unit from the ferrule ensuring that you retain the white PTFE gasket between the mounting ferrule and the head of the unit.
3. Slacken and remove the DIN 40 clamp which secures the Inlet adaptor to the main body tube. See Figure 7 below.

Figure 7

Maintenance (continued)

4. Carefully withdraw the Inlet Adaptor from the Main Body tube. Ensure to be careful & keep the Inlet Adaptor parallel with the Body Tube as it is withdrawn. Two seals will now be visible on the end of the inlet adaptor stem. The larger seal at the end of the inlet adaptor stem is the cleaning media seal and the second smaller seal is an air seal. Both should be examined to assess their condition.

   Between the Inlet Adaptor & the Body Tube there will be an O-Ring seal Part No. TE75P511. This seal should be replaced on reassembly. See Figure 8.



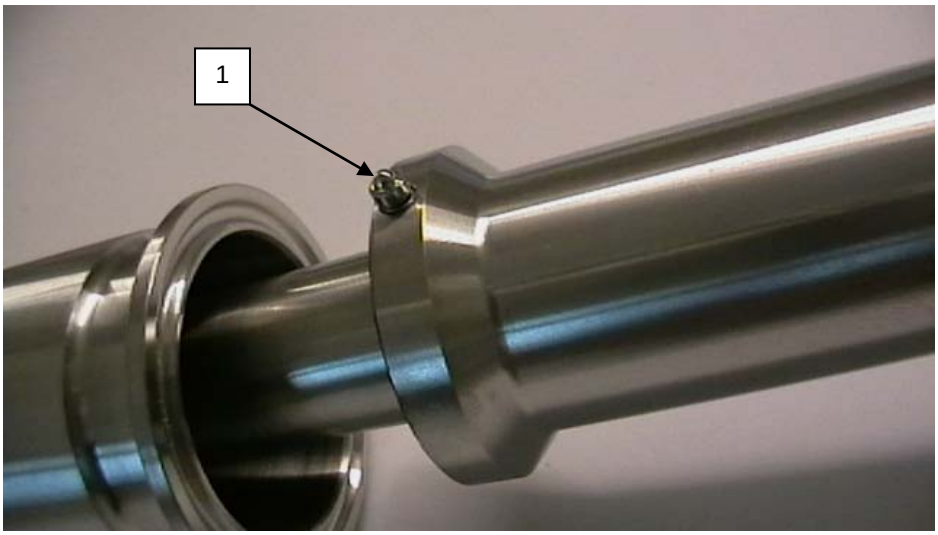
1. O-Ring TE75P511

Figure 8

5. Remove the second clamp between the Main Body tube and the Home Chamber and carefully slide the Body Tube from the Piston to reveal the Orientation Stop Body. See Figure 9. Be very careful - as the Orientation Stop Body leaves the end of the Body Tube there will be 2 x Earth Conracts & an Earth Contact Spring which will fall away - See Fig 10 & 11. These are important as they ensure an earth between the central Spray Stem & the Outer Body tube. They must be kept safe & refitted during reassembly.

Maintenance (continued)

Figure 9



1. Earth Contacts

Figure 10

Maintenance (continued)

Figure 11

6. As the Body Tube is finally pulled from the Piston the Piston Slide Ring will fall away. This is normal.
See Fig 12

Figure 12

Maintenance (continued)

7. Once the Body Tube is removed, carefully push the Spray Stem fully forward so that the Spray ball is exposed. The Sprayball is secured to the Spray Stem by the Ball Securing Pin. To remove the Sprayball the Ball Retaining Pin must be straightened using a pair of pliers & withdrawn from the neck of the Sprayball. The Sprayball can be removed from the Stem. being careful not to drop it as it can damage the tapered sealing edge of the Sprayball Cap. Place the Sprayball somewhere safe for reassembly.

   See Fig 13.

Figure 13

8. Remove the Orientation Screw (if fitted) using a 2.5mm Allen Key. The Orientation Screw should be placed in a safe place for reassembly. See Fig 14

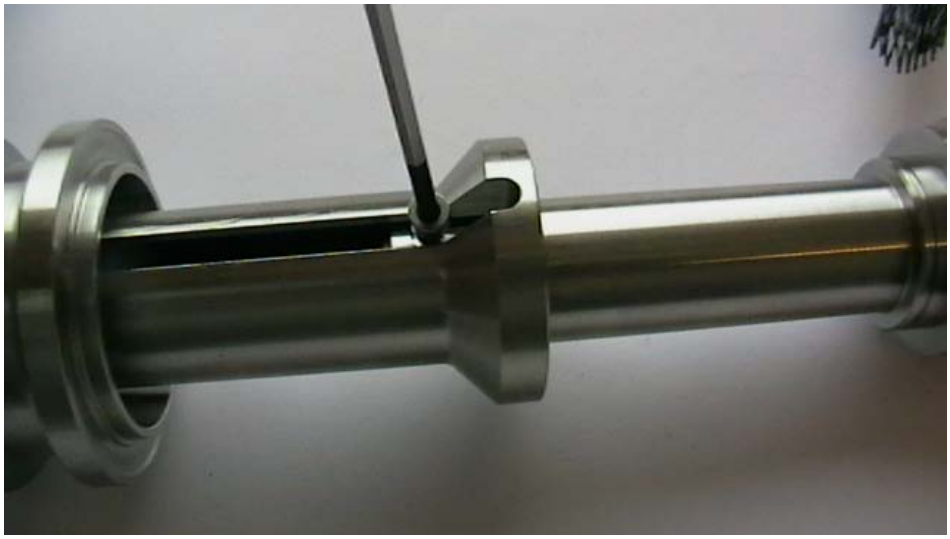
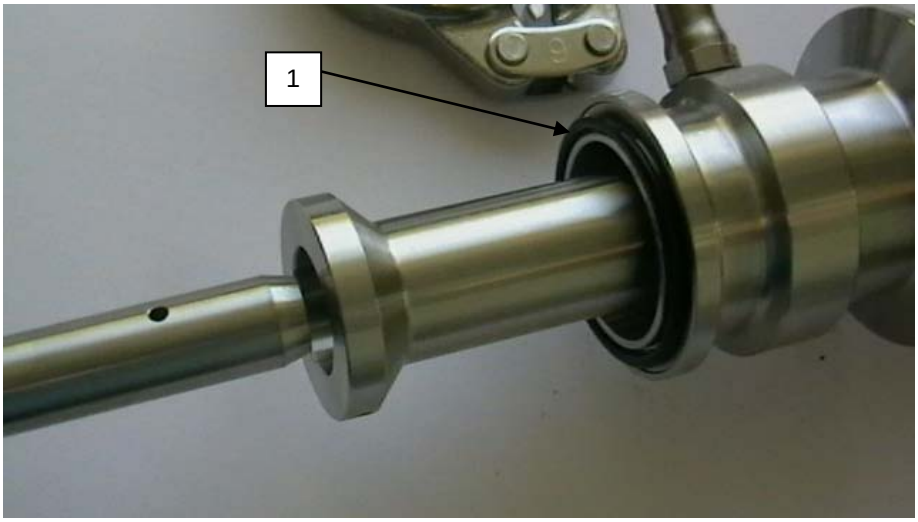


Figure 14

Maintenance (continued)

9. The Spray Stem can now be withdrawn from the Home Chamber. The O-Ring TE75P511 which was sited between the Body Tube & the Home Chamber should be removed & discarded. A new O-Ring should be fitted on reassembly. See Fig 15



1. O-Ring TE75P511

Figure 15

10. The Home Chamber/Stem Seal (Air) TE75P512 is sited under the Orientation Stop Body. To gain access to this seal the Orientation Stop Body has to be removed. Remove the 2 x M10 Socket Cap Head Screws using a 2.5mm Allen Key. See Fig 16.

Figure 16

Maintenance (continued)

11. The Home Chamber/Stem Seal (Air) TE75P512 is now visible See Fig 17.

Figure 17

12. The Stem Product Seal TE75P513 is now visible in the front end of the Home Chamber. See Fig 18.

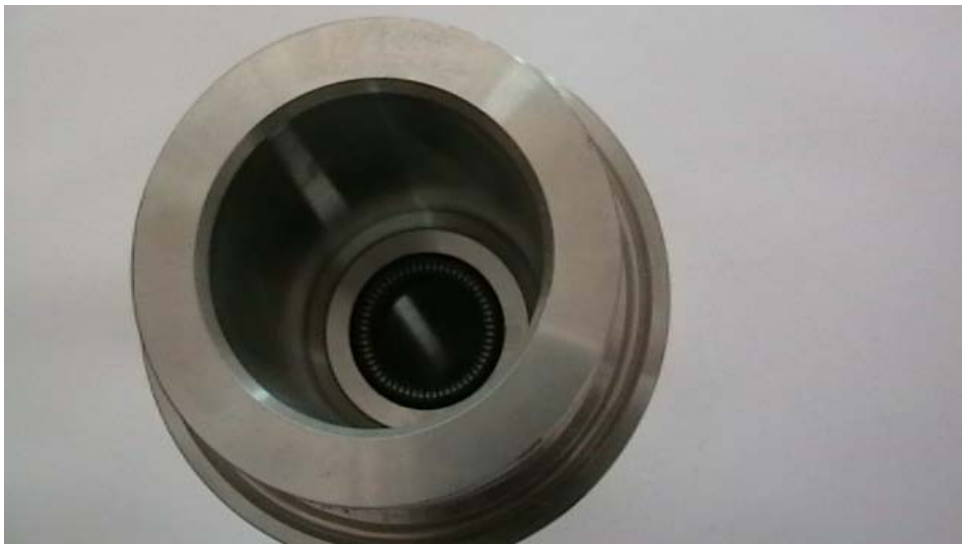


Figure 18

Re-Build & fitment of New Service Repair Kit

The Service Repair Kit for the SSB Retractor unit is-

TE75P289-90 for standard EPDM seals. For units TE75P131 & TE75P151
TE75P289-94 for Perfuorolastomer seals. For units TE75P131-04 & TE75P151-04

Both of the above will also require a Seal Installation Tool Kit to help fit the seals

TE75P299 - Seal Installation Tool Kit.

1. Fitting Adaptor Product Seal Part TE75P517, Adaptor Air Seal Part TE75P518 & Energising O-Ring TE75P519 (EPDM) or TE75P549 (Isolast)

   Firstly take the Inlet Adaptor. See Figure 19.

Figure 19

2. Fitting Adaptor Air Seal Energising O-Ring part TE75P519 (EPDM) or TE75P549 (Isolast) into the second groove in the stem. See Figure 20.

Figure 20

Re-Build & fitment of New Service Repair Kit (continued)

3 Fitting the Adaptor Air Seal TE75P518.

Place the Air Seal Fitment Tool Part TE75P593 over the end of the Inlet Adaptor Stem as shown below in Figure 21.

This will allow the Air Seal part No. TE75P518 to be slid over the tool & into position on top of the Energising O-ring. Use the Pusher Tool Part TE75P594 to push seal into positions as shown in fig 22.

1. Energising O-Ring
2. Air Seal
3. Fitment Tool

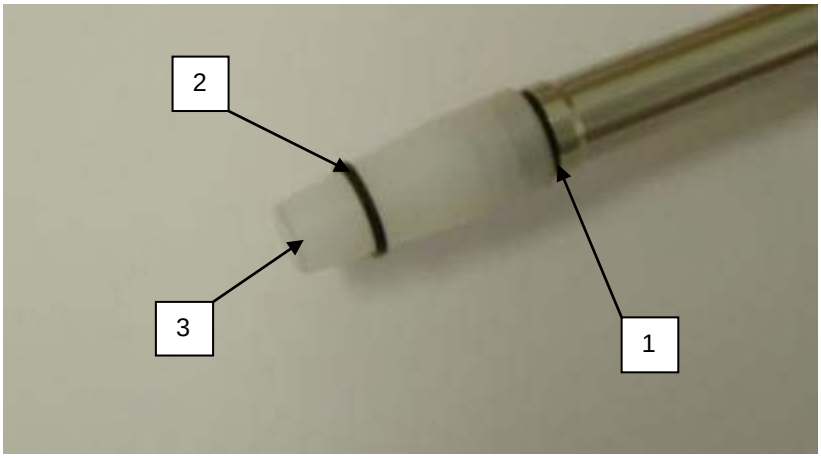


Figure 21

Figure 22

Re-Build & fitment of New Service Repair Kit (continued)

4. This process will stretch the seal & it will appear to be too big. Remove the tools & begin squeezing the seal with fingers to reduce its size. Move around the seal several times with fingers until the seal has returned almost to its original size.

   Carefully fit the Air Seal Re-sizing Tool part TE75P595 over the seal & leave for 5 minutes. See Figure 23.

Figure 23

5. Fitting of Adaptor Product Seal Part No. TE75P517

   Place the Adaptor Product Seal part TE75P517 onto the end of the stem & carefully push the seal into position. See Figure 24.

Figure 24

Re-Build & fitment of New Service Repair Kit (continued)

6. Fitting the Home Chamber/Stem Seal TE75P512 with the energising spring upper most as shown.
Drop the seal into the recess & carefully work one side of the seal into the groove with a finger. Slowly work around the seal so that the seal pops into the seal groove. See Fig 25

Figure 25

7. Refit the Orientation Stop Body using the 2 x M10 x 10mm Socket Cap Head Screws. Ensure that the slot on the mounting face of the Stop Body lines up with the air port in the Home Chamber. See Fig 26

Figure 26

Re-Build & fitment of New Service Repair Kit (continued)

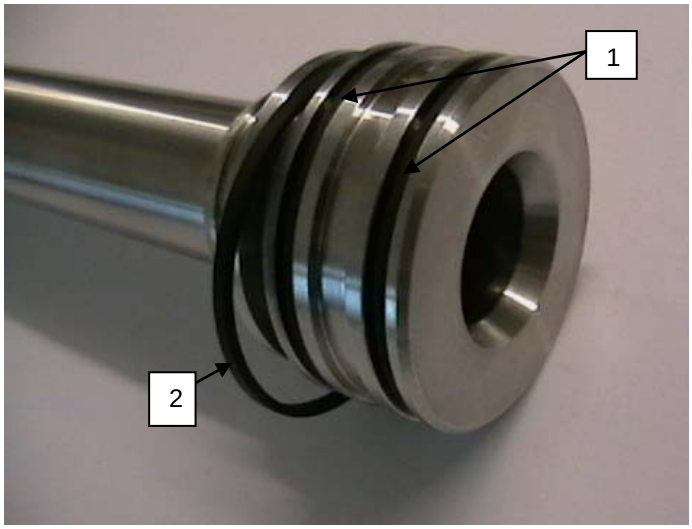
8. Fitting the Stem Product Seal TE75P513. Drop the seal into the recess in the front of the Home Chamber with the energising spring upper most as show. With a finger start one side of the seal into the seal groove & carefully work around the seal until it pops into the groove. See Fig 27.

Figure 27

9. Fitting the 2 x Piston Seals TE75P515 & 2 x energising O-Rings TE75P516 (EPDM) or TE75P546 (Isolast).

   First fit the Energising O-Ring TE75P516 (EPDM) or TE75P546 (Isolast) into the first & third seal groove on the Piston as shown in Fig 28.

   Once the O-rings are fitted then fit the 2 x Piston Seals TE75P515 into the same grooves, one on top of each O-Ring.



1. Energising O-Rings TE75P516 or TE75P546
2. Piston Seal TE75P515

Figure 28

Re-Build & fitment of New Service Repair Kit (continued)

10. Fitting the Magnet TE75P504 & the retaining External Circlip TE75P503.

    See Fig 29.

1. External Circlip TE75P503
2. Magnet TE75P504

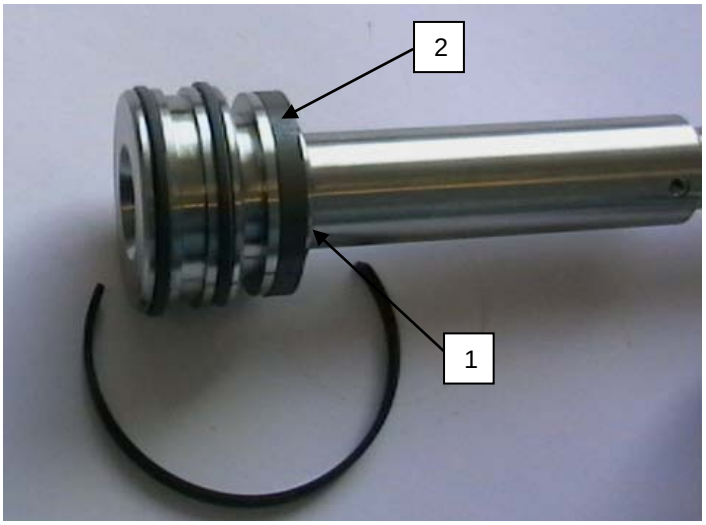


Figure 29

11. Fitting the Spray Stem into the Home Chamber. Keep the Spray Stem parallel with the centreline of the Home Chamber & carefully push the Stem through both seals in the Home Chamber. See Fig 30.

Figure 30

Re-Build & fitment of New Service Repair Kit (continued)

12. Refit the Orientation Screw (If required). See Fig 31.

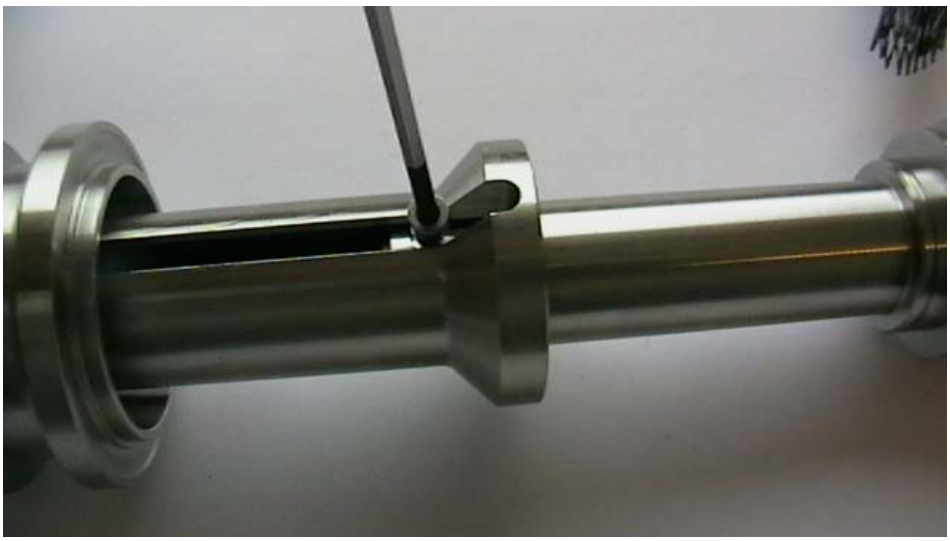


Figure 31

13. Fitting the Spray ball to the Spray Stem.

    Place the Sprayball on the end of the Spray Stem & pass the Ball Securing Pin part No. TE75P520 through the neck of the ball & bend the end with a pair of pliers approximately 10° to prevent it falling out. See figure 32.

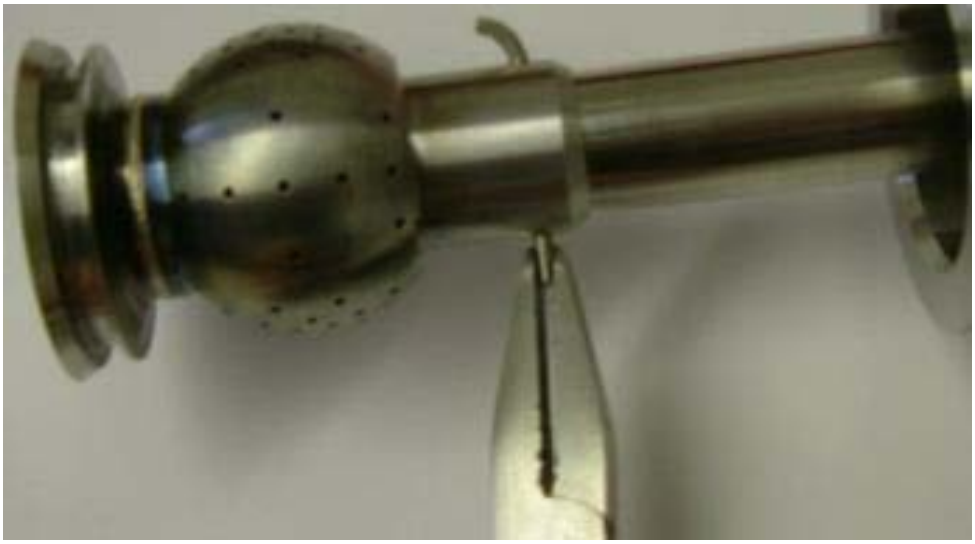


Figure 32

Re-Build & fitment of New Service Repair Kit (continued)

14. Fitting the Home Chamber/Stem Seal part No. TE75P539 or TE75P509.

Place the Home Chamber/Stem Seal part No. TE75P539 or TE75P509 into the O-ring groove in the cap of the Spray Ball. See Figure 33.

Figure 33

15. Fitting the Main Body Tube.
Ensure the Body Tube is clean & check the internal bore for scratches as this bore forms the air seal with the Piston.

Offer the Body Tube up to the Piston on the Spray Stem. Very carefully ensure that the first Piston Seal enters the Body Tube. Stop once the Seal has just entered the Body Tube & the groove for the Piston Slide Ring is still visible.

Wrap the Piston Slide Ring, part TE75P514 around the Piston groove & carefully work the Body Tube forward until the piston is safely in the Body Tube. See Fig 34.

Figure 34

Re-Build & fitment of New Service Repair Kit (continued)

16. Carefully push the Body tube forward until it reaches the Orientation Body Stop. Now carefully drop one of the Earth Contacts into the hole on the Body Stop (radiussed end first) , followed by the Earth Contact Spring & then the second Earth Contact with the radiussed end facing outwards.

    Compress the spring with a thumb as the Body tube is slid forward to meet the Home Chamber Flange.

    Fit the DIN 40 clamp to secure the Body tube to the Home Chamber. See Fig 35.

Figure 35

17. Fitting the Inlet Adaptor.

    Firstly place the O-ring (TE75P511) onto the Flange of the Body Tube. Align the Inlet Adaptor with the bore of the Spray Stem. Gently move the Inlet Adaptor from side to side until the two seals on the front of the stem enter the bore. Gently slide the Inlet Adaptor down until it meets the Body Tube. Secure with the DIN 40 clamp.See Figure 36 below.

Fig 36

Re-Build & fitment of New Service Repair Kit (continued)

18. Fitting the Home Chamber Spigot Seal Part No. TE75P538 (EPDM) or TE75P508 (Isolast) Carefully fit the O-ring in the O-ring groove at the front of the Home Chamber.

    See Figure 37.

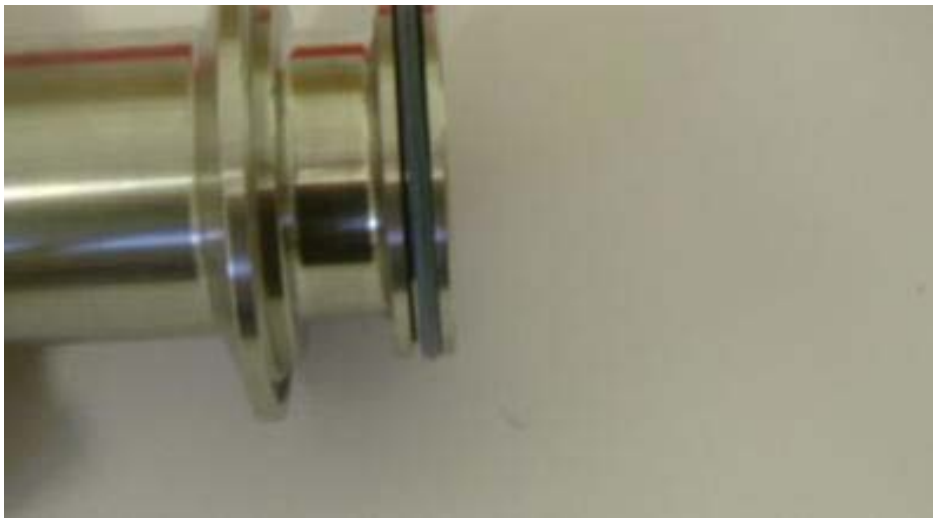


Figure 37

19. Lay the SSB Retractor on a bench & connect an air supply to the Air Flow Restrictor sited on the Inlet Adaptor. Apply a pressure of 4 bar to this connection, ensuring that the Air Port on the Home Chamber is free to vent. The Spray Stem should extend forward slowly & smoothly.
    Now apply the air supply at 4 Bar to the Air Inlet Port on the Home Chamber & ensure that the Air Flow Restrictor is free to vent. The Spray Stem should retract slowly & smoothly.

Standard Service Kits & Tools

Part Number TE75P289-90 For Units TE75P131 & TE75P151

The Standard Service Kit comprises of a full set of replacement seals, a new circlip and new roll pin. All the parts necessary to carry out a service or repair to the seals are included.
The Standard Service Kit seal materials are EPDM and carbon filled PTFE.

Standard Service Kit for Units TE75P130 & TE75P150, Part No. TE75P289-90

Part No.	Description	Qty.
TE75P503	External Circlip	1
TE75P512	Home Chamber/Stem Seal	1
TE75P538	Home Chamber/Spigot Seal (EPDM)	1
TE75P539	Home Chamber/Stem Seal (EPDM)	1
TE75P550	Gasket-Home Chamber	1
TE75P511	O-Ring (EPDM)	2
TE75P513	Stem Product Seal	1
TE75P514	Piston Slide Ring	1
TE75P515	Piston Seal	2
TE75P516	Energising O-Ring (EPDM)	2
TE75P517	Adaptor Product Seal	1
TE75P518	Adaptor Air Seal	1
TE75P519	Energising O-Ring (EPDM)	1
TE75P520	Ball Securing Pin	1

Part Number TE75P289-94 For Units TE75P131-04 & TE75P151-04

However, if the unit was fitted with our ‘Special Trim’ seals required due to aggressive product or cleaning media, the service kit required is part number TE75P289-94.
The seal materials are FFKM (Perfluoroclastomer) and carbon filled PTFE.

Standard Service Kit for Units TE75P130-04 & TE75P150-04, Part No. TE75P289-94		
Part No.	**Description**	**Qty.**
TE75P503	External Circlip	1
TE75P512	Home Chamber/Stem Seal	1
TE75P508	Home Chamber/Spigot Seal (Isolast)	1
TE75P509	Home Chamber/Stem Seal (Isolast)	1
TE75P550	Gasket-Home Chamber	1
TE75P511	O-Ring (EPDM)	2
TE75P513	Stem Product Seal	1
TE75P514	Piston Slide Ring	1
TE75P515	Piston Seal	2
TE75P546	Energising O-Ring (Isolast)	2
TE75P517	Adaptor Product Seal	1
TE75P518	Adaptor Air Seal	1
TE75P549	Energising O-Ring (Isolast)	1
TE75P520	Ball Securing Pin	1

Part Number TE75P299

A number of simple installation tools are required to fit the new seals. All the required tools are included in this kit.

Tools, Article no. TE75P299		
Part No.	**Description**	**Qty.**
TE75P593	Air Seal Fitment Tool	1
TE75P594	Pusher Tool	1
TE75P595	Air Seal Re-sizing Tool	1

How to order Spare Parts and Claim Procedure

How to Order Spare Parts

On the Cross Sectional Drawings as well as on all instruction drawings, the individual parts have a pos. no., which is the same on all drawings. From the pos. no. the part is easily identified in the Reference List of Parts, page 22.

Individual parts should always be ordered from the Reference Lists of Parts, page 22. Ref. no. and description should be clearly stated.

Please also quote the type of machine and serial no. This will help us to help you. The type and serial nos. are stamped on the Body of the tank cleaning machine.

Claim Procedure

In case of failure that needs assistance from Alfa Laval Tank Equipment A/S, it is essential for our evaluation that the problem as well as the working conditions of the machine are described as detailed as possible.

For description of the working conditions, fill in copy of Claim Report - Working Conditions, which you will find at the back of this manual.

How to contact Alfa Laval Tank Equipment A/S

For further information please feel free to contact:

Alfa Laval Tank Equipment A/S
Baldershoej 19
P.O. Box 1149
2635 Ishoej
Denmark

Phone no.: +45 43 55 86 00
Fax no.: +45 43 55 86 01
www.alfalaval.com

Contact details for all countries are continually updated on our websites.

EC Declaration of Conformity

We

Manufacturer:	Alfa Laval Tank Equipment A/S
Address:	Baldershoej 19, DK-2635 Ishoej
Phone:	+45 43 55 86 00
Fax:	+45 43 55 86 01
E-mail:	tankequipment.info@alfalaval.com

herewith declare that the below mentioned product:

SSB Retractor Stroke 120 Air-to-Air

TE75P131	TE75P131-04	TE75P151	TE75P151-04
ATEX article index no. -70 or -80	ATEX article index no. -74 or -84	ATEX article index no. -70 or -80	ATEX article index no. -74 or -84

is in conformity with the provisions of:

- The Machinery Directive 2006/42/EC, Annex II, Paragraph 1, Part A
- The Equipment explosive atmospheres (ATEX) Directive 94/9/EC.
- The Pressure Directive 97/23/EC
- FDA 21CFR§177

Harmonised European Standards:
The machine is manufactured in accordance with the relevant clauses of the following standards:

The Machinery Directive:
DS/EN ISO 12100-1, DS/EN ISO 12100-2, EN 1672-2

The pressure directive:
According to its own volume and the rated pressure range the product is regarded an Article 3, par. 3 Equipment.

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EC Declaration of Conformity

The ATEX-Directive:
DS/EN 1127-1, DS/EN 13463-1, DS/EN 13463-5
DS/EN ISO/IEC 80079-34, Annex A, paragraph A.5.3 Rotating machines

ATEX Certification:

EC Type Examination Certificate no. Baseefa11ATEX0231X

Marking: Ⓔx II 1GD c T(Variable) Tamb -10°C to +140°C
Ⓔx II 1GD c T(Variable) Tamb -10°C to +180°C

Note: (T)ambient rating: -10°C to +140°C when fitted with EPDM seals
-10°C to +180°C when fitted with Perfluorolastomer seals.

Baseefa (2001) Ltd., Notified Body number 1180. Rockhead Business Park, Staden Lane, Buxton, Derbyshire SK17 9RZ, United Kingdom

Place:	Ishoej, Denmark	Place:	Ishoej, Denmark
Date:	January 16, 2012	Date:	January 16, 2012
Signature:		Signature:	
Name and title:	Henrik Falster Hansen R&D Manager	Name and title:	Denniz Høxbroe ATEX responsible engineer

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ATEX-Special Conditions for safe use

ATEX CERTIFICATION

Ⓔx II 1GD c T(Variable) Tamb -10°C to +140°C
Ⓔx II 1GD c T(Variable) Tamb -10°C to +180°C

BASEEFA CUSTOMER REFERENCE No. 5322
PROJECT FILE No. 11/0682

Special Condition for Safe Use

1. The Unit shall be connected to a fully earthed pipeline/duct or tank/vessel.
2. The pipeline/duct shall not exceed a diameter of 3m, and the tank/vessel shall not exceed 100m³.
3. The air operated unit shall only be operated with inert gas or clean air.
4. The unit shall only be purge using inert gas or clean air.
5. Do not allow the unit to be operated when process media is in the pipeline or tank.
6. Do not allow the air pressure to exceed 5.5 Bar.
7. Do not allow the cleaning media to exceed 4 Bar.
8. When an external sensor is fitted to indicate the open or closed position it shall be suitable for the zone of use.

This product fully complies to ATEX category 1 as long as the 8 special conditions above are adhered to.
Please read the above conditions prior to installation & ensure that all conditions are met.

Explanation of T (temperature) rating.
The ATEX classification

Ⓔx II 1GD c T(Variable) Tamb -10°C to +140°C when fitted with EPDM seals
Ⓔx II 1GD c T(Variable) Tamb -10°C to +180°C when fitted with Perfluorolastomer seals

Shows the temperature rating as T(Variable).
This is because the SSB Retractor max temperature that it will reach will be dependent upon the temperature of the production process or the temperature of the CIP media which passes through it.

How to contact Alfa Laval
Contact details for all countries are
continually updated on our website.
Please visit www.alfalaval.com to access the information directly.