DH Instruments
A Fluke Company

Self Purging Liquid Trap
(SPLT™)
User's Manual

High pressure liquids and gases are potentially hazardous. Energy stored in these liquids and gases can be released unexpectedly and with extreme force. High pressure systems should be assembled and operated only by personnel who have been instructed in proper safety practices.

090629
3152142
Printed in the USA.

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Manual Conventions

(CAUTION) is used in manual to identify user warnings and cautions.

(NOTE) is used in the manual to identify operating and applications advice and additional explanations.

NOTES

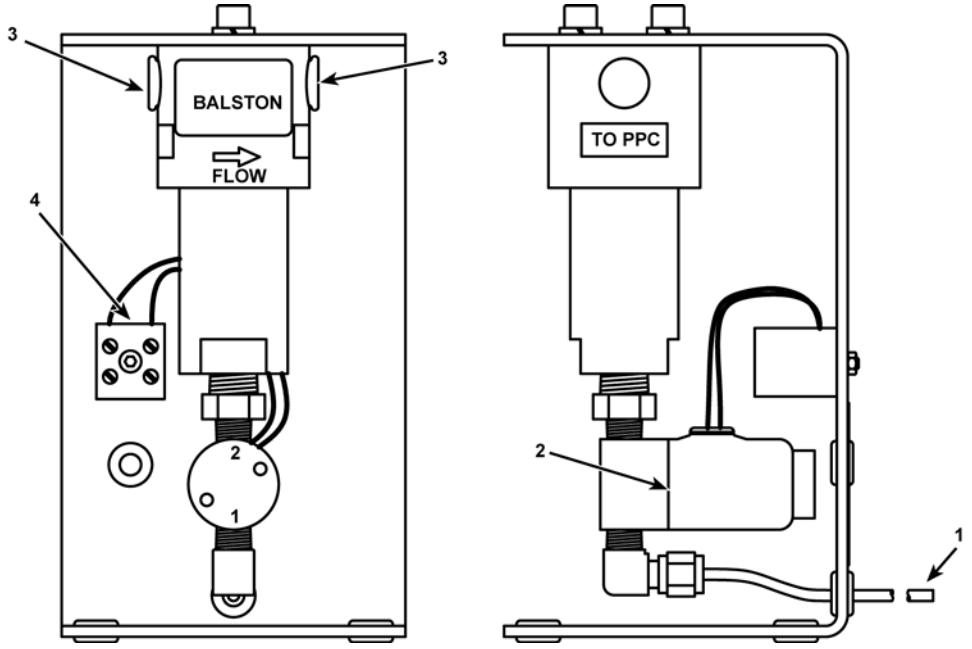
1. INTRODUCTION

1.1 PRODUCT OVERVIEW

The SPLT is a free standing accessory designed to protect the PPC from liquid contamination returning from the system or device under test.

The SPLT is made up of a stainless steel body with an internal X-Type coalescing filter and a bottom drain port fitting with an electrically actuated purge valve. The filter and valve assembly is installed in a mounting stand.

1.2 SUBASSEMBLY DESCRIPTION AND LOCATION



1. Purge Tube - Exhaust liquids and contaminants
2. Exhaust Valve - Solenoid valve to release pressure
3. Pressure Connections – 1/4 in. NPT F to test and to PPC
4. Electrical Connection - Terminal block connections to PPC valve driver for activation of exhaust valve

Figure 1. SPLT (Overall View)

1.3 SPECIFICATIONS

Pressure Connections	1/4 in. NPT F
Power Requirements	Apply 12 V to actuate valve, 6 watts
Weight	1.7 kg (3.8 lb)
Dimensions	10 cm H x 10 cm W x 17.5 cm D (3.9 in. x 3.9 in. x 6.9 in.)
Maximum Working Pressure	1 500 psi
Maximum Differential Across Filter	80 psi
Operational Capacity of Filter Body	10 cc

2. INSTALLATION

2.1 PNEUMATIC

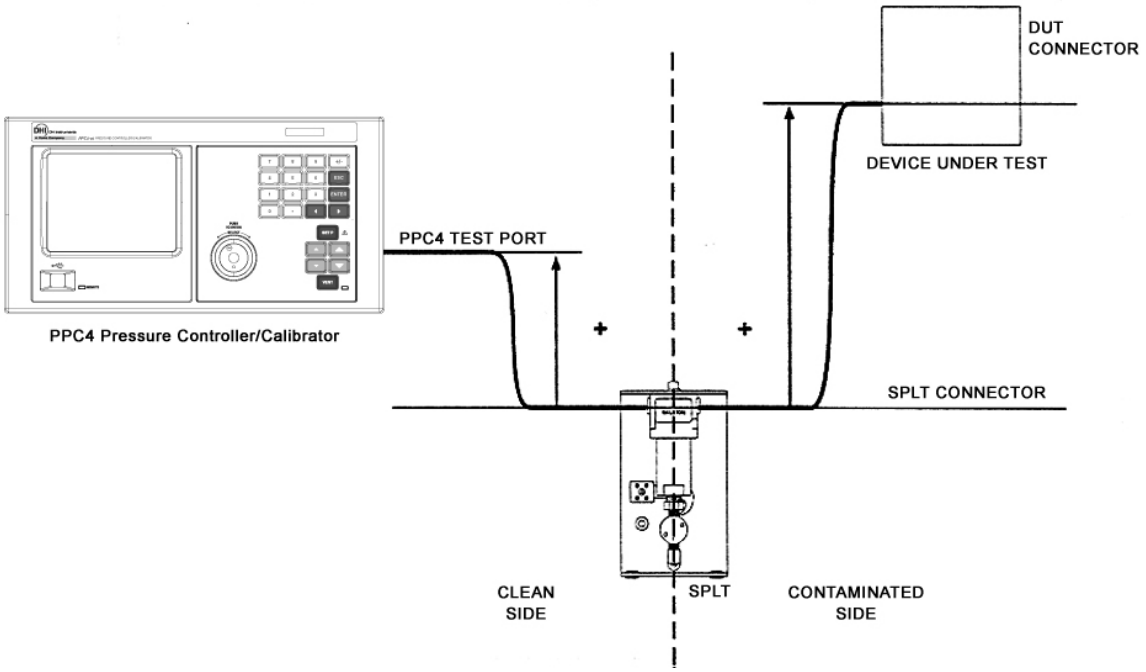


Figure 2. PPC with SPLT and DUT

Be sure SPLT is at low point of pneumatic system.

The SPLT is intended to collect and exhaust liquid contaminants that may be present in the device or system under test so that they do NOT return to the PPC.

The SPLT is installed in the test connection line at a low point between PPC and the device or system under test. The SPLT pressure connections are **1/4 in. NPT female**.

Teflon™ tape or another sealing material should be used to assure leak free connection of adaptors installed in the SPLT pressure connections.

Proper SPLT operation is dependent on the gas flowing through it in the correct direction. Make sure to connect the SPLT to the device or system under test and the PPC following the connector port labels on the SPLT.

Connect the SPLT electrically to the PPC rear panel DRIVER connection and to the SPLT terminal block (see Section 2.2).

The SPLT must be mounted vertically with the purge valve at the bottom to perform properly. The SPLT **MUST** be at a lower point in the system than the PPC and/or the device under test. In operation, liquid contaminants collected from the device or system under test will be exhausted through the SPLT purge valve.

Liquid contaminants will be forcibly ejected from the SPLT purge tube. Provision for collecting the purged liquids should be considered when installing the SPLT.

Excessively dirty or wet filter elements can adversely affect pressure control.

2.2 ELECTRICAL

In order to take advantage of the automatic purging feature of the PPC, the SPLT valve **MUST** be connected to the PPC external driver #8.

Connect like this if drivers connector with attached cable was included with SPLT:

❶ Connect drivers connector to DRIVERS connector on back panel of PPC. Attach the two wires to the terminal block on the SPLT

Connect like this if you have SPLT without drivers connector:

❶ Solder (2) 24 gauge wires of desired length to the 12-pin connector provided with the PPC. Connect (1) wire to pin L and the other to pin B. Connect drivers connector to DRIVERS connector on back panel of PPC. Attach the other end of these wires to the terminal block on the SPLT.

Polarity is NOT significant to the operation of the purge valve.

3. OPERATION

3.1 GENERAL OPERATING INSTRUCTIONS

See the section on Installing a Self Purging Liquid Trap in the PPC Operation and Maintenance manual.

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4. MAINTENANCE

4.1 GENERAL

The maintenance of the SPLT consists of cleaning or replacing the internal coalescing filter. A dirty filter should be rinsed with a degreasing agent to remove oil and particulate matter. A filter with physical damage should be replaced.

4.2 REMOVING AND INSTALLING THE SPLT FILTER

See Section 4.5 for part number and figures referred to in the filter replacement procedure.

Remove power and pressure connections prior to disassembly.

The procedure for replacing the coalescing filter in the SPLT is as follows:

❶ Disconnect pressure tubing to the SPLT if necessary.

❷ Disconnect power leads to the exhaust valve solenoid (3137053).

❸ Disconnect drain tube (3232357) from elbow adaptor (3133040).

❹ Unscrew lower housing of filter using flats on the lower housing.

❺ Lower the housing with attached valve and fittings through the slot in the mounting bracket.

❻ Remove filter, clean cavity (3136996).

❼ Install new filter.

❽ Re-assemble SPLT.

❾ Leak Check.

4.3 SPLT EXHAUST VALVE REMOVAL AND REPLACEMENT

See Section 4.5.

- Disconnect pressure tubing to the SPLT.
- Disconnect power leads to the exhaust valve solenoid (3137053).
- Remove solenoid valve from SPLT body (3136996).
- Remove fittings (3137066, 3133040) and drain tube (3232357) from exhaust valve.
- Install fittings (3137066, 3133040) and drain tube (3232357) onto the new exhaust valve.
- Reinstall exhaust valve onto SPLT body (3136996).
- Leak check assembly.

Any or all of the following items may be included as part of SPLT maintenance and overhaul:

- Clean or change filter (see Section 4.1).
- Clean internal portions of SPLT body using a degreasing agent.
- Check exhaust valve solenoid power leads.
- Check tightness of fittings on SPLT exhaust solenoid valve.
- Check drain tube and replace as necessary.

4.4 OVERHAUL

Any or all of the following items may be included as part of SPLT maintenance and overhaul:

- Clean or change filter (see Section 4.1).
- Clean internal portions of SPLT body using a degreasing agent.
- Check exhaust valve solenoid power leads.
- Check tightness of fittings on SPLT exhaust solenoid valve.
- Check drain tube and replace as necessary.

4.5 PARTS

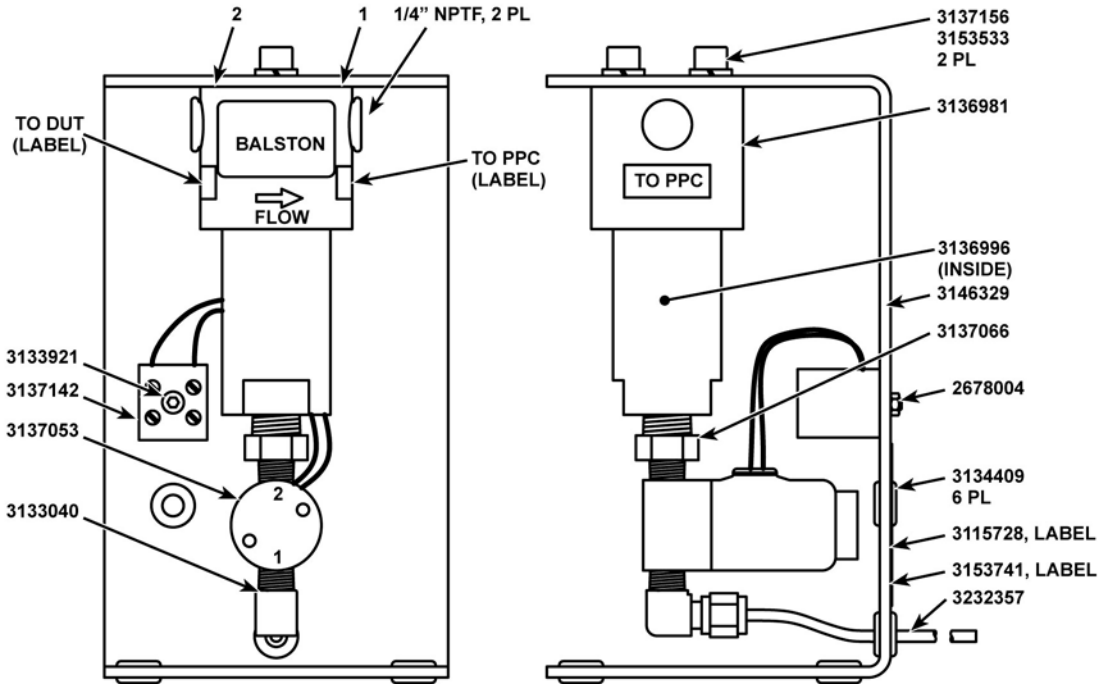

Figure 3. Front View (Left) and Side View (Right)

Unless otherwise specified, Seal NPT Connections using Teflon™ tape.

Table 1. Parts Listing

PART NUMBER	PREVIOUS DHI PART NUMBER	DESCRIPTION	QTY REQUIRED
2678004	100970-Z	Hex nut, M 3	1
3232357	101392-Z	Drain tube, 1/8 in. O.D.	1
3153533	102088-Z	Split lock washer	2
3153741	102461-Z	Label	1
3115728	122587-Z	Label	1
3133040	100321	Elbow adaptor	1
3133921	101008	Allen screw, M3 X 20	1
3134409	101468	Rubber grommet	6
3136981	102501	Liquid trap	1
3136996	102502	Filter	1
3137053	102514	12 VDC solenoid valve	1
3137066	102516	Reducer, adaptor	1
3137142	102528	Terminal block	1
3137156	102530	Allen screw, 1/4-20 X 1/2	2
3146329	122541	Mounting bracket	1

NOTES