

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.

© 1998 - 2007 DH Instruments, a Fluke Company All rights reserved

Information in this document is subject to change without notice. No part of this document may be reproduced or transmitted in any form or by any means, electronic or mechanical, for any purpose, without the express written permission of **DH Instruments** 4765 East Beautiful Lane Phoenix AZ 85044-5318 USA.

DH Instruments, a Fluke Company makes sincere efforts to ensure accuracy and quality of its published materials; however, no warranty, expressed or implied, is provided. **DH Instruments, a Fluke Company** disclaims any responsibility or liability for any direct or indirect damages resulting from the use of the information in this manual or products described in it. Mention of any product does not constitute an endorsement by DH Instruments of that product. This manual was originally composed in English and was subsequently translated into other languages. The fidelity of the translation cannot be guaranteed. In case of conflict between the English version and other language versions, the English version takes precedence.

DH Instruments, a Fluke Company, DH , DHI, PPC, PPC2, PPC3, PPC, and PPC2 AF are trademarks, registered and otherwise.

040413
550104c
Printed in the USA.



TABLE OF CONTENTS

TABLE OF CONTENTS	I
TABLES	II
FIGURES	II
ABOUT THIS MANUAL	III
1. INTRODUCTION.....	1
1.1 PRODUCT OVERVIEW.....	1
1.2 SUBASSEMBLY DESCRIPTION AND LOCATION.....	1
1.3 SPECIFICATIONS.....	2
2. INSTALLATION	3
2.1 PNEUMATIC.....	3
2.2 ELECTRICAL	4
3. OPERATION	5
3.1 GENERAL OPERATING INSTRUCTIONS.....	5
4. MAINTENANCE.....	7
4.1 GENERAL.....	7
4.2 REMOVING AND INSTALLING THE SPLT FILTER.....	7
4.3 SPLT EXHAUST VALVE REMOVAL AND REPLACEMENT	8
4.4 OVERHAUL	8
4.5 PARTS	9



TABLES

Table 1. Parts Listing 9

FIGURES

Figure 1. SPLT (Overall View) 1
Figure 2. PPC with SPLT and DUT 3
Figure 3. Front View (Left) and Side View (Right)..... 9



ABOUT THIS MANUAL

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

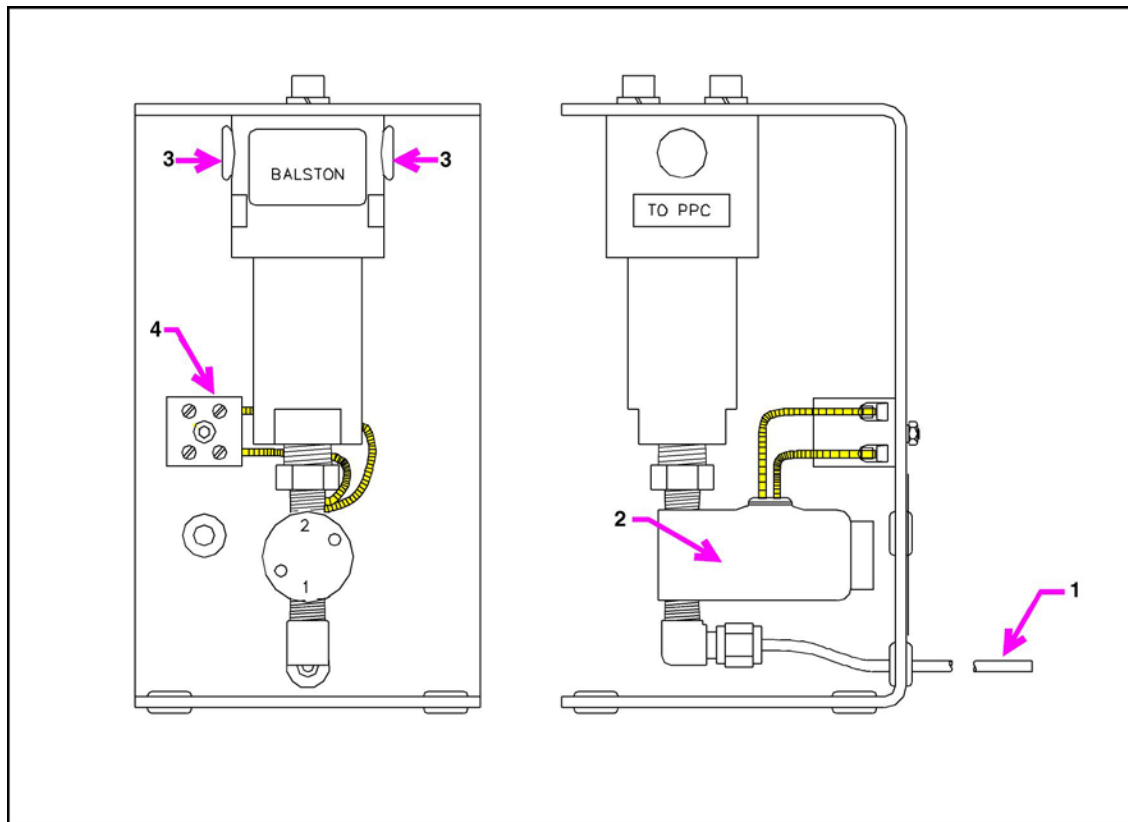
1. INTRODUCTION

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 | 3. Pressure Connections – 1/4 in. NPT F to test and to PPC |
| 2. Exhaust Valve - Solenoid valve to release pressure | 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

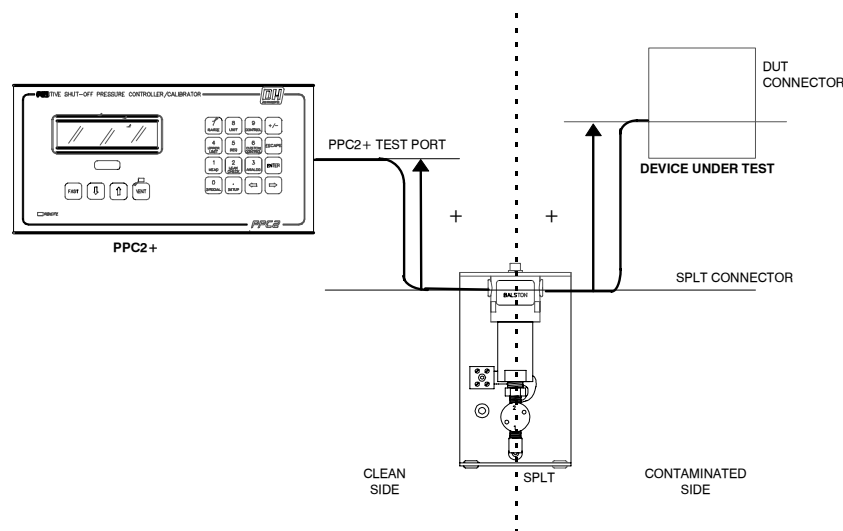


Figure 2. PPC with SPLT and DUT



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



For the SPLT to operate, the PPC it is connected to must be equipped with external valve drivers. External valve drivers is option 012 for PPC2+, and a standard feature with PPC3. Without external valve drivers, PPC will be unable to activate the SPLT exhaust valve.

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 the valve as follows:

- ❶ Solder (2) 24 gauge wires of desired length to the 12-pin connector provided with the PPC analog driver option.
 - ❷ Connect (1) wire to pin L and the other to pin B.
 - ❸ 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 **Leak Check/Purge** in the PPC Operation and Maintenance manual.

NOTES

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 (102514).
- ❸ Disconnect drain tube (101392-Z) from elbow adaptor (100321).
- 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 (102502).
- 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 (102514).
- Remove solenoid valve from SPLT body (102502).
- Remove fittings (102516, 100321) and drain tube (101392-Z) from exhaust valve.
- Install fittings (102516, 100321) and drain tube (101392-Z) onto the new exhaust valve.
- Reinstall exhaust valve onto SPLT body (101502).
- 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

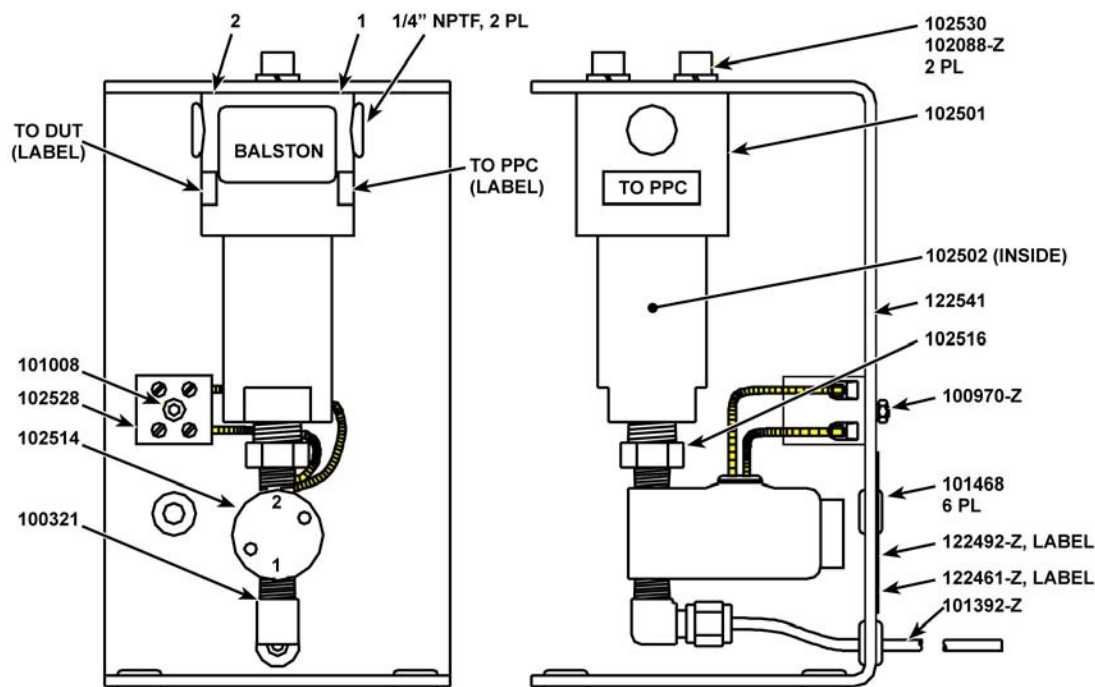


Figure 3. Front View (Left) and Side View (Right)



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

Table 1. Parts Listing

PART NUMBER	DESCRIPTION	QTY REQUIRED
100970-Z	Hex nut, M 3	1
101392-Z	Drain tube, 1/8 in. O.D.	1
102088-Z	Split lock washer	2
122461-Z	Label	1
122492-Z	Label	1
100321	Elbow adaptor	1
101008	Allen screw, M3 X 20	1
101468	Rubber grommet	6
102501	Liquid trap	1
102502	Filter	1
102514	12 VDC solenoid valve	1
102516	Reducer, adaptor	1
102528	Terminal block	1
102530	Allen screw, 1/4-20 X 1/2	2
122541	Mounting bracket	1

NOTES