RECON 1250

Tube Leak Test Gun - Pressure

Tube & Pipe Cleaners ○ Tube Testers ○ Tube Plugs ○ Tube Removal ○ Tube Installation

Operating and Maintenance Instructions

www.elliott-tool.com

ELLIOTT TOOL TECHNOLOGIES

TABLE OF CONTENTS

INTRODUCTION

Thank you for purchasing this Elliott product. More than 100 years of experience have been employed in the design and manufacture of this control, representing the highest standard of quality, value and durability. Elliott tools have proven themselves in thousands of hours of trouble-free field operation.

If this is your first Elliott purchase, welcome to our company; our products are our ambassadors. If this is a repeat purchase, you can rest assured that the same value you have received in the past will continue with all of your purchases, now and in the future.

The RECON 1250 Tube Leak Test Gun has been designed for the following types of equipment:

Heat Exchangers

Condensers

Chillers

Evaporators

Air Conditioners

If you have any questions regarding this product, manual or operating instructions, please call Elliott at +1 800 332 0447 toll free (USA only) or +1 937 253 6133, or fax us at +1 937 253 9189 for immediate service.

SAFETY GUIDELINES

Read and save all instructions. Before use, be sure everyone using this tool reads and understands this manual, as well as any labels packaged with or attached to the machine.

⚠ CAUTION

Operators should always wear safety glasses and a face shield when operating this tool.

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Pinching Hazard located between Backup Washer and Cylinder Nose. Do not place fingers in this location during operation.

- CAUTION: Pinching Hazard located between Backup Washer and Cylinder Nose. Do not place fingers in this location during operation.
- CAUTION: Operators should always wear safety glasses and a face shield when operating this tool.
- Operator responsible for supplying approved lubricated air for operation.
- Prior to testing, the tubes should be cleaned and any loose deposits or scale should be removed. If the tubes have not been cleaned any foreign materials present may be ejected during the testing operation and may damage the test guns or injure the operators.
- Use Proper Accessories. Use Elliott accessories only. Be sure accessories are properly installed and maintained.
- Maintain Labels and Nameplates. These carry important information and will assist you in ordering spare and replacement parts. If unreadable or missing, contact an Elliott service facility for a replacement.

GENERAL INFORMATION

RECON Series 1250 (TTP1250) Kit Includes:
Tube Leak Test Gun Set – Pressure
(3) Support Tube Assemblies (TTPST1, TTPST2, TTPST3)
Pressure Regulator
Tool Case

Start-Up
If the tubes have been chemically cleaned, please check with Elliott Tool regarding the compatibility of the test gun seals with the cleaning agent.

Range	Support Tube Assembly Part Number
0.282” - 0.510” (7.2 mm - 13 mm)	TTPST1
0.532” - 0.856” (13.5 mm - 21.7 mm)	TTPST2
0.857” - 1.230” (21.8 mm - 31.2 mm)	TTPST3

Make sure the seal and support tube assembly are the correct size for the tubes being tested. For tubes with IDs larger than 1.230” (31.2 mm), use the RECON 2500 Tube Leak Test Gun.

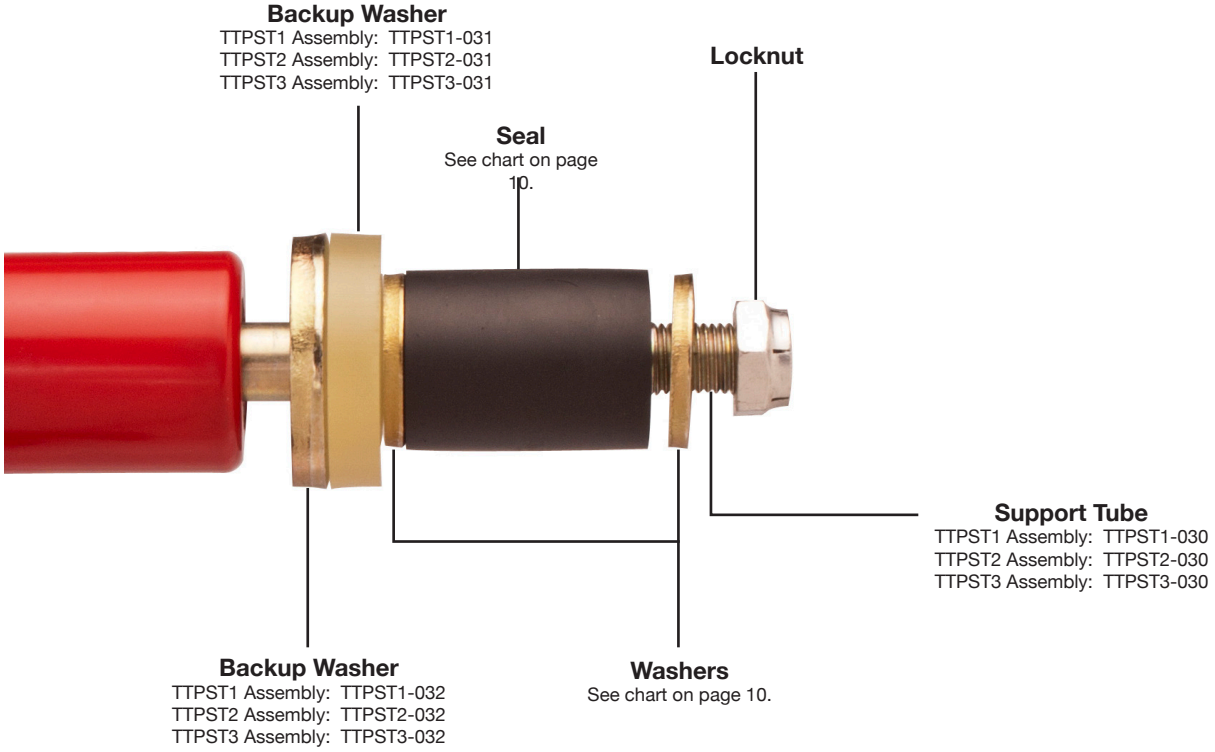
Make sure the test guns have the correct size Seal and Washer Set on them for the tubes being tested. (See sizing chart on page 7). Seal and washer sets contain two seals and four washers. The seals and washers are considered to be correctly sized if the OD of the seal is between 0.030” to 0.050” (0.76mm to 1.27mm) smaller than the actual tube ID. Using seals that are too small may cause the following: premature seal wear, jamming of the test gun in the tube, or expulsion of the test gun from the tube end. Using seals that are improperly sized may cause inability to pull a vacuum on tube end.

GENERAL INFORMATION

Installing Replacement Seals

Replacement seals for the RECON 1250 test guns are supplied with the corresponding size washers. Always replace the seals and washers on both guns at the same time. Under optimum testing conditions you should be able to test between 100 to 500 tubes per replacement Seal and Washer Set.

1. Remove the locknut from the end of the support tube and set it aside.
2. Remove the Seal and Washer Set from the support tube. Discard if worn.
   NOTE: If you are changing the Seal and Washer set to a different size, the support tube assembly may be required to change as well. To replace the support tube assembly, refer to the procedure outlined on next page.
3. Assemble the Support Tube and Seal and Washer Set as shown below.
   NOTE: When replacing the locknut on the support tube do not use a wrench, screw it on finger tight only. A small space between the locknut, seal and washer set, and back-up washers is normal. There will be enough stroke in the air cylinder to compensate for this space.



GENERAL INFORMATION

Replacing the Support Tube Assembly
The RECON 1250 test guns are originally shipped with three sets of support tube assemblies.

1. Remove the Seal and Washer Sets as outlined above.
2. Choose the correct size support tubes for the tube ID being tested. All three sizes of support tubes will thread into the piston of the test gun. Use Never-seize or similar product to lubricate and seal the threads. Do not over tighten the support tube.
3. Repeat steps 1 thru 2 for the remaining gun.
4. If testing tube ID's from 0.282" to 0.510" (7.1mm to 13mm) remove the quick disconnect nipple and then thread the regulator assembly with arrow pointing towards gun onto NPT pipe. Replace quick disconnect nipple.
5. Prior to replacing the Seal and Washer Set and the Back-up Washer Set inspect the support tube for scars left from the replacement procedure. File smooth if present.

Other Replacements and Repairs
Under no conditions should you attempt to service the air cylinders. Any attempt to perform service on the cylinders may void any and all remaining warranties, implied or otherwise.

OPERATION INSTRUCTIONS

1. Attach air supply to the air injection gun. The RECON 1250 test guns will be operational on plant air supplies ranging from 40 to 125 psi (2.7 to 8.6 Bar) at a minimum of 5 cfm. See figure 1 for illustration on regulator.

   NOTE: If testing tube ID's from 0.282 to 0.510" (7.2 to 13 mm) the regulator assembly is required. Install regulator assembly with arrow pointing towards gun onto reducing nipple leak tight and attach air supply to regulator input. For tube ID's from 0.282 – 0.510" adjust regulator to 40 – 60 psi (2.7 to 4.1 Bar) by rotating adjustment knobs while viewing gage.

Figure 1: Regulator Assembly

2. Insert the air injection gun into one end of the tube to be tested and the plugging gun into the other end. Apply enough pressure to seat the back-up washer firmly against the end of the tube. Maintain this pressure throughout the test.
3. After making sure that the plugging gun operator is ready, press the lever on the injection gun and hold until the reading on the pressure gauge stabilizes.
4. Release the lever on the injection gun. It will automatically return to the closed position isolating the tube being tested. The tube is now under pressure.
5. Both injection gun and plugging gun operators should observe the pressure gage on their respective guns. Any decrease in the pressure shown on the gauge indicates a leaking tube.
6. Press the bleed valve on the injection gun to bleed off the air pressure in the tube and air cylinders and to relax the seals.
7. Remove the test guns and move on to the next tube. Mark each leaking tube encountered for repair. The total operation should be completed in 5 to 10 seconds. Your actual testing time will depend on the amount of time you choose to hold the test pressure.
8. Repeat steps 2 through 7.

SEAL SETS & SUPPORT TUBES

RECON 1250 & 2500 Seal Sets							
Tube OD	BWG						
	8-9	10-11	12-13	14-15	16-17	18-19	20-24
1/2" (12.7mm)	-	-	TTPS250	TTPS300	TTPS340	TTPS370	TTPS400
5/8" (15.9mm)	TTPS270	TTPS340	TTPS370	TTPS440	TTPS470	TTPS500	TTPS530
3/4" (19.1mm)	TTPS400	TTPS440	TTPS500	TTPS530	TTPS590	TTPS620	TTPS650
7/8" (22.2mm)	TTPS530	TTPS590	TTPS620	TTPS690	TTPS720	TTPS750	TTPS780
1" (25.4mm)	TTPS650	TTPS690	TTPS750	TTPS800	TTPS840	TTPS870	TTPS900
1-1/8" (28.6mm)	TTPS780	TTPS840	TTPS870	TTPS940	TTPS970	TTPS1000	TTPS1030
1-1/4" (31.75mm)	TTPS900	TTPS940	TTPS1000	TTPS1070	TTPS1090	TTPS1120	TTPS1150
1-3/8" (34.9mm)	TTPS1050	TTPS1090	TTPS1120	TTPS1190	TTPS1230	TTPS1250	TTPS1280
1-1/2" (38.1mm)	TTPS1150	TTPS1190	TTPS1250	TTPS1310	TTPS1340	TTPS1370	TTPS1400
1-5/8" (41.3mm)	TTPS1280	TTPS1340	TTPS1370	TTPS1440	TTPS1470	TTPS1500	TTPS1530
1-3/4" (44.5mm)	TTPS1400	TTPS1470	TTPS1500	TTPS1550	TTPS1590	TTPS1620	TTPS1650
2" (50.8mm)	TTPS1650	TTPS1700	TTPS1750	TTPS1800	TTPS1840	TTPS1840	TTPS1900
2-1/4" (34.9mm)	TTPS1900	TTPS1950	TTPS2000	TTPS2050	TTPS2090	TTPS2120	TTPS2150
2-1/2" (63.5mm)	TTPS2150	TTPS2200	TTPS2250	TTPS2290	TTPS2340	TTPS2370	TTPS2400

Seal sets contain two seals and four washers. Seal sets TTPS250 through TTPS440 contain 4 seals and 4 washers. Standard seal material is neoprene. Seals are backwards-compatible.

Replacement Support Tube Sets & Optional Extensions					
Tube ID Range	4" (Std.) (101.6mm) Part #	12" (305mm) Part #	24" (610mm) Part #	36" (914mm) Part #	48" (1,219mm) Part #
0.282"-0.510" (7.2-13mm)	TTPST1	TTPST1-12	TTPST1-24	TTPST1-36	TTPST1-48
0.532"-0.856" (13.5-21.7mm)	TTPST2	TTPST2-12	TTPST2-24	TTPST2-36	TTPST2-48
0.857"-1.230" (21.8-31.2mm)	TTPST3	TTPST3-12	TTPST3-24	TTPST3-36	TTPST3-48
1.240"-1.630" (31.5-41.4mm)	TTPST4	TTPST4-12	TTPST4-24	TTPST4-36	TTPST4-48
1.640"-2.030" (41.6-51.6mm)	TTPST5	TTPST5-12	TTPST5-24	TTPST5-36	TTPST5-48
2.040" - 2.456" (51.8-62.4mm)	TTPST6	-	-	-	-

For larger seal and washer sizes, contact factory. Support Tubes are backwards-compatible. Extensions for TTPST6 available upon request.

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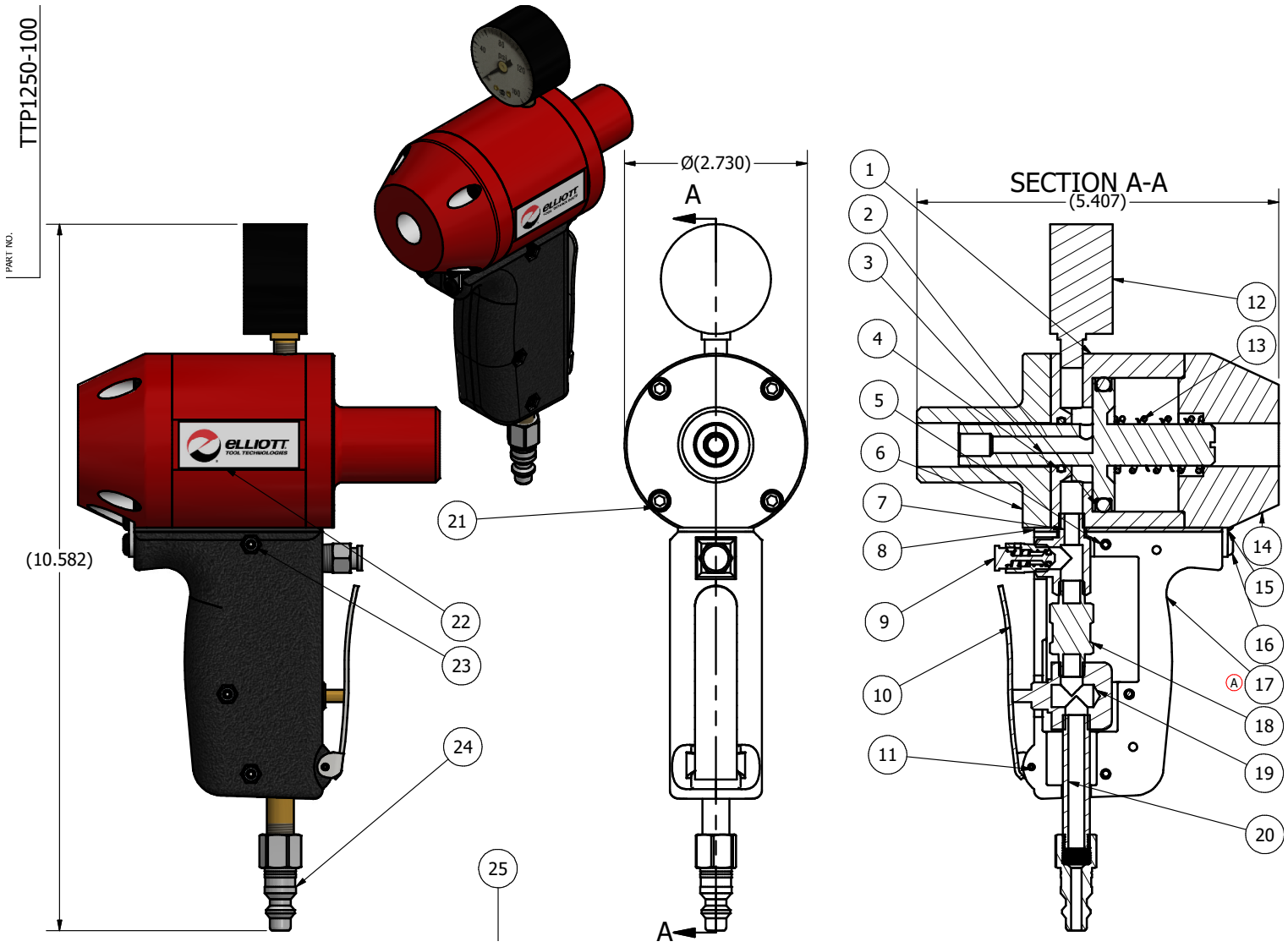
TUBE LEAK TEST GUN - PRESSURE
TTP1250-100

ITEM #	PART NAME	NO. REQ	PART NUMBER
1	CYLINDER BODY	1	TTP1250-121
2	O-RING, AS568 - 326	1	P8309-29
3	PISTON	1	TTP1250-123
4	O-RING, AS568 - 114	1	P8309-12
5	BUTTON HEAD CAP SCREW	3	TTP1250-173
6	CYLINDER NOSE	1	TTP1250-120
7	ADAPTER TEE	1	TTP1250-174
8	GASKET	1	TTP1250-140
9	BLEED VALVE	1	TTP1250-177
10	LEVER	1	TTP1250-160
11	SPRING PIN, 3/32 X 7/8	1	P8381-14
12	PRESSURE GAUGE	1	TTP1250-190
13	SPRING	1	37-72190
14	CYLINDER CAP	1	TTP1250-122
15	SUPPORT BRACKET	2	TTP1250-171
16	BUTTON HEAD CAP SCREW	4	P8597-12
17	HANDLE HALF	1	TTP1250-150
18	CHECK VALVE	1	TTP1250-175
19	BUTTON VALVE	1	TTP1250-176
20	LONG NIPPLE	1	TTP1250-181
21	SOCKET HEAD CAP SCREW, #8-32 X 3/4	8	P8302-20
22	HANDLE HALF	1	TTP1250-151
23	LABEL	1	ETTLBL1800A
24	ELASTIC LOCKNUT, #4-40	3	546GSS
25	1/4 NIPPLE	1	41-6534K18
26	LABEL (NOT SHOWN)	1	TTP1250LBL-1
27	NEEDLE ROLLER (NOT SHOWN)	2	P8573-17

TUBE LEAK TEST GUN - PRESSURE
TTP1250-100

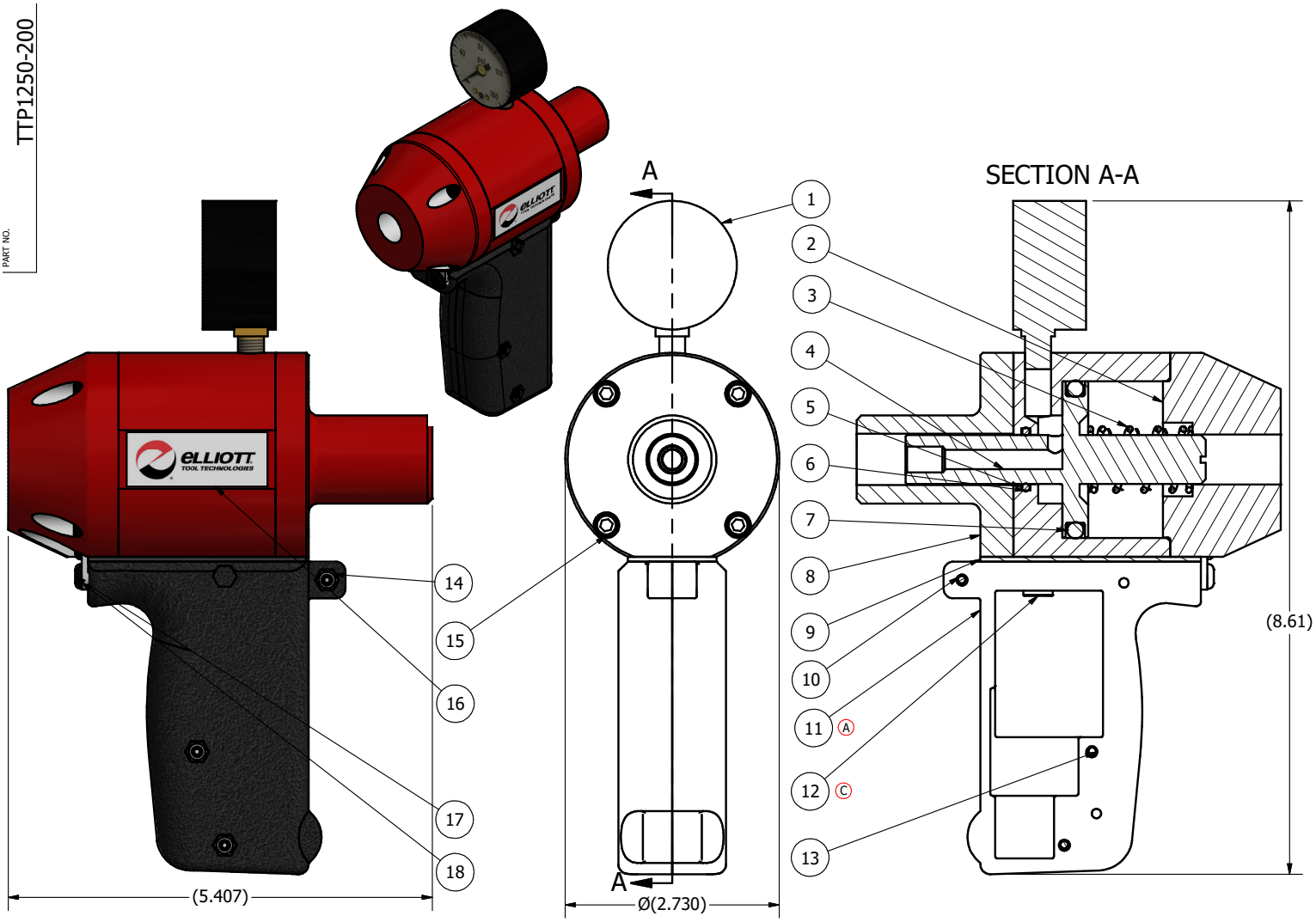


TUBE LEAK TEST GUN - PRESSURE
TTP1250-200

ITEM #	PART NAME	NO. REQ	PART NUMBER
1	PRESSURE GAUGE	1	TTP1250-190
2	CYLINDER CAP	1	TTP1250-222
3	SPRING	1	37-72190
4	PISTON	1	TTP1250-123
5	O-RING, AS568 - 114	1	P8309-12
6	CYLINDER BODY	1	TTP1250-221
7	O-RING, AS568 - 326	1	P8309-29
8	CYLINDER NOSE	1	TTP1250-120
9	GASKET	1	TTP1250-240
10	BUTTON HEAD CAP SCREW	1	TTP2500-178
11	HANDLE HALF	1	TTP1250-250
12	THREADED STUD	1	TTP2500-138
13	BUTTON HEAD CAP SCREW	2	TTP1250-173
14	ELASTIC LOCKNUT, #4-40	3	546GSS
15	SOCKET HEAD CAP SCREW, #8-32 X 3/4	8	P8302-20
16	LABEL	1	ETTLBL1800A
17	HANDLE HALF	1	TTP1250-251
18	BUTTON HEAD CAP SCREW	4	TTP1250-170
19	SUPPORT BRACKET	2	TTP1250-171
20	LABEL (NOT SHOWN)	1	TTP1250LBL-2
21	NEEDLE ROLLER (NOT SHOWN)	2	P8573-17

TUBE LEAK TEST GUN - PRESSURE
TTP1250-100

PART NO. TTP1250-200



TROUBLESHOOTING GUIDE

Seal slips out of tube.

1. The tube is not clean of debris/lubrication.
    a.) It is always very important to properly clean tubes before testing them. Debris/ lubrication can inhibit the seal from seating correctly in the tube.
    b.) Check how much PSI is being supplied to the gun. DO NOT exceed the MAX PSI rating of 125 PSI. If there is too much pressure being supplied to the tube(s) being tested, the excess PSI will force the test guns out of the tube. Use the provided air regulator to ensure you are within the specified PSI range (40 - 125 PSI, 2.7 - 8.6 bar).

Tester will not create a seal.

1. The seal set being used is not the proper size for the tube.
2. Proper air pressure is not being used.
    a.) Test guns operate on air pressure ranging from 40 to 125 psi (2.7 to 8.6 Bar). Use the provided air regulator to ensure you are within the specified PSI range.

WARRANTY

Should any part, of Seller's own manufacture, prove to have been defective in material or workmanship when shipped (as determined by Seller), Seller warrants that it will, at its sole option, repair or replace said part f.o.b., point of manufacture, provided that Buyer notifies, in writing, of such defect within twelve (12) months from date of shipment from the manufacturing plant.

On request of Seller, the part claimed to be defective will be returned, transportation, insurance, taxes and duties prepaid, to the factory where made, for inspection. Any item, which has been purchased by Seller, is warranted only to the extent of the original manufacturer's warranty to Seller.
Seller shall not be liable for any damages or delays caused by defective material or workmanship.

No allowance will be made for repairs or alterations made by others without Seller's written consent or approval. If repairs or alterations are attempted without Seller's consent, Seller's warranty is void.

THE WARRANTIES PROVIDED IN THE OBLIGATIONS AND LIABILITIES OF SELLER HEREUNDER, AND THE RIGHTS AND REMEDIES OF BUYER HEREUNDER ARE EXCLUSIVE AND IN SUBSTITUTION FOR, AND BUYER HEREBY WAIVES ALL OTHER WARRANTIES, GUARANTEES, OBLIGATIONS, CLAIMS FOR LIABILITIES, RIGHTS AND REMEDIES, EXPRESS OR IMPLIED, ARISING BY LAW OR OTHERWISE, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTY FOR MERCHANTABILITY AND FITNESS FOR PURPOSE.

Seller's total liability is limited to the lower of the cost of repair or replacement.

Contact Us

Elliott Tool offers a complete line of precision tube tools to meet your needs. Contact us or your local support.

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