

Elliott offers a complete line of precision tube tools, including:



**tube
expanders**

- Boiler Expanders
- Heat Exchanger Expanders
- Condenser Expanders
- Refinery Expanders

**tube rolling motors
& torque controls**

- Electric
- Pneumatic

**tube
cleaners**

- Air & Water Driven Motors
(Internal/External Drives)
- Jiffy Guns
("Shoot-Thru" Devices)
- Roto-Jet
(Rotating Flex Shaft)

**additional
products**

- Tube and Joint Testers
- Tube Plugs
(High & Low Pressure)

**retubing
tools**

- Tube Gauges
- Tube Cutters
- Manual Tools
- Spear Type Tube Pullers
- Collet-Type Tube Pullers
- CYCLGRIP Tube Extractors
- Grooving Tools
- End-Prep Tools

**metal working
products**

- Back Chamfering Tools
- Carbide Roller Burnishing Tools
- Diamond Burnishing Tools
- Elliptical Deburring Tools
- Fine Boring Tools
- Internal Recessing Tools
- Magic Vise
- Mechanical Joining Tools
- Roller Burnishing Tools
- Single Blade Reamers

5374 Series Air Activated Tube Tester

(For testing straight-through exchanger without removing both heads.)

For Tube I.D. Range 0.50" thru 1.23"
[12.7mm thru 31.2mm]



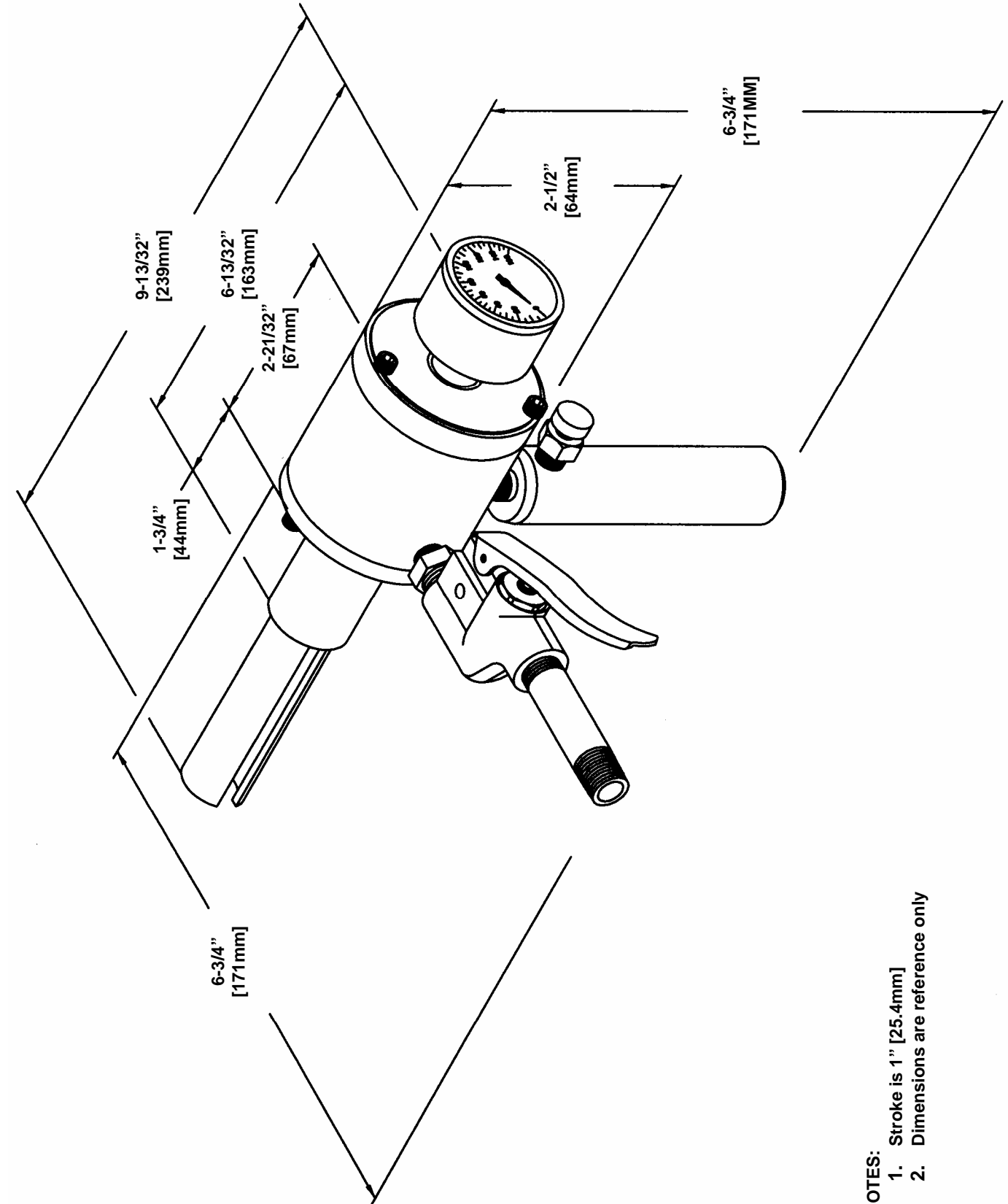
Safety and Operating Instructions

Elliott Tool Technologies Ltd • 1760 Tuttle Avenue • Dayton, Ohio 45403 U.S.A.
Phone: +1 800 332 0447 • +1 937 253 6133 • Fax: +1 937 253 9189

Elliott Tool Technologies UK Ltd • Broadstone Hill • Old Chalford • Chipping Norton • OXON • OX7 5QL • England
Phone: +44 (0) 1608 672815 • Fax: +44 (0) 1608 672810



DIMENSIONAL INFO



- NOTES:
1. Stroke is 1" [25.4mm]
 2. Dimensions are reference only

5374 PARTS LIST

TABLE OF CONTENTS

Seal & Washers Sets for 5374 Tube Tester							
Wall Gauge (BWG)	Tube O.D. Inches [mm]						
	5/8 [15.88]	3/4 [19.05]	7/8 [22.2]	1 [25.4]	1-1/8 [28.58]	1-1/4 [31.75]	1-3/8 [34.9]
8-9		5374-400	5374-530	5374-650	5374-780	5374-900	5374-1050
10-11		5374-440	5374-590	5374-690	5374-840	5374-940	5374-1090
12-13		5374-500	5374-620	5374-750	5374-870	5374-1000	5374-1120
14-15		5374-530	5374-690	5374-800	5374-940	5374-1070	5374-1190
16-17	5374-470	5374-590	5374-720	5374-840	5374-970	5374-1090	
18-19	5374-500	5374-620	5374-750	5374-870	5374-1000	5374-1120	
20-24	5374-530	5374-650	5374-780	5374-900	5374-1030	5374-1150	

Notes:

1. Standard material for seals is neoprene. For additional materials, consult the factory.
2. Seal & Washer sets include one seal & two washers. Two sets are required for each unit.

Introduction 2

Operating Procedures 3, 4 and 5

Parts List..... 6 thru 8

Dimensional Info..... 9

INTRODUCTION

Thank you for purchasing this Elliott product. The design and manufacture of this machine, represents the highest standard of quality, value and durability. Elliott tools have proven themselves in thousands of hours of trouble free field operation.

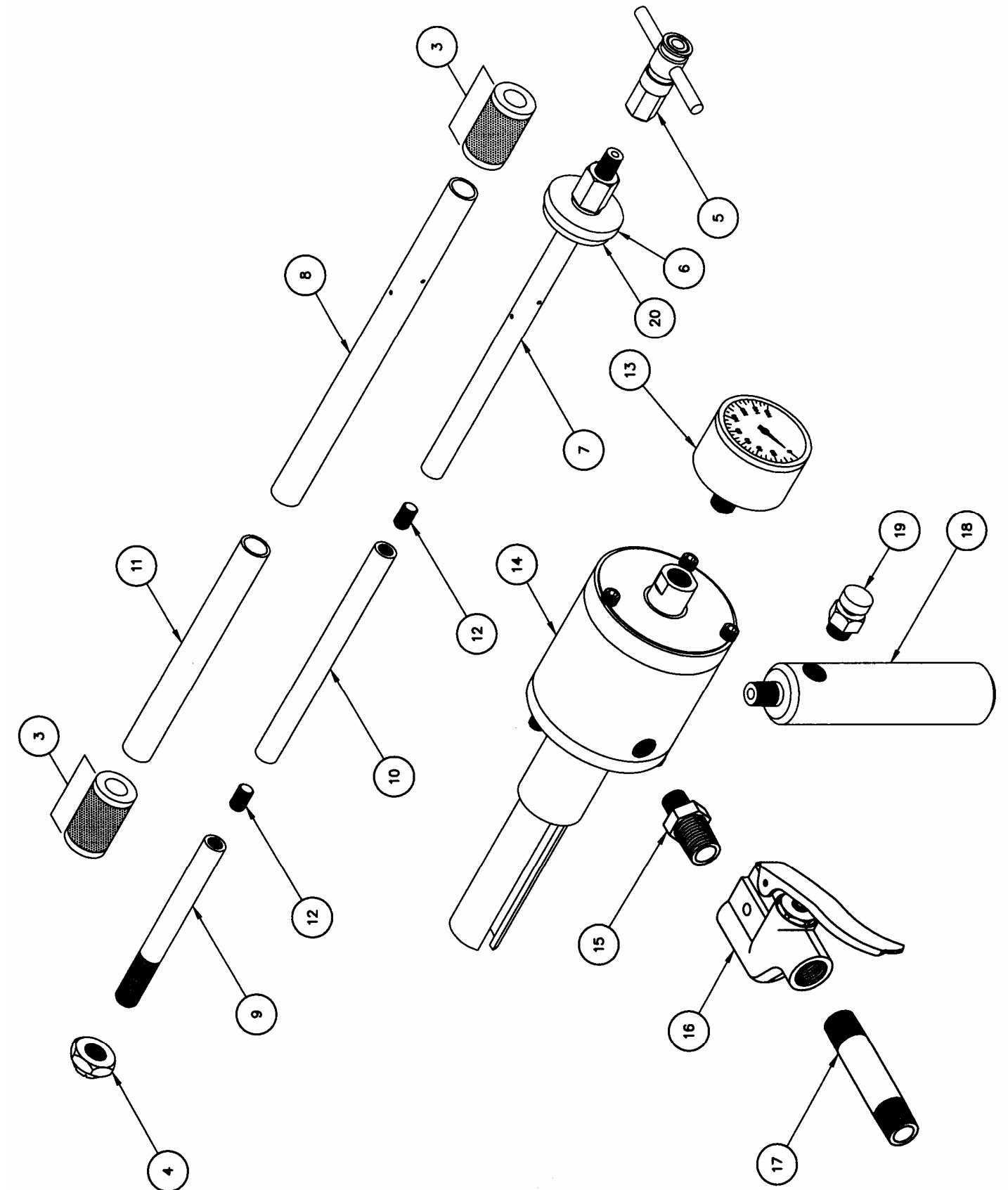
If this is your first Elliott purchase, welcome to our company; our products are our ambassadors. If this is a repeat purchase, you can rest assured that the same value you have received in the past will continue with all of your purchases, now and in the future.

The Elliott 5374 Series Air Activated Tube Tester is a lightweight, portable tube testing system designed for testing for leaks in individual straight-through heat exchanger tubing with I.D. range of 0.50" thru 1.23" (12.7mm to 31.2mm) where access is limited to only one tube end. With the 5374 Air Activated Tube Tester, you can pneumatically test 2 to 4 tubes per minute – all with significantly less operator fatigue and greater operator safety.

We at Elliott would like you to be completely satisfied with this machine and therefore recommend that this instruction manual be thoroughly read prior to use.

This unit has been designed and manufactured to the highest standards, using the latest in materials and technology. If the guidelines and maintenance schedules in this manual are followed, the Elliott 5374 Air Activated Tube Tester will provide many years of trouble free operation.

5374 PARTS LIST



Elliott Tool Technologies Ltd shall not be liable for errors contained herein or for incidental or consequential damage in connection with the furnishing, performance, or use of this material.

5374 PARTS LIST

ITEM NO.	QTY.	DESCRIPTION	PART NUMBER
1	1	Complete 5374 Test Gun (Includes Items 13 thru 19)	5374
2	1	Complete Support Rod & Tube Assembly (Includes Items 4 thru 12, 20) 0.50"-0.86" (12.7mm-21.8mm) 0.87"-1.23" (22.1mm-31.2mm)	5374SR1-XXX* 5374SR2-XXX*
3	2	Seal & Washer Set	See Chart
4	1	Lock Nut 0.50"-0.86" (12.7mm-21.8mm) 0.87"-1.23" (22.1mm-31.2mm)	5373LN4 5373LN3
5	1	Quick Connect Assembly	5374QC
6	1	Back-Up Washer 0.50"-0.86" (12.7mm-21.8mm) 0.87"-1.23" (22.1mm-31.2mm)	5374BW1 5374BW2
7	1	Ported Pull Rod Assembly 0.50"-0.86" (12.7mm-21.8mm) 0.87"-1.23" (22.1mm-31.2mm)	5374PPR1 5374PPR2
8	1	Ported Compression Tube 0.50"-0.86" (12.7mm-21.8mm) 0.87"-1.23" (22.1mm-31.2mm)	5374PCT1 5374PCT2
9	1	End Pull Rod 0.50"-0.86" (12.7mm-21.8mm) 0.87"-1.23" (22.1mm-31.2mm)	5374EPR1 5374EPR2
10	**	Support Rod Extension 0.50"-0.86" (12.7mm-21.8mm) 0.87"-1.23" (22.1mm-31.2mm)	5374SRE1-XXX* 5374SRE2-XXX*
11	**	Support Tube Extension 0.50"-0.86" (12.7mm-21.8mm) 0.87"-1.23" (22.1mm-31.2mm)	5374STE1-XXX* 5374STE2-XXX*
12	**	Hex Socket Set Screw 0.50"-0.86" (12.7mm-21.8mm) 0.87"-1.23" (22.1mm-31.2mm)	128VV 128CL
13	1	Pressure Gauge (0-160 psi)	P5259G
14	1	Cylinder Body Complete (Includes Nose Cone)	5374C
15	1	Reducing Nipple, 1/4" to 1/8" NPT	5373RN
16	1	Air Control Valve	5373CV
17	1	2-1/2" Nipple, 1/4" NPT	5374N
18	1	Handle, Ported w/o Bleed Valve	5373H1
19	1	Bleed Valve	5373BV
20	1	Spacer Washer 0.50"-0.86" (12.7mm-21.8mm) 0.87"-1.23" (22.1mm-31.2mm)	5374SW1 5374SW2

* Support Rod & Tube Assembly, Support Rod Extension, and Support Tube Extension are available in lengths measured in inches. The suffix "XXX" denotes the actual length of the extension in inches. For example, the part number 5374SR1-072 is a 72 in. (1828.8mm) Support Rod & Tube Assembly for tube I.D. range of 0.50"-0.86" (12.7mm-21.8mm).

** Quantities may vary depending on tube length requirements.

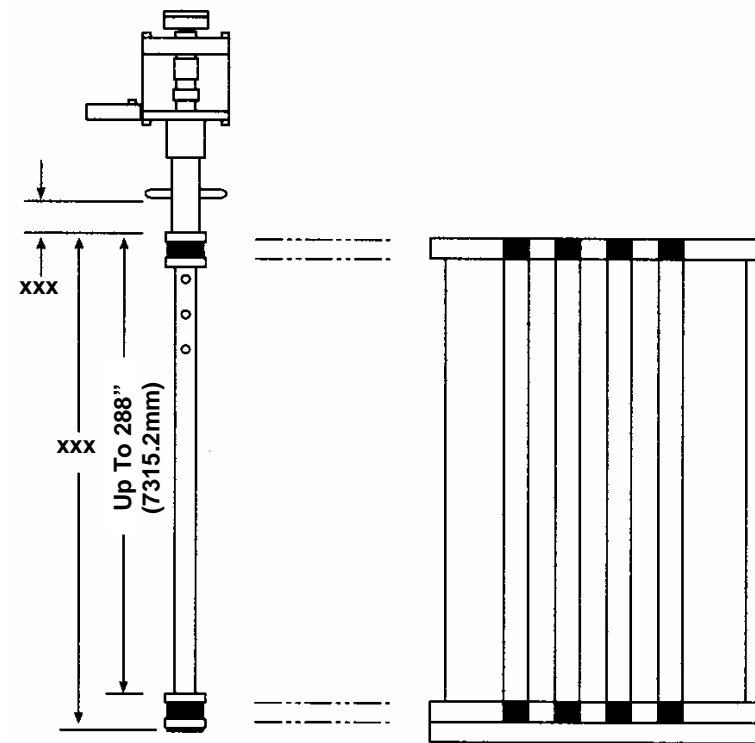
OPERATING PROCEDURES FOR 5374 TUBE TESTER

NOTE: See pages 6-8 for part numbers and illustrations of the 5374 as indicated in instructions below.

PRIOR TO TESTING:

1. The tubes to be tested 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.
2. The operators should always wear safety glasses or a face shield when testing with the 5374 or any type of pressure test guns.
3. If the tubes have been acid cleaned please check with Elliott Customer Service regarding the compatibility of the test gun seals with the cleaning agent. Different types of elastomer seals are available as replacements.
4. Make sure the support rod and tube assembly has the correct size Replacement Seal and Washer Set (2) in place for the tubes being tested. The seals and washers are considered to be correctly sized if the OD of the seal is 0.03" to 0.05" (0.7mm to 1.3mm) under the actual tube ID. Using seals that are too small may cause any of the following: premature seal wear, jamming of the test gun in the tube, or expulsion of the test gun from the tube end. Replacement seals for the 5374 testing guns can be manufactured for any tube ID from 0.50" to 1.23" (12.7mm to 31.2mm). (See chart on page 8 for seal selection.)
5. Check measurements of total length of tube to be tested and the seal-to-seal length on the support rod and tube assembly. (See illustration and charts on page 4.) 5374 will not function properly, and may jam in the tube, if a seal protrudes partially or completely from the tube.

5374 TUBE TESTER



"XXX" designates tube length in inch increments.

①	5374 Air Activated Tube Tester	
	<u>Tube ID Size Range</u>	<u>Part No.</u>
	.50-1.23 in. (12.7-31.2m)	5374

②	Support Rod & Tube Assembly	
	<u>Tube ID Size Range</u>	<u>Part No.</u>
	.50-.86 in. (12.7-21.8m) .87-1.23 in. (21.9-31.2m)	5374SR1-XXX 5374SR2-XXX

③	Channel Head Support Rod & Tube Assembly	
	<u>Tube ID Size Range</u>	<u>Part No.</u>
	.50-.86 in. (12.7-21.8m) .87-1.23 in. (21.9-31.2m)	5374CH1-XXX 5374CH2-XXX

1. Support rod & tube assembly, support rod extension, support tube extension, and channel head support rod & tube assembly are available in lengths measured in inches.
2. See page 6 for parts breakdown on support rod & tube assembly.
3. Channel head support rod & tube assembly includes same items as support rod & tube assembly in addition to (1) pull rod and (1) channel head compression tube.

OPERATING PROCEDURES FOR 5374 TUBE TESTER

TESTING PROCEDURE:

1. Configuring the Support Rod and Tube Assembly: Place one seal and washer set onto ported pull rod assembly. Firmly thread the remaining support rod extension(s) together with set screws, ending with the end pull rod (with quick connect). Slide ported compression tubes onto rod assembly ending with the non-ported support tube extension. Place seal and washer set onto pull rod and secure with lock nut. Tighten lock nut until all slack in the assembly is taken up.
2. Attach air supply to the air injection gun. The 5374 test guns will be operational on plant air supplies ranging from 40 to 125 psi (3 to 8.6 Bars) at a minimum of 5 cfm (2.4 lps).
3. Insert the support rod and compression tube assembly into the exposed end of the tubesheet. Connect the support rod and tube assembly to the gun via a quick connect on the gun. Turn the slotted end of the gun to meet the washer of the tube assembly to remove free play.
4. Begin testing: Squeeze the handle of the air control valve to pressurize tube. Gun operator should observe the pressure gauge on the gun. Any tube leaks will be identified by a reduction in pressure on the gauge.
5. Press the bleed valve on the injection gun to bleed off the air pressure in the tube, air cylinder, and to relax the seals.
6. Disconnect the gun from the support rod and tube assembly. Set the gun aside.
7. Remove the support rod and tube assembly and reinsert it into the next tube to be tested. Mark each leaking tube encountered for repair. The total operation should be completed in 15 to 30 seconds. Your actual testing time will depend on the amount of time you choose to hold the pressure test.
8. Repeat steps 2 through 6 until testing is complete.