

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**

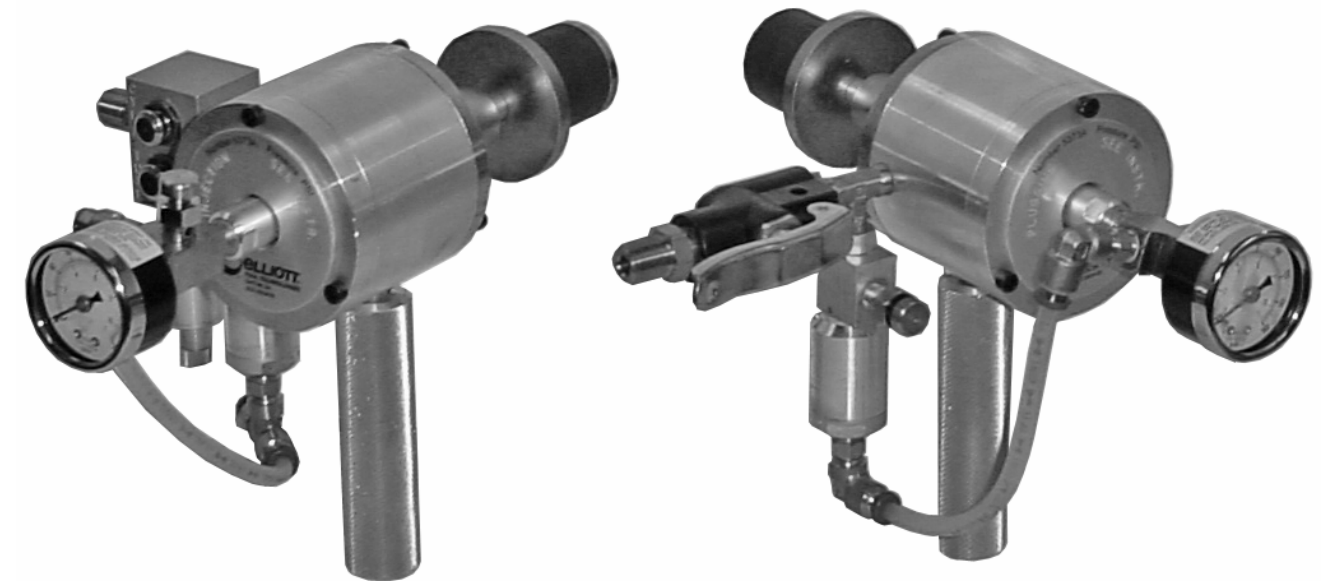
- Tube Gauges
- Tube Cutters
- Manual Tools
- Spear Type Tube Pullers
- Collet-Type Tube Pullers
- CYCLGRIP Tube Extractors
- Grooving Tools
- End-Prep Tools

**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

## 5373A Series Air Activated Tube Tester

For Tube I.D. Range 1.24" thru 2.53"  
[31.5mm thru 64.3mm]



## 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



# 5373A PARTS LIST

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Seal & Washers Sets for 5373A Tube Tester							
Wall Gauge (BWG)	Tube O.D. Inches [mm]						
	1-3/8 [34.9]	1-1/2 [38.1]	1-5/8 [41.3]	1-3/4 [44.5]	2 [50.8]	2-1/4 [57.2]	2-1/2 [63.5]
8-9	See Note 1.	See Note 1.	5373-1280	5373-1400	5373-1650	5373-1900	5373-2150
10-11	See Note 1.	5370-1190	5373-1340	5373-1470	5373-1700	5373-1950	5373-2200
12-13	See Note 1.	5373-1250	5373-1370	5373-1500	5373-1750	5373-2000	5373-2250
14-15	5370-1190	5373-1310	5373-1440	5373-1550	5373-1800	5373-2050	5373-2290
16-17	5373-1230	5373-1340	5373-1470	5373-1590	5373-1840	5373-2090	5373-2340
18-19	5373-1250	5373-1370	5373-1500	5373-1620	5373-1870	5373-2120	5373-2370
20-24	5373-1280	5373-1400	5373-1530	5373-1650	5373-1900	5373-2150	5373-2400

Notes:

1. For seal sizes smaller than listed in above chart, see Model 5373 Tube Tester (Tech. Manual TM-8).
2. Standard material for seals is neoprene. For additional materials, consult the factory.
3. Seal & Washer sets include one seal & two washers. One set is required for each gun.
4. For seal sizes larger than those listed above, consult the factory for price & availability.

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**Replacement Support Tube Sets & Optional Extensions**  
(for easier testing when a channel head or water box is present)

Tube I.D. Range Inches [mm]	Reach inches [mm]				
	4 (Std.) [101.6]	12 [304.8]	24 [609.6]	36 [914.4]	48 [1219.2]
1.24 to 1.63 [31.5 to 41.4]	5373ST4	5373ST4-12	5373ST4-24	5373ST4-36	5373ST4-48
1.64 to 2.03 [41.6 to 51.6]	5373ST5	5373ST5-12	5373ST5-24	5373ST5-36	5373ST5-48
2.04 to 2.53 [51.8 to 64.3]	5373ST6	5373ST6-12	5373ST6-24	5373ST6-36	5373ST6-48

Notes:

1. Support Tube Sets include (1) support tube, (1) backup steel washer, and (1) lock nut.
2. Complete 5373A Tube Tester Package includes (3) sets of Support Tube Sets that will cover tube I.D. range of 1.24" to 2.53" (31.5mm to 64.3mm).

# OPERATING PROCEDURES FOR 5373A TUBE TESTING GUNS

NOTE: See pages 4-7 for part numbers and illustrations of the 5373A as indicated in instructions below. Numbers in parentheses refer to parts list for 5373A guns.

**PRIOR TO TESTING:**

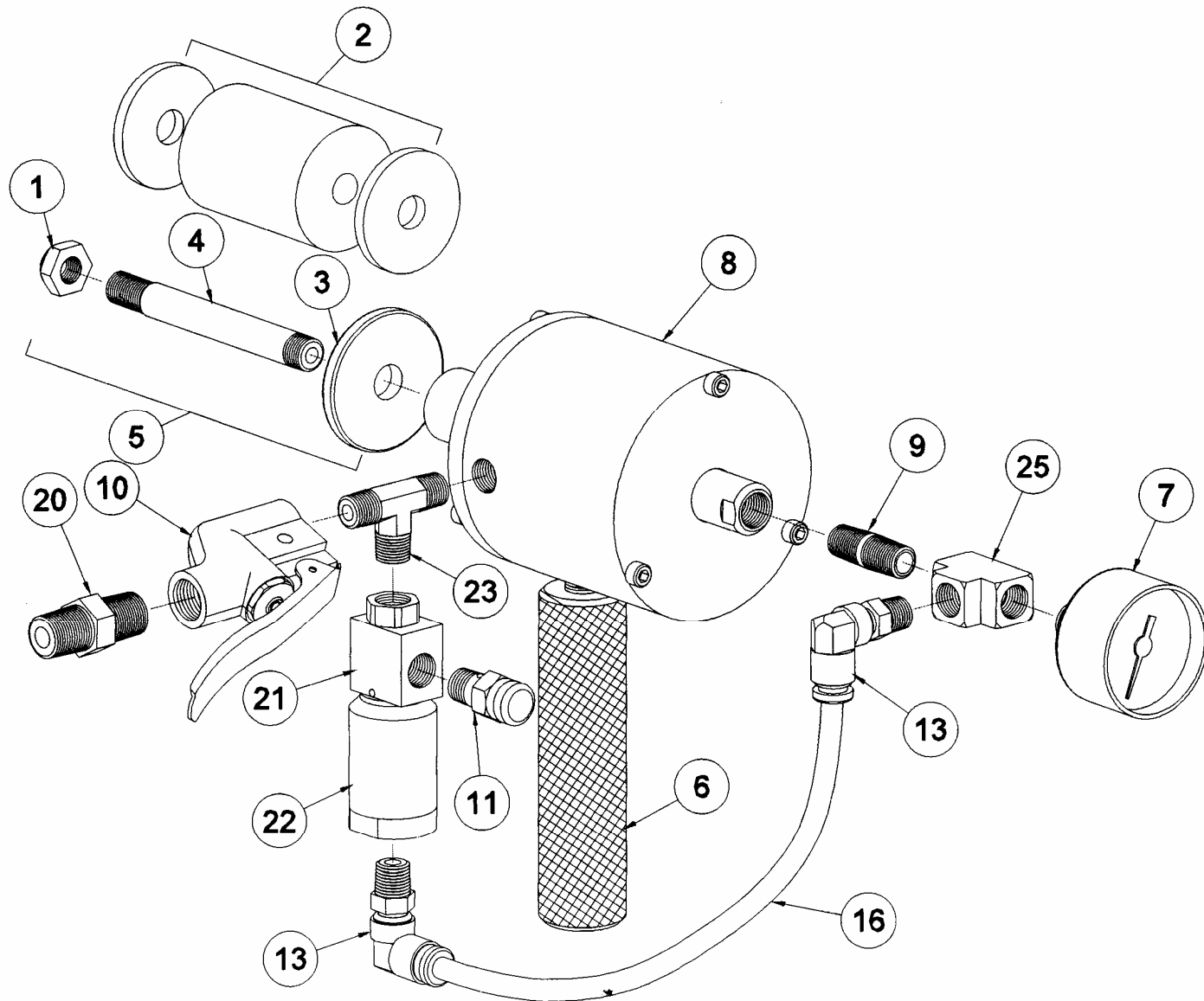
1. The tubes to be tested should be cleaned and any loose deposits or scale should be removed. If the tubes have not been cleaned, any foreign materials present may be expelled from the tube during testing operation and may damage the test guns or injure the operators.
2. The operators should always wear safety glasses or a face shield when testing with the 5373A or any type of pressure test guns.
3. If the tubes have been chemically cleaned, please contact Elliott Tool directly to determine the compatibility of the test gun seals with the cleaning agent. Alternate material seals are available.
4. Make sure the test guns have the correct size Seal and Washer Set (2) 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. Replacement seals for the 5373A testing guns can be manufactured for any tube I.D. from 1.24" to 2.53" (31.50 to 64.26mm). The procedure for replacing the seals and washer sets is outlined on page 3.

## 5373A PARTS LIST

Item No.	Qty.	Description	Part No.
1	2	Lock Nut	5373LN3
		1.24 – 2.53	
2	1	Neoprene Seal & Washer Set	(See Chart on Page 7)
3	2	Backup Washer	5373BW4
		1.24 – 1.63	
		1.64 – 2.03	
4	2	2.04 – 2.53	5373BW6
		Support Tube	See Item 5 See Item 5 See Item 5
		1.24 – 1.63	
1.64 – 2.03			
5	2	2.04 – 2.53	5373ST4 5373ST5 5373ST6
		Support Tube Assembly (Includes Items 1,3, and 4)	
		1.24 – 1.63	
6	2	1.64 – 2.03	5373H2
		2.04 – 2.53	
		Handle	
7	2	Pressure Gauge (0-160 psi)	P5259G
8	2	Cylinder Body Complete (Includes Nose Piece)	5373C2
9	2	Short Nipple, 1/8" N.P.T.	5373SN
10	1	Air Control Valve (Plugging Gun only)	5373CV
11	3	Bleed Valve	5373BV
12	1	Male Swivel Elbow 10-32 – 1/4 Tube (Injection Gun only)	5373MS
13	3	Male Swivel Elbow 1/8 – 1/4 Tube	5373ME
*14	1	Tubing, Polyethylene 1/4 (Injection Gun only)	5373T
*15	1	Tubing, Polyethylene 1/4 (Injection Gun only)	5373T
*16	1	Tubing, Polyethylene 1/4 (Plugging Gun only)	5373T
17	1	Air Control Block	5373CB
		(Injection Gun only)	
18	1	Valve Block	5373VB
		(Injection Gun only)	
19	1	Adjustable Air Regulator	5373AR
		(Injection Gun only)	
20	2	Hex Nipple 1/4 NPT	5373HN
21	2	Three Way Control Valve	5373TW
22	2	Valve Actuator	5373VA
23	2	Male Tee 1/8 NPT	5373MT
24	1	Male Swivel Tee 1/8 NPT – 1/4 Tube	5373MST
		(Injection Gun only)	
25	1	Female Tee 1/8 NPT	5373FT
		(Plugging Gun only)	

\*Items 14 thru 16 are sold as a set. Not sold separately.

# 5373-3 PLUGGING GUN



# OPERATING PROCEDURES FOR 5373A TUBE TESTING GUNS

## TESTING PROCEDURE:

The 5373A Tube Testing Guns come as a set. This set is comprised of: an air injection gun (see page 4) and a plugging gun (see page 5). The air injection gun can be differentiated from the plugging gun because it incorporates the valve block (19) and air regulator (20).

1. Attach air supply to both guns. The 5373A 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. The maximum test pressure of the tube is dependent on the tube ID and the air supply pressure (see Table 1).
2. On the air injection gun, turn the adjusting nut on the air regulator (20) counterclockwise to set the tube testing pressure to zero.

**TABLE 1 – Maximum Tube Test Pressure Versus Air Supply Pressure And Tube ID**

NOMINAL TUBE SIZE	AIR SUPPLY PRESSURE – PSI				
	40	60	80	100	125
	MAXIMUM TEST PRESSURE - PSI				
1-1/4"	40	60	80	100	125
1-1/2"	30	40	50	60	75
1-3/4"	20	30	40	50	60
2"	15	20	25	30	35
2-1/4"	10	15	20	25	30
2-1/2"	5	10	15	20	25

3. Insert the air injection gun into one end of the tube to be tested and the plugging gun into the other end. The seal should be fully into the tube and the backup washer (3) should be against the tube end.
4. Press the valve marked "CYL" on the valve block (19) of the air injection gun, and press the air control valve (10) on the plugging gun and hold until the guns are firmly held in the tubes. Release both buttons.
5. Press the "TUBE" button on the valve block (19) on the air injection gun and adjust the air regulator (20) clockwise until the desired tube test pressure is achieved (use Table 1 for maximum tube test pressures available).  
**NOTE: The air pressure regulator (20) must be readjusted if testing different size tubes or if air supply pressure changes.**
6. Both injection gun and plugging gun operators should observe the pressure gage (7) on their respective guns. Any decrease in the pressure will indicate a leaking tube.
7. Press the bleed valve (12) on the injection gun between the gage (7) and the cylinder body (6) to bleed off the air pressure in the tube. After the tube test pressure has bled to zero, press the bleed valve (12) on both guns to release the pressure in the cylinder and relax the seals.

# OPERATING PROCEDURES FOR 5373 TUBE TESTING GUNS

## TESTING PROCEDURE:

8. 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 pressure test.
9. Repeat steps 3 through 6 for each tube to be tested.

## INSTALLING REPLACEMENT SEALS:

Replacement seals for the 5373A guns are always supplied with the corresponding size washers. Always replace the seals and washers on both guns at the same time.

1. Remove the locknut (1) from the end of the support tube (4) and set it aside.
2. Remove the Seal and Washer Set (2) from the support tube (4). Discard if worn. Under optimum testing conditions you should be able to test between 500 to 1000 tubes per replacement Seal and Washer set.
3. If you are replacing Seal and Washer Set with the same size set then reverse steps 1 and 2 above. If you are changing the seal and washer set to test a different size tube, please keep in mind that you may also have to change the back-up washer (3) as well. (See parts list)
4. When replacing the locknut (1) on the support tube (4) **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.

## OTHER REPLACEMENTS AND REPAIRS:

Under no conditions should you attempt to service the air cylinders. Any attempt will void any and all remaining warranties, implied or otherwise.

# 5373-4 AIR INJECTION GUN

