General Information

Mechanical backflow preventers have internal seals, springs, and moving parts that are subject to fouling, wear, or fatigue. Also, mechanical backflow preventers and air gaps can be bypassed. Therefore, all backflow preventers have to be tested periodically to ensure that they are functioning properly. A visual check of air gaps is sufficient, but mechanical backflow preventers have to be tested with properly calibrated gauge equipment. Watts Regulator offers a wide variety of backflow testing equipment, outlined in the following pages of this guide.

Training and Certification

Training and Certification for Backflow Prevention Assembly Testers varies state-by-state but the American Backflow Prevention Association does set some national standards. The ABPA maintains a voluntary certification program for those individuals who have the proper backflow prevention training or have prior experience, or a suitable combination of both. With this certification, a Backflow Prevention Assembly Tester is certified to field test any type of backflow prevention assembly. Most States or Provinces do not have mandated Tester programs; therefore, you will find that different areas may have very different requirements. In many jurisdictions where there are no local certification programs, the ABPA Tester Certification may be recognized.

Calibration Centers

Watts Regulator is affiliated with two backflow preventer test kit calibration centers which are certified to calibrate Watts backflow prevention digital test kits, they include:

Nicholson Labs
1423 Queen City Ave. Street
Cincinnati, OH 45214
Tel: (513) 251-8378
Fax: (513) 251-4388

BAVCO
20435 S. Susana Road
Long Beach, CA 90810-1136
Tel: (310) 639-5231
Fax: (310) 639-0721
Model TK-DL
Backflow Preventer Test Kit with Digital Print-Out and Computer Download Capability

The Watts Model TK-DL Test Kit with Digital Print-Out allows you to test backflow prevention assemblies in the field with the same digital print-out confidence that our quality control technicians achieve at the factory. The TK-DL replaces both pressure and differential test gauges and its powerful microprocessors and compact size make it the only test kit you’ll need. The TK-DL can test pressure vacuum breakers, reduced pressure backflow preventers or double check valve assemblies.

The Watts TK-DL is substantially more accurate than mechanical test gauges (to ± 0.2%) and features an easy-to-read numerical display that eliminates reading errors common to analog dials and pointers. High-side, low-side and differential pressure are continuously displayed and recorded in the unit’s 32-K memory. The TK-DL also provides printed, on-site documentation, recording time, date and verified test results. This means you can give your clients a copy of the test results before you leave the site as well as print copies for yourself as proof that the test was conducted. The TK-DL holds 50 three-minute tests in its memory (or 75 shorter tests) which allows you to access and print your test results whenever you like, or to transfer the data to your computer for permanent storage.

We’ve designed the TK-DL so it’s easy to use and requires no programming. The TK-DL automatically checks its calibration and battery power when turned on and before each test. If you forget to turn it off, it shuts itself down. The TK-DL comes standard with a rugged carrying case with handgrip and adjustable shoulder strap. The kit includes a set of NiCad batteries, AC battery charger, three six-foot color-coded hoses, a set of brass adapters, the operating manual, computer cable and software. The TK-DL also comes backed by a full one-year warranty.

Features

• Downloading capability allows for permanent storage of all test results on a floppy disk
• Allows user to customize printed header and footer through your PC system
• RS232 serial port for downloading test results to a PC system
• Provides printed, on site documentation, recording the time, date and verified test results.
• Unmatched accuracy to ±0.2%
• No programming required
• Software program is menu driven and will operate with a mouse or key stroke
• Self calibrates prior to each test
• Designed to test pressure vacuum breakers, reduced pressure backflow preventers or double check valve assemblies, allowing you to eliminate both pressure and differential test gauges

<table>
<thead>
<tr>
<th>MODEL</th>
<th>WEIGHT (KIT ALONE)</th>
<th>WEIGHT W/ FITTINGS IN CASE</th>
<th>DIMENSIONS</th>
<th>DIMENSIONS (IN CASE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TK-DL</td>
<td>9 lbs</td>
<td>16 lbs</td>
<td>14’ x 9’ x 5¼’</td>
<td>16½’ x 13¼’ x 6’</td>
</tr>
</tbody>
</table>
Model TK-99D
Delta Lite™ Backflow Preventer Test Kit

The Watts Model TK-99D hand-held digital test kit is an advanced test instrument designed to test pressure vacuum breakers, spill resistant vacuum breakers, double check valve assemblies, double check detector assemblies, reduced pressure zone backflow assemblies, and reduced pressure detector assemblies. The high contrast LCD display and large ¾” height Differential Character make backflow testing a snap. This compact test kit features .25% Full Scale “Accuracy” in addition to a low battery indicator and an automatic shutdown feature to conserve battery life. Why lug around gauges weighing 15lbs. or more? At “less than 3 lbs.”, the TK-99D test kit from Watts Regulator beats the competition hands down.

Features
- Reviewed by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California
- “Lightest” test kit available-Only 2.8 lbs
- Compact “Hand-held” test kit for ease of use
- State-of-the-art accuracy of .25% of full scale for reliable testing of all types of backflow prevention assemblies
- Easy to read high contrast LCD Readout displays both A and B readings for duplex gauge requirements
- “Low Battery Indicator” displays when batteries are needed
- “Automatic shutdown feature” conserves battery life by turning test kit off after 15 minutes without pressure on the gauge
- Large ¾” Differential Character Display insures accurate reading of the gauge
- Durable High Impact ABS body provides water resistance
- Adjustable hand and shoulder straps for field use
- Color-coded hoses to assist tester in using test kit
- Corrosion resistant stainless steel needle valves with renewable seats
- Inlet pressure readout to assist in troubleshooting
- Minimum/maximum inlet pressure readout—records range of supply pressure fluctuations
- Uses two Alkaline “C” sized batteries—approximately 400 hours of use
- Test kit includes test fittings
- 100 mesh screen protects gauge from dirt and debris and are field cleanable
- Durable carrying case, available separately, provides protection for the TK-99D test kit. The high density foam case packaging protects the test kits from damage due to rough handling

Specifications
- Maximum working pressure: 200psi
- Maximum working temperature: 210°F
- Differential Pressure Readout: 0-200psi
- Separate inlet pressure readout: 0-200psi
- Adapters included
- Hoses: Three 36” color-coded hoses with female swivel couplings
- One moisture resistant operation manual
- High contrast LCD display
- 25% Full Scale Accuracy
- Needle Valves- 316 stainless steel needle valves with adjustable packing gland and renewable seats
- High impact ABS housing
Model TK-99E
Backflow Preventer Test Kit

The Watts Model TK-99E Backflow Preventer Test Kit has been designed for simplified operation and rugged reliability in a compact package. Offering the latest in gauge technology, the Watts TK-99E provides dependable accuracy when testing pressure vacuum breakers, anti-spill vacuum breakers, reduced pressure backflow preventers or double check assemblies and is accurate to ±1% of full scale.

Features
- Color-coded valves and hoses for simplified operation
- Top mounted drain/purge valves and conveniently located line pressure gauge for ease of use
- A large 4.5" anti-parallax dial which indicates descending measurement, accurate to ± 1% of full scale
- Conveniently located needle valves for easy access
- Lightweight needle valves encased in a chemical-resistant body for trouble-free operation
- Replaceable hose filters and valve stem seals for field repair
- Complete kit contains gauge with color-coded valves and hoses, hose adapters, shock cord for easy mounting, supply pressure gauge. All contained in a durable carrying case with room for tools

Specifications
- Maximum working pressure – 200psi
- Maximum working temperature – 200°F
- Gauge – 4.5" diameter face, dual scale 0-15psi and 0-1 kg/cm 2, ± 1% accuracy full scale
- Test valves – Three needle valves
- Pressure gauge – 0-200psi system gauge
- Hoses – Three 6 foot color-coded hoses with female threaded swivel couplings
- Adapter – Three ¾ x ¼ bushings
  - Three ½ x ¼ bushings
  - Three ¾ x ¼ bushings
  - Three ¼ Flared fittings
- One shock cord
- One lightweight durable carrying case resistance
**TK-9A**

**Backflow Preventer Test Kit**

The Watts Model TK-9A Backflow Preventer Test Kit is a compact portable testing device made for testing all Reduced Pressure Zone Backflow Prevention Assemblies and Double Check Valve Assemblies. The TK-9A is easily connected to any RPZ device enabling accurate testing of ‘zone’ differential pressure, relief valve opening differential, fouled check valves or similar problems that visual inspections cannot locate. The unit is supplied with a rugged carrying case for easy handling and accessibility.

**Specifications**

- Maximum working pressure – 175psi
- Maximum working temperature – 210°F
- Gauge – 4½” diameter face dual scale 0-15psi and 0-1 kg/cm2, ±2% accuracy full scale
- Test Valves – (2) ball valves and (1) needle valve
- Hoses – (3) 3’ with female threaded swivel couplings
- Adaptors – (3) ¼” threaded coupling adaptors
  - (3) ½” x ¼” bushings
  - (3) ¾” x ¼” bushings
- 1 – 16” securing strap
- 1 – Moisture resistant instruction guide
- Case – light weight, shock-resistant molded plastic with foam inserts

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**TK-7**

**Backflow Preventer Test Kit**

The Watts Model TK-7 Backflow Preventer Test Kit is especially made to test the individual check modules of the Watts Series 7 residential dual check backflow preventers and can also be used to test any double check valve assembly. The test kit contains three segments of durable 7/16” shatterproof tubing, two brass adaptors used to assemble the three tubing segments, and test hardware to enable testing of Watts Series 7 check modules and standard double checks. A rugged simulated leather carrying case is provided for ease of handling and compactness.

**Specifications**

- Total working height of tube – 44”
- Adaptors – (2) Brass, for Series 7 modules and double checks
- Tubing – Three segments of plastic tubing
- Moisture resistant instruction panel
- Case – Durable simulated leather – weather proof and mildew proof
Test Cocks
For use with backflow preventers, isolation valves for gauges, and isolation valves for small equipment lines.

TC
- TC full port ball valve design
- Screw driver slot to open and close
- Available ¼” M x ¼” F or ¼” M x ¼” F

SAE-TC
- Full port ball valve design
- Screwdriver slot operation
- ¼” M x SAE

SAE-TC Adapter
- ¼” female SAE x ⅛” FPT
- Adapts to SAE-TC for use with pressure gauge and/or site tube
- SAE-TC Adapter
- ⅛” SAE-TC Brass Cap

SilverEagle TC
- ½” TC for 2½” – 4” series 757 and 957
- ¾” TC for 6” – 10” series 757 and 957
- Full port ball valve design

No. 3 TC with O-Ring
- for 2½” – 4” series 757 and 957
- for 6” – 10” series 757 and 957

Caps & Tethers
For use with backflow preventer test cocks to protect from damage. Four required per backflow preventer.

RK-TC P
- Plastic Cap and tether
  (four required per backflow preventer)
- Fits ¼” Female test cocks
- Plastic dust cap and rubber tether

RK-SAE-TC
- SAE Brass Cap, O-ring and Tether
  (four required per backflow preventer)
- Fits ⅛” M x SAE test cocks
- Brass dust cap with O-ring seal and rubber tether
- RK-SAE-TC
For Technical Assistance Call Your Authorized Watts Agent.

<table>
<thead>
<tr>
<th>HEADQUARTERS: Watts Regulator Company</th>
<th>Telephone #</th>
<th>Fax #</th>
</tr>
</thead>
<tbody>
<tr>
<td>815 Chestnut St., North Andover, MA 01845-6098 U.S.A.</td>
<td>978 688-1811</td>
<td>978 794-1848</td>
</tr>
</tbody>
</table>

### North East
- **Edwards, Platt & Deely, Inc.**
  - 271 Royal Ave., Hawthorne, NJ 07506
  - Telephone # 973 427-2889
  - Fax # 973 427-4246
  - 631 253-0600
  - 631 253-0303

- **W. P. Haney Co., Inc.**
  - 51 Norfolk Ave., South Easton, MA 02375
  - Telephone # 508 238-2030
  - Fax # 508 238-8353

### Mid Atlantic
- **J. B. O'Connor Company, Inc.**
  - P.O. Box 12927, Pittsburgh, PA 15241
  - Telephone # 724 745-5300
  - Fax # 724 745-7420

- **The Joyce Agency, Inc.**
  - 8442 Albain Rd., Springfield, VA 22150
  - Telephone # 703 866-3111
  - Fax # 703 866-2332

- **Vernon Bitter Associates, Inc.**
  - 980 Thomas Drive, Warminster, PA 18974
  - Telephone # 215 443-7000
  - Fax # 215 443-7573

### South East
- **Billingsley & Associates, Inc.**
  - 2728 Crestview Ave., Kenner, LA 70062-4829
  - Telephone # 504 602-8100
  - Fax # 504 602-8106

- **Billingsley & Associates, Inc.**
  - 478 Cheyenne Lane, Madison, NC 27020
  - Telephone # 601 858-7565
  - Fax # 601 856-8390

### North Central
- **Aspinali Associates, Inc.**
  - 6840 Hillsdale Court, Indianapolis, IN 46250
  - Telephone # 317 849-5757
  - Fax # 317 845-7697

- **Mack McClain & Associates**
  - 15090 West 113th St., Olathe, KS 66209
  - Telephone # 913 339-8587
  - Fax # 913 339-9518

### South Central
- **Hugh M. Cunningham, Inc.**
  - 13755 Benchmark, Dallas, TX 75234
  - Telephone # 972 888-3808
  - Fax # 972 888-3838

- **Delco Sales, Inc.**
  - 111 South Towne Square, Suite 202, St. Louis, MO 63123
  - Telephone # 314 984-8188
  - Fax # 314 984-8388

### Western
- **Watts Industries (Canada) Inc.**
  - 5435 North Service Road, Burlington, Ontario L7L 5H7
  - Telephone # 905 332-4090
  - Fax # 905 332-7068

- **Watts Regulator Co. Division**
  - 2718 Clipper Street, Courtenay, British Columbia V9X 6X2
  - Telephone # 604 540-5088
  - Fax # 604 540-5084

### Canada
- **J.D.S. Sales Ltd.**
  - 1401 St. John Street, Regina, Saskatchewan S4R 1S5
  - Telephone # 306 525-1986
  - Fax # 306 525-0809

- **W. P. Haney Co., Inc.**
  - 508 238-2030
  - Fax # 508 238-8353

### EXPORT Headquarters:
- Watts Regulator Co. 815 Chestnut St., North Andover, MA 01845-6098 U.S.A. 978 688-1811 978 794-1848

Watts USA website: www.wattsgreg.com
Watts Canada website: www.wattscanada.ca

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