Fixturing for transformer testing

For the only magnetics tester you’ll ever need
Speed, accuracy, repeatability
Fixturing solutions for all your magnetics testing needs

The Voltech AT Series automatic wound component testers enable fast, high-accuracy testing of any wound component - using any combination of tests. Our range of fixturing solutions provide reliable, easy-to-use and high quality electrical connections to the unit under test (UUT).

Fixturing is common and interchangeable across the entire AT Series; users can choose between a wide variety of fixturing strategies, including
  • adapting existing fixtures and sockets
  • quick fixturing for prototyping
  • custom-built fixturing to your exact requirements
  • building your own fixture

This brochure will help you to select and configure the ideal fixture for your application: whatever your component type and package style. Fixtures are easy to configure or construct; allowing you to achieve high throughput, ensure optimum repeatability, prevent unnecessary rejects and minimize operator fatigue.

SPEED

Our quick-fit fixturing system allows you to re-configure any AT Series tester in seconds, minimizing set-up time. Our testers deliver up to ten times the throughput of manual test strategies - and the fixturing system contributes by minimizing the time taken to remove tested parts and fit the next UUT.

ACCURACY

AT Series testers deliver high accuracy - up to 0.05%. And you can compensate out the effects of the fixture to consistently provide true values for just the unit under test: giving you and your customers complete confidence in the performance of your products.

REPEATABILITY

A test system is only as good as the electrical connection between the test equipment and the UUT. Our system guarantees the integrity of that connection, minimizing false failures and ensuring ultimate repeatability - and hence consistent quality.
Adapting existing test fixtures

THE VOLTECH STARTER FIXTURE KIT
The Voltech Starter Fixture Kit is an ideal solution if you already have test sockets to suit your products – or if your requirements can be satisfied by off-the-shelf test socket suppliers such as Coda Systems.

This approach gives you the high productivity, low set-up costs and exceptional measurement accuracy of the AT Series fixuring system, with quick and easy interfacing – even if you need 4-wire connections to the UUT.

The blank fixture kit consists of a base plate on top of which sockets, adapters and existing fixture assemblies of almost any type can be directly mounted. The fixture then provides the connection to the 20 test nodes on the AT Series tester. Only one fixture is typically required for each bobbin footprint, regardless of the number of pins on each component type it is to be used with.

CODA SYSTEMS
Coda Systems (www.coda-systems.co.uk) provides an extensive range of test connectors for the ATE and test market. Their KWC, KWF and KWM series Kelvin test pins and fixture kits are particularly well-suited for mounting on the Voltech Starter Fixture.

The image here shows a KWF100 fixture kit used to provide fixturing for a 8-pin signal isolation transformer.

INTERCONNECT
We recommend the use of triple insulated “Tex-E” wire to create the connections between the test socket and the AT Series Test nodes.

Tex-E is fine enough to connect to even the smallest terminations, whilst still giving 10KV isolation. Check the ordering guide on page 8 of this brochure for more details.
Rapid prototype and low volume testing

THE VOLTECH UNIVERSAL FIXTURE
Ideal for prototyping, authoring test programs and when testing small quantities of components, the Voltech Universal Fixture comes ready to use with twenty pairs of 4mm sockets pre-wired to the corresponding test nodes on the underside of the fixture.

Each of the 20 test nodes has separate sense (black) and power (red) terminals, allowing you to maintain 4-wire Kelvin connections up to the point of contact with the transformer. This in turn allows parasitic effects within the fixture and wiring to be compensated out.

INTERCONNECTION
The Voltech Universal Fixture can be used with any test lead that has a standard 4mm banana connection. Alternatively we provide a range of ready-made interconnection options to suit your application. These include The AT Flying Lead Connection Post, designed for ease-of-use when testing components with flying leads. Wire can be easily threaded through the post and pushed down into the socket to make a connection.

For quick and robust connections direct to component pins, flying leads, non-standard connections and even to wires, we provide Kelvin and non-Kelvin crocodile clip leads, and the AT Grabber Clip Lead. All connect directly to the 4mm safety sockets of the Universal Fixture plate. The Kelvin Crocodile Clip lead provides full true Kelvin connection up to the point of contact so that all stray impedances can be compensated out.

For ease of ordering we also provide the AT Universal Lead set, a package of 40 useful probes and connectors made up of ten of each of the AT Flying Lead Connection Post, Kelvin and non-Kelvin Crocodile Clip Leads, and AT Grabber Clip Leads.
Voltech has a long and close relationship – spanning more than 15 years – with Wilco Control Service, who provide a cost-effective, high-quality source for any type of fixture.

Based in Massachusetts, USA, Wilco is our recommended global fixture manufacturer, and has the capabilities to create a fully customized fixture solution for your Voltech AT Transformer Tester, anywhere in the world.

Wilco provides a full turnkey service: you provide the datasheet or a physical sample of the UUT, and Wilco will produce a design, source all materials, and provide you with a bespoke fixture tailored exactly to your requirements.

With costs per fixture as low as a few hundred dollars, and fixture lifetime in excess of tens of thousands of test cycles, bespoke fixturing can represent a cost-effective option, even for moderate test volumes.

For more information, please visit the Wilco Control Service website.

www.wilcocontrol.com
### Ordering Information

<table>
<thead>
<tr>
<th>PART #</th>
<th>PRODUCT</th>
<th>DESCRIPTION</th>
<th>USE WITH...</th>
</tr>
</thead>
<tbody>
<tr>
<td>91-184</td>
<td>Fixturing Starter Kit</td>
<td>For use with your existing and off-the-shelf sockets</td>
<td>91-184</td>
</tr>
<tr>
<td>91-186</td>
<td>Universal Fixture Kit</td>
<td>Short-run and prototype applications</td>
<td></td>
</tr>
<tr>
<td>91-169</td>
<td>10m Tex-E wire</td>
<td>Ultra-fine triple-coated interconnection wire: 10kV isol.</td>
<td>91-184</td>
</tr>
<tr>
<td>78-026</td>
<td>AT Flying Lead Post</td>
<td>Use when testing components with flying leads</td>
<td>91-186</td>
</tr>
<tr>
<td>78-027</td>
<td>AT Grabber Clip Lead</td>
<td>Ideal for fine pitch manual connections</td>
<td>91-186</td>
</tr>
<tr>
<td>78-028</td>
<td>AT Kelvin Crocodile Clip</td>
<td>True- Kelvin LCR style connections</td>
<td>91-186</td>
</tr>
<tr>
<td>78-029</td>
<td>AT Non Kelvin Crocodile Clip</td>
<td>Ideal for Large tabs or screen and core connections.</td>
<td>91-186</td>
</tr>
<tr>
<td>78-030</td>
<td>AT Universal Lead Set</td>
<td>10 each of 78-026, 78-027, 78-028, 78-029</td>
<td>91-186</td>
</tr>
</tbody>
</table>

**MEDIUM KELVIN KIT** Medium Kelvin Kit

10 gold plated copper alloy blades
- Min pin diam; 0.025" (0.635mm): Max pin diam; 0.04" (1.016mm)
- Min pitch; 0.15" (3.81mm): Set height; 7mm

**FURTHER INFORMATION**

**THE VOLTECH GUIDE TO FIXTURE CONSTRUCTION**
Part # - 98-028
More in depth information on the solutions in this brochure is available from our website at [www.voltech.com/Support/Downloads.aspx](http://www.voltech.com/Support/Downloads.aspx)

**WILCO CONTROL SERVICE**
Our partner for build of bespoke fixtures – a true one-stop-shop!
[www.wilcocontrol.com](http://www.wilcocontrol.com)

**CODA SYSTEMS**
Test Probe and Interface Component specialist servicing the test and measurement industry.
[www.coda-systems.co.uk](http://www.coda-systems.co.uk)

Whilst every care has been taken in compiling the information in this publication, Voltech cannot accept legal liability for any inaccuracies contained herein. Voltech has an intensive program of design and development that may alter product specification, and reserve the right to alter specification without notice and whenever necessary to ensure optimum performance from its product range.