

Press Release

Freiburg
February 11, 2010
No. 02/10
Page 1

Solar Collectors and Storage Examined Up-Close

TestLab Solar Thermal Systems at Fraunhofer ISE expands testing capabilities

With increased capacity and more flexible measurement equipment, the TestLab Solar Thermal Systems at Fraunhofer ISE steps up to the growing international demand for the investigation of solar thermal systems. Formerly called the "Testing Centre for Thermal Solar Systems," the Fraunhofer ISE establishment has been newly renamed "TestLab Solar Thermal Systems". This facility is authorized by the German certification authority DIN CERTCO, the Portuguese certification authority CERTIF and the American Solar Rating and Certificate Corporation SRCC. Basis for this is its full accreditation by DAP (Deutsches Akkreditierungssystem Prüfwesen) according to ISO 17025. With the accumulated expertise of more than ten years, the specialized engineers perform tests on solar collectors as well as on complete systems. In addition, they assist industry customers worldwide in the development of solar thermal system components.

Currently, providing customers the support they need in certifying their products is in the forefront of the activities carried out at the TestLab Solar Thermal Systems – for example, the acquisition of the European Label of Quality "Solar Keymark" or the American Label of Quality "SRCC." In addition to product testing carried out in Freiburg, the facility also offers its services for production inspections on site at the manufacturing location.

In 2009 the TestLab Solar Thermal Systems experienced an appreciable expansion in its capacity and a continued growth in its testing capabilities, which now includes all of the conventional measurement methods currently used to date.

**Fraunhofer Institute for
Solar Energy Systems ISE**
Heidenhofstr. 2
79110 Freiburg
Germany
Press and Public Relations
Karin Schneider
Phone: +49 (0) 7 61/45 88-51 50
Fax: +49 (0) 7 61/45 88-93 42
E-mail: info@ise.fraunhofer.de

www.ise.fraunhofer.de

Press Release

Freiburg
February 11, 2010
No. 02/10
Page 2

Four trackers are available in the test facility. One of which has capacities extending well beyond those necessary for standard measurements, for example, greater degree of freedom (e.g. for façade collectors) and extremely precise control and measuring techniques. These measurement sites are used for power characterization based on the stationary method, where the solar collector follows the sun's position using a two-axis tracking system. The incoming solar radiation has normal incidence to the collector glazing at all times of the day. Two further measurement stations using quasi-dynamic characterization methods have been added to the facilities. As opposed to the four test stations using the stationary method, the collectors tested at these two stations do not track the sun's position. Performing measurements under both of these different radiation conditions allows the measured data to be analysed later with respect to a variety of parameters.

Two other trackers serve the customers' request for short testing times and also make testing possible during spring and fall. The exposure phase defined in the currently valid standards requires that the collectors are exposed to certain boundary conditions over a time period of at least 30 days. In the spring and fall, these conditions can only be met in Freiburg by making use of tracking.

Up to four complete hot water systems can be tested in parallel at the new test stand for solar systems, inaugurated in spring 2009 at the TestLab Solar Thermal Systems. By the end of 2009, the new test stand for solar storage underwent the last validation measurements and enhanced the test facilities by providing the most modern measurement capabilities available in this increasingly important area.

The indoor test stand at Fraunhofer ISE has a long-standing tradition. Many standard products found on the solar thermal market today underwent their first characterization and development measurements at this test stand. Special

**Fraunhofer Institute for
Solar Energy Systems ISE**
Heidenhofstr. 2
79110 Freiburg
Germany
Press and Public Relations
Karin Schneider
Phone: +49 (0) 7 61/45 88-51 50
Fax: +49 (0) 7 61/45 88-93 42
E-mail: info@ise.fraunhofer.de

www.ise.fraunhofer.de

Press Release

Freiburg
February 11, 2010
No. 02/10
Page 3

experimental work has led to the development of a medium-temperature test stand that can measure efficiency characteristics at temperatures of up to 200°C.

Collectors in this application area are gaining in importance since they are suitable for providing the drive energy for solar cooling or for providing the necessary heat for industrial processes. Some of the test stands, for example, the hail test stand, were developed by the researchers at Fraunhofer ISE themselves. At present, the only European measurement facilities accredited by the SRCC for measuring solar air collectors is to be found at the TestLab Solar Thermal Systems of Fraunhofer ISE.

The many years of experience held by Fraunhofer ISE in testing collectors, storage systems as well as other available solar components enters into the definition of standards of quality. Thus, the TestLab Solar Thermal Systems is actively involved in the national (DIN), European (CEN) and also international (ISO) work on standards.

TestLab Solar Thermal Systems puts a large emphasis on customer-oriented service. With our newly designed homepage, a wide range of information can be accessed now with even greater ease. www.collectortest.com

Information material:

Fraunhofer ISE, Press und Public Relations
Tel. +49 (0) 7 61/45 88-51 50,
Fax +49 (0) 7 61/45 88-93 42
E-Mail: info@ise.fraunhofer.de

Text of the PR and photos can be downloaded from our web page : www.ise.fraunhofer.de

Contact Person for further information:

Dipl.-Ing. Korbinian Kramer, Fraunhofer ISE
Tel. +49 (0) 7 61/45 88-51 39
Fax +49 (0) 7 61/45 88-90 00
E-Mail: Korbinian.Kramer@ise.fraunhofer.de

Fraunhofer Institute for Solar Energy Systems ISE

Heidenhofstr. 2
79110 Freiburg
Germany

Press and Public Relations
Karin Schneider

Phone: +49 (0) 7 61/45 88-51 50
Fax: +49 (0) 7 61/45 88-93 42
E-mail: info@ise.fraunhofer.de

www.ise.fraunhofer.de

Press Release

Freiburg
February 11, 2010
No. 02/10
Page 4



New precision tracker, developed in-house to characterize façade and large-area collectors as well as concentrating collectors. ©Fraunhofer ISE

**Fraunhofer Institute for
Solar Energy Systems ISE**
Heidenhofstr. 2
79110 Freiburg
Germany
Press and Public Relations
Karin Schneider
Phone: +49 (0) 7 61/45 88-51 50
Fax: +49 (0) 7 61/45 88-93 42
E-mail: info@ise.fraunhofer.de

www.ise.fraunhofer.de