

INCH-POUND

A-A-59574  
21 April 2004

## COMMERCIAL ITEM DESCRIPTION

## FUEL OXIDATION TESTER, ASTM D3241

The General Services Administration has authorized the use of this commercial item description (CID) for all federal agencies.

1. **SCOPE.** This Commercial Item Description (CID) describes the requirements for a fuel oxidation tester according to ASTM D3241 "Standard Test Method for Thermal Oxidation Stability of Aviation Turbine Fuels (JFTOT Procedure)". The JFTOT is used to measure the high temperature stability of gas turbine fuels to conditions that can be related to those occurring in gas turbine engine fuel systems.

2. **SALIENT CHARACTERISTICS**

2.1 **Equipment.** The JFTOT shall be an ASTM approved instrument for measuring the high temperature stability of gas turbine fuels in accordance with ASTM D3241. Per ASTM D3241 paragraph 4.1, the instrument pumps the fuel at a "fixed volumetric flow rate through a heater after which it enters a precision stainless steel filter where fuel degradation products may be trapped." The equipment described in this section is the minimum requirements necessary for this piece of equipment.

2.2 **Temperature Measurement Range.** The temperature measurement range of the tester shall be from +180° C to +380° C (+356° F to +716° F).

2.3 **Sample Capacity.** The tester shall have the ability to use 600ml (20.23oz.) samples.

2.4 **Differential Pressure.** The differential pressure shall be 0 to 300mmHg (11.81inHg).

2.5 **Maximum Pressure Limit.** The maximum pressure limit shall be 38.67kg/cm<sup>2</sup> (550psig.)

Comments, suggestions, or questions on this document should be addressed to WR-AFL/LEEE, 295 Byron Street, Robins AFB GA 31098-1611. Since contact information can change, you may want to verify the currency of this information using the ASSIST Online database at [www.dodssn.dans.mil](http://www.dodssn.dans.mil).

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2.6 Power Requirements. The power requirements for testers that are used in laboratories within the United States shall be specified by the end user. If the solicitation indicates destination(s) outside the United States, then the offered item(s) may have to be altered to adapt to the proper power requirements and electric plugs for the destinations indicated. The proposed suppliers shall have the resources available to provide the proper power requirements for the destination indicated.

2.7 Weight. The weight of the tester shall be approximately 115kg. (255lbs.).

2.8 Dimensions. The approximate dimensions of the tester shall be 77 W x 52 D x 89cm H(30.3 x 20.5 x 35.0in.).

2.9 Shipping Dimensions. The approximate shipping dimensions shall be 132 W x 61 D x 122cm. H (52 x 24 x 35in.).

2.10 Shipping Weight. The approximate shipping weight shall be 177kg. (390lbs.).

2.11 Calibration. The tester shall be capable of automatically calibrating the tester.

2.12 Safety Features. The tester shall have these minimum safety features to include automatically stops the flow of test fluid in the event of a O-ring leak or tubing break.

2.13 Display. The tester shall be supplied with an easy to read LCD display.

2.14 Keyboard. The tester shall be designed with a keyboard with dedicated function keys or similar device which will allow the users to input data to the tester.

2.15 Test Procedures. The tester shall have the capabilities of automatically performing preprogrammed tests and allow user defined tests to be performed.

2.16 Data Storage. The tester shall be capable of storing a minimum of 300 different test results and have the capability of transferring the test data to another data storage device or being able to obtain a printed copy of the test results.

3. **REGULATORY REQUIREMENTS**. The offeror/contractor is encouraged to use recovered materials to the maximum extent practicable, in accordance with paragraph 23.403 of the Federal Acquisition Regulation (FAR).

#### 4. **PRODUCT CONFORMANCE**

4.1 Product Conformance. The products provided shall conform to the producer's own drawings, specifications, standards, and quality assurance practices and be the same product offered for sale in the

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commercial market. The government reserves the right to require proof of such conformance. Minor changes to the commercial product, with respect to ruggedizing and environmental suitability and protection shall be permitted, subject to the approval of the procurement office, to satisfy the requirements of this requirement.

4.2 Installation and Demonstration. If required by the end user, the contractor shall be responsible for user installation and orientation of the equipment at the designated Air Force facility laboratory and assure that the equipment is ready for use. Installation and demonstration is projected to take one day. The cost for user orientation shall be at no additional cost to the government.

4.3 Market Acceptability. The following market acceptability criteria are necessary to document the quality of the product to be provided under this CID:

4.3.1 The manufacturer of the item shall have been producing a product meeting these requirements for at least 5 years.

4.3.2 The manufacturer of the item shall have sold at least 50 units meeting these requirements to the government and/or the commercial market during the last 2 years.

4.4 Alternative offers. A current, complete instrument with all items required for use, shall be offered/provided. If an alternative/replacement item is offered, descriptive literature (commercial catalogs, specification sheets, etc.) shall be submitted with the quote, for review and evaluation by the cognizant engineer who will coordinate qualifying the instrument with the end user. If the instrument has not been purchased previously by the government and meets the evaluation process, the instrument shall be subjected to functional testing prior to final approval by the government.

4.5 Serviceability, Reliability, and Quality of Materials.

4.5.1 One copy of the commercial operation and maintenance manual(s) shall be shipped with the equipment. One additional copy of the operation and maintenance manual shall be shipped to the cognizant engineer at no additional cost to the government. The address for the cognizant engineer is found in 4.5.2.

4.5.2 All supplied items shall carry a standard commercial warranty on parts and labor. Information on warranty duration and expiration date, conditions and point of contact shall be shipped with each unit. One additional copy of the warranty information shall be shipped to the cognizant engineer at no additional cost to the government. The address for the cognizant engineer is; FSC 6630 Engineer, WR-ALC/LEEE, 295 Byron Street, Robins AFB, GA 31098-1611.

## 5. PACKAGING

5.1 Preservation, packing, and marking shall be as specified in the contract or order.

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## 6. NOTES

### 6.1 Source of Documents

6.1.1 The Code of Federal Regulations (CFR) may be obtained from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC, 20402.

6.2.1 ASTM Document. A copy of ASTM D3241, Standard Test Methods for Thermal Oxidation Stability of Aviation Fuels (JFTOT Procedure), can be obtained from ASTM 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428-5959.

### 6.2 Suggested Sources of Supply.

Alcor Petroleum Instruments, Inc  
P.O. Box 792222  
San Antonio, TX 78279-2222

Petroleum Analyzer Company L.P.  
3234 East Pasadena Freeway  
Pasadena, TX 77503

Note: Petroleum Analyzer Company is authorized to handle Alcor products.

## MILITARY INTERESTS

Custodian:  
Air Force – 99

Preparing Activity:  
Air Force – 84

Agent:  
Air Force – 99

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