

INCH-POUND

A-A-59828

30 June 2009

COMMERCIAL ITEM DESCRIPTION

OIL COOLING CART

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) covers the general requirements for an Oil Cooling Cart (OCC). The OCC will provide coolant oil to Line Replaceable Units (LRUs) through auxiliary and utility hydraulic circuits. This CID describes the minimum acceptable requirements for the OCC.

2. **SALIENT CHARACTERISTICS.**

2.1 General. The equipment shall be capable of operation and be bid sample tested within the accuracies, limits, and specifications herein. Equipment covered by this CID shall be commercially available equipment and may be modified to meet the following description.

2.2 Order of precedence. In the event of a conflict between the text of this CID and the references cited herein (except for associated detail specifications, specification sheets or MS standards) the text of this CID shall take precedence. Nothing in this CID, however, shall supersede applicable laws and regulations unless a specific exemption has been obtained.

2.3 Function. The function of the OCC is to provide coolant oil to LRUs through auxiliary and utility hydraulic circuits. Each circuit is adjustable for flow rate depending on the requirements of the LRU under test and the ambient conditions. Electrical circuits provide control, interlock, and protection functions in any operating mode. A replaceable filter removes particles and water from the coolant which flows to and from the LRU via inlet and outlet hose assemblies provided for each hydraulic circuit. Coolant returning to the cart from the LRU is cooled and then returned to the reservoir.

Beneficial comments, recommendations, additions, deletions, clarifications, etc. and any other data which may improve this document should be sent to: 642CBSG/GBEA, 295 Byron Street, Robins AFB, GA 31098-1611. Since contact information can change, you may want to verify the currency of this address information using the ASSIST Online database at <http://assist.daps.dla.mil> .

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2.4 Physical characteristics. The total unit weight of the OCC shall not exceed 400lbs. The unit height shall not exceed 39 inches. The unit length shall not exceed 79 inches. The unit depth shall not exceed 27 inches.

2.5 Specifications. All of the following requirements shall be met or exceeded.

Table 1: Technical Specifications

| Specification | Characteristic |
|---|---|
| Hydraulics: | |
| Coolant | Chevron Flo-Cool 180 or Royco 602 or MIL-PRF-87252 equivalent |
| Outlet Pressure | 95 PSIG maximum |
| Flow Rate Capability: | |
| Total | 22ppm minimum |
| Utility Circuit | 0.3ppm to 15ppm, $\pm 5\%$ of full scale reading, at pressures up to 35 psid |
| Auxiliary Circuit | 2ppm to 15ppm, $\pm 5\%$ of full scale reading, at pressures up to 35 psid |
| Coolant Temperature: | |
| Inlet | 180° F maximum |
| Outlet | 115° F maximum at maximum heat load and 95° F ambient |
| Electrical: | |
| Power Requirements | 120 VAC, 20A, 60Hz, single phase |
| Wall Receptacle Required | NEMA L5-20R |
| Alarm and Interlock Circuit | |
| Type | Electrical |
| Interlock Stimulus | +12 VDC, 100ma (automatic mode only) |
| Stimulus Response | +28 VDC within 5 seconds of stimulus (automatic mode only) |
| Alarm Stimulus, Indirect: | |
| Pump Outlet Temperature Switch (coolant Exceeds 130°+15°-0°F) | Audible and visual alarms activated. +28V interlock interrupted. Oil pump and heat exchanger shut down. |
| Alarm Stimulus, Direct: | |
| LRU outlet temperature switch (coolant exceeds 170°±10°F) | Audible and visual alarms activated. +28V interlock interrupted when in automatic mode. Oil pump and heat exchanger operate normally. |
| Flow Switch, Utility and Auxiliary Circuit (coolant flow stops) | Audible and visual alarms activated. +28V interlock interrupted when in automatic mode. Oil pump and heat exchanger operate normally. |
| Environmental Requirements: | |
| Ambient temperature | 55° to 95° F |
| Relative humidity | 80% maximum |
| Pressure | 28 to 32 inches Hg |

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2.6 Equipment design. The OCC shall be of modular design and shall include all items and accessories required to provide the proper coolant flow rate to the LRUs under test. When actual accuracies or specified ranges are not directly specified, the “best commercial practice” shall be proposed. The OCC shall be a commercial Non-Developmental Item (NDI) test stand. The OCC shall be an already developed, state-of-the-art, market proven, commercial item with a proven reliability track record. Modifications such as rearrangement or mounting of units on skids frame and changes to interface the unique military adapters for LRUs are considered acceptable NDI modifications. It shall be compactly packaged/arranged and suitable for providing cooling oil to all identified LRUs. The OCC shall not require any modification of the “real property” (test cell floor space area, walls, ceiling, or utility/power support systems) associated with any LRU. The OCC shall be designed to operate using a coolant that meets MIL-PRF-87252 requirements. The OCC shall be on wheels and be capable of being moved easily on improved surfaces.

2.7 Major modules of assemblies. If the proposed OCC is assembled using commercial NDI major modules or assemblies, which have not been previously merged and sold commercially as an oil cooling cart, the proposed major modules or assemblies shall have a proven track record of reliable and satisfactory service in similar configurations. Offeror shall provide evidence that these are proven and reliable commercially available assemblies. While the final configuration is dependent on the commercial NDI test stand proposed, some of the major modules or assemblies should consist of:

2.7.1 Alarm/interlock circuit. The alarm and interlock circuit shall protect the LRU and the cooling cart from possible damage due to excessive coolant temperature or inadequate coolant flow. The alarm circuit should provide both visible and audible alarms.

2.7.2 Motor control circuit. The motor control circuit provides the 120-volt motor drive to the pump/reservoir assembly and heat exchanger assembly.

2.7.3 Hydraulic circuit. The assembly contains two parallel hydraulic circuits: utility and auxiliary. Each hydraulic circuit consists of a flow meter (FM), flow switch (FS), and pressure gauge (PG). The coolant flow is divided to provide the capability of cooling two LRUs. The flow rate through each circuit is independently variable and displayed by the flow meters. Coolant oil at the proper flow rate and inlet pressure is applied to the LRU from the utility circuit through outlet hose assembly and from the auxiliary circuit to a second LRU via an outlet hose assembly. Coolant returns to the utility circuit through inlet hose and to the auxiliary circuit.

2.7.4 Digital entry devices. All inputs and control setting shall use digital keypads or digital keyboard entry devices. The entry keypad(s) and keyboard(s) shall be rugged environmentally sealed devices for use in wet, dirty or extreme environments.

2.7.5 Electronic digital displays. Except for protective alarms, all indicators shall be electronic digital displays. Electronic displays shall be Light-emitting diode (LED), Liquid crystal display (LCD) vacuum fluorescent or electro-fluorescent type devices.

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Mechanical counters, odometers or turn counter devices are not acceptable “electronic digital displays”.

2.8 Data input and output formats. Display formats should be consistent within a system. When appropriate for users, the same format should be used for input and output. Data entry formats should match the source document formats.

2.9 Labeling. Labeling shall be of a consistent type and consistently located within the entire system. Labels, legends, placards, signs, markings, or a combination of these shall be provided whenever personnel must identify items (except when obvious to the observer).

2.10 Equipment disturbance. The OCC shall be constructed to permit the replacement and adjustment of components and accessories with minimum disturbance to and without removal of other elements of the units.

2.11 Connectors and fastenings. The OCC shall utilize the maximum use of electrical connectors and quick disconnect fastenings to allow for rapid removal and replacement of component parts. Covers or access plates that must be removed for component adjustments or for component or parts removal shall be equipped with durable quick-disconnect fastenings or combinations of quick-disconnect fastenings and hinges.

2.12 Test equipment. In the event that any special test equipment is required for the operation or maintenance of this OCC, the special test equipment shall be identified and it shall be included with each unit. Contractor failure to identify and include required special test equipment within the offer is considered grounds for contract default.

2.13 Manuals. Technical manuals shall be approved by the Government and delivered with each OCC. Technical manuals shall include operator's maintenance instructions, basic operation instructions and calibration procedures (if applicable) that have been approved by WR-ALC. The manufacturer shall also provide a list of all available options, as well as ordering information.

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

4. PRODUCT CONFORMANCE.

4.1 Product conformance. The products provided shall meet the salient characteristics of the CID, conform to the producer's own drawings, specifications, standards, and quality assurance practices and be the same product offered for sale in the commercial market. The Government reserves the right to require proof of such conformance.

4.2 Contractor certification. The contractor shall certify and maintain substantiating evidence that the product conforms to the producer's own drawings, specifications, standards, and quality assurance practices, and is the same product offered for sale in the

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commercial marketplace. The Government reserves the right to request that the contractor provide proof of such conformance prior to first delivery and thereafter.

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

5.1 Standard commercial packaging and marking practices. In the absence of specific instructions in the contract or order, the manufacturer's standard commercial packaging and marking practices will be used.

5.2 Unique identification (UID). The OCC shall be uniquely identified. The markings shall meet MIL-STD-130 requirements.

6. NOTES.

(This section contains information of a general or explanatory nature that may be helpful but not mandatory.)

6.1 Source of Documents

6.1.1 MIL-STD-130 "Identification Marking of U.S. Military Property" and MIL-PRF-87252 "Coolant fluid, Hydrolytically Stable, Dielectric" may be obtained at <http://assist.daps.dla.mil/quicksearch> or <http://assist.daps.dla.mil> or from the Standardization Documents Order Desk, Building 4D, 700 Robbins Ave., Philadelphia, PA 19111-5094.

6.1.2 The Federal Acquisition Regulation (FAR) may be obtained at www.acqnet.gov/far or from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C., 20402.

6.2 Required modification. The technical proposal should include drawings, sketches, and other technical data to describe the modifications required for this application.

6.3 Market proven / acceptance. Offeror should be provided proof of market acceptance and testing of the offered unit by providing test data, performance history, warranty repair data, and reliability test data. Also submit commercial literature, performance specifications, specifications sheets, receipts or invoices, lists of customers with addresses and telephone numbers to show the offered Test Stand has a proven reliable history (track record). Evidence that the offered test stand has been sold as a complete test stand in significant quantities for some time is highly desirable.

6.4 Evaluation data. Proposals will be evaluated for compliance with Section 3. Bidders should submit the following data with their offer for evaluation:

- a. Part number and manufacturer of offered item(s)
- b. Part number or model number and photographs of the OCC that will be modified

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- c. Provide a side-by-side comparison of how the proposed units meet or will meet all the minimum essential criteria in Section 3.
- d. Provide Contractor Certifications of meeting all the published and proposed technical specifications and requirements.
- e. Any available data or evidence providing reliability.
- f. Descriptive literature for commercial OCC (commercial catalog cut-sheets, specification sheets, etc.)
- g. Operation & Maintenance manuals for the Commercial OCC that will be modified.
- h. Location of a commercial "similar" OCC, and point of contact for the government to inspect if deemed necessary by the evaluation team.

6.5 Ordering data

- a. CID document number, revision, and CID PIN.
- b. Product conformance provisions.
- c. Packaging requirements.

6.6 Keywords

Auxiliary
Hydraulic
Utility

6.7 Commercial products. At the time of this CID preparation and coordination, the manufacturer listed was known to have commercial products that would meet the requirements of this CID. All other manufacturers shall meet the requirements of this CID and submit testing and certification as required. (NOTE: This information should not be considered as a list of only approved manufacturers or be used to restrict procurement to only the manufacturers shown below.)

| Company | Location | CAGE | POC | POC Phone | Mfr. Model/Part No. |
|-------------|--|-------|---------------|-----------------------|------------------------------|
| Lytron Inc. | 55 Dragon Court, Woburn, MA, USA 01801 | 11245 | Rita Donnelly | 781-933-7300 x 243 | RC030 w/ PAO modification |

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MILITARY INTERESTS:

Custodian:
Air Force - 84

Preparing activity:
Air Force – 84

Agent:
Air Force – 99

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