INCH-POUND

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SUPERSEDING
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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: WR-ALC/GRVEC, 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 https://assist.daps.dla.mil.

AMSC N/A FSC 4920

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-87252C equivalent
Outlet Pressure	95 PSIG maximum
Flow Rate Capability:	
Total	22ppm minimum
Utility Circuit	0.3ppm to 15ppm, ±5% of full scale reading, at pressures up to 35 psid. Must be manually adjustable From 0.3 ppm to 15 ppm, 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)
Interface	Must be compatible with the following ATE and supporting test program sets without hardware or software modifications Radar/REW Test station (REW) NSN 4920-01-178-3451KV P/N 3200030-118, Digital Test Station (DIG) NSN 4920-01-178-3450KV P/N 3200020-107, Digital Analog Video (DAV) NSN 4920-01-178-3451KV P/N 3200010-115, Advanced Digital Test Station (ADTS) NSN 4920-01-527-1350KV P/N S9-500-50. Must possess remote control activation of pump and heat exchanger system via a +12 VDC discrete signal from the test station and be able to provide the station with a system status via a +28 VDC discrete signal.
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.

Table 1: Technical Specifications (continued)

Differential Pressure (Pressure exceeds 0-50 PSID difference)	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

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 an already developed, state-of-the-art, commercial item. 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. While the final configuration is dependent on the commercial NDI OCC proposed; the OCC shall have the following functions/capabilities:

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

2.7.6 Liquid Cooling Interrupt. The station provides a dedicated input for an external 28V discrete which can disconnect the station LRU power supplies from the ICA and generate a station error interrupt (i.e., reset the test station). This 28V discrete is received from the liquid cooling system which is part of the LRU, not part of the test station. The liquid cooling system is activated by the user via a 12V discrete from the test station to the LRU. The LRU then responds by generating the above mentioned 28V discrete. The loss of this 28V discrete at the ICA represents a failure of the liquid cooling system and will generate a test station interrupt through an enabled path which will disconnect the station LRU power supplies from the ICA and generate a station error interrupt.

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 in accordance with contract requirements. Technical manuals shall include operator's maintenance instructions, basic operation instructions and calibration procedures (if applicable) that have been approved by WR-ALC.

3. REGULATORY REQUIREMENTS

3.1 Recycled recovered materials. Recycled, recovered, or environmentally preferable materials should be used to the maximum extent possible provided that the material meets or exceeds the operational and maintenance requirements, and promotes economically advantageous life cycle costs. 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). However, used, rebuilt, or refurbished items shall not be provided.

3.2 Green Procurement Program. Green Procurement Program (GPP) is a mandatory federal acquisition program that focuses on the purchase and use of environmentally preferable products and services. GPP requirements apply to all acquisitions using appropriated funds, including services and new requirements. FAR 23.404(b) applies and states the GPP requires 100% of EPA designated product purchase that are included in the Comprehensive Procurement Guidelines list that contains recovered materials, unless the item cannot be acquired: a) competitively within a reasonable timeframe; b) meet appropriate performance standards, or c) at a reasonable price. The prime contractor is responsible for ensuring that all subcontractors comply with this requirement.

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.

5. PACKAGING.

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

5.2 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.

5.3 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 Department of Defense and Federal documents may be obtained at https://assist.daps.dla.mil or from the Document Automation and Production Service, Bldg 4D (DPM-DODSSP), 700 Robbins Avenue, Philadelphia PA 19111-5094.

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

6.1.3 National Electrical Manufacturers Association (NEMA) standards may be obtained from National Electrical Manufacturers Association, 1300 North 17th Street, Suite 1752, Rosslyn, Virginia 22209. Electronic copies of NEMA standards may be obtained from http://www.nema.org/stds/

6.2 Keywords

Auxiliary
Hydraulic
Utility

MILITARY INTEREST:

Custodian:
Air Force - 84

Preparing Activity:
Air Force - 84

Agent:
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