

INCH-POUND

A-A-58091A
April 16, 2001
SUPERSEDING
A-A-58091
20 December 1996

COMMERCIAL ITEM DESCRIPTION

TRAILER, TANK MOUNTED, RECOVERABLE AVIATION TURBINE FUEL
(BOWSERS): 200, 400 AND 600 GALLON CAPACTTY

The General Services Administration has authorized the use of this Commercial Item Description (CID) for all federal agencies.

1. **SCOPE.** This CID covers tanks mounted on trailers intended for receiving, vacuum pick-up, temporary storage, ground transport, and gravity draining of recoverable fuel: these will herein be referred to as the unit. These units are commonly referred to as bowzers. The units fulfill the requirements for standardized family of bowzers for general flight line and maintenance facility use. The units are intended for general flight line use in support of aircraft servicing and maintenance when temporary storage of fuel is requested, draining and depuddling aircraft fuel tanks in support of aircraft fuel cell and tank maintenance, removing fuel spills, pumping-out hydrant pits, and the like.

2. **CLASSIFICATION.** The units are of the following three sizes of tanks:

Size 200 - 200 gallon nominal capacity.

Size 400 - 400 gallon nominal capacity.

Size 600 - 600 gallon nominal capacity.

3. **SALIENT CHARACTERSTICS.** The equipment shall be capable operation and be bid sample tested within the accuracy's, limits, and specifications.

3.1 Design and Construction. The unit shall be designed and constructed for convenient, leak and weep free safe, effective reception and vacuum pickup, storage, ground transport and gravity drain of aviation turbine furls. The unit shall withstand the strains, shocks and vibrations incidental to shipment, towing, fork lifting, and operation. All hose (air and fuel) connections shall be either male national pipe thread (NPT) or quick disconnect for air lines and cam locks or similar devices to allow for quick use on the flight line. Funnel lids and manway cover shall be provided with provisions for padlocking. If wheel chocks are implemented into the design; then drum type parking brakes (asbestos free), which are activated by a brake lever, shall be provided

Beneficial comments, recommendations, additions, deletions, clarifications, etc. and any data that may improve this document should be sent to: WR-ALC/TILCC, 420 Second Street, Suite 100, Robins AFB, GA 31098-1640.

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The units shall meet the below listed minimum/maximum dimensions. The unit shall be designed to be corrosion resistant and shall be fabricated from 300 stainless steel with the exception of the telescoping funnel assembly that shall be fabricated from aluminum alloy. The undercarriage framework shall be fabricated from carbon steel. All components and materials (to include gaskets, fittings, valves, adhesives, etc.,) shall be proven fuel resistant materials.

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|-------------------------------------|----------------|
| Size 200 Length (tow bar Extended) | 140/160 inches |
| Width | 70/80 inches |
| Height | 50/80 inches |
| Size 400 Length (Tow Bar Extended) | 140/180 inches |
| Width | 70/80 inches |
| Height | 50/80 inches |
| Size 600 Length - Tow Bar Extended) | 140/200 inches |
| Width | 70/80 inches |
| Height | 50/80 inches |

3.2 No electrical. The unit shall incorporate no electrical devices.

3.3 Mobility. The unit shall be designed and constructed as a full trailer, with wheels and supported by its own suspension system.

3.4 Air transportability. The unit trailer chassis shall be provided with no less than four transport tie down attachments. Attachment devices and their anchoring to the unit chassis shall be designed for 10,000 pound tie downs with a factor of safety of 4 based on yield.

3.5 Maintainability. The minimum number of parts and tools required for maintenance by design practices shall be kept to a practical minimum.

3.6 Environmental conditions. The unit shall perform as specified herein in providing ambient temperatures ranging from -40 to +125 degrees F. It shall not be damaged by exposure to moist fungus growth such as encountered in tropical and subtropical climates. It shall not be damaged nor its contents contaminated by operational or storage in an atmosphere containing airborne sand and dust particles such as encountered in normal desert operations. The unit shall be neither damaged nor its contents contaminated by operation or storage in an atmosphere containing salt-laden moisture such as encountered near bodies of salt water and in transportation on shipboard.

3.7 Hydrostatic pressure. The tank assembly shall withstand an internal hydrostatic pressure of not less than 30 psig for not less than 30 minutes without either leaking, weeping, fracturing, permanent deformation or evidence of impending failure. Components subject to supply air pressure shall withstand an internal hydrostatic pressure of not less than 300 psig for not less than 30 minutes without either leaking, weeping, fracturing, permanent deformation or evidence of impending failure.

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3.8 Vacuum. The vacuum pumping assembly chamber shall withstand internal vacuum (with automatic drain valve closed) of not more than 23 inches Hg for not less than 30 minutes without leaking air inward, fracturing, permanent deformation or evidence of impending failure.

3.9 Vacuum pump. The unit's vacuum pump shall develop no less than 16 inches Hg with the vacuum pump suction inlet blocked. The unit shall flow not less than 120 scfm without restrictions at the vacuum pump suction inlet. The unit shall consume no more than 35 scfm of air at not more than 60 psig supply air over its operating range.

3.10 Noise. The unit under any operating condition shall be no noisier than 84 dBA slow scale measured not more than four feet from the perimeter of the unit with tow bar raised and at between 4 and 5 feet ground level.

3.11 Stability. With the unit on a smooth, flat, concrete surface and with unit detached from its tow vehicle and with the unit parking brakes set, Size 400 and Size 600 units with tank mounted telescoping funnel assembly fully extended, shall withstand horizontal winds gusting up to 40 miles per hour (mph) from any direction relative to the unit with no visible movement/motion of the tank assembly and the tank mounted telescoping funnel assembly. With the remote funnel assembly standing free on a smooth, flat concrete surface and with the remote telescoping funnel assembly fully extended the remote funnel assembly shall withstand wind gusting up to 40 mph from any direction relative to the remote funnel assembly with no visible movement/motion of the these parts.

3.11.1 Static load. The funnel assemblies shall be tested to demonstrate compliance with a 25 pound static load requirement. Funnel assembly in any raised position shall withstand a static downward force of not less than 25 pounds applied uniformly to the funnel lip without displacement of the funnel from its initial position or without visible bending or permanent formation of the telescoping funnel assembly.

3.12 Components. The units shall consist essentially of the following major components.

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|------------------------------------|--------|
| Trailer chassis | 3.12.1 |
| Tank assembly | 3.12.2 |
| Telescoping funnel assembly | 3.12.3 |
| Vacuum pump assembly | 3.12.4 |
| Vacuum pickup hose assembly | 3.12.5 |
| Remote telescoping funnel assembly | 3.12.6 |
| Sampling device | 3.12.7 |
| Grounding reels | 3.12.8 |
| Grounding receptacles | 3.12.9 |

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3.12.1 Trailer chassis. A trailer chassis shall be provided that shall securely mount all components specified herein. The trailer chassis tow bar shall be provided with a recess bar handle for manual movement of the unit, in addition to the lunette eye. The trailer tow bar shall incorporate heavy duty pins (1-1/2 inch diameter or larger). The trailer shall utilize split rims on the wheels.

3.12.2 Tank assembly. The unit shall be furnished with rigid tank. Tank nominal volume shall be as specified (see 2.1). Tank shall have a true volume not less than 110 percent of the tank's nominal volume. Space enclosed by tank sump, and manway shall not be attributed to the true volume. Tank shall be either circular, elliptical or semi-elliptical in cross -section. Tank shall be baffled laterally.

3.12.3 Telescoping funnel. A telescoping funnel assembly shall be provided mounted on the tank assembly of Sizes 400 and 600; Size 200 unit shall not have a tank assembly mounted telescoping funnel assembly. The funnel shall be a truncated cone not less than 15 inches in diameter but not less than 3 inches deep and shall have a bottom opening not less than 2-inches in diameter. Funnel assembly height shall be infinitely variable from 4 feet 2 inches to 16 feet measured from ground plane to the upper edge of the funnel rim.

3.12.4 Vacuum pump assembly. A vacuum pump assembly shall be provided. Vacuum pump assembly shall consist of a compressed air driven vacuum generator and a vacuum chamber. Vacuum chamber shall have a minimum volume of 25 gallons. Vacuum chamber shall be equipped with an automatic drain valve opening to the tank assembly. Means shall be provided to interrupt the vacuum action should the vacuum chamber approach an over-fill condition; a manual reset shall be provided.

3.12.5 Vacuum pickup. A vacuum pickup hose assembly shall be furnished. Hose assembly shall be not less than 1 1/4 inches nominal interior diameter by not less than 50 feet long. Hose shall have a conductive cover. Vacuum pickup hose shall be connected to the vacuum assembly vacuum chamber.

3.12.6 Remote funnel. A remote telescoping funnel assembly shall be furnished with all three size units. Funnel shall be a truncated cone not less than 14 inches in diameter by not less than 6 inches deep and shall have a bottom opening not less than 2 inches in diameter. A gasketed, hinged lid shall be provided for the funnel top opening. The funnel lid shall have a hasp for locking. Remote funnel assembly shall be infinitely variable from 28 inches measured from the ground plane to the upper edge of the funnel rim.

3.12.7 Sampling device. A sampling device shall be provided and positioned to permit sampling of fuel as it flows toward and is drawn off at the tank bottom drain.

3.12.8 Static ground reel. Each unit shall be provided with no less than two static grounding reels that meet the requires of A-A-50696. The reels shall have cables that are insulated with a corrosive resistant coating. reels shall be mounted vertically. Reels may be mounted inverted. Resistance between reel base and the unit frame shall not exceed 0.5 ohms.

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3.12.9 Grounding receptacles. Two grounding receptacles shall be mounted on the unit. Electrical resistance between the unit and the receptacle shall not exceed 0.5 ohms.

3.13 Finish. The unit including components shall be finished in order for the final product to be corrosion resistant to all weathering, and atmospheric conditions specified in this document. The interior fuel wetted areas shall not be primed nor painted. The industry's best commercial practice and proven record of the bowzers in the field will serve as adequate proof of a tested finish. Nonconductive paint and other finishes shall be removed as needed to insure grounding/bonding of components.

3.14 Appearance. The bowzers shall be painted a tone-down color with a black band around the center. A tone-down color is dark green (Federal Standard 595 , Color No. 24052). Polyurethane coating, MIL-C-83286, is the current paint material. A flat black color band shall not exceed one-third the height or length in the case of horizontal cylindrical containers. Bowzers will be serial numbered to enhance identification, control and accountability of the product.

3.15 Safety Standards. The units shall comply with the Federal OSHA requirements in effect as of the date that the proposal is issued. In the event that state and local OSHA regulations are in effect, the Federal OSHA regulation shall take precedence.

4. REGULATORY REQUIREMENTS.

4.1 Recovered materials. 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).

5. QUALITY ASSURANCE

5.1 Product Conformance. The products provided shall meet the salient characteristics of this 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.

5.2 Classification of tests. The inspection and testing of the unit shall be conducted in accordance with paragraph 5.5. Submitted units that do not meet these requirements will be sufficient to reject the unit for government acceptance. The contractor will be given one day consideration (24 hours) to conduct the necessary adjustments or fixes to modify the unit so that it can meet requirements of this CID in the event of failure.

5.3 Test fluid. The test fluid shall be tap water.

5.4 Bid sample acceptance. Acceptance shall be contingent upon the results of all tests described under 5.5.

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5.5 Test methods. The following paragraph ordering does not establish sequence of testing.

5.5.1 Examination of unit. The bid samples may be examined in detail to confirm adherence with specified requirements not otherwise tested. This examination shall be accomplished using a contractor developed checklist that shall identify specific unit attributes for which examination is made and results obtained.

5.5.2 Hydrostatic pressure test. The unit's tank with vent and valves closed shall be hydrostatically pressure tested at not less than 30 psig for 30 minutes. The unit's air system shall be hydrostatically pressure tested at not less than 300 psig for 30 minutes. There shall be no leakage, permanent deformation, or malfunction or evidence of impending failure.

5.5.3 Vacuum test. The pumping assembly vacuum chamber with valves closed, shall be subjected m an internal vacuum of 23 inches Hg. Once this vacuum is attained and the vacuum source valve is off, shall be maintained for 30 minutes. The initial and final vacuum shall be recorded. There shall be no air leakage, any permanent deformation or evidence of impending failure to the unit.

5.5.4 Continuity test. Electrical continuity across all component connections shall be demonstrated.

5.5.5 Tank volume test. The unit shall be tested to demonstrate that the tank volume is not less than 110 percent of rated (nominal) volume. Calculations satisfactory to the procuring activity may be substituted for this test.

5.5.6 Vacuum pump assembly test. The unit shall be tested to demonstrate that the vacuum pump meets the performance specified by 5.5.3 herein.

5.5.7 Noise test. The unit shall be tested to demonstrate that the noise level meets the noise limit specified by paragraph 3.10 herein.

5.5.8 Stability test. The unit shall be tested to demonstrate that the unit meets the stability requirements as stated in paragraph 3.11 herein.

5.5.9 Funnel static load tests. The funnel assemblies shall be tested to demonstrate compliance with the static load requirements as stated in paragraph 3.11.1 herein.

5.5.10 Mobility tests. Compliance with the requirements of 3.3 shall be verified. Upon completion of the mobility verification, the tests of 5.5.2 and 5.5.3 shall be repeated.

6. NOTES

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

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6.1 Ordering data. Acquisition documents must specify the following:

- a. Title, number and date of this CID
- b. Issue of DoDISS to be cited in the solicitation.
- c. Size of the unit required.

6.2 Bid samples. The government shall request bid samples on each of the bowser sizes that the contractor wishes to be considered for contract award. A fourteen to thirty day evaluation period will be conducted on each bid sample. Bid samples should be shipped to Warner Robins at a site to be determined by the support equipment engineer. Prior to shipment the contractor should notify the government buyer for details on the location of the test site. The contractor shall furnish continuous maintenance support (parts and labor) during the evaluation.

6.3 Metric products. Products manufactured to metric dimensions will be considered on an equal basis with those manufactured using inch-pound units, provided they fall within specified tolerances using conversion tables contained in the latest revision of Federal Standard No. 376 and all other requirements of this CID are met.

6.4 Preservation, packaging, packing labeling and marking. Preservation, packaging, labeling and marking shall be specified in the contract or order.

Custodian:
Air Force – 99

Preparing activity:
Air Force – 84

Agent:
Air Force – 99

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