

68-13 Transport Military Dental System (Project 02-22) (5/03)

For **UPDATE**, [click here](#).

The Transport MDS is described as a state-of-the-art mobile dental system utilizing the latest-available technology to meet the demanding needs of the military dentist in an operational environment. The system is designed to provide the capability to support a wide variety of dental procedures, ranging from oral prophylaxis and restorative procedures to surgery. The Transport MDS handpiece is based on a brushless, sealed electric motor that is available with or without fiberoptics. The speed of the handpiece is determined by the choice of the appropriate attachment and electrical settings. The Transport MDS also contains an air/water supply, piezo ultrasonic scaler, air/water syringe, high-volume evacuator (HVE), saliva ejector, and variable-speed foot switch.

The Transport MDS is advertised as being lightweight and totally self-contained. It includes an oil-less compressor that supplies pressurized air for the water and air subsystems with a self-contained water supply that provides for handpiece coolant spray and oral irrigation. In addition, the dental suction system has waste reservoirs for the collection of liquids and solids from the vacuum supply subsystem. The Transport MDS supports all E-type handpieces. The entire system is self-contained within a hard-shell, hinged container with a handle that allows the unit to be carried in the same manner as a suitcase. The Transport MDS can be quickly assembled and disassembled and packs into one molded, military-specification (MILSPEC) shipping container for safe transport and storage.

Components and features of the system include:

- 3-way autoclavable syringe
- Autoclavable 30,000 rpm motor
- High & low volume evacuation
- Self-contained water supply
- Self-contained air compressor
- Variable-speed foot control
- High impact case with wheels
- Four power ratio settings: 5:1, 1:1, 1:4, 1:16
- Piezo ultrasonic scaler
- Power inverter with NATO connector for operation with 24-volt, military vehicle electrical system
- Compatible with either 110 or 220V power sources

The Transport MDS unit weights 46.5 pounds with closed dimensions of 10.5" H x 14.5" W x 24" D, and occupies a volume of 1.81 ft³. Along with the power inverter packed in the MILSPEC shipping case, the entire Transport MDS system weighs 83.6 pounds and occupies 4.25 ft³.

Manufacturer:

Aseptico International
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Woodinville WA 98072-1548
(800) 426-5913
(425) 487-3157
(360) 668-8722 FAX
www.aseptico.com



Suggested Retail Price: The Transport MDS presently is not marketed for civilian sale.

Government Price: \$8100.00

ADVANTAGES:

- + Easy to set up and operate.
- + Unit functioned reliably during the evaluation.
- + Unit allows clinicians to provide adequate dental care under field conditions.
- + Small and lightweight.
- + Dental unit itself can be transported within government-issue, large internal frame field pack.
- + Unit designed similar to a suitcase for easy transport outside of shipping/storage container.
- + All clinical evaluators indicated that they are comfortable enough to deploy with the unit.
- + Electrical system meets all safety requirements.
- + Comes standard with NATO-compatible electrical inverter.
- + Electrical inverter provides adequate function from compatible military vehicles.
- + Brushless electrical handpiece motor can be autoclaved.
- + Vacuum system meets MPID and DIS functional requirements.
- + Does not require external compressed air storage.
- + Compressed air system functioned well.
- + Self-contained water system is easy to set up, use, and maintain.
- + Vacuum system is easy to set up, use, and clean.
- + Vacuum waste container is autoclavable.
- + Instructions are complete and easy to understand.
- + Instruction manual contains helpful schematic diagrams and illustrations.
- + Shipping/storage case meets MILSPEC requirements.
- + Less expensive than the DEFTOS.
- + National Stock Number allocation in process for Defense Service Center Philadelphia (DSCP) electronic catalog purchases.

DISADVANTAGES:

- Electric handpiece may require learning curve for some users.
- Fused-based electrical system.
- Self-contained water system reservoir needs to be of a larger volume.

SUMMARY AND CONCLUSIONS:

The Transport MDS is a self-contained field dental unit marketed for the military-operational environment. The unit is compact, lightweight, easy to assemble, and meets all electrical safety requirements. It functioned well and enables dentists to provide adequate dental care in the field environment. The unit's vacuum system met all MPID and DIS functional requirements, a problem that plagued earlier air turbine-based mobile dental units previously evaluated by DIS. Clinical evaluators thought the electric handpieces functioned well, although they required a short learning curve for clinicians who are accustomed to air-turbine handpieces. Although some problems were noted concerning the size of the self-contained water reservoir, the clinical users expressed overall satisfaction with the unit and said they would feel very comfortable using it during deployments. The Transport MDS is less expensive than other the electric-handpiece based dental unit evaluated by DIS. The **Transport MDS** is rated **Recommended** for use by the federal dental services.

UPDATE DIS evaluated (DIS 68-13) the Transport II MDS and found the unit to meet established military requirements. Recent field testing of expeditionary dental equipment in Kuwait by DIS and the Navy Institute for Dental and Biomedical Research (NIDBR) during OPERATION SANDMAN included the Transport MDS field dental unit. Although the Transport MDS units exceeded MPID high volume evacuation (HVE) vacuum requirements, intermittent "cycling" of the electric motor resulted in a fluctuating vacuum performance. Use of low volume evacuation (LVE) suction did not affect HVE function, however, testing found that the Transport II MDS provided LVE suction that did not meet established military standards. Until the suction performance is improved and verified by testing, the **Transport II MDS** is rated **Acceptable** for use under pure expeditionary conditions and **Marginal** for sustained treatment conditions by the federal dental services.