



BOSS

BATTLEFIELD OXYGEN SUSTAINMENT SYSTEM

Oxygen Generator & Liquefier (OGL)

Backpack Medical Oxygen System Filling Station (BMOS-FS)

Mounted Medical Oxygen System (MMOS)

Backpack Medical Oxygen System (BMOS)



For more
information
about the BOSS

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BATTLEFIELD OXYGEN SUSTAINMENT SYSTEM

The Battlefield Oxygen Sustainment System (BOSS), was designed for the United States Air Force Special Services to generate, store, fill and deploy LOX. Currently, the BOSS features four Essex products, which are also available separately: The Oxygen Generator and Liquefier (OGL); the Backpack Medical Oxygen System Filling Station (BMOS-FS); the Mounted Medical Oxygen System (MMOS); and the Backpack Medical Oxygen System (BMOS).

Applications

Medevac fixed wing, rotary wing and ground transport, as well as parachutist and ground evacuation.

The Oxygen Generator and Liquefier (OGL),

liquefies, stores and fills liquid oxygen (LOX).

- FDA 510(k) Clearance Number K131990
- Generates 1 liquid liter of 93% USP oxygen per hour.
- Onboard LOX storage vessel.
- Portable – designed for fork lift or pallet transport.
- Able to fill BMOS, BMOS-FS, MMOS, MODS, NPTLOX and PTLOX.
- System performance data logging and fault output capability.
- PC Boards with on-board watchdog timer.
- User-friendly to allow for easier operator interface – plug in, turn on and forget.
- Runs on standard 240 VAC single-phase power, electrical grid or generator.
- Tie-down provision for all military transport, cargo and medical aircraft.
- Designed for reliability in harsh conditions (0° - 120° F).
- Zero Loss Feature – will re-liquefy any oxygen gas that boils off when in standby mode.
- System automatically starts and stops based on liquid level in the 40 liter tank.
- Provides 15 L/min 93% USP gas for filling HP cylinders.
- Washable/Reusable Filters.
- Onboard PLC/Computer control system.

Applications

Medevac (fixed & rotary wing) and ground transport, parachutist and ground evacuation.



Oxygen Generator & Liquefier (OGL)

P/N 50C-0103-5 (Tan), 50C-0103-7 (Dark Green)

OGL SPECIFICATIONS

Capacity	40 Liters
Dimensions (W"xL"xH")	49 x 33 x 57.2
Weight, Full	840 lbs
Weight, Empty	740 lbs
Total Gaseous Volume	34,400 Liters
System Internal Pressure	0-40 PSIG
LOX Delivery/Outlet Pressure	20-40 PSIG
O ₂ Gas Delivery Rate & Pressure	11 LPM at 7 PSIG
Operating Temperature	0° F to 120° F
Operating Power	200-240 Volt AC, 50-60 Hz, Single Phase
Outlet Ports	CRU-59/E Type Fill Valve on 8 foot hose
Transporting	Two (2) Forklift Tube and Four (4) Retractable Locking Casters

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BATTLEFIELD OXYGEN SUSTAINMENT SYSTEM

Backpack Medical Oxygen System Filling Station (BMOS-FS)

P/N 50C-0083-3 (Green), 50C-0083-4 (Dark Green)



The **Backpack Medical Oxygen Filling Station (BMOS-FS)** is a low pressure, portable 20.0 liter liquid oxygen storage device designed to fill multiple BMOS or MMOS systems prior to use. Average filling time is approximately three minutes to fill either system. Requires no external power and uses just two 9-Volt batteries for the quantity indicator.

- Low pressure
- Portable
- Light weight
- Rugged
- User friendly
- No external power required
- Tested to MIL-STD-810

Applications

Can be carried by two ground support personnel and can also be mounted in an aircraft or helicopter.

BMOS-FS SPECIFICATIONS

Capacity	20 Liters
Dimensions (W"xL"xH")	22 x 24 x 30
Weight, Full	125 lbs
Weight, Empty	75 lbs
Total Gaseous Volume	17,200 Liters
System Internal Pressure	28-55 PSIG
LOX Delivery/Outlet Pressure	28-55 PSIG
Operating Temperature	32° F to 120° F
Indicator Power	Two (2) 9-Volt Batteries
Outlet Ports	CRU-59/E Type Fill Valve
Fill Connection	CRU-50/A Fill Valve

BMOS-FS Hose Kit

P/N 50C-0116-1



BMOS-FS Hose Kit connects the MMOS to the BMOS-FS for refilling. Items are packaged in a protective storage case.

BMOS-FS HOSE KIT SPECIFICATIONS

Dimensions (W"xL"xH")	18.5 x 14 x 7
Weight	13 lbs
Relief Valve Setting	75 PSIG
Safety Burst Disc Pressure	150 ± 10 PSIG
Outlet Connection	CRU-59/E Fill Valve on 4' hose
Supply Connection	CRU-50/A Fill Fitting
Operating Temperature	32° F to 120° F
Indicator Power	Two (2) 9-Volt Batteries
Outlet Ports	CRU-59/E Type Fill Valve
Fill Connection	CRU-50/A Fill Valve



OGL
Oxygen Generator & Liquefier

BMOS-FS
Backpack Medical
Oxygen Filling Station



BMOS-FS Hose Kit
Backpack Medical Oxygen
Filling Station Hose Kit



BMOS
Backpack Medical Oxygen System



MMOS
Mounted Medical Oxygen System



LIQUID OXYGEN FILLING DIAGRAM

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BATTLEFIELD OXYGEN SUSTAINMENT SYSTEM

The **Mounted Medical Oxygen System (MMOS)** and **Backpack Medical Oxygen System (BMOS)** are low pressure, portable liquid oxygen storage and gaseous delivery systems. The MMOS requires no external power and uses just one 9-Volt battery for the quantity indicator. The BMOS requires no external power and uses just six AA-batteries for the quantity indicator.

- Low pressure
- Portable
- Light weight
- Rugged
- User friendly
- Built-in flow control valve
- No external power required
- Tested to MIL-STD-810

MMOS Applications

Can be carried by ground support personnel and can also be mounted in an aircraft, helicopter or ground vehicle.

BMOS Applications

Can be carried by parachutists and ground support personnel.

Mounted Medical Oxygen System (MMOS)

P/N 50C-0105-1



Backpack Medical Oxygen System (BMOS)

P/N 50C-0089-4



	MMOS SPECIFICATIONS	BMOS SPECIFICATIONS
Capacity	4 Liters	2 Liters
Dimensions (W"xL"xH")	11.2 x 17 x 9	7.5 x 17.5 x 6.5
Weight, Full	35 lbs	19 lbs
Weight, Empty	25 lbs	14 lbs
Total Gaseous Volume	3,400 Liters	1,720 Liters
System Internal Pressure	85-120 PSIG	45-65 PSIG
LOX Delivery/Outlet Pressure	50 ± 5 PSIG	50 ± 5 PSIG
O ₂ Gas Delivery Rate & Pressure	30 LPM	15 LPM
Operating Temperature	-40° F to 130° F	32° F to 120° F
Indicator Power	One (1) 9-Volt Battery	Six (6) AA Batteries
Outlet Ports	Two (2) DISS 1240 Ports and Two (2) Flow Control Valves with 1/8" Barb Ports	One (1) DISS 1240 Port & One (1) Flow Control Valve with 1/8" Barb Port
Built-in Flow Control Valves	0 to 15 LPM with 11 Settings (0.5, 1, 2, 3, 4, 5, 6, 8, 10, 12, 15 LPM)	0 to 15 LPM with 11 Settings (0.5, 1, 2, 3, 4, 5, 6, 8, 10, 12, 15 LPM)
Fill Connection	CRU-50/A Fill Valve	CRU-50/A Fill Fitting