AMXDmax™
Advanced Mission Extender Device

Proven In Theater Mission Readiness and Performance Enhancer.
The Advanced Mission Extender Device (AMXD) is a non-invasive, fully automatic, in-flight bladder relief device designed by Omni for the US Military specifically as a force multiplier to enhance and sustain the performance of aircrew of military aircraft.

- The AMXD is an Effective, Fully Automatic, Hands Free solution to the problem of in-flight bladder relief allowing aircrew to focus on mission objectives for the entire mission without distraction or discomfort.
- Provide Close Air Support for a special op’s team mission for an extended time in the air.
- The AMXD is CERTIFIED SAFE TO FLY on all US Military Aircraft.
- Over 2200 have been deployed in theater to Europe, Iraq and Afghanistan by the US Air Force, US Navy, Air National Guard and NATO countries.
Pilot Performance Issues
Enhanced by the AMXD

Use the AMXD over a target area and be able to keep your eyes on the target and the friendlys the entire time and when asked to prosecute the target you will be able to do it without delay.

- Increase Situational Awareness (SA).
- Increase ability to make decisions.
- Increase attention span.
- Eliminate the need for Tactical Dehydration prior to long missions.
- Increase G-Tolerance (3% dehydration = 40% reduction in G-tolerance).
- Decrease Distractions from flight operations.
- Decrease Fatigue.
- Decrease Potential for mishaps.

The AMXD system is warn discretely under Aircrews Flight suit, the Collection Bag and Control Device are small and can be stowed in G-suit or flight suit shin pocket.
Pilot Safety and Medical Issues
solved by the AMXDmax

- Nine F-16s & one A-10 have crashed resulting in loss of life and aircraft are directly attributed to male pilots using the piddle pack.

- Un-strapping, partially undressing, & excessive movement in the cockpit creates distractions from flight operations increasing the potential for mishaps.

- Tactical dehydration prior to long missions creates degraded performance and health risks, which can be avoided by using the AMXD.
  - Impaired Vision
  - Decreased Hand/Eye Coordination
  - Loss of Consciousness
  - Urinary Tract Infections (UTI)
  - Short and long term Kidney Stones
  - Long Term Incontinence

- Urinary Retention reduces attention span and the ability to make decisions to the same degree associated with alcohol intoxication or 24 hours of sleep deprivation.
AMXD Flight Trials

Male: 73 in-flight AMXD tests completed during 60 flights 99% Acceptable
Female: 34 in-flight AMXD tests completed during 34 flights 98% Acceptable

Male Flight Test Overview

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Female Flight Test Overview

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Pilot Rating
99% Acceptable

“I was able to stay heads-up, doing a climbing banking turn using the AMXD and not take myself out of mission.”
Capt. A-18 Pilot
AMXDmax System Overview

Male AMXDmax
- Control Unit (sensor activated)
- Collection Bag (drainable)
- Male Cup w/ sensor

Female AMXDmax
- Female Pad w/ sensor

AMXDmax System Features:
- The Male Cup and Female Pad are warn discretely under the flight suit.
- The Control Unit and Bag are typically carried in flight or G suit pocket.
- After aircrew is buckled into seat they connect the system.
- The Bag and Control Unit may be placed in any convenient location.
Male Cup shaped like an Athletic Cup

Safe, Sanitary and Easy Solution to in-Flight Bladder Relief

Certified “Safe to Fly”

The AMXDiMax Male Cup features:

- Urine sensor for automatic operation
- Non invasive, urethane cup
- Fits like a flexible male athletic cup
- Stays in place for duration of mission
- Soft foam ring comfortably fits to body
- Safe, fire retardant materials
- Nomex covered hoses
- Reusable with proper cleaning
Male Cup
Is worn discretely under flight suit

The Male Cup can be put on with flight gear, or it may be slipped into place without undressing just prior to going to the flight line.
Female Pad fits like a Sanitary Pad

Safe, Sanitary and Easy Solution to in-Flight Bladder Relief

Certified “Safe to Fly”

The AMXDmax Female Pad features:

- Urine sensor for automatic operation
- Non invasive, inflatable urethane pad
- Shaped to fit like a female sanitary pad
- Pad remains comfortably in place and ready to use for the duration of mission
- Pad is inflated only during bladder relief
- Soft non-woven fabric cover for comfort
- Fabricated from fire retardant materials
- Nomex covered hoses
- Reusable with proper cleaning
Female Pad
Is worn discretely under flight suit

The Female Pad can be put on with flight gear, or it may be slipped into place without undressing just prior to going to the flight line.
Control Unit, Battery and Charger

AMXDmax Control Unit

- Control Unit Weighs only 4oz with battery
- Includes 2 Rechargeable Battery Packs providing power for up to 32 hours of flight time
- Urine sensor contacts activate 1.5 L/min pump transferring urine to bag
- Collection Bag Release Button
- NVG Safe Green Battery Status LEDs
- Battery Pack Charger and Wall Adapter

Not taken on flight
The AMXDmax Collection Bag is manufactured from durable medical grade urethane.

- Control Unit connector
- Liquid tight air filter
- 1200ml Capacity
- 500 ml Over Capacity Safety Factor
- Drain twist valve

Collection Bag is folded to stow

Control Unit slides onto folded Bag and is easily stowed in flight suit pocket

Shown with 1200 ml capacity normal use designed capacity

Shown with 2200 ml Extended OVER Capacity

Bag can be placed in any orientation
AMXDmax In-flight Use

The AMXDmax system is fully automatic and can be left attached to the Cup or Pad hose for the duration of Mission, ready to use at any time.

The Control Unit and Collection Bag can be safely placed anywhere and in any orientation.
Safe, Sanitary and Green

The Piddle Pak and other disposable products are *unsanitary*, create dangerous *Bio Hazardous* conditions in facilities and add to the waste disposal burden.

The AMXDmax Male cup, Female Pad and drainable Collection Bag are designed for multiple uses. They are rinsed before disposing of, resulting in no Bio Hazardous conditions or waste.
Pilot Comments

- “It is a key mission enabler/enhancer for long duration missions.”  
  Lt. F-16 Pilot

- “I was able to stay heads-up, doing a climbing banking turn using the AMXD and not take myself out of mission.”  
  Capt. A-18 Pilot

- “The AMXD worked perfectly; it worked as advertised.”  
  Maj. F-22 Pilot

- “It is perfectly safe and effective and certainly gives aviators another option for in-flight relief.”  
  Lt. HH-60 Pilot

- “I believe it is a much better system and needs to be fielded ASAP.”  
  Lt. F-16 Pilot

- “It definitely helps promote staying well hydrated, especially in extreme weather environments.”  
  Lt. F-16 Pilot

- “The collection bags are sealed and are much easier to handle and stow in the cockpit than other systems.”  
  Capt. F-16 Pilot
History

- **2001** - safety issues identified with Piddle Pak including loss of life and aircraft.
- **2002 - 2003** Omni receives US Air Force / SBIR funding to develop the AMXD®.
- **2004** - MAJCOM/CVs validates Aircrew Performance Requirement.
- **2006** - Omni received FDA Approval.
- **2006** - the AMXD is Certified “Safe to Fly” on all US Air Force Aircraft.
- **2007** – Omni receives RTOC (Reduction in Total Ownership of Cost) contract to develop smaller, AMXDmax and lower operational costs.
- **2007 – 2008** USAF, Air National Guard, production contracts for AMXD
- **2009 – 2011** Navy, Army and NATO, production contracts for AMXD
# AMXD Contract History

The AMXDmax is fielded under contract with the US Air Force, US Army, US Navy, Air National Guard and Army National Guard and 5 other NATO countries.

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The NAVY has completed the equipment evaluation and cockpit integration of the AMXDmax system to the advance performance specifications of the F-35. NAVAIR is currently organizing Flight trials for summer 2013.

The AMXDmax was developed to insure pilot performance, safety and health now and into the future of aviation.

The Simplified Combined 5 Point Harness Makes the Piddle Pack and diapers obsolete.
Omni’s Milton, VT Manufacturing Facility is certified by the DOD as Mil Spec production ready to fabricate 7,500 new AMXDmax systems and supporting disposables per year on a single shift.
The AMXD is Essential Cockpit Equipment providing aircrew with Enhanced Situation Awareness and Decision Making Capability.