

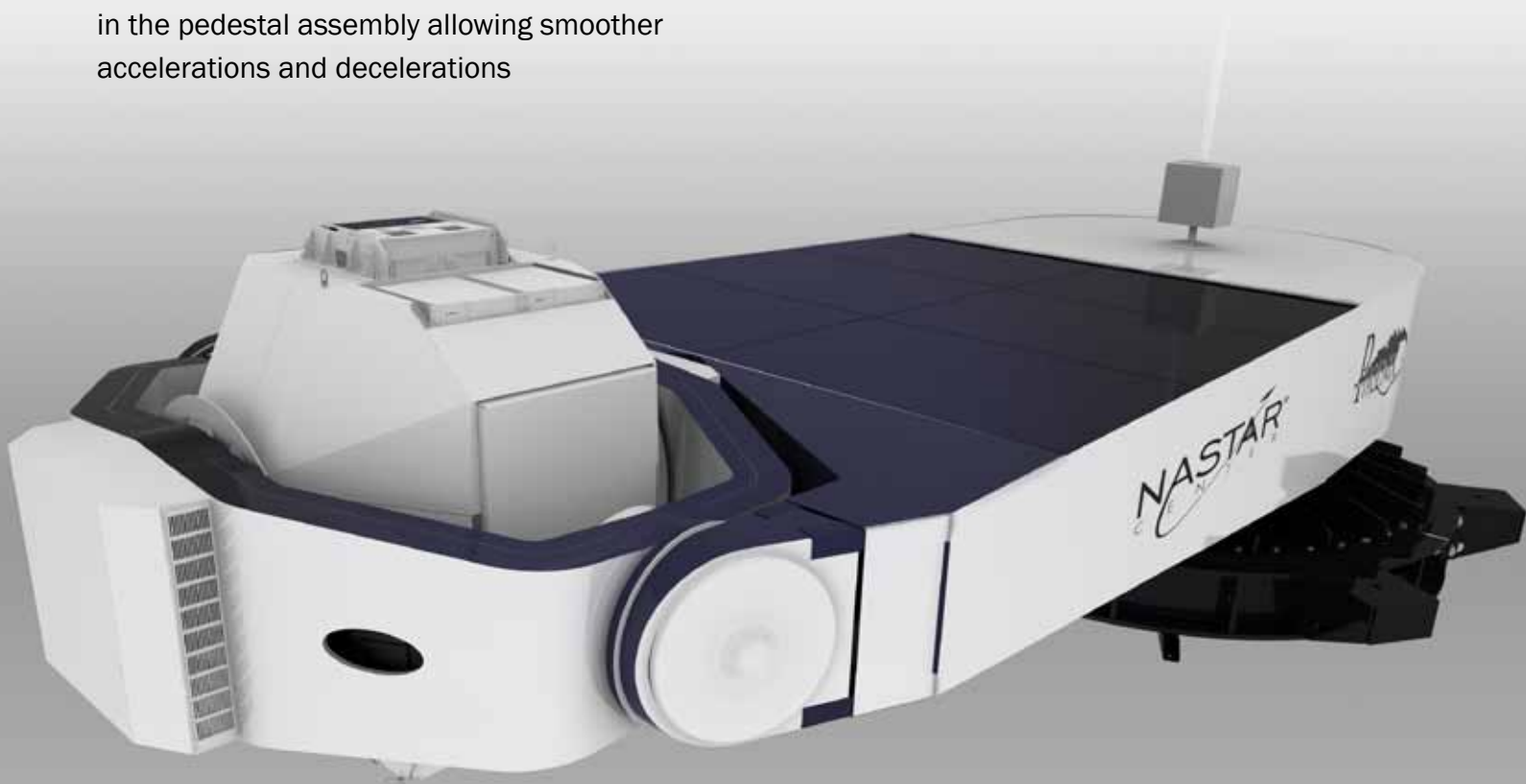
ATFS-400

MODEL 31



Standard Features*:

- Longer and stiffer arm adds to the reduction of Coriolis during onset and offset.
- Arm design modification improves inspection and maintenance access
- Solid design arm increases stiffness by 300% reducing motion artifacts due to vibration
- Increased Performance capable of generating up to a maximum of 20 Gs at onset rates up to 15 Gs per second
- Direct Main Drive System incorporating a direct drive motor that is coupled to the main shaft in the pedestal assembly allowing smoother accelerations and decelerations
- Pedestal and main bearing mechanical design modifications increase stiffness and allow for greater maintainability.
- Direct drive dual pitch and roll gimbal motor have incorporated to improve pitch and roll response and to provide additional safety backup



*Comparative to the ATFS-400 Model 25

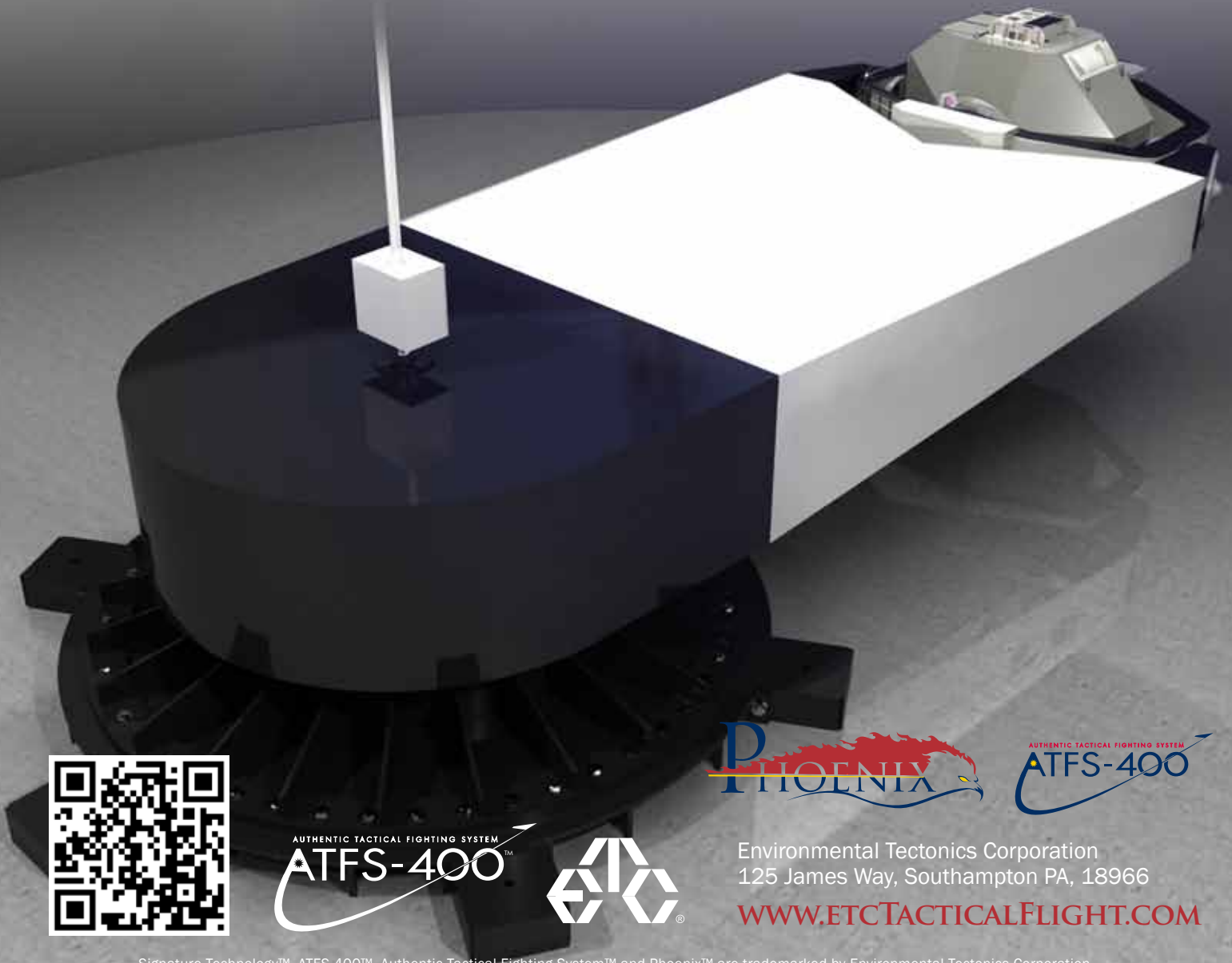


Training Applications:

- Basic Fighter Maneuvers with the potential for realistic Dissimilar Air Combat Training
- Air-to-Ground Missions – CAS, SEAD, and DEAD
- Defense maneuvering in a hostile environment
- Dynamic weapons employment
- G-Tolerance and G- Readiness Training
- Conversion Training – Lead-in Fighter Training
- Interactive multi-ship engagements and operations in a Distributed Mission Training environment

Advantages

- Reduced coriolis during onset and offset
- Authentic tactical flight training with the real physiological effects of flight
- An ideal alternative to live aircraft flight training
- Provides greater confidence and experience in high ‘G’ environment – validate correct performance of AGSM
- Safe
- Train in any weather at any time of day
- Easily integrated into an existing flight training



AUTHENTIC TACTICAL FIGHTING SYSTEM
ATFS-400™



PHOENIX

AUTHENTIC TACTICAL FIGHTING SYSTEM
ATFS-400

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ISO Compliance 9000, 9001-2000, 9003

ATFS-400

COMMON TERMS



Signature Technology – Signature Technology as it applies to the ATFS – 400 PHOENIX product line, addresses inherent mechanical, electrical and software design features which allows the operator to sense the nuances of motion of the machine (motion signature), recall previously learned or practiced skills and effectively apply those techniques. Conversely, by a pilot responding to the particular “Signature” of the machine, a symbiotic man machine interface is created where the machine is more responsive to the pilot input while the pilot is more perceptive in discerning the machine nuances of motion. This resultant Signature relationship elevates the experience between the pilot and simulator, making the experience as close to a real flight experience as can be achieved.

Motion Signature – A motion signature enables the operator to sense the motion of the machine and apply previously learned skills during its operation based on his experience with that vehicle’s motion and performance signature, much like with a sports car.

Frequency Domain Design – Frequency Domain Design is a design philosophy that employs various techniques aimed at addressing the simulator design at a system-level, allowing for requirements to be formulated for interactions between sub-systems that are generally missed or overlooked with a conventional design approach.

With this in mind designing in the Frequency Domain produces an end product that increases the strength, specifically with the ATFS-400 PHOENIX, the centrifuge arm strength. Typically, there is a certain amount of flexion in the arm so that it will not break. However, this flexion is unacceptable for tactical flight training since the requirement

demands a strong arm without flex during acceleration. This is important because when the arm flexes, undesirable motion artifacts are produced, decreasing the realism of the flight. By having a centrifuge arm designed “in the Frequency Domain” an arm with a high bandwidth (for tactical fidelity) is produced which is extremely strong and therefore doesn’t flex during dynamic operation conditions. Thus, with a stiffer arm, cycle lag times are greatly reduced enabling the machine to provide a more rapid response to pilot input, and motion artifacts greatly decreased or abated.

System Bandwidth – A systems bandwidth is essentially the overall responsiveness of a system and takes into consideration the design and ensuing responsiveness of all sub-systems including, electro mechanical, software, etc.

The ATFS-400 PHOENIX is able to produce a bandwidth equal to or greater than that of current 4th and 5th generation aircraft thereby replicating each aircraft’s ultra responsiveness to the pilots actions, ultimately providing a flight simulator which is nearly identical to flying a real aircraft.

G-Pointing – The G-Pointing motion control system controls the high performance motion system and is the key to the realistic simulation of varying G forces. Pilot control inputs are processed by aeromodel to create realistic virtual aircraft responses. Simultaneously, commands are sent to the G-POINTING system to properly position the ATFS-400 gondola, containing the modular tactical aircraft cockpit, and vary the speed of the high performance motion system to precisely create the correct inertial G forces in all three axes. G on-set and off-set rates correspond to those of the tactical aircraft being simulated.

