



The Next Generation of a Legacy

AirForce 20

Analog Turntable



Beginning with the iconic Air Force One, TechDAS introduced the revolutionary air-bearing and vacuum disc-suction system. This lineage culminated in the ultra-high-end reference model Air Force Zero, a masterpiece that achieved the ultimate moment of inertia through its 120 kg platter assembly and an air-bearing motor unit equipped with a flywheel.

Meanwhile, the Air Force Two carved its own distinct path, earning acclaim for a uniquely captivating sound signature made possible by its hybrid spring-and-oil suspension system. For years, we have envisioned reviving a model featuring this proprietary suspension.

Now, by condensing and refining the pinnacle of TechDAS turntable technology, we have realized that dream. We proudly introduce the next generation of the Air Force legacy: the Air Force 20.

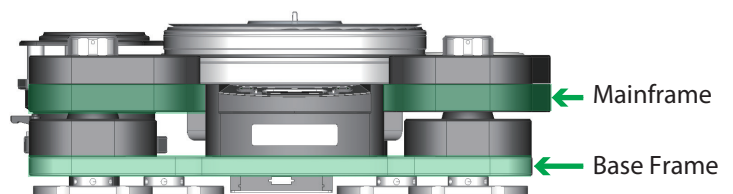
Air Vacuum and Air Float Systems

With the Air Force 20's vacuum suction feature, your records are instantly held tightly to the massive platter, effectively integrating the disc with the platter's substantial mass. This groundbreaking synergy dramatically elevates the stylus's tracking capabilities. Anchored immovably to the heavy platter, the record provides a foundation that maintains complete stability while accommodating every microscopic movement of the stylus, allowing it to trace the absolute micro-nuances of the groove. Simultaneously, through the Air Float system, this heavyweight platter rotates while levitating at a mere 10 microns. This precise suspension completely eliminates the background noise typically inherent in analog playback during silent passages, immersing your listening experience in a profound and deeply quiet background.

A7075 Extra Super Duralumin Massive Mainframe and 60 kg Heavyweight Base Frame

Crafted from A7075 — the same ultra-high-strength aluminum alloy utilized in the iconic Air Force One — the massive mainframe sets a new standard for rigidity. This is complemented by the suspension sections, which employ a more compliant A5056 aluminum alloy specifically chosen for its superior vibration-absorption characteristics. Furthermore, the underbelly of the mainframe features radially arranged reinforcement ribs made of SUS304 stainless steel, which simultaneously dampens the frame and enhances its structural integrity. Suspended from the Air Force 20 suspension system, the mainframe is completely liberated from unwanted vibrations through advanced oil-damping integration.

Supporting this entire system is a 60 kg stainless steel base frame. The suspension system is anchored directly to this high-mass foundation, supporting the mainframe — the bedrock for the platter and tonearm bases — via an ultra-precise three-feet isolation strategy. Strategically positioned with respect to the turntable's exact center of gravity, this configuration ensures peerless stability during platter rotation.



Flywheel-Equipped Air-Bearing Drive Motor

Inherited directly from Air Force Zero, this state-of-the-art motor unit has been re-engineered into a refined, compact profile. Providing exceptionally stable drive, the motor is powered by high-output 130W power amplifiers.

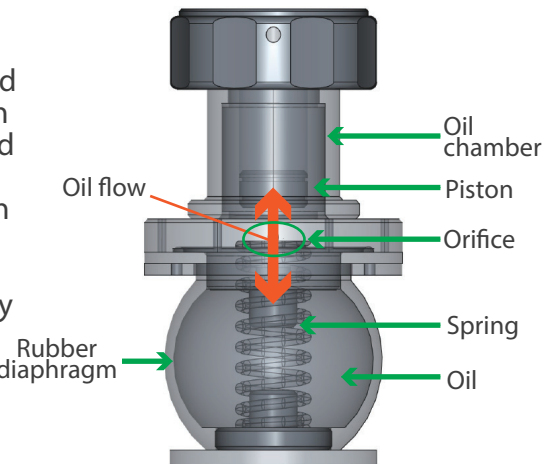
The flywheel, perfectly integrated with the pulley, utilizes air-bearing technology to float smoothly during operation. By rotating at high speed, this lighter flywheel effectively yields a massive moment of inertia that exceeds that of the platter. This breakthrough engineering multiplies the system's total moment of inertia by a factor of five—effortlessly minimizing the variable friction of the stylus and eliminating motor cogging.

This total isolation is achieved through a non-contact magnetic interface that couples the flywheel to the motor, physically isolating the transmission of vibration to the pulley. Because the motor is rigidly mounted to the high-mass base frame, its own resonance is completely suppressed by the substantial weight of the system.

The Redesigned Hybrid Isolation: Monotube Oil-Damped Spring Suspension

Securing the legendary acoustic footprint of the Air Force Two, this hybrid suspension returns in a newly re-engineered form. Celebrated for its stellar reputation and maintenance-free longevity, the system utilizes an isolation spring encapsulated with damping fluid inside a specialized rubber diaphragm. Through a calibrated orifice, this assembly interfaces with an upper oil chamber featuring an advanced free piston.

The structural load shifts engage the piston, allowing the oil-damping function to operate with absolute precision. By utilizing the hydraulic resistance of the fluid migrating between the diaphragm and the oil chamber, the system instantly dampens unwanted spring rebound.



Dual-Structure Platter System

In alignment with the upper-tier model, the Air Force One Premium, the Air Force 20 implements a sophisticated two-layer platter architecture comprising a main platter and an upper platter. At TechDAS, the manufacturing process is meticulously controlled to thoroughly eliminate any lingering magnetization induced during precision machining. The main platter is crafted from non-magnetic SUS316L stainless steel, incorporating a dedicated air chamber directly beneath the vinyl.

Upon activating the vacuum stabilization, this air chamber is evacuated, instantly forcing the main platter, upper platter, and the record into a unified, ultra-rigid bond. This seamless integration completely dampens unwanted sympathetic vibrations and resonances. Furthermore, the record is flattened perfectly against the upper platter—faithfully replicating the profile of the original cutting lathe. This drastically reduces mechanical stress on the tonearm and cartridge while restoring the record grooves to their absolute optimal state.

To tailor the sonic character to your system, the upper platter can be selected from two premium material options: high-strength A7075 Extra Super Duralumin or TP340 Pure Titanium.

New Tonearm Base System

The Air Force 20 is equipped with two tonearm bases. Whether positioning your tonearm at the right or left position, each base flawlessly accepts both short length and long length tonearms. Because they share an identical footprint, the right and left tonearm bases are fully interchangeable.

APSU-20 Power & Air Supply Unit

The APSU-20 houses two independent, high-performance air pumps that dedicatedly drive the platter float, the platter vacuum suction, and the flywheel float systems. These twin pumps, along with a newly designed large-capacity air condenser, are housed within a single, elegant chassis. Furthermore, isolation measures against pump-induced vibrations have been enhanced compared to previous Air Force generations, ensuring an absolutely pristine noise floor.



Air Force 20

Specifications

Please note that these are prototype specifications and are subject to change prior to production shipping.

■Main Unit (Including Platter Assembly and Motor Unit)	■Suspension
Dimensions: 628 (W) x 515 (D) x 190 (H) mm	3 feet support
Weight: approx 100 kg	Hybrid Isolation: Monotube Oil-Damped Spring Suspension
■Platter Assembly	■Main Frame
Main Platter: SUS316L (19 kg)	Main Body: A7075 aluminum alloy
Upper Platter : A7075 (4 kg) / TP340 (6 kg)	Top Panel & Arm Mount Plates: A5052 aluminum alloy
■Motor Unit	Bottom Damping Panel: SUS304 stainless steel
Motor Type: 2-phase, 4-pole AC synchronous motor	■Tonearm Bases
Flywheel Pulley: SUS304 stainless steel (1.5 kg)	Metal Frame with insert
■Total Moment of Inertia	■Drive System
12,300 kgcm ²	Precision double-side polished polyester fiber flat belt drive
■Platter Speeds	■APSU-20 Power & Air Supply Unit
33.3rpm/45rpm	Dimensions: 430 (W) x 460 (D) x 144 (H) mm
■Wow & Flutter	Weight: 17 kg
Below 0.03%	Power Consumption: 60 W
	■ Voltage Compatibility
	100V to 230V (factory-configured for target shipping region)