

Ak 47 Technical Data

Understanding the AK-47: An In-Depth Look at Its Technical Data

ak 47 technical data is a term often associated with one of the most iconic and widely recognized assault rifles in the world. Designed in the Soviet Union by Mikhail Kalashnikov in 1947, the AK-47 has become a symbol of military strength, insurgency, and historical significance. Its blend of simplicity, durability, and ease of use has made it a preferred choice for armed forces, guerrilla groups, and collectors worldwide. This article provides a comprehensive overview of the AK-47's technical specifications, design features, variants, and performance characteristics, to give readers a detailed understanding of this legendary firearm.

Historical Background of the AK-47

Before delving into technical details, it's important to understand the context behind the AK-47's development. The rifle was designed to be a rugged, reliable, and easy-to-manufacture weapon suitable for mass production and use in diverse environments. Its adoption by the Soviet Armed Forces in 1949 marked the beginning of its global proliferation, and over the decades, countless variants have been produced, each tailored to different operational needs.

Core Technical Specifications of the AK-47

The basic technical data of the AK-47 provides a foundation for understanding its operational capabilities:

General Dimensions and Weight

1. **Overall Length:** 870 mm (34.3 inches)
2. **Barrel Length:** 415 mm (16.3 inches)
3. **Weight (unloaded):** Approximately 4.3 kg (9.5 lbs)
4. **Stock Type:** Folding or fixed wooden stock

Caliber and Ammunition

1. **Caliber:** 7.62 × 39 mm Soviet
2. **Magazine Capacity:** 30 rounds (standard box magazine)
3. **Compatible Ammunition Types:** Full metal jacket (FMJ), soft point, tracer rounds

Ballistics and Performance

1. **muzzle velocity:** Approximately 715 m/s (2,346 ft/s)
2. **Effective Range:** Up to 400 meters (438 yards)
3. **Maximum Range:** 1,000 meters (1,094 yards) in theory, but accuracy diminishes significantly beyond 400 meters
4. **Rate of Fire:** 600 rounds per minute (cyclic rate)

Operational Features

1. **Firing Mode:** Selective fire – semi-automatic and fully automatic
2. **Gas Operation System:** Long stroke gas piston with a rotating bolt
3. **Fire Control:** Fire selector lever with safe, semi, and full-auto positions
4. **Cooling System:** Air-cooled barrel

Design and Mechanical Features

Understanding the design elements of the AK-47 is essential to appreciating its robustness and reliability.

Materials and Construction

- The receiver is made from stamped sheet metal or milled steel, depending on the variant. - The barrel is made of chrome-lined steel, enhancing durability and ease of cleaning. - The stock and handguard are typically made from wood or polymer in modern variants.

Operating Mechanism

- The AK-47 employs a long-stroke gas piston system, which is highly reliable under adverse conditions. - The rotating bolt design ensures secure chambering and extraction. - The firing mechanism is simple, with minimal moving parts, making it easy to maintain and repair.

Magazine and Feeding System

- Standard magazine capacity is 30 rounds, though drum magazines of higher capacity exist. - The magazine is made from stamped steel or polymer. - The feed system is robust, capable of functioning with dirty or harsh environments.

Variants and Their Technical Differences

Over the years, numerous AK-47 variants have been produced to suit different operational requirements.

AKM — The Modernized Version

- Introduced in 1959 to replace the original AK-47. - Features stamped sheet metal receiver for easier manufacturing. - Improved accuracy and reduced weight. - Equipped with a chrome-lined barrel for increased durability. - Typically uses side-folding polymer stocks.

AK-74 — A Caliber Upgrade

- Chambered for 5.45 × 39 mm cartridge. - Slightly lighter and more compact. - Improved accuracy at longer ranges. - Features a distinctive muzzle brake and new sighting system.

Other Notable Variants

- AK-12: The latest iteration with modernized features such as Picatinny rails, modular design, and enhanced ergonomics. - RPK: Light machine gun variant with heavier barrel and bipod.

Performance Characteristics and Field Use

The AK-47's technical design contributes to its reputation for ruggedness and dependability.

Reliability

- Can operate effectively in extreme conditions: mud, sand, cold, and heat. - Simple design allows for rapid field stripping and cleaning. - Tolerant of poor-quality ammunition.

Accuracy

- While not as precise as some modern rifles, the AK-47 offers acceptable accuracy for close to medium-range combat. - Effective combat range up to 400 meters.

Durability and Maintenance

- Chrome-lined barrels and chamber prevent fouling. - Minimal moving parts reduce mechanical failures. - Easy to disassemble for cleaning and repairs.

Conclusion: The Enduring Legacy of the AK-47's Technical Data

The technical data of the AK-47 underscores why this firearm remains one of the most enduring and widely used rifles globally. Its straightforward design, combined with reliable performance and ease of manufacture, ensures that it continues to be a preferred weapon for various users—from military forces to insurgent groups, and even firearm enthusiasts and collectors. Whether considering its original specifications or the numerous modern variants, the AK-47's technical features reflect a weapon built for durability, ease of use, and effectiveness, ensuring its place in the annals of firearm history.

Additional Resources and Technical Manuals

For those interested in the detailed technical manuals or specifications, reputable sources include official military documentation, firearm manufacturing companies, and specialized firearms literature. Always ensure to source information from reliable and authorized channels, especially if considering practical applications or collecting.

Final Thoughts

The AK-47's technical data reveals a firearm that balances simplicity with effectiveness. Its design philosophy emphasizes robustness, ease of operation, and mass production, which has contributed to its legendary status. Understanding these specifications is crucial not only for firearms enthusiasts but also for security professionals and historians seeking to appreciate the technological achievements of this iconic rifle.

AK-47 Technical Data: An In-Depth Analysis of the Iconic Assault Rifle The AK-47, also known as the Kalashnikov, is arguably the most recognizable assault rifle in the world. Its design, durability, and widespread use have cemented its status as a symbol of military power across numerous nations and conflicts. To truly understand the significance of this firearm, it is essential to delve into its technical specifications, design features, operational mechanics, and variations. This comprehensive review provides a detailed exploration of the AK-47's technical data, offering insights into why it has remained relevant for over seven decades.

Introduction to the AK-47

The AK-47 was developed in the Soviet Union by Mikhail Kalashnikov in the late 1940s. Officially adopted by the Soviet Armed Forces in 1949, it quickly gained global prominence due to its simplicity, robustness, and ease of manufacturing. Its technical data reflects a design optimized for reliability under harsh conditions, making it a preferred choice for both military and insurgent groups worldwide.

Core Technical Specifications

Understanding the AK-47's core specifications provides a foundation for appreciating its operational capabilities and design philosophy.

General Dimensions and Weight

- Overall Length: 875 mm (34.4 inches) - Barrel Length: 415 mm (16.3 inches) - Weight (Unloaded): Approximately 4.3 kg (9.5 lbs) - Weight (Loaded with 30-round magazine): Around 4.8 kg (10.6 lbs) - Stock Type: Folding or fixed wooden or polymer stock

Caliber and Ammunition

- Primary Caliber: 7.62×39mm M43 - Ammunition Types: - Full metal jacket (FMJ) - Soft point - Hollow point (less common) - Magazine Capacity: Standard 30-round detachable magazine, with variants for 20 or 40 rounds

Operational Mechanics

- Operating System: Gas-operated, rotating bolt - Firing Mode: Selective fire (semi-automatic and fully automatic) - Rate of Fire: Approximately 600 rounds per minute (rpm) - Muzzle Velocity: About 715 meters per second (2,346 fps) - Effective Range: 300 meters (approximately 328 yards) - Maximum Range: 800 meters (about 875 yards)

Design and Construction Features

The AK-47's design focuses on simplicity, durability, and ease of maintenance, which are reflected in its technical characteristics.

Material Composition

- Receiver: Steel stamped or milled, depending on the variant - Barrel: Chrome-lined for corrosion resistance and ease of cleaning - Stock and Handguard: Wood or polymer, lightweight and impact-resistant - Internal Components: Made from steel alloys, designed for longevity and ease of replacement

Barrel and Chamber

- Barrel Length: 415 mm (16.3 inches), balancing accuracy and maneuverability - Chamber: Designed to handle high-pressure 7.62×39mm rounds, with robust locking lugs - Chrome Lining: Present in most models to prolong barrel life and facilitate cleaning

Gas System and Recoil Management

- Gas Port: Located near the muzzle, regulating gas flow to operate the piston - Gas Piston: Operates the rotating bolt, cycling rounds reliably under diverse conditions - Recoil: Managed through mass and design simplicity, reducing felt recoil and improving controllability

Operational Mechanics and Functionality

The AK-47's operational mechanics are key to its reputation for reliability.

Firing Cycle

- When a round is fired, high-pressure gas from the cartridge propels the bolt carrier rearward. - The gas pushes the piston, unlocking the bolt and extracting the spent cartridge. - The bolt rotates, ejecting the spent case. - The recoil spring then pushes the bolt forward, chambering a new round. - The rifle is ready to fire again, either semi-automatically or automatically.

Selector Switch and Firing Modes

- The safety/selector switch is typically located on the right side of the receiver. - Positions include: - Safe: Prevents firing - Semi-automatic: Fires one round per trigger pull - Full-automatic: Continuous fire while trigger is held

Feeding and Ejection

- Magazine: Detachable, typically box-shaped with a curved profile for reliable feeding - Ejection Port: Located on the right side, ejects spent cartridges at approximately 12 o'clock position - Ammunition Compatibility: Designed for 7.62×39mm rounds, compatible with various magazines and drum feeds

Performance Characteristics

The AK-47's technical data illustrates its ability to perform in diverse environments.

Accuracy

- Effective at ranges up to 300 meters - Practical accuracy depends on shooter skill and barrel condition - Typically, it has a 4-5 MOA (Minute of Angle) accuracy, suitable for battlefield engagement

Reliability and Durability

- Functions reliably in mud, sand, snow, and extreme temperature conditions - Minimal maintenance required due to simple design - Chrome-lined barrel and chamber prevent corrosion and fouling

Maintenance and Ease of Use

- Designed for quick field stripping without tools - Components are accessible and replaceable - Shooters can learn basic maintenance within minutes, making it accessible for irregular users

Variants and Modular Configurations

Over the decades, numerous modifications and variants have emerged, all sharing core technical principles but tailored for specific needs.

Notable Variants

- AK-47 (Original Soviet Model): Classic design with stamped receiver - AKM: Modernized version with stamped sheet metal receiver, side-folding stock, and improved sights - AK-74: Chambered for 5.45×39mm, lighter recoil, and higher velocity - AK-12: Latest iteration with modern ergonomic features, Picatinny rails, and modularity

Customization and Accessories

- Picatinny and side rails for optics, lights, and grips - Folding or collapsible stocks - Barrel shrouds and muzzle devices for control and flash suppression

Technical Data Summary Table

| Parameter | Specification | ||| | Caliber | 7.62×39mm | | Overall Length | 875 mm (34.4 inches) | | Barrel Length | 415 mm (16.3 inches) | | Weight (unloaded) | Approx. 4.3 kg (9.5 lbs) | | Weight (loaded, with magazine) | Approx. 4.8 kg (10.6 lbs) | | Rate of Fire | ~600 rpm | | Muzzle Velocity | ~715 m/s | | Effective Range | 300 meters | | Max Range | 800 meters | | Magazine Capacity | 30 rounds | | Operating System | Gas-operated, rotating bolt |

Conclusion: The Enduring Legacy of the AK-47’s Technical Design

The AK-47’s technical data underscores a weapon engineered for resilience, simplicity, and mass production. Its robust construction, reliable firing mechanism, and ease of maintenance have made it a preferred firearm in numerous military conflicts and non-state armed groups worldwide. Despite the advent of modern weaponry with advanced materials and electronics, the AK-47 remains a benchmark for durability and effectiveness. Its design principles—simplicity, reliability, and adaptability—continue to influence firearm development today. Whether in its original form or modern variants like the AK-12, the AK-47’s technical data reveals a firearm that has stood the test of time, embodying a legendary status in the history of small arms.

Questions & Answers About ak 47 technical data

No	Question	Answer
1	What is the caliber of the AK-47?	The AK-47 typically uses 7.62×39mm caliber cartridges.
2	What is the effective firing range of the AK-47?	The AK-47 has an effective range of approximately 300 to 400 meters.
3	What is the weight of a standard AK-47 rifle?	The standard AK-47 weighs around 4.3 kilograms (9.5 pounds) without accessories.
4	What is the magazine capacity of the AK-47?	Most standard magazines for the AK-47 hold 30 rounds.

5	What is the rate of fire of the AK-47?	The AK-47 has a cyclic rate of about 600 rounds per minute.
6	What materials are used in the construction of the AK-47?	The AK-47 is primarily made of stamped steel, wood or polymer furniture, and metal components.
7	What is the overall length of the AK-47?	The overall length of the AK-47 is approximately 870 mm (34.3 inches).
8	How many parts does the AK-47 consist of?	The AK-47 is made up of around 30 to 40 main parts, depending on the model.
9	What is the muzzle velocity of the AK-47?	The muzzle velocity of the AK-47 is approximately 715 meters per second (2,346 feet per second).

AK 47 specifications, AK 47 dimensions, AK 47 weight, AK 47 caliber, AK 47 firing rate, AK 47 magazine capacity, AK 47 barrel length, AK 47 material, AK 47 operating system, AK 47 accessories