cat 236b hydraulic specs series 3 Handbook

cat 236b hydraulic specs series 3 is a vital topic for construction professionals, equipment operators, and machinery enthusiasts seeking comprehensive information about this versatile machine. The Cat 236B Hydraulic Series 3 offers a blend of power, efficiency, and durability, making it a popular choice for various excavation, material handling, and landscaping tasks. Understanding the hydraulic specifications of this series is essential for optimal performance, maintenance, and troubleshooting. In this article, we will delve into the detailed specifications, features, and operational guidelines of the **cat 236b hydraulic specs series 3**, helping you make informed decisions whether you are considering purchase, operation, or maintenance.

Overview of Cat 236B Hydraulic Series 3

The Cat 236B Hydraulic Series 3 is an upgraded version of the popular 236B model, featuring enhanced hydraulic systems, improved control, and increased efficiency. Designed for versatility and robustness, this compact excavator is suitable for a range of applications, including digging, loading, grading, and demolition.

Key Hydraulic Specifications of Cat 236B Series 3

Understanding the hydraulic specs of the **cat 236b hydraulic specs series 3** provides insight into its performance capabilities. These specifications include hydraulic pump flow rates, pressure ratings, and hydraulic system components.

Hydraulic Pump and Flow Rate

The hydraulic pump is the heart of the machine's hydraulic system, responsible for delivering pressurized fluid to operate the boom, arm, and bucket.

- **Pump Type:** Variable displacement axial piston pump
- **Flow Rate:** Approximately 35 gallons per minute (GPM) at rated engine speed
- **Flow Adjustment:** Automatic regulation to optimize power and efficiency

The flow rate directly influences the speed and power of hydraulic cylinders, impacting excavation and loading efficiency.

Hydraulic System Pressure

The system pressure determines the force exerted during operation, affecting digging power and breakout force.

- **Maximum System Pressure:** 3,000 psi (pounds per square inch)
- **Operating Pressure Range:** 2,200 to 2,800 psi, depending on workload

Maintaining optimal hydraulic pressure is essential for smooth operation and preventing system overloads.

Hydraulic Cylinders and Actuators

The series 3 incorporates upgraded hydraulic cylinders for enhanced durability and responsiveness.

- **Boom Cylinder:** Heavy-duty, with a bore size of approximately 3 inches
- **Arm Cylinder:** Designed for precise control, bore size around 2.5 inches
- **Bucket Cylinder:** Optimized for high breakout force, bore size approximately 2 inches

These cylinders facilitate efficient movement of the boom, arm, and bucket, enabling smooth and powerful operation.

Hydraulic System Components

The hydraulic specs of the Series 3 include advanced components that contribute to overall system performance.

Hydraulic Filters

To maintain hydraulic fluid cleanliness and system longevity, the Series 3 is equipped with:

- **Return Line Filter:** 10-micron filtration to trap contaminants
- **Pressure Line Filter:** 5-micron filtration for high-pressure fluid

Regular filter maintenance is crucial to prevent wear and damage to hydraulic components.

Hydraulic Hoses and Fittings

Heavy-duty hoses and fittings are designed to withstand high pressures and harsh working conditions:

- **Hose Diameter:** Ranges from 1/2 inch to 1 inch, depending on function
- **Material:** Reinforced rubber or thermoplastic for durability

Proper selection and maintenance of hoses prevent leaks and failures.

Operational Capabilities Based on Hydraulic Specs

The hydraulic specifications of the **cat 236b hydraulic specs series 3** directly influence the machine's operational capabilities.

Digging Depth and Reach

The hydraulic system provides the necessary power to achieve impressive digging depths and reach.

- **Maximum Digging Depth:** Approximately 12 feet (3.66 meters)
- **Maximum Reach at Ground Level:** Up to 20 feet (6.1 meters)

These capabilities make the Series 3 suitable for a variety of excavation projects.

Breakout Force

The hydraulic system delivers high breakout force, essential for breaking through tough materials.

- **Bucket Breakout Force:** Approximately 8,000 pounds-force (lbf)
- **Arm Breakout Force:** Around 6,500 lbf

This strength ensures efficient material handling and excavation.

Maintenance and Troubleshooting of Hydraulic System

Proper maintenance of the hydraulic system ensures longevity and optimal performance.

Routine Maintenance Tasks

Regular checks and maintenance include:

- Inspecting hydraulic hoses and fittings for leaks or damage

- Changing hydraulic filters according to manufacturer recommendations
- Checking hydraulic fluid levels and topping up as necessary
- Replacing hydraulic fluid at specified intervals to prevent contamination

Troubleshooting Common Hydraulic Issues

Common problems associated with hydraulic systems and their solutions include:

- **Loss of Hydraulic Power:** Check for leaks, low fluid levels, or clogged filters
- **Unresponsive Controls:** Inspect control valves and electronic components for faults
- **Overheating Hydraulic Fluid:** Ensure proper fluid levels and cooling system operation

Maintaining the hydraulic system not only extends equipment life but also enhances safety and productivity.

Conclusion

The **cat 236b hydraulic specs series 3** embodies a combination of robust hydraulic design, high-performance components, and advanced control systems. Its hydraulic pump flow rate, system pressure, cylinder capacity, and auxiliary components work together to deliver exceptional digging, lifting, and material handling capabilities. Whether used in construction, landscaping, or demolition, understanding these specifications can help operators maximize performance and maintenance routines. Regular upkeep, coupled with a thorough understanding of the hydraulic system, ensures that the Cat 236B Series 3 remains a reliable, efficient, and effective piece of machinery for years to come.

Cat 236B Hydraulic Specs Series 3: An In-Depth Review

The construction and material handling industries continually demand more versatile, efficient, and durable equipment. Among the essential machines for such operations is the Cat 236B Hydraulic Series 3, a compact hydraulic excavator renowned for its power, precision, and reliability. This article provides an in-depth exploration of its specifications, features, and performance, serving as a comprehensive guide for contractors, operators, and equipment enthusiasts considering this machine for their fleet.

Introduction to the Cat 236B Hydraulic Series 3

The Cat 236B Hydraulic Series 3 is a versatile compact excavator designed to excel in a wide range of applications, from landscaping and utility work to small-scale demolition and trenching. Building on Caterpillar's long-standing reputation for durability and innovation, the Series 3 variant introduces

several enhancements over previous models, emphasizing increased efficiency, operator comfort, and ease of maintenance.

This machine embodies Caterpillar's commitment to delivering a balanced combination of power and agility, tailored to meet the demanding needs of modern construction sites. To understand what sets the 236B Series 3 apart, we will explore its detailed specifications, design features, operational capabilities, and maintenance considerations.

Core Hydraulic Specifications

Hydraulics are the heart of any excavator, directly impacting its lifting capacity, digging force, and overall responsiveness. The Cat 236B Series 3's hydraulic system is engineered for optimal performance, providing smooth operation and precise control.

Hydraulic System Overview

The hydraulic system in the 236B Series 3 is a closed-center, load-sensing system that adjusts flow and pressure according to operational demands. This design ensures efficient fuel consumption and consistent power delivery, regardless of load variations.

Key features include:

- Hydraulic Pump: Variable-displacement piston pump that provides high flow rates for demanding tasks.
- Hydraulic Cylinders: Heavy-duty cylinders with robust seals for durability and minimal leakage.
- Control Valves: Proportional control valves facilitate fine-tuned movement of boom, arm, and bucket.
- Hydraulic Oil Capacity: Approximately 30 liters (7.9 gallons), optimized for cooling and lubrication.

Flow Rate and Pressure

Specification	Value
Hydraulic Pump Flow Rate	90 liters per minute (23.8 gallons per minute)
Operating Hydraulic Pressure	210 bar (3,045 psi)

| Auxiliary Hydraulic Flow | Up to 40 liters per minute (10.6 gallons per minute) |

The high flow rate enables quick cycle times, while the pressure specifications support heavy-duty operations like lifting and trenching.

Engine and Powertrain Specifications

A robust hydraulic system is only as good as the engine powering it. The 236B Series 3 is equipped with a reliable engine designed to deliver consistent power and efficiency.

Engine Details

- Model: Caterpillar C4.4 ACERT? engine
- Type: Four-cylinder, turbocharged diesel engine
- Net Power: Approximately 92 horsepower (68.5 kW) at 2,200 rpm
- Displacement: 4.4 liters (269 cubic inches)
- Fuel Capacity: 92 liters (24.3 gallons)

Notable features include:

- ACERT Technology: Enhances fuel economy and reduces emissions while maintaining high performance.
- Tier 4 Final Compliance: Ensures the engine meets stringent emissions standards, making it environmentally friendly.

Transmission and Travel Speed

- Transmission Type: Powershift transmission with four forward and four reverse gears.
- Travel Speed: Up to 4.5 km/h (2.8 mph) in high gear, suitable for site mobility.
- Hydrodynamic Drive: Provides smooth acceleration and deceleration.

The powertrain's design emphasizes reliability and ease of maintenance, critical for minimizing downtime on busy construction sites.

Operational Capabilities and Performance

The performance specifications of the Cat 236B Series 3 translate into real-world operational advantages. Here, we delve into its digging forces, lifting capacities, and operational reach.

Digging and Lifting Capabilities

| Specification | Value |

|---|---|

| Operating Weight | Approximately 14,500 kg (31,967 lbs) |

| Bucket Capacity | 0.07 to 0.22 cubic meters (0.09 to 0.29 cubic yards) |

| Max Digging Depth | 4.2 meters (13.8 feet) |

| Max Reach at Ground Level | 6.0 meters (19.7 feet) |

| Bucket Breakout Force | 8.2 tonnes (18,060 lbs) |

| Lift Capacity at Full Reach | 2.5 tonnes (5,512 lbs) |

These specs allow the 236B Series 3 to handle a variety of tasks efficiently. Its digging depth and reach are suitable for trenching and foundation work, while the breakout force supports heavy material handling.

Operational Flexibility

The excavator?s hydraulic system supports multiple attachments, such as hydraulic breakers, augers, and grapples, thanks to its auxiliary hydraulic flow. The machine?s quick-attach system simplifies attachment changes, reducing downtime and increasing productivity.

Design Features and Operator Comfort

Beyond raw specs, the design of the Cat 236B Series 3 focuses heavily on operator comfort, safety, and ease of maintenance.

Cab and Controls

- Ergonomic Cab: Spacious, climate-controlled, with large windows for excellent visibility.
- Control Systems: Pilot-operated joystick controls with adjustable settings for precision.
- Display Panel: Provides real-time data on engine performance, hydraulic pressure, and maintenance alerts.
- Sound and Vibration: Noise levels kept within ergonomic limits, reducing operator fatigue.

Maintenance and Accessibility

- Easy Access Panels: Simplify daily inspections and routine servicing.
- Filter and Fluid Replacement: Designed for quick filter changes and fluid top-offs.
- Track and Undercarriage Maintenance: Modular components allow for straightforward repairs.
- Service Interval: Generally scheduled every 500 hours for major components, minimizing operational disruptions.

Attachments and Compatibility

The versatility of the Cat 236B Series 3 is amplified by its compatibility with various attachments, making it suitable for multiple applications.

Supported Attachments Include:

- Buckets (standard, trenching, rock)
- Hydraulic hammers
- Augers
- Grapples
- Rippers
- Tiltrotators

Attachment flow rates and pressure ratings are designed to match the hydraulic system, ensuring optimal performance and safety.

Summary of Key Specifications

Parameter	Specification
Operating Weight	~14,500 kg (32,000 lbs)
Engine Power	92 HP (68.5 kW)
Hydraulic Pump Flow	90 l/min (23.8 gpm)
Max Digging Depth	4.2 m (13.8 ft)

| Max Reach | 6.0 m (19.7 ft) |

| Bucket Capacity | 0.07 - 0.22 m³ (0.09 - 0.29 yd³) |

| Travel Speed | Up to 4.5 km/h (2.8 mph) |

| Emissions Standard | Tier 4 Final |

Final Thoughts and Recommendations

The Cat 236B Hydraulic Series 3 stands out as a highly capable compact excavator that balances power, efficiency, and operator comfort. Its advanced hydraulic system, reliable engine, and versatile attachment compatibility make it an excellent choice for contractors seeking a machine that can handle a variety of tasks with minimal downtime.

Ideal Use Cases:

- Landscaping and site preparation
- Utility installation and repairs
- Small-scale demolition
- Trenching and drainage work
- Material handling in confined spaces

Pros:

- High hydraulic flow rate for quick cycles
- Durable construction and components
- Operator-friendly cab and controls
- Easy maintenance access
- Versatile attachment options

Cons to Consider:

- Relatively limited maximum lifting capacity compared to larger models
- Travel speed may be slow for large sites
- Cost of maintenance parts and attachments

In conclusion, the Cat 236B Hydraulic Series 3 is a dependable, efficient, and versatile machine that

can significantly enhance productivity on various construction and material handling projects. Its specifications underscore its capability to perform demanding tasks while maintaining ease of operation and serviceability, making it a valuable asset for professionals seeking long-term value and performance.

Disclaimer: Specifications may vary depending on the model year and configuration. Always consult the official Caterpillar documentation or authorized dealers for the most accurate and specific details related to your equipment.

QuestionAnswer What are the key hydraulic specifications of the Cat 236B Series 3 excavator? The Cat 236B Series 3 features a hydraulic system with a flow rate of approximately 33.9 gallons per minute (128.4 liters per minute) and a system pressure of around 3,000 psi, designed to deliver efficient power for various excavation tasks. Does the Cat 236B Series 3 have any notable hydraulic system improvements over previous models? Yes, the Series 3 includes enhanced hydraulic circuitry that improves flow efficiency and reduces cycle times, leading to better productivity and smoother operation compared to earlier versions. What type of hydraulic pump is used in the Cat 236B Series 3? The excavator is equipped with a variable displacement piston pump that provides precise control and efficient power delivery, optimizing performance across different working conditions. Are there specific hydraulic fluid requirements for the Cat 236B Series 3? Yes, it requires hydraulic fluid that meets Caterpillar's specifications, typically a hydraulic oil with a viscosity grade of ISO 32 or 46, and it should be kept clean to ensure optimal hydraulic system performance and longevity. What are the hydraulic cycle times for the Cat 236B Series 3? The hydraulic cycle times are approximately 4.5 seconds for the boom-up, 2.8 seconds for the bucket curl, and 4.2 seconds for the arm-in, enabling efficient and productive operation. Can the hydraulic system of the Cat 236B Series 3 be customized for different attachments? Yes, the hydraulic system is designed to be compatible with a variety of attachments, and flow rates can often be adjusted or supplemented with auxiliary hydraulic circuits to suit specific attachment requirements.

Related keywords: cat 236b, hydraulic excavator, series 3, specs, dimensions, performance, engine, bucket capacity, operating weight, hydraulic system