Hitachi Super EX120-V

Rated Engine HP
81 hp (60 kW)
Max Power: 88 hp (66 kW)

Operating Weight
EX120: 26,700 lbs (12,100 kg)

Bucket Capacity
0.25 – 0.85 yd³ (0.19 – 0.66 m³)
You’ll like the powerful Hitachi EX120. It is fast, extremely powerful for its size, and very responsive. The EX120 features the most advanced computerized horsepower and control system available: Hitachi’s exclusive Dash-5 system. This system is renowned for its smooth multi-function control. The proven Isuzu engine is perfectly matched to the hydraulic system for years of reliable and yet outstanding performance.

• Isuzu A-4BG1T turbocharged, direct injection diesel engine is extremely fuel-efficient and reliable. It meets all EPA clean air requirements.

• Dash-5 engine/hydraulic control with three power modes and four work modes.

• Power modes:
  1. Normal: Standard operation
  2. H/P: Increased engine rpm and horsepower
  3. E: Maximum fuel efficiency in light duty applications

• Work modes:
  1. General Purpose
  2. Grading Mode
  3. Precision Mode
  4. Attachment Mode

• Cab mounted on six fluid-filled, vibration dampening, shock absorbing mounts.

• Compact travel motor design; protected piping reduces opportunity of damage.

• The updated work modes provide power in the order of inherent priority to do the best job for the project at hand. The Hitachi EX120 has excellent multi-function features which allow multiple jobs such as travel, swing and boom raise all at the same time without any one function stopping.

• The Super EX120, as with all Hitachi excavator models, is built to maximize performance, reliability, and operator comfort through optimum design and quality components. The Isuzu engine is matched to the hydraulic pumps for outstanding multiple function performance. The undercarriage, cab, and front attachment are all balanced and designed for maximum strength. All of this means that your Hitachi EX120 will work economically and productively for years and for thousands of hours at minimum operating costs.

### Features

1. Low noise design eliminates high-pitch noise inside the cab.
2. Easy-maintenance HN bushings which are made of sintered composite iron alloy with high viscosity lubricating oil.
3. Fresh-air type, large capacity air conditioner standard.
4. Auto-lubrication system for ensured lubrication of boom and arm pins optionally available.
5. Hitachi’s original shockless valve and quick warm-up control system for engine and hydraulic oil means highly responsive controls immediately after start-up.
6. Round hydraulic tank provides superior circulation of the hydraulic oil so that it’s kept cleaner and cooler.
7. A rugged X-form center frame assures superb durability.
8. Super-strong hydraulic oil piping and hoses provide outstanding reliability and extremely clean machines.
9. All Hitachi excavators feature heavy-duty booms and arms reinforced with bulkheads for extra long life.
Model Features: EX120

Operator Comfort: A Top Priority

Sitting in one place, all day, operating a machine productively takes concentration and dedication to doing a good job. It also means that a smart owner is going to do everything possible to make sure his operator is comfortable in the cab. The Hitachi EX120 is an excellent example of how comfortable a well-designed cab can be.

The widest cab in its class: 3 ft. 4 in. (1,005 mm). Lots of leg room, wide side door. The ergonomically-designed seat is fully adjustable with tilting armrests, tilting back, floating or solidly fixed seat, headrest tilt, and seat raise/power.

Work Modes For Increased Performance

The four work modes have been enhanced from prior models.
1. The General Purpose Mode is appropriate for general digging and truck loading. All circuits work together.
2. The Grading Mode provides priority to the combined operation of boom raise, stick forward and bucket adjustment while limiting control response so that the movement is smooth.
3. The Precision Mode keeps the front attachment moving precisely and slowly.
4. The Attachment Mode is designed to automatically match the oil flow requirements of selected attachments such as a hydraulic hammer. Additional piping is required (optional).

H/P and E Modes For Increased Efficiency

• The Normal mode is for normal or average applications. The engine runs at an efficient maximum speed for longest life and general economy. The hydraulic pump runs at a baseline 100%.
• The H/P mode provides the full power of the EX120 on command. This function increases engine rpm by 6% when activated, thus providing 5% more horsepower when needed.
  - Engine rpm automatically increases when the arm or function meets resistance.
  - Automatically switches back to normal rpm when resistance is overcome for fuel savings.
• The E mode provides 94% of full power while providing 15% more fuel efficiency. It is appropriate for light-duty work because it allows you to work longer before refueling.

Powertrain: Efficient, Powerful

Economical Isuzu 81 hp Engine Is Dependable, Long-Lasting

The Isuzu A-4BG1T engine is one of the most widely used, most proven and most dependable engines in the world. In the EX120, it is turbocharged. The 4-cylinder diesel features direct injection, a maximum torque of 231 lbf-ft (32 kgf-m), and a mechanical governor. It meets all EPA and CARB regulations for noise and pollution.

Outstanding Traction Force

The traction force is an impressive 22,000 lbf (10,000 kgf) for excellent maneuvering through mud and over obstacles.

Enhanced E-P Pump Control

A sophisticated micro-computer system guided by multiple actuators is standard on the EX120. Hitachi is renowned for the smooth operation of its excavators and this model is no exception. The new Dash-5 controls provide quick, accurate response to multi-function swing lift-bucket curl and travel operations.

Enhanced Cooling Protection

The EX120 features a 4.9 U.S. gallon (18.4 liters) radiator coolant tank, a tightly fitting fan shroud and a high capacity fan. The radiator fins can easily be cleaned without tools and the coolant level can be checked from the ground during normal inspection.
Perfectly Matched Hydraulic System

Hitachi expertly matches the engine to the hydraulic pumps and control valves for the best response and longest life possible. The pumps are designed to work specifically with the Isuzu engine - regardless of rpm or work load.

Super Strong Piping

Hitachi is legendary for its strong, long-lasting hydraulic hose, piping, and fittings. This provides outstanding reliability and cleanliness.

Longer-Life Undercarriage

Hitachi undercarriages feature premium grade tracks with large track links fitted with struts for added durability. Pin seals prevent dirt in the bushings and reduce inner wear. The tracks feature heavy-duty track links, front idlers, upper/lower rollers, and track center guard.

Round Travel Motor Covers

Round travel motor covers provide a higher resistance to deformation.

Premium Quality Design

Hitachi Construction Machinery invests over $75 million a year in research and development to build ever-better hydraulic excavators.

Air Cleaner Stored Inside

That research shows itself over and over in the new Dash-5 EX120. It has an excellent cab that is comfortable. The undercarriage is extremely rugged, and the boom and arm are designed for years of use.

Remote Lube

A round hydraulic tank provides superior circulation of the hydraulic oil so that it’s kept cleaner and more evenly cooled.

Round Hydraulic Tank

The tough tractor-type undercarriage and X-form center frame assure superb durability.

Specifications: EX120

Engine

Model: Isuzu 4BG1T
Type: 4-cycle water-cooled, direct injection
Aspiration: Turbocharged
No. of cylinders: 4
Rated flywheel horsepower: 268 PS (195 kW) at 2,100 rpm
Rated hydraulic horsepower: 324 HP (239 kW) at 2,100 rpm
Maximum torque: 3,134 lbf•ft (428 kgf•m)
Piston displacement: 138.9 in³ (2.3 L)
Bore and stroke: 4.13 " x 4.92 " (105 mm x 125 mm)
Governor: Mechanical, speed control with stepping motor

Hydraulic System

- Work mode selector: General purpose mode / Grading mode / Premium mode / Attachment mode
- Main pumps: 2 variable displacement axial piston pumps
- Maximum oil flow: 2 x 25.1 US gpm (95 L/min, 208 lpm)
- Pilot pump: 1 gear pump
- Maximum oil flow: 9.3 US gpm (35.3 L/min, 78 lpm)

Hydraulic Motors

- Travel: 2 variable displacement axial piston motors
- Swing: 1 axial piston motor

Relief Valve Settings

- Implement circuit: 4,980 psi (350 kgf/cm²)
- Swing circuit: 4,550 psi (320 kgf/cm²)
- Travel circuit: 4,980 psi (350 kgf/cm²)
- Pilot circuit: 540 psi (38 kgf/cm²)

Hydraulic Cylinders

- High-strength piston rods and tubes
- Cylinder cushion mechanisms are provided in all cylinders to absorb shock when pistons reach their stroke ends.

Dimensions

- Boom: 412.0 (105 mm), 2.76" (70 mm)
- Arm: 4.075 (105 mm), 3.03" (80 mm)
- Bucket: 3.74 (105 mm), 2.56" (65 mm)

Hydraulic Filters

- Hydraulic circuits use high quality hydraulic filters. A suction filter is incorporated in the suction line, and 10 micron full-flow filters in the return line and swing/hydraulic motor drain lines.

- Controls

- Pilot controls. Hitachi’s original shockless valve and quick warm-up system built in the pilot circuit.
- Hydraulic warm-up control system for engine and hydraulic oil.
- Implement levers: 2
- Travel levers with pedals: 2

Weights and Ground Pressure

- Equipped with 15" (4.60 m) boom, 8" (2.00 m) arm and 0.72 yd³ (0.55 m³) PCSA heaped, H-type bucket.

- Shovel type: 20" (500 mm)
- Operating weight: 25,000 lb (11,360 kg)
- Ground pressure: 5.40 psi (38 kgf/cm²)

- Shovel type: 24" (600 mm)
- Operating weight: 26,700 lb (12,050 kg)
- Ground pressure: 4.55 psi (32 kgf/cm²)

- Shovel type: 28" (700 mm)
- Operating weight: 28,100 lb (12,750 kg)
- Ground pressure: 3.98 psi (28 kgf/cm²)

- Shovel type: 30" (800 mm)
- Operating weight: 29,500 lb (13,400 kg)
- Ground pressure: 3.55 psi (25 kgf/cm²)

- Flat: 25" (650 mm)
- Operating weight: 27,150 lb (12,300 kg)
- Ground pressure: 3.98 psi (28 kgf/cm²)

- Triangular: 24" (600 mm)
- Operating weight: 26,700 lb (12,050 kg)
- Ground pressure: 4.55 psi (32 kgf/cm²)

- Weight of the basic machine (including: 4,600 lb (2,050 kg) counterweight and triple gouger) without excluding front-end attachment, fuel, hydraulic oil, engine oil, and coolant etc.:
- EX120: 20,500 lb (9,200 kg) with 20" (500 mm) shoes

- More evenly cooled.
Specifications: EX120

Service Refill Capacities

<table>
<thead>
<tr>
<th>US gal</th>
<th>Liters</th>
<th>Imp gal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fuel tank</td>
<td>66.1</td>
<td>250.0</td>
</tr>
<tr>
<td>Engine coolant</td>
<td>4.9</td>
<td>18.4</td>
</tr>
<tr>
<td>Engine oil</td>
<td>4.3</td>
<td>16.2</td>
</tr>
<tr>
<td>Swing mechanism</td>
<td>0.8</td>
<td>3.2</td>
</tr>
<tr>
<td>Travel final drive device (each side)</td>
<td>0.9</td>
<td>3.5</td>
</tr>
<tr>
<td>Hydraulic system</td>
<td>35.4</td>
<td>134.0</td>
</tr>
<tr>
<td>Hydraulic tank</td>
<td>18.2</td>
<td>69.0</td>
</tr>
</tbody>
</table>

Bucket Selection Chart

Bucket capacity indicated is SAE heaped.

<table>
<thead>
<tr>
<th>Material (Stone weight)</th>
<th>General-Purpose Bucket*</th>
<th>Heavy-Duty Bucket*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,500 - 3,000 lb/yd³</td>
<td>0.63 yd³</td>
<td>0.50 yd³</td>
</tr>
<tr>
<td>Sand, gravel, etc.</td>
<td>0.63 yd³</td>
<td>0.50 yd³</td>
</tr>
<tr>
<td>3,000 - 5,000 lb/yd³</td>
<td>0.63 yd³</td>
<td>0.50 yd³</td>
</tr>
<tr>
<td>Rock, granite, bouldered and broken</td>
<td>0.63 yd³</td>
<td>0.50 yd³</td>
</tr>
<tr>
<td>Clay, wet</td>
<td>0.63 yd³</td>
<td>0.50 yd³</td>
</tr>
<tr>
<td>Earth, wet</td>
<td>0.63 yd³</td>
<td>0.50 yd³</td>
</tr>
<tr>
<td>Limestone, broken or crushed</td>
<td>0.63 yd³</td>
<td>0.50 yd³</td>
</tr>
<tr>
<td>Earth, dry</td>
<td>0.63 yd³</td>
<td>0.50 yd³</td>
</tr>
<tr>
<td>Clay, dry</td>
<td>0.63 yd³</td>
<td>0.50 yd³</td>
</tr>
<tr>
<td>Shale</td>
<td>0.63 yd³</td>
<td>0.50 yd³</td>
</tr>
<tr>
<td>Earth, loam</td>
<td>0.63 yd³</td>
<td>0.50 yd³</td>
</tr>
</tbody>
</table>

Buckhoe Attachments

Boom and arms are of welded, box-section design.

 Boom length: 15’1” (4.60 m)

Arms available in lengths: 6’11” (2.10 m)

8’3” (2.52 m)

9’11” (3.01 m)

Buckets is of welded steel structure. Side clearance adjustment mechanisms provided on the bucket joint bracket.

**Bucket Capacity**

- **3,600 - 7,500 kgf (6,600 lbf - 13,000 lbf)**
- **5,900 kgf (5,300 kgf)**
- **8,200 lbf**

**Specifications: EX120**

**Dimensions**

- **A** Distance between cylinders: 9’9” (2,970 mm)
- **B** Trench diagonal: 17’9” (5,400 mm)
- **C** Counterclockwise clearance: 2’11” (696 mm)
- **D** Rear-end swing radius: 7’9” (2,360 mm)
- **E** Trench length: 6’11” (1,800 mm)
- **F** Track shoe width: 20” (500 mm)
- **G** Overall weight: 8’1” (2,440 mm)
- **H** Max. ground clearance: 1’9” (490 mm)
- **I** Track single: 9’11” (2,970 mm)
- **J** Trench height: 2’11” (550 mm)
- **K** Track gauge: 8’2” (2,440 mm)
- **L** Overall length: 8’6” (2,590 mm)

**Working Ranges**

- **A** Max. digging depth: 20’3” (6,170 mm)
- **B** Max. digging depth: 17’7” (5,360 mm)
- **C** Max. digging depth: 15’1” (4,600 mm)
- **D** Max. digging depth: 12’3” (3,730 mm)
- **E** Max. digging depth: 9’11” (2,970 mm)
- **F** Max. digging depth: 7’9” (2,360 mm)
- **G** Max. digging depth: 5’11” (1,800 mm)
- **H** Max. digging depth: 4’3” (1,300 mm)
- **I** Max. digging depth: 2’(600 mm)
- **J** Max. digging depth: 0 (0 mm)

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- **3,500 - 5,500 kgf (6,600 lbf - 13,000 lbf)**
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### Specifications: EX120

#### Standard Equipment

**CAB**
- All-weather sound-suppressed steel cab
- Reinforced, tinted (bronze color) glass windows
- 6 fluid-filled silastic mounts
- Front windows-upper, and lower left side windows can be opened
- Intermittent retractable windshield wipers
- Front window washer
- Adjustable reclining suspension seat with adjustable armrests
- Footrest
- Electric double horn
- Auto-turning AM/FM radio with digital clock
- Auto-idle switch
- Seat belt
- Cigarette lighter
- Ashtray
- Remote control
- Glove compartment
- Fuel cap
- Heater
- Pilot control shut-off lever
- Air conditioning
- Hot & Cool box

**HYDRAULIC SYSTEM**
- Work mode selector
- E-P control system
- Quick warm-up system for pilot circuit
- Shockless valve in pilot circuit
- Boom-axle anti-drift valve
- Control valve with main relief valve
- Delta port for control valve
- Suction filter
- Full-flow filter
- Pilot filter

**ENGINE**
- Meters
- Hour meter, engine coolant temperature gauge, fuel meter
- Warming lamps
- Alternator charge, engine oil pressure, engine overhear, air cleaner clog, minimum fuel level
- Pilot lamps
- Engine preheat, engine oil level, engine coolant level, hydraulic oil level
- Alarm buzzer
- Engine oil pressure, engine overhear

**LIGHTS**
- 2 working lights

**MONITOR SYSTEM**
- Engine preheat, engine oil level, engine coolant level, hydraulic oil level
- Fuel level
- Hydraulic oil level gauge
- Tool box
- Rearview mirror (right side)
- Swing parking brake

**UPELABRUCURE**
- Undercover
- 4,000 lb (2,500 kg) counterweight
- Fuel level float
- Hydraulic oil level gauge
- Tool box
- Rollout lockout kit (right side)
- Swing parking brake

**MISCELLANEOUS**
- Standard tool kit
- Lockable machine covers
- Lockable fuel filling cap
- Skid-resistant treads and handrails

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### Optional Equipment

- Hose rupture valves
- Electric fuel refill pump
- Swing motion alarm device with lamp
- Additional pump
- Piping kit for extra valve port
- Auto-lubrication system
- Pre-cleaner
- Tropical cover
- Mud guard
- Reinforced under cover for uppersstructure
- Track guard
- 0.72 yd³ (555 l) PC5A heaped Level pin-reinforced bucket
- One-point lifter for ripping handing
- Crawler bucket for deep vertical excavations, such as manholes, pilings, footings, etc.
- Travel motion alarm device
- Undercarriage
- Travel parking brake
- Travel motor covers
- Hydraulic track adjuster
- Bolt-on sprocket
- Upper rollers and lower rollers
- Reinforced track links with pins seals

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**Notes:**
1. Ratings are based on SAE J732.
2. Lifting capacity of the Super EX series does not exceed 70% of tipping load with the exception of the EX120 and EX120B, 24%.
3. The load point is a rough cut standard equipment loaded on the back of the bucket.
4. “N” indicates load not limited by hydraulic capacity.
5. All measurements are rounded to the nearest foot or inch.
Hitachi excavators, mini excavators, mining shovels, cranes and forestry machines are the best you can buy. Our commitment to superior product support is equally outstanding.