



Volvo Construction Equipment

# L110F, L120F

Volvo Wheel Loaders 18.0-21.6 t 231-245 hp



# TAKE THE WHEEL. GET LOADS OF WORK DONE.

Volvo has refined the wheel loader concept for more than half a century. With the new production and service machines Volvo L110F and Volvo L120F, we have taken another big leap ahead when it comes to power, speed, and operator comfort. Two important reasons stand behind this development – a new generation of Volvo HTE 200-transmissions, providing smoother shifting and lower fuel consumption, as well as a new and roomier Care Cab with improved allround visibility and safety.

## Peace of mind, experience, and development

It's easier to do a good job in a Volvo wheel loader. The new Care Cab is the safest, most comfortable, and cleanest workplace we've ever built. From here, the operator has precision-control of the attachments with the patented TP-linkage and load-sensing hydraulics. Volvo's in-house manufactured drivetrain and steering give fast response and high maneuverability, features that facilitate work in all applications. For the Volvo L110F and L120F, Volvo has developed a wide range of genuine Volvo attachments for all types of work in handling gravel, logs, and various materials.

## A partner to trust

Owning a Volvo means peace of mind. When you buy a Volvo wheel loader, you not only get a tough production machine, you also get outstanding world-class total economy. Volvo's wheel loaders are renowned for their low fuel consumption, fast and easy maintenance, and high resale value. Volvo's global dealer and service network is there to support you. We're at your service with knowledge, genuine parts, and well-trained service personnel.

| Specifications                    | L110F                  | L120F                    |
|-----------------------------------|------------------------|--------------------------|
| Engine:                           | Volvo D7E LB E3        | Volvo D7E LA E3          |
| Max power at                      | 28,3 r/s (1700 r/min)  | 28,3 r/s (1700 r/min)    |
| SAE J1995 gross:                  | 170 kW (231 metric hp) | 180 kW (245 metric hp)   |
| ISO 9249, SAE J1349 net:          | 169 kW (230 metric hp) | 179 kW (243 metric hp)   |
| Breakout force:                   | 156,7 kN*              | 164,0 kN**               |
| Static tipping load at full turn: | 11 270 kg*             | 12 140 kg**              |
| Buckets:                          | 2,7–9,5 m <sup>3</sup> | 2,6–9,5 m <sup>3</sup>   |
| Log grapples:                     | 1,1–2,4 m <sup>2</sup> | 1,1 – 2,4 m <sup>2</sup> |
| Operating weight:                 | 18,0–20,0 t            | 19,0 – 21,0 t            |
| Tires:                            | 23.5 R25               | 23.5 R25                 |
|                                   | 750/65 R25             | 750/65 R25               |

\* Bucket: 3,1 m<sup>3</sup> straight with bolt-on edges, Tires: 23.5 R25 L2, standard boom

\*\* Bucket: 3,4 m<sup>3</sup> straight with bolt-on edges, Tires: 23.5 R25 L2, standard boom



# OUR LATEST TOP ACHIEVEMENTS

With the Volvo L110F and L120F, we've combined the optimal production loaders with the flexible allrounders. L110F and L120F give even better conditions for quickly and easily performing heavy and precision-demanding applications in gravel pits, lumber yards, harbours, goods terminals, and industries. The TP-linkage's breakout torque and parallel movement, the attachment bracket, and Volvo genuine attachments – the market's widest range of attachments – enable the wheel loaders to handle all types of production and service jobs. Unbeatable flexibility means that one machine is enough, where others often need two.

### Fast and flexible Volvo L110F

The fourth generation's automatic shifting system makes Volvo L110F faster and easier to operate in all types of applications. New and refined software gives this dynamic production machine smoother shifting and lower fuel consumption. The Volvo L110F is even more flexible when equipped with an attachment bracket\*, enabling the machine to quickly and easily change business on the move.

### Powerful allrounder Volvo L120F

Volvo L120F has the power and maneuverability needed to efficiently perform heavy and demanding work in log and material handling. The F-series'

roomier Care Cab makes the L120F a true production loader with high levels of safety and comfort.

### The right tools for the job

Volvo's comprehensive range of attachments and smart options make it possible to correctly tailor the wheel loader for the jobs and the operating conditions on your work site. Volvo's genuine attachment range includes buckets for all types of applications and materials, log grapples, material handling arms, and a variety of different fork attachments. The perfect connection between attachment bracket and attachment is your guarantee for safety on the work site.

\* Optional equipment



# INNOVATION DRIVES PRODUCTIVITY



Productivity development rarely rests idle, and that's also especially true for Volvo L110F and L120F. The power, the speed, the maneuverability – all results of Volvo's in-house manufactured environment-friendly engines, transmissions, axles, hydraulics, and lift arm system. They work together in perfect harmony, helping the operator get more done, in less time, with less effort.

## Quiet low-emission engines go beyond legal requirements

The environment-friendly engine's high torque near idle rpm gives the Volvo outstanding rimpull, low fuel consumption, and minimal emissions. The external sound level meets existing legal requirements, and the reduced sound level in the cab contributes to even better operator comfort and performance.

## Automatic Power Shift (APS) always selects the right gear

Volvo Automatic Power Shift is the starting point for fast and efficient work cycles. The system is dependent on machine speed and engine rpm. All the operator has to do is select forward or reverse. APS adapts to the operator's operating style and saves fuel by always selecting the right gear.



## In-house developed axles

Volvo's axles are an integrated part of the drivetrain – an effective power pack dimensioned to provide top reliability.

## Maintenance-free rear axle suspension

Less downtime for service and more uptime for productive work. That's how easy it is to summarize the advantages with the maintenance-free rear axle suspension. It needs absolutely no lubrication service.

## Smooth and effective braking

Volvo L110F and L120F feature Volvo's circulation-cooled, wet disc brakes. They have long operating life and give smooth and effective braking action.

## Fuel-efficient Volvo V-ACT D7-engines

Turbocharged low-emission, high-performance engine with air-to-air intercooler

Electronic engine control with overspeed protection for optimal performance in all operating situations

Hydrostatically driven, electronically controlled cooling fan works only when needed, which saves fuel

## Smooth shifting electro-hydraulic HTE transmission

Fuel-saving APS selects the right gear for the job, current operating conditions, and the operator's operating style

Smooth shifts and high comfort with Pulse Width Modulation (PWM) gear selector valve

Four gears forward, four reverse

Full Automatic Power Shift (FAPS) with automatic downshifting to 1st gear when needed

## In-house developed axles

Volvo's axles are an integrated part of the drivetrain – an effective power pack

100 percent lockable differential lock on the front axle for best traction in severe conditions

Lubricated-for-life rear axle bearings promote higher uptime and longer service life

## Wet disc brakes for greater safety

All-hydraulic dual circuit system for greater safety

Contronic performs electronic brake test

Simple checking of brake pads with brake wear indicator on all wheels



# REACH BEYOND ALL EXPECTATIONS

Volvo's unique TP-linkage provides high breakout torque and perfect parallel movement throughout the entire lifting range. The operator has complete control of the most demanding operations, thanks to precision-steering and pilot-operated fingertip control of the load-sensing hydraulics. This means greater safety and faster work cycles in all types of applications.

### Complete control all the way

Volvo's patented lift arm system TP-linkage combines high breakout torque with very good parallel movement throughout the entire lifting range. That's exactly what a tough allrounder needs. The system is operator-friendly and gives the operator complete control of heavy loads all the way when loading and unloading.

### The right power, regardless of engine rpm

Volvo's wheel loaders feature an intelligent load-sensing hydraulic system, providing exact distribution of power when and where it's needed, regardless of engine rpm. The system makes the wheel loader easy to operate, saves fuel, and assists the operator in controlling both machine and load.

### Easy precision-steering

The precision-steering is easily operated, even at low engine rpm. The hydrostatic, load-sensing steering system only works when you turn the steering wheel, which means fuel savings.

### Faster carries, without spills

The long wheel base enables Volvo's wheel loaders to ride smoothly and comfortably, even on rough ground. The Boom Suspension System (BSS)\* increases productivity by up to 20 percent, and is available as an option.



### Two machines in one

Extremely flexible thanks to TP-linkage, attachment bracket, and a complete range of attachments

Change business on the move with the hydraulic attachment bracket

### TP-linkage combines power and precision

Volvo's patented lift arm system combines the best of parallel and Z-bar linkages

### Load-sensing steering

Only works when the steering wheel is turned, which means fuel savings

Higher comfort and operating safety

### Load-sensing hydraulic system

Saves fuel by no unnecessary pumping of hydraulic oil

Pilot-operation enables fingertip control of the attachment

3rd\* and 4th\* hydraulic functions enable use of hydraulic attachments

Electro-hydraulic servo control\* provides additional adjustment possibilities, increasing operator comfort

### Frame

Rugged frame design for secure mounting of components increases the service life of the machine

Volvo's frame joint bearing design is a well-proven concept that's easy to maintain and renowned for its long service life

\* Optional equipment



# HARD WORK MADE EASY

New Volvo Care Cab is the quietest, cleanest, roomiest, and safest cab we've ever built. Allround visibility is improved, and the cab has become safer both inside and outside. Comfort is even higher with Automatic Heat Control (AHC) and effective vibration damping is standard. We know that safety and productivity partly is the result of a satisfied operator – man and machine in perfect harmony. Come on in to the market's most effective workplace.

### Volvo protects against dust

The right cab climate helps the operator stay sharp right to the end of the shift. Volvo Care Cab has a unique filter system, giving the market's cleanest cab environment by far. All cab air is filtered through double filters. On very dusty work sites, the operator can choose endless variable recirculation of up to 90 percent temperature-controlled air, and to only let in 10 percent outdoor air.

### Ergonomic design Care Cab spares backs and shoulders

Volvo Care Cab is an ergonomically designed workplace. All instruments are easy to read and all important information is grouped in front of the operator. Several seats and adjustment features make it easy to find a comfortable operating position. The forward-reverse function is available both in the lever to the left of the steering wheel and in the hydraulic console for the right hand. With lever steering Comfort Drive Control (CDC)\*, the operator can handle steering and shifting forward/reverse with controls in the left armrest to avoid static muscle loads.

### Care Cab - a more effective workplace

- Comfortable cab climate with the market's best filter system
- Adjustable steering wheel, seat, armrest\*, and lever carrier
- Viscous damping of cab mounting reduces vibrations
- Improved visibility all around the machine increases safety on the work site
- Easy-to-clean interior
- Several storage compartments
- Laminated front windshield protects the operator
- Practical sliding window on right side, also available as option on the door side
- New handrails improve safety
- Powerful halogen work lights front and rear give good visibility of the whole operating area

\* Optional equipment



# REAL-TIME INTELLIGENCE SUPPORTS MORE UPTIME



Contronic helps you add more productive time to your working day by minimizing the need for unplanned service. The system monitors the wheel loader's functions in real-time and provides access to valuable operating data and service information. The operator can check fluid levels and service needs from the cab, service technicians can find the problem faster, and the owner can easily optimize the wheel loader to new operating conditions.

## Contronic in complete control

Service-friendliness is important to your productivity. The more you are going to use the wheel loader, the more important it is to be able to perform daily service fast and easy. That's why all filters and service points are easily accessed on a Volvo, and all hatches are large and easy to open. Volvo Contronic handles some of the daily checks by fast and easy electronic level checks of oils and fluids. Contronic is an integrated network that continuously monitors the wheel loader's operation and performance in real-time. The system works at four levels.

**Level 1:** The system keeps an eye on the machine's functions in real-time. If something abnormal should occur, Contronic automatically generates an immediate warning and brings the situation to the operator's attention.

A service technician can log in to the system and troubleshoot the problem directly on-site.

**Level 2:** All operating data about how the machine is operated and what has happened since the last service is stored in Contronic. The information is presented in the MATRIS analysis program, giving valuable information for troubleshooting and service actions.

**Level 3:** The wheel loader's functions and performance can be updated and adapted to changing operating conditions via Contronic with VCADS Pro analysis and programming tool.

**Level 4:** The new optional equipment CareTrack enables remote monitoring of the wheel loader's geographical position, fuel economy, and function for optimal support. With CareTrack Advanced, it's also possible to detect unauthorized use, analyze error codes, and solve problems over long distances. Operating data needed to increase the wheel loader's productivity is gathered on a password-protected website for analysis.



## Contronic increases operating reliability

Contronic monitoring system generates warnings and shows diagnostics for actions

Display shows continuous operating data, warning texts, and error messages

Available in 24 languages

Monitors fuel consumption, cycle times, and service intervals

Electronic checks of oil and fluid levels from the cab

Built-in safety functions automatically limit engine torque and power in case of major malfunctions in order to reduce the risk of subsequent damage

## Maintenance and availability

Easily accessible hatches and service points make service easier

Pressure check connections and quick-couplings are conveniently grouped for fast and simple inspections

Long lubrication intervals mean more time for productive work

Well-designed steps, handrails, and handles for safe and comfortable service

Breather filters protect the transmission, axles, fuel tank, and hydraulic oil tank

Volvo's oil-bath pre-cleaner\*, in combination with the standard air filter, gives significantly higher effectiveness in dusty operating conditions.

\* Optional equipment



# GROWTH IN HARMONY WITH THE ENVIRONMENT



Volvo's core values are quality, safety, and environmental care. We regard our commitment to the environment as a natural part of our entire operation, the goal of which is to maximize productivity and efficiency at the lowest possible cost and minimal environmental impact. With a Volvo, you get one of the market's cleanest and most reliable wheel loaders.

## Powerful, dependable, and environmentally optimized

With the new generation of turbocharged diesel engines, Volvo has taken yet another giant stride ahead to reduce emissions, without any dramatic changes that reduce engine power. This is possible thanks to the new V-ACT (Volvo Advanced Combustion Technology). The V-ACT system's secret is its advanced fuel injection and electronic engine control, making efficient use of every drop of fuel. The smart system for internal exhaust gas recirculation, I-EGR, reduces Nox-emissions by lowering peak combustion temperatures.

## More than 95 percent recyclable

Volvo's core values are quality, safety, and environmental care. Today, our wheel loaders are almost completely recyclable. Components such as engine, transmission, and hydraulics are overhauled and re-used in our exchange system.

## Volvo - a quality concept in itself

Before a new machine generation is launched on the market, every vital component and newly designed system has been individually durability and fatigue-tested in test rigs. Only after passing that stage are they ready to meet the world's toughest test environment - the customers' reality - for thousands of hours in our prototypes and pre-series machines. The test hosts provide their feedback and comments about every detail directly to Volvo's engineering department. Volvo's Reliability Growth test technology means more test hours, improved measuring precision, and predictability in quality assurance. Volvo is a quality concept in itself. We set our goals a little higher.

## Volvo cares about the environment

Engine D7 meets all governing emission requirements according to step IIIA in Europe and Tier 3 in the USA

Volvo's wheel loaders are manufactured in environmentally certified plants according to ISO 14001

Load-sensing hydraulic and steering systems contribute to lower fuel consumption

More than 95 percent recyclable by weight

Low sound levels, inside and outside.

## Volvo means quality

Replaceable breather filters shut out dirty air from transmission, axles, fuel tank, and hydraulic tank

High-quality components that can handle tough conditions and environments

Volvo's frame joint with ingenious bearing design, renowned for its long service life

All electric cabling is well protected from water, dirt, and wear in solidly fastened, heavy-duty conduits with rubberized connectors and terminal caps.

Volvo Reliability Growth (RG) test for high quality during thousands of hours

## Volvo means safety

Dual circuit service brake system meets all requirements for safe and effective brake function according to ISO 3450

Electronic brake test in Contronic

Simple checking with brake wear indicators increases safety

Automatic application of parking brake when the engine stops

Volvo Care Cab is tested and approved according to ROPS ISO 3471 and FOPS ISO 3449

Superb allround visibility gives effective control of the work site

Sloping engine hood gives better visibility to the rear

Steps and platforms, with slip protection and well-placed handrails





# TWO MACHINES YOU CAN ALWAYS TRUST

## In-house manufactured components

- Volvo's in-house manufactured drivetrain, hydraulics, and TP-linkage are tailored to work together in perfect harmony

## Two machines in one

- TP-linkage, attachment bracket, and a complete range of attachments means that one Volvo is enough, where others need several machines
- With the hydraulic attachment bracket you can change business on the move
- Tailor the wheel loader exactly for the application

## TP-linkage combines power and precision

- Volvo's patented lift arm system combines the best of parallel and Z-bar linkages

## Load-sensing hydraulic system

- Saves fuel by no unnecessary pumping of hydraulic oil
- Pilot-operated fingertip control of the attachment
- 3rd\* and 4th\* hydraulic functions enable use of hydraulic attachments

## Load-sensing steering

- Saves fuel by only using power when you steer
- Gives increased comfort and operating safety

## Contronic increases reliability

- Computer network monitors operation and performance in real-time
- The Contronic system warns the operator in time, making it easier for the service technician to troubleshoot, and helps the machine owner tailor the wheel loader to the application
- Fast and easy electronic level checks of oils and fluids
- Display shows continuous operating data, warning texts, and error messages
- Monitors fuel consumption, cycle times, and service intervals
- Available in 24 languages

## Easy maintenance means higher availability

- Easily accessed hatches and service points
- Tightly grouped pressure check connections and quick-couplings
- Long lubrication intervals give more time for productive work
- Well-designed steps, handrails, and handles for safe service

## Care Cab is a more effective workplace

- Comfortable cab climate with the market's best filter system
- Adjustable steering wheel, seat, armrest\*, and lever carrier
- Viscous damping of cab mounting reduces vibrations
- Improved allround visibility increases safety
- Laminated front windshield protects the operator
- Practical sliding window on right side
- Halogen work lights front and rear give good visibility

## Fuel-efficient, low-emission high-performance engines

- Turbocharged Volvo V-ACT D7 engines
- Volvo's Tier 3/Stage IIIA approved
- Engine control with overspeed protection for optimal performance in all operating conditions
- Hydrostatically driven, electronically controlled cooling fan works only when needed, which saves fuel

## Smooth shifting Volvo Automatic Power Shift (APS)

- Fuel-saving (APS) selects the right gear for the job, current operating conditions, and the operator's operating style
- Smooth shifts and high comfort with Pulse Width Modulation (PWM) gear selector valve
- Four gears forward, four reverse
- The transmission automatically downshift to 1st gear

## In-house manufactured transmission and axles

- Volvo's in-house manufactured drivetrain, hydraulics, and TP-linkage are tailored to work together in perfect harmony
- 100 percent lockable differential lock on the front axle for best traction in difficult conditions.

## Lubricated-for-life rear axle bearings

- Promote higher uptime and longer service life

## Volvo frames

- High-quality steel provides stress resistance and operational stability
- Low vibrations and incredibly quiet sound levels
- Well organized articulation joint provides very easy access for inspection and maintenance
- Upper and lower joints designed for the highest stress ensure long life and reliability.

## Smooth and effective braking

- Circulation-cooled wet disc brakes with long service life
- All-hydraulic dual circuit system increases safety
- Contronic performs electronic brake test
- Simple checking of brake discs with brake wear indicator on all wheels

\* Optional equipment

# BUILT TO RUN. SUPPORTED FOR LIFE.

When you invest in a Volvo wheel loader, you get a construction machine of the very highest quality. But of course, even the best machines need service and maintenance to be as productive tomorrow as they are today. Customer Support will help you to keep an eye on your owning and operating costs.

## We care about your operation - anywhere at anytime

Volvo Construction Equipment and Volvo Wheel Loaders center around a professional Customer Support organization, providing parts supply, aftersales services and training. All this gives customer benefits through controlled owning and operating costs. When you invest in a Volvo wheel loader, the availability of good service and access to genuine Volvo parts are just as important as the price. After all, it is the total cost during the machine's entire life that's interesting. With all the products and resources we have at our disposal, we can offer you the best support. Anywhere, anytime.

## Four levels of support, one level of care

The best way to get the most out of your Volvo wheel loader is to invest in a Volvo Customer Support Agreement. There are four levels of agreements designed to give you total peace of mind; white, blue, silver, and - of course - gold, which includes all service, maintenance and repairs during the whole contract period at a fixed price. From this completely flexible starting point, we can create an agreement uniquely tailored to the needs of your business and the age of your loaders.

## Genuine Volvo parts leave nothing to chance

Each genuine Volvo part is developed for and manufactured together with all other machine components. It's a complete system where each part works in perfect harmony with other parts. Only by using genuine parts can you be sure that your machine retains the qualities and features we gave it from the beginning.



# OPTIMIZE YOUR WHEEL LOADER

## Selection of Volvo optional equipment

### Boom Suspension System (BSS)

The Boom Suspension System absorbs shocks, eliminates rocking and bouncing, and smooths out rough roads. BSS contributes to higher productivity, less spill, and better operator comfort.

### Long Boom

Long boom gives the extra dump height and reach necessary for loading high trucks or feeders. The additional reach also gives added protection when loading the bucket by keeping the machine further away from the material.

### Comfort Drive Control (CDC)

Lever steering CDC enables the operator to handle steering, shifting forward-reverse, and kick-down with controls in the left armrest. At any time, the operator can change between steering with steering wheel and CDC to avoid static muscle loads.

### Automatic Lubrication System

Our factory-installed Automatic Lubrication System takes care of greasing while the machine is in operation. This means less downtime for planned maintenance and more time for productive work.

### Electro-hydraulic control

Pilot-operation with electric servo improves comfort with lower lever forces and high precision. Adjustable lift and bucket angles, Return-to-dig, and end-position damping are built-in functions.

### 3rd and 4th hydraulic functions

3rd and 4th hydraulic functions enable use of hydraulic attachments.

### CareTrack telematics system

Remote monitoring of the machine's position, utilization, and performance. Forwarding of error codes, alarms, and service reminders. Position

on map plus Geo & Time-fence functions.

### Mudguards

Front and rear mudguards - to protect the machine in extreme environment.

### Guards protect both operator and machine

Waste handling is tough work. Special pre-cleaners, air intake protection, and multiple guards such as guards for the windshield, belly, hinges, and hoses keep both operator and wheel loader well protected from dust and debris.

# VOLVO L110F, L120F IN DETAIL



## Engine

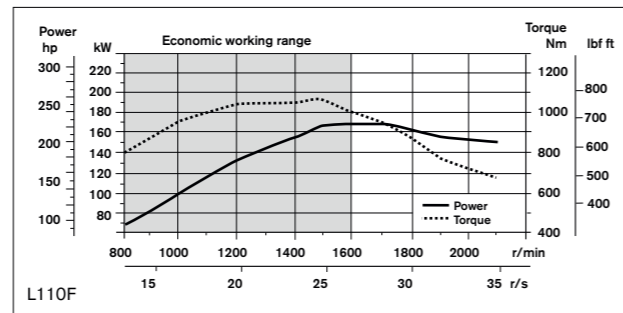
**Engine:** Volvo's V-ACT Tier 3 /Stage IIIA-approved, 7 liter, 6-cylinder straight turbocharged diesel engine with Common Rail fuel injection system and switchable internal Exhaust Gas Recirculation (I-EGR). The engine has wet replaceable cylinder liners and replaceable valve guides and valve seats. The throttle application is transmitted electrically from the throttle pedal or the optional hand throttle.

**Air cleaning:** Three-stage Cyclone precleaner - primary filter - secondary filter.

**Cooling system:** Air-to-air intercooler and hydrostatic, electronically controlled fan.

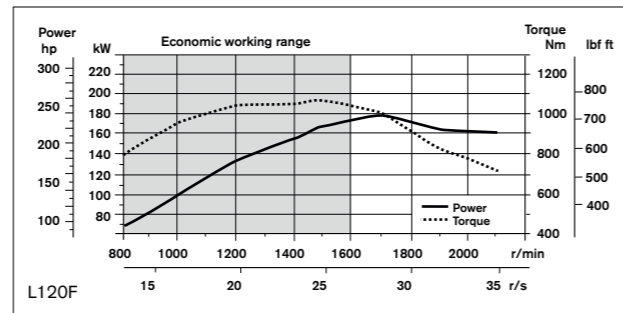
## L110F

|                         |                        |
|-------------------------|------------------------|
| Engine                  | Volvo D7E LB E3        |
| Max power at            | 28.3 r/s (1700 r/min)  |
| SAE J1995 gross         | 170 kW (231 metric hp) |
| ISO 9249, SAE J1349 net | 169 kW (230 metric hp) |
| Max torque at           | 25 r/s (1500 r/min)    |
| SAE J1995 gross         | 1065 Nm                |
| ISO 9249, SAE J1349 net | 1059 Nm                |
| Economic working range  | 800-1600 r/min         |
| Displacement            | 7,1 l                  |



## L120F

|                         |                        |
|-------------------------|------------------------|
| Engine                  | Volvo D7E LA E3        |
| Max power at            | 28.3 r/s (1700 r/min)  |
| SAE J1995 gross         | 180 kW (245 metric hp) |
| ISO 9249, SAE J1349 net | 179 kW (243 metric hp) |
| Max torque at           | 25 r/s (1500 r/min)    |
| SAE J1995 gross         | 1065 Nm                |
| ISO 9249, SAE J1349 net | 1059 Nm                |
| Economic working range  | 800-1600 r/min         |
| Displacement            | 7,1 l                  |



## Drivetrain

**Torque converter:** single-stage. **Transmission:** Volvo countershaft transmission with single lever control. Fast and smooth shifting of gears with Pulse Width Modulation (PWM) valve. **Gearshifting system:** Volvo Automatic Power Shift (APS) with fully automatic shifting 1-4 and mode selector with 4 different gearshifting programs, including AUTO mode. **Axles:** Volvo fully floating axle shafts with planetary hub reductions and cast steel axle housing. Fixed front axle and oscillating rear axle. 100% differential lock on the front axle.

## L110F

|                                |                 |
|--------------------------------|-----------------|
| Transmission                   | Volvo HTE 204   |
| Torque multiplication          | 2.69:1          |
| Maximum speed, forward/reverse |                 |
| 1st gear                       | 7,0 km/h        |
| 2nd gear                       | 13,0 km/h       |
| 3rd gear                       | 24,4 km/h       |
| 4th gear (limited by ECU)*     | 37,0 km/h       |
| Measured with tires            | 23.5 R25 L2     |
| Front axle/rear axle           | Volvo/AWB 31/30 |
| Rear axle oscillation          | ±13°            |
| Ground clearance at 13° osc.   | 460 mm          |

## L120F

|                                |                 |
|--------------------------------|-----------------|
| Transmission                   | Volvo HTE 205   |
| Torque multiplication          | 2.85:1          |
| Maximum speed, forward/reverse |                 |
| 1st gear                       | 7,0 km/h        |
| 2nd gear                       | 13,0 km/h       |
| 3rd gear                       | 24,4 km/h       |
| 4th gear (limited by ECU)*     | 37,0 km/h       |
| Measured with tires            | 23.5 R25 L2     |
| Front axle/rear axle           | Volvo/AWB 31/30 |
| Rear axle oscillation          | ±13°            |
| Ground clearance at 13° osc.   | 460 mm          |

\* local restrictions may apply

## Electrical system

**Central warning system:** Contronic electrical system with central warning light and buzzer for following functions: - Serious engine fault - Low steering system pressure - Overspeed warning engine - Interruption in communication (computer failure) Central warning light and buzzer with the gear engaged for the following functions: - Low engine oil pressure - High engine oil temperature - High charge-air temperature - Low coolant level - High coolant temperature - High crankcase pressure - Low transmission oil pressure - High transmission oil temperature - Low brake pressure - Engaged parking brake - Brake charging failure - Low hydraulic oil level - High hydraulic oil temperature - Overspeeding in engaged gear - High brake cooling oil temperature front and rear axles.

## L110F, L120F

|                                 |                 |
|---------------------------------|-----------------|
| Voltage                         | 24 V            |
| Batteries                       | 2x12 V          |
| Battery capacity                | 2x140 Ah        |
| Cold cranking capacity, approx. | 1050 A          |
| Reserve capacity                | 270 min         |
| Alternator rating               | 2280 W/80 A     |
| Starter motor output            | 5.5 kW (7,0 hp) |

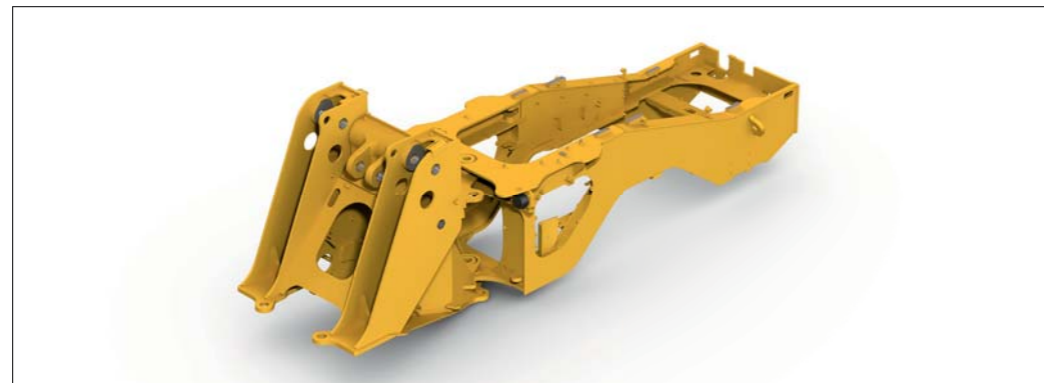
## Brake system

**Service brake:** Volvo dual-circuit system with nitrogen-charged accumulators. Outboard-mounted hydraulically operated, fully sealed oil circulation-cooled wet disc brakes. The operator can select automatic declutch of the transmission when braking using Contronic. **Parking brake:** Fully sealed, wet multi-disc brake built into the transmission. Applied by spring force and electro-hydraulically released with a switch on the instrument panel. **Secondary brake:** Dual brake circuits with rechargeable accumulators. Either one circuit or the parking brake fulfills all safety requirements. **Standard:** The brake system complies with the requirements of ISO 3450.

## L110F, L120F

|  |         |
|--|---------|
| Number of brake discs per wheel front/rear | 1/1     |
| Accumulators                               | 3x1.0 l |
| Accumulators for parking brake             | 1x1.0 l |

# VOLVO L110F, L120F IN DETAIL



## Cab

**Instrumentation:** All important information is centrally located in the operator's field of vision. Display for Contronic monitoring system. **Heater and defroster:** Heater coil with filtered fresh air and fan with auto and 11 speeds. Defroster vents for all window areas. **Operator's seat:** Operator's seat with adjustable suspension and retractable seatbelt. The seat is mounted on a bracket on the rear cab wall and floor. The forces from the retractable seatbelt are absorbed by the seat rails. **Standard:** The cab is tested and approved according to ROPS (ISO 3471, SAE J1040), FOPS (ISO 3449). The cab meets with requirements according to ISO 6055 (Operator overhead protection - Industrial trucks) and SAE J386 ("Operator Restraint System").

## L110F

|  |                                      |
|--|--------------------------------------|
| Emergency exit                                       | Use emergency hammer to break window |
| Sound level in cab according to ISO 6396/SAE J2105   | LpA 68 dB (A)*                       |
| Sound level in cab according to ISO 6396/SAE J2105   | LpA 70 dB (A)                        |
| External sound level according to ISO 6395/SAE J2104 | LwA 106 dB (A)*                      |
| External sound level according to ISO 6395/SAE J2104 | LwA 109 dB (A)                       |
| Ventilation  | 9 m <sup>3</sup> /min                |
| Heating capacity                                     | 15 kW                                |
| Air conditioning (optional)                          | 7,5 kW                               |

\* with noise reduction kit, EU

## L120F

|  |                                      |
|--|--------------------------------------|
| Emergency exit                                       | Use emergency hammer to break window |
| Sound level in cab according to ISO 6396/SAE J2105   | LpA 68 dB (A)*                       |
| Sound level in cab according to ISO 6396/SAE J2105   | LpA 70 dB (A)                        |
| External sound level according to ISO 6395/SAE J2104 | LwA 106 dB (A)*                      |
| External sound level according to ISO 6395/SAE J2104 | LwA 109 dB (A)                       |
| Ventilation  | 9 m <sup>3</sup> /min                |
| Heating capacity                                     | 15 kW                                |
| Air conditioning (optional)                          | 7,5 kW                               |

\* with noise reduction kit, EU

## Lift arm system

Torque Parallel linkage (TP-linkage) with high breakout torque and parallel action throughout the entire lifting range.

## L110F

|                     |        |
|---------------------|--------|
| Lift cylinders      | 2      |
| Cylinder bore       | 150 mm |
| Piston rod diameter | 80 mm  |
| Stroke              | 676 mm |
| Tilt cylinder       | 1      |
| Cylinder bore       | 220 mm |
| Piston rod diameter | 110 mm |
| Stroke              | 412 mm |

## L120F

|                     |        |
|---------------------|--------|
| Lift cylinders      | 2      |
| Cylinder bore       | 150 mm |
| Piston rod diameter | 80 mm  |
| Stroke              | 676 mm |
| Tilt cylinder       | 1      |
| Cylinder bore       | 220 mm |
| Piston rod diameter | 110 mm |
| Stroke              | 412 mm |

## Hydraulic system

**System supply:** Two load-sensing axial piston pumps with variable displacement. The steering function always has priority. **Valves:** Double-acting 2-spool valve. The main valve is controlled by a 2-spool pilot valve. **Lift function:** The valve has four positions; lift, hold, lower, and float position. Inductive/magnetic automatic boom kick-out can be switched on and off and is adjustable to any position between maximum reach and full lifting height. **Tilt function:** The valve has three functions: rollback, hold and dump. Inductive/magnetic automatic tilt can be adjusted to the desired bucket angle. **Cylinders:** Double-acting cylinders for all functions. **Filter:** Full-flow filtration through 20 micron (absolute) filter cartridge.

## L110F

|                                  |  |
|----------------------------------|--|
| Working pressure maximum, pump 1 | 23,6 MPa                                   |
| Flow at engine speed             | 145 l/min<br>10 MPa<br>32 r/s (1900 r/min) |
| Working pressure maximum, pump 2 | 24,0 MPa                                   |
| Flow at engine speed             | 110 l/min<br>10 MPa<br>32 r/s (1900 r/min) |
| Pilot system, working pressure   | 3,0-4,5 MPa                                |
| Cycle times                      |  |
| Raise*                           | 5,4 s                                      |
| Tilt*                            | 2,1 s                                      |
| Lower, empty                     | 2,5 s                                      |
| Total cycle time                 | 10,0 s                                     |

## L120F

|                                  |  |
|----------------------------------|--|
| Working pressure maximum, pump 1 | 25,0 MPa                                   |
| Flow at engine speed             | 145 l/min<br>10 MPa<br>32 r/s (1900 r/min) |
| Working pressure maximum, pump 2 | 26,0 MPa                                   |
| Flow at engine speed             | 110 l/min<br>10 MPa<br>32 r/s (1900 r/min) |
| Pilot system, working pressure   | 3,0-4,5 MPa                                |
| Cycle times                      |  |
| Raise*                           | 5,4 s                                      |
| Tilt*                            | 2,1 s                                      |
| Lower, empty                     | 2,5 s                                      |
| Total cycle time                 | 10,0 s                                     |

\* with load according to ISO 14397

## Steering system

**Steering system:** Load-sensing hydrostatic articulated steering. **System supply:** The steering system has priority feed from a load-sensing axial piston pump with variable displacement. **Steering cylinders:** Two double-acting cylinders.

## L110F

|                      |           |
|----------------------|-----------|
| Steering cylinders   | 2         |
| Cylinder bore        | 80 mm     |
| Rod diameter         | 50 mm     |
| Stroke               | 486 mm    |
| Working pressure     | 24,0 MPa  |
| Maximum flow         | 120 l/min |
| Maximum articulation | ±40°      |

## L120F

|                      |           |
|----------------------|-----------|
| Steering cylinders   | 2         |
| Cylinder bore        | 80 mm     |
| Rod diameter         | 50 mm     |
| Stroke               | 486 mm    |
| Working pressure     | 21,0 MPa  |
| Maximum flow         | 120 l/min |
| Maximum articulation | ±40°      |

# VOLVO L110F, L120F IN DETAIL



## Service

**Service accessibility:** Large, easy-to-open service doors with gas struts. Swing-out radiator grill. Fluid filters and component breather filters promote long service intervals. Possibility to log and analyze data to facilitate troubleshooting.

### L110F refill capacities

|                     |         |
|---------------------|---------|
| Fuel tank           | 269 l   |
| Engine coolant      | 70 l    |
| Hydraulic oil tank  | 133 l   |
| Transmission oil    | 38 l    |
| Engine oil          | 21 l    |
| Axle oil front/rear | 36/41 l |

### L120F refill capacities

|                     |         |
|---------------------|---------|
| Fuel tank           | 269 l   |
| Engine coolant      | 70 l    |
| Hydraulic oil tank  | 133 l   |
| Transmission oil    | 38 l    |
| Engine oil          | 21 l    |
| Axle oil front/rear | 36/41 l |

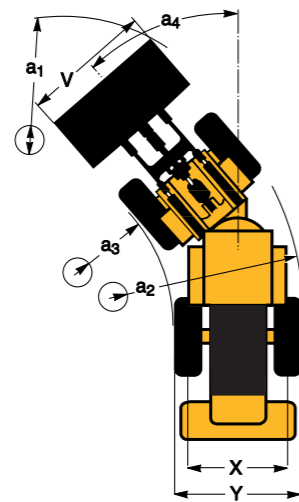


# SPECIFICATIONS

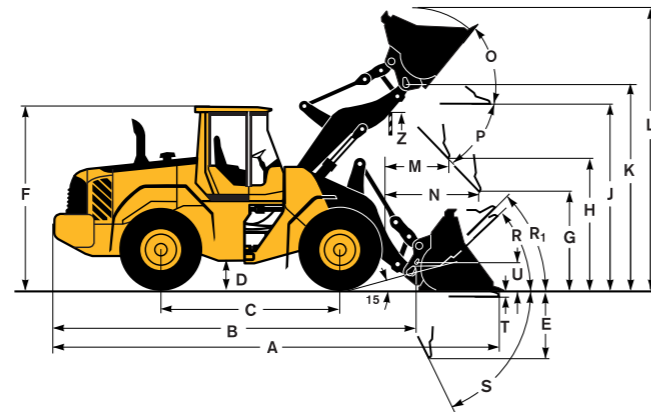
## Tires: 23.5 R25 L3

|                  | Standard boom |         | Long boom |         |
|------------------|---------------|---------|-----------|---------|
|                  | L110F         | L120F   | 110F      | L120F   |
| B                | 6470 mm       | 6580 mm | 7000 mm   | 7060 mm |
| C                | 3200 mm       | 3200 mm | -         | -       |
| D                | 420 mm        | 420 mm  | -         | -       |
| F                | 3360 mm       | 3370 mm | -         | -       |
| G                | 2132 mm       | 2133 mm | -         | -       |
| J                | 3690 mm       | 3780 mm | 4220 mm   | 4290 mm |
| K                | 4020 mm       | 4090 mm | 4530 mm   | 4610 mm |
| O                | 55°           | 54°     | -         | -       |
| P <sub>max</sub> | 50°           | 49°     | -         | -       |
| R                | 41°           | 42°     | 42°       | 43°     |
| R <sub>1</sub> * | 46°           | 47°     | -         | -       |
| S                | 66°           | 67°     | 64°       | 64°     |
| T                | 115 mm        | 96 mm   | 105 mm    | 145 mm  |
| U                | 470 mm        | 510 mm  | -         | -       |
| X                | 2070 mm       | 2070 mm | -         | -       |
| Y                | 2670 mm       | 2670 mm | -         | -       |
| Z                | 3300 mm       | 3330 mm | 3800 mm   | 3700 mm |
| a <sub>2</sub>   | 5730 mm       | 5730 mm | -         | -       |
| a <sub>3</sub>   | 3060 mm       | 3060 mm | -         | -       |
| a <sub>4</sub>   | ±40°          | ±40°    | -         | -       |

\* Carry position SAE

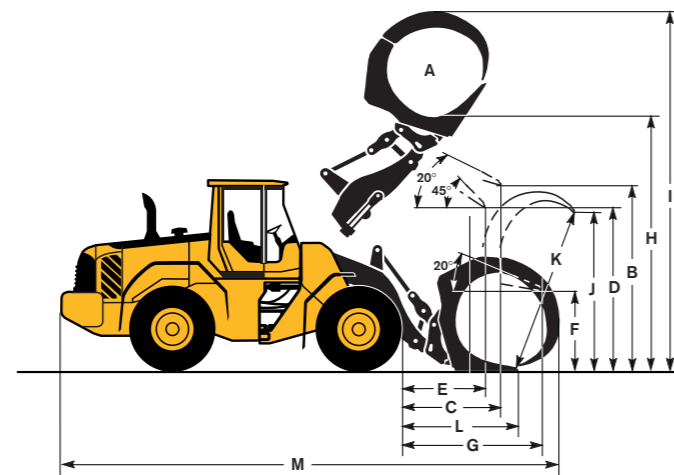


Where applicable, specifications and dimensions are according to ISO 7131, SAE J732, ISO 7546, SAE J742, ISO 14397, SAE J818.



## Tires: 750/65 R25

|   | L110F              | L120F              |
|---|--------------------|--------------------|
| A | 2.4 m <sup>2</sup> | 2.4 m <sup>2</sup> |
| B | 3470 mm            | 3550 mm            |
| C | 1840 mm            | 1880 mm            |
| D | 2840 mm            | 2920 mm            |
| E | 1460 mm            | 1500 mm            |
| F | 1520 mm            | 1530 mm            |
| G | 2720 mm            | 2790 mm            |
| H | 4580 mm            | 4660 mm            |
| I | 6620 mm            | 6690 mm            |
| J | 2790 mm            | 2790 mm            |
| K | 2990 mm            | 2990 mm            |
| L | 2060 mm            | 2150 mm            |
| M | 8760 mm            | 8850 mm            |



L110F  
Sales code: WLA80832  
Operating weight  
(incl. logging cw 680 kg): 19 820 kg  
Operating load: 5850 kg

L120F  
Sales code: WLA80832  
Operating weight  
(incl. logging cw 680 kg): 20 600 kg  
Operating load: 6400 kg

# L110F

| Tires 23.5 R25 L3               | GENERAL PURPOSE |        |               |               |               |               | ROCK*            | LIGHT MATERIAL |               | LONG BOOM |       |
|---------------------------------|-----------------|--------|---------------|---------------|---------------|---------------|------------------|----------------|---------------|-----------|-------|
|                                 | Teeth           | Teeth  | Bolt-on edges | Bolt-on edges | Bolt-on edges | Bolt-on edges | Teeth & Segments | Bolt-on edges  | Bolt-on edges |           |       |
| Volume, heaped ISO/SAE          | m <sup>3</sup>  | 2,8    | 3,0           | 3,1           | 3,1           | 3,4           | 3,4              | 2,7            | 5,5           | 9,5       | -     |
| Volume at 110% fill factor      | m <sup>3</sup>  | 3,1    | 3,3           | 3,4           | 3,4           | 3,7           | 3,7              | 3,0            | 6,1           | 10,5      | -     |
| Static tipping load, straight   | kg              | 13 440 | 12 650        | 13 120        | 12 410        | 12 260        | 13 040           | 13 330         | 11 560        | 11 650    | -2550 |
| at 35° turn                     | kg              | 12 000 | 11 260        | 11 690        | 11 020        | 10 880        | 11 600           | 11 850         | 10 200        | 10 250    | -2320 |
| at full turn                    | kg              | 11 570 | 10 840        | 11 270        | 10 600        | 10 470        | 11 170           | 11 410         | 9790          | 9840      | -2250 |
| Breakout force                  | kN              | 166,7  | 146,8         | 156,7         | 139,0         | 132,8         | 153,5            | 129,9          | 105,0         | 91,6      | +17   |
| A                               | mm              | 8070   | 8240          | 7890          | 8060          | 8130          | 7920             | 8310           | 8530          | 8820      | +500  |
| E                               | mm              | 1320   | 1470          | 1160          | 1310          | 1380          | 1190             | 1510           | 1730          | 1990      | ±0    |
| H <sup>**</sup>                 | mm              | 2740   | 2630          | 2860          | 2750          | 2700          | 2840             | 2610           | 2390          | 2190      | +520  |
| L                               | mm              | 5490   | 5600          | 5480          | 5600          | 5660          | 5610             | 5550           | 5820          | 5980      | +510  |
| M <sup>**</sup>                 | mm              | 1230   | 1350          | 1110          | 1230          | 1280          | 1130             | 1400           | 1520          | 1730      | -30   |
| N <sup>**</sup>                 | mm              | 1730   | 1780          | 1680          | 1740          | 1760          | 1690             | 1810           | 1780          | 1790      | +430  |
| V                               | mm              | 2880   | 2880          | 3000          | 2880          | 2880          | 3000             | 2880           | 3000          | 3400      | -     |
| a <sub>1</sub> clearance circle | mm              | 12 680 | 12 770        | 12 700        | 12 670        | 12 710        | 12 720           | 12 830         | 13 060        | 13 600    | -     |
| Operating weight                | kg              | 18 150 | 18 430        | 18 300        | 18 540        | 18 610        | 18 430           | 19 330         | 18 950        | 19 170    | +310  |

\*) With L5 tires

\*\*\*) Measured to the tip of the bucket teeth or bolt-on edge. Dump height to bucket edge. Measured at 45° dump angle. (Spade nose buckets at 42°.)

Note: This only applies to genuine Volvo attachments.

## Bucket Selection Chart

The chosen bucket is determined by the density of the material and the expected bucket fill factor. The actual bucket volume is often larger than the rated capacity, due to the features of the TP-linkage, including an open bucket design, good rollback angles in all positions and good bucket filling performance. The example represents a standard boom configuration. **Example: Sand and gravel. Fill factor ~ 105%. Density 1,65 t/m<sup>3</sup>. Result: The 3,1 m<sup>3</sup> bucket carries 3,3 m<sup>3</sup>. For optimal stability always consult the bucket selection chart.**

| Material    | Bucket fill, % | Material density, t/m <sup>3</sup> | ISO/SAE bucket volume, m <sup>3</sup> | Actual volume, m <sup>3</sup> |
|-------------|----------------|------------------------------------|---------------------------------------|-------------------------------|
| Earth/Clay  | ~ 110          | ~ 1,80                             | 2,9                                   | ~ 3,2                         |
|             |                | ~ 1,70                             | 3,1                                   | ~ 3,4                         |
|             |                | ~ 1,50                             | 3,4                                   | ~ 3,7                         |
| Sand/Gravel | ~ 105          | ~ 1,75                             | 2,9                                   | ~ 3,0                         |
|             |                | ~ 1,65                             | 3,1                                   | ~ 3,3                         |
|             |                | ~ 1,50                             | 3,4                                   | ~ 3,6                         |
| Aggregate   | ~ 100          | ~ 1,90                             | 2,9                                   | ~ 2,9                         |
|             |                | ~ 1,70                             | 3,1                                   | ~ 3,1                         |
|             |                | ~ 1,50                             | 3,4                                   | ~ 3,4                         |
| Rock        | ≤ 100          | ~ 1,80                             | 2,7                                   | ~ 2,7                         |

The size of rock buckets is optimized for optimal penetration and filling capability rather than the density of the material.

| Type of boom  | Type of bucket  | ISO/SAE Bucket volume | Material density (t/m <sup>3</sup> ) |                      |     |     |     |     |     |     |     |     |  |
|---------------|-----------------|-----------------------|--------------------------------------|----------------------|-----|-----|-----|-----|-----|-----|-----|-----|--|
|               |                 |                       | 0,6                                  | 0,8                  | 1,0 | 1,2 | 1,4 | 1,6 | 1,8 | 2,0 |     |     |  |
| Standard boom | General purpose | H 2,9 m <sup>3</sup>  |                                      |                      |     |     |     |     |     | 3,2 | 2,9 |     |  |
|               |                 | P 3,1 m <sup>3</sup>  |                                      |                      |     |     |     |     | 3,4 | 3,1 |     |     |  |
|               |                 | P 3,4 m <sup>3</sup>  |                                      |                      |     |     | 3,7 | 3,4 |     |     |     |     |  |
| Standard boom | Rock            | P 2,7 m <sup>3</sup>  |                                      |                      |     |     |     |     |     |     | 2,7 | 2,6 |  |
|               |                 | Long boom             | General purpose                      | H 5,5 m <sup>3</sup> |     |     |     |     |     |     |     |     |  |
|               |                 |                       |                                      | P 2,6 m <sup>3</sup> |     |     |     |     |     | 2,9 | 2,6 |     |  |
| Long boom     | Light material  | H 5,5 m <sup>3</sup>  |                                      |                      |     |     |     |     |     |     |     |     |  |
|               |                 |                       |                                      |                      |     |     |     |     |     |     |     |     |  |

How to read bucket fill factor

## Supplemental Operating Data

| Tires 23.5 R25 L3       | Standard boom |            | Long boom  |      |
|-------------------------|---------------|------------|------------|------|
|                         | 23.5 R25 L5   | 750/65 R25 | 750/65 R25 |      |
| Width over tires        | mm            | +30        | +200       | +200 |
| Ground clearance        | mm            | +50        | ±0         | ±0   |
| Tipping load, full turn | kg            | +490       | +430       | +310 |
| Operating weight        | kg            | +670       | +640       | +640 |

# L120F

| Tires 23.5 R25 L3             | GENERAL PURPOSE |               |        |               |               |               |                  |               |               |        | ROCK* | LIGHT MATERIAL | LONG BOOM |
|-------------------------------|-----------------|---------------|--------|---------------|---------------|---------------|------------------|---------------|---------------|--------|-------|----------------|-----------|
|                               | Teeth           | Bolt-on edges | Teeth  | Bolt-on edges | Bolt-on edges | Bolt-on edges | Teeth & Segments | Bolt-on edges | Bolt-on edges |        |       |                |           |
| Volume, heaped ISO/SAE        | m <sup>3</sup>  | 3,0           | 3,1    | 3,3           | 3,4           | 3,4           | 3,6              | 3,0           | 5,5           | 9,5    | -     |                |           |
| Volume at 110% fill factor    | m <sup>3</sup>  | 3,3           | 3,4    | 3,6           | 3,7           | 3,7           | 4,0              | 3,3           | 6,1           | 10,5   | -     |                |           |
| Static tipping load, straight | kg              | 14 540        | 13 580 | 13 590        | 14 240        | 13 910        | 13 340           | 14 500        | 12 700        | 12 840 | -2630 |                |           |
| at 35° turn                   | kg              | 12 920        | 12 010 | 12 030        | 12 620        | 12 310        | 11 780           | 12 860        | 11 180        | 11 270 | -2390 |                |           |
| at full turn                  | kg              | 12 440        | 11 550 | 11 570        | 12 140        | 11 830        | 11 330           | 12 370        | 10 730        | 10 810 | -2320 |                |           |
| Breakout force                | kN              | 170,1         | 148,5  | 148,8         | 164,0         | 151,0         | 138,0            | 138,6         | 112,0         | 97,8   | +6    |                |           |
| A                             | mm              | 8200          | 8150   | 8380          | 8020          | 8130          | 8270             | 8390          | 8610          | 8920   | +500  |                |           |
| E                             | mm              | 1370          | 1330   | 1530          | 1200          | 1300          | 1430             | 1520          | 1740          | 2010   | +30   |                |           |
| H**)                          | mm              | 2800          | 2820   | 2680          | 2910          | 2840          | 2740             | 2690          | 2470          | 2260   | +510  |                |           |
| L                             | mm              | 5610          | 5670   | 5730          | 5690          | 5750          | 5780             | 5690          | 5900          | 6060   | +520  |                |           |
| M**)                          | mm              | 1330          | 1270   | 1460          | 1170          | 1250          | 1350             | 1440          | 1560          | 1760   | -30   |                |           |
| N**)                          | mm              | 1880          | 1830   | 1930          | 1780          | 1820          | 1860             | 1920          | 1880          | 1900   | +430  |                |           |
| V                             | mm              | 2880          | 2880   | 2880          | 3000          | 3000          | 2880             | 2880          | 3000          | 3400   | -     |                |           |
| a, clearance circle           | mm              | 12 780        | 12 740 | 12 880        | 12 780        | 12 830        | 12 800           | 12 890        | 13 120        | 13 660 | -     |                |           |
| Operating weight              | kg              | 18 980        | 19 310 | 19 270        | 19 200        | 19 380        | 19 430           | 20 010        | 19 630        | 19 950 | +190  |                |           |

\*) With L5 tires

\*\*\*) Measured to the tip of the bucket teeth or bolt-on edge. Dump height to bucket edge. Measured at 45° dump angle. (Spade nose buckets at 42°.)

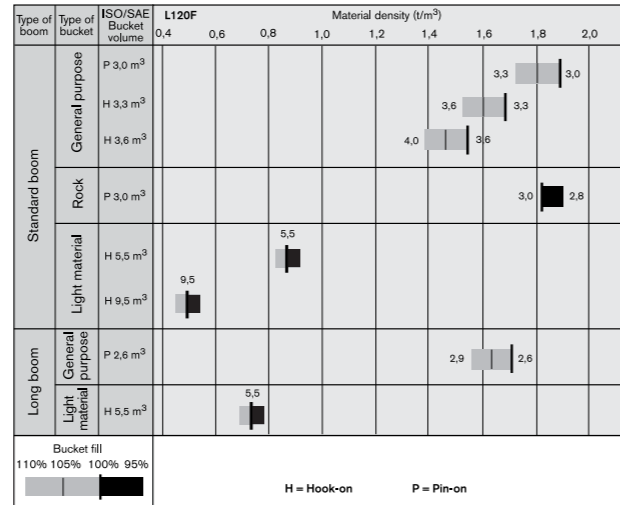
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## Bucket Selection Chart

The chosen bucket is determined by the density of the material and the expected bucket fill factor. The actual bucket volume is often larger than the rated capacity, due to the features of the TP-linkage, including an open bucket design, good rollback angles in all positions and good bucket filling performance. The example represents a standard boom configuration.  
**Example: Sand and gravel. Fill factor ~ 105%. Density 1,65 t/m<sup>3</sup>. Result: The 3,3 m<sup>3</sup> bucket carries 3,5 m<sup>3</sup>. For optimal stability always consult the bucket selection chart.**

| Material    | Bucket fill, % | Material density, t/m <sup>3</sup> | ISO/SAE bucket volume, m <sup>3</sup> | Actual volume, m <sup>3</sup> |
|-------------|----------------|------------------------------------|---------------------------------------|-------------------------------|
| Earth/Clay  | ~ 110          | ~ 1,70                             | 3,0                                   | ~ 3,3                         |
|             |                | ~ 1,50                             | 3,3                                   | ~ 3,6                         |
|             |                | ~ 1,40                             | 3,6                                   | ~ 4,0                         |
| Sand/Gravel | ~ 105          | ~ 1,80                             | 3,0                                   | ~ 3,1                         |
|             |                | ~ 1,65                             | 3,3                                   | ~ 3,5                         |
|             |                | ~ 1,50                             | 3,6                                   | ~ 3,8                         |
| Aggregate   | ~ 100          | ~ 1,90                             | 3,0                                   | ~ 3,0                         |
|             |                | ~ 1,70                             | 3,3                                   | ~ 3,3                         |
|             |                | ~ 1,60                             | 3,6                                   | ~ 3,6                         |
| Rock        | ≤ 100          | ~ 1,80                             | 3,0                                   | ~ 3,0                         |

The size of rock buckets is optimized for optimal penetration and filling capability rather than the density of the material.



## Supplemental Operating Data

| Tires 23.5 R25 L3       | Standard boom |            |            | Long boom  |
|-------------------------|---------------|------------|------------|------------|
|                         | 23.5 R25 L5   | 750/65 R25 | 750/65 R25 | 750/65 R25 |
| Width over tires        | mm            | +30        | +200       | +200       |
| Ground clearance        | mm            | +50        | +10        | +10        |
| Tipping load, full turn | kg            | +450       | +380       | +330       |
| Operating weight        | kg            | +670       | +640       | +640       |

## STANDARD EQUIPMENT

### Service and maintenance

|  | L110F | L120F |
|--|-------|-------|
| Engine oil remote drain and fill                                       | •     | •     |
| Transmission oil remote drain and fill                                 | •     | •     |
| Lubrication manifolds, ground accessible                               | •     | •     |
| Pressure check connections: transmission and hydraulic, quick-connects | •     | •     |
| Tool box, lockable   | •     | •     |

### Engine

|  | L110F | L120F |
|--|-------|-------|
| Three stage air cleaner, pre-cleaner, primary and secondary filter | •     | •     |
| Indicator glass for coolant level                                  | •     | •     |
| Preheating of induction air  | •     | •     |
| Fuel pre-filter with water trap                                    | •     | •     |
| Fuel filter  | •     | •     |
| Crankcase breather oil trap  | •     | •     |
| Exhaust heat insulation  | •     | •     |

### Electrical system

|   | L110F | L120F |
|---|-------|-------|
| 24 V, pre-wired for optional accessories  | •     | •     |
| Alternator 24V/ 80A   | •     | •     |
| Battery disconnect switch with removable key  | •     | •     |
| Fuel gauge  | •     | •     |
| Hour meter  | •     | •     |
| Electric horn   | •     | •     |
| Instrument cluster: <ul style="list-style-type: none"> <li>Fuel level</li> <li>Transmission temperature</li> <li>Coolant temperature</li> <li>Instrument lighting</li> </ul>  | •     | •     |
| Lighting: <ul style="list-style-type: none"> <li>Twin halogen front headlights with high and low beams</li> <li>Parking lights</li> <li>Double brake and tail lights</li> <li>Turn signals with flashing hazard light function</li> <li>Halogen work lights (2 front and 2 rear)</li> </ul> | •     | •     |

### Conronic monitoring system

|   | L110F | L120F |
|---|-------|-------|
| Monitoring and logging of machine data  | •     | •     |
| Conronic display  | •     | •     |
| Fuel consumption  | •     | •     |
| Ambient temperature   | •     | •     |
| Clock   | •     | •     |
| Test function for warning and indicator lights  | •     | •     |
| Brake test  | •     | •     |
| Test function, sound level at max fan speed   | •     | •     |
| Warning and indicator lights: <ul style="list-style-type: none"> <li>Battery charging</li> <li>Parking brake</li> </ul>   | •     | •     |
| Warning and display message: <ul style="list-style-type: none"> <li>Engine coolant temperature</li> <li>Charge-air temperature</li> <li>Engine oil temperature</li> <li>Engine oil pressure</li> <li>Transmission oil temperature</li> <li>Transmission oil pressure</li> <li>Hydraulic oil temperature</li> <li>Brake pressure</li> <li>Parking brake applied</li> <li>Brake charging</li> <li>Overspeed at direction change</li> <li>Axle oil temperature</li> <li>Steering pressure</li> <li>Crankcase pressure</li> <li>Attachment lock open</li> </ul> | •     | •     |
| Level warnings: <ul style="list-style-type: none"> <li>Fuel level</li> <li>Engine oil level</li> <li>Engine coolant level</li> <li>Transmission oil level</li> <li>Hydraulic oil level</li> <li>Washer fluid level</li> </ul>   | •     | •     |

### L110F L120F

|  | L110F | L120F |
|--|-------|-------|
| Engine torque reduction in case of malfunction indication: <ul style="list-style-type: none"> <li>High engine coolant temperature</li> <li>High engine oil temperature</li> <li>Low engine oil pressure</li> <li>High crankcase pressure</li> <li>High charge-air temperature</li> </ul> | •     | •     |
| Engine shutdown to idle in case of malfunction indication: <ul style="list-style-type: none"> <li>High transmission oil temperature</li> <li>Slip in transmission clutches</li> </ul>  | •     | •     |
| Keypad, background lit   | •     | •     |
| Start interlock when gear is engaged   | •     | •     |

### Drivetrain

|   | L110F | L120F |
|---|-------|-------|
| Automatic Power Shift   | •     | •     |
| Fully automatic gearshifting, 1-4                                   | •     | •     |
| PWM-controlled gearshifting   | •     | •     |
| Forward and reverse switch by hydraulic lever console               | •     | •     |
| Indicator glass for transmission oil level                          | •     | •     |
| Differentials: Front, 100% hydraulic diff lock. Rear, conventional. | •     | •     |

### Brake system

|                                     | L110F | L120F |
|-------------------------------------|-------|-------|
| Dual brake circuits                 | •     | •     |
| Dual brake pedals                   | •     | •     |
| Secondary brake system              | •     | •     |
| Parking brake, electrical-hydraulic | •     | •     |
| Brake wear indicators               | •     | •     |

### Cab

|  | L110F | L120F |
|--|-------|-------|
| ROPS (ISO 3471), FOPS (ISO 3449)                       | •     | •     |
| Single key kit door/start                              | •     | •     |
| Acoustic inner lining                                  | •     | •     |
| Ashtray  | •     | •     |
| Cigarette lighter, 24 V power outlet                   | •     | •     |
| Lockable door  | •     | •     |
| Cab heating with fresh air inlet and defroster         | •     | •     |
| Footstep, right-hand side (tool box lockable included) | •     | •     |
| Fresh air inlet with two filters                       | •     | •     |
| Automatic heat control                                 | •     | •     |
| Floor mat  | •     | •     |
| Dual interior lights                                   | •     | •     |
| Dual interior rear-view mirrors                        | •     | •     |
| Dual exterior rear-view mirrors                        | •     | •     |
| Sliding window, right side                             | •     | •     |
| Tinted safety glass                                    | •     | •     |
| Retractable seatbelt (SAE J386)                        | •     | •     |
| Adjustable steering wheel                              | •     | •     |
| Storage compartment                                    | •     | •     |
| Document pocket  | •     | •     |
| Sun visor  | •     | •     |
| Beverage holder  | •     | •     |
| Windshield washer front and rear                       | •     | •     |
| Windshield wipers front and rear                       | •     | •     |
| Interval function for front and rear wipers            | •     | •     |

| <b>Hydraulic system</b>   | <b>L110F</b> | <b>L120F</b> |
|---|--------------|--------------|
| Main valve, double acting 2-spool with hydraulic pilots                         | •            | •            |
| Variable displacement axial piston pumps (3) for:<br>1 Working hydraulic system | •            | •            |
| 2 Working hydraulic system, Pilot hydraulic, Steering- and Brake system         |              |              |
| 3 Cooling fan and Brake system  |              |              |
| Hydraulic control levers  | •            | •            |
| Electric level lock   | •            | •            |
| Boom kick-out, automatic  | •            | •            |
| Bucket positioner, automatic  | •            | •            |
| Double-acting hydraulic cylinders   | •            | •            |
| Indicator glass for hydraulic oil level   | •            | •            |
| Hydraulic oil cooler  | •            | •            |

| <b>External equipment</b>   | <b>L110F</b> | <b>L120F</b> |
|---|--------------|--------------|
| Fenders, front and rear   | •            | •            |
| Viscous cab mounts  | •            | •            |
| Rubber engine and transmission mounts   | •            | •            |
| Easy-to-open side panels  | •            | •            |
| Frame, joint lock   | •            | •            |
| Vandalism lock prepared for<br>• Batteries<br>• Engine compartment<br>• Radiator grille | •            | •            |
| Lifting eyes  | •            | •            |
| Tie-down eyes   | •            | •            |
| Tow hitch   | •            | •            |

| <b>Brake system</b>                              | <b>L110F</b> | <b>L120F</b> |
|--|--------------|--------------|
| Oil cooler and filter front & rear axle          | •            | •            |
| Parking brake alarm, audible for air susp seats  | •            | •            |
| Parking brake alarm, audible for mech susp seats | •            | •            |
| Stainless steel, brake lines                     | •            | •            |

| <b>Other equipment</b>                              | <b>L110F</b> | <b>L120F</b> |
|---|--------------|--------------|
| CareTrack, GSM (Europe and North America)           |              |              |
| CareTrack, GSM/Satellite (Europe and North America) |              |              |
| CE-marking  | •            | •            |
| Comfort Drive Control (CDC)                         | •            | •            |
| Comfort drive control, (CDC), electro-hydraulic     | •            | •            |
| Counterweight, logging                              | •            | •            |
| Counterweight, pre-drilled for optional guards      | •            | •            |
| Counterweight, signal painted, chevrons             | •            | •            |
| Secondary steering                                  | •            | •            |
| Sound decal, EU                                     | •            | •            |
| Noise reduction kit, EU excl. decal                 | •            | •            |
| Sign, 50 km/h                                       | •            | •            |
| Sign, slow moving vehicle                           | •            | •            |

**OPTIONAL EQUIPMENT** (Standard on certain markets)

| <b>Service and maintenance</b>   | <b>L110F</b> | <b>L120F</b> |
|--|--------------|--------------|
| Automatic lubrication system   | •            | •            |
| Automatic lubrication system for long boom                                 | •            | •            |
| Automatic lubrication system for attachment bracket, cast                  | •            | •            |
| Automatic lubrication system, stainless steel                              | •            | •            |
| Automatic lubrication system, stainless steel, for Long boom               |              | •            |
| Automatic lubrication system, stainless steel for attachment bracket, cast | •            | •            |
| Grease nipple guards   | •            | •            |
| Oil sampling valve   | •            | •            |
| Refill pump for grease to lube system                                      | •            | •            |
| Tool kit   | •            | •            |
| Wheel nut wrench kit   | •            | •            |

| <b>External equipment</b>                            | <b>L110F</b> | <b>L120F</b> |
|--|--------------|--------------|
| Warning beacon, rotating                             | •            | •            |
| Working lights, attachments                          | •            | •            |
| Working lights front, high intensity discharge (HID) | •            | •            |
| Working lights front, on cab, dual                   | •            | •            |
| Working lights front, extra                          | •            | •            |
| Working lights rear, on cab                          | •            | •            |
| Working lights rear, on cab, dual                    | •            | •            |

| <b>Cab</b>  | <b>L110F</b> | <b>L120F</b> |
|---|--------------|--------------|
| Anchorage for Operator's manual                                   | •            | •            |
| Automatic Climate Control, ACC                                    | •            | •            |
| Automatic Climate Control, ACC, corr prot. condenser              | •            | •            |
| ACC control panel, with Fahrenheit scale                          | •            | •            |
| Asbestos dust protection filter                                   | •            | •            |
| Cab air pre-cleaner, cyclone type                                 | •            | •            |
| Carbon filter   | •            | •            |
| Cover plate, under cab  | •            | •            |
| Footsteps front frame   | •            | •            |
| Lunch box holder  | •            | •            |
| Armrest, operator's seat, ISRI, left only                         | •            | •            |
| Armrest, operator's seat, KAB, left only                          | •            | •            |
| Operator's seat, KAB, air susp, heavy-duty, not for CDC           | •            | •            |
| Operator's seat, KAB, air susp, heavy-duty, for CDC and "elservo" | •            | •            |
| Operator's seat, ISRI, air susp, heat, high back                  | •            | •            |
| Operator's seat, ISRI, heated, high back                          | •            | •            |
| Operator's seat, ISRI, low back                                   | •            | •            |
| Radio installation kit incl. 11 amp 12 volt outlet, left side     | •            | •            |
| Radio installation kit incl. 11 amp 12 volt outlet, right side    | •            | •            |
| Radio with CD-player  | •            | •            |
| Seatbelt, 3", (width 75 mm)                                       | •            | •            |
| Steering wheel knob   | •            | •            |
| Sun blinds, rear windows  | •            | •            |
| Sun blinds, side windows  | •            | •            |
| Timer cab heating   | •            | •            |
| Universal door/ignition key                                       | •            | •            |
| Window, sliding, door   | •            | •            |

| <b>Drivetrain</b>                       | <b>L110F</b> | <b>L120F</b> |
|---|--------------|--------------|
| Diff lock front 100%, Limited Slip rear | •            | •            |
| Speed limiter, 20 km/h                  | •            | •            |
| Speed limiter, 30 km/h                  | •            | •            |
| Speed limiter, 40 km/h                  | •            | •            |
| Wheel/axle seal guards                  | •            | •            |

| <b>Hydraulic system</b>   | <b>L110F</b> | <b>L120F</b> |
|---|--------------|--------------|
| Attachment bracket, cast  | •            | •            |
| Boom suspension system BSS  | •            | •            |
| Separate attachment locking, standard boom  | •            | •            |
| Separate attachment locking, long boom  | •            | •            |
| Single acting lifting function  | •            | •            |
| Arctic kit, attachment locking hoses  | •            | •            |
| Arctic kit, pilot hoses and brake accum. incl. hydr. oil incl. 3rd and 4th function | •            | •            |
| Boom cylinder hose and tube guards  | •            | •            |
| Boom cylinder hose and tube guards for long boom                                    | •            | •            |
| Detent for 3rd hydraulic function   | •            | •            |
| Hydraulic fluid, biodegradable, Agrol   | •            | •            |
| Hydraulic fluid, biodegradable, BP  | •            | •            |
| Hydraulic fluid, biodegradable, Panolin   | •            | •            |
| Hydraulic fluid, biodegradable, Volvo   | •            | •            |
| Hydraulic fluid, fire-resistant   | •            | •            |
| Hydraulic fluid, for hot climate  | •            | •            |
| Hydraulic function, 3rd   | •            | •            |
| Hydraulic function, 3rd for long boom   | •            | •            |
| Hydraulic function, 3rd-4th   | •            | •            |
| Hydraulic function, 3rd-4th for long boom   | •            | •            |
| Electro-hydraulic function, 3rd   | •            | •            |
| Electro-hydraulic function, 3rd for long boom                                       | •            | •            |
| Electro-hydraulic function, 3rd-4th   | •            | •            |
| Electro-hydraulic function, 3rd-4th for long boom                                   | •            | •            |
| Electro-hydraulic servo control   | •            | •            |
| Electro-hydraulic servo controls for long boom                                      | •            | •            |
| Single lever control  | •            | •            |
| Single lever control for 3rd hydraulic function                                     | •            | •            |

| <b>External equipment</b>                      | <b>L110F</b> | <b>L120F</b> |
|--|--------------|--------------|
| Cab ladder, rubber-suspended                   | •            | •            |
| Mudguards, full cover rear for 80-series tires | •            | •            |
| Mudflap kit for mudguards for 80-series tires  | •            | •            |
| Deleted front mudguards and wideners rear      | •            | •            |
| Long boom                                      | •            | •            |
| Long boom for electro-hydraulic                | •            | •            |
| Guard rails, on rear mudguards                 | •            | •            |

| <b>Protective equipment</b>                  | <b>L110F</b> | <b>L120F</b> |
|--|--------------|--------------|
| Bucket teeth protection                      | •            | •            |
| Belly guard front                            | •            | •            |
| Belly guard rear                             | •            | •            |
| Cover plate, heavy-duty, front frame         | •            | •            |
| Cover plates, rear frame                     | •            | •            |
| Guards for front headlights                  | •            | •            |
| Guards for radiator grill                    | •            | •            |
| Guards for tail lights                       | •            | •            |
| Guards for tail lights, heavy-duty           | •            | •            |
| Windows, side and rear guards                | •            | •            |
| Windshield guard                             | •            | •            |
| Center hinge and rear frame guard            | •            | •            |
| Corrosion protection, painting of machine    | •            | •            |
| Corrosion protection, painting of attachment | •            | •            |

| <b>Tires and Rims</b> | <b>L110F</b> | <b>L120F</b> |
|-----------------------|--------------|--------------|
| 23.5R25 750/65R25     | •            | •            |
| • L2                  | •            | •            |
| • L3                  | •            | •            |
| • L4                  | •            | •            |
| • L5                  | •            | •            |

| <b>Attachments</b>   | <b>L110F</b> | <b>L120F</b> |
|--|--------------|--------------|
| Buckets:<br>• Straight<br>• Spade nose<br>• High tipping<br>• Light material     | •            | •            |
| Wear parts:<br>• Bolt-on edge<br>• Bolt-on or weld-on bucket teeth<br>• Segments | •            | •            |
| Log grapples   | •            | •            |
| Fork equipment   | •            | •            |
| Material handling arm  | •            | •            |
| Snow blade   | •            | •            |
| Broom  | •            | •            |
| Sand spreading bucket  | •            | •            |
| Bale clamp   | •            | •            |
| Drum rotator   | •            | •            |





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