

V O L V O



Volvo Articulated Haulers 42.0 t 57 km/h 496 hp

A45

Volvo Construction Equipment

A45

With a new 42-tonne payload and proven best-in-class off-road performance, get ready more productivity than ever more in the A45.



More productive than ever

Featuring a new Volvo drivetrain and 42-tonne payload, the Volvo A45 is engineered for unrivalled off-road performance, operator comfort and maximum uptime. Combine this with features such as intuitive operator interface, superior visibility, and exceptional durability, and you can count on the A45 to deliver enhanced productivity, profitability, and reliability to your operation.



Intuitive in-cab interface

- All essential in-cab information conveniently displayed on just two screens
- Interactive, integrated Volvo Co-Pilot display
- Dynamic instrument cluster in-front of steering wheel



A new level in operator comfort

- Easy access/egress
- Direct field of vision which exceeds industry standards
- Lighting and cameras
- Enhanced storage options
- Easy cleaning
- Range of suspension configurations



Unbeatable off-road performance

- Volvo Automatic Traction control (ATC) with Terrain Memory
- Automatic drive combinations including 6x6 and 6x4
- All-terrain bogie
- Hydro-mechanical steering
- Downhill speed control
- Dynamic and predictive gear selection
- Superior tipping stability



Haulers and beyond

- Haul Assist with On-Board Weighing
- Connected Map and Performance Indicator
- Future proofed software architecture
- Connected to Uptime
- Operator Training Program
- Service contracts
- Optimal pass-matching with Volvo loading tools



5% reduction in service costs

- 250-hour greasing intervals
- 1000-hour engine service intervals
- Industry leading service access
- Remote monitoring and service alerts
- Enhanced electrical service center



42-tonne payload

- New Volvo drivetrain
- Reinforced axles

Intuitive operator interface

Operators can stay in-the-know and focussed on the task at hand thanks to all essential in-cab information conveniently displayed on just two screens. The interactive, integrated Volvo Co-Pilot display offers easy control over essential functions like radio, camera settings, climate control, and machine status. This is combined with the dynamic instrument cluster, positioned in front of the steering wheel, which provides essential vehicle data at a glance.

New Volvo Drivetrain

The new Volvo drivetrain means Volvo DNA runs throughout the entire machine. The result is more fuel efficiency, more productivity and Volvo-renowned quality and reliability. The intelligent Terrain Memory function identifies and remembers slippery road segments to ensure optimized traction control and outstanding off-road mobility.

Enhanced visibility

Visibility is key to a safe, efficient and productive working day and thanks to the redesigned cab panels and wider wiper coverage, operators benefit from a direct field of vision which exceeds industry standards. Work lights activated via the integrated Volvo Co-Pilot are now located on the pillar, providing increased illumination to further optimize visibility.

Haul Assist with On-Board Weighing

Haul Assist, powered by the integrated Volvo Co-Pilot, is a set of tools designed to help you get even more productivity and efficiency from your Volvo Articulated Hauler. A key feature of Haul Assist is On-Board Weighing, which provides real-time payload information which can help to eliminate carry-back and overloading. The result is peak productivity, reduced fuel consumption and less machine wear.

42-tonne payload

Make your operation more productive than ever before with a new 42-tonne payload. The new Volvo transmission and reinforced axles take the already outstanding levels of productivity you expect from a Volvo articulated hauler to new heights.



5% reduction in service costs

Reduce service costs by up to 5% over 12 000-hours of operation thanks to simplified servicing, longer change intervals and easy component access. Benefit from industry leading greasing intervals of 250 hours for maximum uptime, along with Volvo Engine Oil and High Performance Filters which offer 1 000 hour engine service intervals.

Unbeatable off-road performance

The A45 delivers unbeatable off-road performance in its class with features including the proven Volvo drivetrain, automatic drive combinations (including 100% differential locks), all-terrain bogie and hydro-mechanical steering for unmatched traction, stability and precision control. With Volvo Dynamic Drive, dynamic and predictive gear selection adapts to the operating conditions at hand, for improved comfort and fuel efficiency.



Volvo A45 in detail

Engine

16 liter, 6-cylinder straight turbocharged diesel engine with 4 valves per cylinder, overhead camshaft and electronically controlled unit injectors. The engine has wet replaceable cylinder liners and replaceable valve guides and valve seats.

Engine model	Volvo	D16F
Max power - SAE J1995 Gross	kW	365
	hp	496
at engine speed	r/min	1 800
Max torque - SAE J1995 Gross	Nm	2 600
at engine speed	r/min	1 000
Displacement	l	16.1

Electrical system

All cables, sockets and pins are identified. Cables are enclosed in plastic conduits and secured to main frame. Prewired for options. Connectors meet IP67 standard for water-proofing as necessary

Voltage	V	24
Battery	V	2 x 12
Battery capacity	Ah	2 x 225
Alternator	kW/A	3.396 / 120
Starter motor	kW	9

Drivetrain

Torque converter with built-in lock-up function.

Transmission: Fully automatic Volvo PowerTronic planetary transmission with nine forward gears and three reverse gears. The transmission has the ability to skip gears for fast and accurate gear selection.

Dropbox: Volvo-developed, in-line design with high ground clearance and 100% longitudinal "dog clutch" type differential lock.

Axles: Heavy duty, purpose built Volvo design with fully floating axle shafts, planetary type hub reductions and 100% dog clutch type diff-lock. Automatic traction control system (ATC).

Torque converter		2.1:1
Transmission	Volvo	PT 3209
Dropbox	Volvo	IL2 ATC
Axles	Volvo	ARB50/45/50

Brake system

Fully hydraulic, wet multiple disc brakes with enclosed, forced oil-cooled discs on all wheels. Two circuit brake system. Complies with ISO 3450 at total machine weight.

Circuit division: One circuit for front axle and one for bogie axles.

Parking brake: Spring-applied disc brake acting on the trailer unit propeller shaft. When the parking brake is applied, the longitudinal differential locked.

Retarder: Service brake retarder function and Volvo Engine Brake (VEB).

Steering system

Hydro-mechanical articulated steering, self compensating design. Two double-acting steering cylinders.

Steering angle: 3,4 steering wheel turns lock-to-lock, $\pm 45^\circ$.

Steering system: including secondary steering fulfills ISO 5010.

Chassis

Frames: box type, heavy duty. High strength steel, robot welded.

Rotating hitch: 100% maintenance free, fully sealed, with permanently greased tapered roller bearings

Cab

Mounted on rubber pads. Ergonomically designed. Unobstructed wide angle forward view. Operator centrally positioned above the front axle. ergonomically positioned controls.

Electronic controlled climate unit with automatic controlled temperature and functionality with high thermal comfort and clean air.

The controls, switches, and instruments in the cab of the hauler machine are designed with a strong focus on ergonomics and the appropriateness of information content for the operator. These elements are strategically placed to provide operators with intuitive access to critical functions while minimizing distractions. Ergonomics play a pivotal role in the design, ensuring that controls are within easy reach and that their layout minimizes operator fatigue during long shifts. The primary 8" display, positioned directly in front of the operator, serves as a central hub for monitoring vital machine functions, displaying information in a clear and organized manner. The 12" secondary display complements this by enhancing situational awareness. The information presented on these displays is carefully curated to deliver the most pertinent data, alerts, and notifications, enabling operators to make informed decisions swiftly and accurately.

Safety: ROPS/FOPS standards approved according to ISO3471, SAE J1040 / ISO3449, SAE J231.

Sound level in cab (ISO 6396) - L _{PA}	dB	72
External sound level (ISO 6395) - L _{WA}	dB	112

Internal sound level with sound kit: 70 dB(A)

External sound level with sound kit: 110 dB(A)



Hydraulic system		
Four variable displacement piston pumps driven by the flywheel PTO. Two load-sensing used for steering and tipping and two electrical controlled used for fan, brake cooling and brake power supply. One ground-dependent piston pump for secondary steering mounted on the dropbox. Two return oil filters with magnetic cores provide effective oil filtration		
System max working pressure	MPa	28
Dumping System		
Patented Load and Dump Brake. Dumping Cylinders: two single stage double acting cylinders.		
Tipping angle	°	69
Tipping time with load	s	12
Lowering time	s	10
Body		
Plate thickness		
Front	mm	8
Sides	mm	11
Bottom	mm	14
Chute	mm	16
Material HB450 steel		
Yield strength	N/mm ²	1 150
Tensile strength	N/mm ²	1 350

Load Capacity		
Standard Body		
Load capacity	kg	42 000
Body, struck	m ³	20.3
Body, heaped 2:1	m ³	25.5
With overhung tailgate		
Body, struck	m ³	20.9
Body, heaped 2:1	m ³	26.7
Suspension		
Front suspension: Three point suspension consisting of a-stay fitted to the frame structure by a spherical rubber bushing, shock absorbers with accumulators and cross stays.		
Reat suspension: 3-point bogie beam suspension consisting of a straddle-mounted bogie beam with maintenance free rubber bearings, flexible rubber pads, cross stays and a-stay		



Specifications

REFILL CAPACITIES

		A45J
Crankcase	l	54
Fuel tank	l	563
Cooling system	l	55
Brake cooling system	l	133
Transmission	l	50
Dropbox	l	9
Axles, front/bogie	l	26/53
Hydraulic tank	l	174

SPEED

		A45J
Forward		
1	km/h	6.2
2	km/h	8.6
3	km/h	12.5
4	km/h	17.0
5	km/h	21.5
6	km/h	26.7
7	km/h	36.0
8	km/h	46.4
9	km/h	57.0
Reverse		
1	km/h	6.0
2	km/h	8.2
3	km/h	16.3

OPERATING WEIGHT UNLOADED

		A45J
Tires		29.5R25*
Front	kg	17 810
Rear	kg	14 380
Total	kg	32 200
Payload	kg	42 000

Operating weight includes all fluids and operator

*) A45J with tires 875/65R29, add 300 kg /axle

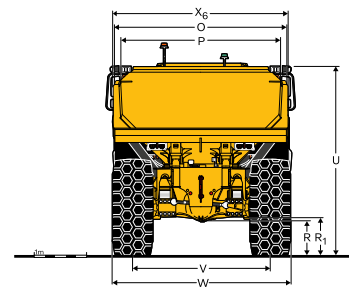
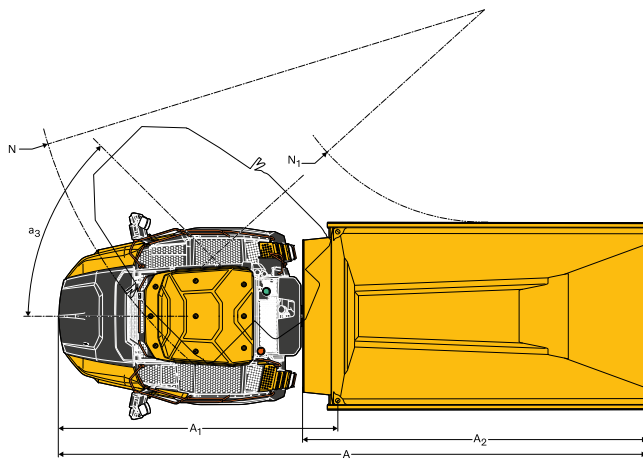
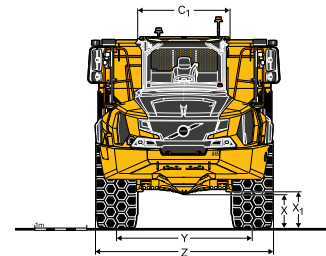
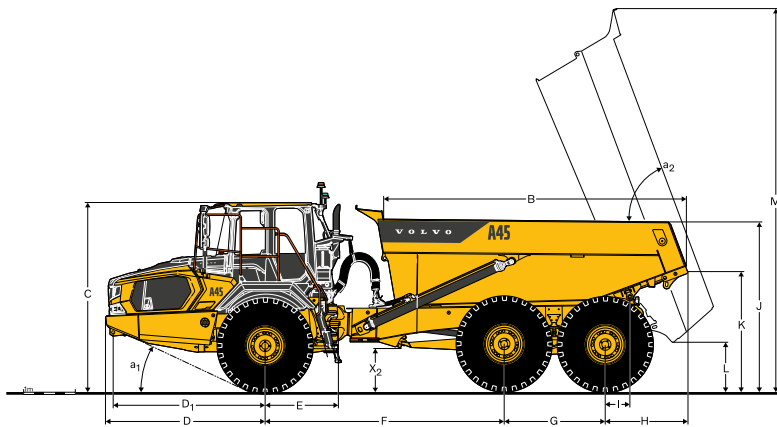
TOTAL WEIGHT

		A45J
Tires		29.5R25*
Front	kg	22 820
Rear	kg	51 370
Total	kg	74 190

*) A45J with tires 875/65R29, add 300 kg /axle

GROUND PRESSURE

		A45J	
Tires		29.5R25	875/65R29
Unloaded			
Front	kPa	128	107
Rear	kPa	51	44
Loaded			
Front	kPa	164	137
Rear	kPa	183	153



DIMENSIONS

Pos	Unit	A45J
A	mm	11 261
A ₁	mm	5 459
A ₂	mm	6 418
B	mm	5 861
C	mm	3 626
C ₁	mm	1 819
D	mm	3 084
D ₁	mm	2 941
E	mm	1 277
F	mm	4 628
G	mm	1 940
H	mm	1 609
I	mm	494
J	mm	3 272
K	mm	2 434
L	mm	951
M	mm	7 400
N	mm	9 144
N ₁	mm	4 428
O	mm	3 324

DIMENSIONS

Pos	Unit	A45J
P	mm	3 118
Q	mm	2 820
R	mm	652
R ₁	mm	744
S	mm	2 651
T	mm	3 458
U	mm	3 574
V	mm	2 636
W	mm	3 401
X	mm	579
X ₁	mm	671
X ₂	mm	818
Y	mm	2 636
Z	mm	3 400
a ₁	°	25.3
a ₂	°	69
a ₃	°	45

A45J: Unloaded machine with 29.5R25 tires.

Equipment

STANDARD EQUIPMENT

Engine

Preheater for easier cold starts
VEB (exhaust retarder EPG + compression brake)

Operator Environment

Operator seat with head restraint (air suspended and heated)
Electronic Climate Control
Cup holder / storage tray
Cell phone holder
Instructor seat with seat belt
Overhead console for CC Radio, Tachograph, etc.
Air suspended / heated operator seat
Sliding window
Cooled / Heated storage box
Front sun visor
Tilt/telescopic steering wheel
Loud speakers (4)
Dynamic instrument cluster and integrated Co-Pilot
Automatic pre-start checks
Troubleshooting diagnostics

Wheels and tires

29.5R25

Drivetrain

6x4 and 6x6 Automatic Traction Control (ATC)
Dog clutch type 100% diff-locks in all axles
Cruise Control
Dropbox with longitudinal diff-lock
Torque converter with automatic lock-up in all gears

Electrical system

Battery disconnect switch
Charging studs
Power outlets
USB-C 2.0 (2)
USB-A 3.0 (1)
24V (2)
Exterior and Interior lights (all LED)

Brake system

Two circuit, fully hydraulic, wet discs on all axles (externally cooled)
Down Hill Speed Control
Hill assist
Load & Dump Brake
Retarder pedal
Parking brake on propeller shaft

STANDARD EQUIPMENT

Dumping System

Body prepared for exhaust heating and optional equipment

Safety and security

Anti-slip steps and platforms with handrails
Dump body lock
Steering joint lock
Harness anchor points
Rear-view mirrors
Retractable 3-inch 2-point safety belt
ROPS / FOPS protected Care Cab
Secondary steering
Dump support system
Positioning indicators (front and rear)
Entrance camera

Service and maintenance

Grouped service points and filters
Electrical fuel priming pump
Prepared for fast fueling equipment
Ambient and service lights (LED)
Electrical engine hood
Belly plate with integrated service hatches
Drainage hoses
Tool box
Front service ladder

OPTIONAL EQUIPMENT
Engine
Air filter, heavy duty
Engine heater, electric
Engine heater, diesel
Engine shutdown timer
External emergency engine stop
Operator Environment
Noise reduction kit (fulfils 2000/14/EC)
Anchorage, operator's manual
Cab heating / ventilation timer
Cable kit, for cab heater
Cab air filter (Asbestos dust protection)
Cab air filter (Carbon)
Rear view mirrors, adjustable, el.heated
Sun blinds, side windows
Universal key
Premium operator seat with head restraint (air suspended, cooled / heated), 2-point belt
Premium operator seat with head restraint (air suspended, cooled / heated), 3-point belt
Armrest for operator seat
Hands-free microphone
Radio AM / FM / DAB
Wheels and tires
875/65R29
Drivetrain
Long haul kit, dropbox cooling
Speed limiter (25/30 km/h)
Electrical system
Warning beacon, LED
Seatbelt indicator, external
Working lights front and rear, LED
Rear view camera
Front view camera
Reverse alarm
PDS interface, Safemine
Tire Pressure Monitoring System
Suspension
Rubber front suspension
Hydraulic front suspension

OPTIONAL EQUIPMENT
Dumping System
Body exhaust heating
Front spillguard, extra
Side extension, 200 mm
Side extension, 400 mm
Side extension, light material
Tailgate, overhung, wire-operated
Tailgate, overhung, linkage-operated
Tailgate, underhung
Wear plates, 450 HB
Wear plates heavy duty, 450 HB
Safety and security
Fire suppression system
Warning triangle
First aid kit and fire extinguisher
Fire extinguisher, external
Wheel chocks
Service and maintenance
Auto Lube system
Centralized greasing
Tool kit
Other
Arctic oil kit
Fast fuelling system
Jump start connector, ISO-type

V O L V O