

MUVO

Multifunctional Vehicle



109 HP
Diesel Engine



2,810 kg / 6,194 lbs
Maximum Payload



60 kph / 37 mph
Top Speed



4WS
4 Wheel Steering



Multifunctional vehicles in service of urban area maintenance

A compact, multifunctional solution for municipalities and utility companies worldwide, tackling tasks like snow plowing, sidewalk cleaning, mowing, watering, and waste collection with specialized attachments. Easy to operate and maintain, **MUVO's** compact design, strong engine, and unique chassis make it a versatile and cost-effective alternative to multiple specialized vehicles.



Technical Specifications

Engine

- VM R754EU6H turbo diesel engine according to Tier 4 final exhaust standard
- 80 kW/ 109 HP at 2,600 RPM, 420 Nm / 309 lbf at 1,300 RPM
- Electronic regulation of diesel engine RPM with the gas pedal and a button (hand throttle for permanent working RPM of diesel engine while operating with attachments)
- Durable and reliable gear engine drive train
- Fuel tank capacity: 69 liters / 18 US Gal

Drive

- Hydrostatic automotive drive (provides continuous speed regulation depending on diesel engine revs and joystick lever movement in the cabin) enables the alternation between the working and transport speeds under load and without stopping:
 - working speed (0-20 km/h (0-12 mph)) and transport speed (0-50 km/h (0-31 mph)) in a transmission gear "II" with $i = 2.32$
 - working speed (0-10 km/h (0-6 mph)) and transport speed (0-27 km/h (0-16 mph)) in a transmission gear "I" with $i = 4.33$
- Vehicle speed control by using a joystick, while maintaining constant engine revolutions needed for attachments operation. Brake inching function via braking pedal available as an option. Enables deceleration while maintaining constant engine RPM.
- Transport speed of 60km/h (37 mph) available on request. In this case permanent 4WD is required.
- Gradeability 40% when loaded to GVW (5,5 t)

Undercarriage

- The undercarriage is made of high strength steel, prepared for the installation of a central suction hose and front axle locking as an option (necessary while working with boom mower)
- Transverse position of the engine along the front axle gives a low center of gravity and optimum load for the vehicle upgrade (especially inside the tipper) and the availability of parts when servicing

Axle Drive

- Front axle is a drive-and-steer axle with electronic front-wheel drive (when needed) coupling activation (4x4)
- The rear axle is a drive-and-steer axle with a 2-speed gear box ("I/II") for standard driving speeds or very low speeds (while working with snow blower) and electronically controlled differential blocking (if necessary) of the rear axle

Suspension

- Parabolic leaf springs with additional rubber dampeners as another spring suspension element of the final strokes, hydraulic telescopic shock absorbers and torsion bars on both axles



Servo Control System

- Hydrostatic wheel steering is electronically autonomous, with central computer monitoring vehicle safety without the driver's influence and enables front wheels turning (2WS) in transport and working mode (turning radius of 6.00 m)
- All-round turning (4WS) of the wheels in working mode (turning radius of 3.65 m)
- Diagonal turning of the wheels in working mode ("crab steering")

Brakes

- Dual-circuit brake system with a hydraulic braking force booster, braking discs on both axles, mechanical rear axle disc parking brake

Standard Operating Hydraulics

- **Utility hydraulics (circuit "I")** driving attachment's hydraulic cylinders, with electronic flow regulation 0-15 lpm / 0-4 gpm 180 bar (2610 PSI) pressure, controllable with ON/OFF buttons on driving joystick and switches on control panel, with 6-section solenoid valve block provides:
 - 1 x double acting lifting plate attachment (min. 810 kg / 1785 lbs) with floating position and weight relief (electronically controlled from vehicle cab)
 - 2 x double acting attachment with floating position front (ISO 16028-DN 10)
 - 1 x double acting attachment with floating position front or back (ISO 16028-DN 10)
 - 1 x double acting attachment with floating position back (ISO 16028-DN 10)
 - 1 x single acting attachment for tipper box lifting (ISO 16028-DN 10)
 - 1 x single acting attachment with floating position front or back (ISO 16028- DN 10) (reserved for front axle locking or another function)
 - 1 x drainage attachment, front (ISO 16028- DN 12.5)
 - 1 x drainage attachment, rear (ISO 16028-DN 10)
- **Utility hydraulics (circuit "II")** driving attachment's hydro-motors, with electronic flow regulation 0-115 lpm / 0-30 gpm, controllable from vehicle cab, pressure 280 bar / 4061 PSI and high pressure gear pump as standard or Load Sensing pump as an option provide:
 - Independent flow regulation from 0-65 lpm / 0-17 gpm front (ISO 16028-DN 19 for pressure and return line)
 - Independent flow regulation from 0-65 lpm / 0-17 gpm rear (ISO 16028-DN 12.5 for pressure and return line)
 - Summing both flows to front (up to maximum pump flow of 115 lpm / 30 gpm)
 - Hydraulic oil tank capacity: 35 liters / 9.2 US Gal

Auxiliary hydraulic circuit

- Additional hydraulic circuit used for driving hydro-motors of cooling fans. The fans are used for cooling of diesel engine cooling liquid, as well as hydraulic oil used in the entire hydraulic system. The rotation direction of the fans can be changed, enabling cleaning of the fan covers and the fans themselves.



Illumination and electrical system

- 12 V feed voltage (battery 110 Ah, generator 14 V)
- Main (lower) driving headlights with direction indicators
- Raised (upper) driving headlights with direction indicators
- Sound warning when driving backwards
- Rotating light
- Rear working light for the tipper box
- Main battery switch (250 A)
- 13-pole rear trailer socket
- 21-pole (DEUTSCH HDP) socket for front and rear attachments (2 pcs.)
- Interior cabin lighting
- 12 V lighter socket in cabin

Air Conditioning

- Air conditioning and cabin heating integrated in a central console with efficient ventilation ducts and air jets on the windshield and in the cabin space with controllable switches on the center console

Cabin

- Compact cabin with 2 seats, modern design with a large entrance for the driver
- Ergonomically designed with a clear front and side view, enabling safe driving in traffic and monitoring of working attachments
- Connected to the chassis through anti-vibration elements
- High-quality cathaphoresis surface protection coating of the cabin steel frame
- Tinted and laminated windshield glass with integrated heating
- Side glass window panels with sliding
- Comfortable seats with mechanical suspension regulation for the driver and passenger, adjustable backrest and headrest by length, angle and slope, with right arm support, three-point safety belt integrated in the seat with automatic winders
- Steering column with adjustable height and angle, equipped with multifunctional handles
- Left-hand multifunctional handle for switching between hydrostatic drive work speed and transport speed, and gear drive change
- Right-hand multifunctional handle for control of direction indication lights, wiper speed (interval), low and high beam change and horn
- Heat and sound insulation on roof, back wall and floor
- Roof console with MP3 radio with Bluetooth and speakers, free slots for switches, sun visor
- Implement control unit holder in the cabin



Central Computer

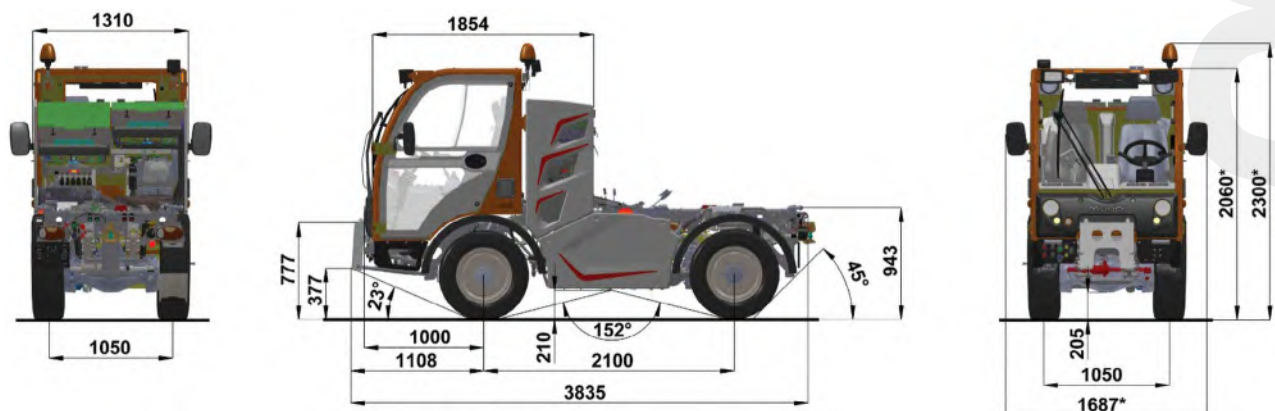
- Central computer with a multifunctional colour screen that displays and controls all vehicle states by choosing the appropriate screen:
 - **Screen #1** - Provides current condition information such as vehicle speed, diesel engine RPM, fuel level, information about the selected hydraulic circuit, front and rear hydraulic oil flow, coolant and diesel engine oil temperature, hydraulic oil temperature, displays selected wheels turning mode, time, selected transport or working hydrostatic drive speed, selected gear knob, working hydraulics turned on functions, turned on differential lock, lifted tipper box, turned on clutch drive 4x4
 - **Screen #2** - provides warning information about deviation from allowed states of vehicle systems
 - **Screen #3** - provides warning information about deviation from allowed states of vehicle systems
 - **Screen #4** - provides information about total and daily mileage and total and daily travel distance and working hours

Vehicle colours

- Vehicle cab, orange RAL 2011
- Vehicle undercarriage, front panel, lower cabin part, side plastic parts, black RAL 9005
- Chassis frame, gray RAL 7016. Additionally waxed for better surface protection

Vehicle Dimensions and Weight

- Dimensions of the vehicle in the related image refer to an unloaded vehicle with the following equipment package:
 - 4x4 wheel drive, two-stage gear transmission, air conditioning, power steering system turning both axles (4WS), trailer coupling and all-season tires LT 245/75 R 16 M + S, with full fuel tanks and oil (without driver)
 - Empty weight: 2790 kg / 6150 lbs. (with full fuel tank, without driver)
 - Gross vehicle weight: 5500 kg / 1215 lbs.
 - Gross load of each axle: 2800 kg / 6173 lbs.
 - Length: 3835 mm / 151 in
 - Width: 1310 mm / 51.5 in (without mirrors)
 - Height: 2060 mm / 81 in (without beacon light)



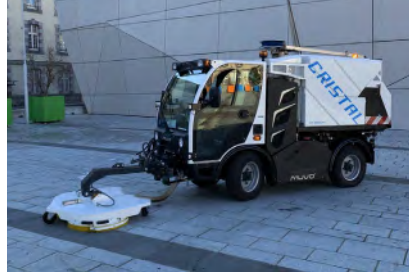
*Dimensions are shown in mm. Depends on mounted attachment/s.



Attachments and Applications



Trash Compacter / Bin Collector



Surface Cleaner with recovery



Boom Mower



Ribbon Snowblower



Vacuum Sweeper



Sweeper



Water Container



Skip Loader

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Broadcast Spreader



Double Auger Snowblower



Watering Arm



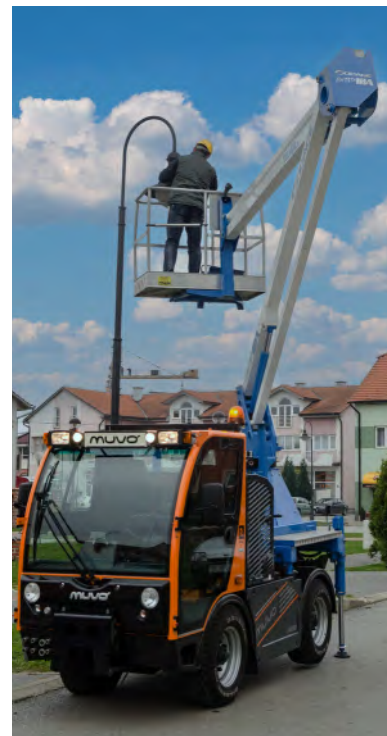
Dump Platform



High Pressure Washer



Folding V Plow



Basket Arm



Single Auger Snowblower

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