

*Cleaning Technology
Municipal Technology
Waterjet Technology*

Hako



Municipal Technology

Multifunctionality without compromise

For efficient all-season use.



One machine for all applications: with a wide range of different attachments and superstructures available, Citymaster and Multicar vehicles can be equipped for almost any application and working condition – for economically efficient all-season use.

Our efficient all-rounders

Spring, summer, autumn and winter: Each season presents its own unique challenges for municipal technology. We develop future-proof vehicles that meet the changing demands of municipalities, service providers and industry with economic efficiency: through high quality, absolute reliability and consistent multifunctionality. This means: all applications can be flexibly covered with just one machine. For lower investment costs and a decisive increase in efficiency.

Hako, here's why!

What you can expect from us: high-quality products that meet the highest standards in terms of material, technology and functionality. You can rely on both our compact sweepers with additional benefits and our multifunctional load and implement carriers – under all conditions. This is what we stand for with over 70 years of experience, outstanding in-house development expertise and a high vertical range of manufacture as well as excellent customer service: with our comprehensive sales and service network, we are always close by with sound advice and well-coordinated services. For maximum machine availability over the entire long service life. Of course, we also think beyond the time of use: when developing our products, we always consider the entire life cycle – from CO₂-saving production to economical, environmentally friendly use to recycling and disposal. This is how a premium product becomes an optimal solution – for your success.

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Providing the perfect solution for every application

As a full-range supplier, we meet this objective by providing a comprehensive product programme comprising implement carriers and sweepers with articulated joint and all-wheel steering as well as multifunctional narrow-gauge load- and implement carriers. When developing our products, we always give top priority to safety, comfort, efficiency and environmental protection.

Citymaster

Sweepers with articulated joint or all-wheel steering – and additional benefits



Citymaster 400

The articulated multifunctional implement carrier and sweeper in the 2-t class with 24.2 kW output can be driven by anyone holding a Class B driving licence



Citymaster 650

Sweeper with articulated joint and additional benefits in the 2-t class with 25.5 kW output, driving licence Class B or higher



Citymaster 1650

Sweeper with articulated joint and additional benefits in the 3.5-t class with 55 kW output, driving licence Class B or higher



All-electric Citymaster 1650ze

Implement carrier and sweeper with articulated joint in the 3.5-t class with 50 kW output, driving licence Class B or higher



Citymaster 2250

Sweeper with all-wheel steering and additional benefits in the 6-t class with 80 kW output, driving licence Class C/C1/C1E or higher

Multicar

Multifunctional load- and implement carriers



Multicar M29

6-t class narrow-gauge load- and implement carrier, with 80 kW output, driving licence Class C/C1/C1E or higher



Multicar M31 Euro VI-E

6-t class load- and implement carrier, with 110 kW output, driving licence Class C/C1/C1E or higher



Multicar M31 Hydrostat Euro VI-E

6-t class load- and implement carrier, with 108 kW output, driving licence Class C/C1/C1E or higher



State-of-the-art technology produced in-house: our qualified employees in the Hako factories ensure that all components meet our high quality and safety standards.

We focus on safety

With our sophisticated safety concepts, ranging from a fully-glazed cab, additional work lights and a camera system to assistance systems such as ABS and ESP, we actively protect the health and safety of both machine operators and other road users.



- Operator: 180°
- Side-view camera: 270°
- Rear-view camera: 180°



Safety first

Tested and approved – Citymaster with ROPS-tested safety cab and Multicar with DEKRA-certified 2-person safety cab. Both our Citymaster and Multicar vehicles comply with the high standards required to obtain EC type approval and a general operating licence.



Keeping an eye on what's important

Fully glazed cabs offer the driver a good view onto his surroundings. The camera system including a rear-view camera ensures that his viewing angle is extended by a further 270° to provide an all-round view of the machine's surroundings and increased safety when turning or reversing.

Always on the safe side

When working in cities and residential areas, drivers of municipal vehicles are often confronted with challenging traffic situations, for example through cyclists or pedestrians located in the vehicle's blind spot when turning right. Hako's Turning Assistant supports the driver in his daily routine and helps to avoid potentially dangerous situations. The innovative camera system detects other road users located in the vehicle's immediate vicinity and issues visual and acoustic warning signals. For more safety in road traffic.



Protects both the environment and people's health

Blue Angel-awarded: the Citymaster models 1650 and 2250 meet the criteria for particularly low-noise and low-emission municipal machines according to RAL-UZ 59.



Superb roadholding characteristics

The full-suspension chassis in combination with the ideally matched, air-sprung driver's seat guarantees optimal suspension comfort.

Perfectly adjusted

To ensure best possible working conditions for all drivers, whether tall or of shorter stature, the steering column can be infinitely adjusted for height and angle.



Changing attachments made easy: Our quick-change systems and the quick-coupling triangle provide easy and back-friendly changing of attachments without the need for tools.

More comfort at the workplace



Award-winning comfort

Our ergonomic machine concept comprising an adjustable comfort seat, our no-tools-needed quick-change system and a full-suspension chassis turns Citymaster and Multicar vehicles made by Hako into particularly back-friendly workplaces – certified and recommended by AGR (Aktion Gesunder Rücken e.V. www.agr-ev.de).



Designed with the operator in mind

Even the best machine is only as efficient as its operator. That's why Hako noticeably increases driving and operating comfort with ergonomic details such as individually adjustable steering columns, operating armrests with integrated functional elements and fully electric accelerator pedals with improved foot ergonomics. This is also confirmed by the AGR quality label awarded to the Citymaster 1650, 1650 ZE and 2250 as well as the Multicar M29.



Everything under control – with ease

Hako's 1-button operating system enables the driver to start the automated function sequences of even particularly complex machine configurations at the push of a button.



More energy

The USB port at the steering column allows the driver to charge his mobile phone while working to ensure constant availability in case of an emergency

Optimal temperatures

The hot-water and footwell heating ensures pleasant temperatures in the cab to provide comfortable working conditions even in the winter, and the optional air conditioning helps the driver to keep a cool head in the summer.



A strong basis for various applications

No matter what the season or the application or the surface, or whether the conditions change constantly or you need to consider specific regional circumstances: the machines of our Citymaster range master every task efficiently. And they are highly flexible. Because, in addition to carrying out professional sweeping tasks, they can be re-tooled and equipped with a wide range of different attachments and chassis-mounted equipment for any kind of seasonal application – 365 days a year, from efficient city cleaning to green area maintenance or winter service. That's what we call "One for All". And our customers put it like this: The optimal machine for every application.



Multifunctional working throughout the year: for example, with attachments providing efficient maintenance of green areas and swift re-tooling enabled by the quick-change system.



Your strong partner also in the cold season: with all-wheel drive and attachment devices providing safe winter service applications.

Citymaster

Sweepers with articulated joint or all-wheel steering – and additional benefits

One advantage after the other – for high effectiveness!

If you can hardly see or hear it, it's municipal technology at its best. Because it means that the machines carry out their tasks in a clean, rapid and efficient manner. The key factors are, for example, that the machines are as compact, manoeuvrable and flexible as possible while offering a high payload at the same time. Moreover, they need to be safe on the road and provide low-noise operation as well as lowest possible emission and consumption values combined with best possible dust control during sweeping. Hako's Citymasters offer you just that!



For even more efficient work results: cab with ergonomic comfort seats and consistent operating concept.

At a glance: the high-resolution colour display provides a good overview of the machine's current operating states and parameters.

Fast, easy, no tools needed: thanks to the quick-change system, the Citymaster can be re-tooled for the next job in no time at all.





Compact powerhouse – with multiple benefits

With a turning circle of only 1.20 m and compact dimensions, the Citymaster 400 can go almost anywhere – also because it can be transported from job site to job site on a trailer. No matter what tasks await the compact vehicle: The quick-change system and the wide range of available attachments and superstructures ensure the machine is quickly ready for use – for example, with a weed brush for mechanical, pesticide-free weed removal, with a snow plough or spreader for more safety on ice and snow, or with a sweeper unit or front sweeper to remove dirt and leaves.



Small but spacious: Ergonomic workplace design and well-thought-out details enable back-friendly, fatigue-free working.

Citymaster 400

The power of small



Clean sweeping: thanks to the hydraulically driven 2-broom sweeping unit and patented circulating water system.

Economical all year round: equipped with various attachments and superstructures for almost every seasonal task – for example, green area maintenance and winter service.

Small all-rounder, great potential

The Citymaster 400 brings genuine economic efficiency to a wide variety of outdoor areas. Its use is worthwhile even where shorter cleaning tasks occur regularly throughout the year. This is because even our smallest implement carrier is consistently multifunctional: The vehicle can be converted quickly and without tools for sweeping tasks, green area maintenance and winter service. And it is so compact, manoeuvrable and comfortable that the work becomes pure pleasure.

Bigger than you thought!

Despite its compact dimensions, comfort is a top priority on the Citymaster 400: with an optional air-suspended comfort seat, individually adjustable control armrest, full-suspension chassis with all-wheel drive and true-to-track articulated steering.



Technical data Citymaster 400	
Engine	Petrol, 24.2 kW
Vehicle drive system (type / formula / Vmax.)	Hydrostat / 4x4 / 0-25 km/h
Chassis, general	Full-suspension chassis with articulated steering
Interfaces/attachment points	Quick-change system / 3
Hydraulic system (power circuits)	2 / 48 l/min / 150 bar
Dimensions basic unit (L x W x H)	2,660 x 1,137 x 1,990 mm
Weight basic unit (GVW / payload)	1,850 kg / 665 kg
Sweeper: working width / Effective hopper capacity	1,550 mm / 450 litres
Driving licence	Class B, EC standard

The quick-coupling triangle enables simple, tool-free and back-friendly implement changes. Rear attachments can also be changed by just one person thanks to unique quick couplings.



Citymaster 650

The compact all-rounder



Compact, highly manoeuvrable, and economically efficient: for best results also on footpaths and in confined areas.

Freedom through flexibility

Working in the city comes with a wide range of different demands posed on Municipal Technology equipment – and these demands change with the seasons. The Citymaster 650 meets all seasonal requirements with its small vehicle width, directionally stable steering and a small turning circle ensuring excellent manoeuvrability in confined areas. In addition, the vehicle's multifunctional design ensures economically efficient use all year round.



The green area expert: equipped, for example, with an irrigation system for flower beds, bushes and trees, or a hedge trimmer.

The lawn specialist: equipped with different mowers and grass collecting systems, and a large universal hopper.

Flexible winter service applications: for example, with a front sweeper for reliable snow sweeping, or with slow blades and a snow blower for safe snow ploughing.

Sustainably on the road

The Citymaster 650 meets the emission limit requirements of the Stage V Exhaust Emission Standard. Clever details such as the energy-saving drive control system and three different performance levels reduce the machine's fuel consumption both in work mode and during road travel. When working in ECO mode, a standard feature which is not only good for the environment but also for applications in noise-sensitive areas, the Citymaster 650 works at 85 % of its maximum performance capacity and saves up to 40 % fuel.



The vehicle easily circumnavigates any obstacle: thanks to its compact dimensions, directionally stable steering and particularly small turning circle.



Quickly off to the next job site: on its own axles if the job is nearby, or transported on a trailer to cover larger distances.



Easy to change – comfortable, back-friendly changing of the hopper and different attachments via our quick-coupling system and a trolley.

Technical data Citymaster 650

Engine	Diesel, 25,5 kW
Vehicle drive system (type / formula / Vmax.)	Hydrostat / permanent all-wheel drive / 25 km/h
Chassis, general	Chassis with articulated steering, quick-change system for attachments
Hydraulic system (power circuits / l/min / bar)	2 / 66 / 195
Dimensions basic unit (L x W x H)	3,133 x 1,090 x 1,965 mm
Weight basic unit (GVW / payload)	2,200 kg / 770 kg
Driving licence	Class B



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Increased working comfort in all conditions: provided by our new 2- or 3-broom comfort sweeping technology.

Citymaster 1650

The multifunctional pro

Multifunctional all along the line

As a multifunctional implement carrier with a powerful, particularly efficient hydraulic work drive for the attachments, there are virtually no limits to the Citymaster 1650's range of applications. For example, in winter service. This means that the sweeper can be used all year round thanks to additional utilisation options.



Safe: the camera system widens the driver's viewing angle by 270°.

Improved ergonomics: extended seat options, foot pedals with improved ergonomics, steering wheel with two adjustment options.



Highly manoeuvrable: with the smallest turning circle in its class, the vehicle ensures excellent manoeuvrability.



Can easily reach the next level: the additional broom provides simultaneous cleaning on different levels.

Mowing-suction combi unit with universal hopper: mows lawns, maintains road-side greenery and works close to kerbs and edges on either side.

Powerful against ice and snow: the wide range of attachments available allows flexible adaptation to different snow and weather conditions.

Ergonomic, back-friendly, safe

The cab of the Citymaster 1650 offers an excellent workplace for the driver – independently certified and recommended by AGR! In addition, coil springs, shock absorbers and stabilisers as well as the vehicle's intelligent drive control and disc brake systems provide high levels of safety.

Technical data Citymaster 1650	
Engine	Diesel, 55,4 kW
Vehicle drive system (type / formula / Vmax.)	Hydrostat / permanent all-wheel drive / 40 km/h
Chassis, general	Chassis with hydraulic articulated steering, fully suspended with coil springs and shock absorbers, quick-change system for attachments
Hydraulic system (power circuits / l/min / bar)	2 / 102 / 225/195
Dimensions basic unit (L x W x H)	3,829 x 1,210 x 1,970 mm
Weight basic unit (GVW /payload)	3,500 kg / 1,465 kg
Driving licence	Class B

The benchmark in the 3.5-t class

The new Citymaster 1650 offers all the benefits and application options of a larger sweeper by taking full advantage of the Class B driving licence range – and the vehicle can also work on footpaths. Thanks to its directionally stable, articulated steering, the smallest turning circle in the 3.5-t class and permanent all-

wheel drive, the vehicle can access almost all areas. And what's more, a comprehensive range of new features provides increased working comfort, safety and efficiency – no matter whether the machine is used exclusively as a sweeper or as a versatile implement carrier for all-season municipal applications.



A strong team against weeds: the Citymaster 1650 equipped with Weeco M900 City – the perfectly matched superstructure for ecological and effective weed control with hot water.



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New energy for the driver

Even though we focussed on technological aspects when developing the Citymaster 1650 ZE, we wouldn't be Hako if we didn't think about the driver as well. Hence, the Citymaster 1650 ZE also convinces with its ergonomic workplace design – from the adjustable steering column and the comfort seat to the 1-button operating system integrated in the armrest, which controls all functions at just the push of a button.

Citymaster 1650ZE

The all-electric sweeper



Your ZE alternative: equipped with all-electric components, the Citymaster 1650 ZE makes your municipal fleet eco-friendly and future-proof.

Electric drive for the future

The Citymaster 1650 ZE stands for "Zero Emissions" in the 3.5-t class. As the first all-electric sweeper with additional benefits made by Hako, the Citymaster 1650 ZE guarantees reliably clean results and zero exhaust emissions. While noise pollution and fine particulate emissions are reduced to a minimum, the vehicle offers maximum efficiency, safety and user comfort.

Sufficient capacity for long operating times

Providing up to nine hours of working without recharging, the compact and highly manoeuvrable Citymaster 1650 ZE is well equipped for long running times and optimal work results – also on footpaths and in confined areas. Thanks to its top speed of up to 40 km/h, the Citymaster 1650 ZE can quickly travel from one job site to the next.

The new all-electric multifunctionality

All-electric sweeping, wet cleaning and light winter service: this is how the Citymaster 1650 ZE follows Hako's multifunctionality principle. Whether collecting light debris and leaves, scrubbing and removing particularly stubborn dirt or oil spills, or clearing roads and paths from small amounts of snow – the Citymaster 1650 ZE carries out a wide range of municipal tasks in all seasons.



Technical data Citymaster 1650ze	
Engine	All-electric / 50 kW
Vehicle drive system (type / formula / Vmax.)	All-electric via 2 rear-wheel motors / 40 km/h
Chassis, general	Chassis with articulated joint, quick-change system for attachments
Dimensions basic unit (L x W x H)	3,830 x 1,280 x 1,970 mm
Weight basic unit (GVW /payload)	3,500 kg / 770 kg
Driving licence	Class B

Pleasantly quiet

For applications in noise-sensitive environments: electric drive plus "silent brooms" for low noise values – also inside the cab.



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Clean results on all levels

When used as a sweeper, the Citymaster 2250's large 2-cubic metre dirt hopper is impressive in itself. Equipped with a 2 or 3-broom sweeping unit, the Citymaster 2250 easily cleans even difficult-to-access areas or traffic islands and multi-level surfaces. The circulating water system prevents dust from rising and ensures optimal dust control.



D = 2.52 m

Great performance, small turning circle: thanks to its compact dimensions and all-wheel steering.

Citymaster 2250

The large all-rounder



XXL performance

The Citymaster 2250 simply offers more in the 6-t class: more room and comfort for the operator, more safety and application options for more economic efficiency. Whether sweeping, wet cleaning or winter service: the multifunctional implement carrier with all-wheel steering convinces with heavy-duty, high-quality components

and professional functionality in any situation. Offering plenty of space with variable utilisation options, state-of-the-art air conditioning, intuitive operating elements and sophisticated safety features such as large windows and an intelligent wing mirror concept, the crash-tested cab has been designed to provide excellent user comfort.



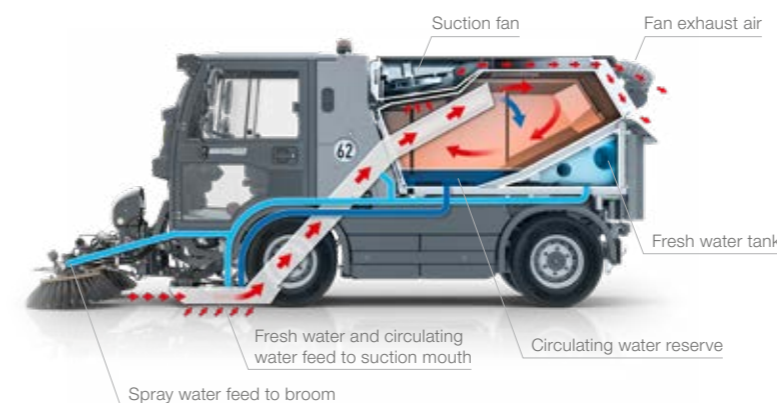
Made for the driver: different seat configurations – with or without storage compartments – not only provide variable utilisation options but also offer the driver significantly more space in the cab.

Provides excellent flexibility: equipped with a 2 or 3-broom sweeping unit, the Citymaster 2250 can access all areas.

For effective chemical-free removal and direct collection of weeds: the mechanical weed broom.

Accurate performance from collection to disposal

The broom sweeps dirt and debris in the path of the suction mouth, from where it is transferred directly into the dirt hopper. The hopper can be filled to 100 % to provide long emptying intervals. When finally filled to capacity, a remote control provides safe, uncomplicated and contact-free emptying and disposal.



Technical data Citymaster 2250

Engine	Diesel / 80 kW
Vehicle drive system (type / formula / Vmax.)	Hydrostat / rear wheel drive with optional differential lock / 62 km/h with rpm reduction
Chassis, general	Ladder frame chassis with hydraulic front wheel or all-wheel steering, fully suspended chassis with coil springs and shock absorbers, quick-change system for attachments
Hydraulic system (power circuits / l/min / bar)	2 / 90 / 200
Dimensions basic unit (L x W x H)	3,974 x 1,330 x 2,054 mm
Weight basic unit (GVW / payload)	6,000 kg / 2,680 kg
Driving licence	Class C/C1/C1E // Class B/L as work machine 25 km/h





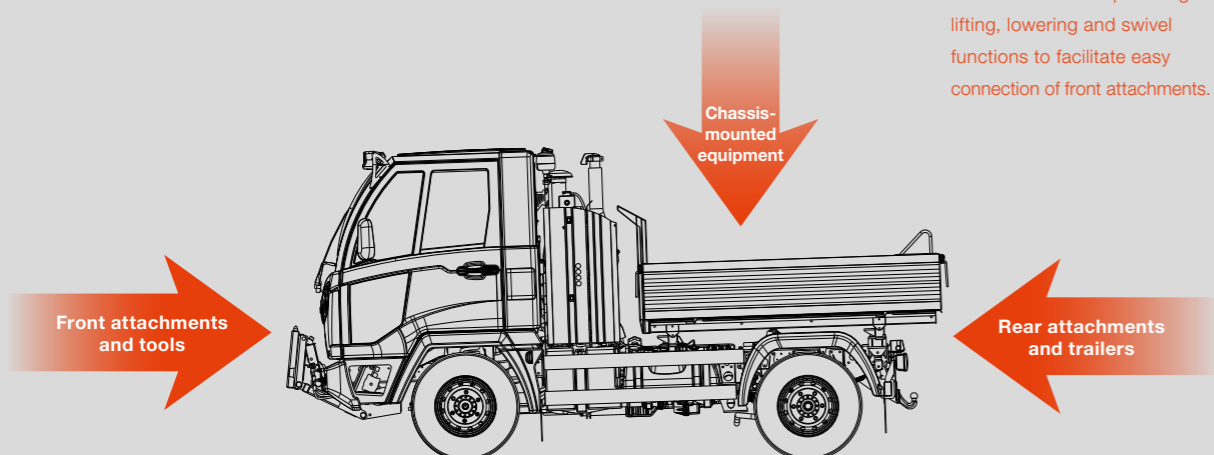
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Multicar

Multifunctional load- and implement carriers

365 days, countless applications – only one vehicle

Sweeping in the spring, green area maintenance in the summer, collecting leaves in autumn, providing winter service in the cold season, or carrying out different transport tasks throughout the year – thanks to the interfaces suitable for universal use, the Multicar can easily be re-tooled for every application. A wide range of different attachments, driven by either the powerful on-board hydraulic or electrical systems, can be connected to the vehicle with effortless ease. Our customers decide what they want their Multicar to look like. We will be happy to assist you in finding the right solution for your individual needs.



The basis for multifunctionality is our quick-change system – for example as a front lift with attachment plate according to DIN EN 15432-2 providing lifting, lowering and swivel functions to facilitate easy connection of front attachments.

Everything in view, all under control: centrally arranged operating elements and displays ensure both ease-of-use and short response times.

Made for the operator: adjustable seats, height-adjustable safety belts as well as an adjustable steering column – all very practicable features, especially when the vehicle is often operated by different drivers.

Optimal functionality at the push of a button: the buttons to operate, for example, the differential lock, all-wheel drive or crawler gear are all within easy reach.



- Green area maintenance
- Sweeping
- Winter service
- Wet cleaning
- Waste management
- Transport
- Road maintenance
- Special applications
- Waterjet technology
- Weed control



Multicar M29

Multicar M31 Euro VI-E

Multicar M31 Euro VI-E Hydrostat

Only a Multicar can do that

Three basic models are available to meet the highest demands in terms of comfort, safety, robustness and efficiency: ranging from compact and manoeuvrable to extremely powerful and professional, and equipped with our unique Hydrostat-ABS, ESC and independent suspension at the front axle. Both the Multicar M29 and M31 models comply with the strict ECE guidelines regarding occupant protection and high-quality braking systems, which have even obtained EC type approvals. No matter which model you choose: it's always the right one.



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Sufficient space for maximum performance

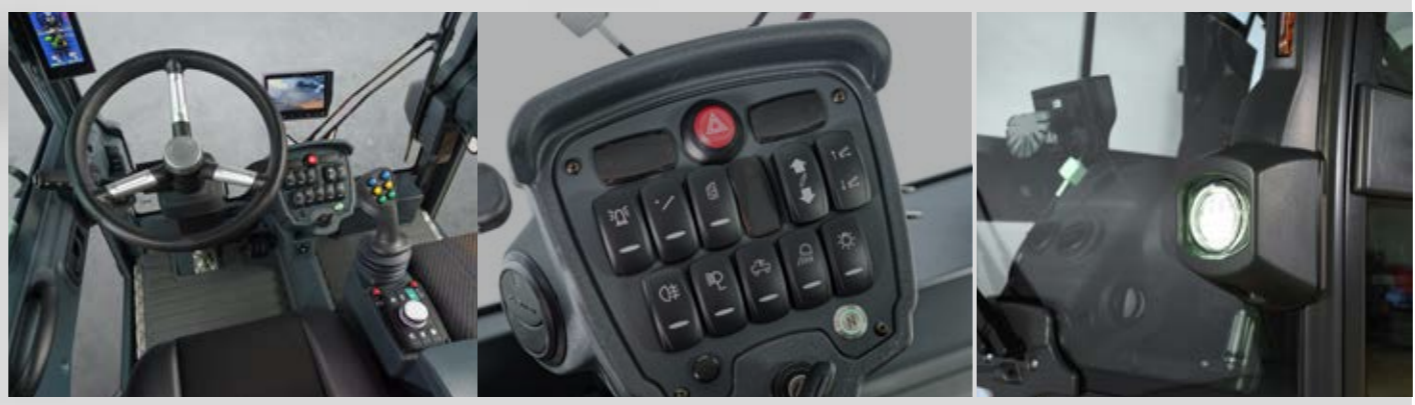
A width of only 1.33 m and a turning circle of only 3.25 m enable the Multicar M29 to be used on narrow roads, farm tracks and cemeteries. The vehicle can handle payloads of up to 3.2 t. When going steeply downhill, the hydrostatic drive with variable hydrostatic braking force protects the service brake. An advantage on uphill gradients as well: By means of mechanical reduction, the working speed can be precisely adapted to the tasks, freeing up additional tractive power reserves.

Ease-of-use: all of the machine's functions as well as the hydrostatic drive are easily and centrally controlled via a joystick.



Multicar M29

The compact all-rounder



High payload, little effort: quick installation of chassis-mounted equipment.



The machine has the excellent manoeuvrability of a lorry implement carrier – and gets you around every corner easily thanks to all-wheel steering.



Economical in use – and quickly off to the next job site with a top speed of 62 km/h: the Multicar M29.

More freedom of movement: in the spacious cab with customisable passenger area.

The easily accessible controls and intuitive operating logic increase user-friendliness and working comfort.

The standard full LED lighting optimally illuminates the working area at any time of day.

Great performance in all seasons
 No matter what the seasonal challenge: Thanks to its modular concept, the multifunctional narrow-gauge implement carrier Multicar M29 masters any task with extreme flexibility. And it does so with the highest level of safety – oriented to the high standards that also apply to the construction of trucks. The vehicle's large driver's cab, for example, offers maximum occupant protection, which has been confirmed in safety tests according to ECE R 29 by DEKRA. All-wheel drive, disc brakes, a new type of hydrostatic ABS and heavy-duty axles are also part of the safety concept – for stable driving and braking behaviours in every situation, confirmed by tests according to ECE R 13.

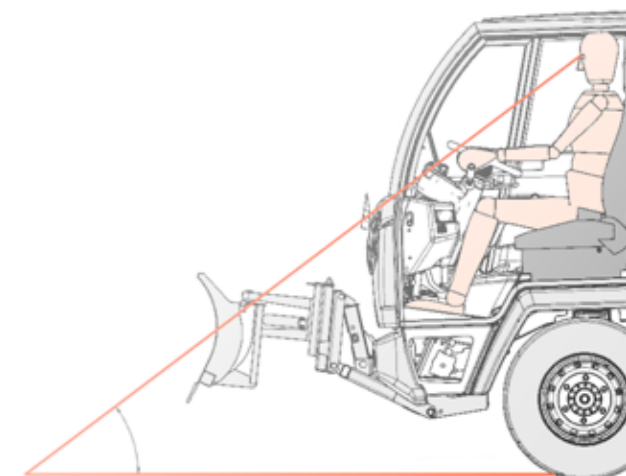


Technical data Multicar M29	
Engine (type / output / exhaust gas cleaning system)	Diesel, 80 kW / DOC, DPF, SCR
Engine drive (type / formula / Vmax.)	Hydrostat / 4x2 (4x4) / 62 km/h
Exhaust emissions (standard)	EURO VI, stage E
Attachment docking system	front lift (attachment triangle / plate), tilt cross member, rear mounting frame, rear power lift
Work hydraulics	up to 2 work circuits (max. 110 l/min at 300 bar)
Dimensions basic vehicle (L x W x H)	3,955 x 1,330 x 2,090 mm
Weight basic vehicle (GVW / payload max.)	6,000 kg / 3,200 kg
Driving licence	Class C/C1/C1E



Great performance in open terrain

Multifunctionality, economic efficiency and dynamics in a compact form: With a total towing weight of up to 7.5 t, variable, powerful hydraulics, three attachment points for countless implement combinations and a top speed of 90 km/h, the Multicar M31 is just as powerful a partner in the winter as it is in the spring, summer and autumn. The version Multicar M31 Hydrostat with hydrostatic drive and unique Hydrostat-ABS is a particularly safe option when it comes to working in slippery, uneven terrain. Two different driving modes and a mechanical crawler gear ensure that the vehicle always works at optimum speed.



More space, a better view, increased safety: in the ergonomically designed space-frame cab with panoramic windscreen and integrated sun-glare filter.

Multicar M31 / M31 Hydrostat

The full-fledged powerful pro



Snow fighter: efficient clearing of roads and paths.

Quickly re-tooled: efficient weed control with superheated steam.

Versatility only a Multicar can offer: from cleaning pits, manholes and sewers to common tasks such as green area maintenance to repair work on lifting platforms.



Increased loading capacity, more room: the Multicar M31 is also available with a long wheelbase.

Sustainable for better air quality

The Multicar M31 redefines performance in the 6-t class by setting new standards: With its fuel-efficient turbo diesel engine, various exhaust gas purification systems such as a diesel oxidation catalytic converter, SCR-coated diesel particulate filter and second SCR catalytic converter, it fully complies with the Euro-VI-E standard for lower exhaust gas values without sacrificing performance! This makes municipal use even more sustainable and future-proof.

Comfortable workplace

Comfortable working increases efficiency – this is why we have integrated a number of comfort features into the Multicar M31 as standard: from the smooth power steering to the spring-mounted independent spiral suspension and the ergonomic comfort cabin with individually adjustable seats and practical storage compartments in the doors and centre console.



Optimised drive, maximum braking power: an innovative Hydrostat ABS providing additional safety during braking is integrated in the model Multicar M31 Hydrostat. And the hydrostatic drive enables smooth but swift starting and infinitely variable propulsion.

Technical data Multicar M31 / M31 Hydrostat	
Engine (type / output / exhaust gas cleaning system)	Diesel / 110 kW (Hydrostat: 108 kW) DOC, DPF, SCR
Engine drive (type / formula / Vmax.)	5-gear / 4x2 (4x4) / 90 km/h (Hydrostat: 4x2 (4x4) / 70 km/h)
Exhaust emissions (standard)	EURO VI, Stage D
Attachment docking system	front lift, ball coupling system, rear brackets
Work hydraulics	up to 2 work circuits (max. 110 l/min at 300 bar)
Dimensions basic vehicle (L x W x H)	4,115 (4,660) x 1,630 x 2,200 mm
Weight basic vehicle (GVW / payload max.)	5,600 kg / 3,100 kg
Driving licence	Class C/C1/C1E



view.X.live contains all data and information recorded by view.X. In addition, all operation-relevant data of your fleet of machines is transmitted "live" and then visually processed in the web portal. This information enables optimal machine and vehicle management.

- Real-time recording of operating hours
- Remote access to the machine
- Notification when service or maintenance intervals have been exceeded
- Live notification about machine availabilities through service and event codes
- Alarm function for periodic inspections/ maintenance tasks



Operations Centre Smartphone:
Your machine data – accessible at all times.

Hako-Fleet-Management

Optimise your resources

The larger the number of machines in your fleet, the more important is a good overview of all relevant machine data in order to guarantee economically efficient operation of your fleet. Hako-Fleet-Management provides fully automatic transparency across the entire fleet – as a database for optimal machine use and cost management. The digital tool consists of the module view.X or the version view.X.live equipped with additional functions, as well as the optional extension modules entry.X and data.X.







view.X supports economically efficient utilisation and management of your fleet. All evaluations are available online 24/7, and are easy to retrieve thanks to the tool's intuitive user interface.

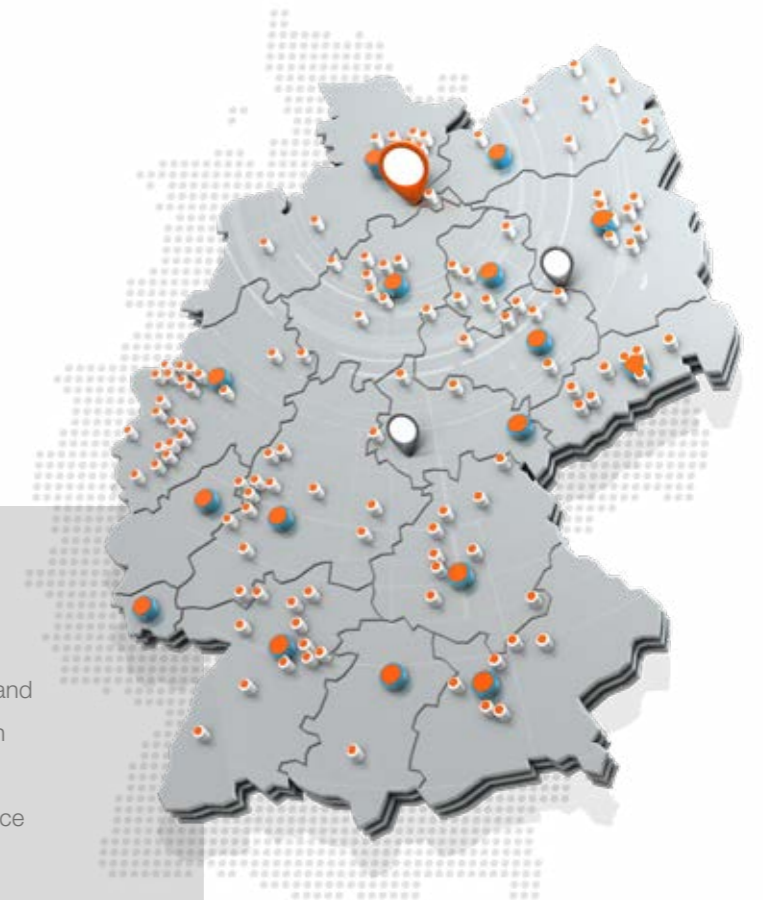
- Cost/budget management including comparison of budget figures with actual figures
- Service and maintenance history management
- At-the-glance overview of your fleet of machines
- Excel export including information on costs and operating hours
- Display of corporate organisational structures
- Contract data maintenance
- Pre-setting of recurring appointments
- E-mail notification in the event of changing machine conditions
- Service requests can be made (and traced) directly from the portal
- Transmission of service codes and machine status to regional field technicians when required



Depending on individual requirements in the field of municipal technology, the system's scope of services can be expanded with the third-party interface data.X, which enables local access to the machine's raw operating data.



-  Company Headquarters
-  Production sites
-  Subsidiaries and authorised dealer
-  Authorised regional dealer and service partner



Machine availability: 100%!

Our top services ensure that your machines perform optimally at all times. We offer you individual services and tailored maintenance agreements that provide you with maximum security – and in the event of minor faults, a Hako service professional with a fully equipped service vehicle is quickly on site.

Economically profitable cleaning

Buying? Renting? Leasing? Hako Finance offers clients interesting customised options to finance their machines. Our procurement alternatives include special financing models that are optimally adapted to suit both seasonal and project-based requirements. Or all-inclusive solutions offering financing, maintenance and insurance all from a single source. Yet another clean solution made by Hako.



Our comprehensive network of authorised service partners: always close to our customers throughout Germany.



Leasing options – customised to meet individual customer requirements.

Rental contract ALL-IN-plus: financing, maintenance and insurance included!

Hire-purchase – customised monthly payments in line with your liquidity.

Adapt your rental payments to your seasonal earnings.

Service you can rely on

Our sales & service organisation is one of our greatest assets. We are always in your close vicinity with qualified expert advice and reliable services. Regular maintenance and repairs are carried out exclusively by experienced and trained service technicians in modern workshops in our subsidiaries, at our authorised dealers and at authorised Hako service partners. For maximum availability through minimum workshop visits.



Fits perfectly: we guarantee overnight delivery of precision-fit original Hako spare parts for your machines.

Hako



For a clean future

To ensure that our solutions meet the increasing demands for sustainability, we are constantly developing them further: in dialogue with our users, closely oriented to current trends, and by taking into account the requirements of the future. That is why we are constantly driving our research and development in the direction of efficiency-increasing and even more environmentally friendly measures as well as important future topics – for example, electromobile solutions in Municipal Technology or digitalised processes.

Far ahead even today

Taking more responsibility for the environment: due to their low emission values and minimal noise levels, our vehicles can work also in environmental zones and other sensitive areas.



We are also active in the field of Cleaning Technology and Waterjet Technology

The requirements for professional indoor and outdoor cleaning are just as extensive as the options we offer our customers: from sweepers and vacuum sweepers to scrubber-driers and combination machines to efficient waterjet technology for use in industry and commerce.

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BLUECOMPETENCE
Alliance Member

Partner of the Engineering Industry
Sustainability Initiative

Blue Competence is an initiative of VDMA (www.vdma.org). By engaging in this partnership, we are committed to comply with the twelve sustainability principles applied in the field of mechanical and system engineering (www.bluecompetence.net/about).

In the interest of further technical development we reserve the right to colour-, structural or design modifications. Pictures may show optional equipment. The range of available products and services may vary from country to country.