



ROTATING Telehandlers

ROTO 40.16 S
ROTO 40.18 S
ROTO 50.21 S-PLUS
ROTO 50.26 S-PLUS

ROTO 50.30 S-PLUS
ROTO 50.35 S-PLUS
ROTO 70.24 S-PLUS
ROTO 70.28 S-PLUS

 **MERLO**



Index

Merlo Group.....	3
Roto Range.....	4
Merlo Technologies	
• Safety	6
• Performance.....	8
• Comfort.....	10
• Efficiency.....	12
Range	
• ROTO 16-18.....	14
• ROTO 21-26.....	16
• ROTO 24-35.....	18
Attachments.....	20
Services.....	20
Technical characteristics.....	21



Merlo: Technological leader in operating machines

Merlo is an important family-run industrial group founded in Cuneo in 1964 that designs, produces and markets its own products under the "Merlo" and "Treemme" brands.

People and the territory are at the centre of the project; the Merlo Group is committed to respecting the environment and making the work of the operator (and everyone who is passionately dedicated to constantly improving the efficiency and performance of our products) more functional, safe and comfortable.

The product portfolio consists of a complete range of telescopic handlers, both fixed and rotating, DBM self-loading concrete mixers, Treemme municipal and forestry tool carriers and Cingo multi-purpose tracked transporters.

All products in the Merlo range are characterised by innovation, technology and reliability, which have always been distinctive features of the Group and have gained market confidence.



ROTATING TELEHANDLERS: The highest productivity on the market



Great innovations start with simple ideas, like that of the ROTO range, which has radically changed the world of telehandlers with the introduction of a revolving turret system capable of rotating 360°, with no need to reposition the machine. The ROTO Range was launched in 1991, and from that moment onward this new telehandler concept became increasingly popular on a global scale, rendering Merlo Group an industry leader.

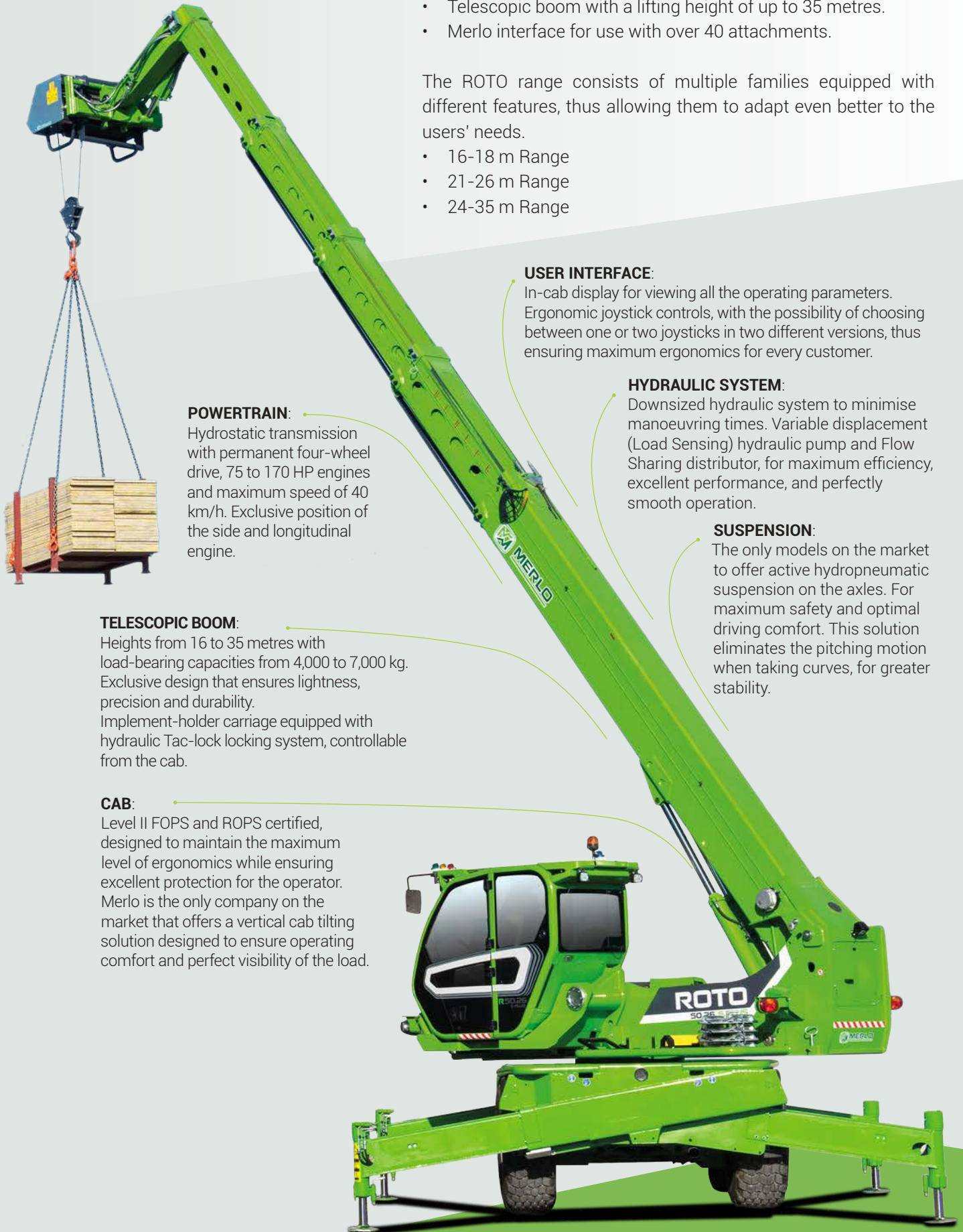
Unrivalled productivity

The Roto models are designed to provide maximum ergonomics and ease of use. Intended for the construction sector, they stand out for their unrivalled productivity and versatility of use.

- Frame equipped with on/off or multi-position stabilisers.
- Rotating turret for positioning loads at 360°.
- Telescopic boom with a lifting height of up to 35 metres.
- Merlo interface for use with over 40 attachments.

The ROTO range consists of multiple families equipped with different features, thus allowing them to adapt even better to the users' needs.

- 16-18 m Range
- 21-26 m Range
- 24-35 m Range



POWERTRAIN:

Hydrostatic transmission with permanent four-wheel drive, 75 to 170 HP engines and maximum speed of 40 km/h. Exclusive position of the side and longitudinal engine.

TELESCOPIC BOOM:

Heights from 16 to 35 metres with load-bearing capacities from 4,000 to 7,000 kg. Exclusive design that ensures lightness, precision and durability. Implement-holder carriage equipped with hydraulic Tac-lock locking system, controllable from the cab.

CAB:

Level II FOPS and ROPS certified, designed to maintain the maximum level of ergonomics while ensuring excellent protection for the operator. Merlo is the only company on the market that offers a vertical cab tilting solution designed to ensure operating comfort and perfect visibility of the load.

USER INTERFACE:

In-cab display for viewing all the operating parameters. Ergonomic joystick controls, with the possibility of choosing between one or two joysticks in two different versions, thus ensuring maximum ergonomics for every customer.

HYDRAULIC SYSTEM:

Downsized hydraulic system to minimise manoeuvring times. Variable displacement (Load Sensing) hydraulic pump and Flow Sharing distributor, for maximum efficiency, excellent performance, and perfectly smooth operation.

SUSPENSION:

The only models on the market to offer active hydropneumatic suspension on the axles. For maximum safety and optimal driving comfort. This solution eliminates the pitching motion when taking curves, for greater stability.



FOPS PROTECTION



A metallic structure positioned on the glass roof provides for one of the most stringent certifications available in terms of protection: FOPS level II. This certification guarantees:

- Perfect comfort in the cab
- Excellent visibility of the load
- Protection for the operator and the glass roof

SAFETY

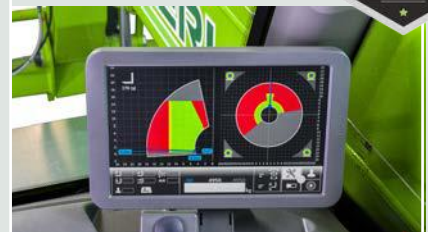


The exclusive Merlo cab is compliant with the ISO 3449 FOPS Level II and ISO 3471 ROPS standards, thus ensuring category-leading safety levels.

Merlo's patented ASCS (Adaptive Stability Control System) is capable of recognising the attachment being used and measuring the magnitude of the load being handled, in order to maximise the speed of the hydraulic movements without any risks to the operator's safety. Customers can simultaneously check all the operating parameters in real time, and see at which point the safety system will intervene by slowing down and stopping any problematic movements.

Machine safety is enhanced by an automatic parking brake management system, which brakes the machine if the engine switches off in order to avoid unintentional movements.

ASCS



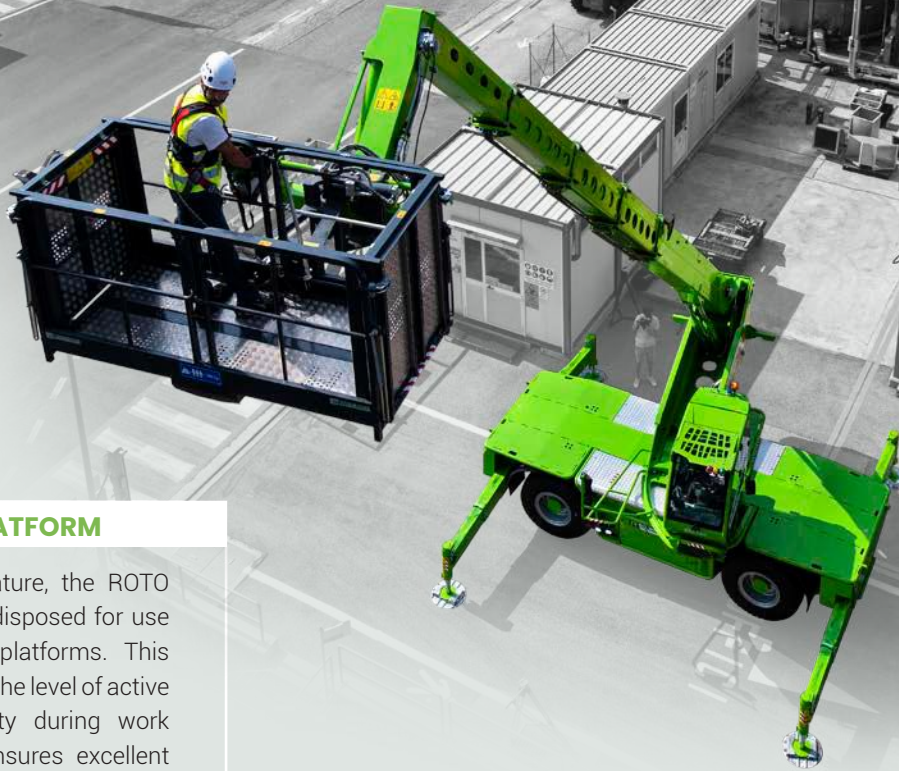
The ASCS system allows the operator to set the speed of the hydraulic movements and to manage the geometric limits within which the boom can be operated in complete safety. There are even up to 6 different setups available.

MERLO BOOM



Boom consisting of a double "C" profile in high-strength steel with welds made along the neutral bending axis. Hydraulic hoses and electrical wires positioned inside the boom with a "cartridge" system, to protect against any possible impacts and easy extraction in case of maintenance. The L-shaped runner blocks are made of composite material to maximise efficiency and reduce impact and wear on the sliding surfaces. The Merlo boom solution can offer:

- High accuracy with millimetric precision of movement control
- No bending of the structure
- Protection of the components and hoses against impacts



AERIAL WORK PLATFORM

As a standard feature, the ROTO models are all predisposed for use with aerial work platforms. This solution increases the level of active and passive safety during work at heights, and ensures excellent machine versatility.

SELF-STABILISATION

With the self-stabilisation device, which comes standard on all ROTO models, the operator can simply press a button to initiate the machine's automatic frame stabilisation and tilt correction procedure.

This solution:

- Reduces setup times
- Maximises operational safety
- Simplifies the machine's use



FRAME

Compared to market standards, the frame is characterised by small dimensions, allowing to minimise the overall floor space occupied by the machine. Furthermore, it is equipped, on the outside, with an exclusive steel belt (made from a steel section bar). Designed to maximise structural strength and ensure excellent torsional strength, the underside of the body is completely secured by steel sheets, in order to protect all components from possible impacts during off-road driving.





PERFORMANCE

The next generation hydrostatic transmission, with full-time four-wheel drive, guarantees:

- Excellent braking capacity when the accelerator is released.
- High levels of power and torque to the wheels.
- Unparalleled ease of use.

These models feature engines with power ratings ranging from 75 to 170HP, which, in accordance with the original Merlo design concept, are installed in a longitudinal direction on the right side of the frame to ensure maximum accessibility to the components during maintenance operations.

The hydrostatic transmission guarantees high performance, millimetric precision, and excellent braking capacity, by increasing the engines' "engine braking" effect.

SUSPENSION AND LEVELLING

The exclusive electronically controlled active suspension eliminates pitching and dampens the roughness of the ground, ensuring excellent comfort with an effective top speed of 40km/h (not available anywhere else on the market).

The suspension provides for excellent versatility at the work site:

- Locking of the axles for maximum stability
- Levelling correction to compensate for transverse and longitudinal slopes, thus ensuring optimal performance
- Adjustment of the angle of attack and exit, for maximum ease of handling



AXLES

The axles, which are manufactured by Merlo Group in-house, are designed to enhance each model's distinctive characteristics, and are equipped with dry disc brakes to maximise braking capacity and to minimise the machine's consumption levels.



HYDRAULIC SYSTEM

The only models on the market equipped with two separate circuits for Hydraulics and Hydrostatics. The hydraulic circuit offers two possible configurations:

- Load Sensing pump and Flow Sharing distributor; up to three simultaneous movements without any problems for the operator, with an oil flow rate of up to 138 l/min.
- Double Load Sensing pump and Flow Sharing distributor; up to four simultaneous movements, for even better performance levels. For a flow rate of up to 260 l/min.

In order to improve versatility and performance, the machines come equipped with continuous proportional oil delivery as a standard feature.



CVTRONIC



Merlo's continuously variable CVTronic smart transmission combines the advantages of hydrostatic transmissions with the same performance and yield as a traditional CVT system. Compared to a conventional hydrostatic transmission, the CVTronic provides:

- A 12% increase in torque
- Reduced consumption thanks to its excellent efficiency
- Ease of use, thanks to the elimination of gear changes.





COMFORT

Acoustic and thermal comfort has also been taken care of down to the smallest details, thanks to intensive research into the most innovative technical solutions and materials. The maximum noise levels inside the cab are compliant with the UNI 12053 standard, with a record reading of just 69dB(A). In terms of environmental performance, the entry of dust into the passenger compartment is prevented thanks to the cab's ISO 10263-3 compliant pressurisation*.

The Merlo cab is also an extremely comfortable and practical workplace, thanks to the following features:

- 1,010 mm width and excellent roominess
- Large glass surface of 4.3 sq. m
- Vibration-damping Silent-blocks, which reduce noise and vibrations

Finally, operator comfort is further improved thanks to the air suspension seat with a raised backrest.



NOTES:

* pressurisation level not approved for use of pesticides, work in hazardous environments, with asbestos, etc.

CAB



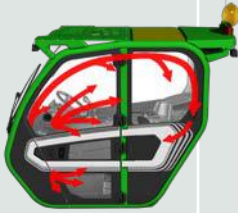
An unprecedented design guarantees maximum functionality and comfort; the information provided to the driver and the controls of the various systems and devices are grouped for optimal ergonomics. The reverse shuttle on the steering wheel is also present on the joystick.

- 1 ASCS display
- 2 Armrest controls
- 3 Steering wheel and transmission controls
- 4 Transmission display
- 5 Pedal control unit
- 6 Accessory compartment and air conditioning controls

AIR-CONDITIONING

Developed according to automotive standards, cutting the warm-up and cool down times in half.

The intake opening is located on the side of the cab, away from any potential sources of dust and dirt. Inside there are 8 vents, three of which are dedicated to defrosting the windscreen, for optimal climate comfort.



CAB ENTRY

Simple and straightforward cab entry; the door can be opened by 180°, and the upper part of the window can be locked during opening to facilitate air exchange and direct contact with those working outside.



SMART ARMREST



In order to guarantee maximum ergonomics and ease of use, the machine's main operational commands are present on the armrest:

- Stabilisers
- Auxiliary hydraulic controls
- Suspension
- Steering, braking and transmission management

Based on the customer's needs, it's even possible to change the joystick type, and to install a second joystick on the left armrest.



UNIQUE ON THE MARKET

TILTING CAB

The exclusive Merlo cab tilting system ensures greater levels of comfort, ergonomics and safety. By pressing the dedicated button, the operator can engage the system to tilt the cab vertically up to 20°.



UNIQUE ON THE MARKET

ACCESSIBILITY

The chassis is completely walkable. This solution, combined with the ladder applicable to the chassis itself, allows the user to climb on and off the vehicle in any situation, thereby facilitating the work processes.





EFFICIENCY

The most compact and lightweight models on the market. Excellent manoeuvrability is ensured by the 4-wheel steering system and the three steering modes, reducing manoeuvring times for decreased fuel consumption.

- Less space manoeuvring needed
- Greater productivity
- Less impact on the ground and less fuel consumption

In order to facilitate the management of the attachments, all the models feature a double-acting hydraulic service line and an electrical socket for machine-implement communication located at the top of the boom.



VISIBILITY

Efficient manoeuvring and complete customer safety are guaranteed thanks to the best visibility available on the market. The boom position, bonnet design, and ample glass surface ensure fast, safe and precise operations.



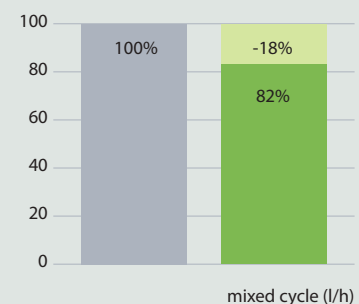
EPD



The exclusive and innovative EPD (Eco Power Drive) transmission and engine control system. The EPD controls and adjusts the engine speed based on the operating conditions, for a reduction in fuel consumption of up to 18%. The EPD also provides for the control of the engine speed proportionally to the use of the joystick (the greater the inclination of the joystick, the greater the engine revolutions). Functionality optimised for material handling.

DECREASED FUEL CONSUMPTION

Merlo EPD technology



■ traditional technology
■ EPD



THREE STEERING WAYS

This exclusive solution adopted on the axles guarantees the maximum steering angle to perform manoeuvres in confined spaces.



front wheel steering



pivot steering



crab steering

TAC-LOCK

The Tac-lock is an implement-locking device that can be hydraulically controlled from the cab. This solution makes it extremely quick and easy to change attachments.



BATTERY SWITCH



As a standard feature, the telehandlers in this range come equipped with an electric and automatic battery switch to improve the efficiency and life of the batteries. Removing the key from the ignition switch starts the process of disconnecting the machine's electrical circuit. With the circuit off, simply insert the keys into the control panel again to reactivate the batteries.

MACHINE MOVEMENTS

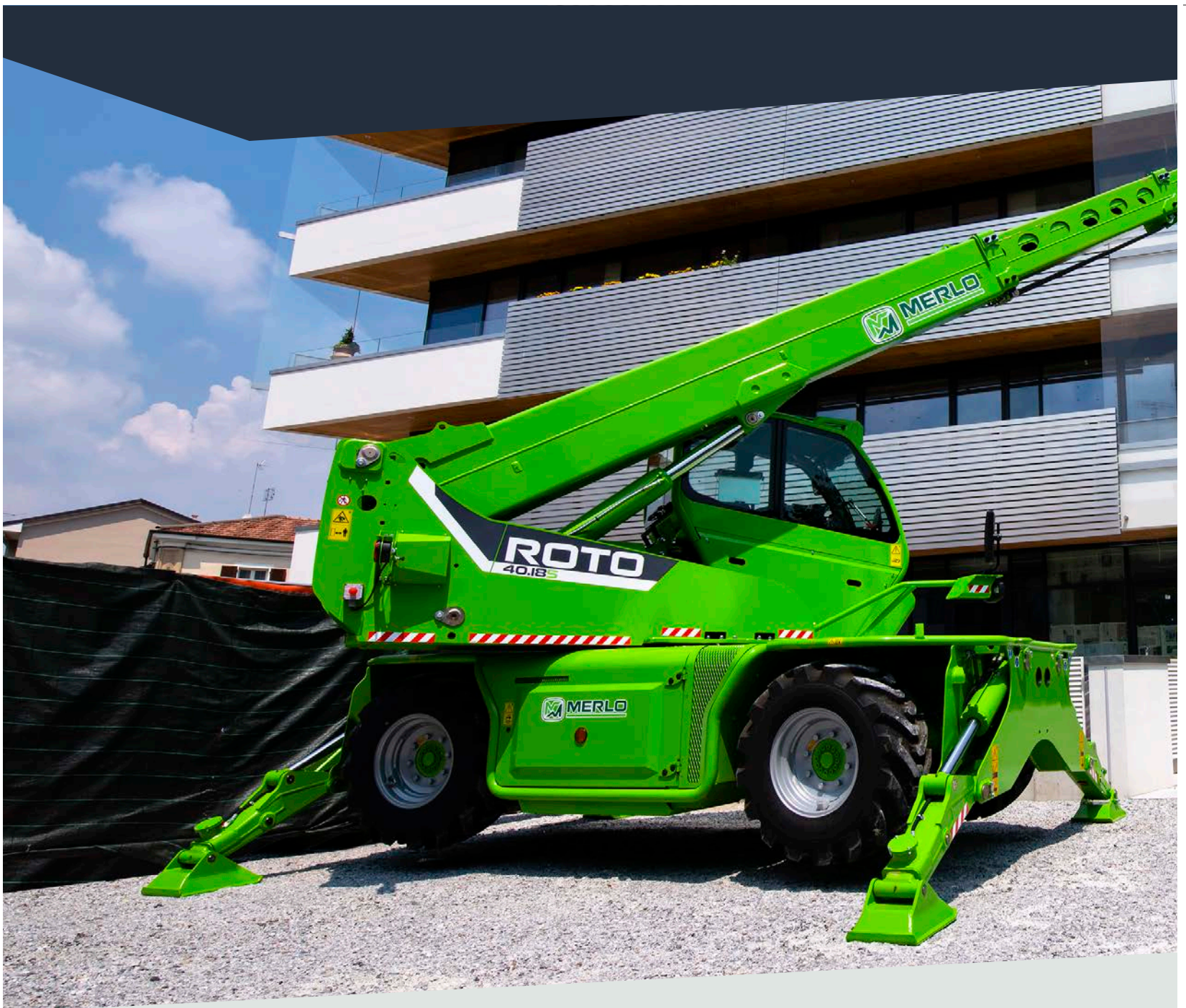
In order to reduce the machine setup times and facilitate the use of the vehicle at the work site, the machine can be moved with the turret rotated, even with the stabilisers partially or completely extended. In this case, the maximum speed is limited to 5 km/h to ensure maximum safety.



STABILISERS



Models with lifting heights greater than 20 metres are equipped with stabilisers that can be positioned with any extension, in order to adapt the stabilisation layout to the available work area.



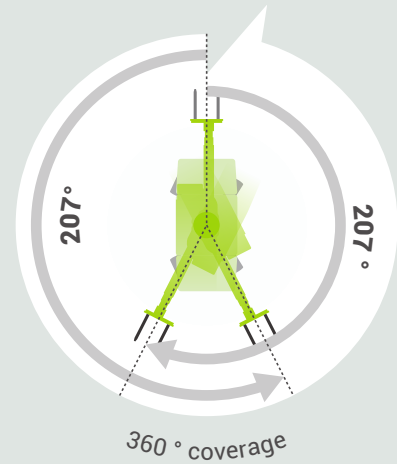
ROTO 16-18

The ROTO 16-18 models represent the “entry level” range of telehandlers with rotating turrets.

These models' most salient features include:

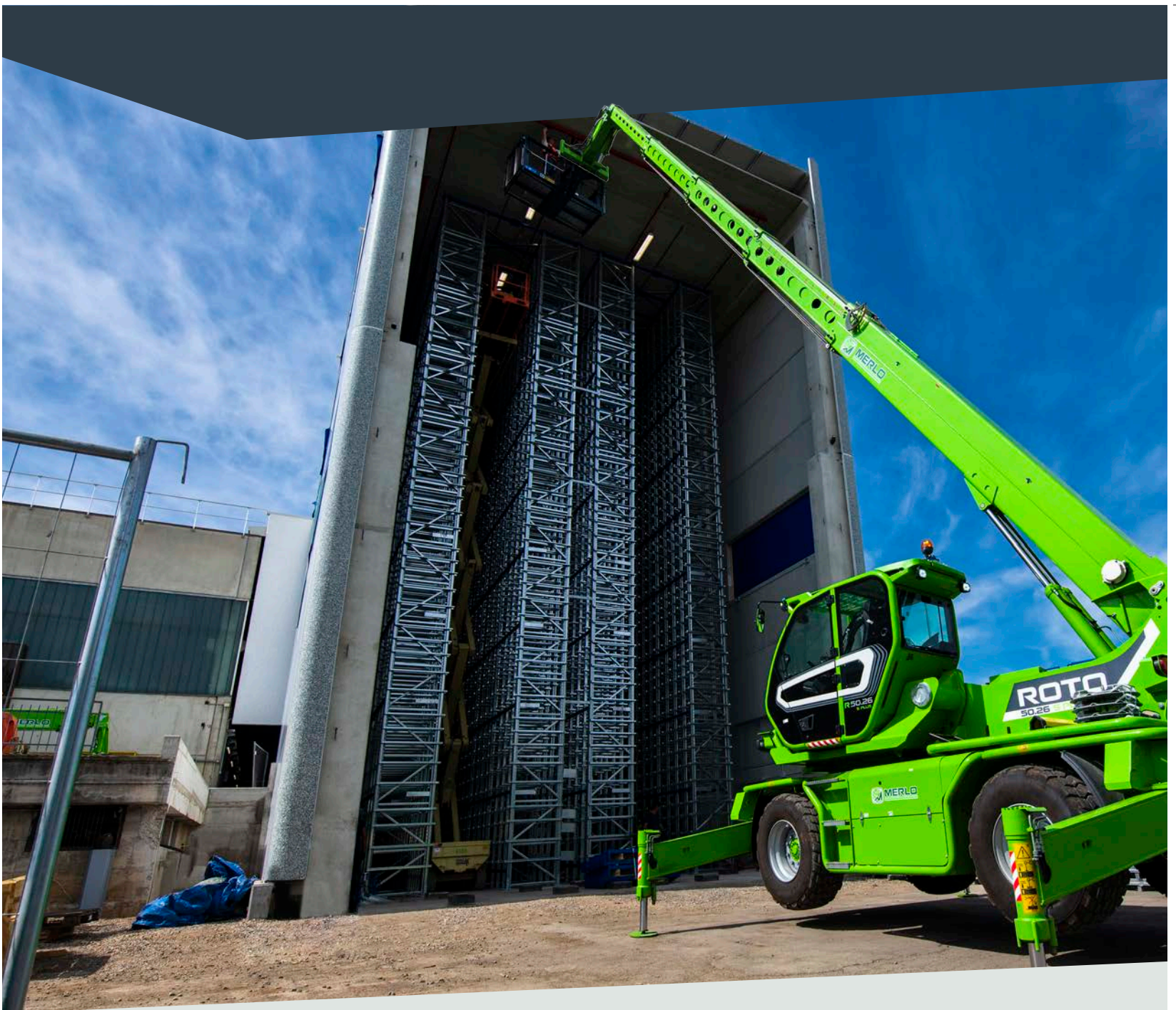
- More compact sizes in the Rotating range
- Turret capable of rotating up to 415°, just over 207° in each direction of rotation
- Easy-to-use fold-out stabilisers for reduced stabilisation time.

A maximum capacity of 4,000 kg, with maximum lifting heights of 16 to 18 metres, depending on the model.



• S Version

The ROTO40.16S and ROTO40.18S models are equipped with the exclusive active hydropneumatic suspension, which, combined with the 90kW/122HP engine, guarantees a maximum speed of 40km/h, thus reducing transfer times and maximising machine performance, all without compromising on fuel consumption.



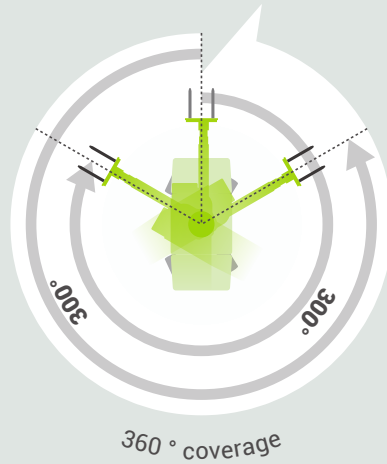
ROTO 21-26

The 21-26 models are available in three distinct versions: ENTRY, S and SPLUS. They're the world's best-selling range of telehandlers with rotating turrets.

These models' most salient features include:

- Excellent size-performance ratio.
- Turret capable of rotating 600° or continuously, always positioned within the area occupied by the stabilisers.
- Multi-position stabilisers capable of being operated from any position, from "flush" closure to full extension.

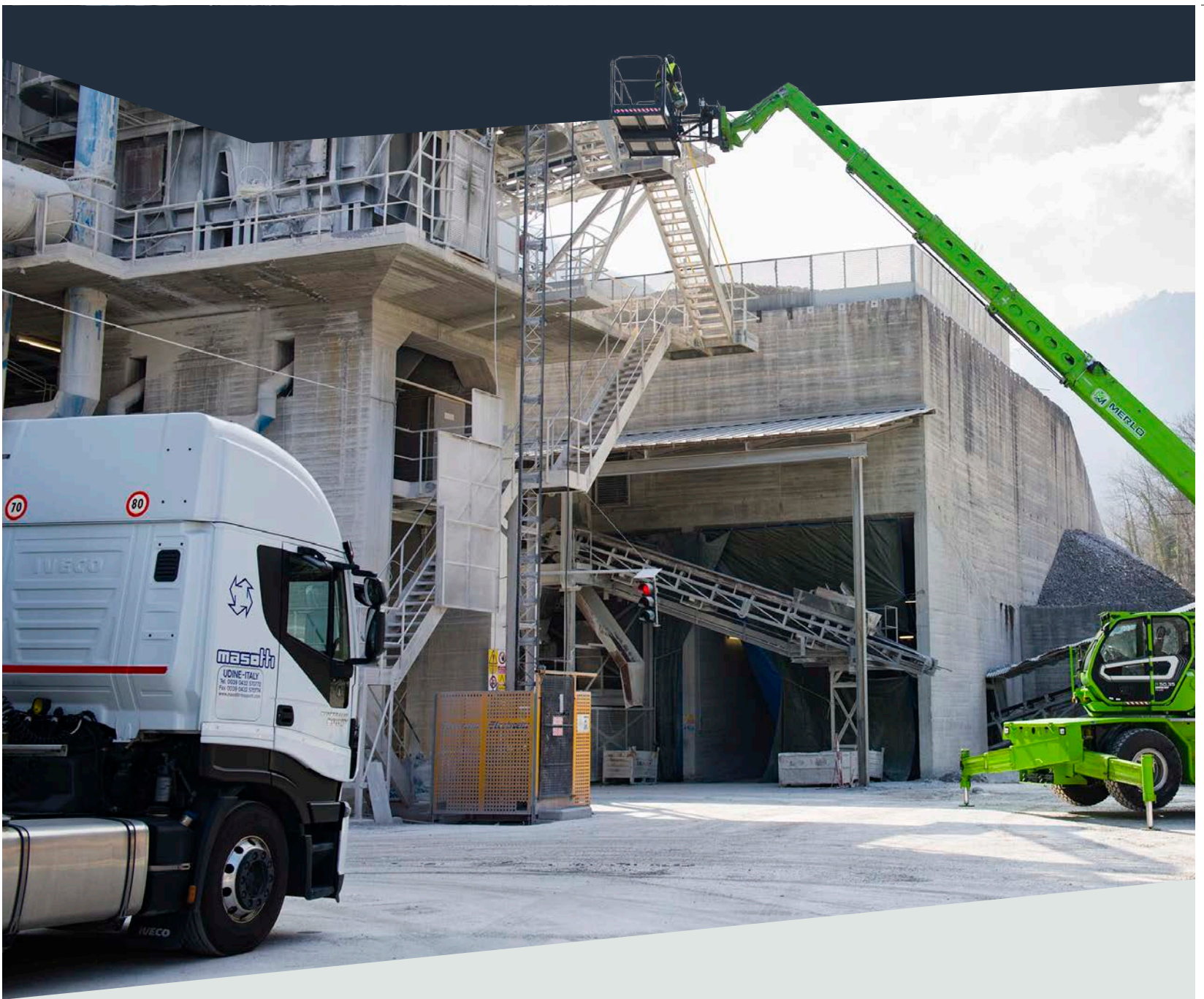
A maximum capacity of 5,000 kg, with maximum lifting heights of 21 to 26 metres, depending on the model.



• **S-PLUS Version**

The models ROTO50.21S and ROTO50.26S have been developed to offer even the most demanding operators the highest levels of technology in terms of efficiency, performance and versatility of use. This range combines all the potential of the S models with unique and exclusive features, including:

- Hydraulic system with double variable displacement Load Sensing pump.
- Large cab equipped with Merlo's patented vertical tilting system
- Safety system enhanced with additional sensors for recognising the carriage rotation angle and the precise position of each stabiliser, in order to guarantee the best possible performance.

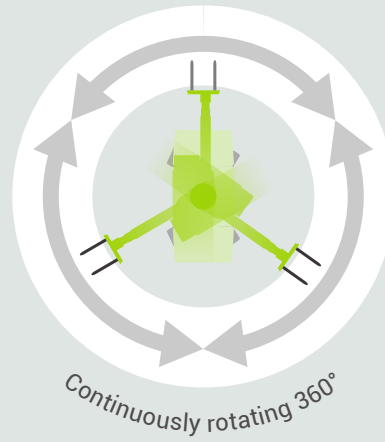
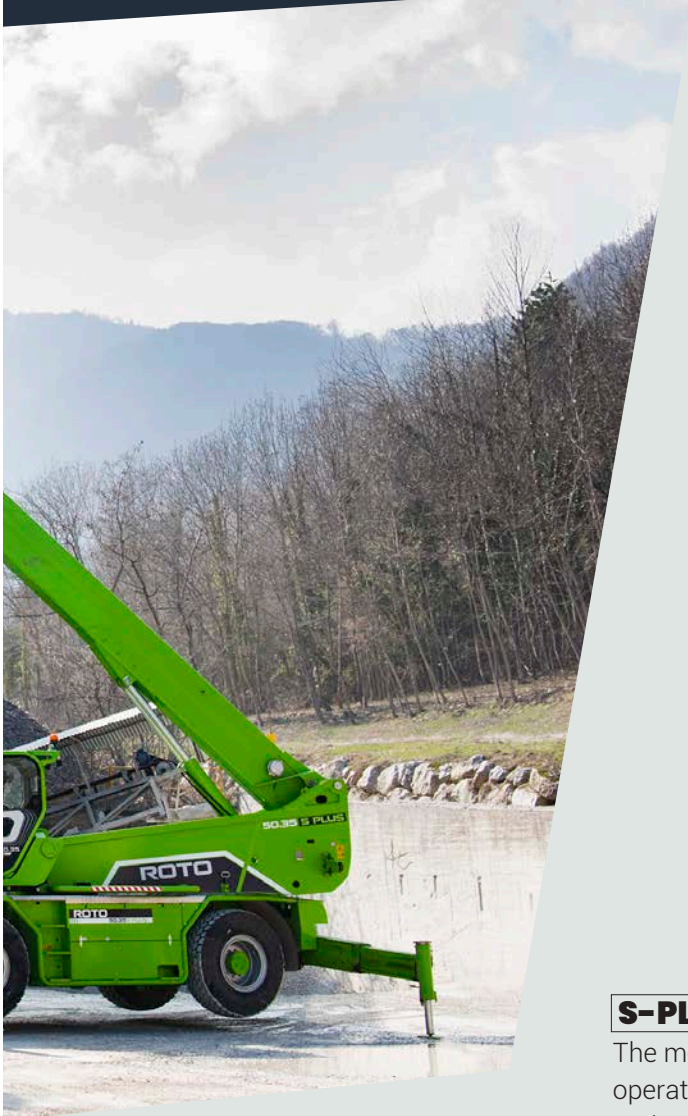


ROTO 24-35

The ROTO 24-35 models offer the very best in terms of quality and performance. Available in the exclusive SPLUS configuration, their most salient features include:

- Best performance available in the Rotating range.
- Continuously rotating turret.
- Multi-position stabilisers capable of being operated from any position, from “flush” closure to full extension.

A maximum capacity of 7,000 kg, with maximum lifting heights of up to 35 metres, depending on the model.



S-PLUS Version

The models S-PLUS have been developed to offer even the most demanding operators the highest levels of technology in terms of efficiency, performance and versatility of use. This range combines unique and exclusive features, including:

- Hydraulic system with double variable displacement Load Sensing pump.
- Large cab equipped with Merlo's patented vertical tilting system.
- Safety system enhanced with additional sensors for recognising the carriage rotation angle and the precise position of each stabiliser, in order to guarantee the best possible performance.

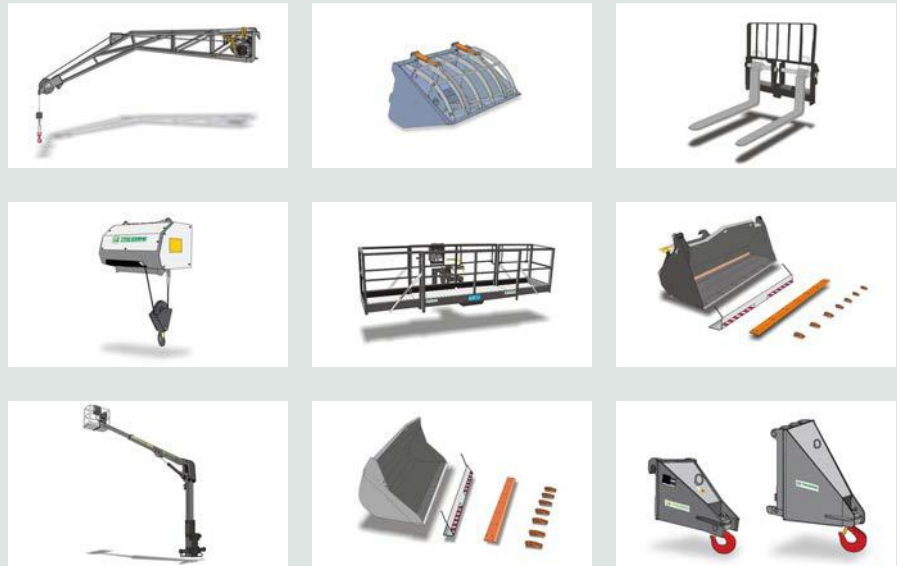
The high performance line

Their perfect weight distribution, optimal telescopic boom and sliding mechanism designs, newly developed stabilisation system, and various technological features have allowed for a considerable increase in performance, resulting in machines with lifting heights of up to 35 metres, and lifting capacities of up to 7 tonnes. Moreover, the wireless radio control unit (available for the entire range) allows for all the operational movements necessary for the work activities to be controlled remotely.

ATTACHMENTS

The attachments, which are designed and manufactured at the Merlo Group facilities, are the real operational tools used by Merlo telehandlers, and are designed to bring out the machines' performance and versatility in different operational situations.

The patented recognition of the attachments and the effective Tac-lock hydraulic locking system allow for quick tool changes to be performed, with the operating parameters being configured automatically for maximum safety.



SERVICE & PARTS

Whoever buys a Merlo machine chooses a product that meets the highest standards of quality, reliability and innovation. The customer can count on first-rate support and maintenance services offered by the Merlo Service network, and original spare parts subjected to continuous and rigorous quality controls.

Careful and periodic maintenance, combined with the use of original spare parts, will help your telehandler maintain its performance levels over time.

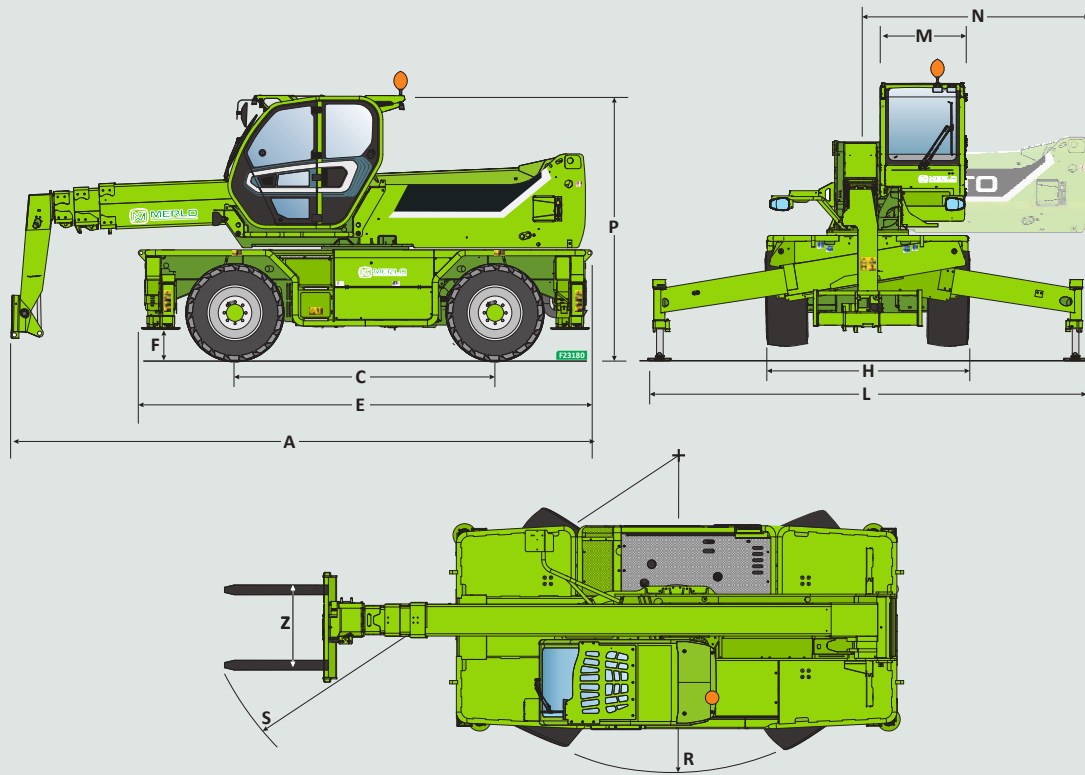


MERLOMOBILITY

The Merlo telehandler range offers exclusive technology, making their telehandlers even smarter and more connected.

The MerloMobility 4.0 connectivity system allows the customer to make use of all the information collected by the machines and transferred to the dedicated portal. Merlo Mobility is a flexible tool that allows the user to optimise the operational monitoring of their machines used in various sectors. The MerloMobility system is available as an option on all other Merlo models.

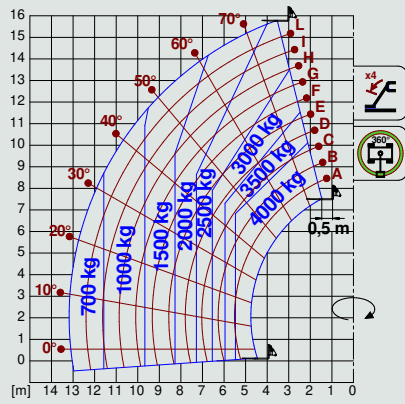
Technical characteristics



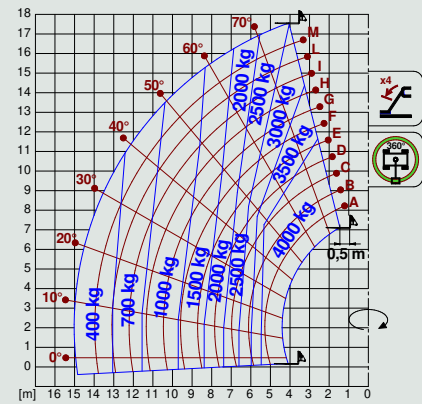
Dimensions			A	C	E	F	H	L	M	P	R	S	N
ROTO 16-18	ROTO 40.16S	mm	6280	2860	4750	290	2240	3750	1010	2980	4000	5930	2300
	ROTO 40.18S	mm	6030	2860	4750	290	2240	3750	1010	2980	4000	5750	2300
ROTO 21-26	ROTO 50.21SPLUS	mm	6830	3070	5370	370	2430	5010	1010	3120	3850	6100	2600
	ROTO 50.26SPLUS	mm	7150	3070	5370	370	2430	5010	1010	3120	3850	6310	2600
ROTO 24-35	ROTO 50.30SPLUS	mm	7790	3200	5620	290	2490	5260	1010	3160	4500	6770	3170
	ROTO 70.24SPLUS	mm	7545	3200	5620	290	2490	5260	1010	3160	4500	6770	3170
	ROTO 50.35SPLUS	mm	8590	3780	6910	315	2540	6320	995	3325	4840	7130	3690
	ROTO 70.28SPLUS	mm	8310	3780	6910	315	2540	6320	995	3325	4840	6920	3690

Model	ROTO40.16S	ROTO40.18S	ROTO50.21 SPLUS	ROTO50.26 SPLUS	ROTO50.30 SPLUS	ROTO70.24 SPLUS	ROTO50.35 SPLUS CVTRONIC	ROTO70.28 SPLUS CVTRONIC
Performance								
Unladen weight (kg)	13000	13600	16500	17300	20500	20200	23350	22750
Maximum load capacity (kg)	4000	4000	4950	4950	4950	7000	4950	7000
Lift height (m)	15.8	17.7	21	25.9	29.2	24.2	34	28
Maximum reach (m)	13.2	15	17.9	22.9	25.4	20.5	27	23.2
Frame levelling (%)	+/-12, +/-4	+/-12, +/-4	+/-12, +/-4	+/-12, +/-4	+/-12, +/-4	+/-12, +/-4	+/-12, +/-4	+/-12, +/-4
Powertrain								
Engine	FPT F36	FPT F36	FPT NEF45	FPT NEF45	FPT NEF45	FPT NEF45	FPT NEF45	FPT NEF45
Engine power (kW/HP)	90/122	90/122	125/170	125/170	125/170	125/170	125/170	125/170
Anti-pollution technology	Stage V, SCR+DOC+DPF	Stage V, SCR+DOC+DPF	Stage V, SCR+DOC+DPF	Stage V, SCR+DOC+DPF	Stage V, SCR+DOC+DPF	Stage V, SCR+DOC+DPF	Stage V, SCR+DOC+DPF	Stage V, SCR+DOC+DPF
Maximum speed (km/h)	40	40	40	40	40	40	40	40
Fuel tank capacity (l)	140	140	150	150	150	150	150	150
Adblue tank capacity (l)	18	18	43	43	43	43	43	43
Hydrostatic transmission	2 Speed	2 Speed	2 Speed	2 Speed	2 Speed	2 Speed	CVTronic	CVTronic
EPD	STD	STD	STD	STD	STD	STD	STD	STD
Hydraulic system								
Hydraulic pump	LS + FS	LS + FS	2 - LS + FS	2 - LS + FS	2 - LS + FS	2 - LS + FS	2 - LS + FS	2 - LS + FS
Delivery/pressure (l/min-bar)	103.5 - 250	103.5 - 250	138+100 - 250/230	138+100 - 250/230	138+100 - 250/230	138+100 - 250/230	158+100 - 260	158+100 - 260
Hydraulic oil tank capacity (l)	162	162	120	120	120	120	220	220
Cab								
Cab finishing	SUPERIOR	SUPERIOR	SUPERIOR	SUPERIOR	SUPERIOR	SUPERIOR	SUPERIOR	SUPERIOR
ASCS	Full	Full	Full	Full	Full	Full	Full	Full
FOPS/ROPS Cab	YES	YES	YES	YES	YES	YES	YES	YES
Controls	Electronic joystick control	Electronic joystick control	Electronic joystick control	Electronic joystick control	Electronic joystick control	Electronic joystick control	Electronic joystick control	Electronic joystick control
Tilting Cab	-	-	YES	YES	YES	YES	YES	YES
Reverse shuttle	Dual reverse	Dual reverse	Dual reverse	Dual reverse	Dual reverse	Dual reverse	Dual reverse	Dual reverse
Configuration								
Hydropneumatic suspension	YES	YES	YES	YES	YES	YES	YES	YES
Tac-lock	YES	YES	YES	YES	YES	YES	YES	YES
Pre-arrangement for aerial work platform	YES	YES	YES	YES	YES	YES	YES	YES
Permanent four-wheel drive	YES	YES	YES	YES	YES	YES	YES	YES
4-wheel steering, with three steering modes	YES	YES	YES	YES	YES	YES	YES	YES
Standard tyres	400/70-20	400/70-20	18-22.5	18-22.5	445/65-22,5	445/65-22.5	445/80-25	445/80-25
Stabilisers	On/Off	On/Off	Multi-position	Multi-position	Multi-position	Multi-position	Multi-position	Multi-position
Turret rotation	415°	415°	Continuous	Continuous	Continuous	Continuous	Continuous	Continuous

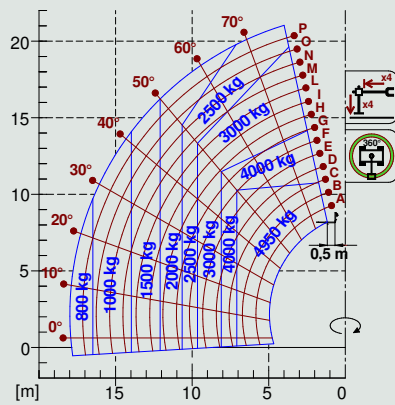
ROTO 40.16S



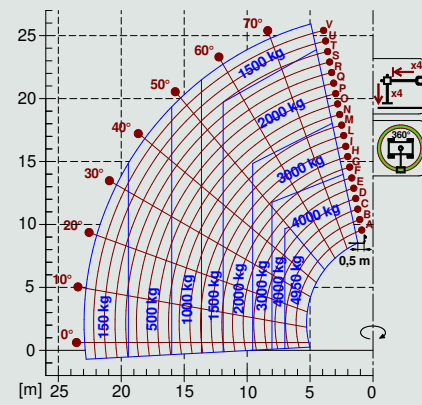
ROTO 40.18S



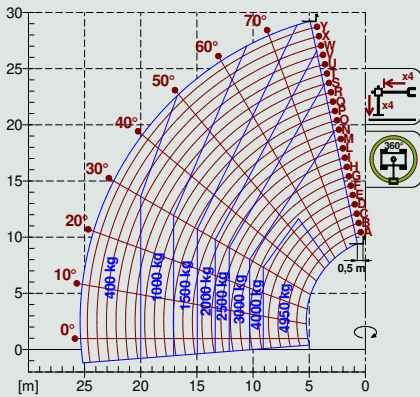
ROTO 50.21SPUS



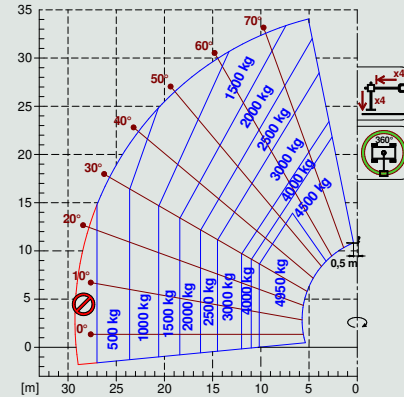
ROTO 50.26SPUS



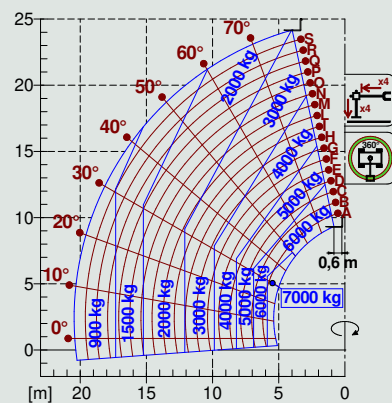
ROTO 50.30SPUS



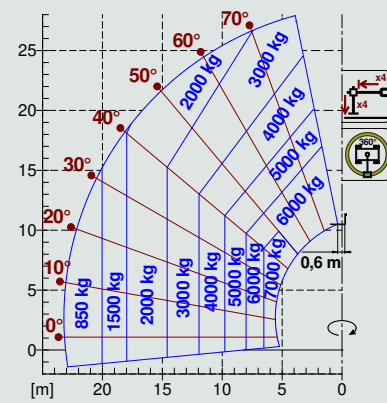
ROTO 50.35SPUS



ROTO 70.24SPUS



ROTO 70.28SPUS

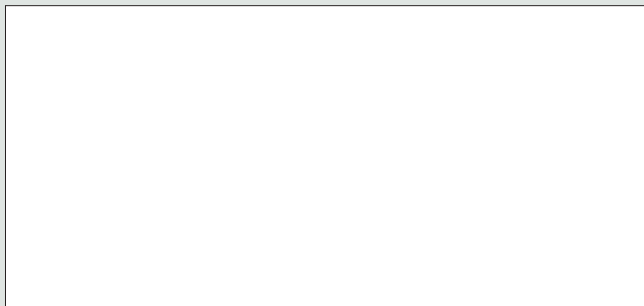




MERLO S.P.A.

Via Nazionale, 9 - 12010 S. Defendente di Cervasca - Cuneo - Italia
Tel. +39 0171 614111 - Fax +39 0171 684101
www.merlo.com - info@merlo.com

Your Merlo dealer



Data, characteristics and illustrations contained in this document are indicative and not binding.
Merlo Spa pursues a policy of continuous research and development, therefore, our products may have different characteristics from those described or may undergo changes without any prior notice.
The products shown may include optional equipment.