Telehandlers
ROTO
MERLO
Merlo facility with 3,767,368 sq. ft. of covered area:

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Established in Cuneo in 1964, Merlo is an important family-run industrial group that designs, produces and markets its own products under the “Merlo” and “TreEmme” brands. People and the territory are at the center of the project; 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 telehandlers, both fixed and rotating, self-loading concrete mixers (DBMs), and multi-purpose tracked transporters (Cingos).

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

ROTO RANGE:
The highest productivity on the market
Unrivaled productivity

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

- Frame equipped with On/Off or multi-position stabilizers.
- Rotating turret for positioning loads at 360°.
- Telescopic boom with a lifting height of up to 115 ft.
- 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.

- Entry Range
- S-Range
- S-Plus Range

POWERTRAIN:
Hydrostatic transmission with permanent four-wheel drive, 75 to 170 HP engines and maximum speed of 25 mph. Exclusive position of the side and longitudinal engine.

TELESCOPIC BOOM:
Heights from 58-115 ft. with load-bearing capacities from 8800 - 15400 lbs. 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 minimize maneuvering 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.
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 recognizing the attachment being used and measuring the magnitude of the load being handled, in order to maximize 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.

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 to protect against any possible impacts. These features offer:

- High precision extension.
- Precision movements.
- Protection of the components and hoses against impacts.

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.

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.
AERIAL WORK PLATFORM
As a standard feature, the ROTO models are all prearranged 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-STABILIZATION
With the self-stabilization device, which comes standard on all ROTO models, the operator can simply press a button to initiate the machine’s automatic frame stabilization and tilt correction procedure. This solution:
- Reduces setup times.
- Maximizes operational safety.
- Simplifies the machine’s use.

STEEL BELT
In order to ensure maximum protection for the operator and the machine’s mechanical parts in the event of a collision or accident, the frames on the ROTO models feature an exclusive steel belt around the outside made from a metal bar 3 inches in diameter.
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 LEVELING

The exclusive electronically controlled active suspension eliminates pitching and dampens the roughness of the ground, ensuring excellent comfort with an effective top speed of 25 mph (not available anywhere else on the market). The suspension provides for excellent versatility at the work site:

- Locking of the axles for maximum stability.
- Leveling 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.
HYDRAULIC SYSTEM

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

- LS pump and flow-sharing distributor; up to three simultaneous movements without any problems for the operator, with an oil flow rate of up to 37g/min.
- Double LS pump and flow-sharing distributor; up to four simultaneous movements, for even better performance levels. For a flow rate of up to 68 g/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.

AXLES

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

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

- 3’3” width and excellent roominess.
- Large glass surface of 46 sq. ft.
- 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:
- pressurization level not approved for use of pesticides, work in hazardous environments, with asbestos, etc.

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.

**SMART ARMREST**

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

- Stabilizers
- 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.

**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.

**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°.

**CHASSIS**

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 maneuverability is ensured by the 4-wheel steering system and the three steering modes, reducing maneuvering times for decreased fuel consumption.

- Less space maneuvering 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 maneuvering 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 optimized for material handling.

DECREASED FUEL CONSUMPTION

Merlo EPD technology

![Graph showing fuel consumption comparison between traditional and EPD technology]

- 100% traditional technology
- 82% EPD technology
- 0% mixed cycle (g/h)
THREE STEERING WAYS
This exclusive solution adopted on the axles guarantees the maximum steering angle to perform maneuvers 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 ROTO models come equipped with an electric and automatic battery switch to improve the efficiency and life of the batteries. With the circuit off, simply insert the keys into the control panel 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 stabilizers partially or completely extended. In this case, the maximum speed is limited to 3 mph to ensure maximum safety.

**STABILIZERS**
Models with lifting heights greater than 65 feet are equipped with stabilizers that can be positioned with any extension, in order to adapt the stabilization layout of the available work area.
The ROTO ENTRY 18 model represents the “entry level” range of telehandlers with rotating turrets. This model’s most salient features include:

- More compact size in the ROTO range.
- Turret capable of rotating up to 415°, just over 207° in each direction of rotation.
- Easy-to-use fold-out stabilizers for reduced stabilization time.

A maximum capacity of 8800 lbs. with maximum lifting heights of 59 feet.
**ENTRY Version**
The ROTO40.18 model from the ENTRY range is designed for use at any type of work site. In fact, thanks to its ease-of-use, durability and reliability, it perfectly meets the needs of both rental companies and large construction companies. The 55kW/75HP engine guarantees excellent efficiency without compromising on performance, comfort or safety, while the maximum speed of 15 mph ensures rapid movements at the work site.

**S Version**
The ROTO40.18S model from the S range is equipped with the exclusive active hydropneumatic suspension, which, combined with the 90kW-122HP engine, guarantees a maximum speed of 25 mph thus reducing transfer times and maximizing machine performance, all without compromising on fuel consumption.
The 21-26 models are available in three distinct versions: ENTRY, S, and S-Plus. 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 stabilizers.
• Multi-position stabilizers capable of being operated from any position, from “flush” closure to full extension.

A maximum capacity of 11,000 lbs. with maximum lifting heights of 69 to 85 ft. depending on the model.

Note: Entry and S models currently not available in the USA.
• **ENTRY Version**
The ROTO50.21 and ROTO50.26 models from the ENTRY range are designed for use at any type of work site. In fact, thanks to their ease-of-use, durability and reliability, they perfectly meet the needs of both rental companies and large construction companies. The 55kW/75HP engine guarantees excellent efficiency without compromising on performance, comfort or safety, while the maximum speed of 25 mph ensures rapid movements at the work site. They’re equipped with turrets capable of rotating up to 600°.

• **S Version**
The ROTO50.21S and ROTO50.26S models from the S range are equipped with the exclusive active hydropneumatic suspension, which, combined with the 125kW/170HP engine, guarantees a maximum speed of 25 mph thus reducing transfer times and maximizing machine performance, all without compromising on fuel consumption. They’re equipped with continuously rotating turrets.

• **S-PLUS Version**
The models from the S-PLUS range 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 range 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 recognizing the carriage rotation angle and the precise position of each stabilizer, in order to guarantee the best possible performance.

*Note: Entry and S versions currently not available in the USA.*
The ROTO 24-35 models offer the very best in terms of quality and performance. Available in the exclusive S-PLUS configuration, their most salient features include:

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

A maximum capacity of 15,400 lbs., with maximum lifting heights of up to 115 ft., depending on the model.
**S-PLUS** Version

The models from the S-PLUS range 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-CLASSIC range 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 recognizing the carriage rotation angle and the precise position of each stabilizer, 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 stabilization system, and various technological features have allowed for a considerable increase in performance, resulting in machines with lifting heights of up to 115 ft., and lifting capacities of up to 15,499 lbs. Moreover, the wireless radio control unit (available for the entire ROTO 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.

MERLO MOBILITY

Always connected

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 Merlo Mobility system comes standard on the high-capacity ROTO models, and is available as an option on all other Merlo models.