



PANORAMIC HIGH CAPACITY

Merlo's factories in San Defendente di Cervasca (Cuneo) cover an area of 300,000 m² (with 220,000 m² indoor facilities)



1. Merlo SpA main offices
2. Final assembly lines
3. Lines for assembling components and cabs
4. Moulding of technopolymers
5. Automated storing and shipping centre
6. Machines plus attachments shipping centre
7. Final quality control
8. Technological centre
9. Steel and structural assembly lines centre
10. 3M attachments
11. CFRM (Training & Research Centre)

The Merlo Group

N° 1 for technology and safety

The Merlo brand has always been synonymous with advanced technology in the telehandler field and our history, since 1964, is hallmarked by an experience based on determination and passion. The development of complex products, from the idea to the result, from design to sales, means being able to propose innovative solutions to advance needs and orientations of the most competitive markets. The outcome of our efforts are compact, easy to handle telehandlers ensuring incomparable operating performance, comfort, efficiency and safety.

At Agritechnica 2013, three important awards were received to demonstrate the technological and innovative superiority of our products: Turbofarmer 42.7 Hybrid: gold Medal for innovation at Agritechnica - Turbofarmer II: «Machine of the year 2014» in the «handling and logistics» category - Multifarmer: selected as a “milestone” in agriculture.

The new modular Medium Duty and Compact Turbofarmer range was named «Machine of the Year» 2015 at Sima 2015 in the handling and logistics sector.

- 1,400 employees
- Surface area of 300,000 m² of which 220,000 m² are indoors
- 86% exports
- 600 dealers all over the world
- 8% of turnover invested in Research & Development
- 60 manufacturing robots



Automated boom bending workstation



Robo robotised welding of the chassis



The High Capacity Merlo Range

New high capacity families

Panoramic and HM

They have been updated to adopt the Tier 4 Final engines and are even more innovative, performing and safe, in line with the evolution of the Merlo product.

The Panoramic and HM families offer the following advantages:

- + **Comfort**
 - ➔ Largest cab in its category
 - ➔ Best comfort level
- + **Safety**
 - ➔ Cab compliant with ROPS and FOPS level II standards*
 - ➔ M CDC Dynamic load control as standard
- + **Versatility**
 - ➔ Tilt correction and standard boom side shift
- + **Efficiency**
 - ➔ Tier 4 Final Engines
Panoramic: powers of 101 HP with SCR
HM: power of 170 HP with SCR
 - ➔ -18% consumption with EPD
 - ➔ CVTronic transmission (standard on HM)
 - ➔ Regenerative system (standard on HM)

* EN ISO 3449/2008, protection level II (highest protection level provided by the norm and equivalent to the fall of a 227 kg object from 5.22 metres)



- Largest cab on the market - 1010 mm
- 4 models for every need: 1 Panoramic and 3 HM
- Levelling and side shift as standard
- EPD: -18% consumption
- HM: CVTronic Transmission
Regenerative system

High capacity family

Technology at the top of the market



Innovative Merlo systems

- Levelling + boom side shift
- Tac-Lock rapid coupling of the attachments

Performance

- Booms from 10 to 18 metres
- Capacities ranging from 5 to 12 tons

Comfort

- Largest cab on the market 1010 mm
- Maximum comfort and excellent visibility

POWERTRAIN P72.10 PLUS

- Tier 4 Final Engines 101 HP
- Hydrostatic transmission equipped with two ranges gearbox
- EPD – Eco Power Drive – 18% fuel savings

HM

- Tier 4 Final Engines 170 HP
- CVTronic transmission
- EPD – Eco Power Drive – Savings: 18% diesel
- Regeneration system on lifting
- Electronic accelerator
- Flow -Sharing Distributor

Safety

- M CDC Merlo dynamic load control
- Automatic attachment recognition
- Cab compliant with FOPS/ROPS

Hydraulic

- Panoramic: 72.10 PLUS Load-Sensing pump and electronic joystick
- HM: Load-Sensing pump and electronic joystick and Flow-Sharing distributor, electronic accelerator on joystick and regenerative system

High specifications for high performances

Even more advantages and benefits

| MODEL | ENGINE | | EPD | HYDRAULIC | | | CHASSIS | TRANSMISSION | | SAFETY DEVICES | JOYSTICK COMMAND | |
|--------------------|-----------------------|-----------------------|-----------------|--------------|--------------|---------------------|------------------------|--------------|------------|--|------------------|-----------------------------|
| | 101 HP - Tier 4 Final | 170 HP - Tier 4 Final | Eco Power Drive | Load Sensing | Flow Sharing | Regeneration system | Levelling + Side shift | 2 Speed | M CVTronic | M CDC + display + automatic attachment recognition | Electronic | Electronic with accelerator |
| PANORAMIC | | | | | | | | | | | | |
| P72.10 PLUS | X | | X | X | | | X | X | | X | X | |
| HM | | | | | | | | | | | | |
| P50.18HM | | X | X | X | X | X | X | | X | X | | X |
| P65.14HM | | X | X | X | X | X | X | | X | X | | X |
| P120.10HM | | X | X | X | X | X | X | | X | X | | X |

Broad product offering:

- 4 models available

Comfort:

- Largest cab on the market
- 1010 mm

New technologies:

- CVTronic + torque + productivity
- “TT” versions levelling + side shift as standard
- M CDC Merlo for dynamic load control
- Standard Load-Sensing for the entire range

Versatility and productivity:

- 2 Tier 4 Final engines available - 101 HP or 170 HP
- Height from 10 to 18 metres
- Capacities from 5 to 12 tonnes

Tier 4 Final Engine
Performance



Tier 4 Final engines

Higher performance and lower consumption

The High Capacity Duty models come equipped with Tier 4 Final engines. The engines provide an increase in performance with a reduction in displacements, so as to significantly reduce consumption (downsizing). Merlo selects the engines that power its telehandlers after thorough testing in order to offer its customers high performance, maximum efficiency, low fuel consumption and low maintenance.

Panoramic P72.10 PLUS

4 cylinders, 75 kW/101HP, 3.6 litres at 2600 rpm. Reduced operating costs thanks to the selected technology that makes it possible to comply with the emissions limits set for the Tier 4 Final without particulate filter and with SCR post-treatment with AdBlue*



HM models

4 cylinders, 125 kW/170HP, 4.5 litres at 2200 rpm.

SCR (Selective Catalytic Reduction)

The SCR system uses a catalyser that exploits a chemical reaction between the polluting agents and a mixture of Water and Urea, reducing the emissions. In practice, the urea decomposes the NOx nitrogen oxides into water vapour and simple nitrogen, two substances that are harmless to man and the environment. Urea consumption is about 5% of diesel consumption, and the tank is sized so that it is necessary to refill the AdBlue every other diesel refill.



- High-performing and efficient engines
- "Downsizing" effect to reduce consumption
- Panoramic: 3.6 litres, 101 HP (with SCR) to ensure low management costs
- HM: 4.5 litres, 170 HP SCR post-treatment. High performance and low consumption

NOTE: the urea is found on the market as AdBlue®

**Merlo CVTRONIC: acceleration
from 0 – 40 km/h without torque interruption
and the need for gear change**



HM: Merlo CVTronic technology and EPD

Merlo's own continuous variable transmission version

The CVTronic transmission follows Merlo's traditions in the hydrostatic field and ensures smooth acceleration without interrupting torque from zero to 40 km/h.

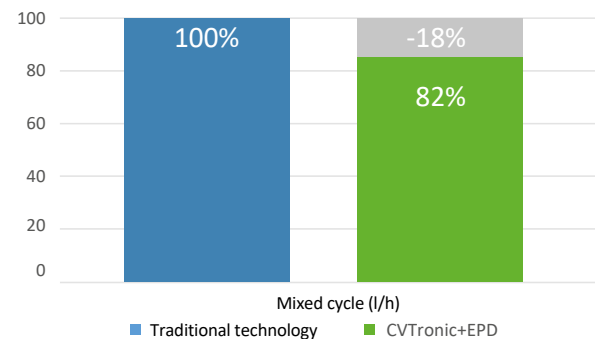
The transmission comprises two axial piston hydrostatic engines powered by the electronically-controlled hydraulic pump. At low work speeds they offer maximum torque by acting in tandem, with a +12% increase compared to conventional hydrostatic transmissions. During transport, the second hydrostatic engine is automatically disengaged from the control system and the oil from the pump powers the main hydrostatic engine that pushes the HM telehandlers to maximum speed.

The CVTronic M transmission is equipped with EPD, a system designed by Merlo that helps to reduce diesel consumption by 18%. The EPD's electronic control unit is placed between the gas pedal and the diesel engine injectors. The operator sets the desired speed and the EPD system manages the number of diesel revs according to the parameters set in the control unit, ensuring maximum efficiency, high performance and minimum consumption.



Reduction in consumption

Merlo CVTronic technology + EPD



- +12% torque at low speeds vs. conventional hydrostatic transmissions

- Smooth and progressive acceleration from 0-40 km/h without interruptions for a gear change

- -18% of consumption thanks to the EPD system

Largest cab in the category

1. M CDC - Dynamic Load Control
2. Joystick.
3. New digital display
4. Inching-Control: expanded sensitivity for creep movements
5. Dual reverse shuttle system
6. Glove box



The record-breaking cab is more up-to-date than ever

More space on board offered as standard

The Merlo cab is known for ease of access and for its inside space.

At 1010 mm, it is the widest in the category and allows maximum comfort in daily use.

The machine's architecture, the low centre of gravity and the tapered hood ensure excellent visibility in every direction. The operator can visually follow the load to its maximum height, thanks to the transparent top. The 770 mm door is fitted with a 180° opening window for better natural ventilation.

The controls are placed according to accurate ergonomic studies.

All information is available clearly and precisely with the new on board panel and the new display for the M CDC.



New digital instrument panel

Standard equipment of the Panoramic cab



- 1010 mm wide. The cab is the largest in its category
- Driver's side access made easier with a wide door (770 mm)
- 360° visibility. Low hood thanks to careful engine layout
- HM models equipped with armrest and Dual-Shuttle reverse shuttle (on the Joystick and the steering wheel)

Merlo CDC,
when safety counts



Display del Merlo CDC

Merlo Dynamic Load Control

Safety as standard for everyone

The Merlo Group considers safety as an absolutely essential value and this is why it invented the M CDC system. The objective is to allow every operator to work in total safety by fully exploiting the potential of the telehandler and the attachment used.

With the Merlo CDC system, the High Capacity models can automatically recognise the attachment fitted and consequently calibrates its performance in relation to specific load charts.

The operator can check at any time the dynamic equilibrium of the vehicle, thanks to the led on the screen.

For manoeuvres that may give rise to a telehandler stability risk, the M CDC system will block the boom and prevent any further movements that may worsen the situation.



Rear video camera (optional)

Automatic attachment recognition



Sensor on the attachment



Sensor on the carriage

- Safety beyond even EN15000 standards
- Automatic attachment* recognition
- Recognition and memory of the load**
- ROPS and FOPS protection, no impact on comfort



** Valid for attachments built in Merlo factories and fitted with the M CDC sensor



Levelling and side shift:
versatility, precision
and safety

Merlo precision and technology

Merlo Boom, reliability and innovation

Merlo produces the booms mounted on its telehandlers in-house and has developed unique technologies to make them strong yet lightweight, protect handling mechanisms against accidental blows and allow users to position the load in the most precise manner possible.

- ✓ Boom sheet metal welded on the boom's neutral bending axis
- ✓ Cartridge protected handling system inside the boom, thanks to a patented solution that is easy to access if maintenance is needed
- ✓ Tac-Lock: hydraulic attachment clamping system from the cab
- ✓ Levelling: system for correcting tilt, built into the chassis, allowing the operator to correct ground slopes and work in complete safety
- ✓ Movement: the boom can be shifted sideways by the operator (up to 440 mm on the P50.18 HM) so that the load can be positioned with maximum precision, comfort and time-savings



Boom side shift



Levelling

- Lighter but stronger booms: robotised welding on the neutral axis, area with less strain
- Extension mechanism, protected inside the boom
- Unique levelling and side shift: with a patented system
- HM: standard Flow Sharing

Engines & Transmissions

Higher performance and lower consumption

- ➔ The HM range is equipped with a Tier 4 Final engines: 125 kW/170HP
- ➔ Merlo hydrostatic transmission with **EPD (Eco Power Drive) as standard** .
- ➔ As always Merlo telehandlers are equipped with hydrostatic transmissions for improved precision, safety and ease of use. The EPD can reduce fuel consumption by 18% giving a real yearly saving.
- ➔ The EPD Top has a “Speed control” **2** button that allows to save the movement speed of the machine and keep it constant. The Eco function, ideal for yard handling operations, limits the motor's rpm, thereby obtaining further savings.
- ➔ The rpm regulator allows the operator to set the minimum rpm desired **1**. This is very useful during bucket loading and when using attachments on the boom that constantly require a minimum flow of oil.
- ➔ The self-accelerating Joystick is adopted as standard, through which more speed of the boom's hydraulic movements is possible, thereby optimizing performance. The system activates beyond the threshold of 20% of the joystick's movements.



- With the EPD system consumption is reduced by 18% compared to traditional technologies
- Speed Control and ECO management as standard with EPD Plus and EPD Top
- Rpm management
- Tier 4 Final 125 kW/170 HP engines
- Self-accelerating system with joystick

Winning hydraulics

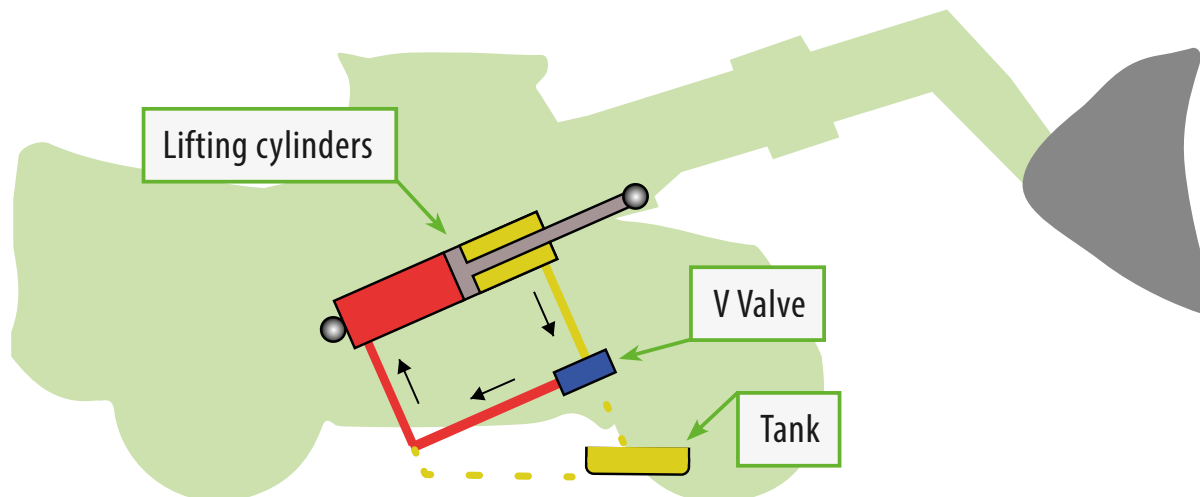
Practical and efficient systems

→ HM REGENERATIVE SYSTEM

To improve productivity for the HM family, Merlo has adopted the regenerative system, designed to increase the boom's angular speed while handling loads. The system makes it possible to automatically increase the speed by 36% compared to similar systems without the regenerative function.

HOW IT WORKS

The boom lifting system is fitted with two dual effect cylinders, one of which is equipped with the regenerative system. The oil coming from the pump enters the cylinder's expansion chamber (in red in the diagram below), and since it is dual effect the oil in the opposite chamber is placed back into the pressure chamber (in yellow in the below diagram) instead of being discharged, being added to the oil from the pump, speeding up the filling of the cylinder and, as a result, the angular speed of the boom.



Regenerating system

+36%

angular speed of the boom when rising

- Panoramic and HM: standard Load Sensing pump:
Panoramic: 108 litres/min
HM: 119 litres/min
- HM: Flow Sharing
Allows three boom movements at the same time.
Increased productivity
- HM: regenerative system
Allows a 36% increase in the angular speed of the boom



Sturdy, reliable axles with excellent ground clearance

430 mm ground clearance
18-19.5 tyres

Panoramic

Axles and brakes, effective and efficient

Added value for tangible benefits

Our Panoramic range telehandlers are fitted with ideal axles uncompromisingly designed and built in-house.

The main body is in welded steel and the reducers are epicyclic.

This type of axle has proven to be a winner for its sturdiness, reliability and duration.

It ensures a minimum turning radius of 3950 mm and a significant ground clearance of 430 mm

(at the centre of the axle with 18-19.5 tyres). They come with 4 dry brakes and the

parking brake engagement system that automatically activates when

the engine is turned off. They have been designed by Merlo engineers to be integrated into

the «TT» chassis with levelling and side shift, a winning combination that only Merlo can offer.

The axles adopted into the HM family are specific and structurally suited to support heavy

loads in line with HM class.



THREE STEERING MODES WITH END-OF-TRAVEL RE-SYNCH

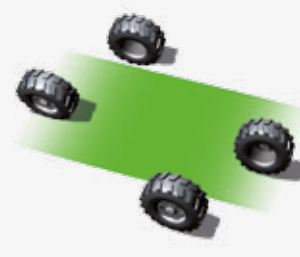
Four-wheel drive with hydraulic servo-assistance.



FRONT WHEEL STEERING

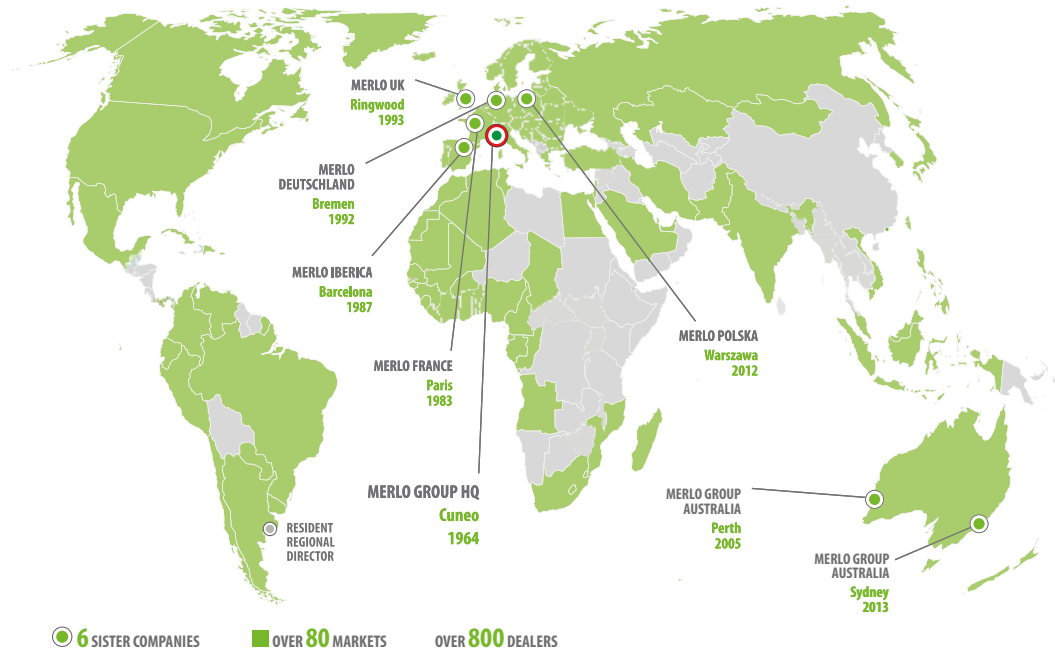


COORDINATED STEERING



CRAB STEERING

- Axles conceived, designed and built by Merlo (Panoramic)
- 430 mm ground clearance best value in the category (Panoramic)
- Three steering modes
- Dry brakes to reduce friction and consumption
- Automatic parking brake engagement system when engine switched off



TRAINING CENTRE

The Merlo Training and Research Centre (CFRM) has made safety training and instruction in the use of the machine its mission. The CFRM provides training courses for operators of person-carrying overhead platforms, forklift trucks, telehandlers, cranes, earth-moving machinery, agricultural and forestry tractors, snow ploughs and urban cleaning vehicles.

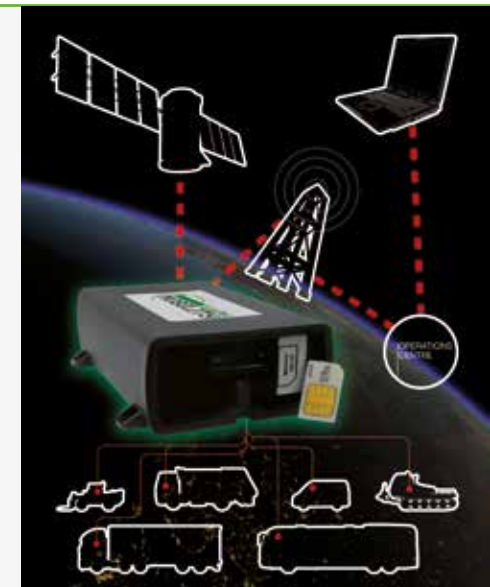


Countries where Merlo is a market leader



MOVIMATICA MERLO INFOMOBILITY

Is the new system, conceived and built within the Merlo Group, for managing vehicles remotely: it enables GPS radio-localisation in real time, monitoring operation and use, receive and manage malfunction or burglar alarms and also send commands for handling events via the internet.



THE MERLO WORLD

In a globalised world, **the customer always comes first!**

From excellent products to excellent service. In 2008, Merlo has adapted its production process to meet the needs of the ISO 9001 quality control system. The process is perfected and improved continuously.

At the same time, the foundations have been laid to put the Customer first, implementing investments aimed at Services such as Financing, Aftersales training, Spare parts and Telematic Means such as remote diagnostics, thanks to the Merlo Mobility project.

| Automatic spare parts warehouse | 2011 | 2016 |
|-----------------------------------|----------------------|-----------------------|
| Storage volume | 1.000 m ³ | 13.000 m ³ |
| Filling | 100% | 85% |
| Percentage of codes managed | 50% | 86% |
| Percentage of order lines managed | 65% | 94% |
| Pick-up time | 90" | 30" |
| Number of codes | 8.000 | 18.000 |

NEW PARTS CENTRE

The new spare parts warehouse covers an area of 7,000 m², with storage capacity for of 10,000 m³ for a total of 20,000 different codes. Furthermore, it can automatically manage 94% of the order lines that are processed daily, with an average withdrawal time of 30" per line.

The first fill per order line is over 99% with delivery times for urgent orders within 24 hours.



Storage area and automatic pick-up



Order processing and shipment area

| TECHNICAL INFORMATION | P72.10 PLUS | P50.18HM | P65.14HM | P120.10HM |
|---|-------------|----------|----------|-----------|
| Total unladen mass, without forks (kg) | 11300 | 16250 | 15800 | 16200 |
| Maximum capacity (kg) | 7200 | 5000 | 6500 | 12000 |
| Lifting height (m) | 9,55 | 17,9 | 13,9 | 9,8 |
| Maximum reach (m) | 5,2 | 13 | 8,8 | 5,3 |
| Maximum operating height (m) | 6,56 | 12,9 | 10,2 | 6,9 |
| Maximum operating reach (m) | 2 | 3,8 | 3 | 1,3 |
| Capacity at maximum height (kg) | 4000 | 3000 | 4000 | 7000 |
| Capacity at maximum reach (kg) | 2100 | 500 | 1600 | 2000 |
| Turbo motor (displacement/cylinders) | 3.6/4 | 4,5/4 | 4,5/4 | 4,5/4 |
| Tier 4 Final motor power (kW/CV) | 75/102 | 125/170 | 125/170 | 125/170 |
| Eco Power Drive (EPD) | Standard | Top | Top | Top |
| Maximum speed (km/h) | 40 | 40 | 40 | 40 |
| DEF tank (l) | 18 | 43 | 43 | 14 |
| Fuel tank (l) | 140 | 150 | 150 | 150 |
| Hydraulic Load-Sensing pump (bar-l/min) | 240/108 | 210/119 | 210/119 | 210/119 |
| Flow Sharing | - | ● | ● | ● |
| Regenerative device (+50% boom speed) | - | ● | ● | ● |
| Hydraulic oil tank (l) | 100 | 149 | 149 | 142 |
| FOPS (ISO 3449) and ROPS (ISO 3471) cab | ● | ● | ● | ● |
| Electronic joystick | ○ | ● | ● | ● |
| Electromechanical joystick | - | - | - | - |
| Hydrostatic transmission | ● | ● | ● | ● |
| Differential lock (Front - Rear) | ○ | ● | ● | ● |
| Reverse shuttle at steering wheel: | Dual | Dual | Dual | Dual |
| Inching-Control pedal movement control | ● | ● | ● | ● |
| Permanent four-wheel drive | ● | ● | ● | ● |
| Four-wheel steering | ● | ● | ● | ● |
| Automatic parking brake | ● | ● | ● | ● |
| Work headlights on cab (2 A + 2 P) | ○ | ● | ● | ● |
| Change of speed | 2 speeds | CVTronic | CVTronic | CVTronic |
| Chassis levelling + side shift | ● | ● | ● | ● |
| Dynamic load control M CDC + display + automatic attachment recognition | ● | ● | ● | ● |
| Standard tyres | 400/70-24 | 17.5-25 | 17.5-25 | 17.5-25 |

● As standard. ○ On request.

From the idea to develop multi-applicability

Greater efficiency and productivity thanks to Merlo attachments

Merlo adopts simple and effective guidelines in the evolution of the product.

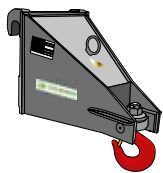
From conception to development, everything is studied, designed and created in the Group's plants. This simple "rule" also applies to attachments.

Backed by years of experience, Merlo's technicians have developed a wide range of attachments, divided by type and load capacity.

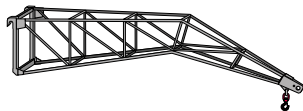
The multi-function Merlo systems, immediately operative in a multitude of different applications, are among the most advanced technology to offer efficiency, comfort and above all, safety in everyday work.



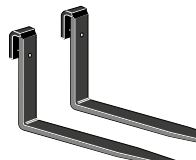
CARRIAGE-MOUNTED HOOK



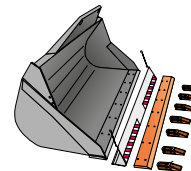
FLY JIB



FORKS



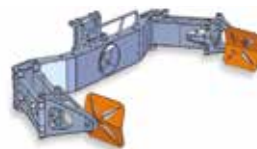
DIGGING BUCKET



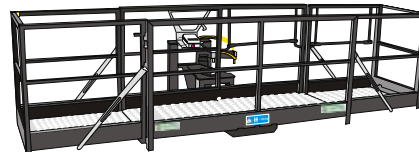
LIFTING BOOM



CALIPER FOR TYRES

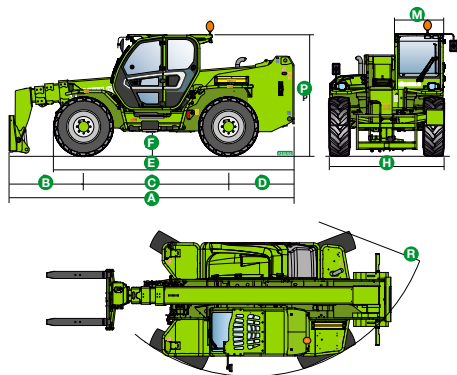


THREE-SIDED EXTENDIBLE PLATFORM



DATA

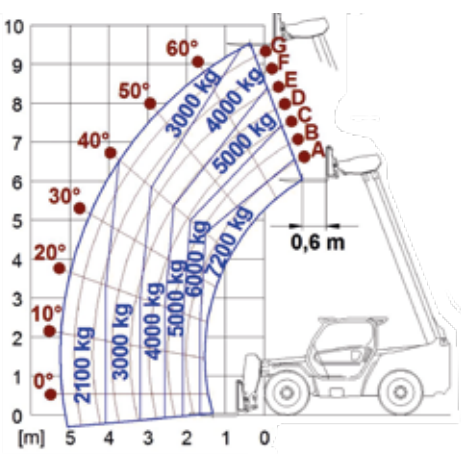
P72.10 PLUS



DIMENSIONS P72.10 PLUS

| | | | |
|--------|------|--------|------|
| A (mm) | 5480 | F (mm) | 450 |
| B (mm) | 1255 | H (mm) | 2240 |
| C (mm) | 2920 | M (mm) | 1010 |
| D (mm) | 1304 | P (mm) | 2500 |
| E (mm) | 4815 | R (mm) | 3970 |

P72.10 PLUS WITH FORKS



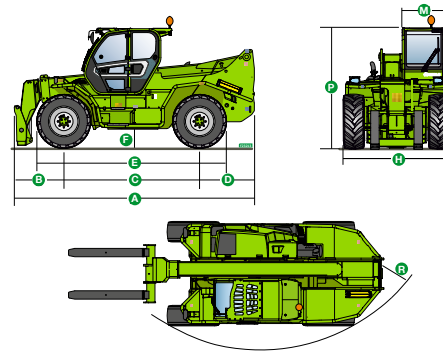
P65.14 HM



P120.10 HM

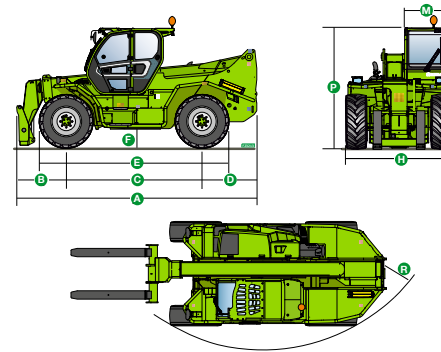
TECHNICAL DATA

P50.18 HM



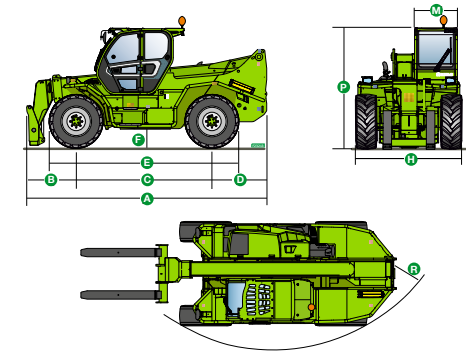
| DIMENSIONS P50.18 HM | | | |
|----------------------|------|--------|------|
| A (mm) | 6180 | F (mm) | 450 |
| B (mm) | 1605 | H (mm) | 2520 |
| C (mm) | 3240 | M (mm) | 1010 |
| D (mm) | 1335 | P (mm) | 2850 |
| E (mm) | 5235 | R (mm) | 4300 |

P65.14 HM



| DIMENSIONS P65.14 HM | | | |
|----------------------|------|--------|------|
| A (mm) | 5910 | F (mm) | 450 |
| B (mm) | 1335 | H (mm) | 2520 |
| C (mm) | 3240 | M (mm) | 1010 |
| D (mm) | 1335 | P (mm) | 2850 |
| E (mm) | 5235 | R (mm) | 4300 |

P120.10 HM

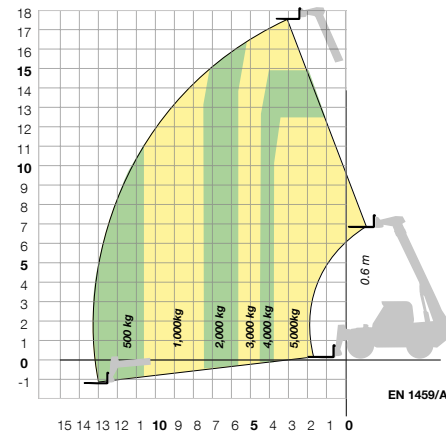


| DIMENSIONS P120.10 HM | | | |
|-----------------------|------|--------|------|
| A (mm) | 5790 | F (mm) | 450 |
| B (mm) | 1210 | H (mm) | 2520 |
| C (mm) | 3240 | M (mm) | 1010 |
| D (mm) | 1335 | P (mm) | 2850 |
| E (mm) | 5235 | R (mm) | 4300 |

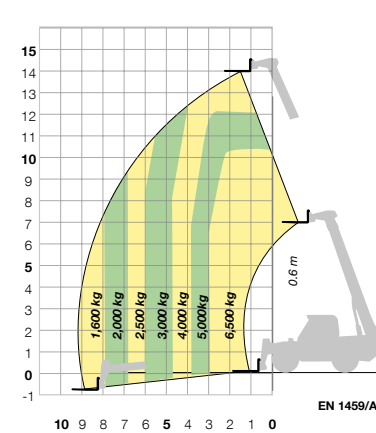


P65.14 HM

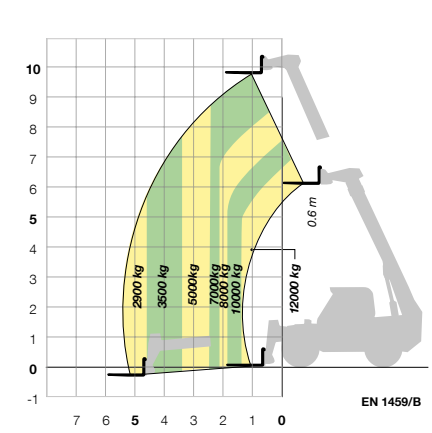
P50.18 HM WITH FORKS



P65.14 HM WITH FORKS



P120.10 HM WITH FORKS





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

The Telehandlers outlined in this documentation can be equipped with optional or special accessories that are not included in standard equipment but only on request.

In certain countries, not all models or attachments may be available because of market or regulatory restrictions.

Technical data and information are up-to-date at the time of printing this documentation. Merlo reserves the right to make modifications arising from natural technological evolution without any obligation on its part.

Your trusted Merlo Dealer will be delighted to provide you with all updates concerning our products and services.