**M-SERIES CRAWLER DOZERS**
**1150M I 1650M I 2050M**

CASE
CONSTRUCTION


# TECHNOLOGY THAT PAYS

www.casece.com
**EXPERTS FOR THE REAL WORLD**
**SINCE 1842**

*Courtesy of Machine.Market*

# M-SERIES
# CRAWLER DOZERS

## *EXPERTS FOR THE REAL WORLD*
## *SINCE 1842*

***1842*** ***Case is founded.***

***1946*** ***Allis-Chalmers is the first manufacturer to introduce a torque converter on dozers. In the 30s they had invented permanently lubricated track rollers and sealed and lubricated tracks.***

***1951*** ***First Case dozer made in cooperation with ATC and promoted under Terratrack brand.***

***1956*** ***Case acquires ATC and is the first manufacturer to introduce tracks counterrotation on the 1000 Series Terratrack dozer.***



*Courtesy of Machine.Market*

# HERITAGE
## A TRADITION OF INDUSTRY FIRSTS


**1974** ***FIAT acquires Allis-Chalmers and in the 70s introduces the exclusive "Equistatic" geometry on bulldozer machines. In the late 90s Case launches its exclusive "CASE Extended Life Track" undercarriage.***

**2008** ***Case introduces the "Dual Path" hydrostatic transmission on the "K" series.***

**2013** ***Case is the first to introduce SCR technology on the "M" series dozer.***

**2015** ***Case extends its European product line-up with the new grader range.***



*Courtesy of Machine.Market*

# M-SERIES
# CRAWLER DOZERS

## LOW EMISSIONS

### Premium Tier 4 technology

The state-of-the-art common rail engine delivers top performance in load response, max torque, power and fuel economy.
The combustion is optimised for maximum efficiency: it occurs at high temperatures and uses 100% fresh, cool air, as the air intake is separated from the exhaust. The turbocharged engine with an Air-to-Air intercooler relies on well proven multi injection technology to maximize torque back-up and fuel efficiency with reduced engine noise and vibrations.

Biodiesel Ready

1

*The high temperature combustion produces a very limited amount of particulates*

2

*AdBlue is sprayed in the exhaust in order to eliminate NOx through Catalytic Reduction (SCR)*

**Tier 4 interim**

With SCR the engine runs with optimised efficiency. The M Series engine can run with 20% biodiesel, reducing even further its environmental impact. When the tractive effort grows and the rpm tends to drop, the engine power rises by up to 16% to 1800 rpm. The result: constant performance and higher pulling capacity. In addition, the ability to work with high torque at lower engine rpm reduces engine wear.

## SUPERIOR COOLING EFFICIENCY

### Fresh air breathing engine

The cooling package of the 1650M and 2050M has been redesigned and fitted with a hydrostatic reversible fan. In the new design, the radiators are mounted with no overlap, so that each radiator receives fresh air, maintaining constant fluid temperatures. The hydrostatic fan continuously adapts its speed to match the real cooling demand, reducing power absorption. The reversing mode reduces maintenance needs and lengthens cleaning intervals.



*Courtesy of Machine.Market*

# ENGINE AND TRANSMISSION
# DRAWBAR PULL LEADERSHIP


## EXTRA POWERED TRANSMISSION

### Unmatched drawbar pull

The entirely re-engineered transmission offers best-in-class pulling capacity combined with the typical manoeuvrability of the hydrostatic solution.

The triple reduction final drive adds a planetary reduction to the standard double one. The hydrostatic transmission can work at a faster speed, reducing the overall pressure and consequently the effort on the single components. The two final drives are directly flanged on the main frame for better effort distribution and easy disassembling for extraordinary maintenance.

## HIGH RELIABILITY

### “CELT” Case extended life tracks

Case tracks technology supports the enormous drawbar pulling capacity of the M Series. The exclusive rotating bushing technology of the Case Extended Life Track (CELT) can double the tracks’ life, dramatically reducing maintenance costs. In addition, the sprocket is made with 40% more material, extending the life of its teeth. When you consider that maintenance of the undercarriage represents on average 50% of a dozer maintenance costs, the Case solution brings a clear benefit for the most demanding customers.



*Courtesy of Machine.Market*

# M-SERIES
# CRAWLER DOZERS


## VERSATILE CONTROLS

### Agile and strong

The operator has full control of the massive power of the M Series dozer. The electrohydraulic joystick enables them to customise the reversing and steering sensitivity for faster and more efficient cycles. The decelerator pedal can be set to reduce either travel speed only or both travel and engine speed.

### Automatic blade functions

The advanced electronics functions enable the operator to control specific functions in addition to the standard blade movements:

- the on-board computer can be set directly from the joystick;
- the blade reaction can be set choosing from 3 levels of sensitivity;
- the grading button immediately reduces the speed of the blade by 50% for more accurate soil contour;
- the shaking mode enables the operator to shed material quickly, especially when working with sticky soil.

## HIGH VISIBILITY

### Drive your performance forward!

The M series cab is engineered for operator performance, comfort and safety. The new positioning, further forward on the machine, ensures complete blade visibility. The operator can work with confidence and more productively in every operation. The air suspended seat is easy to adjust, providing every operator with a perfect working position.
The powerful air conditioning system combined with the best-in-class noise level provide an excellent working enviroment, reducing operator stress during long working days.



*Courtesy of Machine.Market*

# CUSTOMIZABLE CONTROLS
# PRODUCTIVITY BOOSTING ELECTRONICS


## BLADE CONTROL SET UP

### Flexible performance

The M series is ready to work with the most common blade controls available on the market. The machine can be prepared in the factory for a specific configuration, ensuring perfect wire layout, visibility and component integration, guaranteeing the high standards of reliability of every Case product are maintained.

## HIGH VERSATILITY

### Tools for every task

A wide offering of implements and equipments can be installed on the new CASE dozer:
• Drawbar • 3 shanks parallel ripper
• Front cab protections and grids • Winches predisposition

A choice of blades are available for optimum dozing performance:
• PAT • Foldable PAT (reduces the transport width within 3 m) • Straight • Semi-U

## BULLDOZER “EQUISTATIC” GEOMETRY

### Balanced pushing effort

All the Bulldozer units offer the patented «Equistatic» system that increases the tilting capability, while reducing the efforts on the pushbeams, increasing the overall frame reliability and reducing the overall wear of components.



*Courtesy of Machine.Market*

# QUICK GROUND ACCESS
# FOR SERVICING

## SAFE AND EASY MAINTENANCE

### Ground access for servicing

The hydrostatic transmission brings less complexity and lower maintenance requirements than a traditional one. Belly plates on the bottom of the machine provide excellent access to controls and transmission components.
The final drive installation on the main dozer frame enables dismounting while leaving the hydrostatic components in place. The transmission can even be reached through the cab floor, so it can be serviced directly on the jobsite.

The refueling points (Fuel/Ad Blue/Hydraulic Oil) are conveniently placed on the rear of the cab in a well-protected place. The daily maintenance can be done quickly thanks to dedicated steps that make the access easier and safer.

The new single piece main frame enables you to service the main controls easily from the ground, simply opening the wide lateral shieldings.

Oil levels, battery status, electric components, filters and the emergency cut off switches are rationally grouped and clearly identified with colour coding. With the M Series, you can quickly get ready for your working day.



Courtesy of Machine.Market

CASE® CONSTRUCTION | SiteWatch™

# THE SCIENCE BIT

The Case SiteWatch telematics system uses a high-tech control unit mounted on each machine to collate information from that machine and from GPS satellites. This data is then sent wirelessly through the mobile communication networks to the Case Telematics Web Portal.

## SiteWatch: centralised fleet control benefits at your fingertips

### Measure your true asset availability and optimise it

- Eliminate the "phantom fleet": SiteWatch allows to identify spare units or under loaded machines on each site.
- Become able to reallocate units where they are more needed.
- Forward Maintenance Planning is easier since the actualised working hours are always available.
- Extend the benefits of SiteWatch to the rest of your fleet: SiteWatch can be installed on the units of other brands as well.

### Challenge your Total Cost of Ownership!

- Being able to compare the fuel usage of different machine types will allow you choose the right equipment.
- Save on transport costs with planned and grouped maintenance tasks.
- Peace of mind, optimised uptime and lower repair costs: with preventive maintenance you can for example be alerted if the engine needs to be serviced and avoid a disruptive breakdown.
- Be able to compare your asset Return On Investment on different sites.
- Your equipment is used only during working hours. You can set up alerts so that you know if it is in use during the weekend or at night.
- Integrate with the programmed maintenance package, so that you can be sure every machine is at the right place at the right time.

### More Safety, Lower Insurance Premium

- Keep thieves away: dissuade them from attacking your asset because it is geo-localised. SiteWatch is hidden so that thieves can't find it quickly.
- Your fleet is used only where you decide. You can define a virtual fence and receive an email when a machine exits that perimeter.

*Courtesy of Machine Market*

# MAIN REASONS
# TO CHOOSE THE M-SERIES

## LOW EMISSIONS
- The only dozer with SCR in the market: exceptional efficiency and fuel savings, no losses due to extra cooling needs.

## EXTRA POWERED TRANSMISSION
- Dual path transmission - Continuous power transfer delivers more productivity, stepless shifting, absolute bulldozer controllability.
- 3 stages final drives - High transmission final reduction lessens stress on the hydrostatic transmission and increases drawbar pull.

## BLADE CONTROL SET UP
- Leading brands plug and play blade control system.

## HIGH VERSATILITY
- The wide variety of options and bulldozers offers,every customer the possibility of creating a machine tailored for the most demanding applications in different environments.

## VERSATILE CONTROLS
- Electronically controlled fast material drop from the blade in sticky conditions. All the main working parameters can be set to satisfy customer requirements.

*Courtesy of Machine.Market*

## EASY MAINTENANCE

- The functional groups are located beside the cab for quick intervention.
- The transmission components can be checked directly under the cab floor.

## HIGH VISIBILITY

- The cab, positioned 100 mm forward, ensures best-in-class visibility on the blade corner as well as better bulldozer weight distribution.


## SUPERIOR COOLING EFFICIENCY

- Double cooling surface and no overlapping of radiators. The reversible fan keeps the exchanging area clean and dramatically extends service intervals.

## BULLDOZER "EQUISTATIC" GEOMETRY

- Emphasizes blade tilting while compensating twisting effort on the push beams device.

## HIGH RELIABILITY

- "CASE Extended Life Tracks": dramatically reduces total cost of ownership by 50%.

*Courtesy of Machine.Market*

# M-SERIES
# CRAWLER DOZERS

## 1150M SPECIFICATIONS

### ENGINE

| | |
|---|---|
| Model | Case Family 4, F4HFE613Z*A005 Tier 4 Interim |
| Cylinders | 6 |
| Displacement | 6.7 l |
| Fuel injection | Direct |
| Fuel filter | Spin-on w/ in-line strainer |
| Air intake | Cross-flow |
| Cooling | Liquid |
| Engine speeds | RPM |
| High idle – no load | 2200 +/- 50 |
| Rated – full load | 2000 |
| Low idle | 1100 +/- 25 |
| Horsepower SAE J1349: | |
| Engine rated net power | 127 hp - 95 kW @ 2200 rpm |
| Engine max net power | 138 hp - 103 kW @2200 rpm |
| Rated net torque | 612 Nm |
| Max net torque | 632 Nm |
| **Engine lubrication** | |
| Pump | Deep sump plate cooler w/ pressurized under-piston nozzles |
| Pump operating angle ratings: | |
| Side-to-side | 35° |
| Fore and aft | 45° |
| Radiator: | |
| Core size area (Water Radiator) | 0.26 $m^2$ |
| Rows of tubes | 25 |
| **Fan** | |
| Diameter | 662 mm |
| Ratio | 0,96:1 |

### POWERTRAIN

| | |
|---|---|
| **Dual path hydrostatic** | |
| Pump | Variable axial piston |
| Motor | Variable bent axis piston |
| Max. drawbar pull* | 213.5 kN |
| Transmission | Single lever control electronic straight tracking |
| Oil filter | 2 micron, spin-on, replaceable |
| Travel speeds* | |
| Forward | 0 – 9.3 km/h |
| Reverse | 0 – 9.3 km/h |
| Parking brakes | Heavy-duty, spring-applied, hydraulic pressure release |
| Steering brakes | Hydrostatic |
| Final drive | 2 helical gear reduction to planetary output |
| Ratio | 61.4:1 |

### TRANSMISSION COOLING

| | |
|---|---|
| Type | Oil to air |
| Core size | 0.41$m^2$ |

*Measured using standard track chain. Increase travel speeds by 4% and reduce drawbar pull by 4% w/ the optional CELT track chain

### ELECTRICAL SYSTEM

| | |
|---|---|
| Alternator | 120 amps |
| Batteries (2) | 12-volt, low-maintenance 925 cold-cranking amps @ -18°C |

### OPERATOR ENVIRONMENT

ROPS/FOPS cab; Pneumatically suspended seat; Seat belt; Adjustable armrests; Foot rests; Tool storage area; Headliner; Floor mat; Mirror; Noise level 78dbA.

**Warning lights:**

Air filter; Alternator; Diagnostic fault indicator; Engine coolant temperature; Engine oil pressure; Hydraulic filter; Low fuel level; Park brake engaged; Service soon indicator; Transmission filter; Transmission charge pressure.

**Gauges:**

Ad Blue Level; Battery voltage; Digital hourmeter/tachometer diagnostic/service reminder; Fuel level; Transmission oil temperature; Transmission speed indicator; Water temperature.

**Audible warnings:**

Engine coolant temperature; Engine oil pressure; Low fuel level, Transmission charge pressure; Transmission/hydraulic temperature; Rear wiper for cab; Internal mirror; Radio.

### HYDRAULICS

| | |
|---|---|
| Pump flow @ 2200 RPM | 137 l/min |
| Max pressure | 206 bar |
| **Lift cylinder™** | nr. 2 |
| Bore diameter | 108 mm |
| Rod diameter | 50.8 mm |
| Stroke | 488 mm |
| **Angle cylinder** | nr. 2 |
| Bore diameter | 114.3 mm |
| Rod diameter | 63.5 mm |
| Stroke | 465.7 mm |
| **Tilt cylinder** | nr. 1 |
| Bore diameter | 127 mm |
| Rod diameter | 63.5 mm |
| Stroke | 148.3 mm |

### SERVICE CAPACITY

| | |
|---|---|
| Fuel tank | 322 l |
| Ad Blue tank | 52 l |
| Engine oil w/ filter | 16.4 l |
| Engine oil w/o filter | 15.6 l |
| Engine cooling system | 26.5 l |
| Hydraulic reservoir | 116.4 l |
| Final drive (per side) | 14.2 l |
| Track rollers (ea) | 0.275 l |
| Front idlers (ea) | 0.225 l |
| Carrier rollers – each | 0.334 l |

# SPECIFICATIONS

## UNDERCARRIAGE

| | |
|---|---|
| Track adjustment | Hydraulic |
| Frame | Oscillating equalizer beam suspension and pivot shaft |
| **Track link pitch** | 175 mm |
| Track shoe height | 52.5 mm |
| Pin diameter | 36.58 mm |
| **Bushing diameter** | |
| CLT track | 62 mm |
| CELT track | 79 mm |
| **Track shoes per side** | |
| CLT track | 43 |
| CELT track | 43 |
| Track rollers per side | 7 |
| Carrier rollers per side | 2 |
| Track roller rail diameter | 190 mm |
| **Track on ground** | |
| Shoe area | |
| 508 mm | 26323 $cm^2$ |
| 559 mm | 28965 $cm^2$ |
| 660 mm | 34199 $cm^2$ |
| 762 mm | 39484 $cm^2$ |

## BLADE

| | |
|---|---|
| Variable blade pitch | 55° +/- 5° |
| Lift speed – per second | 503 mm |
| Cutting edge | Reversible, replaceable |
| Width | 203.2 mm |
| Thickness | 19.1 mm |

## RIPPER

| | |
|---|---|
| Max. penetration | 478 mm |
| Width | 1711 mm |
| Cut | 1635 mm |
| Max. ground clearance | 424 mm |
| Max. number of shanks | 3 |
| Tooth spacing | |
| w/3 teeth | 785 mm |
| Hydraulic cylinder | Double-acting |
| Diameter | 102 mm |
| Stroke | 254 mm |
| Rod | 51 mm |

## OPERATING WEIGHT

**Unit equipped CAB, full fuel tank, 170 lb (77 kg) operator, side shield, track guides, backup alarm, horn, lights and rear retrieval hitch.**

| | Weight (kg) |
|---|---|
| **Long Track** | **14122** |
| **Wide Track** | **14549** |
| **Low Ground Pressure** | **14804** |

| Add-on weights | Weight (kg) |
|---|---|
| **Drawbar** | **66** |
| **Ripper (3 shank)** | **1043** |
| **Front counterweight** | **432** |

| CELT chains | Weight (kg) |
|---|---|
| **20” (508 mm)** | **2276** |
| **22” (559 mm)** | **2422** |
| **26” (660 mm)** | **2592** |
| **30” (762 mm)** | **2802** |
| **Center rockguard** | **134** |
| **Sweeps** | **63** |

## TRACK AND SHOE OPTIONS

### LT (Long Tracks)

| | |
|---|---|
| **508 mm** | **closed grousers and CLT** |
| **508 mm** | **open grousers and CELT** |
| **559 mm** | **closed grousers and CLT** |
| **559 mm** | **open grousers and CELT** |

### WT (Wide Tracks)

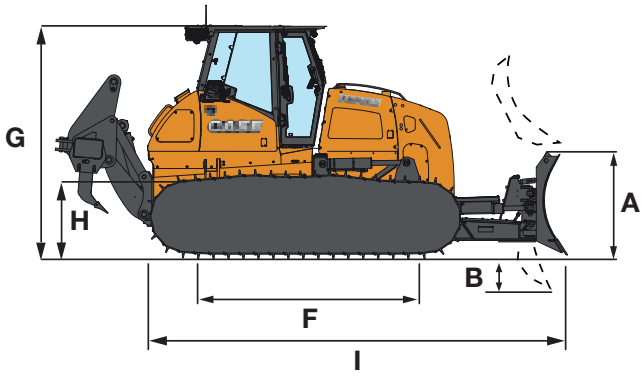
| | |
|---|---|
| **559 mm** | **closed grousers and CLT** |
| **559 mm** | **open grousers and CELT** |
| **660 mm** | **closed grousers and CLT** |
| **660 mm** | **open grousers and CELT** |

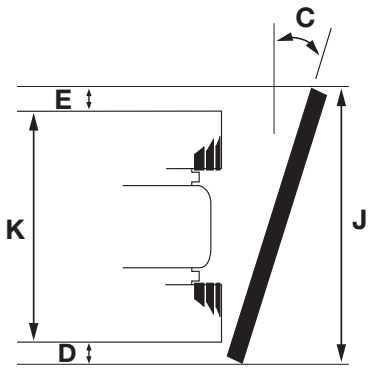
### LGP (Low Ground Pressure)

| | |
|---|---|
| **762 mm** | **closed grousers and CLT** |
| **762 mm** | **open grousers and CELT** |

# M-SERIES
# CRAWLER DOZERS

## 1150M GENERAL DIMENSIONS




Line drawings are for illustrative purpose only and may not be exact representation of unit.

| | | LT (Long Track) | WT (Wide Track) | LGP (Low Ground Pressure) |
|---|---|---|---|---|
| | **BLADES** | | | |
| | Blade width | 3048 mm | 3353 mm | 3353 mm |
| | SAE blade capacity | 2.87 $m^3$ | 3.18 $m^3$ | 3.18 $m^3$ |
| A | Blade height | 1120 mm | 1120 mm | 1120 mm |
| | Blade lift above ground | 956 mm | 956 mm | 956 mm |
| B | Blade depth below ground | 539 mm | 590 mm | 590 mm |
| C | Blade angle both directions | 25° | 25° | 25° |
| | Blade tilt, each end (up to 8.3°) | 430 mm | 450 mm | 450 mm |
| D | Cast reach track coverage | 380 mm | 370 mm | 319 mm |
| E | Cut reach track coverage | 24 mm | 12 mm | 63 mm |
| | **TRACKS** | | | |
| | Track gauge | 1830 mm | 2030 mm | 2030 mm |
| | Max shoe width | 559 mm | 660 mm | 762 mm |
| F | Track on ground | 2590 mm | 2590 mm | 2590 mm |
| | Area of track on ground | 2.90 $m^2$ | 3.42 $m^2$ | 3.95 $m^2$ |
| | Ground pressure | 0.44 $kg/cm^2$ * | 0.37 $kg/cm^2$ ** | 0.32 $kg/cm^2$ *** |
| | **DIMENSIONS** | | | |
| G | Height to top of cab | 2948 mm | 2948 mm | 2948 mm |
| H | Ground clearance | 330 mm | 330 mm | 330 mm |
| I | Length | | | |
| | - Blade straight with drawbar | 5080 mm | 5080 mm | 5080 mm |
| | - Blade straight with ripper | 6150 mm | 6150 mm | 6150 mm |
| | Width | | | |
| | - Blade straight | 3048 mm | 3353 mm | 3353 mm |
| J | Blade angled | 2773 mm | 3050 mm | 3050 mm |
| K | Over track | 2396 mm | 2692 mm | 2794 mm |

*with 559 mm shoes
** with 660 mm shoes
***with 762 mm shoes

NOTE: Ground clearance and overall height dimensions are with the grousers fully penetrated. Add 52.5 mm if unit is on solid surface.

# SPECIFICATIONS


*Courtesy of MachineryMarket*

# M-SERIES
# CRAWLER DOZERS

## 1650M SPECIFICATIONS

### ENGINE

Model — Case Family 4, F4HFE613Z*A008 Tier 4 Interim
Cylinders — 6
Displacement — 6.7 l
Fuel injection — Direct common rail
Fuel filter — Spin-on w/ in-line strainer
Air intake — Cross-flow
Cooling — Liquid
Engine speeds — RPM
High idle – no load — 2200 +/- 50
Rated – full load — 2000
Low idle — 800 +/- 25
Horsepower SAE J1349:
Engine rated net power — 150 hp - 112 kW @ 2200 rpm
Engine max net power — 164 hp - 122 kW @2200 rpm
Rated net torque — 666 Nm
Max net torque — 726 Nm

**Engine lubrication**

Pump — Deep sump plate cooler w/ pressurized under-piston nozzles
Pump operating angle ratings:
Side-to-side — 35°
Fore and aft — 45°
Radiator:
Core size area (Water Radiator) — 0.61 $m^2$
Rows of tubes — 4

**Fan**

Diameter — 700 mm
Ratio — hydraulically driven

### POWERTRAIN

**Dual path hydrostatic**

Pump — Variable axial piston
Motor — Variable bent axis piston
Max. drawbar pull* — 311 kN
Transmission — Single lever control electronic straight tracking
Oil filter — 2 micron, spin-on, replaceable
Travel speeds*
Forward — 0 – 9.3 km/h
Reverse — 0 – 9.3 km/h
Parking brakes — Heavy-duty, spring-applied, hydraulic pressure release
Steering brakes — Hydrostatic
Final drive — 2 helical gear reduction to planetary output
Ratio — 61.4:1

### TRANSMISSION COOLING

Type — Oil to air
Core size — 0.31$m^2$

*Measured using standard track chain. Increase travel speeds by 4% and reduce drawbar pull by 4% w/ the optional CELT track chain

### ELECTRICAL SYSTEM

Alternator — 120 amps
Batteries (2) — 12-volt, low-maintenance 925 cold-cranking amps @ -18°C

### OPERATOR ENVIRONMENT

ROPS/FOPS cab; Pneumatically suspended seat; w/ back adjustment; Seat belt; Adjustable armrests; Foot rests; Tool storage area; Headliner; Floor mat; Tilting seat platform; Noise Level 75 dbA.

**Warning lights:**

Air filter; Alternator; Diagnostic fault indicator; Engine coolant temperature; Engine oil pressure; Hydraulic filter; Low fuel level; Park brake engaged; Service soon indicator; Transmission filter; Transmission charge pressure.

**Gauges:**

Battery voltage; Digital hourmeter/tachometer diagnostic/service reminder; Fuel level; Transmission oil temperature; Transmission speed indicator; Water temperature.

**Audible warnings:**

Engine coolant temperature; Engine oil pressure; Low fuel level, Transmission charge pressure; Transmission/hydraulic temperature.

### HYDRAULICS

Pump flow @ 2200 RPM — 137 l/min
Max pressure — 248 bar

**Lift Cylinder PAT** — nr. 2
Bore diameter — 114.3 mm
Rod diameter — 63.5 mm
Stroke — 428 mm

**Angle cylinder PAT** — nr. 2
Bore diameter — 114 mm
Rod diameter — 63.5 mm
Stroke — 502.7 mm

**Tilt cylinder PAT** — nr. 1
Bore diameter — 127 mm
Rod diameter — 63.5 mm
Stroke — 148.3 mm

**Lift cyclinder Bull Dozer**
Bore diameter — 82.6 mm
Rod diameter — 50.8 mm
Stroke — 1000 mm

**Tilt cylinder Bull Dozer**
Bore diameter — 114.3 mm
Rod diameter — 36.5 mm
Stroke — 126 mm

# SPECIFICATIONS

## SERVICE CAPACITY

| | |
|---|---|
| Fuel tank | 322 l |
| AD Blue Tank | 52 l |
| Engine oil w/ filter | 16.4 l |
| Engine oil w/o filter | 15.6 l |
| Engine cooling system | 30.2 l |
| Hydraulic reservoir | 160 l |
| Final drive - per side | 14.2 l |
| Track rollers - each | 0.275 l |
| Front idlers - each | 0.225 l |
| Carrier rollers - each | 0.334 l |

## UNDERCARRIAGE

| | |
|---|---|
| Track adjustment | Hydraulic |
| Frame | Oscillating equalizer beam suspension and pivot shaft |
| **Track link pitch** | |
| CLT track | 190 mm |
| CELT track | 190 mm |
| Track shoe height | 56 mm |
| Pin diameter | 38 mm |
| **Bushing diameter** | |
| CLT track | 65 mm |
| CELT track | 86 mm |
| **Track shoes per side** | |
| CLT track | 45 |
| CELT track | 45 |
| Track rollers per side | 8 |
| Carrier rollers per side | 2 |
| Track roller rail diameter | 171.5 mm |

## TRACK ON GROUND

| Shoe area | |
|---|---|
| 559 mm | 34093 $cm^2$ |
| 610 mm | 37204 $cm^2$ |
| 711 mm | 49524 $cm^2$ |
| 819 mm | 37204 $cm^2$ |
| 864 mm | 52695 $cm^2$ |

## BLADE

| | |
|---|---|
| Variable blade pitch - adjustable | 55° +/- 5° |
| Lift speed - per second | 483 mm |
| Cutting edge | Reversible, replaceable |
| Width | 200 mm |
| Thickness | 20 mm |

## RIPPER

| | |
|---|---|
| Max. penetration | 570 mm |
| Width | 1953 mm |
| Cut width | 1889 mm |
| Max. ground clearance | 592 mm |
| Max. number of shanks | 3 |
| Tooth spacing | |
| w/3 teeth | 944 mm |
| Hydraulic cylinder | Double-acting |
| Diameter | 155 mm |
| Stroke | 596 mm |
| Rod | 69 mm |

## OPERATING WEIGHT

Operating weight includes cab, full fuel and hydraulic tanks, 170 lb (77 kg) operator, CLT chain, front pull hook, rear retrieval hitch, track guides, back up alarm, horn, lights, track shoe, C-frame and blade width as noted.

| | Weight (kg) |
|---|---|
| **Extra Long Track** | **17123 kg PAT<br>18030 kg Semi-U** |
| **Wide Track** | **17531 kg PAT** |
| **Low Ground Pressure** | **17940 kg PAT** |

| Add-on weights | Weight (kg) |
|---|---|
| **Drawbar** | **66** |
| **Ripper (3 shank)** | **1355** |
| **Winch** | **2500** |

| CELT Chains | Weight (kg) |
|---|---|
| **22” (559 mm)** | **3021** |
| **24” (610 mm)** | **3161** |
| **28” (711 mm)** | **3423** |
| **32” (819 mm)** | **3602** |
| **34” (864 mm)** | **3827** |
| **Center rockguard** | **259** |
| **Sweeps** | **63** |

# M-SERIES
# CRAWLER DOZERS

## 1650M TRACK AND SHOE OPTIONS

### XLT (Extra Long Tracks)

| | |
|---|---|
| 559 mm | closed grousers and CLT |
| 559 mm | open grousers and CELT |
| 610 mm | closed grousers and CLT |
| 610 mm | open grousers and CELT |

### WT (Wide Tracks)

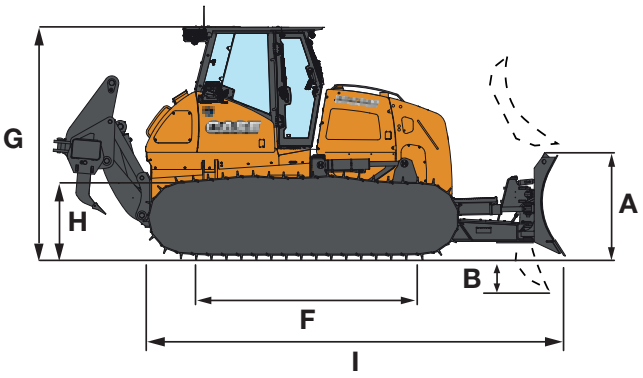
| | |
|---|---|
| 711 mm | closed grousers and CLT |
| 711 mm | open grousers and CELT |
| 819 mm | closed grousers and CLT |
| 819 mm | open grousers and CELT |

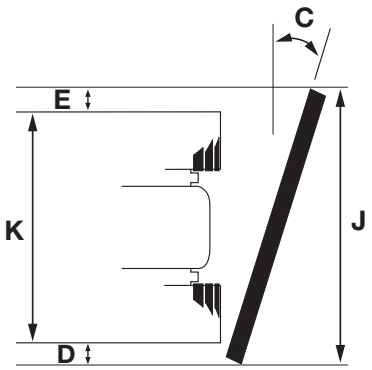
### LGP (Low Ground Pressure)

| | |
|---|---|
| 864 mm | closed grousers and CLT |
| 864 mm | open grousers and CELT |

| | BLADE DIMENSIONS | Bull Dozer Semi-U | Straight PAT | Straight PAT | Foldable PAT |
|---|---|---|---|---|---|
| | Blade Capacity SAE J1265 | 4.84 $m^3$ | 3.27 $m^3$ | 4.04 $m^3$ | 4.04 $m^3$ |
| | Undercarriage available | XLT | XLT | WT-LGP | WT - LGP |
| J | Blade width | 3322 mm | 3302 mm | 3962 mm | 3962 mm |
| | Blade width in transport position | 3322 mm | 3096 mm | 3574 mm | 2887 mm |
| A | Blade height | 1319 mm | 1180 mm | 1000 mm | 1000 mm |
| | Max. Tilt | +/- 420 mm | +/- 450 mm | +/- 550 mm | +/- 550 mm |
| | Max. Pitch | +/- 5° | +/- 5 ° | +/- 5 ° | +/- 5 ° |
| C | Max. Angle | - | +/- 28° | +/- 28° | +/- 28° |
| B | Digging depth. | 596 mm | 539 mm | 590 mm | 590 mm |
| | Max lift above ground | 1133 mm | 1130 mm | 1130 mm | 1130 mm |
| D | Cast reach track coverage | 468 mm | 457 mm | 558 mm | 584 mm |
| E | Cut reach track coverage | 468 mm | 53 mm | 154 mm | 80 mm |

## 1650M GENERAL DIMENSIONS




Line drawings are for illustrative purpose only and may not be exact representation of unit.

| | | XLT (Extra Long Track) | WT (Wide Track) | LGP (Low Ground Pressure) |
|---|---|---|---|---|
| | **TRACKS** | | | |
| | Track gauge | 1930 mm | 2180 mm | 2180 mm |
| | Max shoe width | 610 mm | 819 mm | 864 mm |
| F | Track on ground | 3050 mm | 3050 mm | 3050 mm |
| | Area of track on ground | 3.72 $m^2$ | 4.30 $m^2$ | 5.26 $m^2$ |
| | Ground pressure | 0.42 $kg/cm^2$ * | 0.38 $kg/cm^2$ ** | 0.31 $kg/cm^2$ *** |
| | **DIMENSIONS** | | | |
| G | Height to top of cab | 2948 mm | 2948 mm | 2948 mm |
| H | Ground clearance | 321 mm | 321 mm | 321 mm |
| I | Length | | | |
| | - Blade straight with drawbar | 5678 mm PAT<br>5928 mm Semi-U | 5678 mm | 5678 mm |
| | - Blade straight with ripper | 6670 mm PAT<br>6920 mm Semi-U | 6670 mm | 6670 mm |
| | Width | | | |
| | - Blade straight | 3302 mm PAT<br>3332 mm Semi-U | 3962 mm PAT | 3962 mm PAT |
| J | Blade angled | 3000 mm PAT | 3574 mm PAT<br>2887 mm PAT Foldable | 3574 mm PAT<br>2887 mm PAT Foldable |
| K | Over track | 2489 mm with<br>559 mm shoes | 2997 mm with<br>819 mm shoes | 3044 mm with<br>864 mm shoes |

* with 610 mm shoes and PAT blade
** with 711 mm shoes and PAT blade
*** with 864 mm shoes and PAT blade

NOTE: Ground clearance and overall height dimensions are with the grousers fully penetrated. Add 52.5 mm if unit is on solid surface.

# M-SERIES
# CRAWLER DOZERS

## 2050M SPECIFICATIONS

### ENGINE

Model — Case Family 4, F4HFE613W*A004 Tier 4 Interim
Cylinders — 6
Displacement — 6.7 l
Fuel injection — Direct common rail
Fuel filter — Spin-on w/ in-line strainer
Air intake — Cross-flow
Cooling — Liquid
Engine speeds — RPM
High idle – no load — 2200 +/- 50
Rated – full load — 2000
Low idle — 800 +/- 25
Horsepower SAE J1349:
Engine rated net power — 214 hp - 160 kW @ 2200 rpm
Engine max net power — 232 hp - 173 kW @2200 rpm
Rated net torque — 1004 Nm
Max net torque — 1082 Nm

**Engine lubrication**

Pump — Deep sump plate cooler w/ pressurized under-piston nozzles
Pump operating angle ratings:
Side-to-side — 35°
Fore and aft — 45°
Radiator:
Core size area (Water Radiator) — 0.33 $m^2$
Rows of tubes — 4

**Fan**

Diameter — 700 mm
Ratio — hydraulically driven

### POWERTRAIN

**Dual path hydrostatic**

Pump — Variable axial piston
Motor — Variable bent axis piston
Max. drawbar pull* — 372 kN
Transmission — Single lever control electronic straight tracking
Oil filter — 2 micron, spin-on, replaceable
Travel speeds*
Forward — 0 – 9.3 km/h
Reverse — 0 – 9.3 km/h
Parking brakes — Heavy-duty, spring-applied, hydraulic pressure release
Steering brakes — Hydrostatic
Final drive — 2 helical gear reduction to planetary output
Ratio — 48.75 :1

### TRANSMISSION COOLING

Type — Oil to air
Core size — 0.31$m^2$

*Measured using standard track chain. Increase travel speeds by 4% and reduce drawbar pull by 4% w/ the optional CELT track chain

### ELECTRICAL SYSTEM

Alternator — 120 amps
Batteries (2) — 12-volt, low-maintenance 1200 cold-cranking amps @ -18°C

### OPERATOR ENVIRONMENT

ROPS/FOPS cab; Pneumatically suspended seat; w/ back adjustment; Seat belt; Adjustable armrests; Foot rests; Tool storage area; Headliner; Floor mat; Tilting seat platform; Noise level 78dbA.

**Warning lights:**

Air filter; Alternator; Diagnostic fault indicator; Engine coolant temperature; Engine oil pressure; Hydraulic filter; Low fuel level; Park brake engaged; Service soon indicator; Transmission filter; Transmission charge pressure.

**Gauges:**

Battery voltage; Digital hourmeter/tachometer diagnostic/service reminder; Fuel level; Transmission oil temperature; Transmission speed indicator; Water temperature.

**Audible warnings:**

Engine coolant temperature; Engine oil pressure; Low fuel level, Transmission charge pressure; Transmission/hydraulic temperature.

### HYDRAULICS

Pump flow @ 2200 RPM — 160 l/min
Max pressure — 248 bar
**Lift Cylinder PAT** — nr. 2
Bore diameter — 114.3 mm
Rod diameter — 63.5 mm
Stroke — 428 mm
**Angle cylinder PAT** — nr. 2
Bore diameter — 114 mm
Rod diameter — 63.5 mm
Stroke — 502.7 mm
**Tilt cylinder PAT** — nr. 1
Bore diameter — 127 mm
Rod diameter — 63.5 mm
Stroke — 148.3 mm
**Lift cyclinder Bull Dozer**
Bore diameter — 82.6 mm
Rod diameter — 50.8 mm
Stroke — 1000 mm
**Tilt cylinder Bull Dozer**
Bore diameter — 114.3 mm
Rod diameter — 36.5 mm
Stroke — 126 mm

# SPECIFICATIONS

## SERVICE CAPACITY

| | |
|---|---|
| Fuel tank | 405 l |
| AD Blue Tank | 60 l |
| Engine oil w/ filter | 16.4 l |
| Engine oil w/o filter | 15.6 l |
| Engine cooling system | 30.2 l |
| Hydraulic reservoir | 210 l |
| Final drive - per side | 25 l |
| Track rollers - each | 0.275 l |
| Front idlers - each | 0.225 l |
| Carrier rollers - each | 0.334 l |

## UNDERCARRIAGE

| | |
|---|---|
| Track adjustment | Hydraulic |
| Frame | Oscillating equalizer beam suspension and pivot shaft |
| **Track link pitch** | |
| CLT track | 203 mm |
| CELT track | 203 mm |
| Track shoe height | 71.5 mm |
| Pin diameter | 44 mm |
| **Bushing diameter** | |
| CLT track | 72 mm |
| CELT track | 93 mm |
| **Track shoes per side** | |
| CLT/CELT track | 40 LT<br>45 XLT /WT/LGP |
| **Track rollers per side** | |
| LT | 7 |
| XLT/WT-LGP | 8 |
| Carrier rollers per side | 2 |
| Track roller rail diameter | 187.5 mm |

## TRACK ON GROUND

| | |
|---|---|
| Shoe area | |
| 610 mm | 32269 $cm^2$ LT<br>39979 $cm^2$ XLT |
| 711 mm | 46599 $cm^2$ WT |
| 762 mm | 49941 $cm^2$ WT |
| 914 mm | 59904 $cm^2$ LGP |

## BLADE

| | |
|---|---|
| Variable blade pitch - adjustable | 55° +/- 5° |
| Lift speed - per second | 483 mm |
| Cutting edge | Reversible, replaceable |
| Width | 200 mm |
| Thickness | 20 mm |

## RIPPER

| | |
|---|---|
| Max. penetration | 570 mm |
| Width | 1953 mm |
| Cut width | 1889 mm |
| Max. ground clearance | 592 mm |
| Max. number of shanks | 3 |
| Tooth spacing<br>w/3 teeth | 944 mm |
| Hydraulic cylinder | Double-acting |
| Diameter | 155 mm |
| Stroke | 596 mm |
| Rod | 69 mm |

## OPERATING WEIGHT

Operating weight includes cab, full fuel and hydraulic tanks, 170 lb (77 kg) operator, CLT chain, front pull hook, rear retrieval hitch, track guides, back up alarm, horn, lights, track shoe, C-frame and blade width as noted.

| | Weight (kg) |
|---|---|
| **Long Track** | **20213 kg PAT<br>20206 kg Straight<br>20485 kg Semi-U** |
| **Extra Long Tracks** | **20599 kg PAT<br>20592 kg Straight<br>20871 kg Semi-U** |
| **Wide Tracks** | **21269 kg PAT<br>21971 kg PAT Foldable<br>21431 kg Straight** |
| **Low Ground Pressure** | **22115 kg PAT<br>22790 kg PAT Foldable<br>22131 kg Straight** |

| Add-on weights | Weight (kg) |
|---|---|
| **Drawbar** | **66** |
| **Ripper (3 shank)** | **1355** |
| **Winch** | **2500** |

| CELT chains | Weight (kg) |
|---|---|
| **24” (610 mm)** | **3182** |
| **28” (711 mm)** | **3928** |
| **30” (762 mm)** | **4018** |
| **36” (914 mm)** | **4628** |
| **Center rockguard** | |
| **LT** | **221** |
| **XLT/WT/LGP** | **306** |
| **Sweeps** | **63** |

# M-SERIES
# CRAWLER DOZERS

## 2050M TRACK AND SHOE OPTIONS

### LT (Long Tracks)

| | |
|---|---|
| 610 mm | closed grousers and CLT |
| 610 mm | open grousers and CELT |

### XLT (Extra Long Tracks)

| | |
|---|---|
| 610 mm | closed grousers and CLT |
| 610 mm | open grousers and CELT |

### WT (Wide Tracks)

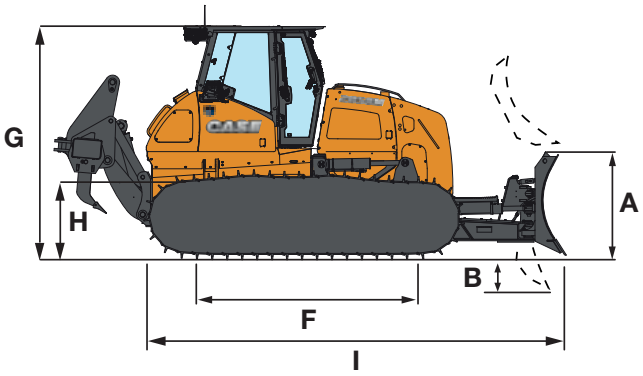
| | |
|---|---|
| 711 mm | closed grousers and CLT |
| 711 mm | open grousers and CELT |
| 762 mm | closed grousers and CLT |
| 762 mm | open grousers and CELT |

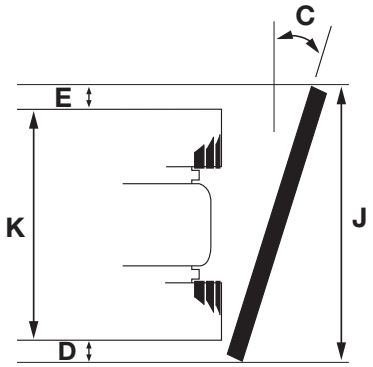
### LGP (Low Ground Pressure)

| | |
|---|---|
| 914 mm | closed grousers and CLT |
| 914 mm | open grousers and CELT |

| | BLADE DIMENSIONS | Bull Dozer Straight | Bull Dozer Straight | Bull Dozer Semi-U | Straight PAT | Straight PAT | Foldable PAT |
|---|---|---|---|---|---|---|---|
| | Blade Capacity SAE J1265 | 3.22 $m^3$ | 3.78 $m^3$ | 5.60 $m^3$ | 4.83 $m^3$ | 5.54 $m^3$ | 5.54 $m^3$ |
| | Undercarriage available | LT -XLT | WT - LGP | LT-XLT | LT-XLT | WT-LGP | WT - LGP |
| J | Blade width | 3334 mm | 3901 mm | 3426 mm | 3606 mm | 4064 mm | 4064 mm |
| | Blade width in transport position | 3334 mm | 3901 mm | 3426 mm | 3287 mm | 3690 mm | 3023 mm |
| A | Blade height | 1108 mm | 1108 mm | 1425 mm | 1369 mm | 1369 mm | 1369 mm |
| | Max. Tilt | +/-422 mm | +/-450 mm | +/- 411 mm | +/- 450 mm | +/- 550 mm | +/- 550 mm |
| | Max. Pitch | +/- 5° | +/- 5° | +/- 5° | +/- 5 ° | +/- 5 ° | +/- 5 ° |
| C | Max. Angle | - | - | - | +/- 28° | +/- 28° | +/- 28° |
| B | Digging depth. | 545 mm | 539 mm | 583 mm | 590 mm | 590 mm | 590 mm |
| | Max lift above ground | 1169 mm | 1165 mm | 1244 mm | 1130 mm | 1130 mm | 1130 mm |
| D | Cast reach track coverage | 393 mm | 363 mm | 438 mm | 582 mm | 472 mm | 548 mm |
| E | Cut reach track coverage | 393 mm | 363 mm | 438 mm | 154 mm | 43 mm | 119 mm |

## 2050M GENERAL DIMENSIONS




Line drawings are for illustrative purpose only and may not be exact representation of unit.

| | | LT (Long Track) | XLT (Extra Long Track) | WT (Wide Track) | LGP (Low Ground Pressure) |
|---|---|---|---|---|---|
| | **TRACKS** | | | | |
| | Track gauge | 1940 mm | 1940 mm | 2260 mm | 2260 mm |
| | Max shoe width | 610 mm | 610 mm | 762 mm | 914 mm |
| F | Track on ground | 2645 mm | 3277 mm | 3277 mm | 3277 mm |
| | Area of track on ground | 3.22 $m^2$ | 4.65 $m^2$ | 4.99 $m^2$ | 5.99 $m^2$ |
| | Ground pressure | 0.62 kg/$cm^{2}$* | 0.44 kg/$cm^{2}$** | 0.42 kg/cm2*** | 0.36 kg/$cm^{2}$ **** |
| | **DIMENSIONS** | | | | |
| G | Height to top of cab | 3103 mm | 3103 mm | 3103 mm | 3103 mm |
| H | Ground clearance | 325 mm | 325 mm | 325 mm | 325 mm |
| I | Length | | | | |
| | - Blade straight with drawbar | 5491 mm PAT<br>5387 mm Straight<br>Semi-U | 5902 mm PAT<br>5387 mm Straight<br>Semi-U | 5902 mm PAT<br>5894 mm Straight | 5902 mm PAT<br>5894 mm Straight |
| | - Blade straight with ripper | 6974 mm PAT<br>6869 mm Straight<br>Semi -U | 7383 mm PAT<br>6869 Straight<br>Semi-U | 7383 mm PAT<br>6982 mm Straight | 7383 mm PAT<br>6982 mm Straight |
| | Width | | | | |
| | - Blade straight | 3606 mm PAT<br>3334 mm Straight<br>3426 mm Semi-U | 3606 mm PAT<br>3334 mm Straight<br>3426 mm Semi-U | 4064 mm PAT<br>PAT Foldable<br>3901 mm Straight | 4064 mm PAT<br>PAT Foldable<br>3901 mm Straight |
| J | Blade angled | 3287 mm PAT | 3287 mm PAT | 3690 mm PAT<br>3023 mm PAT Foldable | 3690 mm PAT<br>3023 mm PAT Foldable |
| K | Over track | 2549 mm with<br>610 mm shoes | 2549 mm with<br>610 mm shoes | 3022 mm with<br>762 mm shoes | 3175 mm with<br>914 mm shoes |

* with 610 mm shoes and PAT blade
** with 711 mm shoes and PAT blade
*** with 762 mm shoes and PAT blade
**** with 914 mm shoes and PAT blade

NOTE: Ground clearance and overall height dimensions are with the grousers fully penetrated. Add 52.5 mm if unit is on solid surface.

www.casece.com

# EXPERTS FOR THE REAL WORLD
## SINCE 1842

CASE CONSTRUCTION


Form No. 20085GB - Printed in Italy - MediaCross Firenze - 09/15

**CNH INDUSTRIAL DEUTSCHLAND GMBH**
Case Baumaschinen
Benzstr. 1-3 - D-74076 Heilbronn
DEUTSCHLAND

**CNH INDUSTRIAL FRANCE, S.A.**
16-18 Rue des Rochettes
91150 Morigny-Champigny
FRANCE

**CNH UK LTD**
Unit 4, Hayfield Lane
Business Park, Field Lane,
Auckley, Doncaster, DN9 3FL
UNITED KINGDOM

**CNH INDUSTRIAL - SOUTH AFRICA**
Waterfall Business Park
Bekker Street, Howick Close
1685 Midrand - Johannesburg
REPUBLIC OF SOUTH AFRICA

**CNH INDUSTRIAL MAQUINARIA SPAIN, S.A.**
Avda. José Gárate, 11
28823 Coslada (Madrid)
ESPAÑA

**CNH INDUSTRIAL ITALIA SPA**
Strada di Settimo, 323
10099 San Mauro Torinese (TO)
ITALIA

**CASE CUSTOMER CENTRE PARIS**
RN 330 - Penchard
77122 - Monthyon
FRANCE

**CNH INDUSTRIAL - MIDDLE EAST**
DAFZA – Dubai Airport Free Zone
West Wing 4 B, Office 642
P.O. Box 54588, Dubai,
UNITED ARAB EMIRATES

*NOTE: Standard and optional fittings can vary according to the demands and specific regulations of each country. The illustrations may include optional rather than standard fittings - consult your Case dealer. Furthermore, CNH Industrial reserves the right to modify machine specifications without incurring any obligation relating to such changes.*

*Conforms to directive 2006/42/EC*

CASE Customer Assistance
00800-2273-7373

*The call is free from a land line.*
*Check in advance with your Mobile Operator if you will be charged. Toll free number not available from all calling areas.*