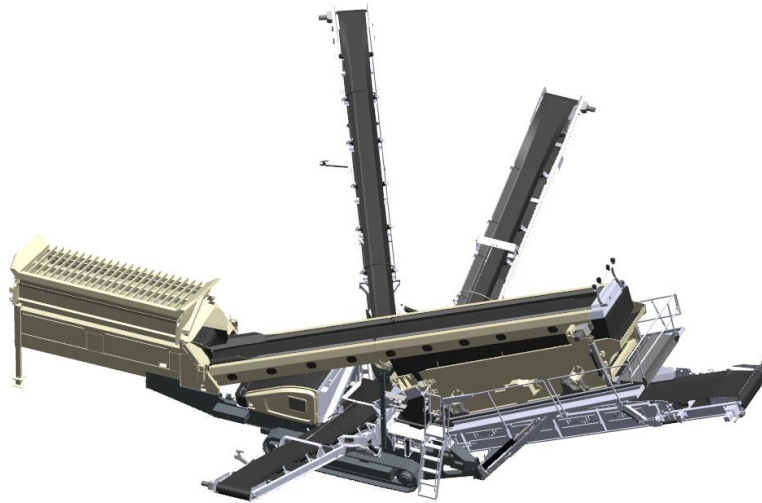


Metso

Lokotrack ST4.8

Technical Specification



NOTE: This specification is a so-called full technical specification, which illustrates the wide range of available technical designs for the subject Metso equipment. The technical specification does not necessarily specify the product design of the actual equipment offered by Metso or ordered by the customer. The technical specification is not part of any legally binding offer or contract and no warranty is given on its basis. Metso disclaims and rejects any and all liability in relation to full technical specifications. A legally valid and binding contract can only base upon an express offer and/or order acceptance from Metso or a signed contract. Metso reserves all rights, at its sole discretion, to amend full specifications without prior notice and without any liability incurred thereby.

Lokotrack ST4.8 mobile screen unit

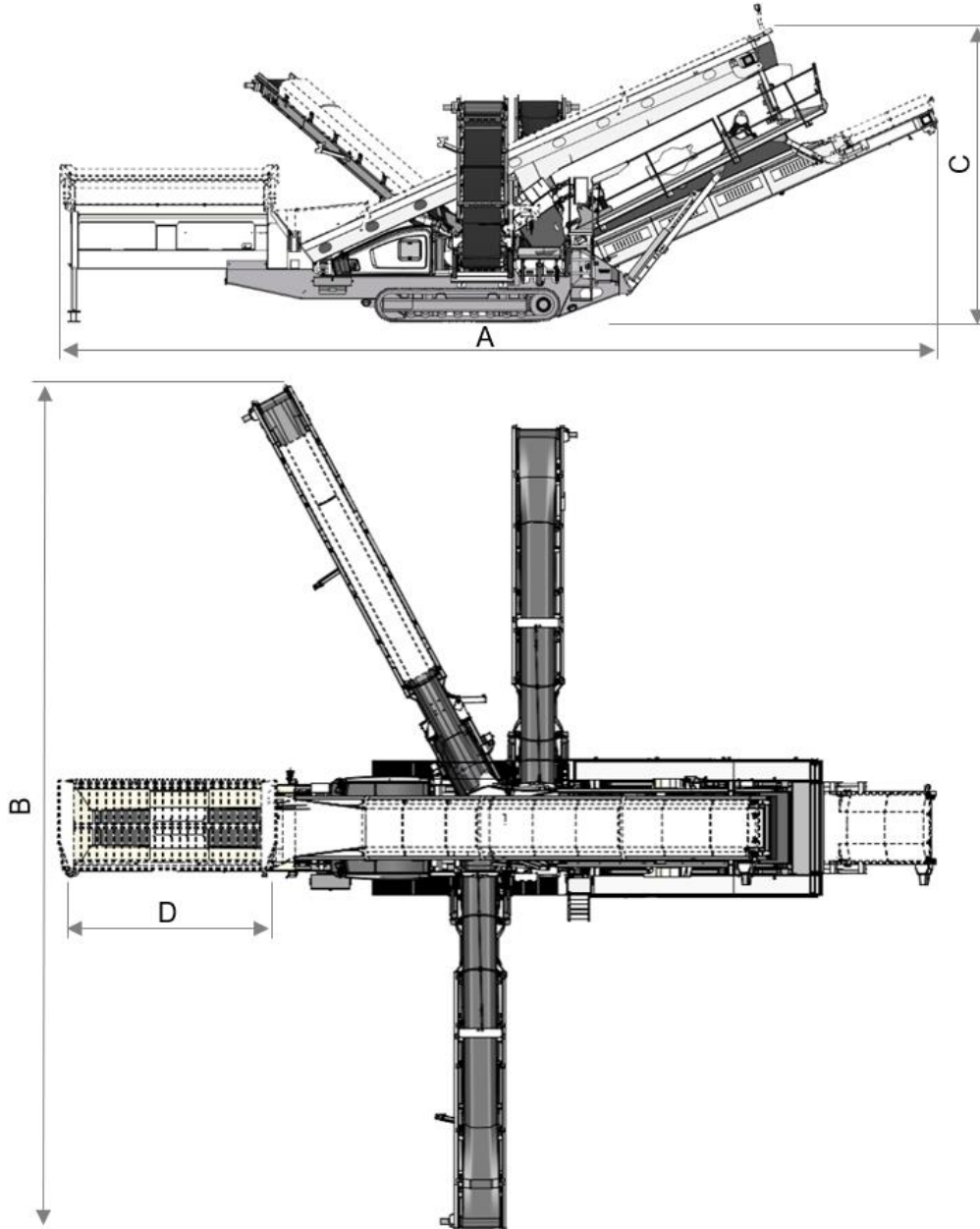
Lokotrack ST4.8 is a mobile screen that can be used as a standalone fine screen or part of a multi-stage Lokotrack crushing and screening process. ST4.8 has a three-deck screen box. The feeder unit can be equipped with a tipping grid, rock box, or vibrating grid. ST3.8 is available with the e-Power option.

Operating performance		
Feed Size / With Grid	150 / 300 mm	6 in / 1 ft
Nominal capacity**	400 mtph	440 stph

**rinser screen option 250 mtph / 275 stph

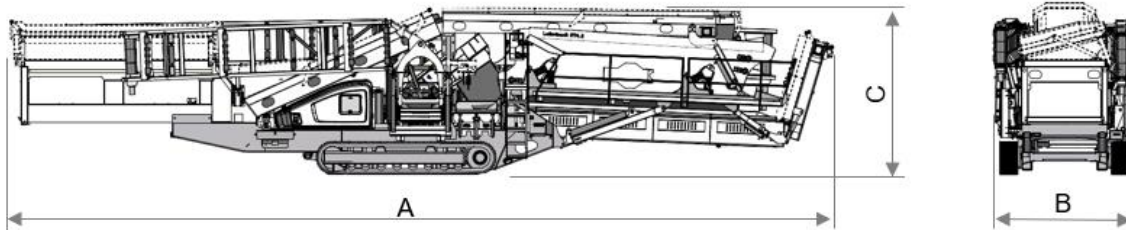
Moving performance		
Travelling speed	0,35 / 0,7 km/h	0,22 / 0,43 mph
Tractive effort	220 kN	49458 lbf
Gradeability	15 deg	27 %
Lateral inclination	5 deg	9 %
Ground pressure	116 kPa	16.8 psi
Final drive max torque	36 kNm (x 2)	26,5 kip ft (x 2)

Main dimensions of ST during screening operations with default options (screen angle 23°)



Length A	18 800 mm	61 ft 8 in
Width B	18 000 mm	59 ft 1 in
Height C	6 500 mm	21 ft 4 in
Feeding width D	4 600 mm	15 ft 1 in
Weight	32 500 kg	71 700 lbs

Main dimensions of ST for transport* with default options**



Length A	18 000 mm	59 ft 1 in
Width B	3 100 mm	10 ft 2 in
Height C	3 620 mm	11 ft 10 in
Weight	32 500 kg	71 700 lbs

**Transport drawings should be used for transport permits.*

***Rinser version has different transportation dimensions and different transport drawing*

Feeder and lifting conveyor

The feed hopper can be fed from other Lokotrack units or by a wheel loader.

The feed hopper can be equipped with a tipping grid, two-deck vibrating grid, or rock box depending on the feed material and the feeding arrangement. The feeder can also be equipped with an adjustable feed level gate for controlling material feed height to the lifting conveyor.

The lifting conveyor is equipped with a spreader plate to distribute the material evenly onto the screen. With the hydraulic option, the discharge section of the lifting conveyor can be hydraulically raised for mesh change and/or maintenance.

Feed hopper		
Loading height	2 500 mm without grid	8 ft 3 in
	3 330 mm with grid	10 ft 11 in
	3 430 mm with vibrating grid	11 ft 3 in
Loading width	4 648 mm	15 ft 3 in
Hopper volume std.	4,5 m ³	5.9 yd ³
Hopper volume incl. grid	7,5 m ³	9.8 yd ³
Hopper volume extended incl. grid	NA	NA
Wear plates	6 mm / 1/4 in wear-resistant steel lining as an option	
Feed level gate	Option	

The tipping grid has grizzly plates to remove oversize material. The tipping grid can be remotely tilted to clear the oversize material from the grizzly plates. The angle of the grid can be mechanically adjusted.

Tipping grid (optional)		
Plate Grizzly apertures	100, 130, 150 mm	4, 5, 6 in

The vibrating grid is recommended especially for cleaning sticky material. It has plate grizzlies on the top deck and meshes on the bottom deck. The angle of the grid can be hydraulically adjusted.

Vibrating grid (optional)		
Grid size	3000 x 1800 mm	10 x 6 ft
Grid stroke	6 mm	¼ in
Grid shaft speed	1050 rpm	
Top deck plate Grizzly	107, 130, 155 mm	4, 5, 6 in
Bottom deck mesh size	30 - 80 mm	1 ¼ - 3 1/6 in
Bottom deck mesh 2 pcs.	1685 x 1493 mm (l x w)	66 x 59 in (l x w)

Maximum weight per bottom deck screen area for mesh and punch plate is 20 kg/m² (44 lbs/ft²).

Feed conveyor H10-4		
Length	4 000 m	13 ft 1 in
Belt width	1 050 mm	42 in
Belt type	Flat	
Belt speed	Adjustable 0,03 - 0,37 m/s	0.1 - 1.2 ft/s
Drive	Hydraulic with gear	

Lifting conveyor H10-11		
Length	11 m	37 ft
Belt width	1 050 mm	42 in
Belt type	Flat	
Belt speed	Adjustable 1,14 - 2,0 m/s	3.6 - 6.6 ft/s
Drive	Hydraulic	
Main conveyor lifting	Option. Discharge section can be hydraulically raised for screen mesh change.	
Dust suppression	Option	
Roll back ports	Option	

Screen

Lokotrack ST4.8 is equipped with a three-deck, two-bearing vibrating screen that can be set up in a variety of angles. The screening angle is hydraulically adjustable. All the decks can be equipped with end-tensioned, woven steel meshes (suitable for longitudinal apertures).

Screen box		
Number of decks	3	
Screen area per deck	7,9 m ²	85 ft ²
Screen area total	23,7 m ²	255 ft ²
Screen size	5480 x 1524 mm	18 x 5 ft
Screen shaft speed	1050 rpm	
Screen angle	18 - 29° with intervals of approximately 1°	
Stroke	7 - 8 mm	1/4 - 5/16 in
Max feed size	150 mm	6 in
Feedbox	Rubber lining	

Screening medias, selection		
Number of decks	3	
Top deck mesh size *	3 - 100 mm	0,1 - 4 in
Middle deck mesh size *	3 - 75 mm	0,1 - 3 in
Bottom deck mesh size *	3 - 75 mm	0,1 - 3 in

* This is standard media selection for ST4.8. For further information contact Metso.

Screen mesh main dimensions		
Top screen mesh 2 pcs.	2700 x 1500 mm (l x w)	9 x 5 ft (l x w)
Middle screen mesh 2 pcs.	2700 x 1500 mm (l x w)	9 x 5 ft (l x w)
Bottom screen mesh 2 pcs.	2700 x 1500 mm (l x w)	9 x 5 ft (l x w)

NOTE! Maximum weight per screen area for mesh is 20 kg/m² (44 lbs/ft²).

Rinser screen (option)

The rinsing screen is designed for wet screening. The rinsing screen includes a main water beam with a manometer, a water inlet flange, and spray bars with gate valves. The water pump is not included. The water volume for each pipe can be adjusted individually. The fines product conveyor is replaced by a slurry chute with rubber linings. The fines conveyor can be separately delivered for dry screening (quick couplings installed).

Screen box, rinsing (same medias and mesh dimension as in standard version)

Number of decks	3	
Screen area per deck	7,9 m ²	85 ft ²
Screen area total	23,7 m ²	255 ft ²
Screen size	5480 x 1524 mm	18 ft x 5 ft
Screen shaft speed	1050 rpm	
Screen angle	18 - 29° with intervals of approximately 1°	
Stroke	7 - 8 mm	1/4 - 5/16 in
Max feed size	150 mm	6 in
Screen area total	23,7 m ²	255 ft ²
Feedbox	Rubber lining	

Rinsing specification

Nozzles <i>Each spray bar can open / close by gate valve</i>	Nr. of nozzles/ spray bars	Water capacity @ 2 bars (29 psi) / nozzle
Lifting conveyor	10 nozzles / 2 spray bars	30 l/min (8 gal/min)
Feeding point	16 nozzles / 3 spray bars	30 l/min (8 gal/min)
Top deck	49 nozzles / 7 spray bars	50 l/min (13 gal/min)
Middle deck	53 nozzles / 7 spray bars	30 l/min (8 gal/min)
Bottom deck	52 nozzles / 7 spray bars	30 l/min (8 gal/min)
Total	180 nozzles	Indicatively needed 70-300 m ³ / h (90 - 390 yd ³ /h) depend application
Water pressure	Max 3 bars / 44 psi. Manometer on the main water beam.	
Water pump	Not included in the delivery. 19 kW/2 bar or 35 kW/3 bar (25 hp/29 psi or 47 hp/44 psi) recommended size.	
Water inlet dimensions	DIN2501-PN10 - DN150	
Slurry outlet dimensions*	DIN2501-PN6 - DN300	
Discharge chute	Slurry collection chute with rubber lining	
Main conveyor lifting	Included when rinsing option is selected	
Fines product conveyor	Available as separate delivery (quick couplings included)	

*Slurry outlet hose is not included.

Product Conveyors

The product conveyors can be used to take the screened materials to the stockpiles, next stage, or closed circuit to the previous stage. The top deck oversize conveyor can be adjusted both vertically and radially for an easier closed circuit. The side conveyors can be vertically adjusted with optional equipment. The fines product conveyor can be hydraulically adjusted especially when using a high screening angle. All the conveyors are hydraulically folded for transport.

Top deck oversize conveyor H6,5-10		
Length	10 m	32 ft 10 in
Belt width	650 mm	26 in
Belt type	Chevron 15 mm high pattern	
Belt speed	0 - 1,75 m/s	0 - 5.7 ft/s
Drive	Hydraulic	
Discharge height (22°)	4910 mm	16 ft 1 in
Discharge height (26°)	5500 mm	18 ft
Angle adjustment	24° / 26°	
Swivel angle	62° - 66°	
Middle deck- and bottom deck side conveyors H8-10		
Length	10 m	32 ft 10 in
Belt width	800 mm	32 in
Belt type	Chevron 15 mm high pattern	
Belt speed	0-2,0 m/s	0 - 6.6 ft/s
Drive	Hydraulic	
Discharge height (24°)	4440 mm	14 ft 7 in
Standard default angle	24° for bottom deck 25,5° for middle deck	
Angle adjustment (option)	16° / 19° / 22° / 24° for bottom deck 24° / 25,5° / 27° for middle deck	

Fines product conveyor H12-8		
Length	8 m	12 ft 3 in
Belt width	1 200 mm	48 in
Belt type	Flat	
Belt speed	1,85 m/s	6 ft/s
Drive	Hydraulic	
Discharge height (25°)	4300 mm	14 ft 1 in
Angle Lower position	17 - 26° with intervals of approximately 1° Hydraulically lowerable by 1,5° / 3,0°	
Dust suppression	Option	
Carving Scraper	Option	

Dividing chute

The dividing chutes that direct the screened material onto the side conveyors are equipped with chute openings that can be taken into use if needed. The chute openings can be used to direct the material flow from a specific deck onto an alternative side conveyor. The oversize material of the top deck can be directed onto the middle deck conveyor. The oversize material of the middle deck can be directed onto the bottom deck conveyor. With suitable materials the oversize material of all three decks can also be directed onto the bottom deck conveyor.

Engine & transmission

The power unit of the Lokotrack ST4.8 includes a diesel engine, cooler assembly with a hydraulic tank, main pumps, two batteries, main control center, and a hydraulics assembly which includes the valves.

The hydraulic system has high-quality return filtration, and it is designed for efficient and reliable use in different environmental conditions. Each process function has a dedicated fixed displacement pump for high power and torque. The two-stage heavy-duty air filtration has a cycloid pre-cleaner and a main cleaner with two filter elements.

Engine type and emission class	
Tier3	Caterpillar C4.4 106 kW (142hp)
Tier3	Caterpillar C4.4 98 kW (131 hp) 1800rpm CSE
StageV / Tier4f	Caterpillar C3.6 100 kW (134 hp)

Power unit		
Voltage	24 VDC	
Fuel tank	300 l	79 US gal
Fuel filling	Large filling cap on both sides for fuel truck	
Hydraulic tank	105 l	28 US gal
Air filter	Heavy duty filter with 2 elements and cycloid pre cleaner	
Diesel exhaust fluid tank*	19 l	5 US gal

* only StageV / Tier 4f

Hydraulic pumps, fixed displacement	Process functions	Options	Tracking / cylinder functions
50 cm³ / 85 l/min (3in³/22.5 gal/min)	Screen		
38 cm³ / 65 l/min (2.3in³/17.2 gal/min)	Feeder		Cylinder functions
38 cm³ / 65 l/min (2.3in³/17.2 gal/min)	Fines product conveyor, Middle deck side conveyor	Vibrating Grid	Right track
38 cm³ / 65 l/min (2.3in³/17.2 gal/min)	Bottom deck side conveyor, Oversize conveyor	Hydraulic PTO	Left track
38 cm³ / 71 l/min * (2.3in³/17.2 gal/min)*	Lifting conveyor	Water pump	

*side pump

e-Power (option)

The e-Power option for Lokotrack ST enables either a 50 or 60 Hz external power supply during the process. There are 2 x 45 kW electric motor-driven pump unit circuits that produce hydraulic power to drive all processes and cylinder functions. Track driving mode is only available with the diesel motor. All process options (e.g., hydraulic PTO, water pump, magnet...) are also available with the e-Power. The process mode (diesel/electricity) can be selected from the electric center with a switch.

Hydraulic pumps, fixed displacement	Process functions	Options	Tracking / cylinder functions
30,5 cm ³ / 85 l/min (1.9in ³ /22.5 gal/min)	Screen		
30,5 cm ³ / 65 l/min (1.9in ³ /17.2 gal/min)	Feeder		Cylinder functions
30,5 cm ³ / 65 l/min (1.9in ³ /17.2 gal/min)	Fines product conveyor, Middle deck side conveyor	Vibrating Grid	Right track
30,5 cm ³ / 65 l/min (1.9in ³ /17.2 gal/min)	Bottom deck side conveyor, Oversize conveyor	Hydraulic PTO	Left track
30,5 cm ³ / 85 l/min (1.9in ³ /17.2 gal/min)	Lifting conveyor	Water pump	

Track Undercarriage

Track Undercarriage		
Track shoe width	400 mm	16 in
Track length c/c	3 310 mm	11 ft
Track pair width	2 840 mm	9 ft 4 in
Ground clearance	290 mm	11 in
Track drive	Hydraulic	
Chain tensioning	with a grease gun	

Control unit & electrification

Electrification

- 24 VDC electric system in Lokotrack. All cables are numbered for overhauling.
- 3 pcs emergency stop switches
- Rechargeable LED service light with magnet holder. Main light and spotlight
- Optional LED work lights located on top of machine feeder

IC Control unit

IC control is an embedded process automation control system with following features:

- **Main user control functions:**
 - Main key switch
 - Engine start/stop
 - Single button process start / stop
 - Hand valve control for cylinder functions on/off
 - Radio control on/off
 - Work lights on/off
 - Emergency stop switch
- **IC control panel** with touchscreen color display/push buttons
 - Feeder speed control
 - Process information
 - Advanced fault diagnostics
 - Fuel level gauge
 - Built-in help system
 - Selectable system language
 - Parameterization of sensors and devices
 - Connection to Metso Metrics

Cable control for track drive

Cable remote control for track drive. Can be connected to each end of the machine.

Radio remote control (optional)

Radio remote control for process and track drive consisting of:

- Transmitter and receiver units
- Integrated battery charger (2 pcs batteries)
- Electrification (key switch for radio control)

Enables following **functions**:

- Rpm adjustment of diesel engine
- Feeder speed control
- Tipping grid tilt control
- Track drive
- Remote stop switch

Below **frequencies** available (other frequencies on request):

- Europe and other areas: 434 MHz
- North America: 458 MHz
- Japan: 429 MHz

NOTE! Remote radio control always requires a permit from local authorities

Interlocking cable (option)

For connecting Lokotrack ST4.8 with a secondary Lokotrack unit. The secondary unit material level will control the feeding of the primary unit.

Remote ICr system (option)

Lokotrack's feed rate can be remotely adjusted and controlled by the operator from the excavator's cabin. The remote IC system includes a clear, simple, and compact user interface showing basic sensor and engine data from the Lokotrack. Including a wireless Bluetooth connection to other Lokotracks and excavators.

Metso Metrics

Metso Metrics fleet management system for Lokotrack crushing and screening equipment. The standard delivery includes a modem and antenna installed on the equipment at the factory. A web-portal provides access to key performance indicators and maintenance schedules.

List of optional equipment

Tipping grid

Remotely operated tipping grid for removing oversize material

Vibrating grid

2-deck vibrating grid for removing sticky material

Rinser screen

Screening equipment for wet screening. Water spray systems for all screening deck and slurry collection hopper.

Full wear covering for feed hopper

Bolted wear resistant steel plates

Feed level gate

Adjustable gate to feeder outlet. Material flow limiter to lifting conveyor for fine feed material.

Main conveyor lifting

Discharge section can be hydraulically raised for easier screen mesh change

Main conveyor anti-roll back

Supported rubber gates to prevent material roll back

Side conveyor angle adjustment

Device to adjust side conveyor angle with hydraulic cylinder

High pressure water spraying system

Spraying for lifting and fines product conveyor discharge ends.*

Spraying for lifting, fines conveyor and all side conveyors discharge ends.*

*Hydraulic water pump included

Dust encapsulation

Metallic sheet covers along the fines- and lifting conveyor frames

Metallic sheet covers along the oversize H6.5-10 conveyor. Recommended when unit is on closed circuit with other Lokotrack unit.

Carving scraper for fines product conveyor

Conveyor can be equipped with carving scraper at the discharge end for better belt cleaning with sticky material

Climate kit

Climate kits include set of oils best fitted to specified temperatures. There are three different climate kits for Lokotrack ST4.8

Standard	-20...+35 °C	-4...+95 °F
Cold	-30...+30 °C	-22...+85 °F
Hot	-10...+50 °C	+14...+120 °F

Filter cartridge kit

Includes most often changed filters for the unit. Air filters, fuel filters and oil filters for engine. Several breather elements, high pressure and return filters for hydraulic oil.

Pre-heaters

Engine heater (fuel)	Fuel driven pre-heater for warming the engine
Engine heater (electric)	For warming the engine in cold ambient conditions. External power supply 240 VAC needed, 1.5 kW.
Hydraulic oil heater (electric)	For warming the hydraulic oil in cold ambient conditions external power supply 240 VAC needed. When selected, also Engine heater (electric) is delivered

Hydraulic power take off

For connecting the auxiliary hydraulic equipment to the hydraulic system. There are quick coupling interfaces for pressure-, return- and leak lines.

Lights

Led working light array installed on a turnable bracket over the tip of the lifting conveyor.

Remote radio control

Handheld radio transmitter to remote control process and track drive

Interlocking cable

For connecting Lokotrack ST4.8 with other Lokotrack units.

Remote IC system (ICr)

Remote control system with wireless connection to other Lokotracks and/or excavator.

Metso Metrics

Remote monitoring and reporting system for Lokotrack. Consists of modem and antenna installation. Access to the monitoring and maintenance scheduling system and reporting services can be ordered with a separate service contract.

Toolkit

Contains special tools needed for maintenance eg. combination wrenches and sockets (for metric bolts), scraper adjustment tool, grease gun with cartridge, fuses.

Finishing

Finishing is done according to high internal quality standards. Painting requirements are mainly based on ISO 12944 -series standard. Level of corrosion prevention is class C3 medium, and verification is done to ISO 9227 (neutral salt spray test) 240h. Final paint is a high volume single coat polyurethane (PUR) type of paint with low VOC- emissions for environment.

Safety labels

Safety labels and stickers conform either to ISO or ANSI standards depending on destination country.

Documentation

Two sets of printed instruction manuals and spare parts catalogs including electronic format in USB-memory stick. Documents delivered in selected language. Additional sets of printed instructions manuals or spare parts catalogs for surcharge.

Warranty

Standard warranty for new Metso aggregates equipment is 12 months or 2000 hours from the date of registration, whichever comes first. Spare part warranty is 12 months from the delivery or 1000 hours, whichever comes first.