

High-energy screen range  
Metso ES series



High-efficiency  
screening





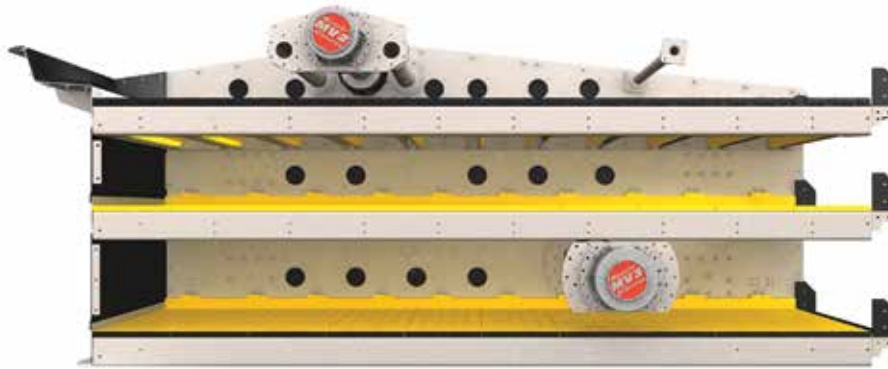


# Improve efficiency. Increase profitability

## High-energy elliptical motion Metso ES

Ramp up the efficiency of your screening operations with Metso's revolutionary high-energy ES screens. The new screens' two unbalanced shaft lines rotate in opposite directions to generate a high-energy elliptical motion.

This deceptively simple solution is more efficient than conventional horizontal screens with linear motion, and more reliable than other elliptical motion screens. What's more, Metso's ES series separates your materials with consistency and accuracy, even in damp and sticky conditions.



### High screening efficiency

Metso ES high-energy elliptical motion gives you up to **25% greater capacity** than conventional screen of the same size.

In difficult screening conditions – such as wet screening or screening of sticky and dirty materials - Metso ES provides exactly the kind of aggressive screening action you need.

Capable of handling all kinds of material from quarry solid to gravel, you can also trust Metso ES to perform reliably in applications that require a **high level of screening accuracy**.

### Simple, reliable design

Metso ES is the result of FEA and fatigue calculations, combined with extensive kinematic studies. Our R&D team also carried out cross calculations and comparisons between CAD tools, theoretical calculations, bench testing and on-site tests.

The result is a simpler, but **more effective design**. Specifically, there is no welding along the cross members sections of the screen, which prevents cracks forming along the beams. This reduces the risk of fatigue stress and optimizes the products' lifetime. In addition, Metso ES has weld-free side plates, which increases the screen's durability and stress tolerance. Huck bolting gives you perfect and homogeneous assembling conditions.

### Trouble-free operation

Traditional, high-energy elliptical motion screens are built with three counter weighted shafts and gear or belt synchronization. This solution is complex, difficult to run and costly to maintain.

By contrast, Metso ES is equipped with just two counter-weighted and unbalanced shaft lines. The vibrators are asymmetrically located in correlation to the centre of gravity. This, in combination with a highly reliable grease lubrication system, **keeps downtime and maintenance to a minimum**.

There is no mechanical timing device, no gears, no belt and no oil leakage. Quite simply, very little that can go wrong.





# Environmental benefits

## Safe and convenient

Compared with other elliptical motion screens, Metso ES is designed with up to 50% more space between the decks. This makes it easier, safer and more comfortable for operators to access for maintenance purposes.



### Maintenance friendly

Since Metso ES only has one shaft line between the decks instead of the usual three, it's easy to access the inside of the screen. Add to this the fact that there is up to **50% more space between the decks**, and you get significantly safer and more comfortable maintenance conditions.

Easy maintenance and quick replacements of screening media let you maximize uptime and improve the profitability of your production.

### Worker safety

Creating a safe working environment is one of Metso's top priorities. Safety solutions are not an add-on, but **part of our standard offering**. In this respect as in many others, Metso ES comes out ahead of the competition.

To give you a few concrete examples: Metso ES is equipped with coil spring covers to minimize the risk of pinching accidents; rubber stabilizers are provided to eliminate risk of injuries; a gearless mechanism reduces noise levels and protects your operators' hearing; belts are equipped with high safety guards.

### Modular wear parts

**The rapid availability** of wear parts helps you minimize both downtime and operational costs. In Metso ES, the feedbox, discharge spout and cardan shaft come with Trellex™ modular wear and impact resistance rubber linings as standard.

We offer high quality, easily available upgrade options. For example, a replaceable modular crossbeam protection and Trellex LS modular screening media.

Metso ES' robust standard deck frame is preconfigured to handle both modular and tension screening media with minimal interruptions. In addition, it can easily be converted to handle the media of choice.





ES303

MV2

Modular  
MV2  
Vibracor

# Reliability in operation

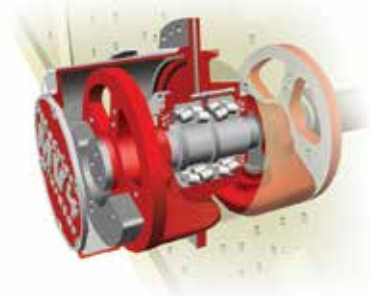
## Modular Metso design MV vibrator

Metso's MV vibrator lets you cut downtime for replacements by half!

Whilst conventional designs require a dust-free environment during replacements (to prevent contamination and consequent bearing failure), the MV vibrator solves this problem with a unique dust-proof design

### Trouble-free

- Two bearing per vibrator
  - Long bearing life
- Stroke adjustability
  - Suitable for all applications
- Modular design
  - No bearing changes out environment



### Reliable

- Grease lubrication
  - No oil leakage and external contamination
- Dust-proof design
  - Eliminates risk of contamination failures
- Automatic greasing unit
  - Simplifies maintenance



### Total lowest cost

- MV exchange program. Trade your used vibrator for a new or factory rebuilt unit
  - Renewed bearing life
  - Reduced down time
  - Safer maintenance





# Process performance

## Metso screens and screening media

The Trellex LS system is the result of over 50 years' experience and development. This comprehensive modular system mounts lengthwise and is designed to fit any Metso screen, enabling higher volume processing with minimal interruptions.

### Up time

The Trellex LS system has been designed for dependable operation, with lightweight rubber or polyurethane modules, easy snap-on connections and an emphasis on recyclability.

Trellex LS modules help you maximize the volume while minimizing downtime.

### Make the match

We offer the industry's only truly global sales and support network. This means Trellex LS are always available, quickly and conveniently, regardless of geographical location.

Make sure your Metso screen is always functioning as cost-efficiently as possible. Match it with Trellex LS modules

### Simplified module selection

The Trellex LS modular system consists of Trellex LS standard range and Trellex LS HiPer range, designed to accommodate the specific requirements of various applications.

Metso ES screens equipped with our Trellex LS screening media together support Metso's commitment to **total screening performance.**



# Optimize your screen

## Multiple options for your needs

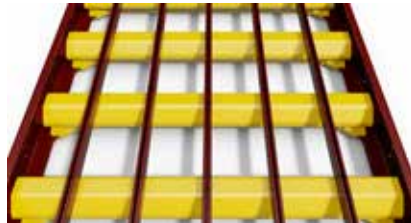
A wide offering of standard options enables you to customize your screen according to requirements.

Full and appropriate use of these options help to optimize both your plant's efficiency and up time.



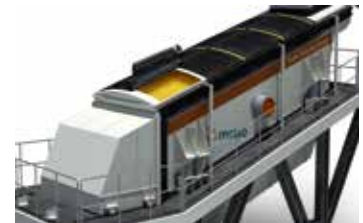
### Modular screening media

- Trellex LS RU and PU



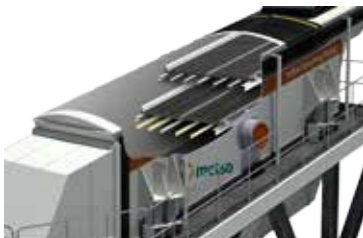
### Cross member protection

- Trellex CMP polyurethane



### Dust sealing system

- Trellex dust control



### Side tension screening media

- Trellex TCO RU and PU



### Anti-blinding system kit

- Trellex ABR polyurethane anti-blinding rods



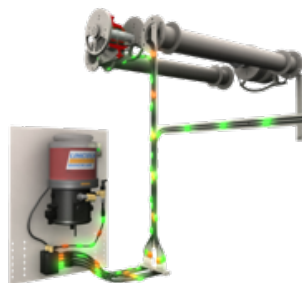
### Galvanization treatment

- Optimal corrosion protection



### Modular rail wear protection

- Trellex polyurethane HD upgrade strip



### Automatic greasing kit

- Electrical power greasing unit

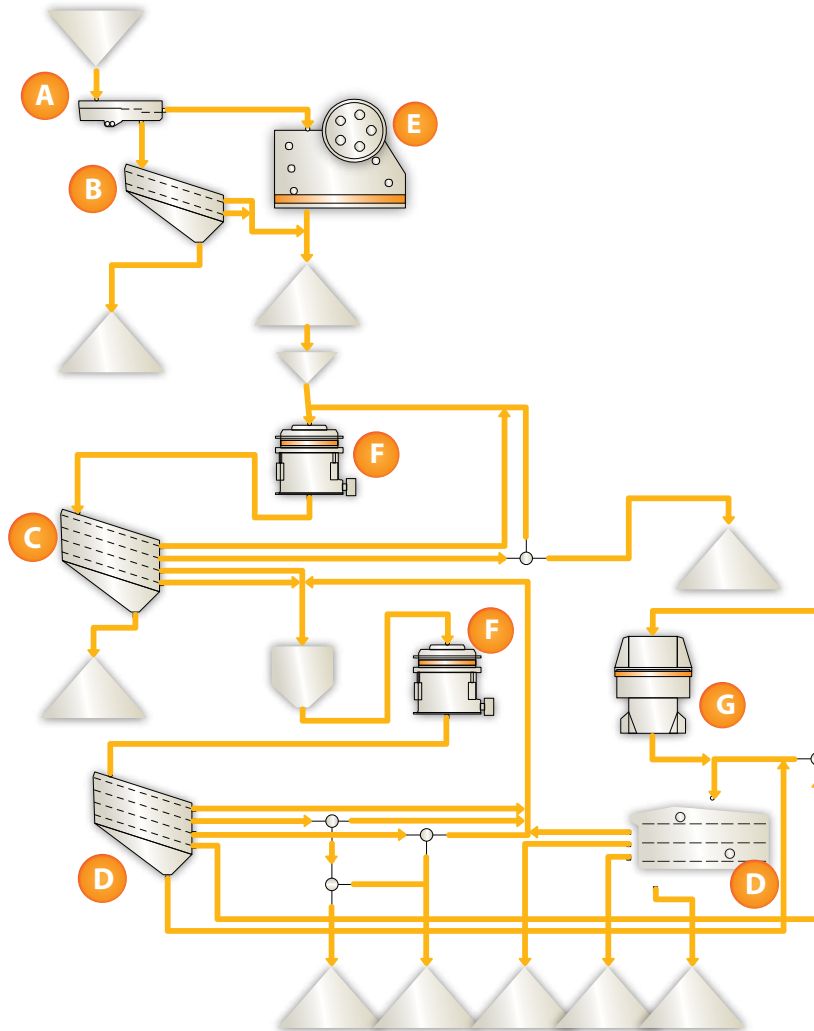


### Spray pipe unit

- Ideal package for wet screening

# Packaging solutions

## Linking knowledge



**A Primary feeder**

- **Metso VF feeder**  
equipped with Metso MV vibrator
- **Metso TK feeder**  
equipped with Metso V exciters or electrical drive

**B Primary screen**

- **Metso CVB-Primary**  
Inclined circular motion equipped with Metso MV vibrator

**C Secondary screen**

- **Metso CVB**  
Inclined circular motion equipped with Metso MV vibrator

**D Final screen**

- **Metso CVB**  
Inclined circular motion equipped with Metso MV vibrator
- **Metso ES**  
Horizontal elliptical motion equipped with Metso MV vibrator (high efficiency screening)

**E Primary crushing**

- **Metso Nordberg C series**  
Jaw crusher

**F Secondary crushing**

- **Metso Nordberg HP series**  
Cone crusher
- **Metso Nordberg GP series**  
Cone crusher

**G Tertiary crushing**

- **Metso Barmac B series**  
Vertical shaft impactor (VSI) crusher



# Technical specifications

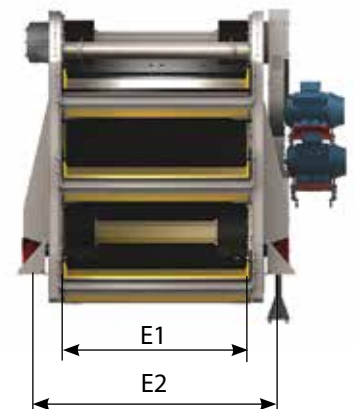
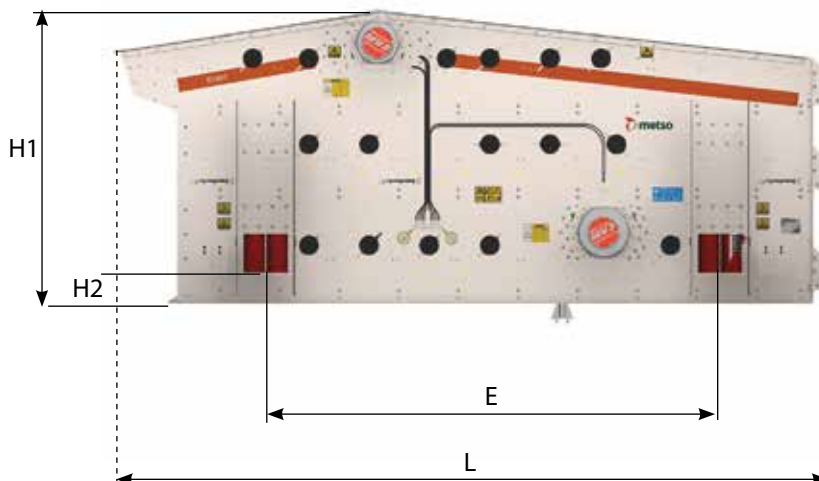
## Metso series

Range	Deck dimension	Area	Decks	MV	Motor		Weight
					ISO	NEMA	
ES202	1 870x 4880 mm 6' x 16'	9m <sup>2</sup>	2	MV2 / MV2	15kW / 15kW	20HP / 20HP	6 500 kg*
ES203		96ft <sup>2</sup>	3	MV2 / MV3	15kW / 22kW	20HP / 40HP	8 500 kg*
ES302	1 800 x 6 100 mm 6' x 20'	11m <sup>2</sup>	2	MV2 / MV3	15kW / 22kW	20HP / 40HP	9 500 kg
ES303		120ft <sup>2</sup>	3				11 500 kg
ES402	2 480 x 6 100 mm 8' x 20'	15m <sup>2</sup>	2	MV3 / MV4	22kW / 30kW	40HP / 50HP	14 000 kg
ES403		160ft <sup>2</sup>	3				17 000 kg

\* Supposed value

Range	H1	H2	L	E	E1	E2
ES202*	2 250*	282*	5 967*	3 632*	1 870	2 386
ES203*	2 865*	282*	5 967*	3 632*	1 870	2 386
ES302	2 334	282	7 187	4 375	1 870	2 386
ES303	2 865	282	7 187	4 375	1 870	2 386
ES402	2 480	282	7 250	4 135	2 480	3 104
ES403	2 990	282	7 250	4 135	2 480	3 104

Values (mm) are indicative only. For more information please contact Metso.



## Metso's Mining and Construction crushing and screening equipment

### Product families:

#### Unit crushers

- C series jaw crushers
- Primary gyratory crushers
- GP series cone crushers
- HP series cone crushers
- MP series cone crushers
- NP series horizontal impact crushers
- Barmac series vertical impact crushers

#### Unit screens

- DF series screens
- CVB series screens
- ES series screens
- TS series screens
- MF series screens
- RF series screens

#### Unit feeders

- TK series feeders
- VF series feeders
- LH.G series feeders
- VG series feeders
- PF series feeders
- HRBM series feeders

#### Mobile crushing and screening plants

- Lokotrack LT series track-mounted crushing plants
- Lokotrack ST series track-mounted screening plants
- Lokotrack CT and CW series track- and wheel-mounted conveyors
- NW series wheel-mounted crushing plants

#### Stationary crushing plants

- Complete plants for aggregate production
- Complete plants for recycling applications



[www.metso.com/miningandconstruction](http://www.metso.com/miningandconstruction)  
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