

# Circular motion screen range Nordberg CVB series screens



Your reliable  
screening  
partner





## Inclined screen circular motion CVB

# Productive reliability

Nordberg CVB has one of the strongest legacies in the industry of delivering dependable screening performance in more than 2,000 screening applications around the world.

The new Nordberg CVB series screens are developed on this legacy and made even more robust and versatile than ever before. An example of its enhanced durability and reliability are the uniquely designed deck frames that are more than 50% stronger versus the traditional designs.

The uncompromised wear protection is standard and the extensive selection of upgrade options and a new smartly engineered trunnion solution are examples of features that contribute to a unique, versatile, and cost efficient screen to own and operate.

“When you need a versatile and durable partner in your screening process, Nordberg CVB is the one to have.”

### Versatile performance

Nordberg CVB has shaft lines that consist of two Metso MV vibrators connected with a cardan shaft.

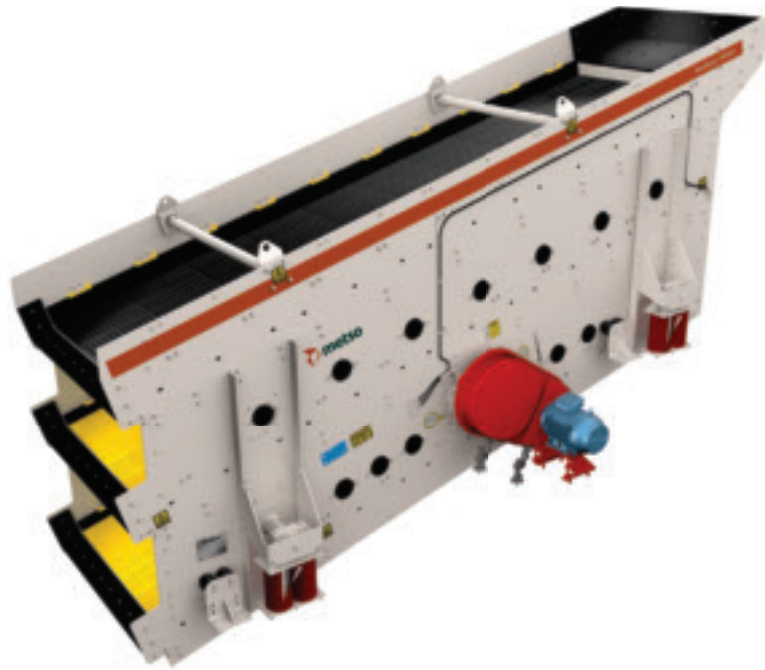
The shaft line is positioned at the center of gravity resulting in **a perfect circular motion** on all points of the screen.

Combined with an adjustable slope angle from 12-22°, this circular motion gives very good screening efficiency for all types of applications such as primary, secondary, and

final screening. Adjustable counterweights allow for easy stroke adjustment to optimize performance specific to the application requirements.

Metso CVB is available in 2, 3 or 4 deck configurations and in a wide range of screen sizes from 5x12ft (1.5x3.6m) to 10x24ft (3.0x7.3m).





**Simply reliable**

How did we come up with such a reliable, all-around screen?

The new Nordberg CVB series screens are the result of FEA and fatigue calculations, combined with extensive kinematic studies. Our R&D team also carried out cross calculations along with comparisons between CAD tools, theoretical calculations, bench testing, and on-site tests.

The result is **the most durable Nordberg CVB design ever**. Specifically, there is no welding along the cross member sections of the screen, which prevent cracks from forming along the beams. This reduces the risk of fatigue stress, therefore, optimizing the screens life.

In addition, Nordberg CVB has weld-free side plates, which increases the screens durability and stress tolerance. Huck bolting gives you superb and consistent assembling, resulting in a robust and reliable connection.

**Total lowest cost**

Size for size, Nordberg CVB inclined screens are often the most economical screen in terms of capital expenditure and power consumption compared to other types of screens such as horizontal screen etc..

Total lowest cost to operate has been one of the main drivers in the development process of the new Nordberg CVB series. All wear and spare parts have been modularized and standardized in order to

offer our customers optimal cost and availability. Material selection on wear liners and spare parts are uncompromised. Metso understands the importance of high quality wear and spare parts for maximum screen uptime.

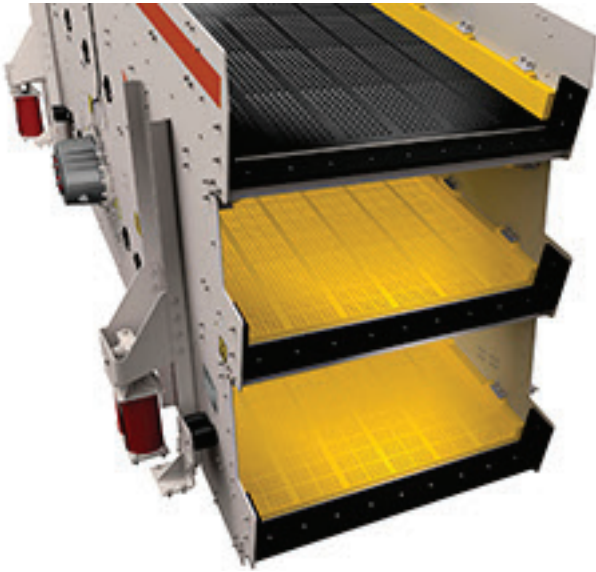
Nordberg CVB is designed to deliver the total lowest cost to operate by standardizing wear and spare parts, creating high availability, which eliminates expensive down time due to high cost customized items with low availability.



Frame



Fatigue calculations



## Environmental benefits

# Safe and convenient

Compared with other circular motion inclined screens, Nordberg CVB offers the most space between the decks. This makes it easier, safer and more comfortable for operators during maintenance intervals.

More space between the decks is one of the most important features on a screen to improve worker safety!

### Maintenance friendly

**The most space between the decks** on the market is not the only thing that contributes to the fact that Nordberg CVB is a very maintenance friendly screen.

The modular MV vibrators and cardan shaft design are uniquely easy to replace. MV vibrators have double the bearings versus conventional designs, ensuring extended bearing life. The equally balanced forces ensure that there is not a bending moment at the side plate along with lower stress levels in the screen body. Thick, high quality modular rubber liners at the feedbox, discharge spouts, and cardan shaft, provide optimal service life and are standard features.

Easy maintenance and quick replacement of screening media, wear liners, and spare parts 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 add-ons, but **part of our standard offering**. In this respect as in many others, Nordberg CVB comes out ahead of the competition.

To give you a few concrete examples: Nordberg CVB is equipped with coil spring covers to minimize the risk of pinching accidents; rubber stabilizers are provided to reduce erratic movement during start up and shut down, preconfigured to be equipped with dust and noise protection, V-belt drive equipped with safety guards, and just one centralized conveniently located greasing manifold.

### Modular wear parts

**The high availability** of wear parts help minimize both downtime and operational costs. The feedbox, discharge spouts, and cardan shaft covers come with Trellex™ modular wear and impact resistance rubber liners as standard features.

We offer high quality, easily available upgrade options. For example, replaceable modular crossbeam protective covers and

Trellex LS modular screen media.

The Nordberg CVB has extremely robust and uniquely designed deck frames that are preconfigured to handle both modular and side tension screening media that is easily interchangeable from one to the other.



*Coil spring covers*



## Modular Metso design MV vibrator

# Reliability in operation

Metso's MV vibrator cuts downtime for replacement by half! While conventional designs require a dust free environment during replacement (to prevent contamination and consequent bearing failure), the MV vibrator solves this problem with a unique dust-proof cartridge design.

### Trouble-free

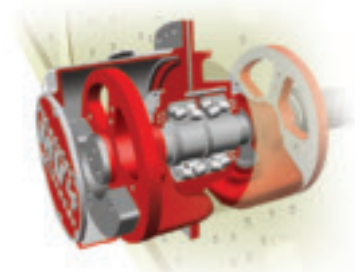
- Two bearings per vibrator
  - Long bearing life
- Stroke adjustability
  - Suitable for all applications
- Modular design
  - No bearing changes out

### 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

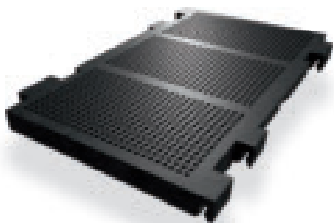




## Multiple options for your needs

# Optimize your screen

A wide offering of standard options enables you to customize your screen according to your requirements. Full and appropriate use of these options help to optimize both your plant's efficiency and up time.



### Modular screening media

- Trellax LS RU and PU



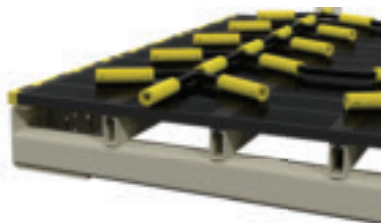
### Tensioned panels

- Wire or rubber



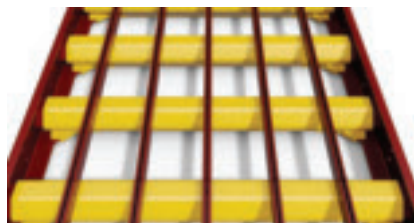
### Heavy duty bolted panels

- Trellax PCO rubber (CVB-P)



### Anti-blinding system

- Trellax ABR polyurethane anti-blinding ropes



### Cross member protection

- Trellax CMP polyurethane



### Modular rail, wear protection

- Trellax polyurethane HD upgrade strip



### Centralized grease fittings

- Ease of maintenance



### Automatic greasing kit

- Electrical power greasing unit



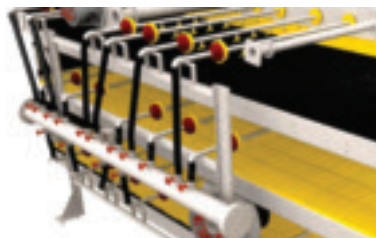
### Dust sealing system

- Vibrating canevas



### Dust sealing system

- Trellax dust control



### Spray pipe system

- Ideal package for wet screening



### Galvanization treatment

- Optimal corrosion protection

## Metso screens and screening media

# Process performance

The Trellex LS system is the result of over 50 years of 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.

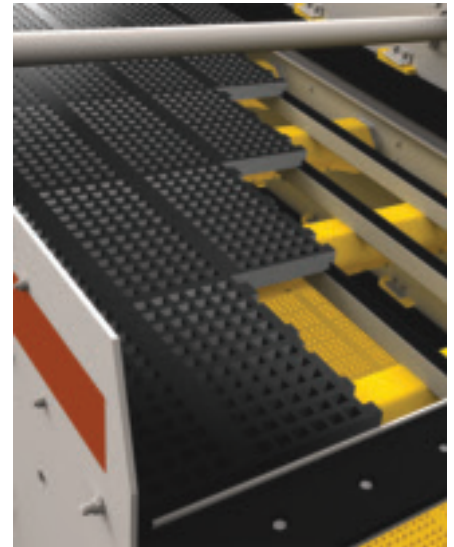
### Make the match

We offer the industry's only truly global sales and support network. This means Trellex LS is 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.

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



## Metso CVB screens range

“from the smallest to the biggest”

CVB screens					
Range	Deck dimension	Area	Decks	MV vibrator	Weight (kg)*
<b>CVB102</b> <b>CVB103</b> <b>CVB104</b>	1 565 x 3 660 mm 5' x 12'	5.7 m <sup>2</sup> 60 ft <sup>2</sup>	2 3 4	2 x MV2	5 000 kg (11 020 lbs) 6 000 kg (13 230 lbs) 7 000 kg (15 430 lbs)
<b>CVB202</b> <b>CVB203</b> <b>CVB204</b>	1 870 x 4 880 mm 6' x 16'	9.1 m <sup>2</sup> 96 ft <sup>2</sup>	2 3 4	2 x MV3	8 000 kg (17 640 lbs) 10 080 kg (22 220 lbs) 12 280 kg (27 070 lbs)
<b>CVB302</b> <b>CVB303</b> <b>CVB304</b>	1 870 x 6 100 mm 6' x 20'	11.4 m <sup>2</sup> 120 ft <sup>2</sup>	2 3 4	2 x MV3 2 x MV3 2 x MV4	10 500 kg (23 150 lbs) 11 900 kg (26 235 lbs) 14 000 kg (30 865 lbs)
<b>CVB402</b> <b>CVB403</b>	2 480 x 6 100 mm 8' x 20'	15.1 m <sup>2</sup> 160 ft <sup>2</sup>	2 3	2 x MV3 2 x MV4	12 000 kg (26 450 lbs) 17 000 kg (37 480 lbs)
<b>CVB502</b> <b>CVB503</b>	2 480 x 7 320 mm 8' x 24'	18.2 m <sup>2</sup> 192 ft <sup>2</sup>	2 3	2 x MV4 4 x MV3	16 000 kg (35 275 lbs) 22 500 kg (49 600 lbs)
<b>CVB602</b> <b>CVB603</b>	3 070 x 7 320 mm 10' x 24'	22.5 m <sup>2</sup> 240 ft <sup>2</sup>	2 3	4 x MV3 4 x MV4	21 000 kg (46 300 lbs) 23 000 kg (50 700 lbs)
<b>CVB102P</b> <b>CVB103P</b>	1 565 x 3 660 mm 5' x 12'	5.7 m <sup>2</sup> 60 ft <sup>2</sup>	2 3	2 x MV2 2 x MV2	4 800 kg (10 580 lbs) 5 800 kg (12 790 lbs)
<b>CVB202P</b> <b>CVB203P</b>	1 870 x 4 880 mm 6' x 16'	9.1 m <sup>2</sup> 96 ft <sup>2</sup>	2 3	2 x MV3 2 x MV3	7 800 kg (17 200 lbs) 9 800 kg (21 600 lbs)
<b>CVB302P</b> <b>CVB303P</b>	1 870 x 6 100 mm 6' x 20'	11.4 m <sup>2</sup> 120 ft <sup>2</sup>	2 3	2 x MV3 2 x MV3	7 800 kg (17 200 lbs) 11 500 kg (25 350 lbs)
<b>CVB402P</b> <b>CVB403P</b>	2 480 x 6 100 mm 8' x 20'	15.1 m <sup>2</sup> 160 ft <sup>2</sup>	2 3	2 x MV4 2 x MV4	11 700 kg (25 800 lbs) 17 000 kg (37 480 lbs)

Values are indicative only. Please contact Metso for more information.

## 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

