



## Horizontal Vibralto® Screens Vibrate to a new level

# The quality of a 100% French product

A subsidiary of the ThyssenKrupp AG Group, one of the biggest industrial groups in the world, KH Mineral has both the guarantees associated with its ties to its mother company, and the qualities of an SME attentive to your needs.

KH Mineral has gained its today's reputation thanks to its international experience acquired over more than 50 years in mineral processing, and in supplying constantly renewed and optimised solutions in terms of performance and ease of maintenance.

From design to manufacture in its own workshops, including the commissioning of turnkey installations and their maintenance, KH Mineral can follow you in your projects to meet the specificities of your activity.

This new innovating design and completely French line of horizontal Vibralto® screens was born deep in our «research and development» centre in Sarreguemines.

We therefore undertake to provide you with the best possible quality products and guarantee services close to you and your expectations.

The product is entirely manufactured in our Sarreguemines plant.



Our new model of horizontal Vibralto® screen remains faithful to our commitment to innovation, performance and reliability, while remaining in line with your expectations.

# A high performance screen

## Optimum ergonomics

As a response to your practical and performance expectations, we are launching our first model of horizontal screens. Its ergonomics ensures it an optimised working environment to repair and monitor your machine, or even to organise production site visits.

- An advantageous design thanks to natural synchronisation
- A unique acceleration setting for fluid movement
- «Double acceleration» multiplies effectiveness by ten
- Easy maintenance: the space between decks varies from 450 to 750 mm depending on our models, leaving significant space for maintenance operations and to monitor the working condition of the machinery. It will also be easier and more pleasant to visit your extraction sites and show your customers your machines (anticipated future European standards enacting a minimum space between stages).
- The machinery takes up less space: all hindrances to work inside the screen have been removed. The shafts are now located above and below the screen.
- Better strain distribution: our design, with its large spaces between the vibrating elements, allows better strain distributions that are applied to the screen structure.



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2



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6

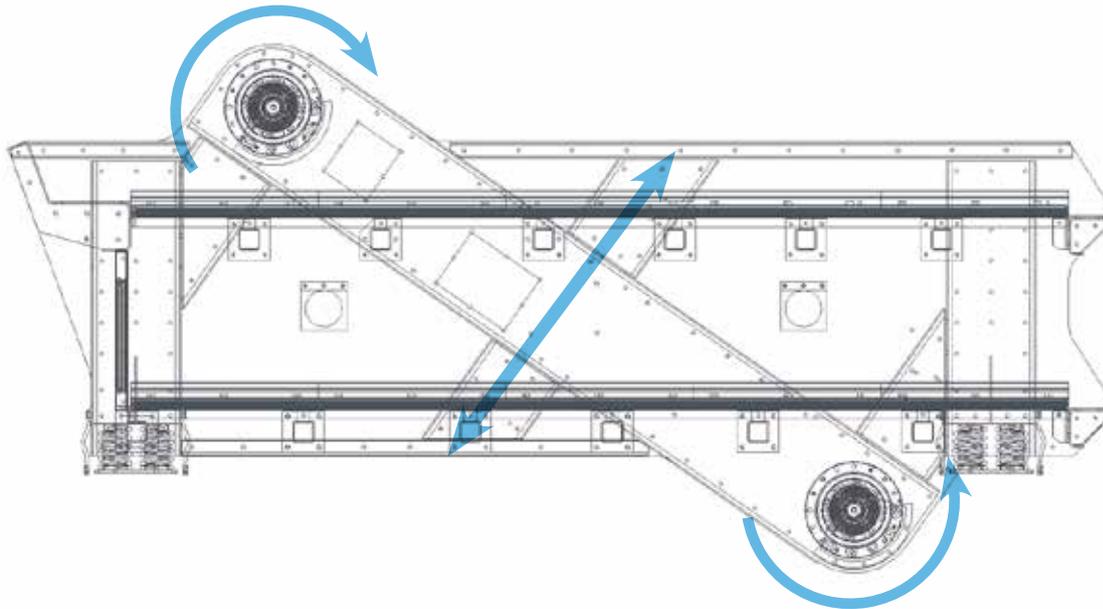
- 1 - Inside view of a horizontal screen
- 2 - Universal joint drive
- 3 - Retractable aluminium maintenance walkway
- 4 - Sealed rear hatch
- 5 - Access to the lower motorisation
- 6 - Trolley opening thanks to a wheelrack (or optionally motorised)

# Innovation at the service of efficiency

## The advantages of design and fluid movement

An advantageous design thanks to natural synchronisation :

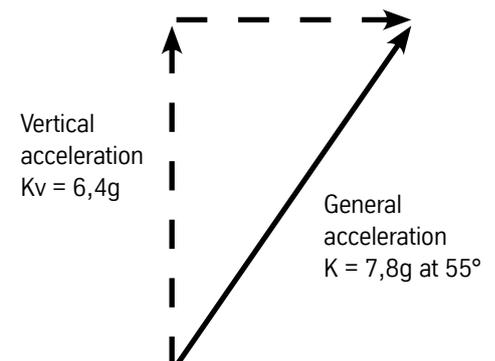
- The synchronisation of the two screen driving shafts is natural. This mechanical phenomenon has been the subject of an in-depth study during the development of our screen. The technical mastery we have acquired makes it possible for us to propose a simple, reliable and robust system.
- The spacing of the shafts and the absence of mechanical synchronisation systems minimise any concentrations of strains in the structure to give you an increased service life and increased periods between maintenance.



A unique acceleration setting for fluid movement :

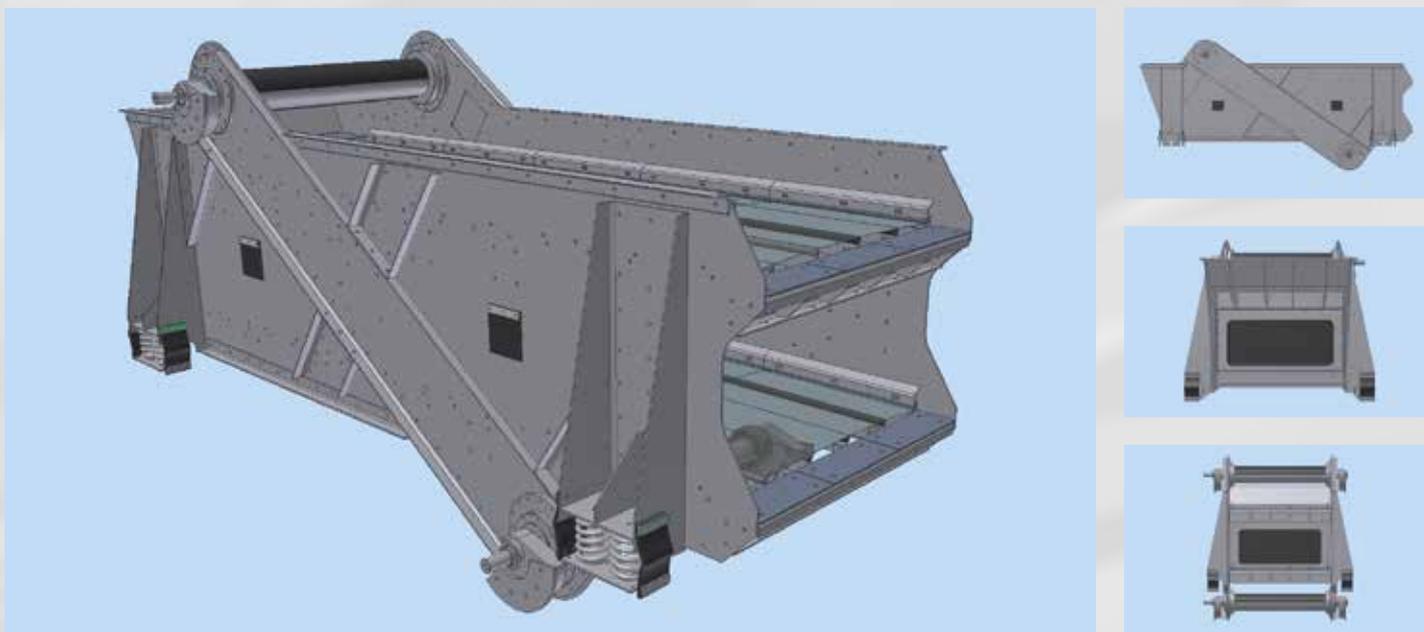
- The spacing between the two shafts allows the fluid movement of the screen. Once synchronisation is achieved, the acceleration given by the rotation of the two weights naturally keeps its direction during the cycle, avoiding all parasite movements.
- The vibrating movement is oriented versus to the horizontal position at an angle of 55°.

Linear vibration and acceleration



# Innovation at the service of efficiency

«Double acceleration» multiplies effectiveness by ten



To always anticipate your requests, our aim was to create the horizontal Vibralto® screen, but also to innovate. Adding «Double Acceleration» made it possible for us to design a screen that can reach a record acceleration of 7.8g.

Ever stronger, always more effective!

«High energy» screens offered to exceed the physical screening optimum of 3.4g without a thought for the consequences.

After our development and our collaboration with M. Ralph Naberg, a recognised vibration expert, we sized our screen to reach a second screening optimum of 6.4g vertical acceleration : this is Double Acceleration. This optimum makes it possible for us to give you increased screening efficiency and universal settings for all cuts. The high vertical acceleration avoids any clogging issues.

The best machinery for your job :

Thanks to Vibralto® designed and sized to give the best performances on the market. Screening performances are increased by 50 to 120% compared to a conventional screen that is sloped depending on the cuts and the required effectiveness.

Tests carried out in March 2013

Materials: Limestone

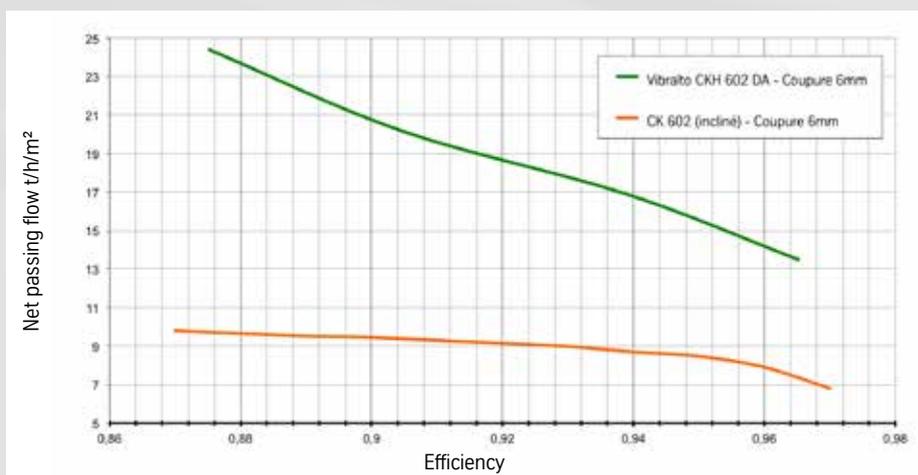
Feed: 0/16 mm of which 65% passing at 6 mm

Flow rates: from 130 to 270 t/h

Cuts: 6 mm

Mesh: 7 mm

Wire: Ø 2.5 mm



# Available equipment and options

To better satisfy your needs and your comfort we have a full range of equipment and options available for your screen.

Screens in the Vibralto® line have been designed to be fitted with any of the following :

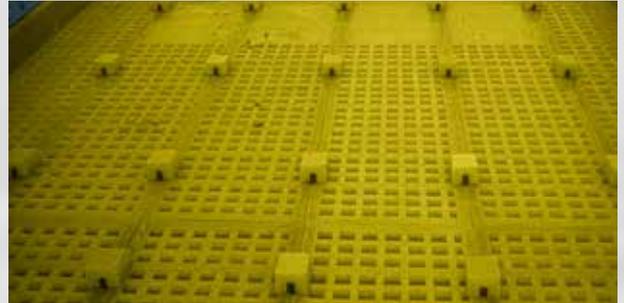
- steel grates to provide transverse or longitudinal tension
- modular polyurethane blocks for optimised maintenance
- synthetic grates for transverse tension



1

Our different available options will provide you with significant comfort of machine maintenance :

- Transverse watering ramps and feeders
- Static anti-dust covers
- Wear protection of profiled cross parts
- Wear protection of the screen sides
- Modular panel equipment
- Offset lubrication
- Centralised lubrication



2

From the beginning till the end of your projects, KH Mineral will be on your side to meet your transverse needs as well as possible. Whether by providing spare and wear parts, repairs, inspections and maintenance, the modernisation and optimisation of your machinery, while providing the information you need to use the machine.

1

Steel grates

2

Modular polyurethane blocks



# The Vibralto<sup>®</sup> line of horizontal screens

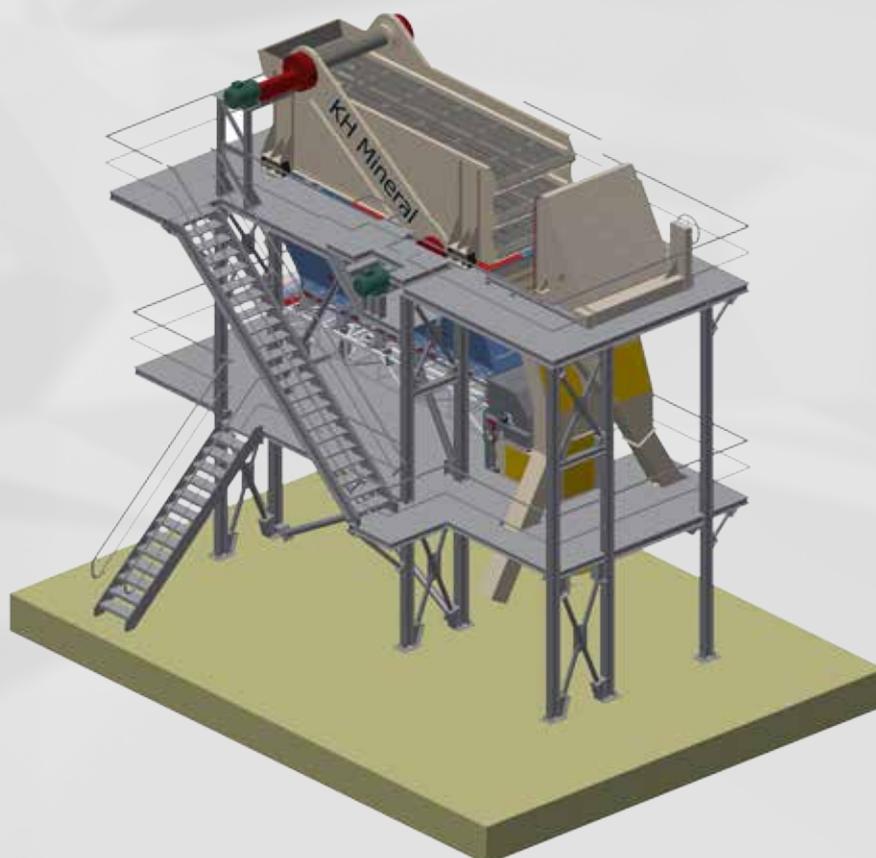
## Technical specifications

Type	Surface area m <sup>2</sup>	Size l x L in mm	Number of decks	Motor <sup>(1)</sup> 1,000 tr/min kW	Motor <sup>(2)</sup> 1,500 tr/min kW	Vibrating mass <sup>(3)</sup> kg
CKH 402 DA	4.3	1,250 x 3,500	2	2 x 11	2 x 9	2,700
CKH 403 DA			3	2 x 11	2 x 9	3,400
CKH 602 DA	6.9	1,550 x 4,500	2	2 x 15	2 x 15	5,000
CKH 603 DA			3	2 x 18.5	2 x 15	6,300
CKH 902 DA	10.1	1,850 x 5,500	2	2 x 18.5	2 x 15	6,500
CKH 903 DA			3	2 x 30	2 x 22	8,500
CKH 1202 DA	12.9	2,150 x 6,000	2	2 x 30	2 x 22	9,400
CKH 1203 DA			3	-	2 x 37	12,100
CKH 1502 DA	15.9	2,450 x 6,500	2	-	2 x 37	12,800
CKH 1503 DA			3	-	2 x 45	15,300

(1) - For 1,000 tr/min motor : direct shaft drive and electromagnetic braking

(2) - For 1,500 tr/min motor : speed reduction per belt/pulley or frequency inverter with integrated braking resistor

(3) - Without motors, suspensions and various supporting parts.



# The ThyssenKrupp KH Mineral programme

## Excellence in Technology

**KH Mineral is an international partner in the following sectors: stone quarrying - Ballast/Sand quarrying - Cement works - Lime and phosphate - Plaster works - Mining - Recycling.**

KH Mineral designs, manufactures, delivers, assembles, commissions and maintains machinery and units used to prepare materials for international customers in the following sectors of activity: quarrying, cement, mining, lime production, phosphate processing, ceramics, glass, steel, foundry, various recycling.

### **Fine crushing**

Unirotor and Birotor type hammer mills  
Fine crushing installations  
Ball mills

### **Screening machinery**

Scalping machinery  
Screen  
Fine screening

### **Crushing-milling**

Impact mill  
Impact crusher  
Compound crusher  
Sand mill  
Toothed cylinder crusher  
Smooth cylinder crusher  
Jaw crusher  
Hammer crusher: Titan and Mammut type  
Kubria cone crusher  
Rotating crusher  
Crushing-milling installation  
Roll-sizer

### **Drying**

Crusher-drier  
Quick drying using blade shafts  
Birotor crusher-drier

### **Preparation and recycling of solid waste and demolition materials**

Impact mill  
Birotor hammer mill  
Rotating screen  
Special mills  
Pneumatic separation installations for light waste

### **De-dusting machinery**

Pneumatic unclogging bag filters  
Cartridge filters  
Cyclones

- high yield
- pre-screening

Rotating valves  
Double flap valves

### **Selection - Defillering**

Separators

- static
- dynamic 3<sup>rd</sup> generation
- backwash

Bar selector  
Defillering columns

### **Feeder and extraction machinery**

Hopper  
Apron feeder  
Drain feeder  
Push feeder  
Disk screen  
Vibrating extractor  
Pre-screening feeder

#### **ThyssenKrupp KH Mineral SAS**

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