



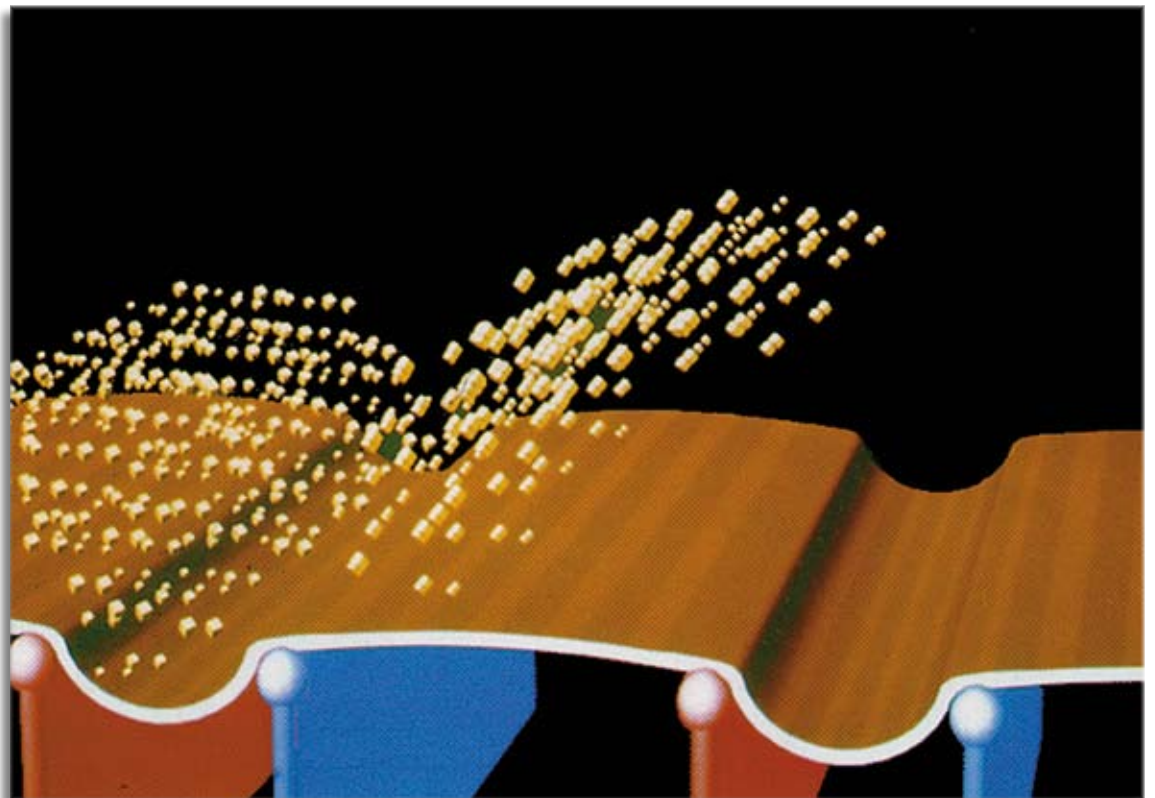
# HEIN, LEHMANN

TRENN- UND FÖRDERTECHNIK GMBH



## LIWELL®

one screening concept - many applications

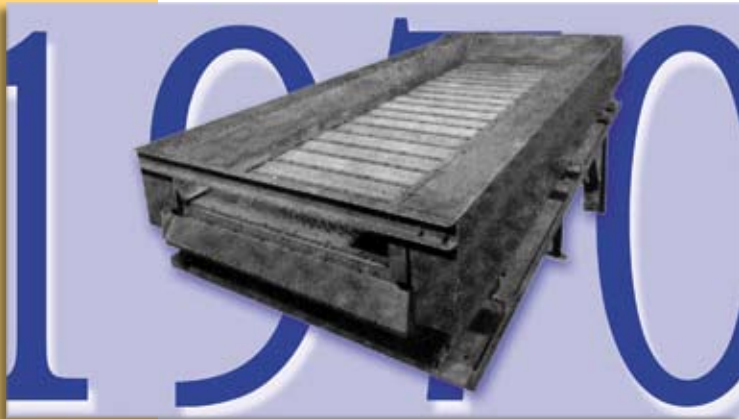


# Confidence - right from the beginnig!



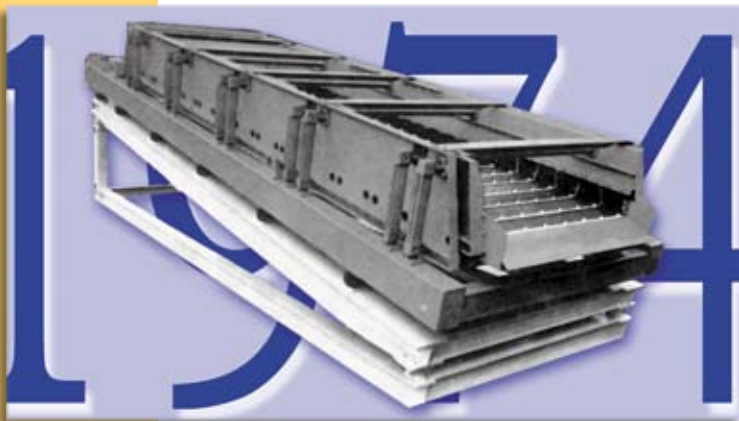
More than 40 years ago, HEIN, LEHMANN introduced a revolutionary new concept for classifying materials - the construction of the first Flip-Flow screening machine.

LIWELL® screening machines are the result of a continuous technical development of this concept.



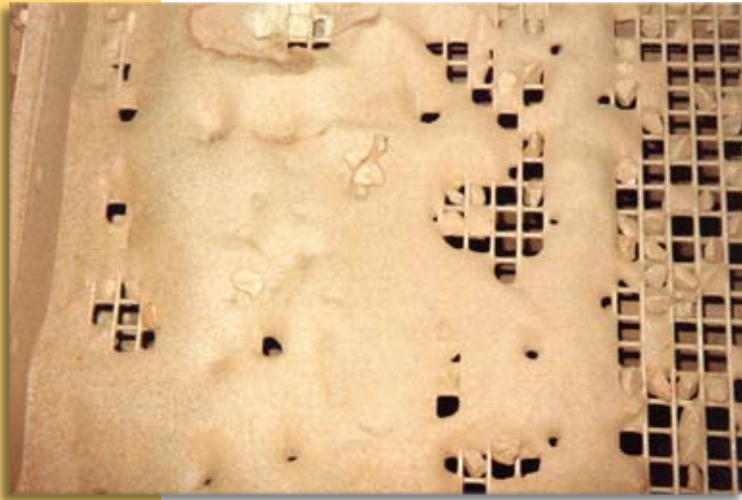
They combine application-oriented practical innovation with the experience of more than 2500 successfully operating machines.

The HEIN, LEHMANN name has become synonymous with the best product of this industry.





## The difficulties are the same...



Moist and sticky materials are blinding over the apertures of the screen panels and lead to pluggings and sticking grain in the perforation.

This problem increases with a reduction of the cut point. Effective classifying is not possible anymore.

***LIWELL® screening machines were especially designed to solve such screening problems. They combine various individual solutions in one overall solution:***



- Extensive wet screening or drying of the screening material is not required. Water and energy consumption is reduced.
- Very accurate classifying by using wear-resistant polyurethane screen panels guarantees a reduction of the outsize material and thus optimises the product quality.
- High costs of cleaning screen panels and consequential production loss are avoided.

This concept combines maximum technical standard with minimum operation costs.

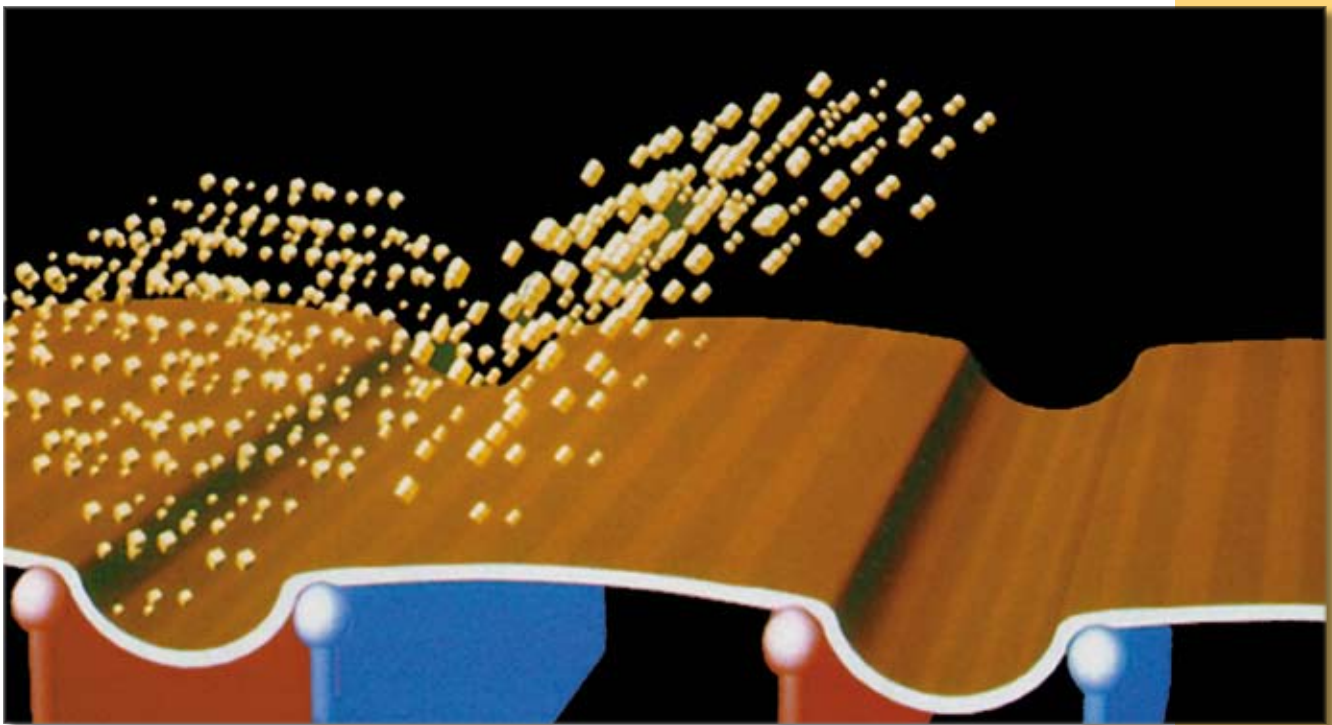
**...with any customer.**

# The idea is simple...

- Trampoline-like motion of the screen panels
- High accelerations and intensive loosening-up of the screening material
- Self-cleaning effect of the screen panels.

## ***The special feature:***

The elastic screen panel is not only tensioned but additionally stretched up to 10 mm. As a result the shape of perforation is slightly changed. Clogging and sticking grain is prevented - the screen panel is breathing. This is an option which cannot be given by any conventional screening machine with inflexible screen panels!



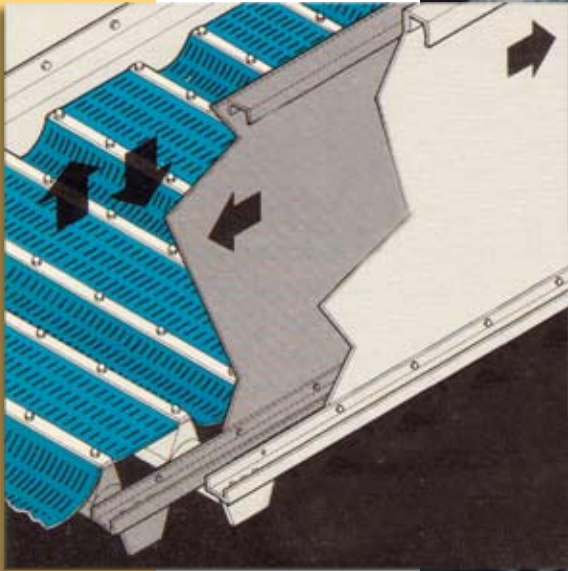
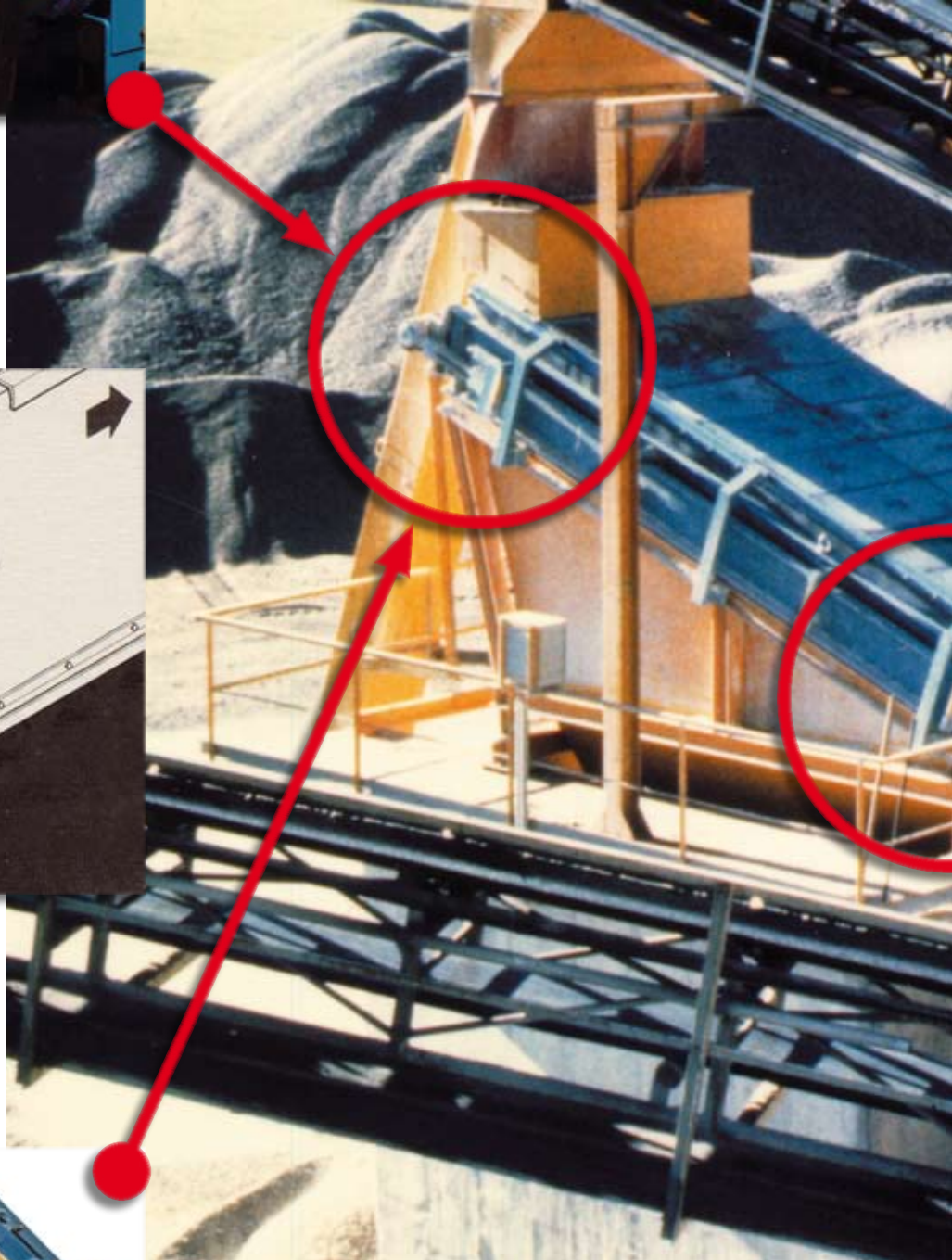
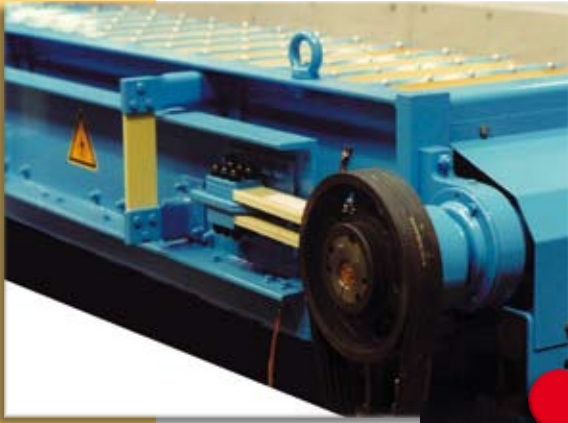
Only high-quality flexible materials can be exposed to such mechanical stress without being damaged. By using highly wear-resistant and permanent elastic material, a multiple service life is achieved compared to screen panels made of steel.

As we manufacture our own screen mats, the experience gained with our existing customers is directly transferred to the production of these screen mats. For this reason, a precise adaptation of the mat geometry to the task is taken for granted.

## ...the impact simply ingenious!

## The thrust rod drive system

The eccentric shaft puts the systems into counter rotating oscillations. The circular movement of the drive shaft is transformed into a linear oscillation of the screen cases by means of thrust rod springs.

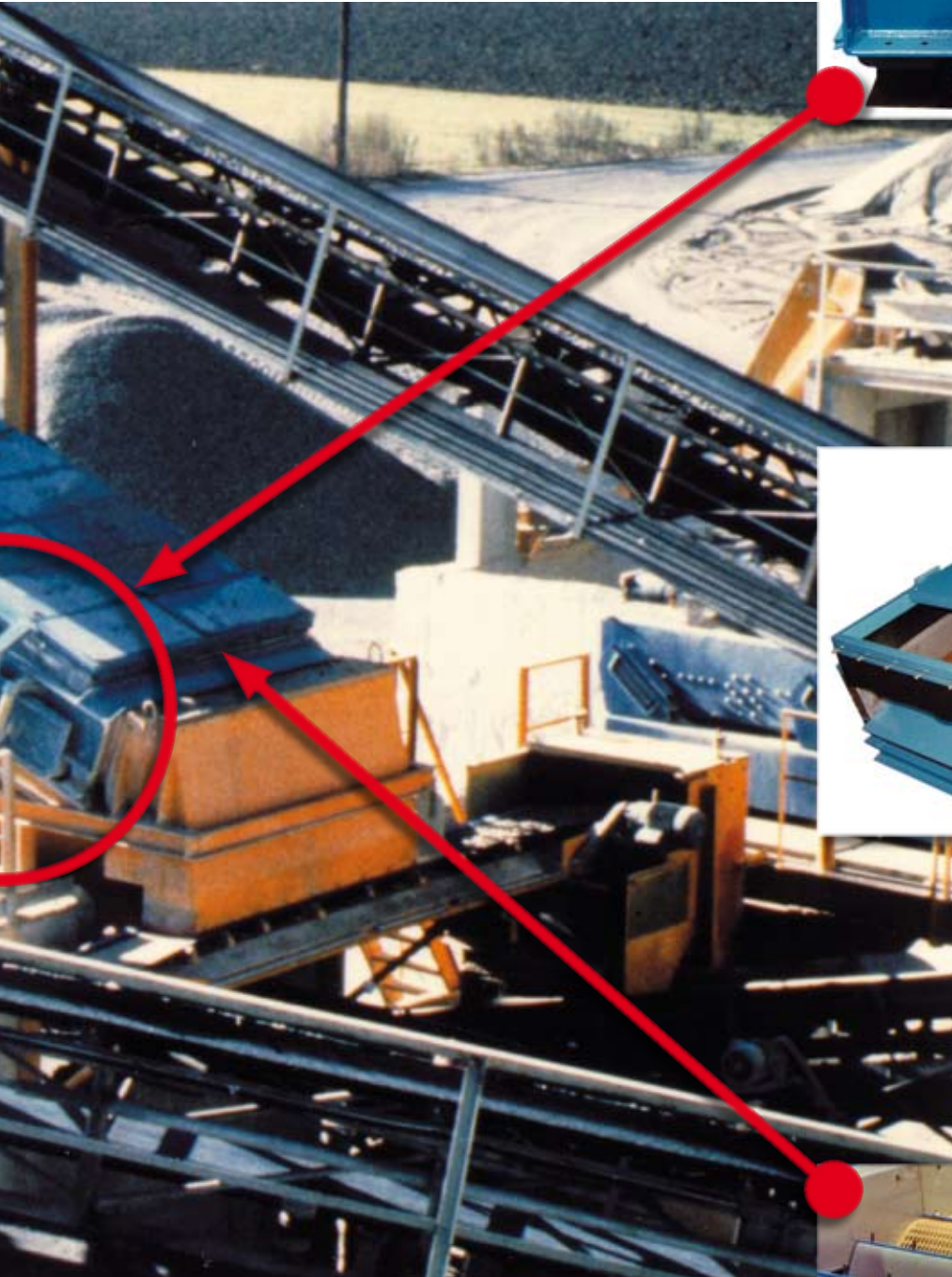


## The machine support

Helical springs are arranged between the inner screen case and the supporting jack. They ensure that the machine is kept in the correct position according to the angle of inclination.

## The screen cases

The outside screen case is suspended from the inner screen case by guide springs, allowing horizontal movement. The inner screen case is supported on the supporting jack by means of rubber insulating springs. To avoid spattering grain, the machine is covered. The individual sections of the cover can be removed to get easy access for maintenance works. Optionally it is possible to deliver a dust-proof cover.



**The screen mats with fixing device**

The cross beams supporting the elastic screen mats are alternately connected to the inner and outer screen case. The movement of the screen cases results in a change of distance between the cross beams. Depending on the machine frequency, the screen mats are tensioned and slackened approximately 600 times per minute.



## ...simply normal.



LF 2.0-6.30 / 20 DD - 25 m<sup>2</sup> for crushed stone fines.  
Separation at 5 mm and 2 mm. Feed capacity of 200 t/h.

### The LIWELL® LF

Our standard type for normal applications with linear movement of the screen cases - well proven for many years.

Machines of type LF are available as single- or double-deck machines.

Single-deck types have a screening surface from 1.25 m<sup>2</sup> up to 27 m<sup>2</sup>, double-deck machines from 2.5 m<sup>2</sup> up to 19.4 m<sup>2</sup> per deck.

## ...for dusty conditions.



LL 1.5-5.04 / 24 ED - 7.5 m<sup>2</sup> for recycling of packaging material.  
Separation at 10 mm. Feed capacity of 60 m<sup>3</sup>/h.

### The LIWELL® LL

The function of the LIWELL® LL is identical to that of the LF-series. The special design makes a dust-proof finish possible.

A dust extraction unit can additionally be fixed by means of optional connecting flanges provided in the cover.

Single-deck machines are available with screening surfaces from 1.25 m<sup>2</sup> up to 12.6 m<sup>2</sup>.



# ...full speed ahead into the future!

## The LIWELL® KT (European patent)

The innovation for special applications. The Flip-Flow action is superimposed by an adjustable circular vibration. The cross beams are driven directly via thrust rods, eliminating the need for a second screen frame.



KT 2.0-6.0 / EDS with 12 m<sup>2</sup> for screening of lava.  
Separation at 8 and 3 mm. Feed capacity 100 t/h.

High capacity level and a variable scope of operation is a special feature of this machine.

The screening area of single-deck types amounts between 3.0 m<sup>2</sup> and 16.0 m<sup>2</sup>. Protection deck machines are available from 3.0 m<sup>2</sup> screening area up to 16.0 m<sup>2</sup> per deck.

## ...for the specific!

### Flexible screening with mobile machines

For this purpose semi-mobile and mobile plant designs are available, which are exactly adjusted to the requirements. Therefore mobility within the factory premises as well as on public roads is feasible.

Semi-mobile machines can be delivered with screening surfaces of up to 16 m<sup>2</sup> per screen deck.

Mobile machines can be delivered with up to 2 x 12.6 m<sup>2</sup> (depending on local authority regulations).



LF 2.0-6.30 / DD with 12.6 m<sup>2</sup> screening surface per deck.  
Technical design for customer in the USA.

# Examples and references...



## Hard rock

Material : calcite, dolomite, basalt, gabbro etc.

Separation : 0.9 - 10.0 mm

Moisture : 2 - 15 %

Capacity : 20 - 300 tph



## Coal

Material : lignite, brown coal, hard coal

Separation : 2.0 - 40.0 mm

Moisture : 7 - 60 %

Capacity : 20 - 1200 tph



## Compost

Material : garbage compost, mature compost

Separation : 4.0- 20.0 mm

Moisture : 30 - 50 %

Capacity : 5 - 30 tph

# ...for every material at any place.

## Slag

Material : blast furnace slag,  
scoria, waste  
incineration slag

Separation : 2.0 - 20.0 mm

Moisture : up to 20 %

Capacity : 20 - 300 tph



## Crude sand

Material : gravel, crushed stone  
fines, nature sand

Separation : 2.0 - 15.0 mm

Moisture : up to 10 %

Capacity : 20 - 300 tph



## Moreover we screen:

*Anthracite, ashes, matured timber, recovered glass, basalt, rubble, mixed construction waste, bauxite, pumice, biowaste, excavated soil, drilling mud, brown coal, briquette wear, diabase, dolomite, fertilising lime, iron ore, soil, earthy sludge, ore, fine pulp, broken gypsum plates, gypsum sludge, glass, broken glass, granulates, greywacke, chips, dump material, hard rock, household waste, chipped wood, lime stone, gravel, coal, coal suspension, coke, coke breeze, compost (mature-, green-, cemetery-, fresh-, refuse-), chalk, copper wire, lava, lava ashes, magnesite, marble, sea salt, shell lime stone, garbage (household-, raw-, shredder-), paper remains, plastic remains, pellets, phonolite, porous concrete, quartzite, recycling material, bark, beet soil, crushed stone fines and raw sand, slate, slag (ferrous-, waste incineration-, aluminium-) and scoria, sludge (chalk-, sewage-, settling pond-), scrap (car-, aluminium-, shredder-), sinter coke, sinter ore, split, hard coal, sylvinit, carpet remains, fused alumina, turf, broken bricks, brick powder, brick split, sugar*



# HEIN, LEHMANN

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