

HAYER & TYLER



REDEFINING TECHNOLOGY



**FINE-LINE
SCREENING MACHINE**

The new FINE-LINE series of HAVER NIAGARA GmbH is the innovative answer to the complexities that users face when it comes to dry fine particle screening.

The FINE-LINE is characterized by the screening box modular design which consists of up to three screening decks positioned above each other. Whether it's classifying or defilling, the FINE-LINE convinces with its screening quality, high material throughput, dust-tightness, ease of maintenance, and energy efficiency. The new material feeding system is already integrated with the screening box and provides uniform material distribution over the entire width of the screen.

Areas of application

Fine screening of:

- Industrial minerals (quartz, limestone)
- Raw materials and products in the building materials industry (quartz and limestone granulate, gypsum, dolomite)
- Raw materials and products in the chemical industry (inorganic fertilizer, e.g. DAP)

Cut sizes

- from 100 µm to 3 mm

Applications

- Classifying
- Reject
- Defilling

Advantages

- Quick and easy exchange of screen cloth
- Dust-tight screen box down to 80 µm
- Minimal energy consumption, less than 0.5 kWh/tonne of input material
- Integrated material distribution unit

- > 2,5 mm
- 1,4 - 2,5 mm
- 1,25 - 1,40 mm
- 1,00 - 1,25 mm
- 0,71 - 1,25 mm
- 0,63 - 0,71 mm
- 0,50 - 0,63 mm
- 0,4 - 0,5 mm
- 0,315 - 0,400 mm
- 0,250 - 0,315 mm
- 0,125 - 0,250 mm
- 0,100 - 0,125 mm
- > 0,100 mm



The figure to the right shows an example particle size distribution of typical FineLine feed material.



Material distribution with integrated feeder

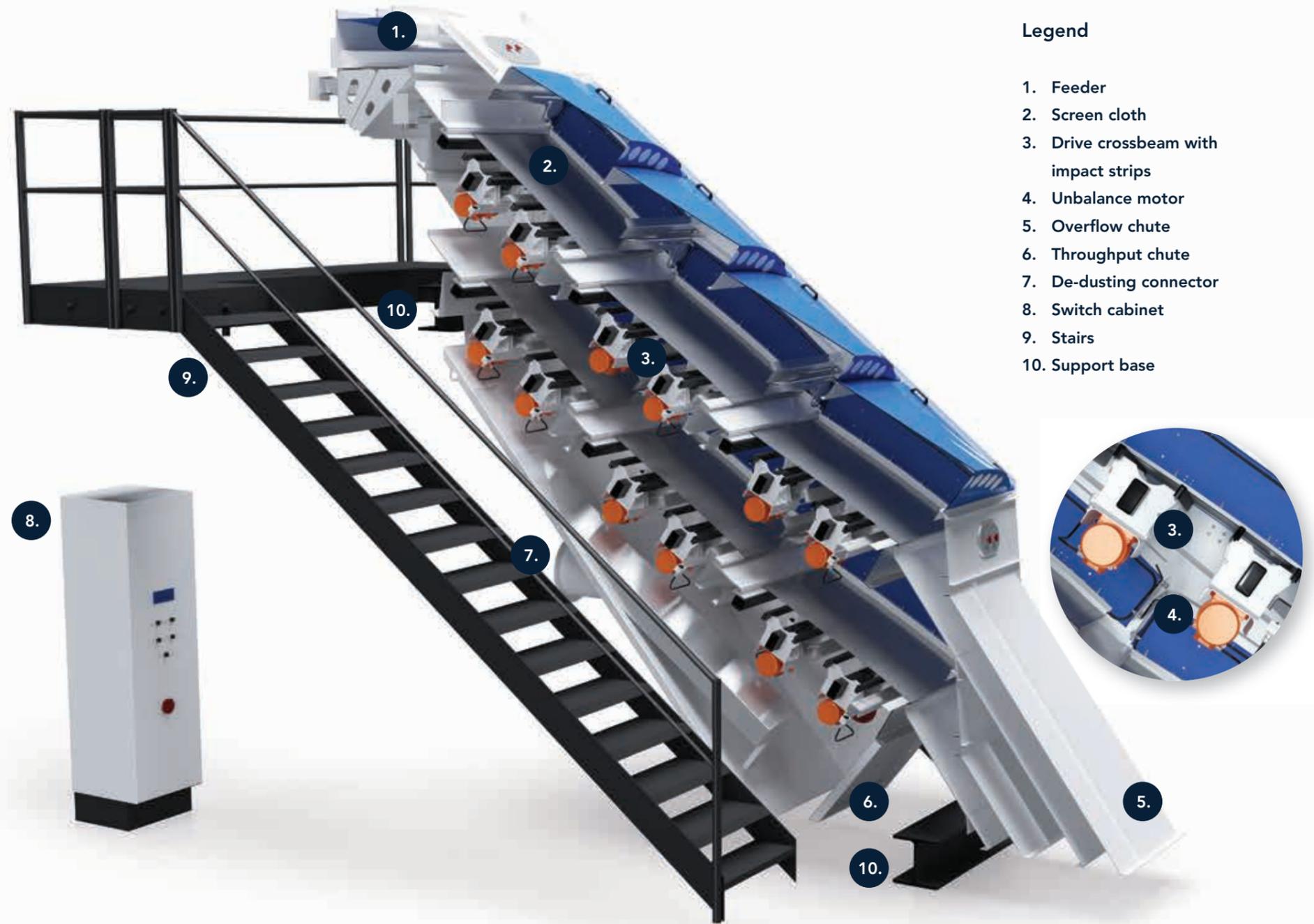


The feed material is distributed across the full width of the screen cloth



Function

- Classification and screening of oversize particles through thin layer screening.
- Directly excited screen cloth.
- Longitudinally tensioned screen cloth.
- For each screen segment, two paired impact strips excite the screen cloth directly from below. The paired impact strips are placed on rubber buffers to form the drive system together with the unbalance motor.
- Each screen deck module contains three screen sections arranged one after the other with different screen cloth inclination angles.
- The screen cloth inclination is adjusted so that it matches the three main screening phases, which consist of input material distribution, layering, and near size screening.
- Operating modes: drive frequency selectable between 50 Hz (3000 rpm) and 65 Hz (3900 rpm).
- Various operations mode modes can be freely defined and selected according to product requirements (simple control and administration of product types).
- Cleaning with up to 80 Hz (4800 rpm).
- With multiple screen decks, the above-each-other deck sections can be cleaned simultaneously or in a time-shifted manner.
- Manual or automatic operation.
- Cleaning duration and number of cleaning cycles are freely selectable for each screen deck and screen section.
- Extremely high screen cloth acceleration with up to 14 g.
- Separate switch cabinet with touch-screen machine control. Pre-defined and freely programmable operating modes can be called up. Manual or automatic operation is selectable.
- Optional signal exchange with customer-supplied system control.
- FINE-LINE screening machine available in stainless steel upon request.



Legend

1. Feeder
2. Screen cloth
3. Drive crossbeam with impact strips
4. Unbalance motor
5. Overflow chute
6. Throughput chute
7. De-dusting connector
8. Switch cabinet
9. Stairs
10. Support base



Simple touch-screen operation.



Individual screen cloth acceleration adjustment.



Optimally tensioned sandwich woven screen.

Number of decks	Screen cloth area [m ²]	Motor power [kW]	Total weight [kg]
1	6,75	7,56	3400
2	13,5	11,52	5620
3	20,25	15,40	7950

Technical data

Your advantages and benefits

- An integrated feeder ensures optimum material distribution over the entire width of the screen.
- Roomy maintenance doors on the side allows easy and quick screen cloth replacement in just minutes.
- Externally positioned tensioning units allow quick and optimum screen cloth adjustment.
- Easy screen-cloth tension-monitoring via optical indicator.
- The fully encapsulated screening box with integrated de-dusting connector keeps the surroundings dust-free and improves on-site work safety.
- The generated under-pressure at the lower part of the screen box for de-dusting keeps your material on all screening decks close to the screen cloth. In combination with the thin layer screening, this can lead to a 30-50% increase in screening throughput and the highest possible product quality.
- Low dynamic loads have a positive effect on the steel construction.
- Reduced power consumption during regular operation minimises energy costs. For example specific energy consumption with the FINE-LINE 1800x3750 1DC during classification, depending on the input material and cut-size, is considerably below 0.5 kWh/tonne of input material.

- The excellent screen cloth side dust-proofing keeps improper size particles away from the product.
- Effective cleaning cycles minimize clogging and thus prevent a throughput reduction and altered product qualities.



00:00 min



The maintenance doors at the defective screen cloth are opened on both sides.

00:40 min



The screen cloth is tensioned by rapid-action fasteners.

02:10 min



The screen cloth is relaxed.

02:15 min



The screen cloth can be installed and removed in a space-saving manner.

02:30 min



Installation of a new screen cloth.

02:45 min



The screen cloth is tensioned once again with quick-action fasteners.

04:20 min



The optimum screen cloth tension is shown.

05:00 min



The maintenance doors are closed and dust-proof the screen cloth and screen box at the sides.

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