Solid-liquid separation technology for industrial processes

FAST CYCLING
FILTER PRESS GHT F

A brand of
Aqseptence Group
GHT F
The perfect machine for high filterability products

Performance
The GHT F is a Diemme® Filtration filter press specifically developed for large throughput, high filterability products such as mining concentrates and tailings. The electrically-driven movement of the mobile header and the resulting accordion-style opening of the plate pack considerably reduces the cake discharge time and the entire opening-closing sequence of the filter. The result is a fast cycling filter press which allows increased production per unit area of the filter.

Reliability
The overhead side-beam structure of the filter facilitates the installation of different performance-improving devices such as the cloth rinsing system and the plate-shaking device. Additionally, routine maintenance operations are made easier thanks to an integrated platform enabling access from above the machine.

Membrane technology
When the application requires washing stages with solvents or drying stages with compressed air, special plates with variable-volume chambers are necessary.

The plate construction material varies depending on the process temperature and of the chemical composition of the product to be filtered.

<table>
<thead>
<tr>
<th>Model</th>
<th>Working pressure (bar)</th>
<th>N. of installed plates</th>
<th>Cake volume (l)</th>
<th>Filtration area (m²)</th>
<th>Length (mm)</th>
<th>Empty weight (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4000</td>
<td>0 – 15</td>
<td>51 – 121</td>
<td>16000 – 46000</td>
<td>794 – 1932</td>
<td>18000 – 32000</td>
<td>110000 – 160000</td>
</tr>
</tbody>
</table>
Technical Details

Plate-shaking device

The automatic plate-shaking device, which is programmed to occur after the plate pack fully opens, ensures the filter cakes are properly discharged and removes possible cake fragments from the cloths. This system, along with the cloth rinsing system, allows the filter to run automatically and without operator assistance.

Cloth rinsing system

On the GHT F, filter cloths are rinsed after each cycle to prevent the accumulation of cake fragments and dust. Furthermore, the rinsing ensures the sealing surfaces of the filter cloth are clean providing a tight seal upon closing. The cloth rinsing system, comprised of wash pipes located at the top and lower portion of the plates on both sides of the filter, provide a thorough rinsing of the filter cloths while leaving the upper area of the machine free to perform routine maintenance operations.

Automatic cloth washing

The automatic in-situ cloth washing system, which is programmable according to the user’s needs, uses high pressure wash water and directional sprays to effectively regenerate the filter cloth permeability. The results are filter cloths with more consistent filtration performance and longer life.

Load cells

Placed under the supporting feet, load cells constantly monitor the machine weight to ensure all cakes are discharged. The throughput of each load can also be recorded for accurate production tracking.

Simultaneous opening of the plate pack

The cake discharge time is significantly reduced compared to traditional plate opening-closing systems with the use of an accordion-style plate pack opening and closing system. This fast operation increases the filter’s throughput production.

Plc

GHT F filter presses are provided with a PLC-based automation system complete with a human-machine interface (HMI) which simplifies monitoring of the filter operation and diagnosis of faults. Additionally, it allows for continuous adjustment of filtration parameters in order to optimize the variable requirements of the process.
GHT F Features

Stairs to reach the filter top and integrated platform for maintenance

This allows easy access to the top of the machine for cloth maintenance operations. The integrated design prevents the need of additional floors to the filter load-bearing structure.

Double washing system

The automatic cloth washing system, along with the cloth rinse system, improves the machine efficiency and performance by preventing accumulation of cake fragments and allowing a tight seal of the plate pack.

Optimized fluid dynamics

The innovative design of the GHT F filter press provides optimized fluid distribution inside the machine, improving performance and reducing abrasion of filter elements and of those components that are in contact with the product.

Rapid cloth changing system

The unique design of the filter cloth provides for its installation from above for ease of maintenance. Furthermore, filter cloths are simple and fast to replace reducing down time.

Multiple feeding system

The multiple feeding system efficiently distributes the slurry in order to reduce its speed and for uniform filling of the plates.