LINTEC

ASPHALT MIXING PLANTS

EXPERTS IN ASPHALT & CONCRETE PLANTS
Linnhoff Asphalt Mixing Plant in the 50s

Linnhoff premises in Berlin Tempelhof 1925


Der Wasen besitzt auch eine leichte Pumpe mit Windkessel, die auch bei Kaltwasserzum unter dem Dampf geheizt werden muß. Er wird mit dem Zugangstücker für die leichte Öffnung, mit Spritzgruben, Spritzgrube, Düsen geliefert und eingebaut sich in der Ausführung für Parkwagen und schmale Straßen sowie auch für Anbaubauarbeiten.

Gewicht ca. 210 Kg.

Dieses Gerät wird auch ohne Spritzpumpe instand, als Fälltransportwagen hergerichtet und ist dann zur direkten Entfernung des Fasses verwendbar. Gewicht ca. 260 Kg.

Kreisbauamt des Kreises Westprignitz

PERLEBERG, den 29. Sept. 1927

Firma

EDUARD LINNHOFF
Maschinenfabrik und Konstruktionsbüro
BPP-12-Tempelhof
Oberlandstr. 12/13

Betre. Universal-Spritzmaschinen

Auf Ihren Wunsch bescheinigen wir Ihnen, dass die von Ihnen gelieferten beiden Universal-Spritzmaschinen für Baustellen, Straßen und Straßenmaterial

sich bestens bewährt haben.

Vorteilhaft ist an den Maschinen besonders, dass die Blei- und Spritzmaterialien samt auch die Neusysteme in den Wærmenbruch ergänzt und zum Abschalten gebaut werden können, während besonders Vorspannsteinen bei normaler Arbeit nicht erforderlich sind. Auch die Verlänger- Vorrichtung, welche mit der Überschusshöhe maßig, hat sich allmählich bewährt.

Es lassen sich bei einfacher Überfahrschu- terung mit einer Maschine vollständig ca. 4000 qm herstellen.

KREISBAUAMT DES KREISES WESTPRIGNITZ

ges. Wilhelm Kreisbauamtsleiter
Experience in Asphalt Mixing Plants and related equipment since 1919. The LINTEC Group is specialized in the development, manufacturing and marketing of Asphalt & Concrete Mixing Plants. The perfect mix of tradition and technology.

From as early as 4000 BC when roads were paved manually with only stone in the ancient city of Ur in the modern-day Iraq, to the current smooth surfaces of modern asphalt roads, mechanization through asphalt mixing plants plays an important role in production of high quality asphalt.

Since Eduard Linnhoff started manufacturing Asphalt Mixing Plants in Berlin in 1919, his company LINNHOFF has played an active role in this process. Eduard Linnhoff was born in August 1890, in Bochum in the middle of the Ruhrgebiet, the German industrial centre where the industrialisation of Germany began in the earlier part of the 19th century. He joined the navy during the 1st World War where he was an engineer responsible for steam engines.

Just after the 1st World War in 1919, Eduard Linnhoff founded the company Eduard Linnhoff Maschinenfabrik in Tempelhof, Berlin. From the outset, Linnhoff produced road construction machinery such as asphalt plants, asphalt sprayers and mastic plant machinery including asphalt cookers and finishers.

In the 60s Linnhoff developed the Screen Drum concept for Asphalt Plants, a unique and patented technology which eliminated the use of the hot elevator and vibrating screen associated with conventional Asphalt Batching Plants. This concept reduced overall operating costs by not only reducing plant maintenance but fuel consumption as well. Since then a number of Screen Drum patents have been established.

By August 1970, Klaus Thesenitz, the grandson of Eduard Linnhoff took over the company and renamed it Linnhoff & Thesenitz.

With the foundation of LINTEC in the 80s innovation continued – the Double Screen Drum was integrated into the world’s first Asphalt Mixing Plant housed in 100% ISO sea containers and a range of containerized Concrete Batching Plants were developed. Since then LINTEC has been the world leader for containerized Mixing Plants which offer numerous advantages in comparison to conventional plants due to their modular construction. A wide range of plant capacities are available, complimented by a range of optional equipment which ensure the specific requirements of every jobsite are catered for.

LINTEC Group also has a close cooperation with Linnhoff & Henne GmbH & Co. KG and represents the company in many countries. Linnhoff & Henne are the longest established manufacturer and global market leader for gussasphalt machines and related equipment.

LINTEC today is a global player with subsidiaries in Singapore, China, Poland, India and Brazil as well as worldwide representatives offering the technical know-how with experience for optimal solutions.
Containerized Asphalt Batching Plants

LINTEC Containerized Asphalt Batching Plants offer many advantages compared to standard Asphalt Mixing Plants. Their modular construction permits easy transportation to the job site and a fast erection upon arrival.

Erection and Testing Prior to Shipment
Plants are erected at the factory and run through a test phase to ensure smooth erection at the job site.

Low Transportation Costs
Each plant component is supplied in a 100 % ISO sea container, which has been inspected and certified by Germanischer Lloyd/Dekra.

No Concrete Foundations
The ground area of the containers ensures stability on suitably compacted soil.

Energy saving
Considerable energy savings are achieved by the LINTEC double screen drum technique. Eliminating the hot elevator associated with other tower plants, the LINTEC screen drum combines the heating and screening of the minerals in a single process unit. This eliminates process heat loss due to material transportation up the elevator and the heated minerals also benefit from the conducted heat from the drum shell during screening.

For Screen Drum Plants
no Hot Elevator required
Cold material only is conveyed to the top of the plant therefore the flow of hot material follows the natural way – from top to bottom.

Plant Building Concept
The LINTEC tower plant comprises stacked containers which provide a pleasing industrial factory view. Twin stacked containers have a fully protected central stairway giving easy access to each container floor.

Plant Security
The plant tower can only be accessed via one main lockable security door. This prevents unauthorized access to the plant and the risk of theft and vandalism.

LINTEC containerized Asphalt Batching Plants are available with many options, including:
- Cold feed units with bin capacities from 9 to 15m³ housed in 20’ or 40’ HC containers
- Single or multifuel burners for heavy oil, diesel, gas or coal dust.
- External hot storage silos from 50 – 270 t capacity, as well as integral silos from 200t to 400t
- Bitumen tanks in vertical or horizontal design
- Fuel tanks
- Filler silos with capacities from 50 – 80m³

Plant Types

<table>
<thead>
<tr>
<th>Asphalt Batching Mixing Plants</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Double Screen Drum</strong></td>
</tr>
<tr>
<td>Plant Capacity</td>
</tr>
<tr>
<td><strong>Vibrating Screen</strong></td>
</tr>
<tr>
<td>Plant Capacity</td>
</tr>
</tbody>
</table>

www.lintec-gmbh.de

CSD1500 – Buxtehude, Germany
CSD 2500 – Hungary
CSD 3000 – Wyszków, Poland
CSD 3500 – Algeria
CSM3000 – Neshin, Ukraine
LINTEC Patented unique double screen drum technology for CSD type plants

Drying and screening process in one containerized unit. Advantages:
Fuel efficiency, no hot elevator required, noise reduction, easy maintenance.

This diagram shows both the drying and screening functions of the LINTEC CSD. The material passes through the drying drum in counter-flow. The heated aggregates drop through slots onto the screens, where they are carried by the movement of the drum and feed spirals and then pass through the screens to the respective hotbins without losing heat, but absorbing the radiated energy.

1 Charging conveyor
2 Drying drum
3 Burner and blower
4 Screen sections
5 Coarse dust separator
6 Hot stone bin
LINTEC CSD 1200

Containerized Asphalt Mixing Plant with Double Screen Drum and a capacity of 80 t/h for mobile as well as stationary use.

CSD 1200 – Poland

CSD 1200 at BAUMA 2010

<table>
<thead>
<tr>
<th>Description</th>
<th>Unit</th>
<th>CSD 1200</th>
</tr>
</thead>
<tbody>
<tr>
<td>Screen decks</td>
<td>Pcs.</td>
<td>4</td>
</tr>
<tr>
<td>Hot stone bin</td>
<td>t</td>
<td>15</td>
</tr>
<tr>
<td>Reclaimed filler silo</td>
<td>t</td>
<td>10</td>
</tr>
<tr>
<td>Batch size</td>
<td>kg</td>
<td>1.350</td>
</tr>
<tr>
<td>Batch cycle time</td>
<td>s</td>
<td>45</td>
</tr>
<tr>
<td>Aggregate temp. increase</td>
<td>K</td>
<td>150</td>
</tr>
<tr>
<td>Exhaust gas temperature</td>
<td>°C</td>
<td>90–120</td>
</tr>
<tr>
<td>Burner capacity</td>
<td>MW</td>
<td>6</td>
</tr>
</tbody>
</table>

CSD 1200

1. Cold feeder
2. Screen drum & filter
3. Hot stone bin & reclaimed filler silo
4. Mixer
5. Control cabin
6. Pump room
7. Foreign filler silo

Weighing section
LINTEC CSD 1500

Containerized Asphalt Mixing Plant with Double Screen Drum and a capacity of 120 t/h for mobile as well as stationary use.

CSD 1500 – Poland

Friction drive unit

CSD 1500 – Dominican Republic

<table>
<thead>
<tr>
<th>Description</th>
<th>Unit</th>
<th>CSD 1500</th>
</tr>
</thead>
<tbody>
<tr>
<td>Screen decks</td>
<td>Pcs.</td>
<td>4</td>
</tr>
<tr>
<td>Hot stone bin</td>
<td>t</td>
<td>25</td>
</tr>
<tr>
<td>Reclaimed filler silo</td>
<td>t</td>
<td>15</td>
</tr>
<tr>
<td>Batch size</td>
<td>kg</td>
<td>1.650</td>
</tr>
<tr>
<td>Batch cycle time</td>
<td>s</td>
<td>45</td>
</tr>
<tr>
<td>Aggregate temp. increase</td>
<td>K</td>
<td>150</td>
</tr>
<tr>
<td>Exhaust gas temperature</td>
<td>°C</td>
<td>90–120</td>
</tr>
<tr>
<td>Burner capacity</td>
<td>MW</td>
<td>8</td>
</tr>
</tbody>
</table>

CSD 1500

1 Cold feeder
2 Screen drum
3 Filter
4 Hot stone bin & reclaimed filler silo
5 Mixer
6 Control cabin
7 Pump room
8 Foreign filler silo
LINTEC CSD 2500 / 2500 B

Containerized Asphalt Mixing Plants with a capacity of 160 t/h for mobile as well as stationary use.

CSD 2500 B – Hungary

CSD 2500 – with cold recycling

CSD 2500 – 2 plants at one job-site in Russia

<table>
<thead>
<tr>
<th>Description</th>
<th>Unit</th>
<th>CSD 2500/B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Screen decks</td>
<td>Pcs.</td>
<td>5</td>
</tr>
<tr>
<td>Hot stone bin</td>
<td>t</td>
<td>45</td>
</tr>
<tr>
<td>Reclaimed filler silo</td>
<td>t</td>
<td>45</td>
</tr>
<tr>
<td>Batch size</td>
<td>kg</td>
<td>2,500</td>
</tr>
<tr>
<td>Batch cycle time</td>
<td>s</td>
<td>45</td>
</tr>
<tr>
<td>Aggregate temp. increase</td>
<td>K</td>
<td>150</td>
</tr>
<tr>
<td>Exhaust gas temperature</td>
<td>°C</td>
<td>90–120</td>
</tr>
<tr>
<td>Burner capacity</td>
<td>MW</td>
<td>13</td>
</tr>
</tbody>
</table>

CSD 2500 / 2500 B

1 Cold feeder
2 Screen drum
3 Filter
4 Hot stone bin
5 Reclaimed filler silo
6 Mixer
7 Transport container
8 Control cabin
9 Pump room
10 Storage room
11 Tower sub construction

1 CSD 2500 B
2 CSD 2500
3 CSD 2500
4 CSD 2500
5 CSD 2500
6 CSD 2500
7 CSD 2500
8 CSD 2500
9 CSD 2500
10 CSD 2500
11 CSD 2500
LINTEC CSD 3000

Fully containerized Asphalt Mixing Plant with a capacity of 240 t/h with integrated 200 tons hot storage silo for mobile as well as stationary use.

CSD 3000

Description | Unit | CSD 3000
--- | --- | ---
Screen decks | Pcs. | 5 / 6
Hot stone bin | t | 35 / 41
Reclaimed filler silo | t | 45
Batch size | kg | 3,500
Batch cycle time | s | 45
Aggregate temp. increase | K | 150
Exhaust gas temperature | °C | 90 – 120
Burner capacity | MW | 19

CSD3000 with cold recycling
1. Cold feeder
2. Screen drum
3. Filter
4. Hot stone bin
5. Reclaimed filler silo
6. Mixer
7. Transport container
8. Control cabin
9. Pump room
10. Storage room or Diesel tank
11. Tower sub construction
12. Bitumen tank
13. Foreign filler silo
14. Recycling cold feeder
15. Recycling throw belt
LINTEC CSM 2500

Containerized Asphalt Mixing Plant with conventional vibrating screen technology and a capacity of 160 t/h

CSM 2500 – Main burner

CSM 2500 – Vibrating screen

<table>
<thead>
<tr>
<th>Description</th>
<th>Unit</th>
<th>CSM 2500</th>
</tr>
</thead>
<tbody>
<tr>
<td>Screen decks</td>
<td>Pcs.</td>
<td>6</td>
</tr>
<tr>
<td>Hot stone bin</td>
<td>t</td>
<td>60</td>
</tr>
<tr>
<td>Reclaimed filler silo</td>
<td>t</td>
<td>45</td>
</tr>
<tr>
<td>Batch size</td>
<td>kg</td>
<td>2,500</td>
</tr>
<tr>
<td>Batch cycle time</td>
<td>s</td>
<td>45</td>
</tr>
<tr>
<td>Aggregate temp. increase</td>
<td>K</td>
<td>150</td>
</tr>
<tr>
<td>Exhaust gas temperature</td>
<td>°C</td>
<td>90–120</td>
</tr>
<tr>
<td>Plant capacity</td>
<td>t/h</td>
<td>160</td>
</tr>
</tbody>
</table>

CSM 2500 – Mixer level

CSM 2500 – Main burner

CSM 2500 – Vibrating screen

1 Cold feeder
2 Drying drum
3 Hot elevator
4 Screening machine
5 Hot stone bin
6 Mixer
7 Filter
8 Reclaimed filler silo
9 Transport container
10 Control cabin
11 Pump room
12 Tower sub construction
13 Storage room / Diesel tank
LINTEC CSM 3000

Containerized Asphalt Mixing Plant with conventional vibrating screen technology and a capacity of 240 t/h

CSM 3000 – Direct „truck loading“

Integrated hot storage silo 200 t

<table>
<thead>
<tr>
<th>Description</th>
<th>Unit</th>
<th>CSM 3000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Screen decks</td>
<td>Pcs.</td>
<td>6</td>
</tr>
<tr>
<td>Hot stone bin</td>
<td>t</td>
<td>83</td>
</tr>
<tr>
<td>Reclaimed filler silo</td>
<td>t</td>
<td>45</td>
</tr>
<tr>
<td>Batch size</td>
<td>kg</td>
<td>3,000</td>
</tr>
<tr>
<td>Batch cycle time</td>
<td>s</td>
<td>45</td>
</tr>
<tr>
<td>Aggregate temp. increase</td>
<td>K</td>
<td>150</td>
</tr>
<tr>
<td>Exhaust gas temperature</td>
<td>°C</td>
<td>90–120</td>
</tr>
<tr>
<td>Plant capacity</td>
<td>t/h</td>
<td>240</td>
</tr>
</tbody>
</table>

CSM 3000 – Drying drum

CSM 3000 with integrated hot storage silo
1. Cold feeder
2. Drying drum
3. Hot elevator
4. Screening machine
5. Hot stone bin
6. Mixer
7. Filter
8. Reclaimed filler silo
9. Transport container
10. Control cabin
11. Pump room
12. Tower sub construction
13. Storage room / Diesel tank
14. Integrated hot storage silo
LINTEC CSM 4000

Containerized Asphalt Mixing Plant with conventional vibrating screen technology and a capacity of 320 t/h

<table>
<thead>
<tr>
<th>Description</th>
<th>Unit</th>
<th>CSM 4000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Screen decks</td>
<td>Pcs.</td>
<td>6</td>
</tr>
<tr>
<td>Hot stone bin</td>
<td>t</td>
<td>100</td>
</tr>
<tr>
<td>Reclaimed filler silo</td>
<td>t</td>
<td>60</td>
</tr>
<tr>
<td>Batch size</td>
<td>kg</td>
<td>4,000</td>
</tr>
<tr>
<td>Batch cycle time</td>
<td>s</td>
<td>45</td>
</tr>
<tr>
<td>Aggregate temp. increase</td>
<td>K</td>
<td>150</td>
</tr>
<tr>
<td>Exhaust gas temperature</td>
<td>°C</td>
<td>90–120</td>
</tr>
<tr>
<td>Plant capacity</td>
<td>t/h</td>
<td>320</td>
</tr>
</tbody>
</table>

CSM 4000 at a job-site in China
LINTEC CSM 5000

Containerized Asphalt Mixing Plant with conventional vibrating screen technology and a capacity of 400 t/h

Description | Unit | CSM 5000
---|---|---
Screen decks | Pcs. | 6
Hot stone bin | t | 120
Reclaimed filler silo | t | 60
Batch size | kg | 5,000
Batch cycle time | s | 45
Aggregate temp. increase | K | 150
Exhaust gas temperature | °C | 90–120
Plant capacity | t/h | 400

3 Bitumen tanks 'in-line', each 50,000 l

**CSM 5000 with integrated hot storage silo and hot recycling**
1. Cold feeder
2. Drying drum
3. Internal hot elevator
4. Screening machine
5. Hot stone bin
6. Mixer
7. Filter
8. Reclaimed filler silo
9. Transport container
10. Control cabin
11. RC cold feeder
12. RC hot elevator
13. RC drying drum
14. Integrated hot storage silo
LINTEC Bitumen Modification Systems
Rubber Bitumen – Polymer Bitumen – White Bitumen

Paving of coloured asphalt

White bitumen system on trailer

Bitumen Modification Systems integrated in 20’ or 40’ containers:

- White bitumen system for coloured asphalt
- Rubber bitumen modification unit
- Bitumen tanks with various types of agitators
- Polymer modification units

Rubber bitumen system

CSD 3000 with integrated white bitumen system at jobsite in Poland
LINTEC Hot Storage Solutions

Containerized external or integrated hot storage silos from 50 to 400 t

<table>
<thead>
<tr>
<th>Type</th>
<th>Capacity</th>
<th>Location</th>
<th>Construction</th>
</tr>
</thead>
<tbody>
<tr>
<td>VL50B</td>
<td>50 t</td>
<td>external</td>
<td>container fit</td>
</tr>
<tr>
<td>VL100B</td>
<td>100 t</td>
<td>external</td>
<td>container fit</td>
</tr>
<tr>
<td>VL100</td>
<td>100 t</td>
<td>external</td>
<td>containerized</td>
</tr>
<tr>
<td>VL120</td>
<td>120 t</td>
<td>external</td>
<td>containerized</td>
</tr>
<tr>
<td>VL270</td>
<td>270 t</td>
<td>external</td>
<td>containerized</td>
</tr>
<tr>
<td>HS200/400</td>
<td>200/400 t</td>
<td>integrated</td>
<td>containerized</td>
</tr>
</tbody>
</table>

External hot storage silo 120 t

External hot storage silo 100 t

External hot storage silo 270 t

Integrated hot storage silo 200t for CSD and CSM Plants
LINTEC CDD 1200 GA

Containerized genuine Gussasphalt Plant with a capacity of 20 t/h
in cooperation with Linnhoff & Henne

CDD 1200 GA:
- Plant capacity 20 t/h, optional up to 40 t/h
- Hot bin with 1 chamber 15 t
- Recuperated filler silo 11 t
- 1 or 2 Gussasphalt silos on load cells each 6 t
- Quick mixer 1000 kg
- Integrated bucket 1000 kg
- Aggregate weigher 800 kg
- Filler weigher with 4 inlets 200 kg
- 3 x manual additions into quick mixer into gussasphalt silo into cooker (vehicle)
- 2 x fine adjustment of bitumen into gussasphalt silo into cooker (vehicle)
- RAP feeding prepared
- Direct loading from quick mixer or RAP feeding integrated

Gussasphalt applications:
- Most advanced pavement for steel bridge decks
- Industrial flooring
- Track construction for trams
- Sealings

Gussasphalt finisher EB 80/120 S
Gussasphalt cooker horizontal system
Gussasphalt cooker vertical system
Gussasphalt finisher EB 50/75 S
CGP Mobile Coal Grinding Plant for solid fuels

Containerized Coal Mill Plant for independent coal dust supply at the jobsite in cooperation with Loesche

Features:
- Grinding of all types of coal possible, from brown coal to anthracite
- Grain feed size 5-30 mm
- Fineness size range of coal dust 5% R 90µm to 45% R 90µm
- Throughput of 2-4 t/h coal dust
- Emission values correspond to TA air (German regul.)
- Safety concept (Explosion protection) according to ATEX (optional NEC)
- Plant is installed in ISO containers
- Can be used at environmental temperatures between –30 and + 40 °C
LINSTAL – State-of-the-Art Production Site

In 2007 LINSTAL was founded as a subsidiary company of LINTEC GmbH & Co. KG, Buxtehude, Germany. After completion of a new manufacturing site in 2010, LINSTAL started production utilising the latest engineering techniques and proven manufacturing knowledge.

Located in Jasien (Poland), the main state-of-the-art production facility for Europe has a total area of 85,000 m² where 140 employees manufacture 11 different types of LINTEC Mixing Plant. All manufacturing processes from profiling to final assembly of the containers take place within the factory and to ensure a high quality and durable paint finish, all steel plate is cleaned and shot-blasted before processing.

High manufacturing standards and the completion of a full test erection of each plant ensure high quality is maintained. A pre-despatch inspection by the customer is welcomed before every plant is disassembled and prepared for shipping to the construction site.
LINTEC Containerized batching plants offer the production of highest quality concrete with an output of up to 240 m³ per hour. The state-of-the-art concept by LINTEC supplies the perfect mix and allows highest flexibility.

LINTEC Concrete Batching Plants are designed as mobile fully containerized plants. Many advantages result from the rugged design with regard to transport, erection, operation as well as dismantling or revision of the plant. Generally the plants are suitable for all different types of concrete. The twin shaft compulsory mixers are likewise qualified for stiff road concrete as well as high performance concrete for tower building constructions. References are available on request.

The plants can be customized by several options, for example: upgrading capacities of cold feeding units with several feeding systems, admix weighing for highest quality dosage to meet most stringent specifications, containerized or round storage silos with various capacities, integration of heating and cooling systems, integration or customizing of the control system and the inclusion of a high pressure pump for the cleaning of the mixer section.

Plant Types

<table>
<thead>
<tr>
<th>Concrete Batching Mixing Plants</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Model</strong></td>
</tr>
<tr>
<td>Plant Capacity</td>
</tr>
</tbody>
</table>
Global experience – optimal solutions

LINTEC is definitely the name for first-class quality. All our plants are designed for hard working conditions on all kinds of job site and for all climates around the world. LINTEC is also committed to constant innovation resulting in our development of more productive and efficient plants.

Research & Development
Innovation always ahead of time!

With the continuous exchange of information amongst all the companies in the LINTEC Group, we are able to constantly improve our plant. Innovations; whether for burner systems, drive efficiency, dust control or many other important components are at the core of our dynamic global performance.

We develop plants with low energy consumption which provide reliability over a long service life for all global climates. LINTEC Group R&D

Centers are located in many countries around the world, concentrating global expertise to optimize equipment for the specific conditions and requirements of different world markets.

We pool our worldwide experience to meet future requirements!

Maintenance & Support

All LINTEC Group members offer excellent support and technical experience that you can count on worldwide.

Our distribution warehouses and network of service workshops provide support for customers around the world.

LINTEC technicians are specialists with in-depth knowledge of our technologies and are able to communicate in all major languages. The expertise of LINTEC’s skilled engineers is available at any time, 24/7.

We fully understand the consequences of a plant shutdown and from design to service support, have taken all measures to ensure reliable plant operation.