RENEWABLE ENERGY

BULK BIOMASS CONVEYING SYSTEM

TCB

WAMGROUP
TCB Biomass Conveying system is a complete and versatile screw conveyor system which extracts the bulk fraction of the biomass from the mixer/hopper, lifting and charging it into the digester of the Biogas production plant.

The system consists of:

1. BFS Horizontal Screw Feeder
2. BVS Vertical Screw Conveyor
3. BIS Injector Screw

BFS Feeder
It receives the material from the mixer/hopper and transfers it to the BVS Vertical Screw.
The BFS Feeder is a discharging equipment provided with optional inlet spouts pre-engineered to suit the most commonly used mixers on the market.

BVS Vertical Screw
It receives the material from the BFS Screw Feeder by a tangential or frontal discharge. BVS Vertical Screw lifts horizontally the biomass to the appropriate height for feeding the BIS Injector Screw.

BIS Injector Screw
This equipment collects the bulk material from the BVS Vertical Screw and injects it into the digester under the liquid level.

Technical features and performance

- Modular versatile system
- Facilitates inspection
- Vertical Screw Conveyor with load-bearing structure
- Extra-thick heavy-duty helicoid flighting manufactured from highly resistant steel
- Standard connection for mixers/hoppers
- Highly efficient conveying

Benefits

- Clean and silent
- Versatile and suitable for conveying various organic materials
- Sturdy fabrication and mechanical components
- Small footprint
- Standard industrial product

Throughput rate table

<table>
<thead>
<tr>
<th>ø</th>
<th>m³/h</th>
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<tbody>
<tr>
<td>300</td>
<td>30</td>
</tr>
<tr>
<td>400</td>
<td>80</td>
</tr>
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</table>
Components, options and accessories

Extra-thick helicoid flighting heavy-duty manufactured from highly resistant steel

Bridgebraker on the inlet spout for mixer/hopper (accessory)

Inlet spout for mixer/hopper coupling (optional)

Maintenance-friendly modular feeder

Frontal feed connection between BFS and BVS (optional)

BVS drive unit at load (optional)

Adjustable feet for BVS in 304 SS (accessory)

304 SS support for BFS (accessory)

Injector screw support (accessory)
Dimensions

\[ D = 800 \text{ (standard feet)} \]

\[ L = \text{flange-to-flange length of the BFS (use the order code)} \]

\[ H = \text{flange-to-flange height of the BVS (use the order code)} \]

<table>
<thead>
<tr>
<th>BFS</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>P</th>
<th>L</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>min</td>
<td>max</td>
<td>min</td>
<td>max</td>
<td></td>
</tr>
<tr>
<td>300</td>
<td>1,000</td>
<td>4,000</td>
<td>2,050</td>
<td>5,050</td>
<td>450</td>
</tr>
<tr>
<td>400</td>
<td>1,000</td>
<td>4,000</td>
<td>1,900</td>
<td>5,400</td>
<td>600</td>
</tr>
</tbody>
</table>

\[ L = B + C \]

\[ S = \text{BIS length (use the order code)} \]

<table>
<thead>
<tr>
<th>BIS</th>
<th>E</th>
<th>R</th>
<th>S</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>730</td>
<td>1,500</td>
<td>3,210</td>
</tr>
<tr>
<td>400</td>
<td>1,050</td>
<td>1,500</td>
<td>3,460</td>
</tr>
</tbody>
</table>

**BFS flange-to-flange length calculation**

\[ L = \frac{B + C}{B - P} \]

with tangential feed connection (standard)

with feed connection (optional)

**BVS flange-to-flange height calculation**

\[ H = Hs - D + F + N \]

with \( Hs = G + R + M \)
**Application**

Horizontal Screw Feeder: with tangential coupling provided with standard spout
Vertical Screw Conveyor: with drive at load and cylindrical outlet spout
Injector Screw: with loading hopper

**Configuration**

Horizontal Screw Feeder: with radial coupling, pre-engineered for specific inlet spouts
Vertical Screw Conveyor: with drive at load (optional at outlet) and cylindrical outlet spout
Injector Screw: with loading hopper

Horizontal Screw Feeder: with tangential coupling, pre-engineered for specific inlet spouts
Vertical Screw Conveyor: with drive at load (optional at outlet) and outlet with tangential coupling to the injector
Injector Screw: with tangential coupling to the vertical screw

Horizontal Screw Feeder: with tangential coupling, pre-engineered for specific inlet spouts
Vertical Screw Conveyor: with drive at load (optional at outlet) and cylindrical outlet spout
Injector Screw: with loading hopper