Continuous transport

Choice of transport modes and the structure of the system depends on:
- materials being transported and the amount of transported material
- path of transport, the type and geometrical parameters (distance, angle of inclination)
- type of machinery or equipment loading and unloading
- time using the transport system
- external factors affecting the operation of the transport
- the ecological effects

Conveyor - a mechanized device used to move materials in relatively large quantities between specific locations over a fixed path.
Types of Conveyors

Belt Conveyors
Belt Conveyors

Conveyor belts are used in a wide variety of material transport applications such as manufacturing, food processing, and heavy industry. Commercial applications include:

- Agriculture
- Construction - heavy building materials
- Food and beverage processing
- Forestry - logging, sawmill, paper pulp, etc.
- Mining and quarrying
- Factory production line

Belt Width ranges from 12" to 120"

Pipe conveyors

Pipe conveyors consist of a frame, belt, material, and idlers. They are used in various industries for transporting materials efficiently.
Cable-belt

Scraper Conveyors
Chain Conveyors

Bucket Elevators
Screw Conveyors

Gravity Conveyors
Vibrating conveyor's operation is typically based on the natural frequency principle. At the natural frequency, the conveyor will vibrate indefinitely with only a small energy input. Once the drive initiates the conveyor's vibration, the supporting springs, by alternately storing and releasing most of the required energy, help maintain constant motion under the conveyed load.

- Depending on the frequency and the size of the object can reach speeds as high as 35 fpm
- No programming is needed, uses an on or off system to control it
- Can handle objects <1 - 90lbs
- Can handle various sizes and shapes
- Used in pharmaceutical and mining industries
Countries with non metric system

“Three countries use non-metric measurement systems: Liberia, Myanmar, and the United States.”...the rest of the world uses the metrics system. via Wikipedia

Conversion Factors of the Most Important Units of fps* to the SI-system

<table>
<thead>
<tr>
<th>fps</th>
<th>SI (MKS*)</th>
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</thead>
<tbody>
<tr>
<td>1 ft = 0.3048 m; 1 m = 3.2808 ft</td>
<td>1 m/s = 196.85 ft/min</td>
</tr>
<tr>
<td>1 ft = 12 in; 1 in = 2.54 cm</td>
<td></td>
</tr>
<tr>
<td>1 ft² = 0.0929 m²</td>
<td></td>
</tr>
<tr>
<td>1 ft³ = 0.0283 m³</td>
<td></td>
</tr>
<tr>
<td>1 gal (US) = 3.785 L</td>
<td></td>
</tr>
<tr>
<td>1 bbl (US) = 158.987 L</td>
<td></td>
</tr>
<tr>
<td>1 lb = 0.45359 kg</td>
<td></td>
</tr>
<tr>
<td>1 kg = 2.20462 lb</td>
<td></td>
</tr>
<tr>
<td>1 lbf/s = 4.44822 N</td>
<td></td>
</tr>
<tr>
<td>1 psig = 6894.76 kPa</td>
<td></td>
</tr>
<tr>
<td>1 bar = 101,325 kPa</td>
<td></td>
</tr>
</tbody>
</table>

* fps-system: foot pound second system
** MKS: meter kilogram second system
Bibliography

- Continuous handling equipment – Nomenclature, ISO 2148-1974
- Kulinowski, wykłady „Transport przenośnikowy”, www.kmg.agh.edu.pl