Chain & Flight Conveyors are an essential part of many conveying and storage systems dealing with powdered, granular, flaked or pelletised materials. Being simple and robust in design and easily maintained, they provide low cost efficient handling equipment with many applications in manufacturing and processing factories.

In general most free flowing materials and many materials with poor flow characteristics can be successfully handled with a chain conveyor. The specifications of the standard range can also be tailored to suit friable, abrasive, damp or sticky materials and certain aggressive environments.

The Guttridge range includes the five most popular configurations - Single Strand, En-Masse, Shrouded, Superflow and Soft flight - that are in common use today. Each type has been continuously developed over many years to provide customers with a wide range of options to suit every requirement and a design that ensures easy assembly, installation and maintenance. The modular design allows any configuration to be easily and quickly built up to suit a customer's exact requirements.

Chain & Flight Conveyors are used for general movement around manufacturing and processing plants and can also be used to discharge hoppers and meter material at fairly accurate rates, provided special provision is made at the design and specification stage.

Guttridge Chain & Flight Conveyors are in operation all over the world in many different industry sectors handling a huge variety of bulk materials:

**Foods** - flour, rice, tea, miscellaneous powders, flakes, granules, pellets

**Animal Feeds and Cereals** - wheat, barley, oats, corn, oil seeds, miscellaneous feed ingredients and products, meals, pellets, flakes

**Chemicals and Minerals** - cement, sand, glass cullet, flyash, limestone, ores, coal, fertilisers, miscellaneous powders, flakes, granules, pellets

**Biomass and Waste** - wood pellets, wood chips, RDF, straw pellets, dried sewage sludge, other flakes, pellets and granules
Chain & Flight Conveyors

**Standard Chain Conveyor**
Steel chain with integral flight bars.

**Shrouded Chain Conveyor**
Twin strand chain with interconnecting flight bars.

**Superflow Chain Conveyor**
Single steel roller chain with bolted crescent shaped polyethylene flights.

**Soft Flight Conveyor**
Single steel roller chain with polyethylene flights.

**Drop Forged Chain**
Optional heavy duty chain with welded flight bars.

**Drop Forged Chain**
Optional heavy duty chain with bolted plastic flights.

Specialist Manufacturers of Materials Handling Machinery

We serve a wide range of industry sectors with our comprehensive range of materials handling machinery. A full description of our complete range of products is beyond the scope of this brochure, but we list brief details below -

**Foods, Chemicals, Pharmaceuticals**
- Easyflo Mobile Screw Elevator
- Sieveflo Screw Elevator/Check Sieve
- Multiflo & Augaflo Screw Conveyors
- Bulkflo Mobile Loading Hopper with integral Screw Elevator
- A range of machines designed to be easily dismantled for cleaning

Our machinery is in regular use all over the world and we have Agency and Distribution Agreements with companies in many different countries. Please contact us for further details.
Chain & Flight Conveyors

Specification
Various types of chain are available in appropriately selected materials and strengths to suit the different configurations and duties. Overflow protection is usually by means of a pressure pad located at the drive end to detect product buildup. The standard drive arrangement comprises an electric motor with a vee belt drive to a shaft mounted speed reducer. The drive size and speed is selected according to the material characteristics, required throughput and conveyor configuration.

Each machine is carefully tailored to suit the client’s precise needs and special purpose machines are available to suit unusual requirements.

Design
Our technical staff draw on a wealth of technical and operational experience to provide high quality advice and assistance to clients. There are many chain and flight configurations available today and many design parameters that need to be varied to produce a cost-effective and efficient design of conveyor. We offer an unrivalled approach to design and specification which ensures that our machines are built to perform to the client’s precise requirements, are competitively priced and are manufactured to the highest standards of build quality and finish.

General Options
- intermediate inlets/outlets
- brushgear over outlets
- self cleaning drive and tail ends
- special bearing and seal arrangements
- automatic spring loaded tensioning facility
- internal wear resistant liners
- stainless steel construction
- galvanised or alternative paint colours
- special high or low temperature environments
- specially designed and fabricated conveyors to suit clients’ particular requirements

Chain Options (see overleaf for standard types)
- hollow pin steel roller with bolted flight bars
- malleable cast iron and round pin chain
- drop forged chain with bolted nylon or welded flight bars
- stainless steel chain
- non-standard specially fabricated chains

Drive Options
- standard belt driven shaft mounted gearbox
- geared motor & chain drive
- direct drive with coupling
- shaft mounted right-angle
- geared motor
- variable speed drive

Outlet Slide Valves (standard or inline configuration)
- hand operated
- electro-pneumatic
- rack & pinion
- motorised
- Troughform (Superflow only)

Notes
1. All dimensions are nominal in mm, full planning in dimensions and capacity information specific to particular product types available on request.
2. Chain Conveyors are available in optional heavy duty construction for arduous applications; chain types and speed will be varied to suit.
3. Capacity is dependent on product ‘flowability’ as well as density and chain speed.
4. Chain speed is usually selected to suit product flow characteristics, friability and abrasive qualities as well as chain type.
5. Flood fed inlets require special consideration to prevent the conveyor overfilling.
6. The maximum unsupported span should be limited to 6 metres.
7. Please seek technical advice before ordering.

Specifications and dimensions may be altered without prior notice.
Chain & Flight Conveyors

Single Strand Chain Conveyor
Configuration - a single steel chain with integral flightbars running on a steel or UHMW noise reduction strip with cleaning flights at intervals. Optional drop forged chain.
Applications - for free-flowing products, general purpose use. Single strand chain conveyors are the commonest and most economical type of chain & flight conveyor.

<table>
<thead>
<tr>
<th>Nominal Size</th>
<th>200</th>
<th>250</th>
<th>300</th>
<th>400</th>
<th>500</th>
<th>600</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity @ 0.65m/s m³/hr</td>
<td>80</td>
<td>135</td>
<td>200</td>
<td>330</td>
<td>400</td>
<td>470</td>
</tr>
<tr>
<td>Dry product @ 750kg/m³ tph</td>
<td>60</td>
<td>100</td>
<td>150</td>
<td>250</td>
<td>300</td>
<td>350</td>
</tr>
<tr>
<td>Capacity @ 0.50 m/s m³/hr</td>
<td>61</td>
<td>104</td>
<td>154</td>
<td>254</td>
<td>240</td>
<td>290</td>
</tr>
<tr>
<td>Dry product @ 560kg/m³ tph</td>
<td>27</td>
<td>46</td>
<td>69</td>
<td>114</td>
<td>135</td>
<td>160</td>
</tr>
<tr>
<td>Conveyor width, overall mm</td>
<td>287</td>
<td>340</td>
<td>387</td>
<td>490</td>
<td>590</td>
<td>690</td>
</tr>
<tr>
<td>Conveyor depth, overall mm</td>
<td>272</td>
<td>340</td>
<td>505</td>
<td>508</td>
<td>508</td>
<td>508</td>
</tr>
</tbody>
</table>

Non-standard machines are available up to 1000 m³/hr.

Specific Options
- mechanical intakes
- trench intakes
- flood feed inlet with expansion box
- flow and return systems
- reversible conveyors

Shrouded Chain Conveyor
Configuration - a pair of chains with an interconnecting flight bar running in slots formed in the conveyor side plates. This arrangement ensures minimum contact between product and chains and allows up and/or downward bends to be fitted.
Applications - for handling free-flowing friable products such as pellets, or where an incline or a bend section is needed.

<table>
<thead>
<tr>
<th>Nominal Size</th>
<th>8/8</th>
<th>8/12</th>
<th>8/16</th>
<th>8/20</th>
<th>8/24</th>
<th>10/20 HD</th>
<th>10/24 HD</th>
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</thead>
<tbody>
<tr>
<td>Capacity @ 0.40m/s m³/hr</td>
<td>49</td>
<td>74</td>
<td>98</td>
<td>123</td>
<td>148</td>
<td>164</td>
<td>197</td>
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<tr>
<td>Dry product @ 610kg/m³ tph</td>
<td>30</td>
<td>45</td>
<td>60</td>
<td>75</td>
<td>90</td>
<td>100</td>
<td>120</td>
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<tr>
<td>Conveyor width, overall mm</td>
<td>390</td>
<td>490</td>
<td>590</td>
<td>690</td>
<td>790</td>
<td>710</td>
<td>810</td>
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<tr>
<td>Conveyor depth, overall mm</td>
<td>235</td>
<td>255</td>
<td>255</td>
<td>255</td>
<td>255</td>
<td>330</td>
<td>330</td>
</tr>
</tbody>
</table>

Capacities will be reduced where bend sections or inclined sections are fitted.

Specific Options
- up/downward bend sections
- flood feed inlet with expansion box
- flow and return systems

Soft Flight Chain Conveyor
Configuration - a single steel roller chain with 'F' type attachment brackets to which polyethylene flights are bolted. The large diameter chain rollers allow upward bends to be fitted.
Applications - for handling free-flowing products where an upward bend or an inclined conveyor is needed.

<table>
<thead>
<tr>
<th>Nominal Size</th>
<th>200</th>
<th>250</th>
<th>300</th>
<th>400</th>
<th>500</th>
<th>600</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity @ 0.65m/s m³/hr</td>
<td>80</td>
<td>110</td>
<td>200</td>
<td>260</td>
<td>330</td>
<td>400</td>
</tr>
<tr>
<td>Dry product @ 750kg/m³ tph</td>
<td>60</td>
<td>80</td>
<td>150</td>
<td>190</td>
<td>250</td>
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<td>Conveyor depth, overall mm</td>
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<td>505</td>
<td>508</td>
<td>508</td>
<td>508</td>
</tr>
</tbody>
</table>

Capacities will be reduced where bend sections or inclined sections are fitted.

Specific Options
- upward bend sections
- mechanical intakes
- trench intakes

Superflow Chain Conveyors
Configuration - a single steel roller chain with 'F' type attachment brackets to which crescent shaped polyethylene flights are bolted, running in curved bottom trough.
Applications - for handling friable products such as pellets, the standard side feed inlet minimises chain/product contact and the conveyor can be inclined.

<table>
<thead>
<tr>
<th>Nominal Size</th>
<th>200</th>
<th>250</th>
<th>300</th>
<th>350</th>
<th>400</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity @ 0.40m/s m³/hr</td>
<td>20</td>
<td>33</td>
<td>46</td>
<td>66</td>
<td>86</td>
</tr>
<tr>
<td>Dry product @ 610kg/m³ tph</td>
<td>12</td>
<td>20</td>
<td>28</td>
<td>40</td>
<td>52</td>
</tr>
<tr>
<td>Conveyor width, overall mm</td>
<td>312</td>
<td>375</td>
<td>425</td>
<td>476</td>
<td>554</td>
</tr>
<tr>
<td>Conveyor depth, overall mm</td>
<td>308</td>
<td>346</td>
<td>413</td>
<td>476</td>
<td>540</td>
</tr>
</tbody>
</table>

Capacities will be reduced where bend sections or inclined sections are fitted.

Specific Options
- Troughform outlet valve (patented)