

Chain & Flight Conveyors



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 -

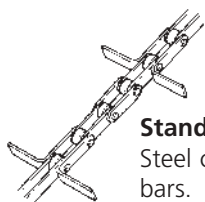
wheat, barley, oats, corn, oil seeds, miscellaneous feed ingredients and products, meals, pellets, flakes

Chemicals and Minerals -

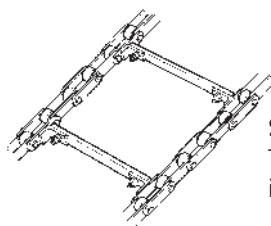
cement, sand, glass cullet, flyash, limestone, ores, coal, fertilisers, miscellaneous powders, flakes, granules, pellets



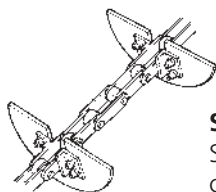
Standard Chain Configurations



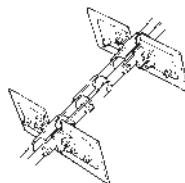
Standard Chain Conveyor
Steel chain with integral flight bars.



Shrouded Chain Conveyor
Twin strand chain with interconnecting flight bars.



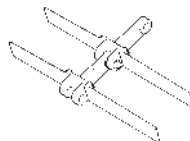
Superflow Chain Conveyor
Single steel roller chain with bolted crescent shaped polyethylene flights



Soft Flight Conveyor
Single steel roller chain with polyethylene flights.

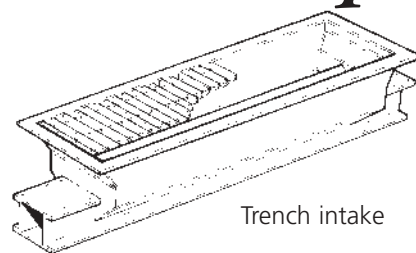


Drop Forged Chain
Optional heavy duty chain with welded flight bars

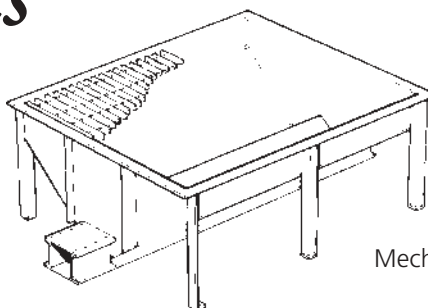


Drop Forged Chain
Optional heavy duty chain with bolted plastic flights

Intake Options



Trench intake



Mechanical intake

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 -

Feeds, Cereals, Chemicals, Minerals

Screw Conveyors & Bin Dischargers
Chain & Flight Conveyors
Hiload Bucket Elevators, Belt Conveyors
Spouting, Fittings & Slide Valves
Fountain Blenders/Live Bins
En-Masse Conveyors
Special Fabrications

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.

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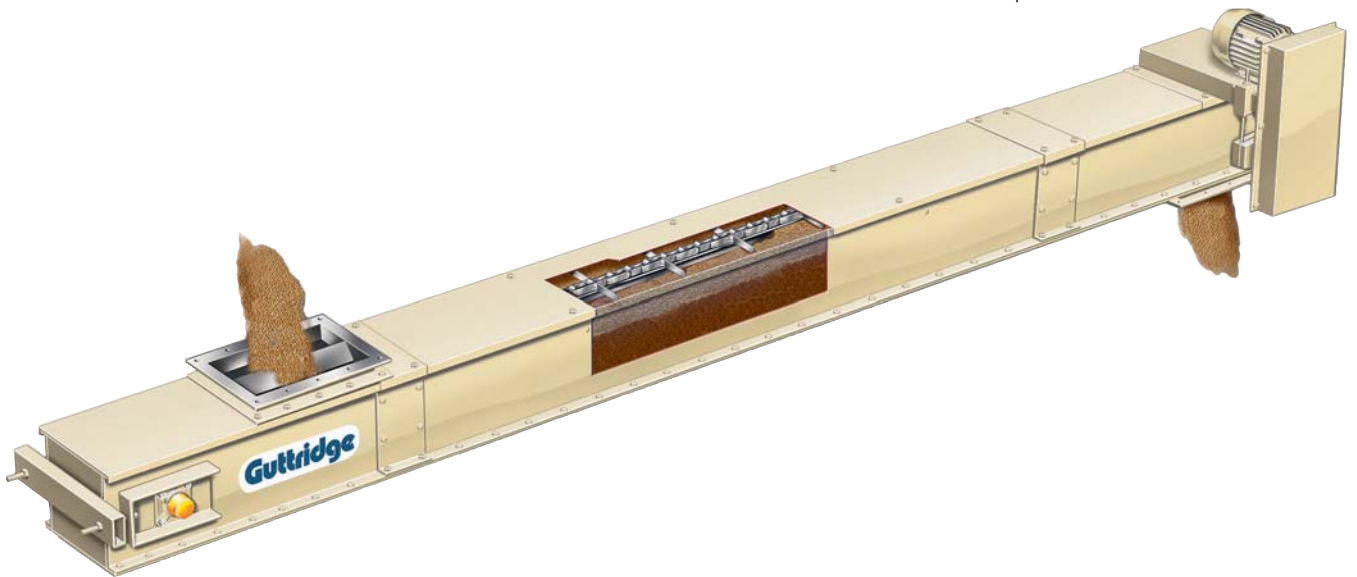
Design

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.

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.



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 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.

Nominal Size		200	250	300	400
Capacity @ 0.65m/s	m ³ /hr	80	135	200	330
Dry product @ 750kg/m ³	tph	60	100	150	250
Capacity @ 0.50 m/s	m ³ /hr	61	104	154	254
Dry product @ 560kg/m ³	tph	27	46	69	114
Conveyor width, overall	mm	287	340	387	490
Conveyor depth, overall	mm	272	340	505	508

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

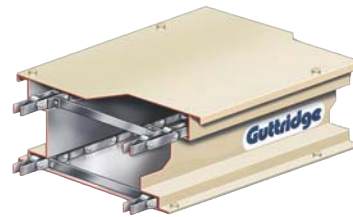
Specific Options

- mechanical intakes
- trench intakes
- flood feed inlet with expansion box
- flow and return systems
- reversable 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.



Nominal Size		8/8	8/12	8/16	8/20	8/24	10/20
Capacity @ 0.40m/s	m ³ /hr	49	74	98	123	148	164
Dry product @ 610kg/m ³	tph	30	45	60	75	90	100
Conveyor width, overall	mm	390	490	590	690	790	890
Conveyor depth, overall	mm	255	255	255	255	255	340

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.



Nominal Size		200	250	300
Capacity @ 0.65m/s	m ³ /hr	53	80	133
Dry product @ 750kg/m ³	tph	40	60	100
Conveyor width, overall	mm	287	340	387
Conveyor depth, overall	mm	272	340	505

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.

Nominal Size		200	250	300	350
Capacity @ 0.40m/s	m ³ /hr	20	33	46	66
Dry product @ 610kg/m ³	tph	12	20	28	40
Conveyor width, overall	mm	312	375	425	476
Conveyor depth, overall	mm	308	346	413	476

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

Specific Options

- Troughform outlet valve (patented)

