

## *En-masse Elevators*

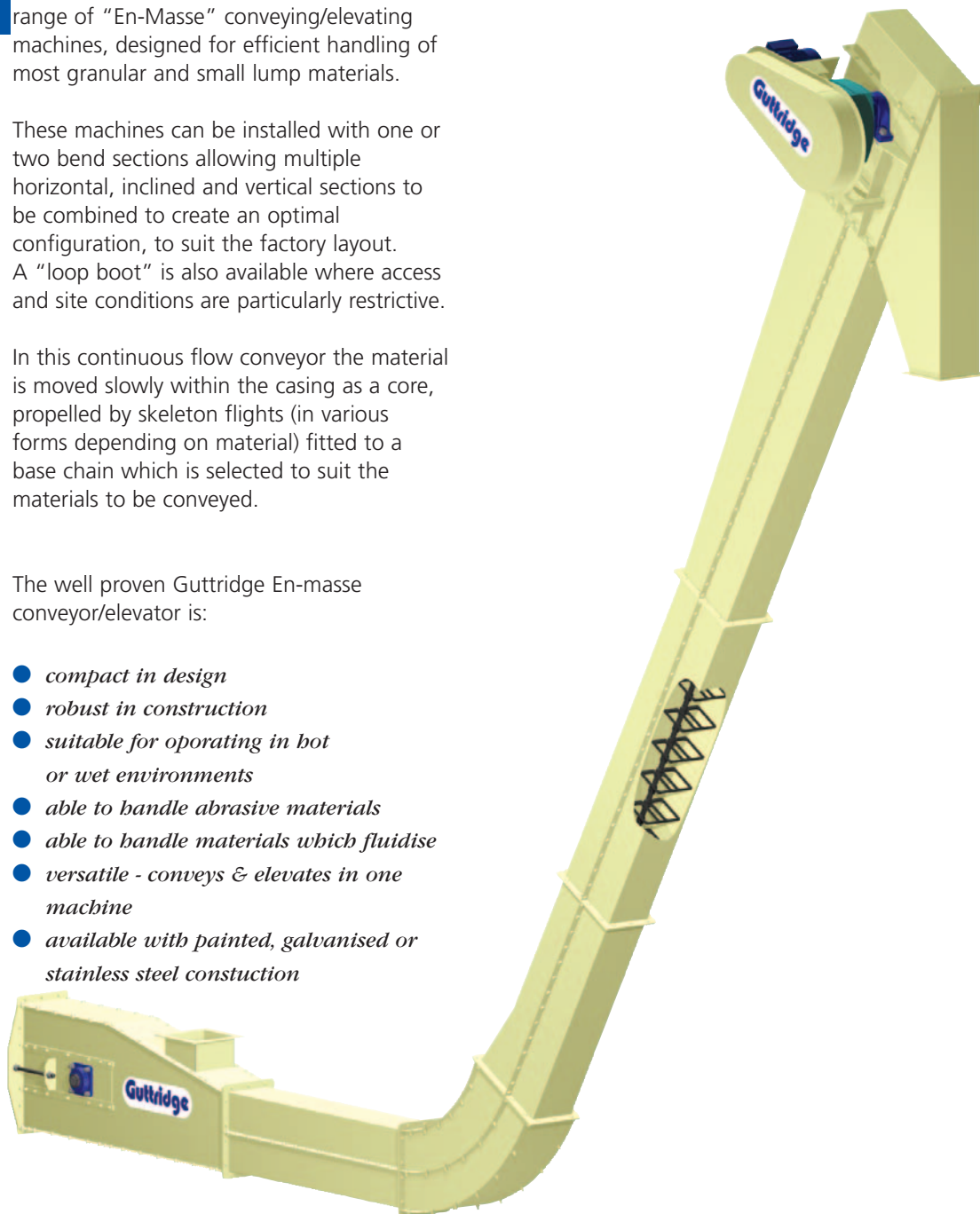
**A** range of "En-Masse" conveying/elevating machines, designed for efficient handling of most granular and small lump materials.

These machines can be installed with one or two bend sections allowing multiple horizontal, inclined and vertical sections to be combined to create an optimal configuration, to suit the factory layout. A "loop boot" is also available where access and site conditions are particularly restrictive.

In this continuous flow conveyor the material is moved slowly within the casing as a core, propelled by skeleton flights (in various forms depending on material) fitted to a base chain which is selected to suit the materials to be conveyed.

The well proven Guttridge En-masse conveyor/elevator is:

- *compact in design*
- *robust in construction*
- *suitable for operating in hot or wet environments*
- *able to handle abrasive materials*
- *able to handle materials which fluidise*
- *versatile - conveys & elevates in one machine*
- *available with painted, galvanised or stainless steel construction*



En-masse conveyor/elevators are suitable for handling many different materials across a range of industry sectors:-

***Foods*** - flour, rice, tea, sugar, milk powder, cocoa beans, chocolate crumb, miscellaneous powders & granules.

***Animal Feeds, Pet Foods and Cereals*** - wheat, barley, corn, meals, oil seeds and their products

***Chemicals and Minerals*** - Cement, sand, limestone, fly ash, ores, coal, salt, fertilisers, powders



## Construction

All steel split box construction, with precise laser cut flanges to provide accurate dust tight section joints. Manufactured in mild steel with a painted or galvanised finish, optional stainless steel. The construction is designed to allow simple replacement of sections including intermediate floors without major dismantling.

Material is normally conveyed on the 'bottom' run of the casing, this arrangement provides unrestricted flow of material at the outlet, a desirable feature in 'En-Masse' handling. The principle of the operation of the 'En-Masse' conveyor/elevator precludes the machine being self-cleaning, but provision of cleaning flights when required can improve the cleanliness of the machine.

Heavy duty steel sprockets are fitted on substantial shafts with sealed bearing units at the drive and tail ends. The tail end shaft is adjustable to provide chain tensioning.

The chain construction is single strand with welded skeleton flights of various types to suit the characteristics of the materials being handled. The chain and flight type and configuration will vary according to machine size required, chain pull and material characteristics.

## Chain Options

- *Drop forged chain*
- *Steel roller chain*

## Drive

The standard drive arrangement comprises an IP55 electric motor with a Vee belt drive to a shaft mounted speed reducer. The drive size and speed is selected according to material characteristics, required throughput and conveyor configuration.

## Drive Options

- *Geared motor & chain*
- *Shaft-mounted geared motor*
- *Direct-coupled geared motor*
- *Variable speed drive*
- *ATEX rated drive components*

## Typical Capacities

Specifications and dimensions may be altered without prior notice.

Model Size	Case Section	Chain Speed (metres/second)					
		0.125	0.25	0.38	0.5	0.63	0.76
mm		Nominal capacity in m <sup>3</sup> /hr					
3	200x100	3.2	6.4	9.5	12.7	15.9	19.1
6	263x184	8.5	17.0	25.5	34.0	42.5	50.9
9	417x260	18.9	37.9	56.8	75.8	94.7	113.7
12	417x336	25.3	50.5	75.8	101.0	126.3	151.6
15	523x416	39.2	78.4	117.6	156.8	196.0	235.2
19	628x520	59.3	118.6	177.9	237.2	296.5	355.8



Nominal capacities are based on a free flowing, non abrasive product. Chain speeds and capacities will be dependant on density, flowability, particle size and the abrasive characteristics of the product. Consult our technical staff for particular applications advice.

# Inlets & Outlets

## General Options

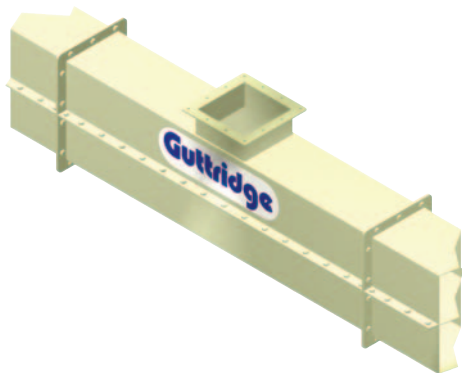
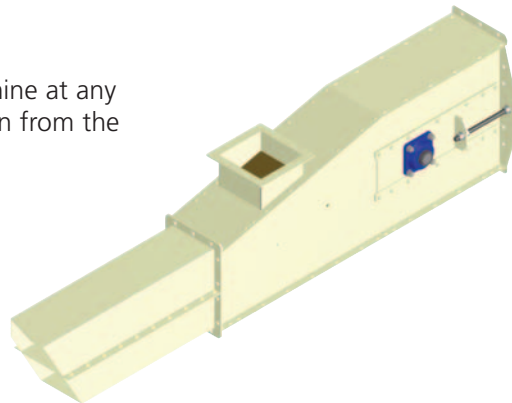
- **Weatherproof construction**
- **High temperature specification** for hot materials/working environments.
- **Stainless steel construction** for extended machine life with corrosive or wet materials.
- **Mild steel painted or galvanised** construction for standard applications.
- **ATEX rated** for hazardous working environments and materials.
- **Intermittent pad or digging flights** where minimum material retention is required.
- **Pedestal bearings** (standard or split) to extend bearing life and facilitate maintenance.
- **Stand-off bearings with packing gland seals** for improved bearing life and reduced maintenance downtime.
- **Choke detector** to sense material overload
- **Underspeed sensor** for additional machine protection.
- **Automatic chain tensioning** for peace of mind when maintenance is at a premium.
- **Curved tail plate** to prevent material build-up at the tail end.
- **Chain brushgear** to sweep material from the chain over intermediate outlets.
- **Wear strip/plates/liners** for improved casing life when handling abrasive or corrosive materials.
- **Swan neck bend and loop boot arrangements** for additional machine/application flexibility.
- **Slide valves** (manual, pneumatic, motorised) for multiple outlet applications.

## Controlled Feed Inlet

This form of inlet can normally be fitted to top feed the machine at any position in a horizontal section subject to a minimal dimension from the tail end and from any adjacent bend.

Inlets are normally square, flanged to our standard size, but an inlet can take almost any suitable rectangular form.

**Note:** The standard tail section inlet must not be flood fed.



## Flood Feed Inlet

Normally a square inlet fitted to an intermediate section.

**Note:** Positions of inlets must be predetermined and advised before manufacture since many applications will require specialist arrangements - top chain floor etc.

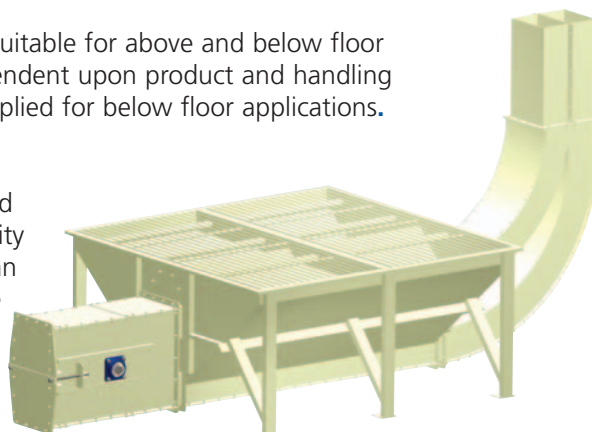
## Trench Intake

Ideally suited for intake and other dump feed applications for free flowing materials.

A long continuous inlet feeding to the lower chain suitable for above and below floor applications. Various details of design will vary dependent upon product and handling characteristics. Grids for various loadings can be supplied for below floor applications.

## Outlets

En-Masse conveyor/elevators are supplied as standard with a flanged outlet which is suitable for the majority of applications. A wide variety of outlet adaptors can be manufactured to suit particular requirements, the picture on the front of this brochure shows a typical example.





*Conveying malt from storage bins to the grist mill.*



*Elevating malt grist to the grist case.*



*The chain and flight configuration is designed and fabricated to suit the application.*

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## 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  
Bulk Bag Fillers & Dischargers  
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*  
*Bulk Bag Fillers & Dischargers*

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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