

Cereal bags end loaded into cartons

2 infeeds x 60 bags/minute collated into a stack of 1, 2 or 3 bags for carton loading

Requirements summarized

- Bag dimensions:

180 g Cereal:	
278 x 190 x 30 mm	11 x 7.5 x 1.2 inch
265 g Cereal:	
316 x 221 x 27 mm	12.44 x 8.7 x 1 inch
510 g Cereal:	
360 x 245 x 55 mm	14.2 x 9.65 x 2.17 inch
620 g Cereal:	
410 x 255 x 50 mm	16 x 10 x 2 inch
300 g Cereal:	
320 x 250 x 40 mm	12.6 x 9.85 x 1.57 inch
224 g Cereal:	
290 x 217 x 29 mm	11.4 x 8.5 x 1.1 inch
284 g Cereal:	
280 x 220 x 38 mm	11 x 8.66 x 1.5 inch
- Product: Various Types of Cereal Bags
- Carton Sizes:

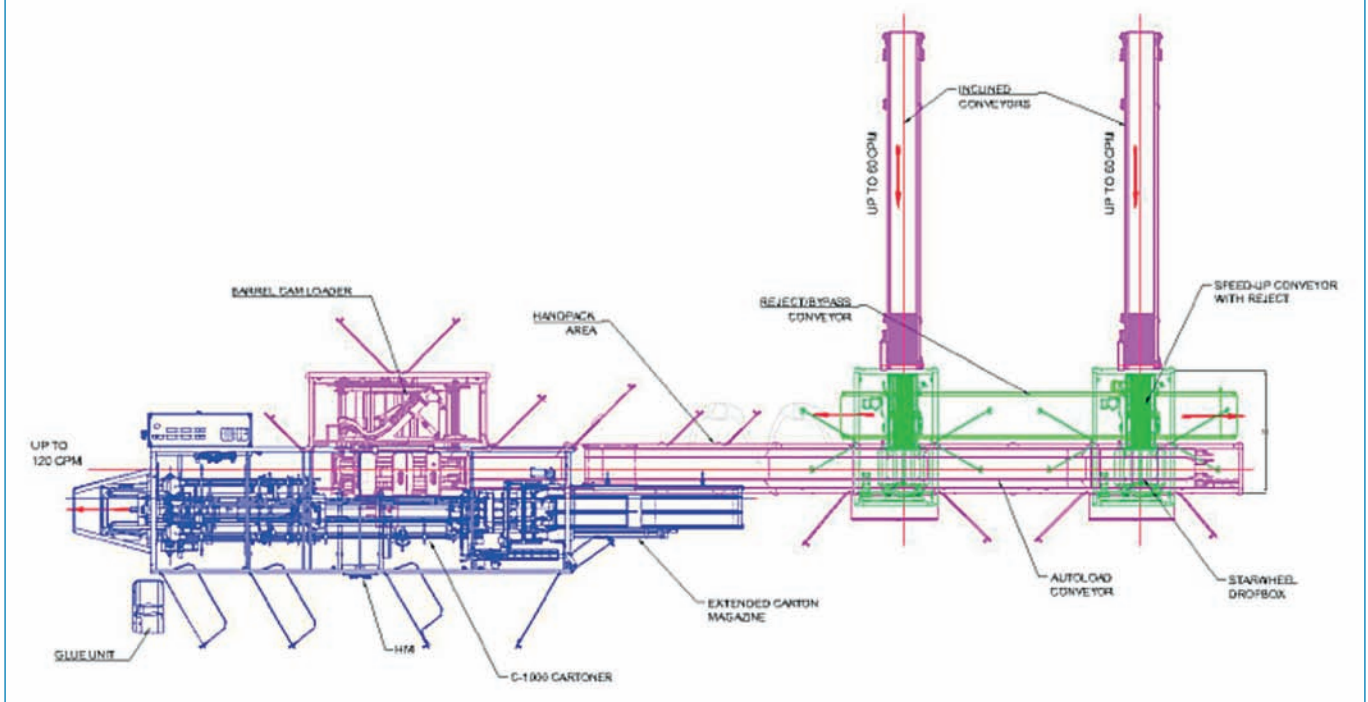
180 g Cereal:	
164 x 50 x 253 mm	6.5 x 2 x 10 inch
265 g Cereal:	
180 x 60 x 248 mm	7 x 2.36 x 9.75 inch
510 g Cereal:	
204 x 76 x 312 mm	8 x 3 x 12.25 inch
620 g Cereal:	
247 x 73 x 344 mm	9.75 x 2.87 x 13.5 inch
300 g Cereal:	
200 x 63 x 280 mm	7.87 x 2.5 x 11 inch
596 g Cereal – 2 pack:	
200 x 126 x 280 mm	7.87 x 5 x 11 inch
670 g Cereal – 3 pack:	
203 x 115 x 254 mm	8 x 4.5 x 10 inch
850 g Cereal – 3 pack:	
198 x 127 x 279.5 mm	7.8 x 5 x 11 inch
- Load patterns:
 - 1 bag/carton in a 1 x 1 x 1 load pattern
 - 2 bags/carton in a 1 x 2 x 1 load pattern (manual load of second bag into autoloader bucket)
 - 3 bags/carton in a 1 x 3 x 1 load pattern (manual load of second and third bag into autoloader bucket)
- Two infeeds x up to 60 bags/min each – up to 120 cartons/min maximum



Challenges summarized

- Wide and thin cartons are both run on the same cartoner
- One, two or three bags in a stack to be loaded into cartons on the same cartoner
- Three high bag stack of cereal product is unstable
- Bag handling so product does not bunch up on one end inside the bag which could cause a product jam when loading into cartons
- Timing of product from two independent VFFS's
- Automatic integrated product bypass into a single lane

MACHINE LAYOUT Delivered one machine following two upstream VFFS's



Solution highlights

- Reliable carton erection of large range of carton sizes, including very wide cartons up to 5" using a rotary feeder and pre-break
- Autoload bucket design to ensure stack stability in bucket of up to 3 products high
- Overhead confiner and bucket design to ensure product does not bulge when loading into cartons
- Safety guarding for operator safety for hand feeding of products into continuously moving autoload buckets
- Transfer of product using starwheel dropbox system, drop signal to VFFS's and speed-up conveyor to ensure correct timing of arrival of bags from 2 independent VFFS's into cartoner autoload buckets
- Integrated bypass conveyor to allow product to automatically bypass cartoner and be conveyed to other downstream customer equipment in a single stream from 1 or 2 independent VFFS's

All information given in this document is dependent upon final machine specification, infeed arrangement, product type and carton specification.

AMERICAS

EUROPE, MIDDLE EAST & AFRICA
ASIA & AUSTRALIA

Canada

The Netherlands

Singapore

Thailand

Ph: +1 905 670 7200

Ph: +31 24 648 66 55

Ph: +65 62 89 37 88

Ph: +66 23 02 14 15

sales-americas@langengroup.com

sales-europe@langengroup.com

sales-asia@langengroup.com

sales-asia@langengroup.com

