



## Case Study

# **Modern Process Equipment: Chain-Vey for Flour outperforms Screw Conveyors and Pneumatic Conveyors**

Edited by on 8. May 2018

A large flour producer in the US manufactures and distributes corn flour as an ingredient in various food products. Roughly one year ago plant engineers installed three 6-inch Chain-Vey tubular drag conveyors for the transport of yellow and white corn flour. The Chain-Veys supplied by Modern Process Equipment (MPE) replaced screw conveyors and pneumatic conveyors that resulted in poor customer feedback with product being out of spec.

With milling and packaging operations split by an expansive WIP staging area, a combination of screw augers and pneumatic systems seemed like the only viable solution at the time. While the use of screw conveyors and pneumatic systems were able to transport the flour, they were unable to do so without significant cost. The cost came in the form of out of spec products and poor customer feedback resulting from the brutal nature of screw and pneumatic conveying. Unable to continue struggling with out of spec products, plant managers began evaluating other conveyance solutions which is why they sought MPE's assistance. Familiar with the importance of maintaining the particle size of granular products through experience in the coffee industry, MPE knew that the gentle conveyance of the Chain-Vey was just the solution the plant managers needed. With the ability to convey products with the least amount of product degradation extended distances, they went with Chain-Vey over all other

**Application and Product Details:**

- Customer's cornmeal has a bulk density between 42 to 44 lb/ft<sup>3</sup> (approx. 670 to 705 kg/m<sup>3</sup>)
- Maximum rate for each conveyor is 1400 ft<sup>3</sup>/hr (approx. 40 m<sup>3</sup>/h)
- Conveyors were built with Schedule 10 stainless steel pipe
- Primary voltage for each conveyor is 230/460 V, 3 PH

(2) 60° CLR 45° ELBOWS

3'- $\frac{11}{16}$ "

2'-2 $\frac{5}{8}$ "

135.00°

180° TURNAROUND  
W/ EXTERNAL TENSION  
W/ U-TRACK

168'-0"

1'- $\frac{3}{4}$ "

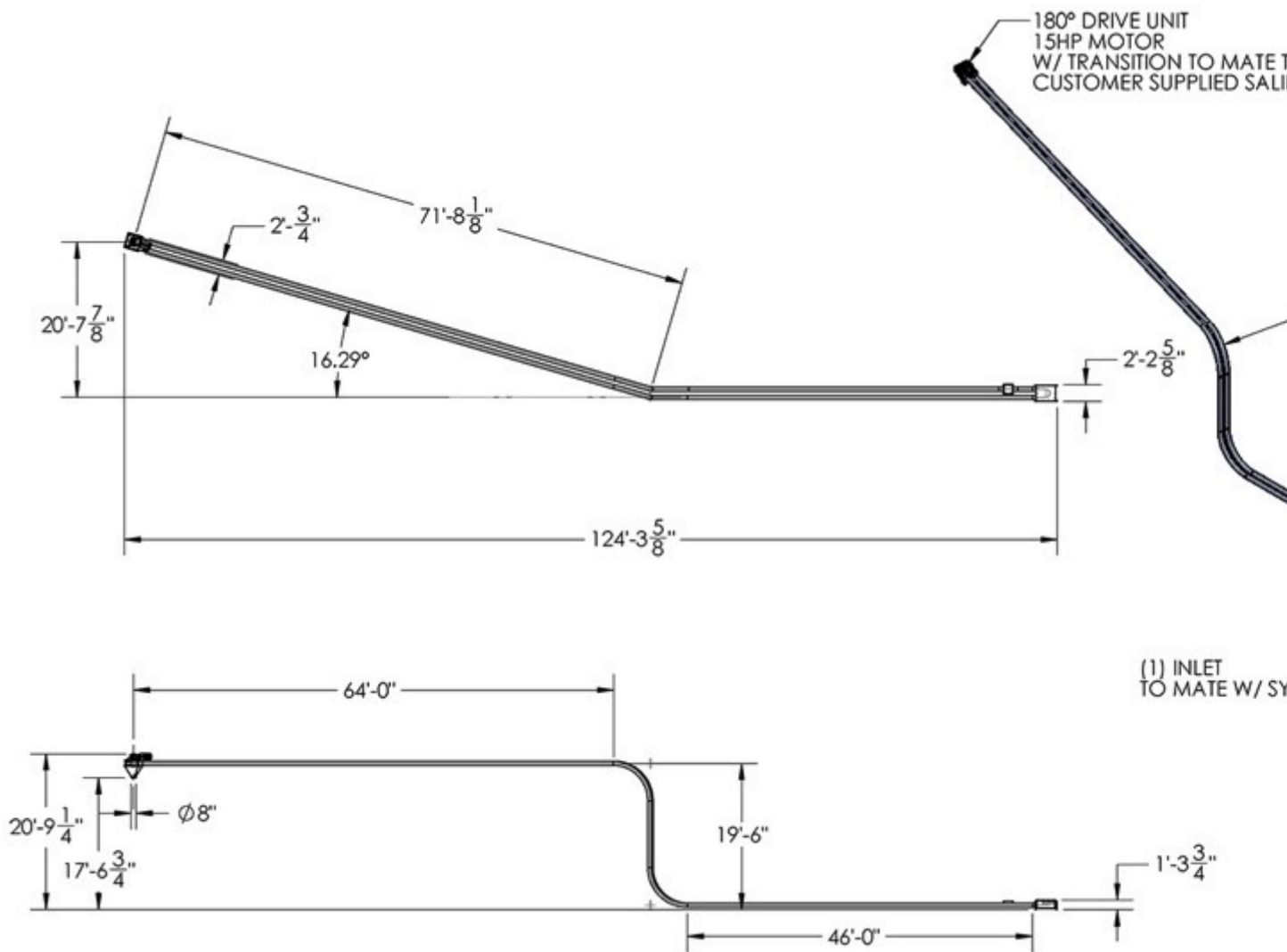
(2) INLET  
W/ TRANSITION TO MATE WITH CUSTOMER DUCTWORK (6")

1'-3 $\frac{3}{4}$ "

173'-1 $\frac{13}{16}$ "

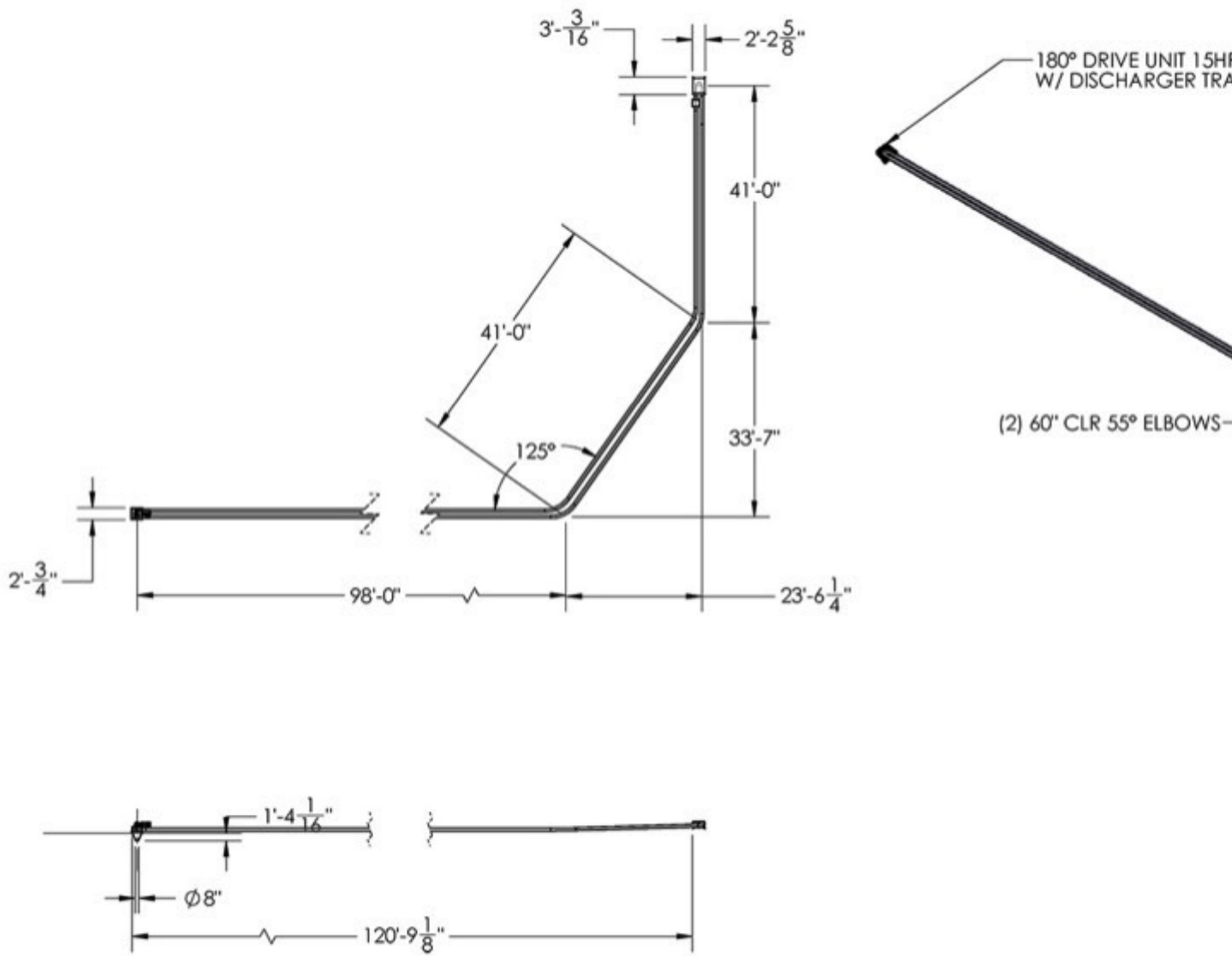
## tem 2

## System 2



Circuit length is 282 ft (approx. 86 m)  
with a hardened steel chain and split  
UHMW pucks.

### System 3



Circuit length is 360 ft (approx. 110 m)  
with hardened steel chain and split  
UHMW pucks.