



Level



Pressure



Flow



Temperature



Liquid Analysis



Registration



Systems Components



Services



Solutions

Promass 83F CO₂ Measurement- Food

Promass 83F Coriolis mass flow meter used to measure sub-zero liquid Carbon Dioxide flow



Liquefied carbon dioxide loadout area



Promass 83F mass flow meter



Chemical processing plant

The Promass 83F is used to track true mass flow from a pressurized liquid stream during the filling process of truck tanker and rail tanker cars.

Company profile

A leading producer of corn and soy based products

Production process

The fermentation process is responsible for the production of heat and carbon dioxide. Carbon dioxide gas can be pressurized over 200 psig and liquefied and recovered as a saleable product for the food or chemical industries. Food grade CO₂ is often used in the beverage industry for carbonation; industrial CO₂ can be used as an industrial coolant and in the production of “dry” ice.

Application details

Promass 83F:	2” sensor
Process:	Liquid CO ₂
Process temperature:	-140°F
Pressure:	215 psig

Application description

The fermentation of corn products for alcohol allows the recover and capture of carbon dioxide vapor which is condensed and pressured to 215 psig. The pressurization of the CO₂ drops the temperature to as low as -140°F in the application, which is suitable for the Endress+Hauser Promass 83F. By incorporating a Coriolis mass flow meter in this application, the customer is able to track true mass flow from the pressurized liquid stream during the filling process of truck and rail cars.

This application will result in the installation of several Promass 83F50 (2”) Coriolis mass flow meters for the simultaneous filling of multiple tanker and rail cars. (Refer to the back page for production process graphic)

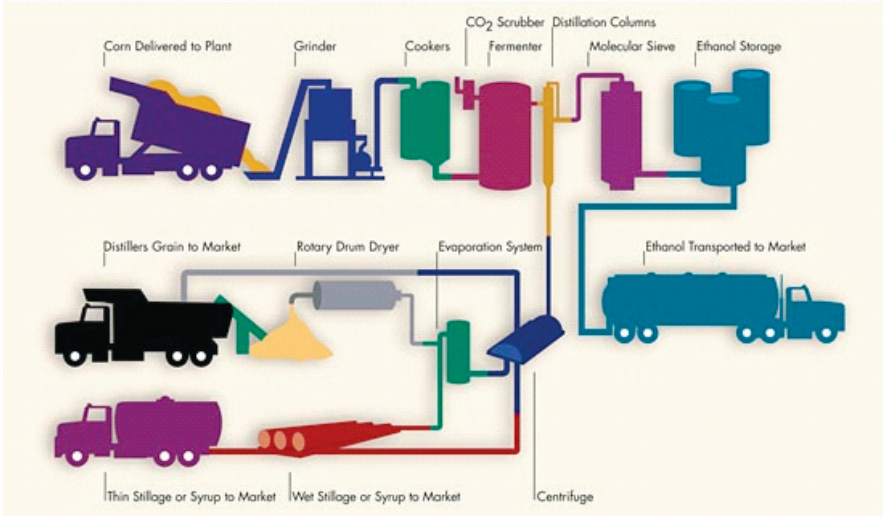
Benefit

The addition of an inline Coriolis mass flow meter from Endress+Hauser has allowed for accurate loadout of liquefied carbon dioxide for truck and rail car applications. This installation has eliminated the need for costly weigh scales (sometimes in excess of \$140,000 for each rail car station), and the need for frequent loading/unloading of tankers or rail cars to adjust the final shipping weight to target (significant savings in time).

For more information contact:

Endress+Hauser, Inc.
317-535-7138
www.us.endress.com

The Ethanol Production Process (Dry Mill)



Dry mill Ethanol production process *

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USA

Endress+Hauser, Inc.
2350 Endress Place
Greenwood, IN 46143
Tel. 317-535-7138
Sales 888-ENDRESS
Service 800-642-8737
Fax 317-535-8498
inquiry@us.endress.com
www.us.endress.com

Canada

Endress+Hauser, Canada
1075 Sutton Drive
Burlington, ON, L7L 5Z8
Tel. 905-681-9292
800-668-3199
Fax 905-681-9444
info@ca.endress.com
www.ca.endress.com

Mexico

Endress+Hauser Mexico, S.A. de C.V.
Fernando Montes de Oca 21 Edificio
A Piso 3
Fracc. Industrial San Nicolas
54030 Tlalnepantla de Baz
Estado de Mexico, Mexico
Tel. +52 55 5321 2080
Fax +52 55 5321 2099
eh.mexico@mx.endress.com
www.mx.endress.com