

flow

A Chart Industries Company

LNG-Dispenser Type **Dynaflow 3000-DIS**



Fast and Accurate LNG Fueling

FLOW's **Dynaflow 3000 LNG Dispenser** is specifically designed and proven for fast, accurate and reliable fueling of trucks and city buses.

The System includes a mass flow meter, which has an European type approval based on MID (Measuring Instrument Directive).

Dynaflow 3000 provides operators with accurate, real-time dynamic density measurement, which assures a very precise mass flow calculation. Every dispenser is equipped with a quick-connect LNG nozzle and compressed air cleaning connection.

Metering components are electronically and mechanically pre-tested and factory calibrated. On site performance tests validate that the process performances of the refueling stations are met.

Dynaflow 3000 complies fully with ATEX safety requirements.

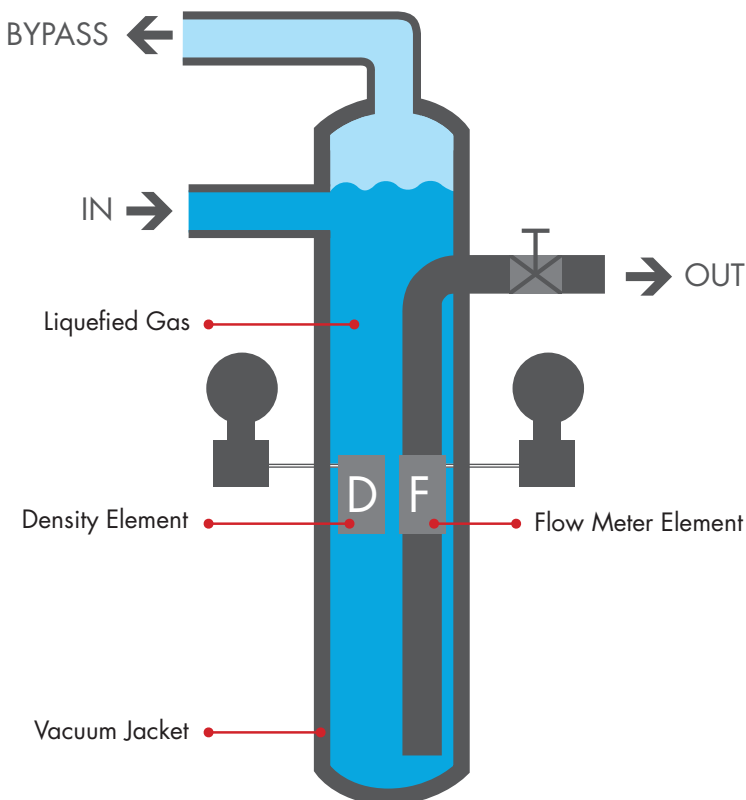
Each device can be tailored technologically according to customer requirements and branded accordingly.

Integrated connectors to our Mastermeter (Prover) device ensure simple, fast and accurate calibration.

Fields of application: LNG-Dispenser, Truck-Filling, Ship-Filling, IMC-Station, Transport



Schematic



Key facts

Average fueling time: only 3 min /450 l

Measurement accuracy better than 0.25 %

Can be supplied as part of a mobile or stationary LNG fueling station

MID approved

Digital display showing price, amount of gas in kg and price per kg

Features

Benefits

Real-time dynamic density measurement

- Automatically corrects for LNG-composition change
- No manual setting needed, eliminates chance for fraud
- Consistant accuracy over a wide range of conditions
- As accurate as the Coriolis meters on the market

No moving parts

- No need to replace metering section during the whole lifetime of the equipment
- Reduce lifetime cost
- Long term stability

Permanently submerged metering section

- No pre cooling needed
- Allows immediate delivery and measurement
- Dramatically reduces recirculation time
 - Shorter start-up time
 - Starts in less than a minute
- Shorter overall delivery time
- Allowed minimum measured quantity is reduced

No diversion of metered flow

- No bypass after the flow meter
- No problems with W&M (Weights and measures)
- No inaccuracy caused by a leaking valve etc.
- 100 % compliant to all codes (OIML, MID, NTEP, ...)

Soft start and stop of metering

- Improves the system accuracy dramatically
- Accurate metering from the beginning till the end
- Lower allowed minimum delivery quantity
- Minimizes inconvenient restarts caused by unstable conditions at the start of delivery
- Eliminates "ghost flows" at the end of the delivery, caused by pressure spikes

Specifications LNG Dispenser type Dynaflow 3000-DIS

LNG Dispenser based on Flowcom 3000 flow processor with dynamic density measuring type Dynaflow 3000 and flow meter element based on differential pressure flow measuring.

Measuring system

dp-metering system	Flowcom 3000
Metering section	SWM 33.7 x 2.6 -12-1773
Flow range	16-80 kg/min (standard LNG)
Density range	300-900 kg/m ³
Calculator system	Betacontrol ADP 1/2T
Communication to POS	Betacontrol Protocol converter EasyCall and DART – Option: IFSF

Operating conditions

Temperature	-20 - +50 °C (-40 - +50 °C only as option)
Humidity	5 % - 95 % (non condensing)
Vessels and Installation code	PED
Ex-Proof according to	ATEX 2014/34/EU Ex-zone in dispenser "pneumatic/piping" enclosure Ex-zone 2 electronic box Ex-p.
CDA hose /nozzle	for purging/cleaning of the JC-Carter nozzle
Safety gas return hose	½" stainless steel hose, 3.5 m length with JC-Carter connection
Dispense hose	1" stainless steel hose, 3.5 m length with JC-Carter connection

General information

Enclosure Material	Stainless steel, white powder coated
Water /Dust protection	Electronic section: IP54 / Flow meter section: IP44
Dispenser dimensions	Footprint: 1,235 x 500 mm / height: 2,500 mm / basis height: 60 mm
Power supply	230 V AC

Contact

Flow Instruments & Engineering GmbH
Heiligenstock 34 c-f
42697 Solingen
Germany

Tel.: +49 212 7005-0
Fax: +49 212 7005-55
flow.sales@chartindustries.com
www.flow-instruments.com