GEA LightHouse Probe™ * - NDC

Online Process Monitoring
Efficient Moisture Measurement in Fluidized Bed Dryers

Highlights:

"Plug and play", no model development needed;
No window fouling thanks to patented in process window cleaning;
Reduced variability between drying batches and reduced waste;
Suitable for all water based drying processes, solvent based processes on request;
Accurate moisture measurement to better than ±0.25%.

LightHouse Probe™ is a fibre optic probe with fully automated process-interface, which can be used for real-time monitoring of chemical and pharmaceutical processes and provide inprocess window cleaning at any time, recalibration during the process, full CIP (cleaning) of wash housing and seal, and a clear view inside – even in difficult conditions

Main benefits of LightHouse Probe™ – NDC Online LOD sensor

- Low Cost of Ownership:
  - no need for model development. The Online LOD sensor uses NDC's proprietary measurement algorithm, based on 20 years experience. Calibration requirements are limited to adjustment of the outputs slope and intercept, which can be done by the customer's operators.
  - no need to wait for laboratory results. The finished batch can be released to the next processing step immediately when the drying step is finished.
- Window fouling does not mean end of measurement. The probe can be manually or automatically retracted through a scraper seal to remove the deposits. Automated probes can even wash their windows on the machine without stopping or endangering the on-going drying process.
- Improved Batch-to-Batch Consistency. Using the Online LOD sensor for endpoint determination will give more consistency between batches in moisture content of dried granules, enabling optimisation of product quality prior to the tablet press and eliminating the risk of over-/under-drying.
- The Online LOD sensor is delivered with a filter wheel suited for moisture measurement. Dedicated filter wheels for solvent supplied on request.
- The Online LOD sensor is delivered ready to measure the moisture content of a pharmaceutical powder within a range of 1% to 20% with a projected accuracy of ±0.25% subject to calibration verification and suitable compendial method.

Suggested configuration for the LightHouse Probe™ – DAD

The Online LOD sensor is a LightHouse Probe™ equipped with an NDC FP710e gauge.

1. For initial test work or for mobile test equipment: manual probe
2. For integrated systems and if the probe is meant to stop the drying: automated CIP probe with additional soft- and hardware package.
3. For organic solvents, dedicated filter wheels can be provided per solvent

The probe can be mounted by welding a port into the vessel or alternatively by replacing a window with a specific adaptor.

The LightHouse Probe™ is available as manual probe, automated wash probe and automated CIP probe.

Test Opportunities

A manual Online LOD probe is available for rental. An automated CIP probe is available at our test labs in Wommelgem or Bubendorf.

* Patented (US 7869028B2 ; EP 1907822 ; EP 1927847)

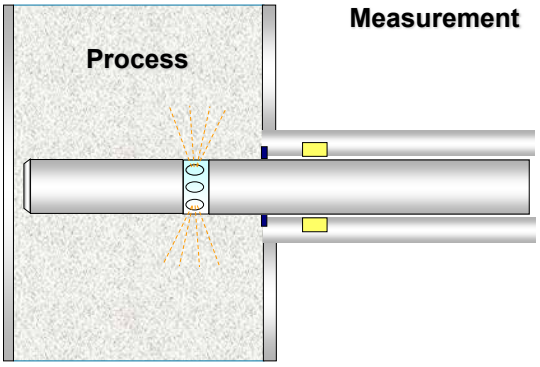
Available Product Range for LightHouse Probe™

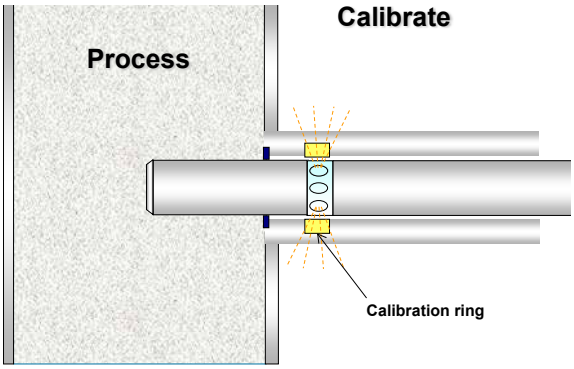
	Measurements	Dry Clean	Reference	Automated wash & dry	Automated reference	Automated CIP
Probe static operation	•					
Probe manual operation	•	•	•			
Probe automated	•			•	•	
Probe fully automated	•			•	•	•

The LightHouse Probe™ is designed to be upgradeable from manual to fully automated probe, so you can adjust the system to your needs and available budget.

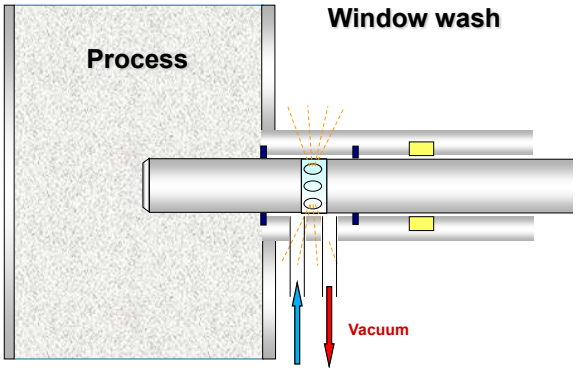
Functional Principle

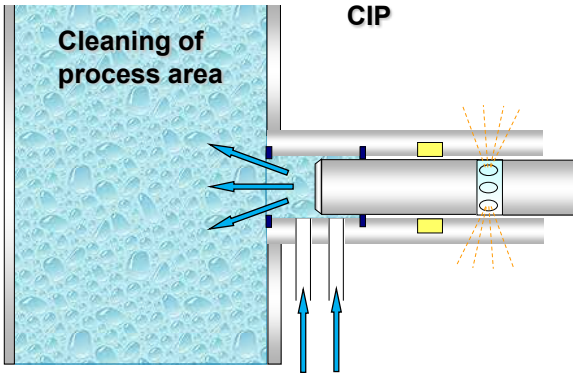
Manual and Automated Probe Positions





Additional Automated Probe Positions





GEA Pharma Systems

GEA Process Engineering nv
Keerbaan 70, 2160 Wommelgem, Belgium
Phone: +32 (0) 3350 1211
collette@gea.com

www.gea-ps.com