# Product Information Sheet

## POWDERVISION
### IN-LINE SAMPLING SYSTEMS FOR THE FOODS INDUSTRY

**APPLICATION AREAS:**

- Dairy Powders
- Coffee Powder
- Starch Products
- Casein
- Gluten
- Fiber and Feeds
- Animal Feed Meals

## Sampling System to facilitate Measurement of Moisture and other Parameters in Products transported in Ducting and Pneumatic Conveying Systems

**POWDERVISION SYSTEMS**

### Measurement for Process Control

PowderVision is an in-line device for presenting powders, granules or flakes to an MM710 backscatter NIR gauge to enable practical measurement of moisture and other key process constituents.

Powders, granules and flakes are often conveyed in pneumatic or gravity fed ducts which prevents the conventional approach of measuring over a band or vibro conveying system.

PowderVision overcomes presentation and access issues and makes a continual sampling of the process stream to provide a representative view of the product for meaningful process control.

### PowderVision Benefits

Using in-line measurement with a PowderVision system offers users the opportunity to gain the following benefits:

- Measure moisture and/or other constituent variation to enable control of the manufacturing process
- Increase product yield by operating closer to the upper specification limit
- Reduce startup and grade change times
- Reduce scrap by operating within specification
- Reduce time spent by operators collecting samples for laboratory testing

### Designed for the Foods Process

The PowderVision has been designed specifically to meet the needs of the Foods Industry:

- Easy to install
- Sanitary design
- Fully programmable automated sampling regime to suit flow rates
- Integrates with NDC MM710 Gauges
- Can easily be fitted to any pipe or ducting conveying product in positive, negative or atmospheric pressure
- Allows variable insertion depth of the PowderVision sampler into the conveying system to optimize product collection

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## Installation, Controls and Specifications

### Installation:

The PowderVision device is inserted, via the supplied collar, to the desired depth within the conveying system and held in place with a PTFE clutch by tightening the locking ring. The insertion depth and timing sequence for the cup are preset but may be adjusted by the user to optimize performance depending on the flow rate and characteristics of the product to be measured.

PowderVision is made from 316L stainless steel polished to a very smooth finish (0.3-0.4 RA) and is held in the insertion tube with a PTFE clutch. The optical window is retained mechanically by the metalwork and sealed with silicone.

### Controls and Operation:

The PowderVision control unit is used to synchronize the measurement made by the MM710 gauge to the filling and emptying of the cup, as well as controlling the discharge of the sampling cup back into the conveying mechanism. The timing sequence is adjusted according to product flow rate. The operational sequence from controller power-on is as follows:

**Stage 1. Discharge**
- the airjet discharges product from the cup

**Stage 2. Refill**
- the cup refills over a pre-configured time period

**Stage 3. Measurement**
- the MM710 gauge makes the measurement over a pre-configured time period

**Stage 4. Hold Reading**
- the gauge reading is held at last reading while Stages 1. and 2. are repeated

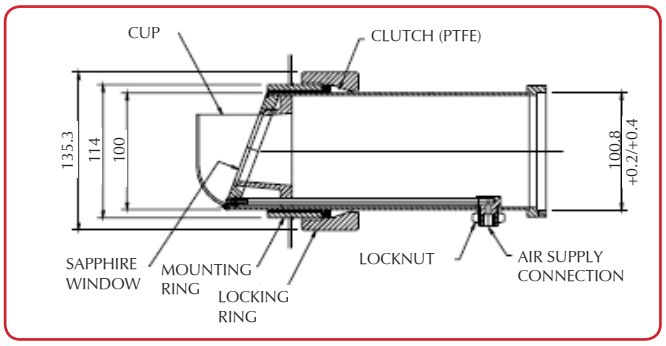
### Specifications and Requirements:

The Minimum pipe diameter is 200mm and the maximum insertion depth is 130mm (to the centre of the cup). The controller is part of the PowderVision package and is housed in an NEMA4/IP65 wall mounted enclosure.

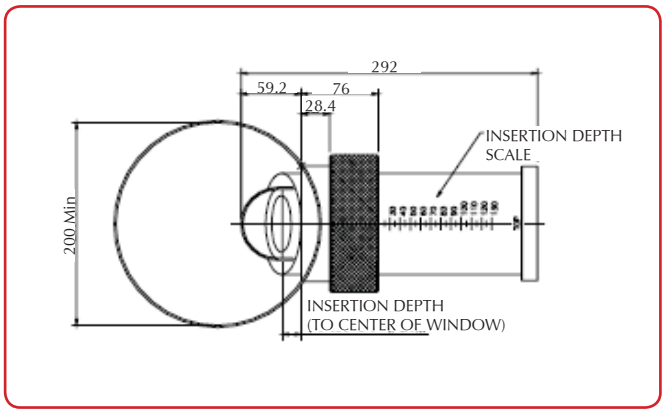
**Power and Air Supply Specifications:**

| | |
|---|---|
| Electrical supply: | 80-264V, 50-60Hz |
| Clean regulated air: | 90 psi, 6 Bar |
| Air consumption: | depends on cycle time |

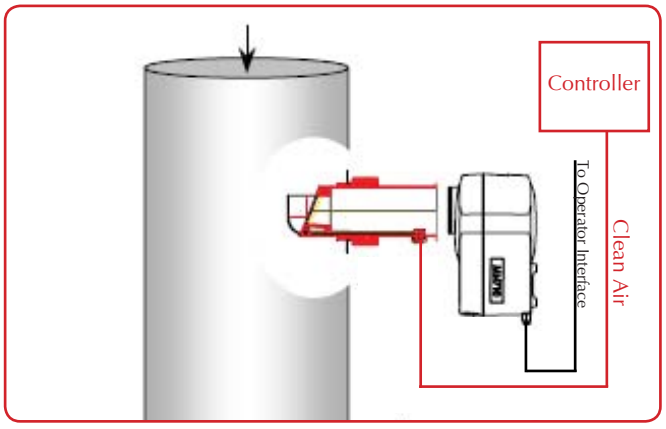
### Dimensions:




### Plan View:




### MM710 & PowderVision:

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