

**For
representatives
internal use only**

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Results

Installing a continuous MIVI viscometer on the gelatin preparation tank of a capsule banding machine provides stable gelatin quality and an 80%+ sealing quality increase. Moreover, the MIVI provides traceability of manufacturing conditions.

	Without MIVI viscometer	With MIVI viscometer
Gelatin viscosity	Unstable	Stable
Air bubbles in gelatin sealing	Yes	No
Final product conformity	No	Yes

Benefits

Inline viscosity monitoring in the gelatin preparation tank prior to gelatin banding is an easy way to follow the deposit process and to detect viscosity inconsistencies. Advantages provided are:

- Improves process control
- Easily detects parameters needing correction, material supply, temperature, etc.
- Ensures consistent end-product quality
- Ensures customer satisfaction and loyalty for highly renowned pharmaceutical brands

Return on Investment

Enhancing a banding machine by implementing inline viscosity control with the MIVI sensor brings the manufacturing company the following results:

- Decreased customer claims
- Increased customer loyalty
- Sales growth

These benefits are difficult to quantify, yet it can easily be said that it solves a company's major issue regarding quality in a simple solution. In many cases, ROI is observed in the pharmaceutical industry in less than six months.

Gelatin industry users:

IMA, Gelita, Capsugel, La Prunicole, Sanofi, Française Maritime S.A., Alva – Saria Industries, Soprorga...

Pharmaceutical industry users:

Novo Nordisk, Novozymes, Sitrec, BASF, Hoechst, Boston Scientific...

Guide for identifying viscosity measurement needs

Topics and Key Points

Are bubbles present in the gelatin during capsule manufacturing, or sealing process?

If yes, only precise viscosity monitoring of the gelatin guarantees a stable viscosity measurement. The inline MIVI viscometer is the solution to this issue.

How are consistent gelatin quality results obtained?

The prepared gelatin that is delivered to the machine is often unsuitable for use. Heating inconsistencies and evaporation during the process will alter the viscosity. Consistent, high-quality gelatin banding results are possible only with stable viscosity measurement.

How are production costs optimized?

Adjusted viscosity saves money. If the viscosity is too low, the quality will suffer (too thin). Keeping a low viscosity may save gelatin, yet that additional product rejection which, in turn, increases expenses. If the viscosity is too high, quality will again suffer (too thick). Disproportionate gelatin consumption cannot be offset by saving money.

How is gelatin uniformity controlled in the process?

Only inline control with no downtime can assure 100% production quality.

How frequently is gelatin viscosity measured in the manufacturing process?

Gelatin changes between viscosity checks and is not likely to maintain the correct viscosity or quality. Hand-held or laboratory controls are repeated delays that are costly to perform.

What is the laboratory response time?

Even when regularly performed, laboratory viscosity measurements do not prevent inferior coating uniformity between two controls.

Does the existing viscosity control system provide real-time measurement?

Only the vibrating viscometer at resonance frequency can provide real-time measurement with no drift in time and no cleaning downtime.

How often are gelatin ingredients adjusted in the process?

Each manual intervention increases production time and reduces process efficiency.

How many final products are produced between two manual controls?

Inline viscosity measurement guarantees homogeneity and quality. With manual control, there is the potential that one or several production batches will be rejected.

Sofraser recommended solution

MIVI 9510 with sanitary design	Option for relays and alarms Can be combined with external controller Option for electropolish finishing of wetted parts
OEM	For large quantity markets (Machine manufacturers)

Contact Sofraser for detailed sensor configuration

Competitors in this area:

Worldwide:

- Brookfield
- Hydramotion

This system is also efficient in:

- Gelatin packaging
- Gelatin manufacturing
- All related gelatin industries
- Capsule manufacturing
- Coating processes

