



*Fig. 01 – ACM-XFH 1050 automatic capsule line*

HARD GELATIN CAPSULE MANUFACTURING

# Automatic Hard Gelatin Capsule Making Machine

ACM-XFH 1050 · Fully Automatic Hydraulic System

A high-capacity machine that produces the empty two-piece hard gelatin capsules pharmaceutical and nutraceutical makers fill with medicine — automatically, from gelatin dip to finished shell.

Every capsule is dip-moulded on a stainless-steel pin, then dried, stripped, trimmed and joined in one continuous, hydraulically driven cycle — with very little hands-on work.

The result is up to 1.8 million clean, uniform capsules a day, built to cGMP on SS-316 tooling and engineered for a working life of around thirty years.

EST. 1960

ISO 9001:2015

50+ COUNTRIES

1,000+ INSTALLATIONS

1.8 M

CAPSULES / DAY

35–40

PIN BARS / MIN

0–4

CAPSULE SIZES

cGMP

SS-316 BUILD

THE PROCESS

Dip · Spread · Dry · Strip · Join

# From gelatin to a finished capsule

Every capsule is shaped on a stainless-steel pin and carried automatically through five stages in one continuous loop.

|    |                        |                                                                                                                       |
|----|------------------------|-----------------------------------------------------------------------------------------------------------------------|
| 01 | <b>Dip</b>             | Pairs of stainless-steel pins dip into a temperature-controlled gelatin solution, gelling an even film onto each pin. |
| 02 | <b>Spread</b>          | The pins rotate so the gelatin distributes evenly along the pin, with no bead at the capsule end.                     |
| 03 | <b>Dry</b>             | Pins travel through upper and lower drying kilns where controlled-humidity air sets the film into a hard shell.       |
| 04 | <b>Strip</b>           | Stripper jaws remove the dried caps and bodies cleanly from the pins and hand them to the finisher.                   |
| 05 | <b>Trim &amp; Join</b> | Stationary knives trim each cap and body to length, then push them together into finished empty capsules.             |

ENGINEERED FOR QUALITY

## SS-316 dipping pans

Water-jacketed pans with flow-guide vanes hold 12 litres each for uniform gelatin mixing and stable temperature.

## Automatic finisher

Strips, trims and joins capsules in one seamless, continuous cycle — no manual handling.

## Upper & lower drying kilns

High-efficiency airflow holds humidity steady for consistent capsule wall thickness, batch after batch.

## Centralised lubrication

Automatic greaser and central lubrication keep maintenance low and mechanical life long — about thirty years.

GOOD TO KNOW

## Making vs. filling capsules

This machine makes the empty two-piece shells by dip-moulding. Dosing powder or pellets into them is a separate, downstream filling machine.

## Why temperature & humidity matter

Gelatin viscosity and kiln humidity set shell wall thickness, moisture and brittleness — critical, controlled GMP quality parameters.

1931

*The dip → dry → strip → trim → join cycle, established by Arthur Colton in 1931, is still the industry standard. The ACM-XFH 1050 carries it forward at scale.*

## SPECIFICATIONS

ACM-XFH 1050

# Technical Specifications

## PERFORMANCE

|                  |                        |
|------------------|------------------------|
| Production speed | 35-40 pin bars / min   |
| Daily output     | ≈ 1.8 million capsules |
| Capsule sizes    | 0, 1, 2, 3 & 4         |
| Drive / version  | Hydraulic power pack   |
| Control          | PLC + touchscreen HMI  |

## DIMENSIONS &amp; WEIGHT

|                   |                    |
|-------------------|--------------------|
| Footprint (L×W×H) | 16.8 × 1.6 × 1.7 m |
| Weight            | ≈ 13,500 kg        |

## BUILD &amp; UTILITIES

|                  |                                                   |
|------------------|---------------------------------------------------|
| Build standard   | cGMP · SS-316 pans                                |
| Power supply     | 415/440 V ±6%, 3-Ph, 50 Hz                        |
| Auxiliary supply | 220/230 V, 1-Phase                                |
| Compressed air   | 0.2 Cu.M/min @ 5.50 (2.75 min) kg/cm <sup>2</sup> |
| Gelatin capacity | 12 litres per pan                                 |
| Expected life    | ≈ 30 years                                        |

## WHY MANUFACTURERS CHOOSE IT

- ~1.8 million capsules a day with smooth hydraulic deck & pusher motion
- Seamless strip-trim-join finishing in one cycle
- Uniform wall thickness from controlled dipping & drying
- Low maintenance, ~30-year design life

## DELIVERY &amp; SUPPORT

## Installation & commissioning

On-site set-up and start-up by MOI engineers.

## Operator training

Hands-on training for operators and maintenance teams.

## Spares & service

Genuine spare parts and ongoing maintenance support.

## APPLICATIONS

Hard gelatin capsule production · Nutraceutical capsule manufacturing · Pharmaceutical-grade capsule making — for producers scaling up from manual processes to high-volume automated lines.