

**Lonza Engine™**  
*Accelerate Innovation*

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## **CFS 1500™**

Capsule Filling and  
Sealing machine



**Lonza**

# Realize the potential of lipid-based formulations for poorly soluble compounds and achieve Faster Time to ‘First in Man’

## Our offer

- Lab scale automated capsule liquid filling and sealing machine, combined in one piece of equipment
- Enables tamper-proof, semi-solid or liquid filled capsule dosage forms
- Nominal throughput of 1,500 filled and sealed capsules per hour

## Features and Benefits

### Provides consistency and reliability

Reproducible and accurate over time capsule sealing process

### Provides increased simplicity, robustness and precision

Highly capable dosage pump

### Accepted/Rejected according to set weight

### Confidence in accepted capsule

### Data capture for regulatory documentation

Every capsule is weighted, and each capsule weight is recorded

CFR21.11 compliant

### Increase efficiency and speed in identifying formulations for develop

### Cut cost and time – achieve “Faster time to first in human”

Intuitive software interface:

Recipe function to save settings used regularly

### Can work in BCS with highly active or potent compounds

Suitable for containment

### Provides protection against product oxidation in the capsule and filling tank

Nitrogen purge available

### Easy to clean

All parts easily accessible and removable

### Can adapt to local regulations

Flexible and different versions available (version C, I, ISU)

Version C and I will now be combined in a same model

**A full range of CFS accessories, parts and spares are available upon request.**

CFS 1500™



## Specifications

### Comprises

Sealing and Filling area integrated with floor standing unit  
Lid which can be removed for use with containment solutions

### Throughput

Typically 1,500 per hour (depending on formulation)

### Capsule Sizes

000, 00, 0, 1, 2, 3, 4

### Contact Parts

Stainless steel (grade AISI 316) and food contact approved materials

### GMP compliant

Yes

### CFR 21 Part 11 compliant

Yes

### Dimensions

76 x 57 x (H) 138.5 cm

### Weight

225 Kg

### Power Requirements

Electricity: 230/110 V

2.5 KV

Phase: 1

Current: 20A max.

Frequency: 60/70 Hz

### Compressed Air

Dry air, free from oil

6 bars pressure (minimum operating pressure 4.5 bars)

Consumptions: 8.4 m<sup>3</sup>/hr at 6 bars (140L/Minimum)

Diameter of compressed air pipe: 8x12 mm minimum, with quick coupling FESTO

8 x 12 mm

### Warranty

One year

## Scale Up Solution

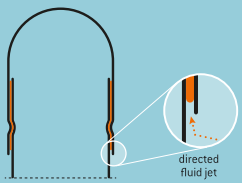
The CFS 1500™ system is directly scalable to commercial manufacturing using the LEMS® 70 Liquid Encapsulation Micro-spray Sealing System.

- The cost effective way to handle in-house production for Capsugel® Licaps® Delivery System (Licaps® capsules and LEMS® technology)
- Seals up to 55,000 capsules per hour
- Totally enclosed working area to prevent contamination
- GMP compliant

## Technical Support and Service

Lonza's experienced service and support team will provide installation, validation packages and on-site training as requested. Also available are ongoing support and preventative maintenance agreements to keep your Lonza Engine™ equipment operating at optimal efficiency. For more information on services by our dedicated team of engineers and technicians contact your Lonza sales representative or visit [www.lonza.com](http://www.lonza.com).

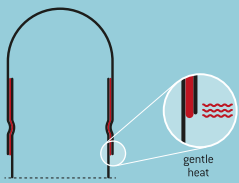
## LEMS® (Liquid Encapsulation Microspray Sealing) proprietary technology



### STAGE 1: SPRAYING

Sealing fluid is sprayed onto joint between cap and body.

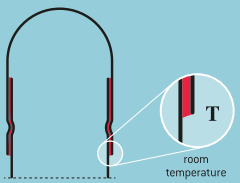
Capillary action draws fluid up between the cap and the body. Suction removes excess fluid.



### STAGE 2: WARMING

A gentle heat application completes melting and fusion.

Gentle heat melts the two layers which fuse together to form an impervious seal.



### STAGE 3: SETTING

Capsules equilibrate at room temperature.

The setting and hardening can be accomplished within one hour in open trays, and is completed while the product returns to room temperature; alternatively, to maintain productivity, the capsules can be subjected to the vacuum chamber on open trays as soon as they leave the sealing system. The larger size of the sealed area, compared to traditional banding processes, contributes to a robust and impervious seal.

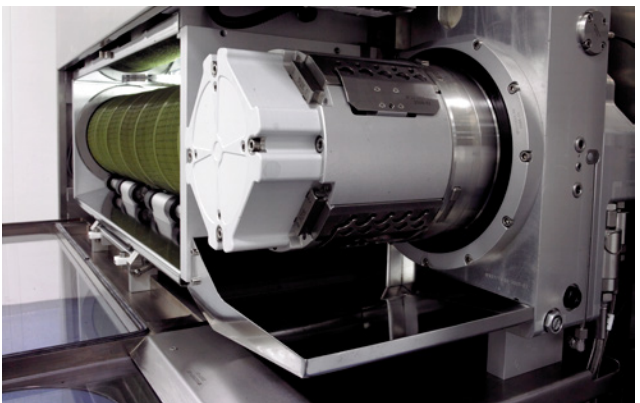
## Licaps® capsules

Licaps® capsules are compatible with a wide range of excipients, which may improve bioavailability for poorly soluble drugs. Their key benefits include:

- Unique capsule design that maximizes seal integrity to prevent leakage after sealing
- Low oxygen permeability
- Can be filled with hotmelts (up to 70° C)



LEMS® 70





# Lonza

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To order now or to obtain more information  
about the equipment:

Visit: [www.capsugel.com](http://www.capsugel.com)

Email: [solutions.emea@lonza.com](mailto:solutions.emea@lonza.com) /  
[solutions@lonza.com](mailto:solutions@lonza.com)

Call: +33 3 89 20 57 25 / 800-845-6973

Or contact your Lonza representative

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