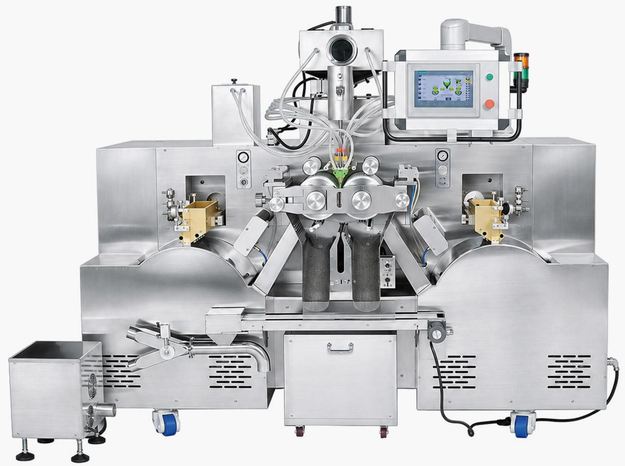
SEM Series Softgel Encapsulation Machine

From lab trials to production, on the same encapsulation method



How It Works:

Melted gelatin is spread into two thin ribbons and cooled on drums. The ribbons run between two die rolls; as the rolls turn, the fill is injected between the ribbons through a heated wedge, and the die rolls form, seal and cut each softgel in one step. The fresh softgels go to a tumble dryer to firm up.

Gelatin melting → **Ribbon spreading** → **Die rolls: fill, form, seal, cut** → **Tumble drying**

Key Features:

- Plunger pump fills each softgel; fill volume set on the touchscreen
- Heated hopper and segment, so pastes and suspensions stay fillable
- Servo drive on the SEM-120-III and SEM-250-IIIA: settings recalled for each product rather than re-tuned
- Oils, suspensions and pastes

Which One Fits:

Formula development and pilot batches: SEM-100II

Small to mid production, servo control: SEM-120-III

Production at volume: SEM-250-II

Production at volume, servo control and the highest speed:

Technical Paremeter:

Model	SEM-100II	SEM-120-III	SEM-250-II	SEM-250-IIIA
Drive	Standard	Servo	Standard	Servo
Die Roll (mm)	Φ80 × 100	Φ150 × 120	Φ150 × 250	Φ150 × 250
Plungers	6	8	20	20
Fill Volume (ml)	0–1.5	0–2	0–2	0–2
Max. Die Roll Speed (rpm)	5	6	5	7
Fill Accuracy	±1.5%	±0.5% oils / ±1.5% suspensions	±0.5% oils / ±1.5% suspensions	±0.5% oils / ±1.5% suspensions

Output by Capsule Size (softgels/hour):

Capsule Size	SEM-100II	SEM-120-III	SEM-250-II	SEM-250-IIIA
3# oval	30,240	115,200	172,800	259,200
6# oval	24,000	68,400	127,680	191,520
8# oval	22,800	63,000	120,960	181,400
10# oval	17,280	51,000	106,080	159,120
14# oval	15,360	48,000	92,160	138,240
20# oval	10,800	34,800	69,600	104,400
8# oblong	18,240	49,200	109,200	163,800
10# oblong	15,120	45,600	82,080	123,120
16# oblong	13,680	32,400	69,120	103,680
20# oblong	8,160	30,600	57,120	85,680
5# round	24,480	79,200	158,400	237,600
10# round	20,160	63,000	122,400	183,600
40# round	5,760	27,600	66,240	99,360

Rated output at maximum die roll speed. Your output depends on your fill, gelatin and capsule shape.