Innovation for Softgel Manufacturing System
Changsung is providing not only machines and equipment but also technology for high value products.

<table>
<thead>
<tr>
<th>CONTENTS</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>We Are</td>
<td>3</td>
</tr>
<tr>
<td>Company History</td>
<td>3</td>
</tr>
<tr>
<td>Changsung Presents</td>
<td>4</td>
</tr>
<tr>
<td>R&amp;D Center</td>
<td>4</td>
</tr>
<tr>
<td>Servo Softgel Machine 880R</td>
<td>6</td>
</tr>
<tr>
<td>Servo Softgel Machine 770R</td>
<td>8</td>
</tr>
<tr>
<td>High Speed Softgel Machine 650R</td>
<td>10</td>
</tr>
<tr>
<td>Oluscap Softgel Machine Olus</td>
<td>12</td>
</tr>
<tr>
<td>Standard Softgel Machine 500R</td>
<td>14</td>
</tr>
<tr>
<td>Compact Softgel Machine 400R</td>
<td>16</td>
</tr>
<tr>
<td>R&amp;D Softgel Machine RND</td>
<td>18</td>
</tr>
<tr>
<td>Servo R&amp;D Softgel Machine SRD</td>
<td>20</td>
</tr>
<tr>
<td>Tumble Dryer</td>
<td>22</td>
</tr>
<tr>
<td>Jet master</td>
<td>24</td>
</tr>
<tr>
<td>One Pot II</td>
<td>25</td>
</tr>
<tr>
<td>Ultra Fill Mixer</td>
<td>26</td>
</tr>
<tr>
<td>Standard Shapes and Sizes</td>
<td>28</td>
</tr>
</tbody>
</table>
We Are ...

Based on the technological power, CHANGSUNG is manufacturing products under the FDA and GMP standards as well as the international quality certifications. CHANGSUNG exports encapsulation systems and technologies to more than 40 countries.

Company History

2010’s
- May 2015 A prize for good parts & materials
- Feb 2015 Re-registration of venture company
- Dec 2014 Registration of korean Patent for vegetable materials
- Nov 2014 Registration of korean Patent for gel-reclaim system (GRS)
- July 2014 Completion of 3rd building for CNC and R&D room
- May 2014 Develop servo R&D machine
- Dec 2013 A prize for excellent venture activity
- Nov 2013 A prize for employee-friendly company
- Sep 2013 A prize for Global Growth Ladder and a prize for a company people want to work for
- Aug 2013 Received a certificate for good Risky Assessment and Quality Control System
- Mar 2013 A prize for excellent trader
- May 2013 Received a citation from the Korea Federation of Small and Medium Business
- Sep 2012 Registration of clean plant
- Mar 2012 Develop high-speed machine – 650R

2000’s
- Dec 2009 Completion of new plant
- Oct 2009 Set up of R&D Center independent office
- Aug 2009 Registration of R&D Center
- Dec 2008 Acquisition of UL certificate
- Aug 2008 Company name change to changsung softgel system
- June 2006 Develop vegetable machine, CS-Oluscap
- Jan 2006 Develop pharmaceutical softgel machine, CS-500R
- Jun 2003 Acquisition of CE Certificate
- Feb 2002 Acquisition of Certificate for good quality control system
- July 2000 Develop auto sorter

1990’s
- Dec 1993 Develop CS-J1-300R
- May 1995 Develop rotary type mass production machine
- Sep 1997 Develop blister packing machine
- June 1992 Developed flate type softgel machine
- May 1992 Found changsung Auto Machinery Company
Changsung Presents

Changsung has opened a new chapter in soft gelatin encapsulation system in Korea. Changsung has been developing and producing high-quality, cost-effective soft gelatin encapsulation machines and its support equipment since 1972. Changsung provides optimized softgel machines for various customers.

- Servo driven high productivity encapsulation – 880R
- Servo driven high speed encapsulation - 770R
- High speed machine with new technology - 650R
- Vegetable capsule encapsulation machine - Oluscaps
- Standard softgel machine - 500R
- Servo driven R&D machine – SRD
- Automatic paste preparation system – PMS
- New recycling system for Gelatin net – GRS
- New conceptual gelatin melting system - One pot
- Revolutionary fill material preparation machine - UFM
- Basket cleaning equipment with the most efficient way - Jet master
- FDA Approved Tray
R&D Center

Provide perfect total encapsulation solution

Founded in 2009, the R & D center of Changsung focuses on the research of materials, the development of new products and new projects. It also focuses on the production of eco-friendly products that meet customer needs. Furthermore, it plays a key role in becoming a global leader in the soft gelatin encapsulation machine industry.

Upgrade of existing products and development of new products, taking into consideration of customer’s safety and profit maximization are the aim of R&D center.
Servo Softgel Machine

880R

FEATURES
Chang sung softgel system is introducing a new concept of softgel machine in the world first.
The Machine speed is 6 rpm with big size of die roll.
No noise, perfect safety device, no slide valve !!!

SPECIFICATION
Dimension: 2400(L) × 1350(W) × 2059(H) mm
Weight: 1,800Kg
Electric power: AC 220, 380, 400V / 50, 60 Hz / 3Ph
Power consumption: 16 Kw
Die roll speed: 6 rpm
Compressed Air: 5 Kg f/m²
Die roll size: Ø150 × 320 mm

Special features
1) Anodizing aluminum and stainless steel  
2) Contact part : STS 316  
3) In compliance with GMP  
4) Complying with TIR securely  
5) Driven by servo motors  
6) Easy to change the filling volume on the touch screen (AFA)  
7) Auto gel thickness control system included (AGT)  
8) Easy attachable capsule striper net
1. Die roll housing
   • Capsule forming device
   • Capsule forming with wedge & die roll combination
   • Die roll pressure check system (Load-cell for front and rear)

2. AGT (Automatic Gelatin Thickness)
   • This system is interlocked with spreader Box
   • No need manual thickness gauge tool
   • Easy to set up the thickness of gelatin
   • Easy device detachable from spreader box for cleaning
   • Control automatically thickness by laser

3. Casting drum
   • Gelatin ribbon formation device
   • Enhanced juddering free water cooling casting drum adjustable casting drum surface temperature
   • TIR flatness ±0.03”
   • Water injection way in casting drum in order for cooling effectiveness

4. New designed Touch screen
   • Machine control device

5. Die roll
   • Die roll size Ø150 × 320mm
   • Increased productivity
   • Automatic alignment & injection timing by touch screen (Reduce Setup-time)

6. Spreader Box
   • Gelatin ribbon forming device
   • Opening the slide to protect leakage of gel once the drum stop
   • Automatic gelatin level sensor in spreader box
   • AGT conneted

7. Conveyor
   • There is no slope to deliver the capsules
   • Detachable conveyor for easy cleaning

8. Wedge
   • Injection up & Down by pneumatic system (air cylinder)
   • No required shut-off valve
Servo Softgel Machine

**770R**

**FEATURES**
Changsung is introducing new servo type encapsulation machine.
Easy operation and easy cleaning by simple design.
No noise and no timing gear !!!

---

**SPECIFICATION**
- **Dimension:** 2,334(W) × 1,166(D) × 2,045(H)mm
- **Weight:** 1,700Kg
- **Electric power:** AC 220, 380, 400V / 50,60 Hz / 3Ph
- **Power consumption:** 16Kw
- **Die roll speed:** 5rpm
- **Compressed Air:** 5Kg f/m²
- **Die roll size:** Ø150 × 250mm

**Special features**

1) Injection Up/Down motor apply  
2) Die roll push Initial Penumatic control  
3) Die roll servo driven process  
4) Filling pump servo driven, platecam system  
5) Filling pump valve follow cam system, sliding type  
6) Easy to change the filling volume on the touch screen (AFA)  
7) Auto gel thickness control system included (AGT)  
8) Easy attachable capsule striper net
1. Die roll housing
   • Capsule forming device
   • Capsule forming with wedge & die roll combination
   • Die roll pressure check system (Load-cell for front and rear)

2. AGT (Automatic Gelatin Thickness)
   • This system is interlocked with spreader Box
   • No need manual thickness gauge tool
   • Easy to set up the thickness of gelatin
   • Easy device detachable from spreader box for cleaning
   • Control automatically thickness by laser

3. Casting drum
   • Gelatin ribbon formation device
   • Enhanced juddering free water cooling casting drum Adjustable casting drum surface temperature
   • TIR flatness ±0.03”
   • Water injection way in casting drum in order for cooling effectiveness

4. New designed Touch screen
   • Machine control device

5. Die roll
   • Die roll size Ø150 × 250mm
   • Increased productivity
   • Automatic alignment & injection timing by touch screen (Reduce Setup-time)

6. Spreader Box
   • Gelatin ribbon forming device
   • Opening the slide to protect leakage of gel once the drum stop
   • Automatic gelatin level sensor in spreader box
   • AGT connected

7. Conveyor
   • Detachable conveyor for easy cleaning
High Speed Softgel Machine
650R

FEATURES
Changsung is proud of introducing encapsulation machine that runs at the max. 6.5 rpm.
High productivity but economic machine price

SPECIFICATION
Dimension: 2,400(L) × 1,022(W) × 2,120(H) mm
Weight: 2,000 Kg
Electric power: AC 220, 380, 400 V / 50, 60 Hz / 3 Ph
Power consumption: 19 Kw
Die roll speed: 6.5 rpm
Compressed Air: 5 Kg f/m²
Die Roll Size: Ø150 x 250 mm

Special features
1) Filling pump: AM treatment  
2) Crank shaft bushing: Linear bearing  
3) Special hardened treatment for gears in mould box  
4) Die roll chocking on both side  
5) Die roll alignment by Jig adjustment  
6) Leakage free shut-off valve  
7) Internal built-in type ribbon lubrication pump  
8) Stripper material: Stainless steel  
9) Ball bearing oil roller
1. **Medicine Hopper**
   - Medicine holding hopper
   - Square, Round and Double jacket, various design available
   - Water heating system for the medicine

2. **Medicine Pump & Block**
   - Medicine Injection
   - Special coating treatment for injection pump
   - Very precise medicine injection by CAM
   - Linear bearing type injection plunger saddle for high speed

3. **Wedge**
   - Medicine injection into pocket
   - Inject medicine into capsule pocket by pump pressure
   - New designed Teflon coating Wedge
   - Optional between heater cartridge or water heating design
   - Electric Heater Wedge (Water Circulation Wedge is buyer’s option)

4. **Spreader Box**
   - Gelatin ribbon forming devices
   - From liquid status into solidified ribbon
   - Pinch valve and automatic gelatin level sensor in Spreader boxes
   - Thickness adjustment gauge

5. **Casting Drum**
   - Gelatin ribbon formation device
   - Enhanced judder free water cooling casting drum
   - Adjustable casting drum surface temperature
   - TIR flatness ±0.03’

6. **Die roll Housing**
   - Capsule forming devices
   - Capsule forming with wedge & die roll combination
   - Die roll pressure check system (Load-Cell)
   - Front/Rear free chocking die roll

7. **Chute & Mangle Roller**
   - Encapsulated capsule separation from die roll and gelatin net pulling tension
   - Adjust devices and speed for the mangle roller
   - Chute mini-conveyor

8. **Operating Panel**
   - Machine control devices
   - Power on/off, function control
   - Each parts heater temperature control and each parts machine speed control
   - Touch screen & machine Allen Bradley PLC control
Oluscap Softgel Machine

Olus

FEATURES
Owing to big investment, changsung can get patents for the process of Oluscap in the world wide.

SPECIFICATION
Dimension: 2,400(L) × 1,020(W) × 2,120(H)mm
Weight: 1,800Kg
Electric power: AC 220, 380, 400V / 50,60 Hz / 3Ph
Power consumption: 18Kw
Die roll speed: 3rpm
Compressed Air: 5Kg f/m²
Die Roll Size: Ø150 x 250mm

Special features
1) Any color available  2) Patent registered  3) Special Die Roll installed  4) Slot die / metering station
5) New gel ribbon working system  6) up to 3rpm productivity
1. Medicine Hopper
• Agitator for medicine mixing
• Air sealed hopper for Nitrogen blanking
• Automatic medicine level sensor

2. Shut-off Valve
• Injected medicine on / off
• Shut-off Block

3. Extrusion System
• Gelatin supplying control device
• Gelatin supplying control by pumping

4. Casting Drum
• Formatting proper thickness of gelatin ribbon over chilled casting drum surface
• Water cooling system
• TIR flatness ±0.03’

5. Cooling Conveyor
• 3 stage conveyor next to the encapsulation machine
• Patented cooling and heating conveyor
• Prevents damage to the capsule during tumble drying
• Full automation system

6. Air Cooling System
• Cooling air duct
• Connected to air conditioner

7. Operating Panel
• Machine control devices
• Power on/off, function control
• Each parts heater temperature control and each parts machine speed control
• Touch screen & machine Allen Bradley PLC control

8. Tumble Drying
• Automated cooling system
• Built in cable
• cGMP machine design-validation ready
• Pneumatic basket lift up system
FEATURES
It is the standard softgel encapsulation machine. This machine speed is 5rpm run.

SPECIFICATION
Dimension: 2,400(L) × 1,020(W) × 2,120(H)mm
Weight: 1,800Kg
Electric power: AC 220, 380, 400V / 50,60 Hz / 3Ph
Power consumption: 18Kw
Die roll speed: 5rpm
Compressed Air: 5Kg f/m²
Die roll size: Ø150 × 250mm

Special features
1) Finishing material: Anodized Aluminum and Stainless Steel
2) Contact parts with Stainless Steel 304 or 316
3) Complying GMP of various Safety standard
4) Digital Die Roll pressure indicator (Road-Cell)
5) FMI PUMP
6) Gelatin supplying control by pneumatic pinch valve
7) Double Jacket Hopper
8) Complying severe TIR quality control
1. Wedge up-down System
   • Wedge module (Wedge, Shut off valves) up and down mechanism
   • Motorized screw up and down
   • Limit stop by distance sensor

2. Medicine Filling Adjustable Knob
   • Medicine filling volume adjustment knob
   • Controlled filling weight by turning number of knob
   • Controlled by plunger stroke distance adjustment

3. Shut-off Valve
   • Injection medicine on and off
   • Shut off block

4. Pinch Valve
   • Gelatin supplying control device
   • Gelatin supplying control by gelatin level sensor on spreader box

5. Oil Roller
   • Gelatin ribbon oil lubrication device
   • Inner / Outer ribbon oil Inbrication
   • Material Stainless Steel 316, P/S ENG
   • Micro adjustable oil pump (US)

6. Ribbon Roller
   • Oil lubrication to inner gelatin ribbon & ribbon supplying guidance device
   • Oil lubrication to inner gelatin ribbon
   • Guidance to both side of gelatin ribbon into wedge

7. Conveyor
   • Transfer capsules to main conveyor
   • Transfer capsules into mangle roller

8. Controller
   • Electric controller box
   • Main power ON/Off, electric parts control
Compact Softgel Machine

400R

FEATURES
It is medium and compact size of machine. The machine speed is 3.5rpm run, it can be switched for R&D machine by change die and spreader box.

SPECIFICATION
Dimension: 1,025(L) x 950 (W) x 2,070(H)mm
Weight: 900Kg
Electric power: AC 220, 380, 400V / 50,60 Hz / 3Ph
Power consumption: 13Kw
Die roll speed: 3.5rpm
Compressed Air: 5Kg f/m²
Die roll size: Ø103 x 183mm

Special features
1) GMP and FDA design  2) Easy and simple operation  3) High production capacity
4) Precise and highly accurate filling Mechanism system (±1% of filling tolerance)
5) Wide application to different shapes and sizes of capsules
6) Tiny appearance and sanitary construction using stainless steel and special alloys
7) Touch screen control panel
1. CVT (Continuously Variable Transmission)
   • Easy to control the speed of casting drum

2. Oil Roller Tank
   • It is designed on the outside of the machine for easy cleaning.
   • Easy checking for the level of oil

3. Touch Screen (Operating Panel)
   • Machine control device
   • Power on/off, function control
   • Each part heater temperature control and each parts machines speed control
   • Touch screen & machine Allen Bradley PLC control

4. Pinch Valve
   • Gelatin supplying control device
   • Gelatin supplying control by gelatine level sensor on spreader box

5. York Assembly
   • Install the die roll easily

6. Height control system
   • The height control of filling pump by knob with spring is easy.
   • Driven gear type
   • The parts of gear last longer as a permanent

7. Casting Drum
   • Formatting proper thickness of gelatin ribbon over chilled casting drum surface
   • Water cooling system
   • TIR flatness ±0.03 (Total Inch Run-out)

8. Oil Roller
   • Gelatin ribbon oil lubrication device
   • Outer ribbon oil lubrication
   • Material Stainless Steel 316 or 304
   • Micro adjustable oil pump (US)
R&D Softgel Machine

**RND**

**FEATURES**
Changsgung introduces new RND machine that is suitable for development of new products. The performance is stronger, easy and variable speed up to 3 rpm. Easy operation and compact size !!!!

**SPECIFICATION**
- **Dimension:** 1003(L) × 903(W) × 1725(H), 1508(L) (extended conveyer)
- **Weight:** 700Kg approx.
- **Electric power:** AC 220, 380, 400V / 50,60 Hz / 3Ph
- **Power consumption:** 3.7Kw
- **Die roll speed:** 3rpm
- **Compressed Air:** 5Kg f/m²
- **Die roll size:** Ø100 x 100mm

**Special features**
1) Anodizing aluminum and stainless steel  
2) Contact part : STS 304 or STS 316  
3) In compliance with GMP  
4) double hopper  
5) complying with TIR securely
1. Medicine round hopper
   • Agitator for medicine
   • Filling nitrogen available into the round hopper (airlock)

2. Medicine pump & block
   • Medicine injection
   • Very precise medicine injection by cam
   • Titanium coated plungers
   • Teflon V-packing
   • Special treatment sliding block

3. Casting drum
   • Formatting proper thickness of gelatin ribbon over chilled casting drum surface
   • Water cooling system
   • TIR flatness ±0.03

4. Operating panel
   • Machine control device
   • Power on/off, function control
   • Each parts, heater temperature control and machine speed control
   • Touch screen & machine Allen Bradley PLC control

5. Spread box
   • Forming gelatin Ribbon devices
   • Solidify gelatin Ribbon from liquid status gelatin into solid Ribbon
   • Made of bronze
   • Gelatin level controlled by float system
   • Thickness adjustment gauge

6. Medicine filling adjustable knob
   • Medicine filling volume adjustment knob
   • Controlled filling weight by turning number of knob
   • Controlled by plunger stroke distance adjustment

7. Die roll housing
   • Capsule forming devices
   • Capsule forming with wedge & die roll combination
   • Die roll dimension Ø100 × 100mm

8. Shut-off valve
   • Injection medicine on and off
Servo R&D Softgel Machine

**FEATURES**
Changsung is introducing a brand new machine which is servo RND. It has capable to produce both animal and oluscap softgel.

**SPECIFICATION**
- **Dimension:** 1203(L) × 905(W) × 1622(H)
- **Weight:** 670Kg approx
- **Electric power:** AC 220, 380, 400V / 50,60 Hz / 3Ph
- **Power consumption:** 3.7Kw approx
- **Die roll speed:** 3rpm
- **Compressed Air:** 5Kg f/m²
- **Die roll Size:** Ø100 × 100mm

**Special features**
1) Anodizing aluminum and stainless steel  
2) Contact part : STS 304 or STS 316  
3) In compliance with GMP  
4) complying with TIR securely  
5) AGT  
6) Stainless steel spreader box  
7) New pinch valve system
1. Die Roll Housing
• Capsule forming device
• Capsule forming with wedge & die roll combination
• Die roll pressure check system (Load-cell for front and rear)

2. AGT (Automatic Gelatin Thickness)
• This system is interlocked with spreader box
• No need manual thickness gauge tool
• Easy to set up the thickness of gelatin
• Easy device detachable from spreader box for cleaning
• Control automatically thickness by laser

3. Medicine Pump & Block
• Medicine injection
• Very precise medicine injection by cam
• Titanium coated plungers
• Control medicine weight by touch screen (servo motor driven)

4. Die Roll
• Automatic alignment & injection timing by touch screen

5. Spreader Box
• Gelatin ribbon forming device
• From liquid status into solidified ribbon
• Automatic gelatin level sensor in spreader box
• AGT connected

6. Conveyor
• Detachable conveyor for easy cleaning

7. Wedge
• Injection up & down by manual
**Tumble Dryer**

**TM**

**FEATURES**
- Capsules drying devices
- Each basket can be individually controlled (Drying time, and speed)
- Basket size: Ø 650 × 810mm
- About 2,450 CFM/Basket

**Batch Dryer**

**FEATURES**
- It is good dryer for small batch size with expensive products
- Can be connected to air duct from air handling unit
- Can be installed heater for fast dry

**Seamless Capsules Dryer**

**FEATURES**
- Seamless capsules drying devices
- Improvement air-permeability by double mesh
- Discharge capsules by basket Up-Down and reverse rotation
- Capsule air-gap can be expansion drying by static pressure and air volume
**TJS**

**FEATURES**
- Big batch size dryer
- Can be used for continuous drying system
- Basket size: Ø 730 × 1330mm
- Basket lift installed
- About 4,400 CFM/Basket

---

**Double Deck**

**FEATURES**
- Paste/High viscosity softgel dryer
- Capsules are transferred to 4 channels
- Complete dry capsule - 8NT/8~10% moisture

---

**Tray**

**FEATURES**
- 758(W) × 604(D) × 35(H)mm
- Material-Polypropylene  
  (FDA approved material, 21 CFR 177.1520)
- Loading - 1,000 ~2,000 capsules per tray
Jet master

FEATURES

JET MASTER was designed for cleaning tumble dryer. The cleaning time is about 20 minutes for each basket. The process is water ◁ cold water ◁ detergent ◁ purified water ◁ drying.

• Each process fully automated by PLC control
• Each process duration time is changeable
• Fully GMP compatible
• Process time & operator ID validation record by printer
• Multi use for different size Dryers

SPECIFICATION

• Power Consumption: 12.5Kw
• Voltage: design by customer require
• Frequency: design by customer require
• Main motor: 0.4Kw
• Water pump: 1.5Kw
• Ring blower: 4Kw
• Heater: 6Kw
• Mist: 0.4Kw
• Detergent pump: 0.03Kw
• Water consumption: max 40 liter/min
• Fitting type: Hose nipple (cold, hot, purified water)
• Dimension: 1,545 × 1,863 × 1,650(H)mm
One Pot II

Gelatin Melting System

Agitator
• Anchor type agitator
• Blade type agitator

Heating
• Electronic cartridge type
• Hot water circulation type
• Heat exchanger type (steam supply)

Vacuum System
• Bubble control Valve & System
• Condenser (condensate vapor for the better efficiency of the vacuum process)

CIP Ball (for easy cleaning process)

SPECIFICATION
• Capacity : 300 ~ 800Liter
• Material : SS 316/304
• Agitator Speed : 50(1500)
• Up/Down Type : Hydraulic Lift
• Vacuum AUTO control system (Bubble Sensor)
• CIP Ball
• Automatic Temperature Control
• Touch Screen Panel (Option)
• 21 CFR part II
Ultra Fill Mixer

**UFM**

**Impeller**
- Homogenizer type
- Dispersion type
- High Shearing type

**Heating**
- Electronic cartridge type
- Hot water circulation type
- Heat exchanger type (steam supply)

**Vacuum System**
- Bubble control Valve & System
- Condenser (condensate vapor for the better efficiency of the vacuum process)

**CIP Ball (for easy cleaning process)**

**Cooling System (Optional)**

**SPECIFICATION**
- Capacity : 100 ~ 500Liter
- Material : SS 316/304
- Impeller Speed : 1500(3000)
- Up/Down Type : Hydraulic Lift
- Vacuum AUTO control system (Bubble Sensor)
- CIP Ball
- Automatic Temperature Control
- Touch Screen Pannel (Option)
- 21 CFR part II
- Circulation Pump Included
Paste Making System

PMS

FEATURES

• Automatic paste preparation system
• Each tank can be individually controlled (mixing, storage tank)
• Multi shaft mixer (Anchor type agitator with scraper & high speed SAW type)
• Capacity 300 ~ 600 Liter & Vacuum and homogenizer

SPECIFICATION

• Applicable: Pharmaceutical, Nutraceutical, Food industry, Cosmetics
• Dimension: 4,500 × 1,700 × 2,940mm
• Material: STS316, STS304
• Voltage: 380V, 60Hz, 3Ph / 220V, 50Hz, 1Ph (desing by requirement)
• Positive displacement pump
• Vacuum pump
• Colloid mill
• Power consumption: 40Kw
• Weight: Approx. 2,000Kg
Standard Shapes and Sizes

ROUND

1 Round minims: 0.75-1.00 cc: 0.046-0.062

2 Round minims: 1.2-2.0 cc: 0.074-0.124

3 Round minims: 2.2-3.0 cc: 0.136-0.185

4 Round minims: 2.8-4.0 cc: 0.172-0.246

5 Round minims: 3.2-5.0 cc: 0.197-0.308

6 Round minims: 4.6-6.0 cc: 0.283-0.370

7 Round minims: 5.0-7.0 cc: 0.308-0.431

9 Round minims: 7.0-9.0 cc: 0.431-0.554

15 Round minims: 12.0-15.0 cc: 0.740-0.925

20 Round minims: 15.0-20.0 cc: 0.925-1.230

28 Round minims: 22.0-30.0 cc: 1.355-1.848

40 Round minims: 32.0-41.0 cc: 1.971-2.526

90 Round minims: 70.0-80.0 cc: 4.312-4.928
2 Oval
minims: 1.5-2.3
cc: 0.092-0.142

3 Oval
minims: 2.4-3.0
cc: 0.148-0.185

4 Oval
minims: 3.1-4.0
cc: 0.191-0.246

5 Oval
minims: 4.3-5.0
cc: 0.265-0.308

6 Oval
minims: 5.2-6.0
cc: 0.320-0.370

7 Oval
minims: 6.2-7.5
cc: 0.382-0.462

10 Oval
minims: 7.5-10.0
cc: 0.462-0.616

20 Oval
minims: 17.0-20.0
cc: 1.047-1.232

30 Oval
minims: 21.0-30.0
cc: 1.297-1.848

40 Oval
minims: 30.0-40.0
cc: 1.848-2.464

60 Oval
minims: 41.0-60.0
cc: 2.526-3.696

65 Oval
minims: 50.0-65.0
cc: 3.080-4.030

80 Oval
minims: 60.0-80.0
cc: 3.696-4.928
## Standard Shapes and Sizes

### OBLONG

<table>
<thead>
<tr>
<th>Shape</th>
<th>Minims</th>
<th>Cc</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 Oblong</td>
<td>2.3-3.0</td>
<td>0.142-0.185</td>
</tr>
<tr>
<td>4 Oblong</td>
<td>3.0-4.0</td>
<td>0.185-0.246</td>
</tr>
<tr>
<td>5 Oblong</td>
<td>4.0-5.0</td>
<td>0.246-0.308</td>
</tr>
<tr>
<td>6 Oblong</td>
<td>5.0-6.0</td>
<td>0.308-0.370</td>
</tr>
<tr>
<td>8 Oblong</td>
<td>6.5-8.0</td>
<td>0.400-0.493</td>
</tr>
<tr>
<td>9.5 Oblong</td>
<td>7.5-9.5</td>
<td>0.462-0.585</td>
</tr>
<tr>
<td>11 Oblong</td>
<td>10.5-12.2</td>
<td>0.647-0.752</td>
</tr>
<tr>
<td>14 Oblong</td>
<td>12.5-14.0</td>
<td>0.770-0.862</td>
</tr>
<tr>
<td>16 Oblong</td>
<td>14.0-16.0</td>
<td>0.862-0.986</td>
</tr>
<tr>
<td>20 Oblong</td>
<td>16.0-20.0</td>
<td>0.986-1.232</td>
</tr>
<tr>
<td>22 Oblong</td>
<td>18.0-22.0</td>
<td>1.109-1.355</td>
</tr>
<tr>
<td>24 Oblong</td>
<td>20.0-24.0</td>
<td>1.232-1.478</td>
</tr>
</tbody>
</table>
**TUBE**

- 5 Tube
  - minims: 2.5-5.0
  - cc: 0.154-0.308

- 6 Tube
  - minims: 5.0-6.0
  - cc: 0.308-0.370

- 8 Tube
  - minims: 6.0-8.0
  - cc: 0.370-0.493

- 17.5 Tube
  - minims: 15.0-17.0
  - cc: 0.924-1.047

- 30 Tube
  - minims: 27.0-32.0
  - cc: 1.663-1.971

- 45 Tube
  - minims: 40.0-45.0
  - cc: 2.464-2.772

- 55 Tube
  - minims: 40.0-55.0
  - cc: 2.646-3.388

- 120 Tube
  - minims: 90.0-120.0
  - cc: 5.544-7.392

**SUPPOSITORIES**

- 6 Suppository
  - minims: 5.0-6.0
  - cc: 0.308-0.370

- 10 Suppository
  - minims: 7.0-10.0
  - cc: 0.430-0.620

- 40 Suppository
  - minims: 30.0-40.0
  - cc: 1.850-2.460

- 80 Suppository
  - minims: 62.0-80.0
  - cc: 3.819-4.928

**SPECIAL SHAPES**