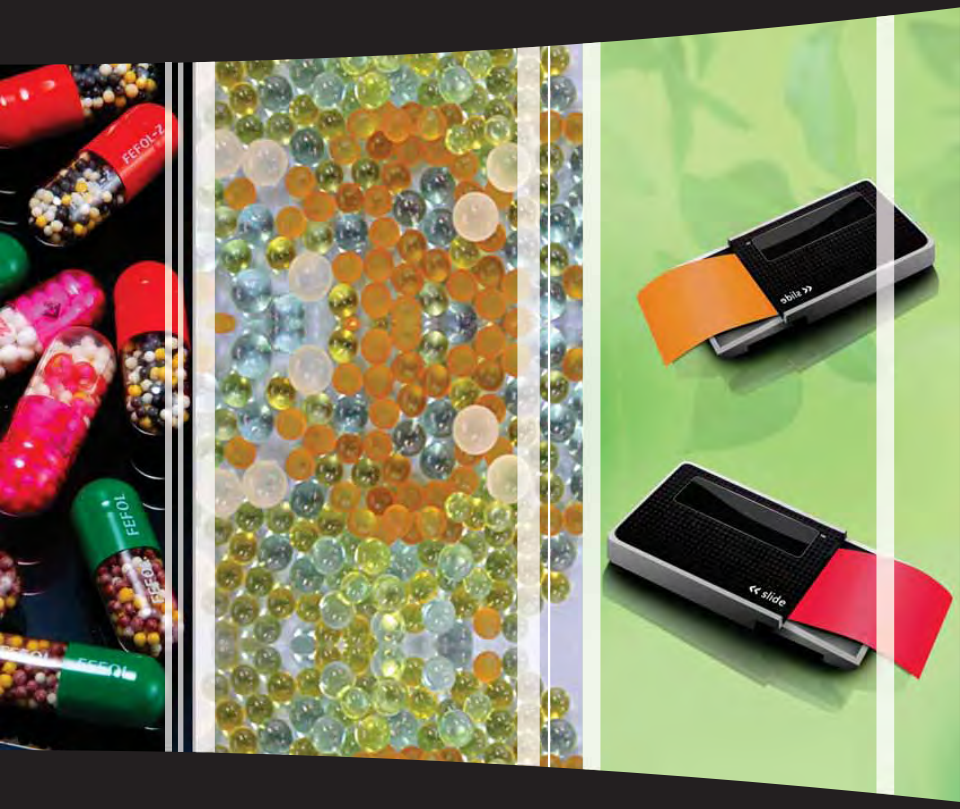
UMANG

innovative solutions



ENCAPSULATION

Solutions : Pharmaceutical & Neutraceutical

APPLICATIONS

MOUTH DISSOLVING FILMS

Fast mouth dissolving films have become popular as a new delivery system because they are easy to administer and sudden-onset of drug action is possible as the films are taken through the sublingual route. Since the sublingual mucosa is relatively permeable because of thin membrane and is highly perfused, rapid drug absorption and instant bio-availability is possible and this leads to quick-onset of drug action. Since the drug is directly absorbed into the systemic circulation, degradation in the gastrointestinal (GI) tract and first pass effect can be avoided. Moreover, better patient compliance is expected, because this system does not require being swallowed as in the case of conventional tablet, and therefore beneficial in patients with dysphagia or difficulty in swallowing. The use of muco-adhesive polymers in the films will enable them to adhere to the sublingual mucosa for better retention and drug absorption. Drugs well absorbed through the buccal or sublingual mucosa can be formulated as fast mouth dissolving films for sublingual use.

We also have cut films which can be cut into 1.5mm x 1.5mm size and then filled into capsules. different kind of drugs can be encapsulated in this form to have a innovative drug delivery system.

LIQUID FILLED BEADS (SEAMLESS CAPSULES)

Our line of seamless capsule beads, developed and manufactured in Mumbai. India has a team of experts will provide you with tailor-made solutions from formulation through development and launch of your seamless liquid filled capsule products. We maintain leading edge capabilities with the most up-to-date manufacturing and quality control for seamless capsule technology.

Our product range is ideal for the Dietary Supplements and Pharmaceutical markets and includes all sizes, shapes, colors and forms of seamless capsules suitable for oral, topical, ophthalmic and vaginal administration. We also can help provide a color combination that suits both the product indication as well as patient preference.

HOT MELT EXTRUSION

Incorporation of a drug in a polymer matrix is often used to sustain drug release. To producethese sustained-release matrices, hot-meltextrusion (HME) is becoming a widely-used technology in the pharmaceutical industry. Its major advantage over conventional techniques for manufacturing of sustained-release matrices (e.g. compression) is the continuity of the hot stage extrusion technique as the different process steps (mixing, melting, homogenizing and shaping) are carried out on a single machine. This offers many opportunities for automation of the production process, allows a high throughput,limits material loss and yields matrices with excellent homogeneity. UMANG not only focuses on the machine but also on the principles of operation, process technology, equipment and different drug delivery systems manufactured via HME. Several polymers can be processed via HME to function as release-controlling matrix: synthetic cellulose derivatives (ethyl cellulose, hydroxypropylmethyl cellulose, celluloseacetobutyrate.), methacrylates, polyethylene oxides, polyvinylacetate, polyvinylacetate, poly(lactide–co-glycolide), starch, lipids, waxes (possibly in combination with a plasticizer to optimize the thermoplastic properties of the polymer). The design of the extrusion screw have a transfer screw, mixing elements, extrusion screws ensure a homogeneous drug distribution in the tablet matrix.

PELLET PROCESSING AND COATING

UMANG's pellet processing technology facilitates the development and commercialization of novel, controlled-release delivery systems for once- or twice-daily dosing of single drugs or drug combinations that exhibit extreme pH-dependent solubility profiles and/or are poorly soluble in physiological fluids. It is a multi particulate bead system comprised of multiple layers of drug, excipients, and release-controlling polymers. The beads contain a layer of organic acid or alkaline buffer to control the solubility of a drug by creating an optimal pH micro environment for drugs that exhibit poor solubility in intestinal pH, in environments with pH greater than 8.0, or in physiological fluids.. Alternatively, the beads can contain a solid-solution of drug and crystallization inhibitor to enhance bio availability by maintaining the drug in its amorphous state.

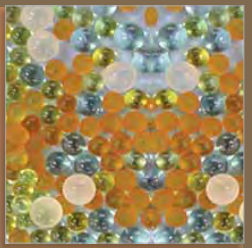
Our technology is especially suitable for drugs that traditionally require multiple daily doses or drugs needing customized release formulations. Each bead has an inert core surrounded by drug and coated with a functional polymer membrane to control the rate of drug release. Beads less than 1.5 mm in diameter and can be filled into capsules or compressed into orally disintegrating tablets. In addition, as a multi-particulate system, Pellet products produced in capsules allow for the capsules to be opened and the contents used as a sprinkle on foods, providing a flexible dosage form for patients who experience difficulty swallowing tablets or capsules.

PELLET PROCESSING AND COATING

HOT MELT EXTRUSION

LIQUID FILLED BEADS

MOUTH DISSOLVING FILM



APPLICATIONS

SUSTAINED RELEASE BEADS

Elan Drug Technologies can provide a number of tailored drug release profiles, including immediate release of drug followed by sustained release to give rise to a fast onset of action, which is maintained for 24 hours. Alternatively the opposite scenario can be achieved where drug release is delayed for a number of hours. An additional option is pulsatile release, where a once daily dosage form can resemble multiple daily doses by releasing drug in discrete bursts throughout the day.

Our technology is based on the production of uniform spherical beads of 1-2 mm in diameter containing drug plus excipients and coated with product specific controlled release polymers.

As each candidate drug presents itself with different physicochemical properties, the composition of the polymer membrane will differ for each individual formulation. Varying the nature and combination of polymers within a semi-permeable membrane enables our Drug Technologies to achieve varying degrees of release profiles to achieve the required target profile.

NANO PARTICLE TECHNOLOGY

The efficacy of many drugs is often limited by their potential to reach the site of therapeutic action. In most cases only a small amount of administered dose reaches the target site, while the majority of the drug distributes through out the rest of the body in accordance with its physicochemical and biological properties. Our high shear Homoginisers rotate around 18000 RPM hence shearing the particles, They consist of drug carriers in which the active ingredient is dissolved, dispersed, entrapped, encapsulated, adsorbed or chemically attached. The equipment has water jackets and vacuum due to which the temperature and other conditions are well maintained in the machine, hence giving a consistent and high quality product at a controlled temperature. In the recent years, High speed homoginisers have been extensively developed and explored for pharmaceutical application for creams, lotions and syrups, to reduce down the particle size scientifically with the help of shear speed.

DELAYED RELEASE BEADS

Pellet (or bead) technology allows a variety of different drug delivery profiles to be achieved by coating drug and excipient with various polymers. The drug cores are generally spheroidal in shape and have a diameter in the range of 300-1,700 µm. Two types of process are used to generate the spheroidal particles. The first of these processes, which allows potencies up to 90%, utilizes extrusion and spher'oidisation to form a drug core with a polymer coat. The second process is known as drug layering by Wurster and drug layering by a drug layering system, where the drug particles are fixed to the outside of a seed core (typically a sugar sphere). This process provides a very tight size distribution of pellets. Drug potencies up to 60% are possible. For both of the processes above, the desired drug release profile is achieved by coating particles with the appropriate polymer.

EFFERVESCENCENT TABLETS

Effervescent tablet is a tablet intended to be dissolved or dispersed in water before administration. It generally contains in addition to active ingredients, mixture of acids/acid salts (citric, tartaric, malic acid or any other suitable acid or acid anhydride) and carbonate and hydrogen carbonates (sodium, potassium or any other suitable alkali metal carbonate or hydrogen carbonate) which release carbon dioxide when mixed with water. Occasionally, active ingredient itself could act as the acid or alkali metal compound necessary for effervescent reaction. There are several categories of active ingredients, which would be advantageous if formulated as effervescent tablets like : Drugs difficult to digest or disruptive to the stomach, pH-sensitive drugs such as amino acids and antibiotics, Drugs requiring a large dose (5 gms. total tablet weight), etc. The major advantages are Fast onset of action, No need to swallow tablets, Good stomach and intestinal tolerance, More portability, Improved palatability, Superior stability, More consistent response, Incorporation of large amounts of active ingredients, Accurate dosing, Improved therapeutic effect.

SUSTAINED RELEASE BEADS

NANO TECHNOLOGY BY HOMOGENIZATION

VARIOUS FILM SHAPES

EFFERVESCENT TABLET

STABILITY CHAMBERS AND MICRO DEPARTMENT

HPLC AND GAS CHROMATOGRAPHY

DISSOLUTION APPARATUS AND FTIR

MOUTH DISSOLVING FILMS AND LIQUID ENCAPSULATION

We use a range of technologies in Analytical scale like HPLC, GC, FTIR, Dissolution apparatus, Stability as per ICH guidelines, Micro testing departments equipped for testing Sustained release, Pulsed release, Modified release, Delayed release, Improve bio availability. UMANG has 5 years of experience in pellet processing equipments and technology for various industry segments.

SPRAY DRYER AND EXTRUDER + SPHER'OIDIZER

PAN COATER AND HOMOGINISATION

HIGH SHEAR MIXER AND FLUID BED COATER / PROCESSOR

DRUG LAYERING AND HOT MELT EXTRUSION

We use Fluid bed Wurster, Extrusion + Spher'oidization, Solid drug layering, Hot melt extrusion, Spray drying, Fluid bed Rotor and processor, High shear mixers, High shear Homoginizers, Pan coaters, etc. A COMPLETE SOLUTION A COMPLEX ORAL CARE FORMULATION & DRUG DELIVERY SOLUTIONS FOR YOUR PRODUCTS / API

Umang was incepted in the year 1982, with an objective to serve the clients with all kinds of equipments and accessories under one roof. Within a very short span of time, we succeeded to be the most reliable brand name in the market supplying equipments and solutions to the Pharmaceutical industry for Pelletization and granulation solutions.

In 2007, the company ventured into solutions for Personal care industry majorly focusing on Oral care products, giving encapsulated ingredients for cooling applications. In 2009, the company further integrated it self to give solutions for Bakery and food applications like Chewing gum, mouth dissolving films etc. Today the company has three major divisions : Personal care, Bakery and food ingredients, Pharmaceutical division for innovative dosage form development.

Umang Pharmatech Pvt. Ltd.

Survey No. 146, H. No.1 (PT),
Vasai Phata Highway Junction, Pelhar,
Nh8, Vasai (E) - 401 208, Maharashtra (India).

Tel. : (+91-22) 30018900 / 30018915 - 98
Mob. : (+91) 986 723 6594
Fax : (+91-22) 30018908 / 30018913
E-mail : umang@umangpharmatech.com
Website : www.umangpharma.com
www.innovativeencap.com

Personal Care

Food & Confectioneries