

GS COATING EQUIPMENT

FOR TABLET FILM AND SUGAR COATING, PELLETS AND MICROGRANULES



GS COATING SYSTEM

THE SOLID WALL PAN, WITH NO PERFORATIONS, MAKES IT POSSIBLE TO PROCESS ALL SIZES AND SHAPES OF PRODUCT WITHOUT CLOGGING.

THE SHAPE, COMBINED WITH THE SURFACE SMOOTHNESS, BRINGS A PERFECT MIXING OF THE CORES AND A UNIFORM DISTRIBUTION OF THE COATING MATERIAL.

AN EXCLUSIVE, PATENTED DRYING SYSTEM

Two paddles immersed in the core bed guarantee that the drying air is conveyed directly through the tablet mass, thus avoiding swirls and turbulence inside the pan. Either blowing or exhausting paddles can be used, depending on the process requirements. The use of different sizes of paddles guarantees high flexibility in terms of pan working capacity.



SPRAY GUNS

Both Sugar and Film spray guns can be easily fitted on the sliding support arm, which can be rapidly removed from the front door of the pan, allowing their calibration/adjustment and fast, safe cleaning and sanitizing operations.

SUGAR

The sugar system (airless) features a pneumatic high pressure piston type pump with spray gun and recirculation system.



DOSING UNIT

The spray system is the result of combining some highly advanced technologies and has been designed to ensure easy maintenance, simple inspection operations and quick changeover from one product to another. It includes two spray units (air and airless) complete with the relevant surge chambers to guarantee constant flow rate, and is housed in a soundproof stainless steel cabinet, which can be opened from four sides to fully comply the GMP requirements.



FILM

The film system (air) is fitted with either peristaltic or volumetric piston, low pressure type pump (depending on the viscosity of the product to be handled), and is complete with in-line product pressure control and air spray guns.

SPECIAL FEATURES

AUTOMATIC CLEANING SYSTEM

All parts in contact with the product can be quickly disassembled without tools, thus granting easy access and inspection, as well as very efficient cleaning. The cleaning operations are fast and simple due to the use of a solid wall pan. Different cleaning programs, comprising washing, rinsing and discharge, can be developed according to different products and stored in the recipes.



AUTOMATIC PRODUCT LOAD AND DISCHARGE

The machine can be fitted with automatic systems for product loading and discharge. The easy to use discharge device is connected to the pan by a fast fitting system, and discharge is achieved by rotating the pan.



OPERATOR INTERFACE AND EQUIPMENT MANAGEMENT

GS coating equipment can be fitted with a high level of automation based on PLC Siemens S7 connected to SCADA WINCC or IFIX.

HT-HE



The high technology HT system is the ideal solution for the film and sugar coating of tablets and microtablets.

The exhausting paddles, immersed in the core bed, guarantee the optimum ventilation results that are required during aqueous film coating, as well as maximum versatility to obtain the best results in the sugar coating processes.

The HT System is available in the HE basic configuration, essentially to meet the requirements of a highly reliable quality level together with the need for a flexible and compact size suitable for an easy display and a handy lay-out.



GS HP CAN BE EQUIPPED ALTERNATIVELY WITH EXHAUSTING OR BLOWING PADDLES TO PERFORM TABLET FILM AND SUGAR COATING AS WELL AS TO PROCESS PELLETS AND MICROGRANULES.

The equipment features a special ventilation system with the capability to interchange the inlet/outlet air duct connections: this makes it possible to obtain two different air flow directions, so that both immersed air blowing or exhausting paddles can be fitted, depending on the process.

- Air exhausting, for tablet film or sugar coating.
- Air blowing, for microgranule or pellet enlarging and coating processes: enteric, sustained release, etc.



The HP pellet system is the ideal solution for the pan processing of pellets and microgranules.

It is also suitable for the manufacture of starting cores. It allows coating processes such as enteric, sustained release, etc. The main feature of this system is a special patented ventilation unit which, by means of two air blowing paddles immersed in the bed of cores, creates a unidirectional air flow to ensure constant and homogeneous product drying.

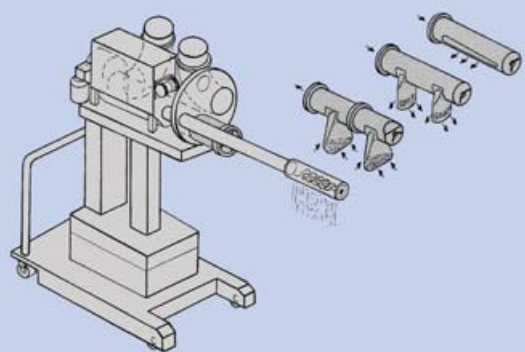


Blowing paddles

THE HP MULTIFUNCTION SYSTEM

By means of constant and homogeneous one-way air flow into the bed of cores, combined with a **multiple spraying system**, it is possible to carry out both film and sugar coating processes.

A special powder dosing unit allows enlargement and layering of pellets and microgranules (or tablet, if required by the formulation), by means of excipients or active ingredients in powder form.



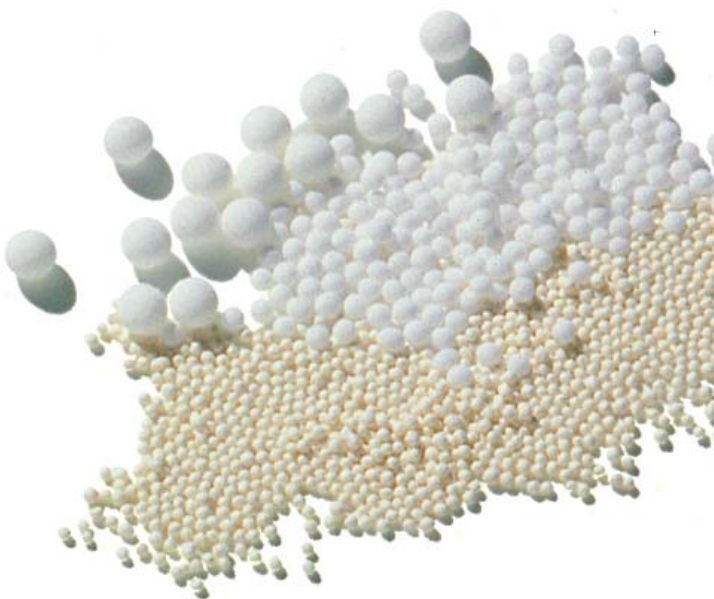
Powder/suspension layering and film coating

LABORATORY EQUIPMENT



Powder dosing device

The solid wall pan presents an exclusive opportunity to carry out the enlargement and layering of pellets and microgranules by means of an adjustable powder dosing device, auger type (using neutral or active powder), which guarantees extremely precise and reproducible dosages.



The laboratory systems make use of the same highly advanced technology as those developed for the production range and this enables the processing of all kinds of products, giving maximum flexibility and easy scale up. The high degree of automation allows easy operation and maintenance procedures to be applied. Due to their small overall dimensions, laboratory systems can be easily and quickly connected to the utilities.



HT 0,5-3



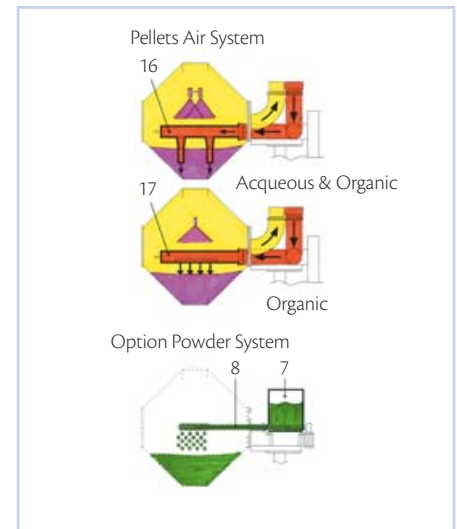
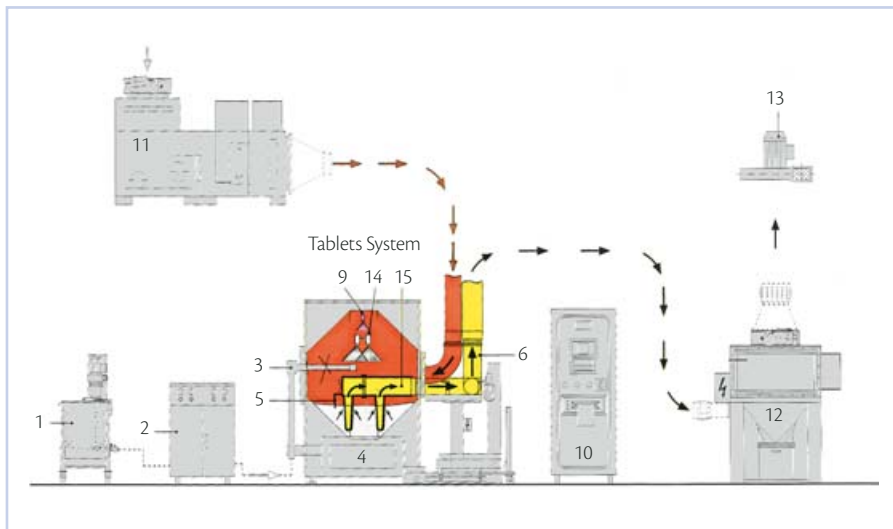
HT 10



HT / HP 25

GS COATING EQUIPMENT TECHNICAL DATA

GS COATING EQUIPMENT



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|-----------------------------------|--|---|-----------------------------------|
| 1 - Product Storage Tank | 5 - Tablet Temperature Control | 9 - Sugar Coating Spray Gun | 13 - Outlet Air Fan |
| 2 - Dosing Unit | 6 - Inlet/Outlet Air Unit | 10 - System Control Board | 14 - Film Coating Spray Guns |
| 3 - Spray Gun Support Sliding Arm | 7 - Powder Dosing Unit | 11 - Inlet Air Handling Unit for Product Drying | 15 - Air Exhausting Paddle System |
| 4 - Coating Pan | 8 - Powder Distribution and Dosing Auger | 12 - Dust Collector | 16 - Air Blowing Paddle System |
| | | | 17 - Surface Air Blowing System |

LABORATORY MODELS	HT 0.5-3***	HT 3	HT 10	HT-HP 25
Minimum/maximum working capacity (litres)*	0.5÷4	2÷4	5÷12	13÷25
Pan diameter (mm)	450		600	800
Pan mouth diameter (mm)	215			300
Pan motor power (kW)	0.22		0.37	
Process air delivery (m³/h)	80		150	350
Power consumption for standard equipment (kW)**	6		10	14

* Approximate data (depending on core shape and specific weight) - ** Approximate data (depending on equipment configuration) - *** Interchangeable pan drum

PRODUCTION MODELS	GS 70	GS 150	GS 300	GS 400	GS 600
Minimum/maximum working capacity (litres)*	40÷70	70÷150	150÷300	200÷400	350÷600
Pan diameter (mm)	1,050	1,280	1,580	1,630	2,000
Pan mouth diameter (mm)	400	450	520		730
Pan motor power (kW)	1.1	1.5	3	4	5.5
Process air delivery (m³/h)	800	1,100	2,000	2,500	3,500
Power consumption for standard equipment (kW)**	10	12	20	25	30

* Approximate data (depending on core shape and specific weight) - ** Approximate data (depending on equipment configuration)



IMA S.P.A.
IMA ACTIVE DICISION
 VIA I° MAGGIO 14 - 40064 OZZANO EMILIA (BOLOGNA) - ITALY
 Tel. +39 051 6514111 - Fax +39 051 6514287
 mktg.soliddose@ima.it - www.ima.it - www.ima-pharma.com

