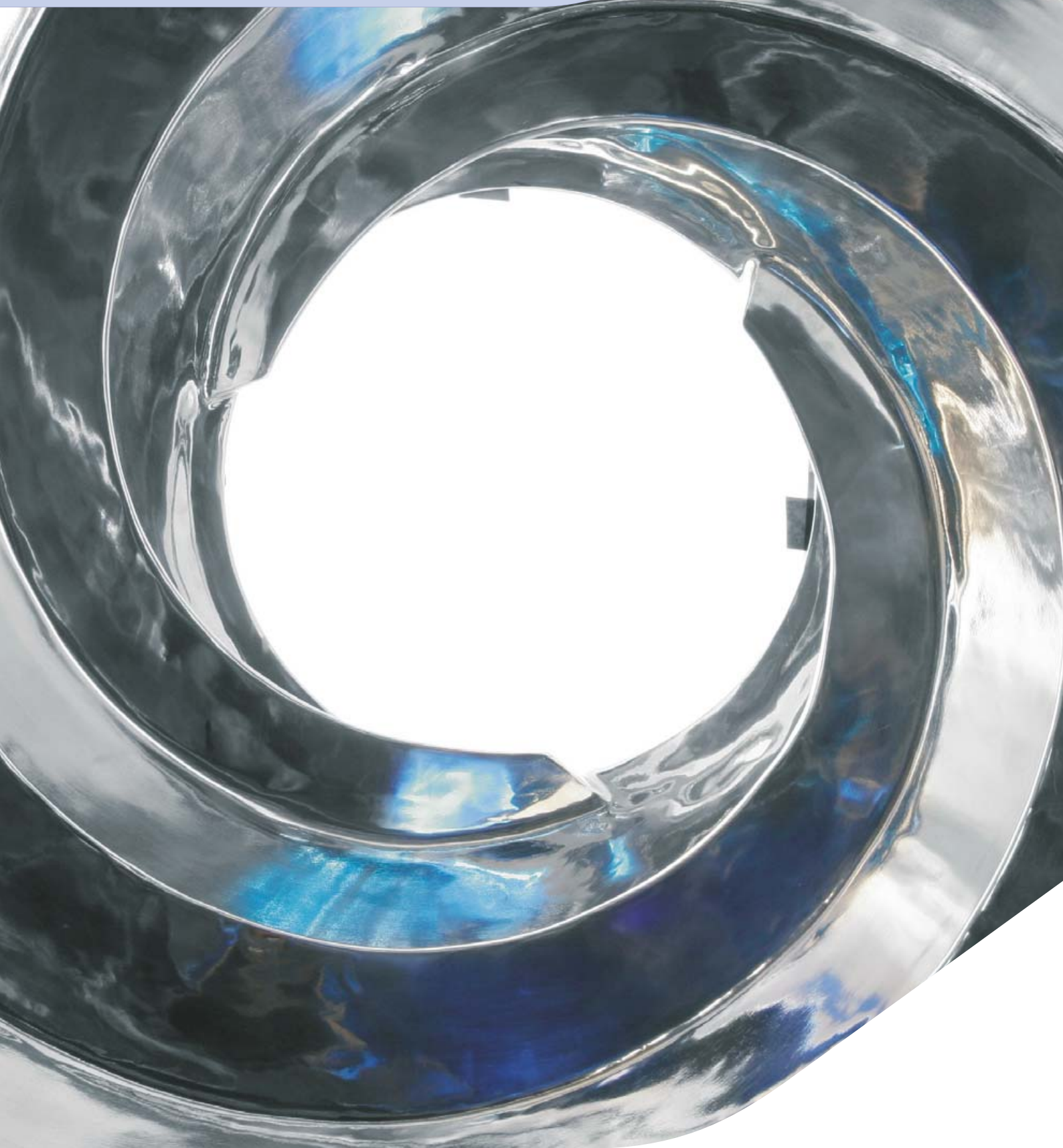


# GS EVOLUTION

HIGHLY AUTOMATED COATING EQUIPMENT



# GS EVOLUTION



The solid wall pan, with no perforations, represents the ideal base for a contained installation, reducing operator exposure in case of high potent products processing. The entire coating process, from product loading, management of the coating process, product discharge and cleaning can be achieved without any need for the operator to be in contact with the processing area.



## ISOLATION OF PROCESSING AREA

The combined use of a Solid Wall Pan, extremely reducing the surfaces in contact with the product, and V-RING inflatable seals on both front and rear door, creates a completely closed and isolated processing area, making cleaning operations fast and easy.



## SPRAY GUNS ADJUSTMENT

Both sugar and film spray guns can be easily fitted on the sliding support arm. Positioning and adjustment of spray gun can be easily carried out from the outside, without any need to enter in the processing area.

## SPRAY GUNS

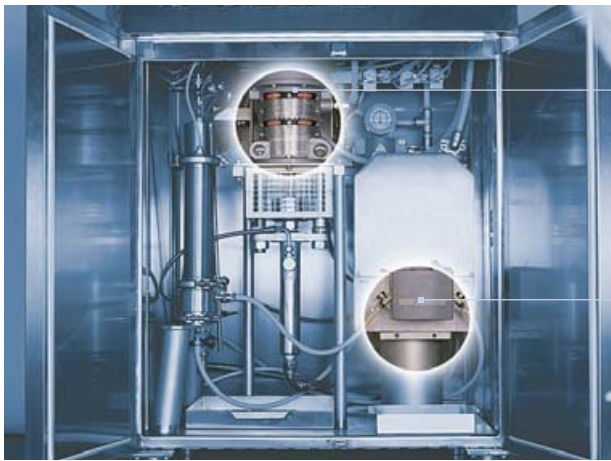
Gs Evolution spray guns feature an Anti-Bearding-Cap (ABC) system avoiding guns clogging while the machine is working. Both sugar and film spray guns can be easily fitted on the sliding support arm and are positioned and adjusted during the process from the outside by using the relevant device. The sliding arm can be removed from the front door of the pan allowing guns changing, calibration/adjustment and fast and safe cleaning.



Sugar spray gun



Film spray guns



### SUGAR

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

### 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.

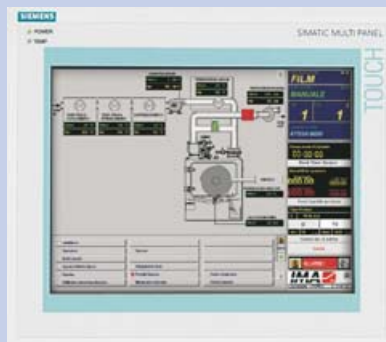
## DOSING UNIT

The spray system is the result of blending 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.

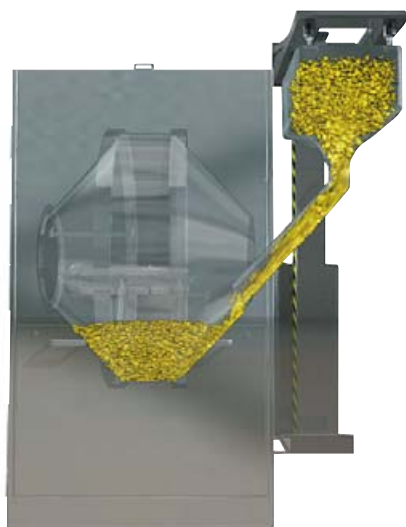
# GS EVOLUTION

GS COATING EQUIPMENT OF THE EVOLUTION SERIES ARE DESIGNED FOR HIGHLY AUTOMATED INSTALLATIONS AND ARE AVAILABLE IN TWO DIFFERENT VERSIONS: STANDARD OR SPIRALLED PAN FOR AUTOMATIC HIGH EFFICIENCY PRODUCT OR WATER DISCHARGE

## OPERATOR INTERFACE AND EQUIPMENT MANAGEMENT



According to customers requirements, three different systems can be fitted: BT, TO and COMAUT. All of them feature the use of a PLC connected to an operator terminal board (BT basic or TO advanced version), up to the most sophisticated PC based computerized system (COMAUT), which gives a constant operator guide and keeps continuous control over every significant process parameter in both numerical and graphic formats.



## AUTOMATIC PRODUCT LOADING

The front door is prearranged with a filling port, to be connected with an automatic loading system: product BIN is elevated through a lifting column and closed and dust-free product feeding to the pan can be achieved by gravity.



## AUTOMATIC PRODUCT UNLOADING

On the standard pan, product discharge is achieved through a discharge tube, connected to the pan by a fast fitting system. On the spiralled pan, the three spirals present in the front surface of the solid wall pan allow product unloading by simply reversing the rotation of the pan: coated tablets are discharged through the unloading port foreseen in the front door without need to open the front door and to fit any additional device. Both systems have no dead zone and guarantee 100% product discharge to the BIN.

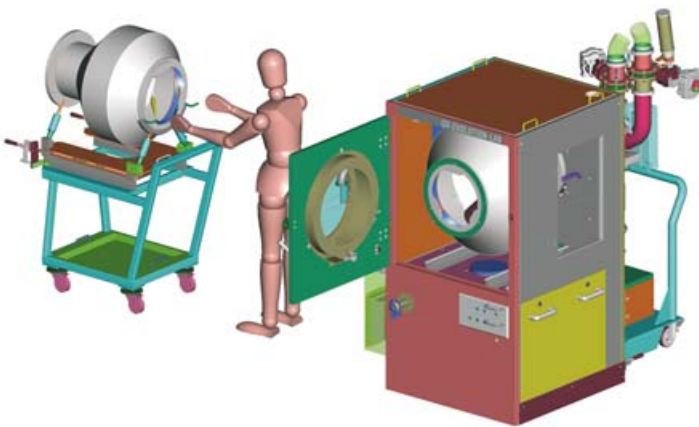


## CLEAN IN PLACE

Cleaning nozzles and spray-ball are always in position, so that the cleaning cycle can be started at the end of the production without need to enter in the processing area and/or to fit any additional device. Cleaning is completely automatic and validable: different cleaning programs, comprising washing, rinsing and discharge, can be developed according to different products and stored in the recipes. Water discharge can be effected through the water discharge hole positioned on the pan bottom, or through the high efficiency discharging spiral.



# GS EVOLUTION LAB



## GS EVOLUTION LAB

The laboratory systems make use of the same highly advanced technology as those developed for the production range and this enable 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. Characterised by small overall dimensions, laboratory systems can be easily and quickly connected to the utilities.

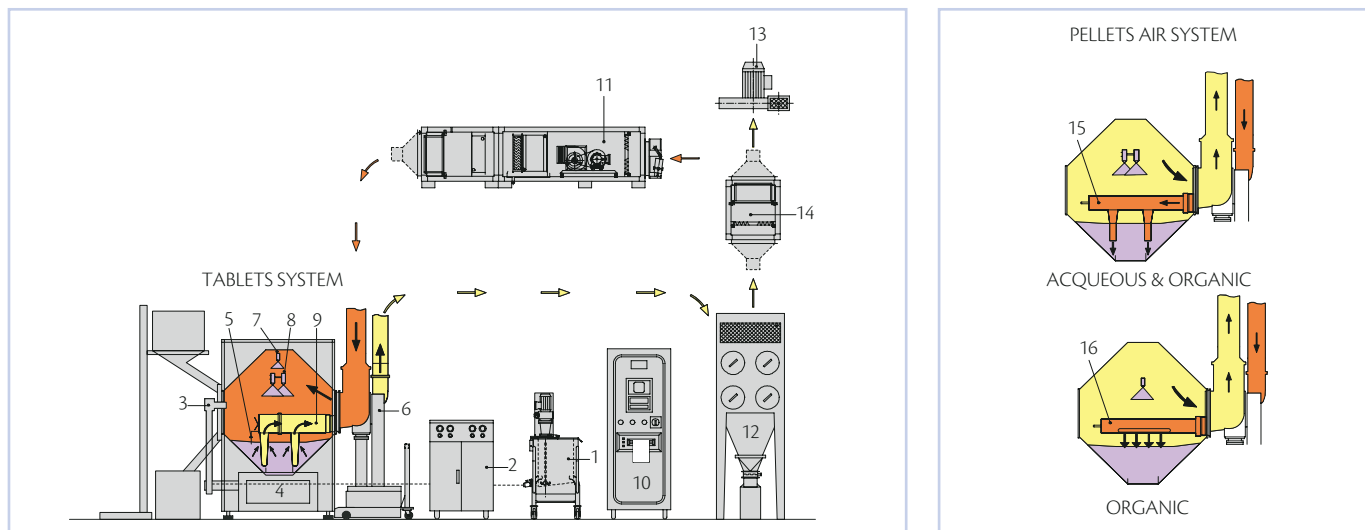
GS Evolution Lab can be considered not only as a laboratory coater but also as a machine for small production batches. Thanks to its interchangeable drum (three drums available) it is possible to work a wide range of capacities: from 0.5 to 30 litres.



GS Evolution 30

# GS EVOLUTION TECHNICAL DATA

## GS EVOLUTION



- 1 - Product Storage Tank
- 2 - Dosing Unit
- 3 - Spray Gun Support Sliding Arm
- 4 - Coating Pan
- 5 - Tablet Temperature Control

- 6 - Inlet/Outlet Air Unit
- 7 - Sugar coating spray gun
- 8 - Film coating spray guns
- 9 - Air exhausting paddle system
- 10 - System Control Board

- 11 - Inlet Air Handling Unit for Product Drying
- 12 - Dust Collector
- 13 - Outlet Air Fan
- 14 - Outlet HEPA filter

- 15 - Air blowing paddle system
- 16 - Surface air blowing system

	GS 30***	GS 70	GS 150	GS 300	GS 450	GS 600	GS 800
Minimum/maximum working capacity (litres)*	0.5 ÷ 30	40 ÷ 70	70 ÷ 150	150 ÷ 300	200 ÷ 450	350 ÷ 650	450 ÷ 850
Pan diameter (mm)	820	1,050	1,280	1,580	1,630	2,000	2,200
Pan mouth diameter (mm)	300	400	450	520		730	
Pan motor power (kW)	0.55	1.1	1.5	3	4	5.5	7.5
Process air delivery (m <sup>3</sup> /h)	350	1,000	1,400	2,500	3,000	4,000	5,000
Power consumption for standard equipment (kW)**	14	10	12	20	25	30	35

\* Approx. data ( depending on core shape and specific weight)

\*\* Approx. data ( depending on equipment configuration)

\*\*\* Interchangeable drum

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