

ZANASI PLUS

MEDIUM-HIGH SPEED CAPSULE FILLING MACHINES



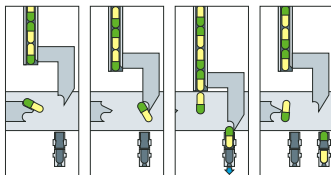
ZANASI PLUS WORKING CYCLE



ZANASI PLUS CAPSULE FILLING MACHINES OFFER MAXIMUM VERSATILITY IN TERMS OF THE COMBINED DOSING OF VARIOUS PRODUCTS WITHIN THE SAME CAPSULE, DEPENDING ON MACHINE CONFIGURATION AND INSTALLED DOSING UNITS. THESE MACHINES OFFER EASY ACCESS TO THE WORK AREA, QUICK SIZE CHANGE-OVER AND CLEANING TIME, AS WELL AS MAXIMUM FLEXIBILITY.

THE WORK PARAMETERS OF THE MACHINE CAN BE SEPARATELY ADJUSTED TO ALLOW THE PROCESSING OF A WIDE RANGE OF DIFFERENT PRODUCTS WITH EXCELLENT RESULTS IN TERMS OF DOSING ACCURACY AND SPEED.

OPERATOR FRIENDLINESS IS A HALLMARK OF THESE MACHINES; THEIR SIMPLE CONSTRUCTION AND ERGONOMIC INTERFACE MEANS THAT SKILLED OPERATORS ARE NOT REQUIRED TO RUN THESE MACHINES.



1

CAPSULE INFEED AND OPENING

The capsules arriving from the infeed hopper are accurately positioned and inserted into the bushings where the cap is removed from the body by means of a vacuum.



2

AVAILABLE FOR SIZE CHANGE-OVER OR CAPSULE PRESENCE CHECKING

This station is available to facilitate capsule size change-over or to check capsule presence in case a liquid dosing group is fitted. On special request, this station can instead be used for product dosing.

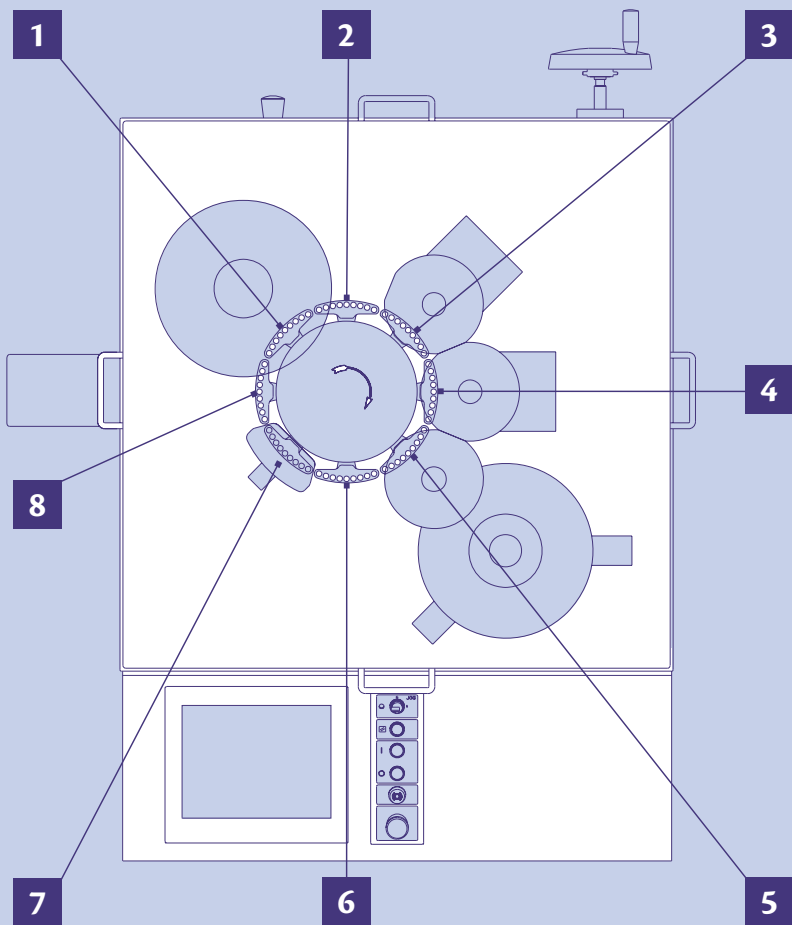


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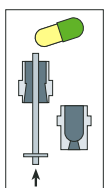
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5

PRODUCT DOSING

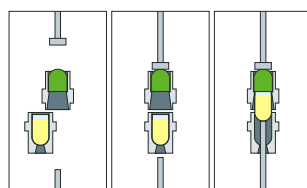


ALL ZANASI PLUS MODELS ARE SUITABLE TO DOSE ONE OR MORE PRODUCTS INTO THE SAME CAPSULE REACHING A SPEED OF 16,000, 48,000 AND 70,000 CAPSULES/HOUR.



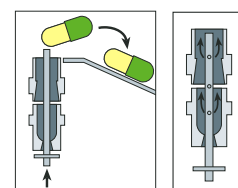
6 UNOPENED CAPSULE SELECTION AND REMOVAL

Any unopened capsule is rejected by means of appropriate pushers. On special request, this station can instead be used for product dosing.



7 CAPSULE CLOSING

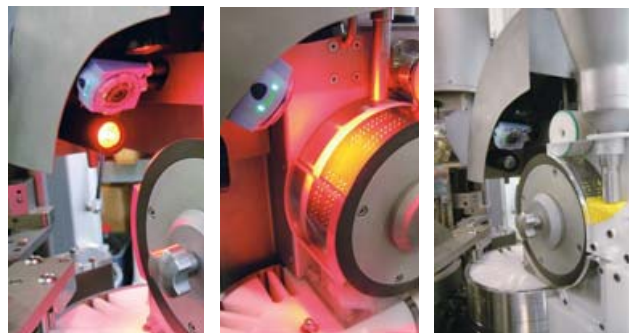
The bushings containing the capsule bodies re-align themselves with the corresponding capsule caps. The capsules are then closed by appropriate pushers.



8 CAPSULE DISCHARGE AND BUSHINGS CLEANING

Closed capsules are discharged by the combined action of pushers and compressed air. A conveyor chute transports the capsules towards the finished product container. Upper and lower bushings are cleaned of any residual dust by means of compressed air.

ZANASI PLUS DOSING UNITS



MICROTABLETS DOSING UNIT WITH EXACT COUNTING AND CHECK

The unit is composed of:

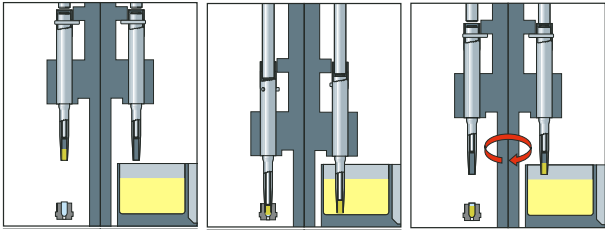
- One wheel with a predefined number of holes, the dimensions of which are dictated by the size of the microtablets.
- A drum with pushers to take the microtablets inside the capsule bodies.

The microtablets enter into the wheel holes by means of a vacuum and a brush eliminates the excess microtablets. The wheel rotates, the vacuum is cut off and the microtablets fall down into the drum. The product is then dosed into the capsules by gravity fall with the help of pushers which are particularly recommended in case of electrostaticity. Available for Zanasi Plus 16 only.



THIS SYSTEM ALLOWS THE EXACT NUMBER/COUNT OF MICROTABLETS TO BE FILLED INTO EACH CAPSULE.

AN OPTIONAL CAMERA CAN EVEN BE INSTALLED OVER THE WHEEL TO DOUBLE CHECK THE PRESENCE OF THE MICROTABLETS.



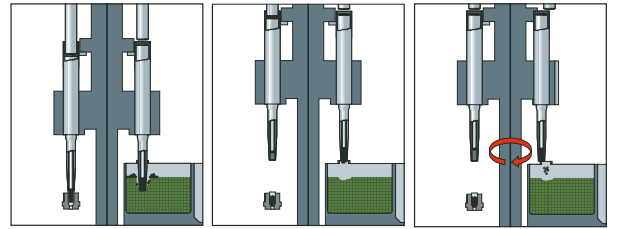
POWDER DOSING UNIT

Dosators are mounted on one block and are sited in two opposite segments.

1. The block moves down and the dosators on the first segment penetrate the powder bed inside the product bowl, whilst the opposite ones are positioned above the capsule bodies.
2. The pistons of the first segment compress the powder forming slugs; the opposite ones eject the powder slugs into the capsule bodies.
3. The block moves up and turns; dosators with slugs are positioned over the next capsule bodies, whilst the empty ones are positioned over the product bowl and the cycle begins once more.



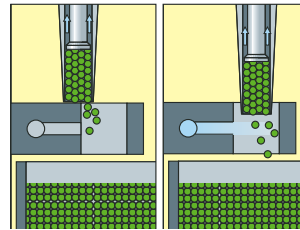
IN ADDITION TO THE ROTARY BOWL FITTED ON STANDARD MACHINES, THE IMA PATENTED VACUUM BOWL CAN BE SUPPLIED FOR POWDER PRE-COMPACTING IN CASE VERY FINE POWDERS HAVE TO BE DOSED.



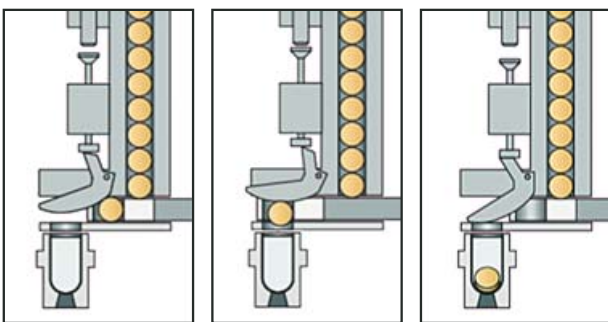
PELLET/MICROTABLETS DOSING UNIT

Dosators are mounted on one block and are sited in two opposite segments.

1. The block moves down and the dosators on the first segment penetrate the powder bed inside the product bowl, whilst the opposite ones are positioned above the capsule bodies.
2. The pistons of the first segment create the dosing volume and vacuum force pellets to fill it; the opposite ones eject the pellets into the capsule bodies, the vacuum is released.
3. The block moves up and turns; the dosators filled with pellets are positioned over the next capsule bodies, whilst the empty dosators are positioned over the product bowl and the cycle begins once more.



EXCESS PELLETS ARE REMOVED BY A JET OF AIR. THIS SYSTEM IS PARTICULARLY SUITABLE FOR MICROTABLETS AND PELLETS WITH A DELICATE COATING.

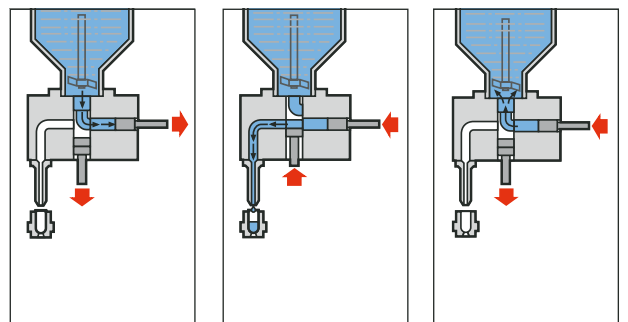


TABLET DOSING UNIT

The unit can introduce one or more tablets into the capsule body in one stroke, using a blade and suitably shaped feeding tubes.

The filling phase is electronically monitored by a sensor which checks the tablet presence whilst dosing and the tablet absence upon blade return.

In case of any malfunction, the machine stops.



LIQUID DOSING UNIT

The group uses an extremely precise volumetric dosing system composed of a series of syringes, drawing liquid from the container and pushing it into the capsule bodies, and a series of sliding valves connecting the syringes with the container or the outlet tubes. The liquid container can be fitted with a mixer and a heating and temperature control system, so that thixotropic or heat sensitive products can be dosed as well as oily substances.

ZANASI PLUS OPTIONALS



ZANASI THC IS AVAILABLE WHEN A HIGH CONTAINMENT CONFIGURATION IS REQUESTED



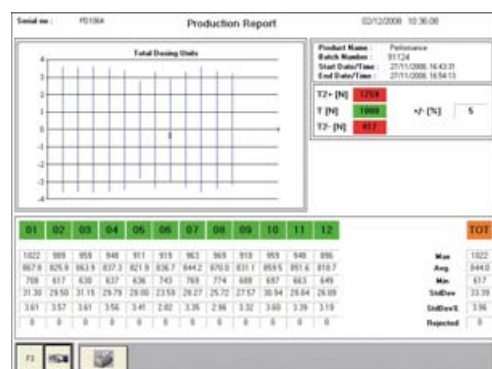
STATISTIC WEIGHT CHECK AND SELF-ADJUSTMENT

All Zanasi Plus machines are prearranged to be equipped with a statistic weight checking unit for production monitoring. The group is prepared for 21 CFR part 11 compliance. If the machine is also equipped with self-adjustment, the weight of the sampled capsules can be fed back to the control system which automatically adjusts the position of the dosing head to keep the set target weight. In this way production is automatically kept within the parameters set by the operator.



100% IN-LINE NET WEIGHT CONTROL

Zanasi Plus dosators can be fitted with strain gauges to perform 100% indirect net weight control of powder dosed, by measuring the compaction force. This system is integrated inside the machine and allows a 100% check of product in-line and also to reject product out of specification.



ZANASI PLUS OPTIONALS AND TECHNICAL DATA

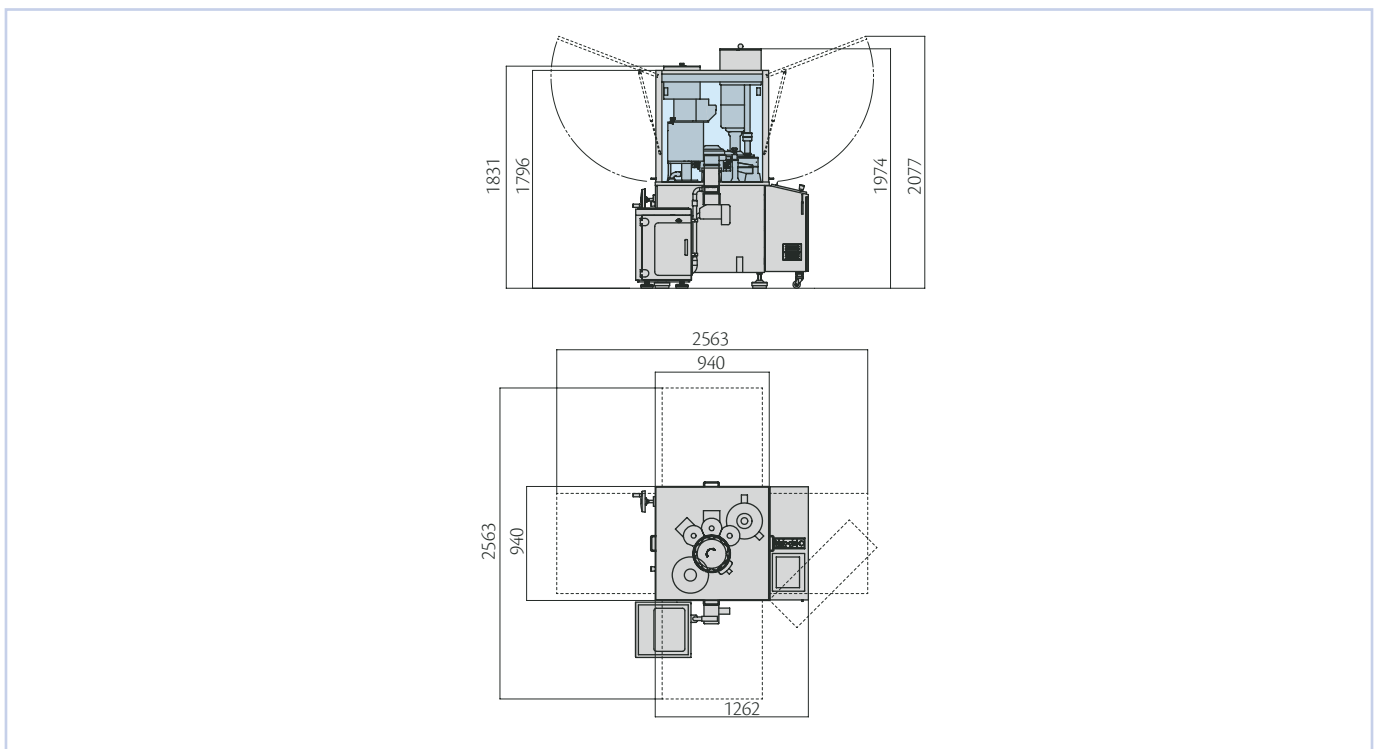


PELLET CONTROL WITH LVDT

An in-line volumetric control of product dosed can be fitted for pellet dosing: the system features a set of pushers connected to LVDT sensors, measuring the pellet volume inside the capsule.

- 100% OF THE PRODUCTION IS CONTROLLED
- IN-LINE CONTROL OF NET WEIGHT: NO INFLUENCE OF EMPTY CAPSULES WEIGHT VARIATIONS
- SINGLE REJECTION OF CAPSULES OUT OF LIMITS

Pushers with LVDT sensors



	ZANASI PLUS 16	ZANASI PLUS 48	ZANASI PLUS 70
Maximum output (capsules/hour)	16,000	48,000	70,000
Number of capsules per cycle	2	6	9
Capsule size	000-5, supro A-E, DB, DBAA		00-5, supro A-E, DB, DBAA
Maximum installed power (kW)	8	14	
Aspiration	3,200 litres/minute - 2,400 mm H ₂ O	4,600 litres/minute - 3,100 mm H ₂ O	
Compressed air	100 dm ³ /min – 6 bar		
Vacuum	100 m ³ /h – 3 mbar		
Standard voltage	230/400 V (±10%) – 50/60 Hz		
Weight (kg)	1,000	1,100	1,200

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