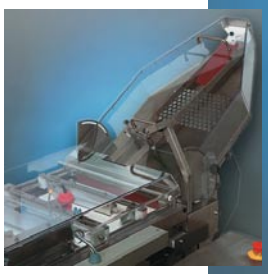
GORDIC

F-120



F-120 TUBE-FILLER FOR CYLINDRICAL TABLETS

The GORDIC F-120 is a compact and flexible machine equipped with a SIEMENS S7 PLC. The machine is operated from a control panel where operating instructions, error messages and tube speed, etc. are displayed.

The PLC in combination with pneumatics and replaceable format parts, reduces set-up time for the GORDIC F-120 to an absolute minimum and provides flexibility in terms of possible product formats. The ROTAFILL-system, a unique technology for gentle counting and filling of cylindrical tablets in tubes, is especially suitable for fragile products like effervescent tablets.

Further on the modular design of the F-120 with its systems for fast removal of critical parts, enhances cleaning and technical overhaul.
The basic F-120 includes one set of format parts for one tube type, one cap type and tablet size.

Tablet feeding
Tablets are fed either directly from the tablet press outlet, via a conveyor, over a chute with a distributor to a tablet table. The distributor provides an even distribution of tablets into the twelve channels. The tablets are then fed from the chute on to the tablet table where they are distributed into a 12-channel cassette. From this cassette a controlled number of tablets are let into the tubes via the rotation filling tubes. The filling time for 12 tubes is about 1 second.

As an option the chute can be replaced by an AIRSLIDE. This system is multi-functional and provides gentle distribution, dedusting and online buffering of tablets.

The GORDIC F-120 is equipped with 3 dust suction points in the tablet feeding unit. One under the distribution arms, one at the filling point and one under the tablet table. If an AIRSLIDE, is implemented one additional dust exhaust must be included as a part of the air supply system.

Tube feeding
Empty tubes are fed automatically into filling position from the tube hub. The hub is equipped with a handle for manual lifting and a positive locking device.

As an option the machine can be equipped with an external tube supply. Three different types of tube supply units are availible:
1. UNSCRAMBLER for tubes, delivered in bulk.
2. FOLDABLE EXTERNAL TUBE HUB
3. EXTERNAL TUBE HUB

Technical Data

FORMAT RANGE		MACHINE DATA	
Tube length:	70-180 mm	Capacity:	Nominal up to 120 tubes a minute or 120000 tablets an hour, depending on the number of tablets per tube.
Tube diameter:	18-30 mm	Voltage:	3 x 400 V and earth, 50 Hz
Tube material:	Plastic- or Aluminium	Power:	ca 8 kW
Tablet diameter:	10-25 mm	Compressed air:	7 bar, ca 600 L/minute
Tablet thickness:	3,5-10 mm	Weight:	ca 500 kg (F-120 with tablet table and cap feeder).

Please observe that the above mentioned format range can be handled only with more than one set of format parts. Ideal production conditions are temperatures of 18-20°C and a relative humidity of 20-25%. Materials used are stainless steel (2333), aluminium (4212), Delrin (POM ACETAL), CB-PET, Teflon or Makrolon.

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Cap feeding

Caps are fed from a cap feeder, via four channels, to the capping station where they are fixed by vacuum. Four tubes are capped at the same time with individual pneumatic cylinders. The cap feeder can be loaded with up to 2000 caps at the time, depending on cap size.

As an option the F-120 can be equipped with an additional pre-feeder including a conveying system.

Filling machine

The filling machine is fully automated and protected against personal injuries according to the valid CE-norm.

In the twelve channel cassette on the tablet table, tablets are counted. When the pre-selected number of tablets are accumulated in each of the twenty channels, they are gently filled into twelve tubes, first passing through the twelve rotating in-feeder tubes. This ROTAFILL-system is especially developed for fast and gentle filling of tablets in tubes. With this system tablets with a chrushing strength of only 35-50 N can be handled at full operational speed.

After filling, tubes are transported on a belt conveyor towards the capping station. During transport a control unit checks if the tubes are filled to the correct level. Wrongly filled tubes are rejected. The tubes are then capped automatically and a sensor controls if a cap is present and correctly positioned. Rejected tubes are not capped.

After capping, tubes are discharged four by four and can be taken care of manually or transported away on a conveying unit. We however strongly recommend the implementation of a conveying unit for filled tubes. Rejected tubes and significant badly capped tubes are ejected. Ink jet printing is preferably made during transport on the conveying unit.

The F-120 can be equipped with format parts for different tablets, tubes and caps. Change from one format to another is normally made within 120 minutes. Simple format changes, like change from one tube length to another, are done much faster.

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