

Filling machine F-120



Technical data

format range:

Tube length:	70 - 180 mm
Tube diameter:	18 - 30 mm
Tube material:	Plastic or Aluminum
Tablet diameter:	10 - 25 mm
Tablet thickness:	3,5 - 10 mm

Please observe that the above mentioned intervals can be handled only with more than one set of format parts.

Machine data:

capacity:	Nominal up to 120 tubes a minute or 120000 tablets an hour, depending on the number of tablets per tube.
voltage:	3 x 400 V and earth, 50Hz
power:	appr. 6 kW.
compressed air:	7 bar, appr. 600 L/minute.
weight:	appr. 500 kg (F120 with tube hub, tablet table and cap feeder)

The above mentioned capacity can only be reached at proper production conditions and at a minimum of broken tablets. Ideal production conditions are temperatures of 20 °C and a relative humidity of 20-25%.

General Description

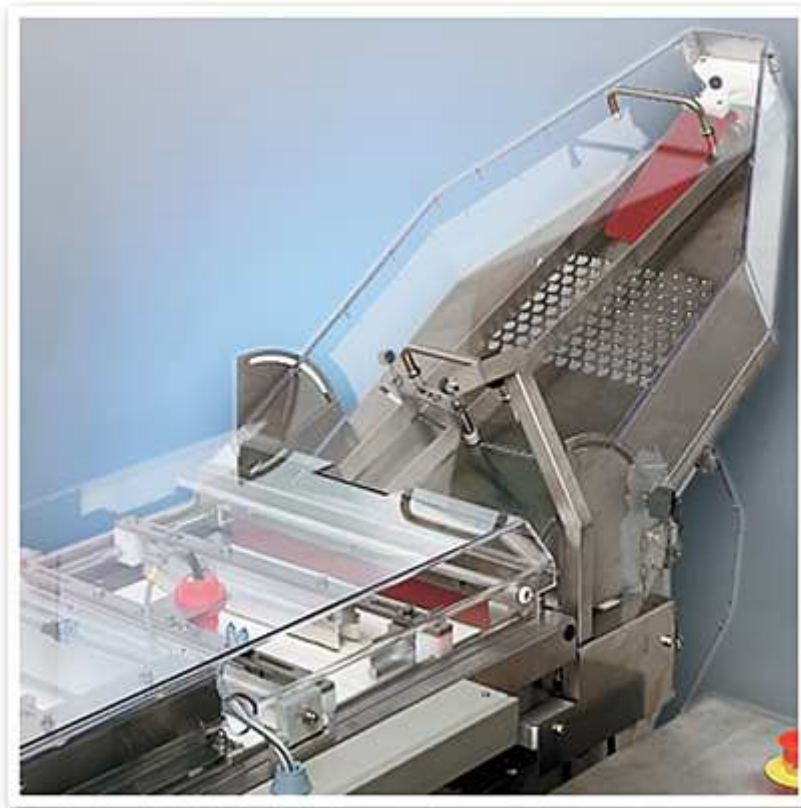
The GORDIC F-120 is a compact machine, equipped with a SIEMENS S7 PLC which is operated from a control panel where operating instructions, error messages and tube speed, etc. are displayed.

The PLC in combination with pneumatics and replaceable format parts, reduces setup time for the GORDIC F-120 to a 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.

Tablet feeding

The tablets are fed either directly from the tablet press outlet, eventually via a conveyor, over a chute with a distributor arm to a tablet table. As an alternative can the tablets be fed from a centrifugal tablet feeder. The tablets are 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 distributor arm provide an even distribution of tablets into the twelve channels.



Distribution arm.

As an option GORDIC F-120 can be equipped with an AIRSLIDE®. This AIRSLIDE® is multifunctional 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

The filling machine is as standard equipped with an internal tube hub.



Internal tube hub.

To increase the automation even further empty tubes are fed automatically into filling position from a tube supply unit. Three different types of supply units are available:

1. *Unscramble* for tubes, delivered in bulk. This unscrambler has a capacity of 2.500-5000 tubes which are oriented in the unscrambler and placed on a tube conveyor. The tube conveying system is equipped with security function for ejection of wrongly oriented tubes.
2. *Foldable external tube hub.*
3. *External tube hub(s).*

Please note that all three units requires a "conveying unit for empty tubes".

For a closer description of the above mentioned tube supply units please select a topic an the menu to the left.

Cap feeding

Caps are fed from a centrifugal 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 cap 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, the tablets are counted. When the preselected number of tablets are accumulated in each of the twelve channels, they are gently filled into twelve tubes, first passing through the twelve rotating in-feeder tubes. This ROTAFILL®-system, is a unique system especially developed for fast and gentle filling of tablets in tubes. With this system tablets with a crushing strength of only 35-50N can be handled at full operational speed.

After filling, the tubes are transported on a chain towards the capping station. During transport a control unit controls 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, the 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 one hour. Simple format changes, like change from one tube length to another, are done much faster.