100NT Small-sized Full-auto Medical Spray Filling Line

I. Features

HDC-100NT Aerosol Filling Machine is dedicatedly designed for small dose aerosol production. We've combined small dose filler, sealer and gas filler to one working station. If you are seeking for a one-stop aerosol filling solution which requires less space and easy to use, 100NT may fit the needs well.

Automatic conveyor and pusher will take the responsiblity to make the can forward instead of manual work. Two options are available: manul intermittent filling or auto intermittent filling. And you can set the time interval yourself.

II. Composition and parameters

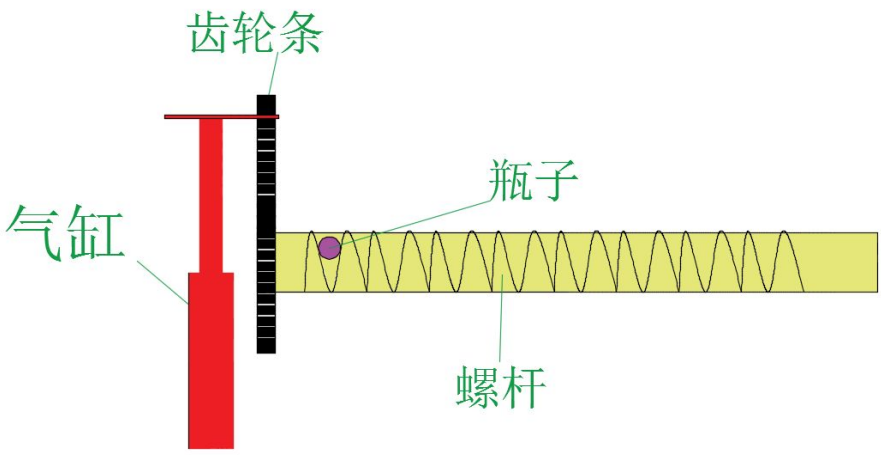
Outline (L*W*H) (mm)	1200*800*1700
Capacity (cans/hr)	800-1800
Liquid fill (ml)	0-40 (customizable)
Gas fill (ml)	0-40 (customizable)
Repeated filling accuracy	0.1%
Diameter of cans (mm)	35-65 (customizable)
Height of aerosol can (mm)	30-200 (customizable)
Valve (mm)	25.4 (1 inch)
Gas supply (MPA)	0.5-0.7
Max. gas consumption (m^3/min)	1.1

III. Basic structure and working principle

Many kinds of aerosol are inflammable or explosive when filling containers with them. Therefore, this unit employs a mechanical structure under full gas-pressure transmission, which can avoid electric spark caused when using electricity.

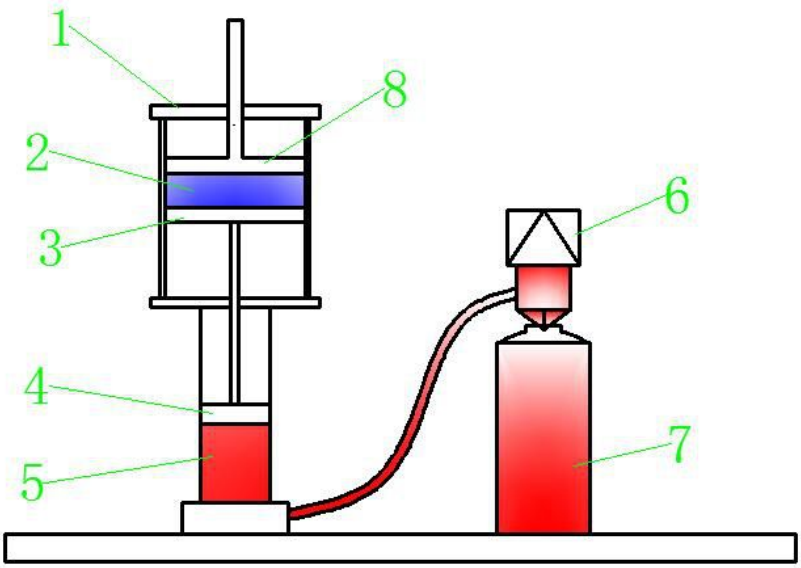
The filling, closing and aerating devices are located in the same line, but in different

stations. During operation, cans are transmitted by the transmission through the above stations. The inching or automatic mode may be selected for this equipment, thus very flexible and efficient. The transmission system consists of power cylinder, pinion-and-rack mechanism, and spiral propeller. The pinion-and-rack mechanism converts reciprocal linear moment of cylinder into reciprocal circular movement, and drives the spiral propeller to rotate, thus completing cans' intermittent transfer.



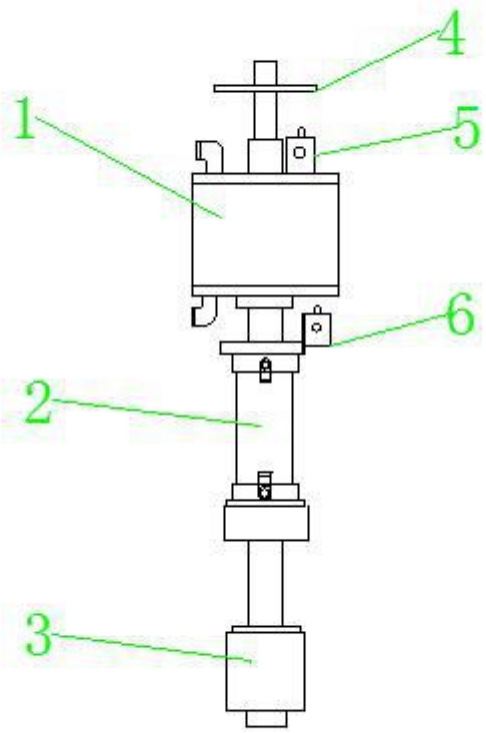
气缸：Cylinder
齿轮条：Gear bar
瓶子：Container
螺杆：Screw

Filling: The filling system consists of filling metering cylinder and liquid filler. The metering cylinder employs plunger-type volume measurement. The piston of the power cylinder is connected by a piston rod to the filling piston. Compressed air acts on the power piston, which transmits force to the filling piston, so that the liquid in the metering cylinder is fed into the aerosol can through the filler. The travel of the power piston is changed by adjusting the height of the metering control piston to adjust the fill at a time.



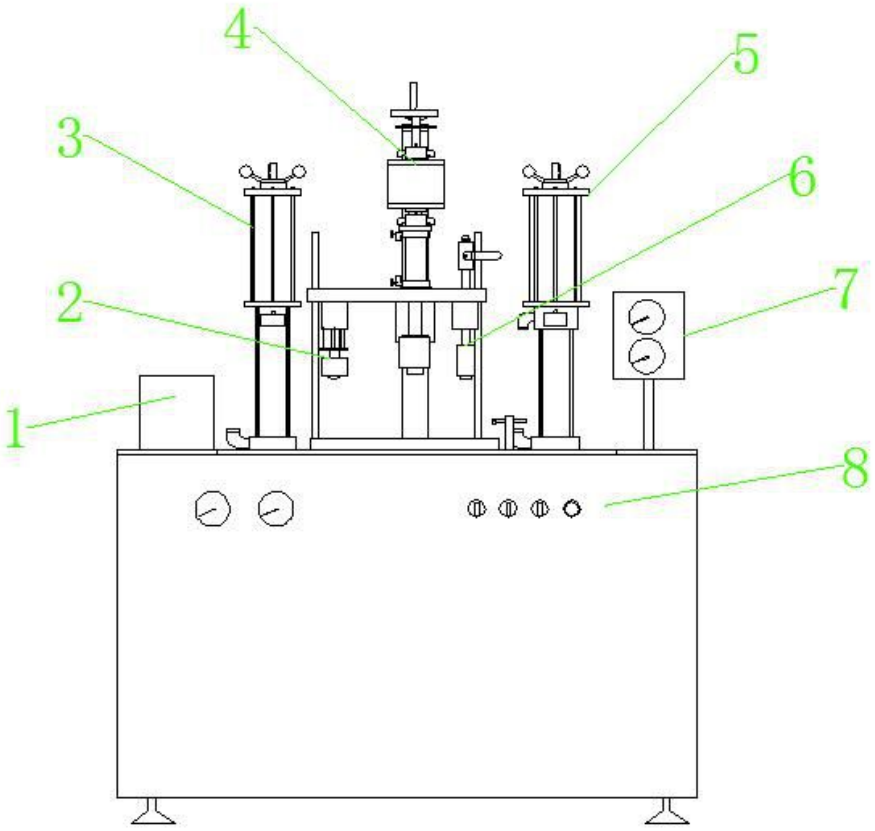
1. Filling metering cylinder; 2. Compressed air; 3. Power piston; 4. Filling piston; 5. Material; 6. Filler; 7. Aerosol can; 8. Metering control piston

Closing: The closing system consists of closing cylinder and closing end. Switch on the closing knob, press the foot valve slightly, the double pneumatic operated directional valve of the closing machine changes direction, the upper chamber in the lifting cylinder of the closing machine takes gas in and the lower chamber exhausts, so that the piston in the lifting cylinder is made to move downwards. The can valve is compressed by the closing end. Meanwhile, the closing signal valve is triggered by the bottom of the closing cylinder that has moved downwards, the gas pressure output from the signal valve acts on the single pneumatic operated directional valve to make the upper chamber in the closing cylinder take gas in and the lower chamber exhaust. The piston moves downwards so that the closing claw retreats to close the cylinder mouth. Meanwhile, the stopper on the top of the closing machine triggers the reset signal valve to output gas pressure, which acts on the double pneumatic operated directional valve to make it change direction. The piston of the lifting cylinder ascends home. Meanwhile, the single pneumatic operated directional valve changes direction to move the piston of the closing cylinder upwards and the closing claw stretches home.



1.Closing cylinder; 2. Lifting cylinder; 3. Closing end; 4. Trigger of reset signal valve; 5. Reset signal valve; 6. Closing signal valve

Propellant padding: The working principle of propellant padding is similar to that of liquid filling. It also employs the filling style of plunger-type volume metering, But there is some change to key parts in order to fit high-pressure gas padding and filling.



1. Transmission; 2. Liquid filler; 3. Liquid filling metering cylinder; 4. Closing cylinder; 5. Gas filling metering cylinder; 6. Gas filler; 7. Pressure gage; 8. Switch control area