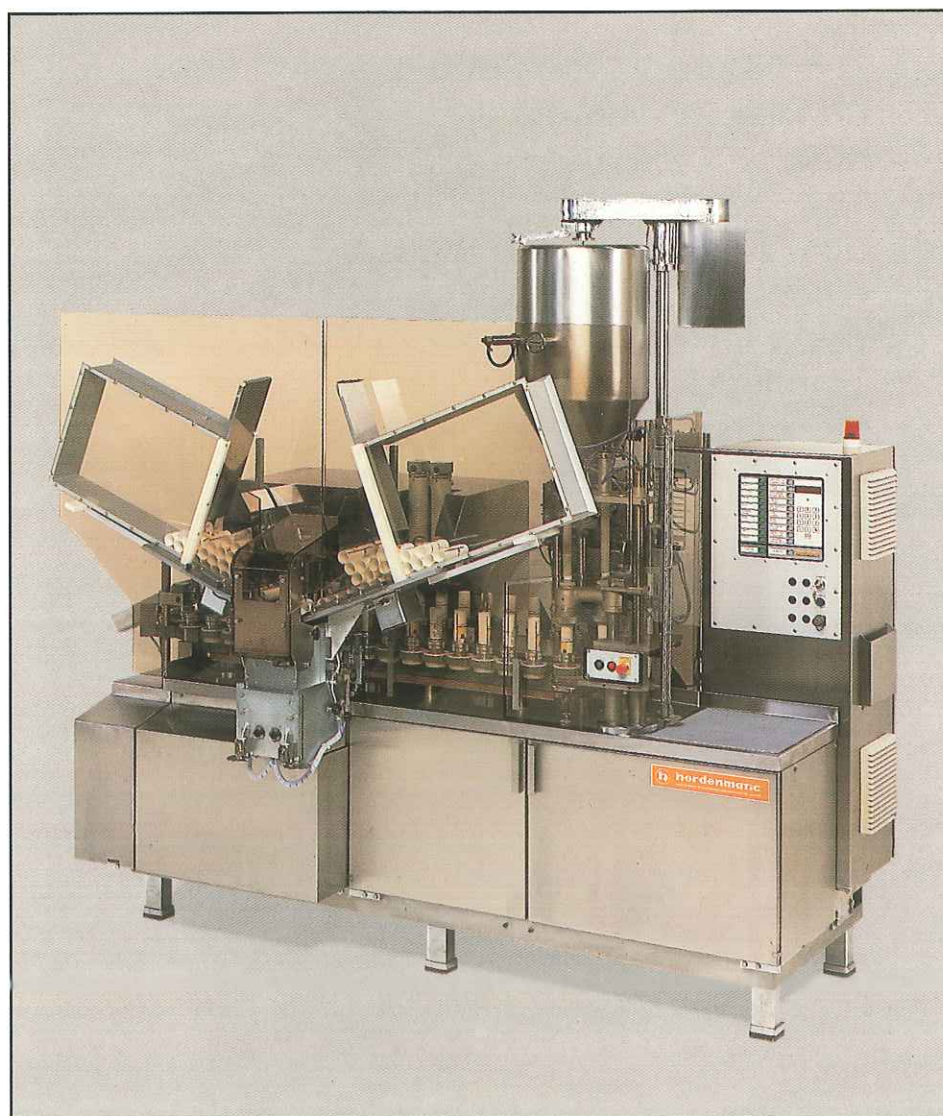


norden

NORDENMATIC 2000

Automatic tube filling and sealing machine



The Nordenmatic 2000 is a high speed tube filler for outputs up to 200 tubes per minute.

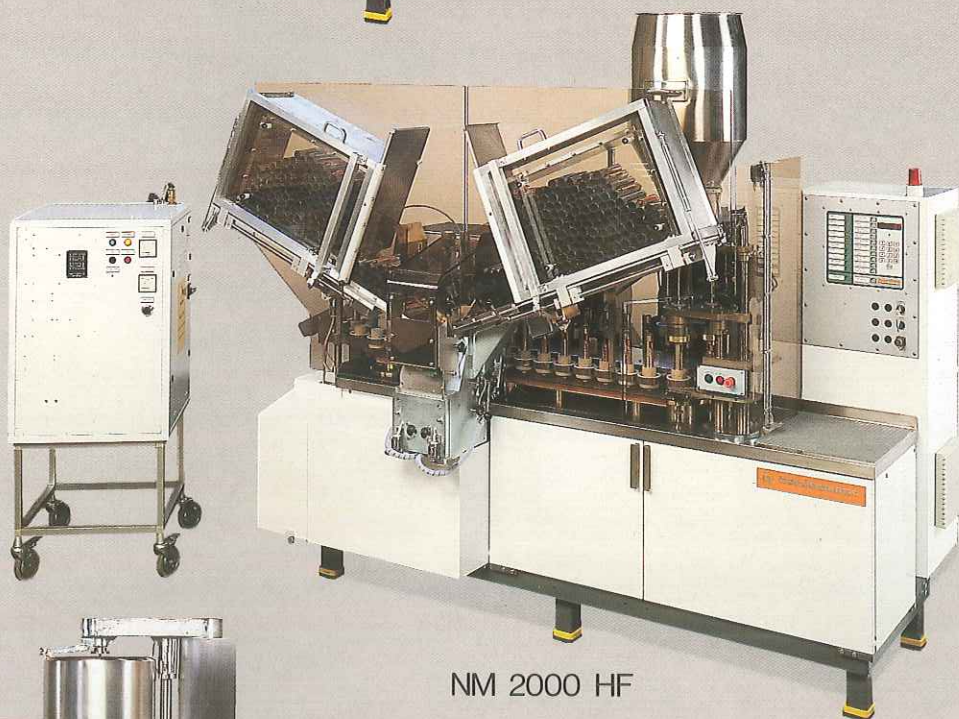
The Nordenmatic 2000 is equipped with dual functions from the tube infeed to the discharge of tubes. The machine is equipped with the Norden Micro Control System.

The Nordenmatic 2000 is a reliable machine, easy to clean and maintain. The Nordenmatic 2000 is an advanced design and provides a high degree of efficiency.

The Nordenmatic 2000 can be connected to a Nordenpac 2000 cartoning machine to form a complete filling – sealing and cartoning line.



NM 2000 M



NM 2000 HF

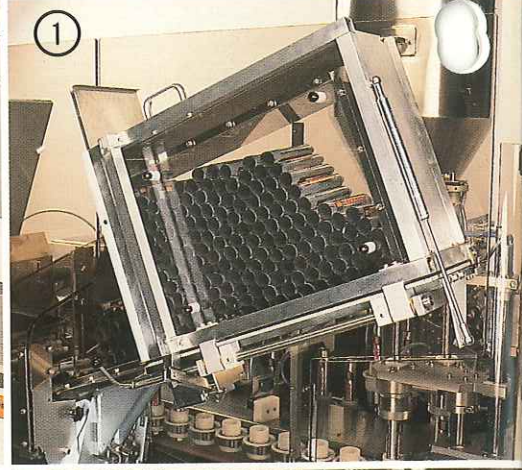
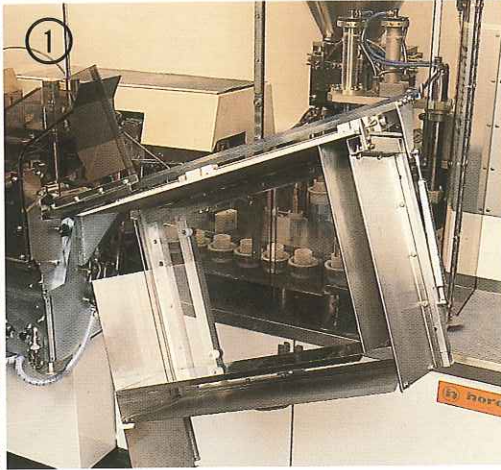
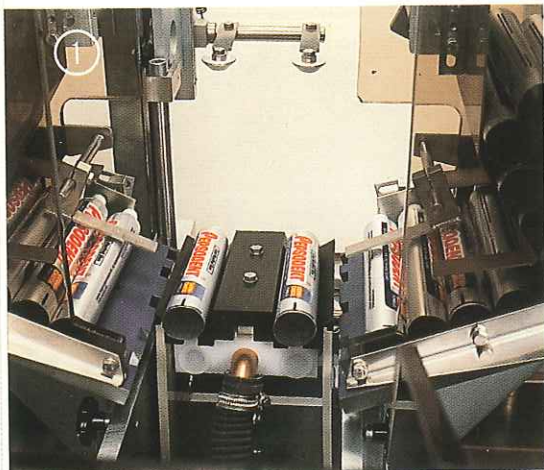


NM 2000 HA

① Tube infeed

The Nordenmatic 2000 is equipped for semi-automatic insertion of tubes as standard. The infeed device comprises a feed chute, tube co-ordinator, vacuum tilter and pusher.

Cassette infeed is available as an optional extra or alternatively to further facilitate the handling of tubes, a hinged cassette infeed system with swinging infeed tracks is available as an additional option as well as fully automatic tube infeed devices.



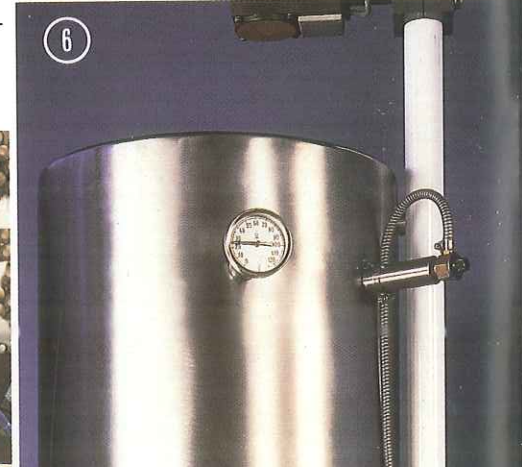
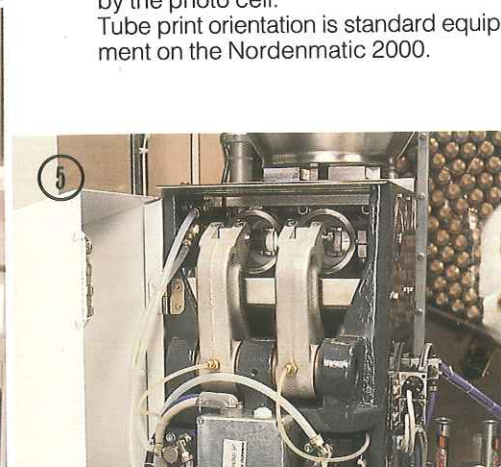
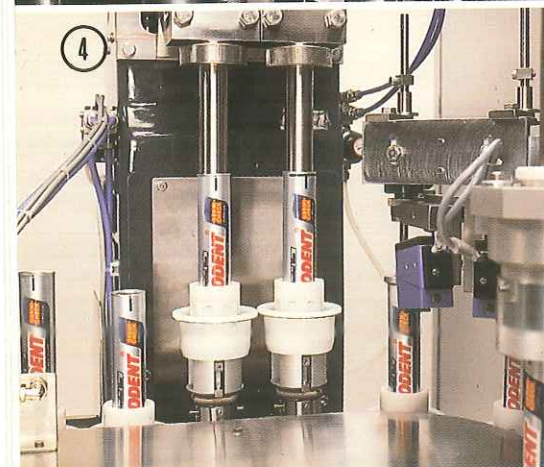
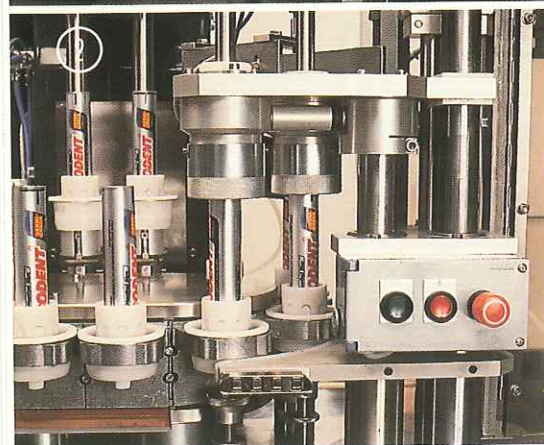
② Tube cleaning and cap tightening

Tube cleaning and cap tightening is fitted to all Nordenmatic 2000 machines as standard equipment. Both functions are performed at the same station.

③ Tube print orientation

The photo-electric tube print orientation device ensures that the tube decor is correctly positioned prior to tube closure. The device rotates the tube until its orientation mark is registered by the photo cell.

Tube print orientation is standard equipment on the Nordenmatic 2000.



④ Filling

The tubeholders with the empty tubes are lifted at the filling station prior to the filling operation and then lowered as the filling takes place. The piston type filling pump provides an exact predetermined volume of product. Other types of nozzles are available as required. The filling nozzles are supplied with cut-off valves and blow-off devices for clean filling.

⑤ Pumps

Two pump units in stainless steel, readily adjusted to suit different tube sizes and easily removed for cleaning purposes are fitted as standard.

The standard container is of stainless steel and has a 90 litre capacity. As an optional extra the container can be supplied with a pipe connection.

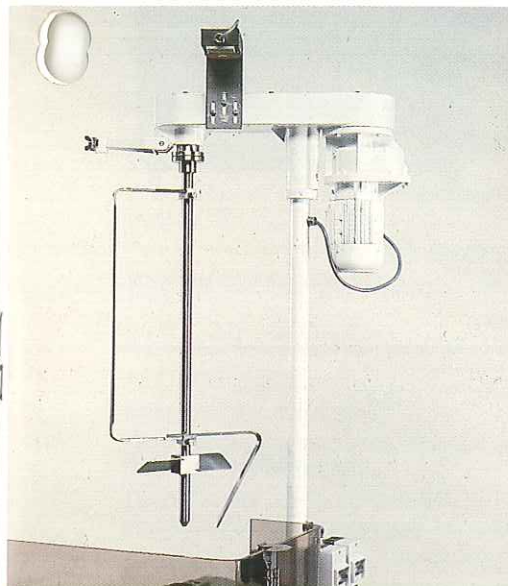
⑥ Heated container and level control

A 75 litre container, electrically heated with thermometer and thermostat is available as an extra or alternatively the machine can be provided with a heated container having a separate circulation system.

Level control of product can be provided as an optional extra.

7 Stirring device

A paste stirring device for standard or pharmaceutical applications with screw or blade agitators is available as an optional extra.



8 Tube reject

As standard the Nordenmatic 2000 is equipped with a reject station for faulty tubes. This is sited after the filling station.

11 Norden Control System

The Micro Computer Control System provides safety functions in addition to control and check functions. Production statistics, machine speed and fault indications are provided through a digital display on the control panel of the electrical cabinet. The Norden Control System is easily programmable from the operating panel of the machine.

Sample of line arrangement

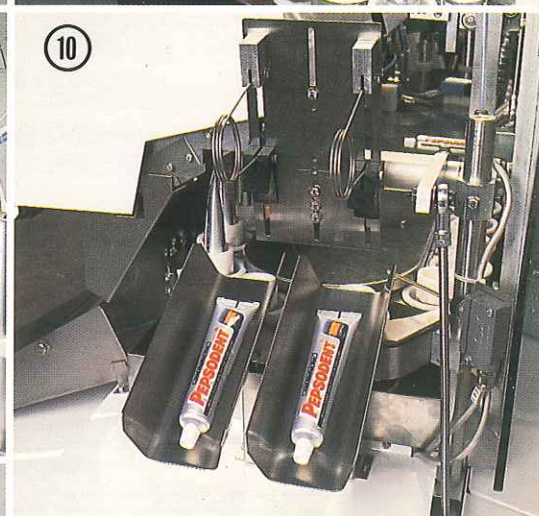
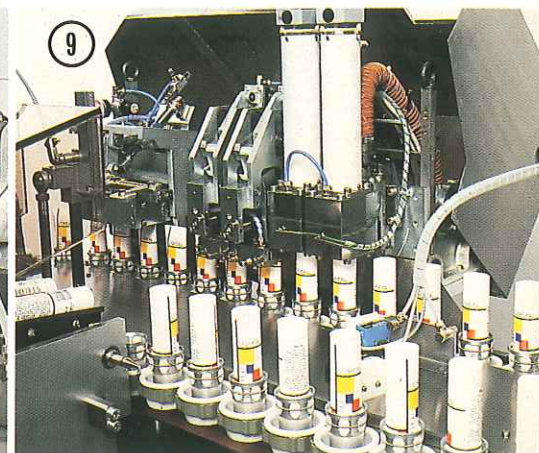
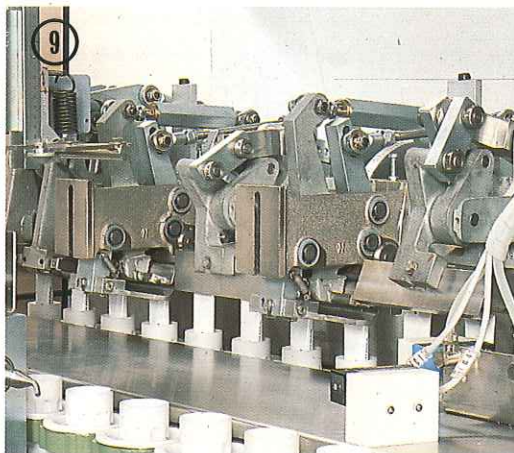
The Nordenmatic 2000 can be connected to a Nordenpac 2000 cartoning machine. As on all Norden tube fillers simultaneous two or three component filling equipment is available.

9 Closing/sealing

The Nordenmatic 2000 can be equipped with any of the Norden closing/sealing systems: Metal tube folding, Hot Air or Ultra-Sonic sealing for plastic or laminate tubes, High Frequency sealing for laminate tubes.

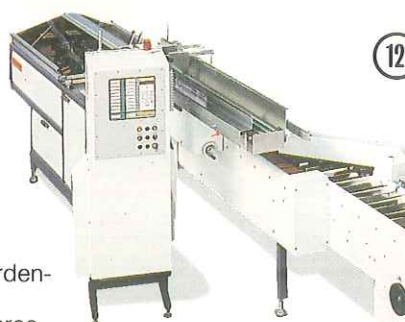
As standard the Nordenmatic 2000 is equipped with an one-side coding device with 2x6 figures and/or letters. Available as extra equipment is a two-side coding device with 4x6 figures and/or letters.

A corner trimming device for plastic and laminate tubes is also available as optional extra equipment.

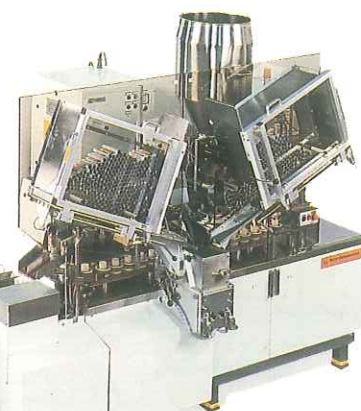


10 Discharge

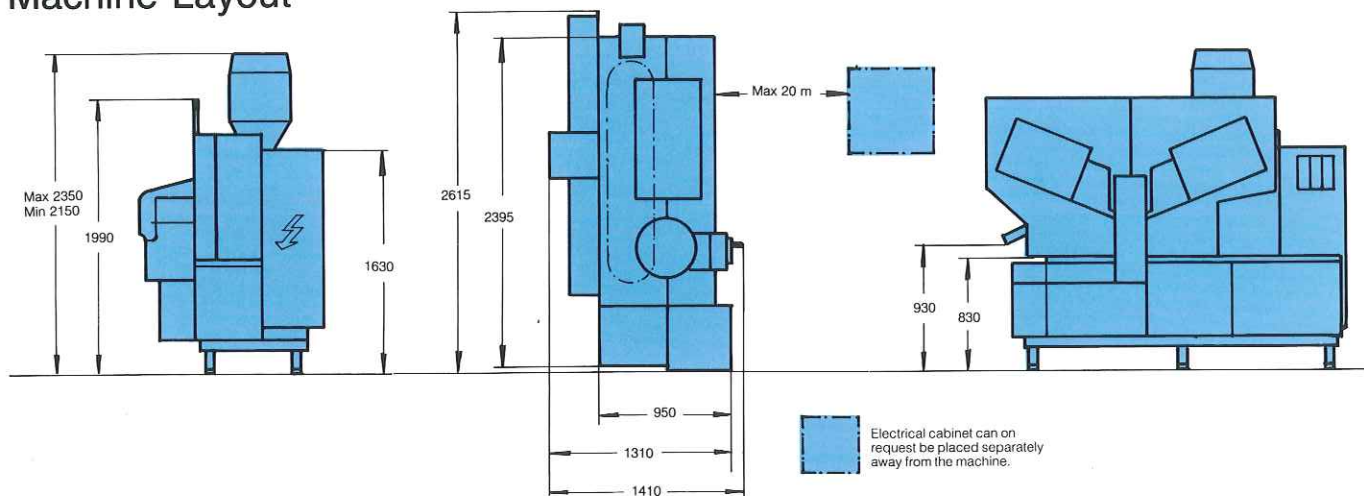
As standard tubes are discharged from the machine tail-first but when connected to a cartoning machine cap-first is required.



12



Machine Layout



Technical Data

	2000-M	2000-HF	2000-HA
Running capacity, max. tubes/min	200 ¹⁾	190 ¹⁾	160–180 ¹⁾ *)
Filling volume, ml	1–300	1–300	1–300
Tube size range, length mm	50–250	50–250	50–250
diam. mm	10–50	12–50	10–50
Connected power, kW, max	5,3	11,2	13,5
average	4,0	6,5	9,5**)
Air consumption ²⁾ , Nm ³ /hr	11	16	25
Water consumption l/min	—	3	6

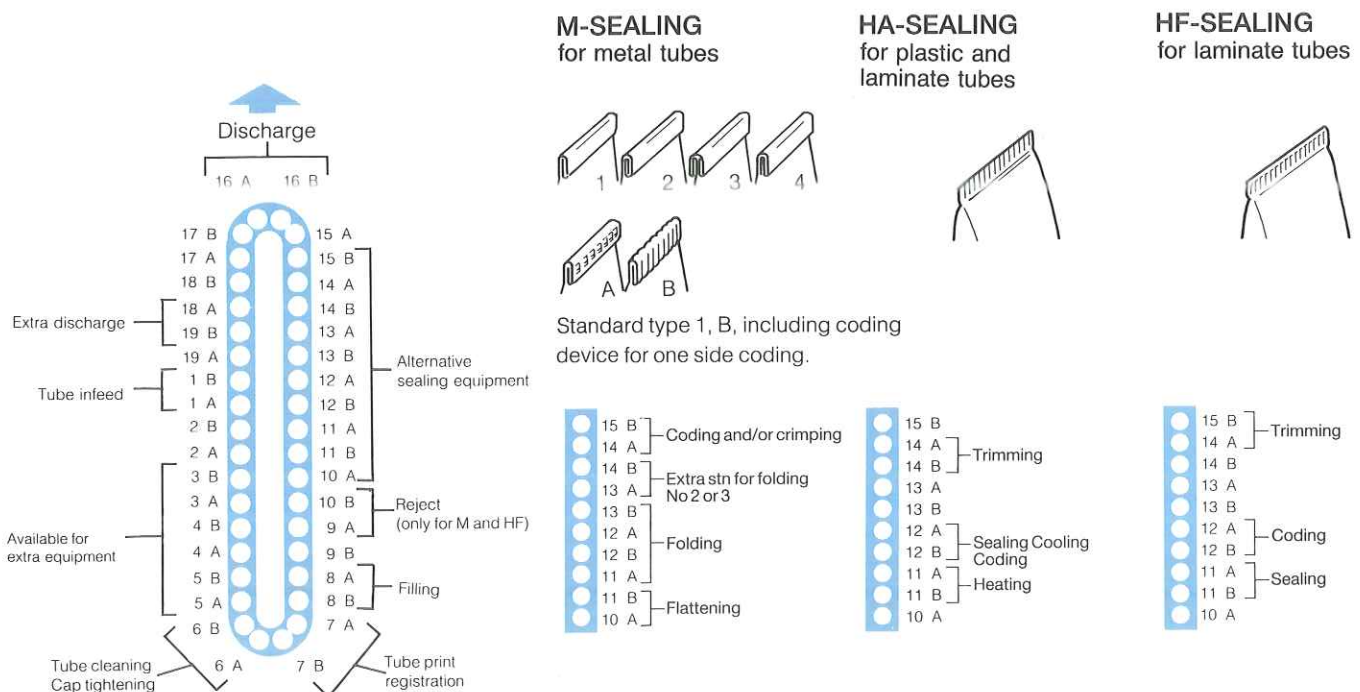
1) Depending on tube size, filling product and quality of tube
2) Air pressure 6 Bar

*) Laminate tubes 160, plastic tubes 180
**) Depending on tube size and material

Shipping Specification

Machine	2000-M/HA/HF
Net weight, approx. kg	2 300
Gross weight, approx. kg	2 800
Volume, approx. m ³	12,5
HF-generator	
Net weight, approx. kg	200
Gross weight, approx. kg	300
Volume, approx. m ³	1,5

Tube Filler Operating Cycle



Standard Equipment 2000 Series

Size parts for one tube size and one filling product.

Tube holders of delrin with springloaded jaws

Semi-automatic infeed device (chute with vacuum tilter)

Cap tightening device

Tube cleaning device for connection to local compressed air supply

Photo-electric tube print orientation device

Two pump units in stainless steel for filling volume (choose one alt)

Alt A: 1 – 5 ml

Alt B: 3,5– 50 ml

Alt C: 15 – 165 ml

Alt D: 25 – 300 ml

90 l container, acid proof

Blow-off device for connection to local compressed air supply

Reject station for faulty tubes

Discharge of tubes (tail first)

Overload clutch for tube holder chain

Variable speed drive

Jogging device

Protective covers and safety guards

One set of "first-aid" spare parts

One set of tools

Colour: White RAL 9010

Micro Computer Control System, comprising:

1. Safety Functions: Interlock for protective covers. Emergency stop. Release of overload clutch – machine stops.

2. Control and Check Functions: No tube – no fill. Faulty tube – no fill – tube ejection. No cap – no fill – tube ejection. Three consecutive rejects – machine stops. Tube orientation control. If faulty tube not ejected – machine stops.

3. Other Functions: Stop in most favourable position. Key board settings. Fault indication display. Production statistics.

The machine can be adapted to any normal electrical power standard without extra costs. Please specify when ordering.

Sealing Methods

2000-M:

- Beam with folding stations for metal tubes
- Closure type 1, crimped
- Coding on one side with 2x6 figures

2000-HF:

Sealing Unit for Laminate Tubes, comprising:

- Sealing beam with cooling/coding and trimming stations
- Coding on one side with 2x6 figures
- HF generator 100 kHz (air cooled)
- Transformer

2000-HA

Sealing Unit for Plastic and Laminate Tubes comprising:

- Heating stations operating with compressed air
- Sealing/cooling/coding stations
- Coding on one side with 2x6 figures
- Trimming stations

If required, the NM 2000 can also be equipped with an Ultra Sonic sealing system.

Extra and Optional Equipment

Size parts

Complete set of size parts for additional tube size, incl tube holders of delrin with spring loaded jaws, excl extra pump insert

Test run of extra products

42 extra tube holders of delrin with spring loaded jaws

Two extra pump inserts, for filling volumes:

- | | |
|----|-------------|
| A. | 1 – 5 ml |
| B. | 3,5– 50 ml |
| C. | 15 – 165 ml |
| D. | 25 – 300 ml |

Two complete extra pump units in stainless steel, excl filling nozzles for filling volumes:

- | | |
|----|-------------|
| A. | 1 – 5 ml |
| B. | 3,5– 50 ml |
| C. | 15 – 165 ml |
| D. | 25 – 300 ml |

Tube infeed

Cassette infeed device

Hinged cassette infeed system with swinging infeed tracks

Infeeders for conical tubes

Code reading on tubes

Prepared for code reading

Filling

Paste stirring device with separate drive:

Alt A: Standard with screw or blade

Alt B: Pharmaceutical application

Variable speed on stirring device

90 l container, acid proof, equipped for pipe connection

75 l container, acid proof, jacketed, electrically heated, with thermometer and thermostat, equipped for pipe connection

Heated container with separate circulation system

Lid for container

Container level control

Nozzle valve controlled by air pressure

Heated pumphouse

Inertgas injection device before or after filling

Inertgas injection device before and after filling

Overload protection for the pump

Pressure equalizing cylinder

Pipe connection with cut-off valve instead of container

Sealing, coding and trimming

For metal tubes:

Closure type 2, 3, 4

Device for debossing on two sides, with 4x6 figures and/or letters

Heated flattening station

For HA and HF sealing units:

Device for coding on two sides

Pneumatic closing of coding station

Corner trimming device

Trimming station waste collection station

Tube discharge

Discharge of tubes with cap first

Separate rejection on the front side when cap first

Miscellaneous

One set of recommended spare parts

Painting in colours other than standard

For pharmaceutical and food industry:

- Stainless steel shrouded covers
- Separate electrical cabinet
- Splash proof motors
- Bottom cover

Sterile filter for tube cleaning

Tube rerounding

Cover and guards made of stainless steel incl el cabinet

Chrome plated pump column and sealing beam column

Central lubrication, recommended for very severe operating conditions

Sound-absorbing application

Micro-computer program and data link for transmitting production statistics to printer or other computer

Individual indication of open doors and covers.

Product pumps. Unscramblers. Labellers.

Ink jet printers. Laminar flow system.

Vibratory bowl feed systems. Check

weighers. Cartoners. Bundlers. Case

packers. Wrappers. Conveyor systems.

Palletizers.



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