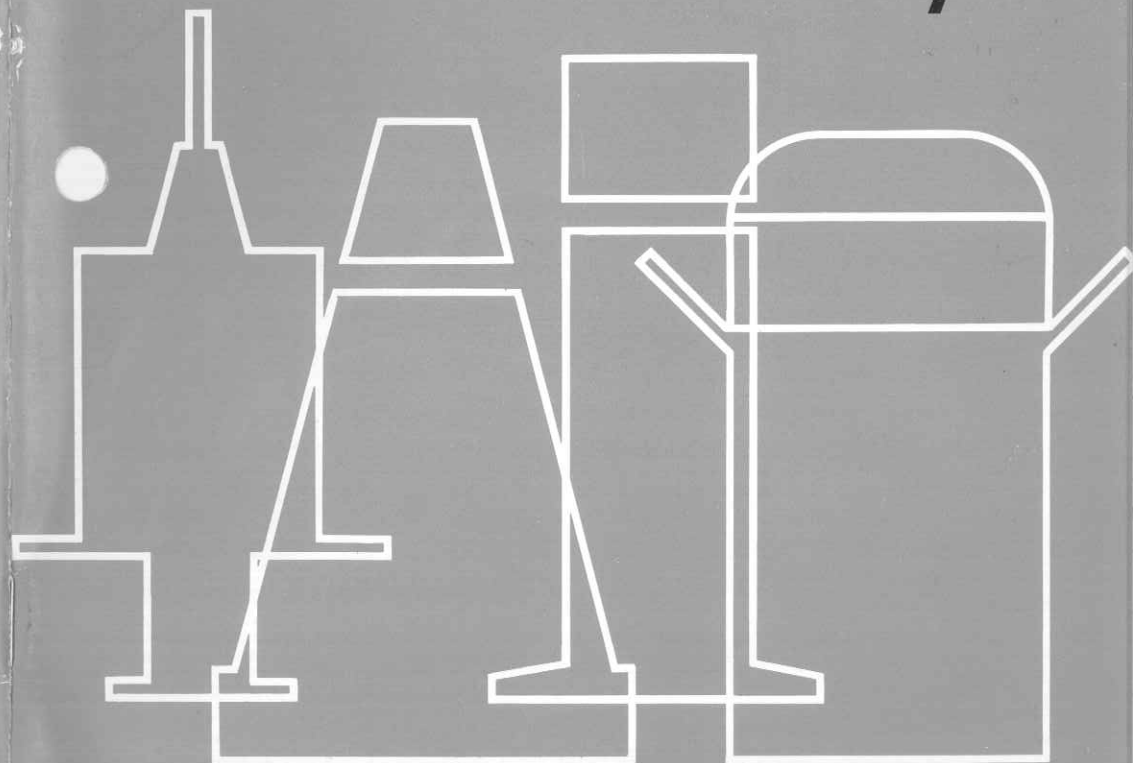




Packaging Machinery



Our policy is one of continual product development, and we reserve the right to alter design and/or specifications, without notice.

Horden
PACKAGING MACHINERY AB

S-391 28 Kalmar - Sweden

Horden

Size Range

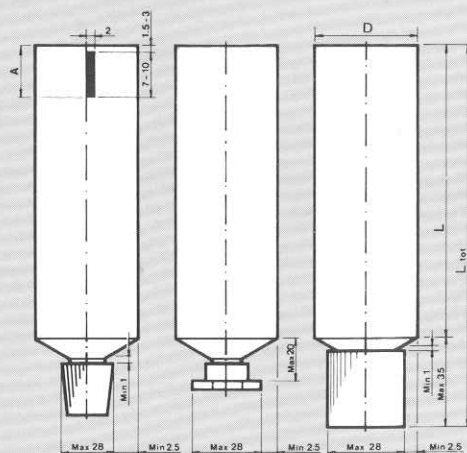
Line	Metal tubes		Plastic tubes		Laminate tubes		Filling volumes ml
	Diam. mm D ± 0.1 -0.2	Length mm L* ± 0.5	Diam. mm D ± 0.2	Length mm L ± 0.5 (L tot. ± 1.0 **)	Diam. mm D ± 0.2	Length mm L* ± 1.5	
atic 500	10-50	50-250	10-50	65-200 (245)	12-50	50-250	1-300
atic 1000	10-50	50-250	10-50	65-200 (245)	12-50	50-250	1-300
atic 2000	10-50	50-250	10-50	65-200 (245)	12-50	50-250	1-300

diameter is more than 28 mm or
if tube diameter, maximum length
including cap can not exceed

ing cap

ote:

entricity between cap and tube
must not exceed 0.5 mm.
r sizes of caps shown in figure
contact Norden or your nearest
representative.

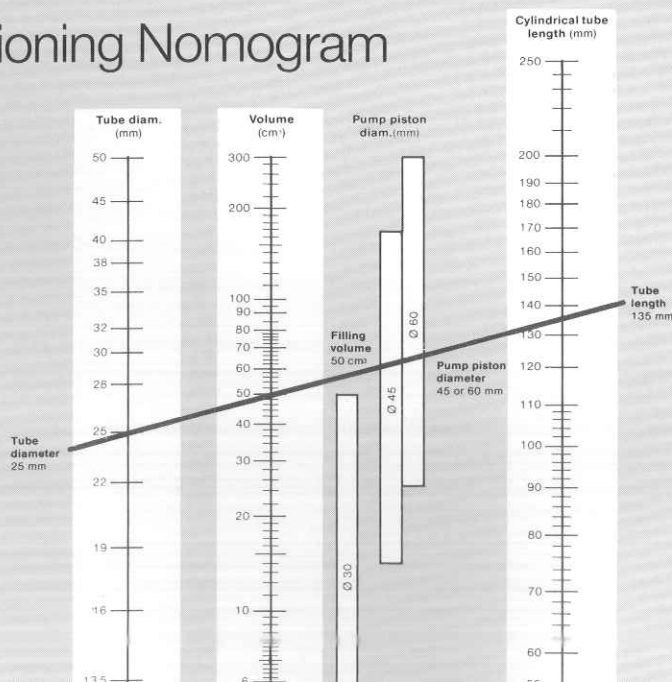


Dimensioning Nomogram

ston diameter
g volumes:

n 1-5 ml
n 3,5-50 ml
n 15-165 ml
n 25-300 ml

ote that this
m shows
mate figures.
inal decision
dimension
ing of actual
should be



Tube filling and closing/sealing machines for

	METAL TUBES	NM 600-M	2
		NM 1000-M	3
		NM 2000-M	4
	PLASTIC AND LAMINATE TUBES	NM 600-HA	5
		NM 1000-HA	6
		NM 2000-HA	7
	LAMINATE TUBES	NM 600-HF, NM 1000-HF, NM 2000-HF	8
		NM HF-Generator	9
	METAL, PLASTIC AND LAMINATE TUBES	NM 600 E M/HA	10
		NM New generation	11

Automatic tube feeding machines for

	TUBES FROM UNNESTED AND NESTED BOXES	Nordenfeed	12
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Filling and assembling machines for

	DISPENSERS	NM DF 600, DF 1000, DF 2000	13
	DISPOSABLE SYRINGES AND CONTAINERS	NM 600 BF	14
		BF 1000	15
		BF 3000, BF 4000	16
		FREE STANDING CONTAINERS	
	DISPOSABLE GLASS VIALS AND PLASTIC SYRINGES		

Tube filling and sealing machines for

	MULTITUBE PACKAGES	NM Multi Tube Filler	17
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Cartoning machines

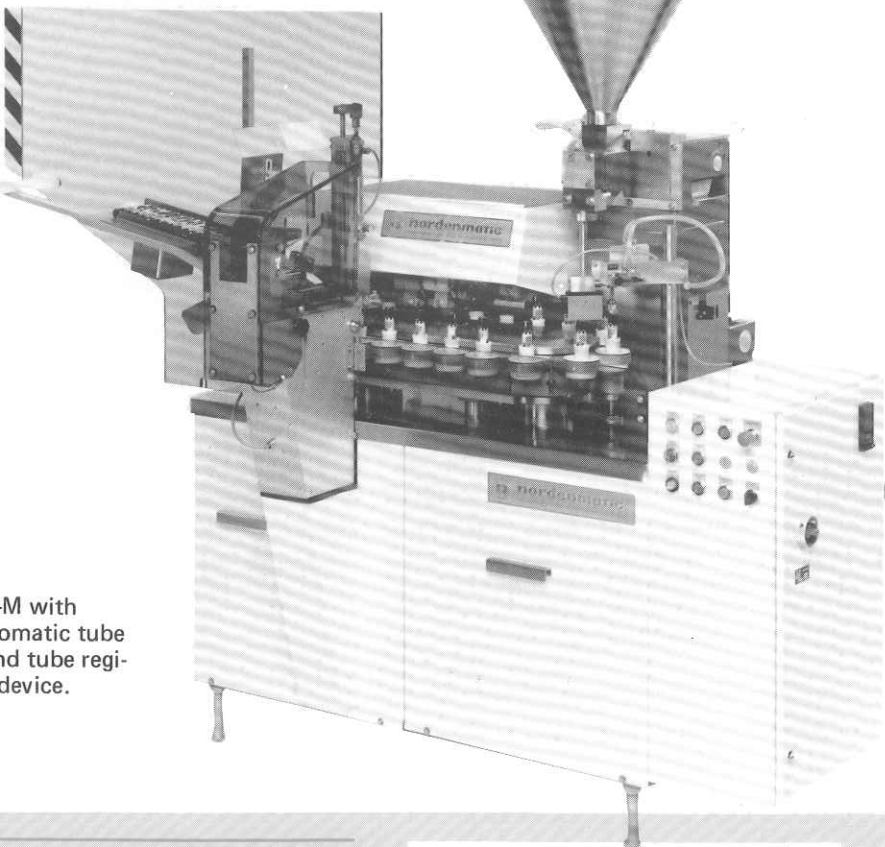
	FOR CONNECTION TO NM TUBE FILLERS	NP 600, NP 1000, NP 2000	18-19
		SINGLE CARTONING MACHINES	
		NP 600, NP 1508, NP 1510, NP 3000	20

Special equipment

	TUBE FILLING MACHINES	21-24
	CARTONING MACHINES	25-27

Tube filling and closing machines for metal tubes

Moderate-speed **NORDENMATIC** **NM 600-M**



M with
omatic tube
nd tube regi-
device.

Capacity, tubes per minute, max	60*
Filling volume, ml	1-300
Tube size range:	length, mm 50-250
	diam., mm 10-50
Consumption: max kW	1,5
average kW	1,2
Consumption**, Nm ³ /hr	1-16
Measurements:	length, mm 2200
	width, mm 1100
	height, mm 2300

Shipping Specification (Approx.)

Net weight, kg	900
Gross weight, kg	1200
Volume, m ³	5,5

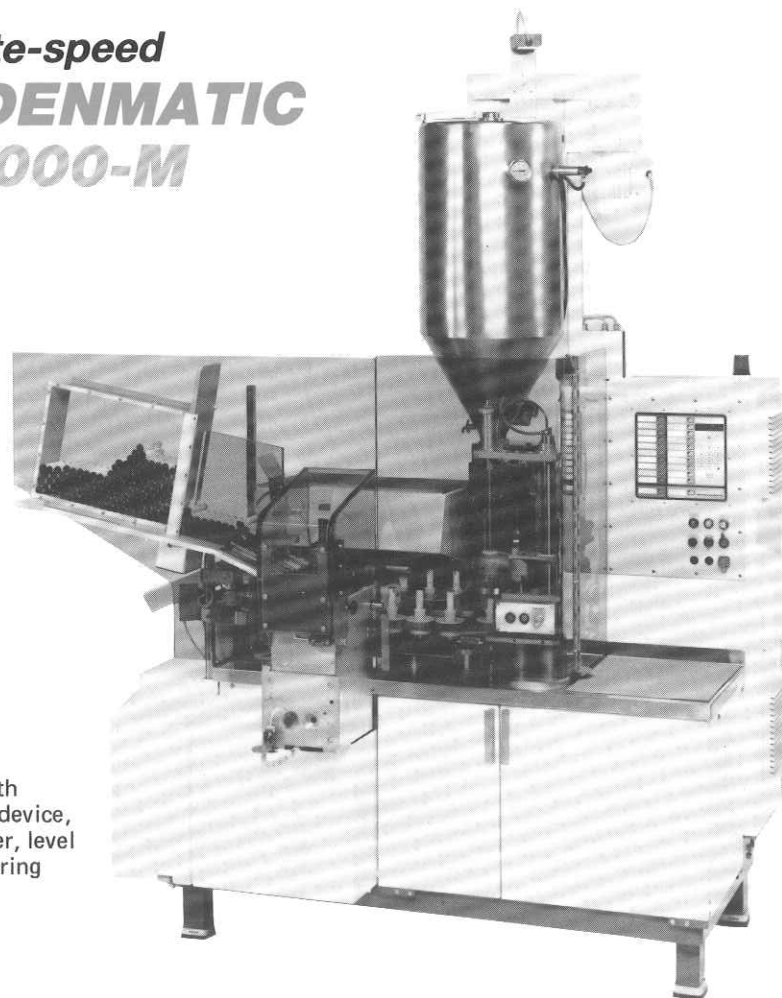
Additional functions

Semi-automatic or cassette tube infeed.
Tube cleaning and cap tightening. Tube
print registration. Coding on tube fold.
Heating of hopper. Stirring of filling
product. Etc.

Tube filling and closing machines for metal tubes



Moderate-speed **NORDENMATIC** **NM 1000-M**



NM 1000-M with
cassette infeed device,
heated container, level
control and stirring
device.

Capacity, tubes per minute, max	100*
Filling volume, ml	1-300
Tube size range:	length, mm 50-250
	diam., mm 10-50
Connected power:	max kW 3,3
	average kW 2,6
Air consumption**, Nm ³ /hr	9
Measurements:	length, mm 2300
	width, mm 1500
	height, mm 2500

*) Depending on filling volume,
filling product and tube quality.

Shipping Specification (Approx.)

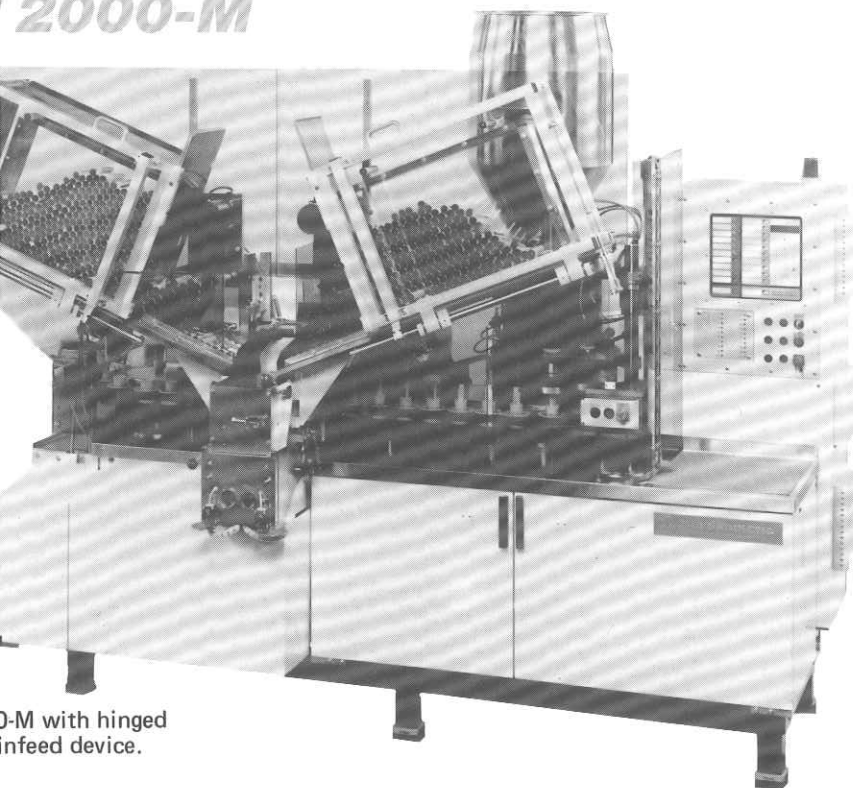
Net weight, kg	1600
Gross weight, kg	2000
Volume, m ³	9

Additional functions

Fully automatic or cassette tube infeed.
Heating of pump and hopper. Stirring of
filling product. Code reading. Connection

Tube filling and closing machines for metal tubes

High-speed **NORDENMATIC** **2000-M**



2000-M with hinged
infeed device.

tubes per minute, max	200*
Volume, ml	1-300
Tube size range:	length, mm 50-250
	diam., mm 10-50
Power consumption:	max kW 5,2
	average kW 4,0
Consumption**, Nm ³ /hr	11
Dimensions:	length, mm 2800
	width, mm 1500
	height, mm 2500

* Depending on filling volume,
product and tube quality.

Shipping Specification (Approx.)

Net weight, kg	2100
Gross weight, kg	2600
Volume, m ³	10,5

Additional functions

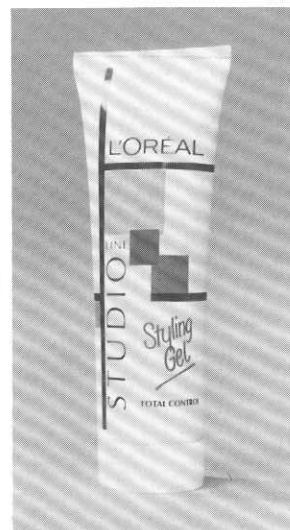
Fully automatic or cassette tube infeed.
Heating of pumps and hopper. Stirring of
filling product. Code reading. Connection
to data terminal. Etc.

Tube filling and sealing machines for plastic and/or laminate tubes

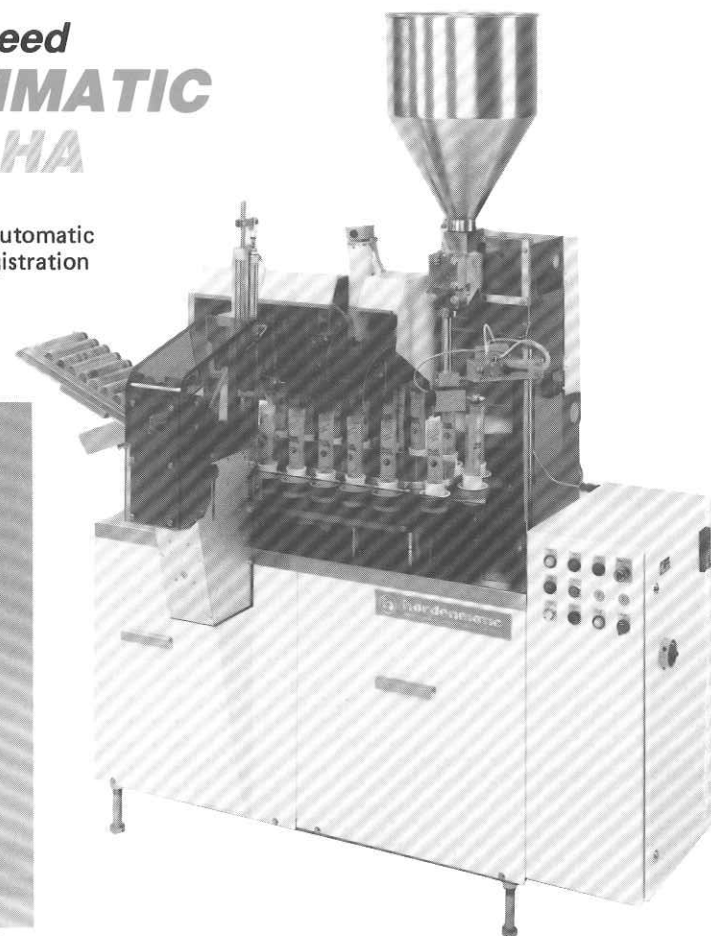


Moderate-speed **NORDENMATIC** **NM 600-HA**

NM 600-HA with semi automatic
tube infeed and tube registration
device.



Hot air sealed plastic tube.



Running capacity, max tubes/min	60*
Filling volume, ml	1-300
Tube size range:	length, mm 50-250**
	diam., mm 10-50
Power consumption:	max kW 5,7
	average kW 3,9
Air consumption***, Nm ³ /hr	8-22
Water consumption, l/min	4
Measurements:	length, mm 2200
	width, mm 1100
	height, mm 2300

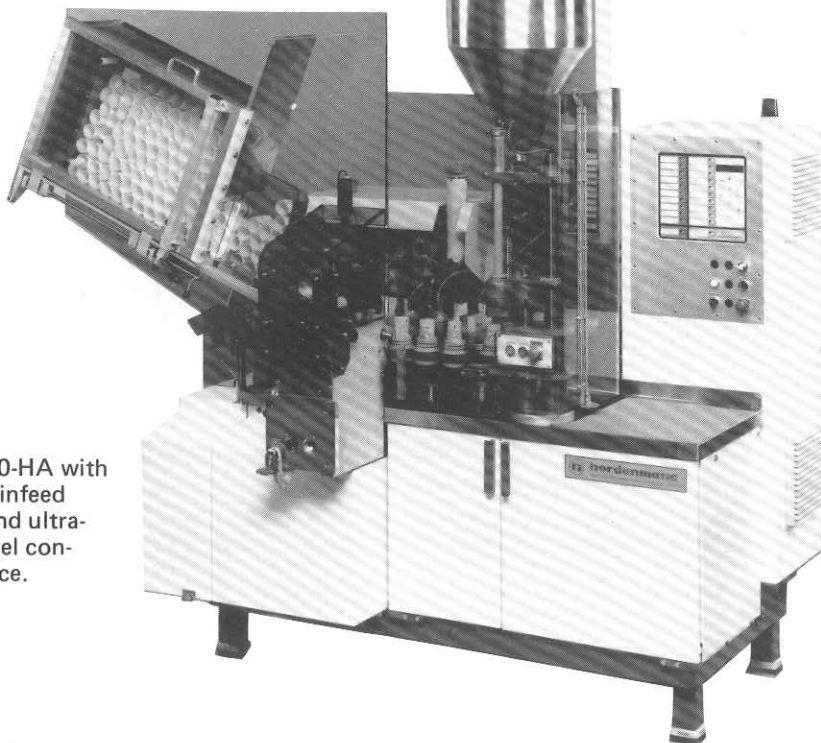
*) Depending on tube size and material,
tube wall thickness and filling product.

Shipping Specification (Approx.)

Net weight, kg	900
Gross weight, kg	1200
Volume, m ³	5,5

Tube filling and sealing machines
for plastic and/or laminate tubes

High-speed NORDENMATIC NM 1000-HA



0-HA with
infeed
and ultra-
rel con-
ce.

Running capacity max tubes/min:	
- plastic tubes	90
- laminate tubes	80
Filling volume, ml	1-300
Tube size range:	
- length, mm	50-250
- diam., mm	10-50
Power consumption:	
- max kW	7,5
- average kW	5,3
Air consumption*, Nm ³ /hr	15
Water consumption, l/min	4

Shipping Specification (Approx.)

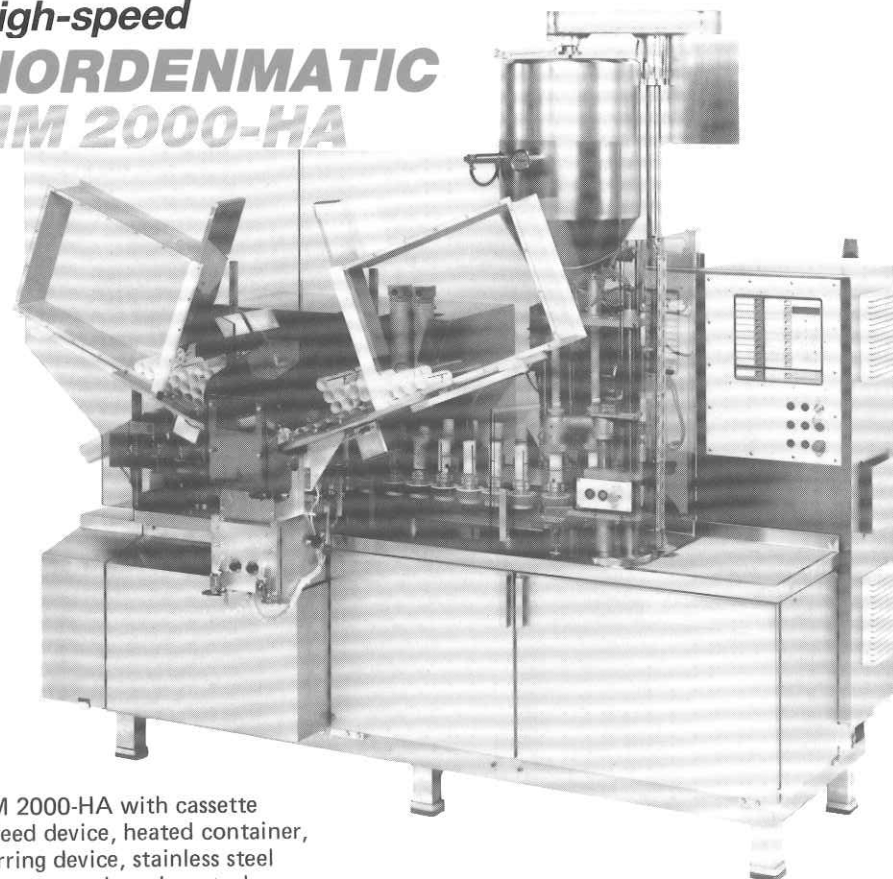
Net weight, kg	1600
Gross weight, kg	2000
Volume, m ³	9

Measurements:	
- length, mm	2300
- width, mm	1700

Tube filling and sealing machines
for plastic and/or laminate tubes



High-speed NORDENMATIC NM 2000-HA



NM 2000-HA with cassette
infeed device, heated container,
stirring device, stainless steel
covers, guards and control
cabinet.

Running capacity max tubes/min:	
- plastic tubes	180
- laminate tubes	160
Filling volume, ml	1-300
Tube size range:	
- length, mm	50-250
- diam., mm	10-50
Power consumption:	
- max kW	13,5
- average kW	9,5
Air consumption*, Nm ³ /hr	25
Water consumption, l/min	6

Shipping Specification (Approx.)

Net weight, kg	2100
Gross weight, kg	2600
Volume, m ³	10,5

Measurements:	
- length, mm	2800

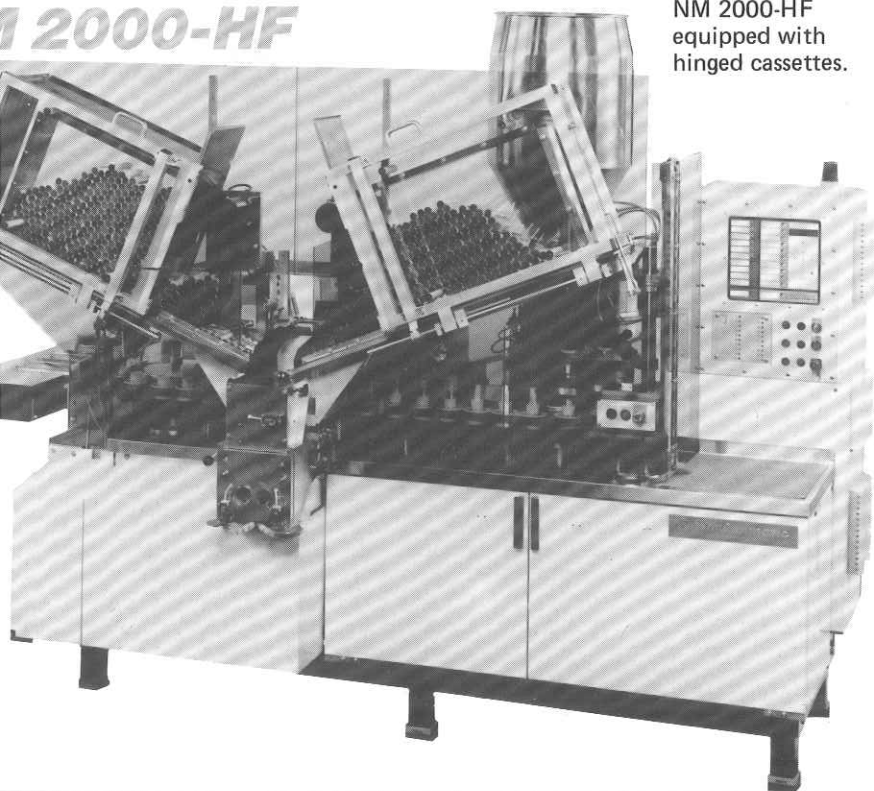
Tube filling and sealing machines for laminate tubes

NORDENMATIC

600-HF

1000-HF

2000-HF



NM 2000-HF
equipped with
hinged cassettes.

	NM 600-HF	NM 1000-HF	NM 2000-HF
Capacity, tubes per minute	60*	100*	170*
Tube size range, mm	1-300	1-300	1-300
Tube size range, mm	50-250	50-250	50-250
Tube size range, mm	12-50	12-50	12-50
Power consumption, kW	7,6	9,4	11,2
Power consumption, kW	4,0	5,0	6,5
Power consumption**	5-20	6	16
Power consumption			

Shipping Specification (Approx.)

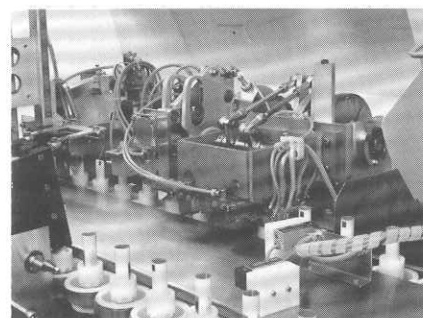
	NM 600-HF	NM 1000-HF	NM 2000-HF
Net weight, kg	900	1900	2400
Gross weight, kg	1200	2500	3100
Volume m ³	5,5	9,0	10,5

*) Depending on tube size and shape, the laminate and on the filling product.
**) Air pressure MPa: 0,2 (1/2" G)

Tube filling and sealing machines for laminate tubes



NORDENMATIC HF-GENERATOR



HF-sealing beam



HF-generator 100 kHz

HF-generator	NM 600-HF	NM 1000-HF	NM 2000-HF
Measurements			
- length, mm	635	635	635
- width, mm	635	635	635
- height, mm	1450	1450	1450
Weight, kg	190	190	190

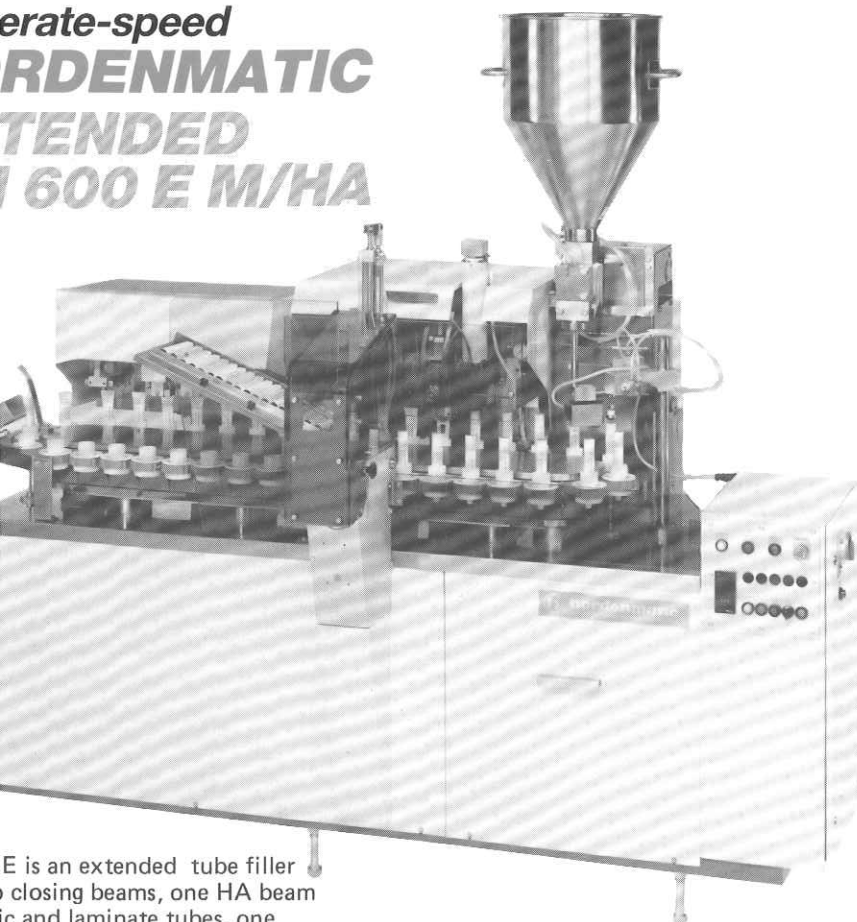
The generator may be placed up to 20 m from the tube filler.

Shipping Specification (Approx.)

HF-generator	NM 600-HF	NM 1000-HF	NM 2000-HF
Net weight, kg	200	200	200
Gross weight, kg	225	225	225
Volume m ³	1	1	1

Tube filling and sealing machine for
metal, plastic and laminate tube

erate-speed
NORDENMATIC
TENDED
600 E M/HA



E is an extended tube filler
closing beams, one HA beam
ic and laminate tubes, one
am for metal tubes.

	600 E-M	600 E-HA
Capacity tubes/min	60*	60*
Filling volume, ml	1-300	1-300
Tube size range length, mm	50-250	50-250
width, mm	10-50	12-50
Power consumption kW	1,5	5,7
average kW	1,2	3,9
Production /hr	1-16	8-22
Consumption, l/min	—	4

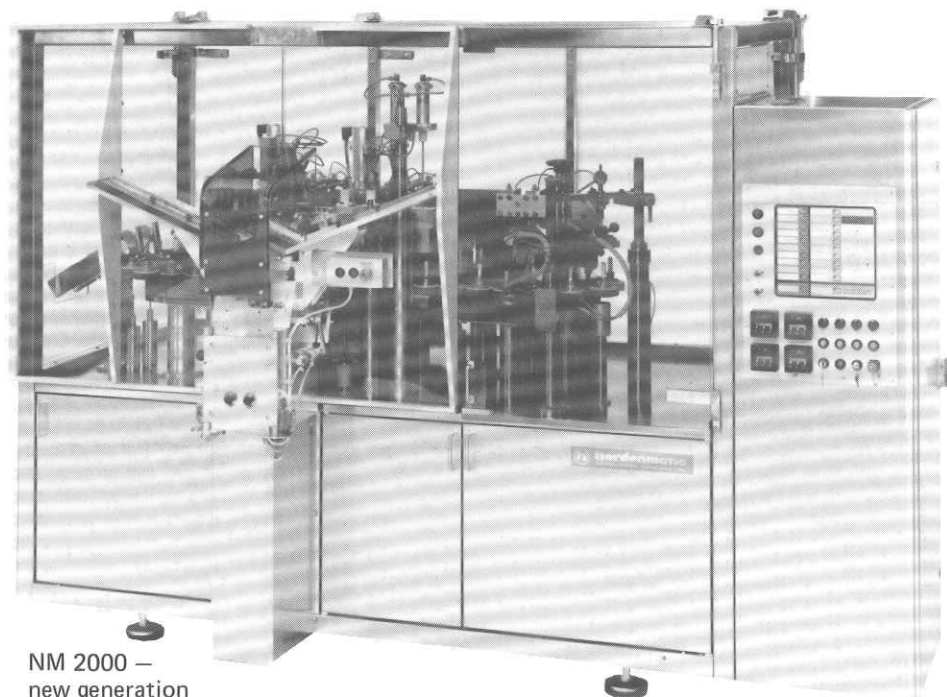
Shipping Specification (Approx.)

	600 E-M	600 E-HA
Net weight, kg	1500	1500
Gross weight, kg	1900	1900
Volume m ³	8	8

Tube filling and sealing machine for
metal, plastic and laminate tubes



NORDENMATIC
NEW GENERATION



NM 2000 —
new generation

Capacity, tubes per min., max	200
Filling volume, ml	1-300
Tube size range:	
- length, mm	50-250
- diam., mm	10-50
Power consumption,	
- kW max	5,2
- average kW	4,0
Air consumption*, Nm ³ /hr	12
Measurements:	
- length, mm	3300
- width, mm	1500
- height, mm	2500

Shipping Specification (Approx.)

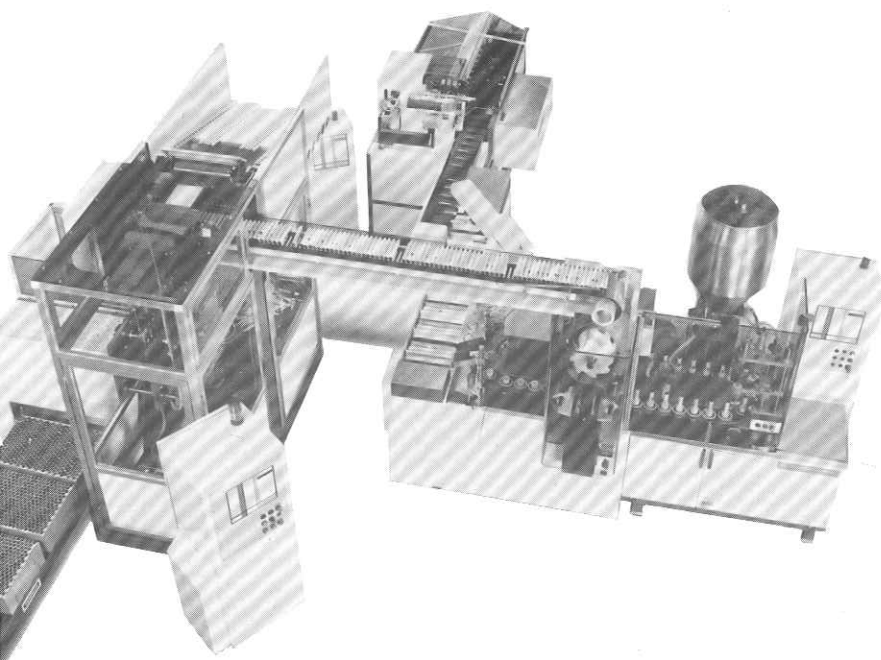
Net weight, kg	3600
Gross weight, kg	4000
Volume, m ³	11

Additional functions

As other Nordenmatic tube fillers.
Motorised tiltable beam. 180° folding
stations. Door control indication.

Automatic tube feeding machines

Automatic Tube Feeder NORDENFEED



mm	300 x 300 x 100
mm	660 x 440 x 270
:	
mm	12-75
mm	50-250
consumption	
kW	4,5
ge kW	3
mpment*, Nm ³ /hr	1
ments:	
h, mm	2600
(4600 incl. conveyor belt)	
h, mm	2100
t, mm	2700

Shipping Specification (Approx.)

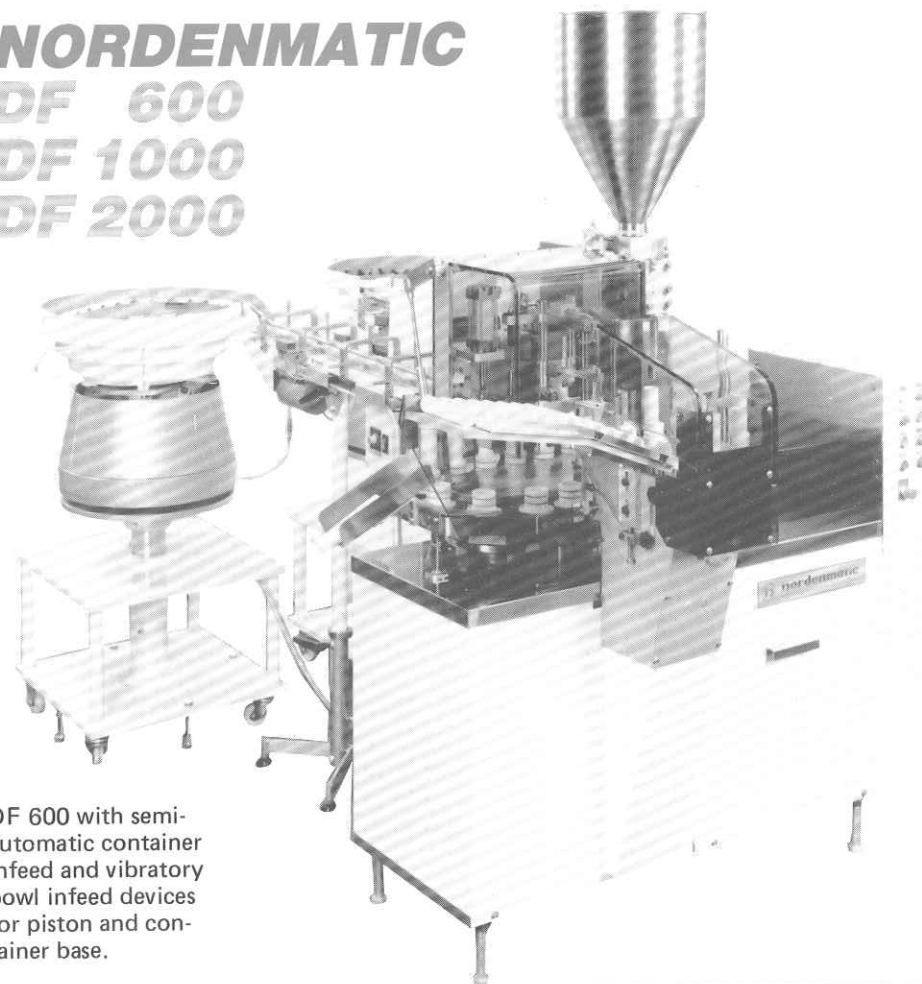
Measurements	2250 (excl. conveyor) x 2100 x 1850
Net weight, kg	1300
Gross weight, kg	1600
Volume m ³	11

The Nordenfeed can be connected also to the Nordenmatic tube filler, new generation.

Filling and assembling machines for dispensers



NORDENMATIC DF 600 DF 1000 DF 2000



DF 600 with semi-automatic container infeed and vibratory bowl infeed devices for piston and container base.

	DF 600	DF 1000	DF 2000
Capacity, dispensers/min, max	60*	90*	180*
Filling volume, ml	25-300	25-300	25-300
Dispenser size range:			
- length, mm	50-250	50-250	50-250
- diam., mm	10-50	10-50	10-50
Connected Power, max kW	2,2	2,9	4,5
Measurements			
- length, mm	2200	2300	3500
- width, mm	2500	2500	5000
	2300	2500	3500

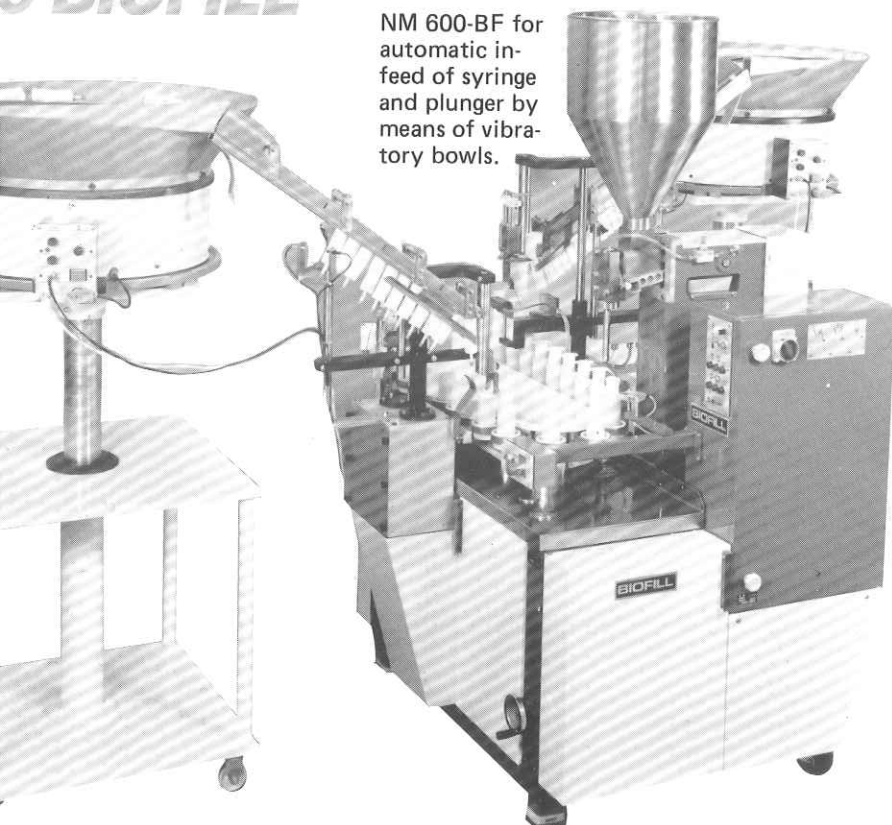
Shipping Specification (Approx.)

	DF 600	DF 1000	DF 2000
Net weight, kg			
- Case 1	900	1600	2100
- Case 2	800	800	1600
Gross weight, kg			
- Case 1	1200	2000	2600
- Case 2	950	950	1900
Volume, m ³			
- Case 1	5,5	9	10,5
- Case 2	4,5	4,5	9

Machines for filling and assembling of disposable syringes and containers

NORDENMATIC BIOFILL

NM 600-BF for automatic in-feed of syringe and plunger by means of vibratory bowls.



Capacity, packages/min, max	50-60
Power consumption, max kW	2,5
Height, mm	Max 250 Min 50
Working width, mm	50
Filling volume, ml	300
Dimensions	
mm	1600
mm	2000
mm	2000

Shipping Specification (Approx.)

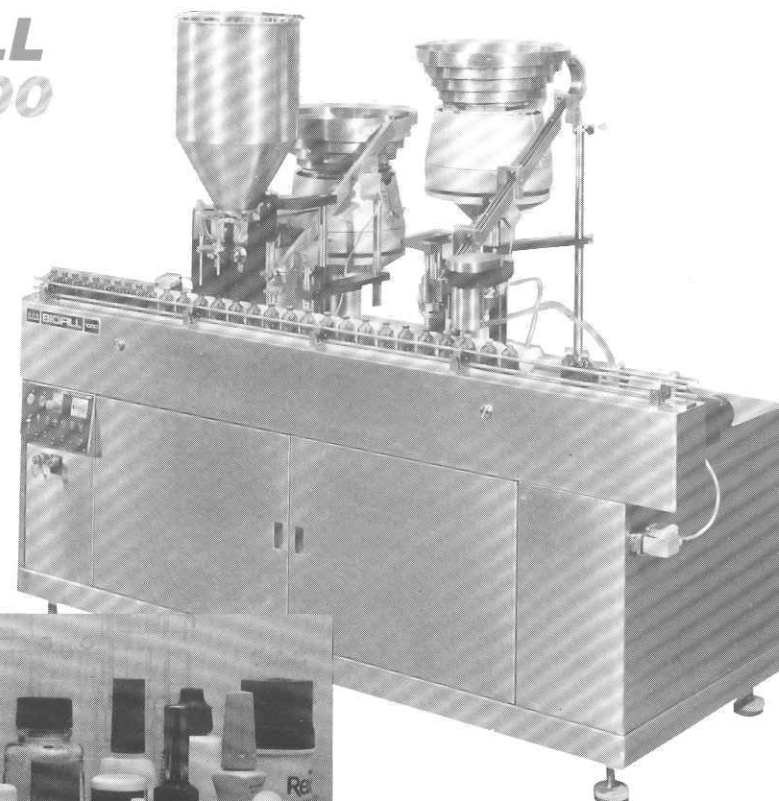
Net weight, kg	
- case 1	900
- case 2	800
Gross weight, kg	
- case 1	1200
- case 2	950
Volume, m ³	
- case 1	5,5
- case 2	4,5

Biofill machines based on other Nordenmatic tube filler concepts are also

Machines for filling and assembling of free standing containers



BIOFILL BF 1000



BF 1000 straight line, front mounted conveyor, with bottom-up filling to prevent foaming. Positive fitting of stoppers, plugs or wipers, snap-on caps or screw caps.

Capacity, containers/syringes per minute, max	65*
Filling volume, ml	1-250
Power consumption, max kW	2,0
Container size range:	
- length, mm	30-150
- diam. (width), mm	15-75
Measurements:	
- length, mm	2400
- width, mm	1000
- height, mm	2000

*) Depending on container size and complexity and on filling product.

Shipping Specification (Approx.)

Net weight, kg	1100
Gross weight, kg	1400
Volume, m ³	8

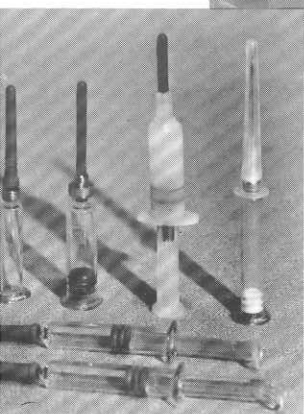
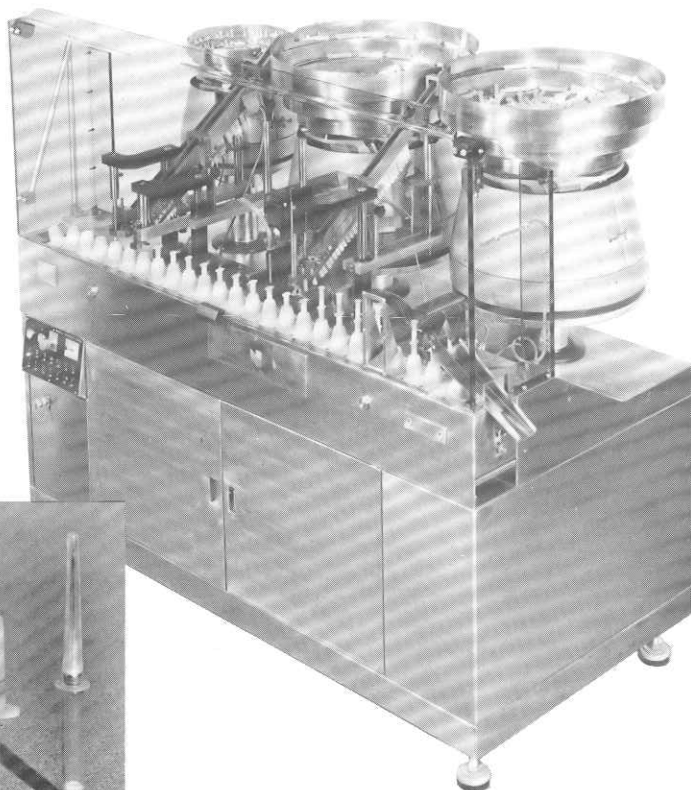
Additional functions

The BIOFILL 1000 may be equipped to

Machines for filling and assembling of disposable glass vials and plastic syringes

BIOFILL 3000 4000

straight line,
counted con-
th bottom-
to prevent
Positive
tip caps,
or plunger
s and
s the
syringe.



	BF 3000	BF 4000
containers/ per minute, max	65*	110*
Volume, ml	0,1-50	0,1-50
Consumption: kW	2,5	4,0
Size range:		
h, mm	—	—
(width), mm	—	—
Dimensions:		
h, mm	2000	3000
h, mm	1000	1000
t, mm	2000	2000

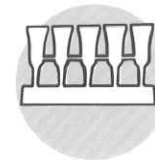
Shipping Specification (Approx.)

	BF 3000	BF 4000
Net weight, kg	1300	1900
Gross weight, kg	1600	2200
Volume, m ³	8,6	12,6

Additional functions

The BIOFILL 3000 and 4000 machines

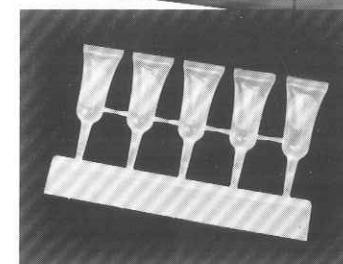
Tube filling and sealing machine for multitube packages



NORDENMATIC MULTI TUBE FILLER



NM Multi Tube filler is designed
for filling and sealing a multiple
number of tubes moulded together
to form a one-piece strip.



	Machine	Infeed system
Running capacity, strips./min.	50-60*	—
Filling volume, max ml.	10	—
Strip length max. mm	150	—
Connected power, kW:		
- max.	14	1
- average	7,5	0,5
Air consumption*, Nm ³ /hr	34	1
Water consumption, l/min	4-5	—
Measurements: (appr.)		
- length, mm	3800	

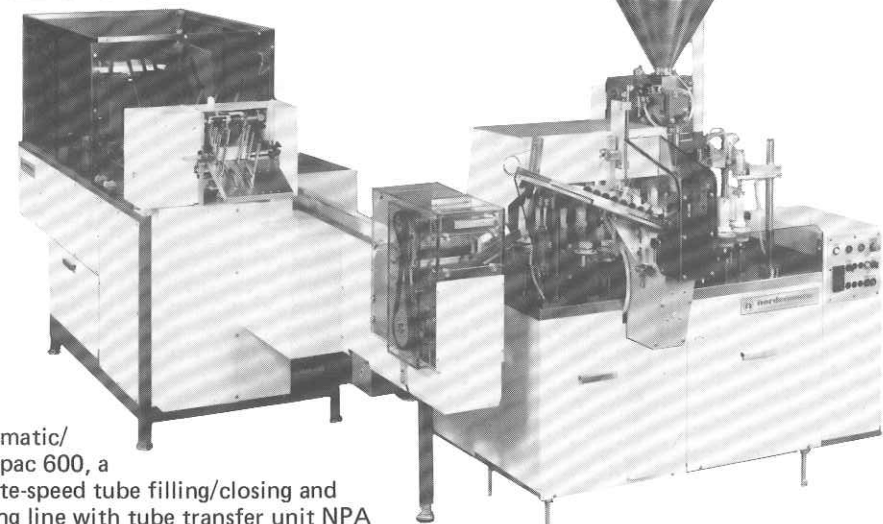
	Machine	Infeed system
Net weight, kg	3100	1100
Gross weight, kg	3600	1500
Volume, m ³	9	8

*) Depending on size and number of
tubes, filling product and quality

Cartoning machines for connection to Nordenmatic tube fillers

NORDENPAC

600
1000
2000



Nordenmatic/Nordenpac 600, a medium-speed tube filling/closing and cartoning line with tube transfer unit NPA and leaflet folder and inserter.

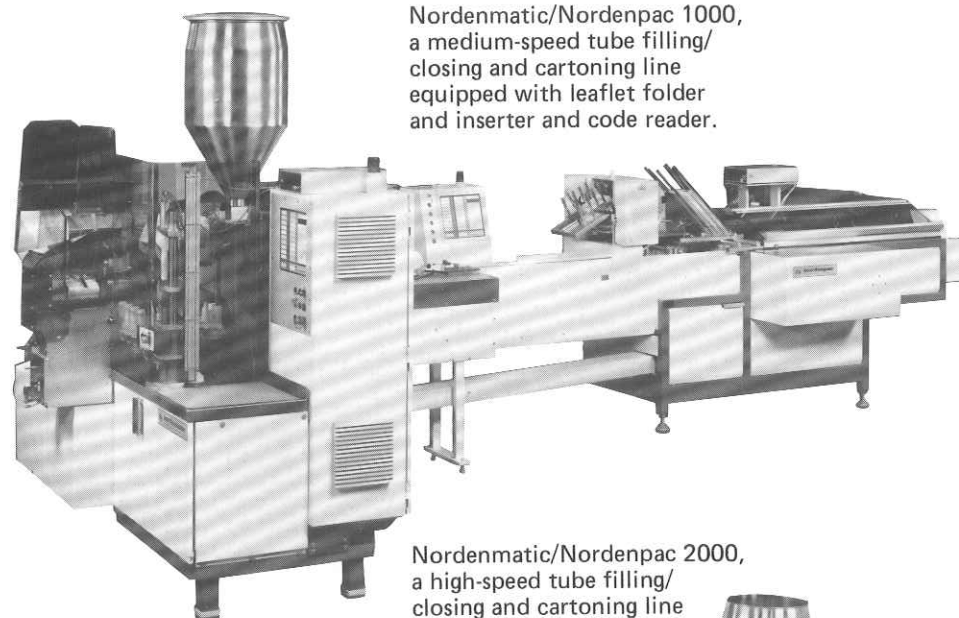
CARTON SIZE RANGE

	Min dim. mm			Max dim. mm		
	Length	Width	Height	Length	Width	Height
N	70 x	20 x	15	210 x	52 x	52
NX	70 x	20 x	15	210 x	70 x	75
L	135 x	20 x	15	260 x	52 x	52
LX	135 x	20 x	15	260 x	70 x	75

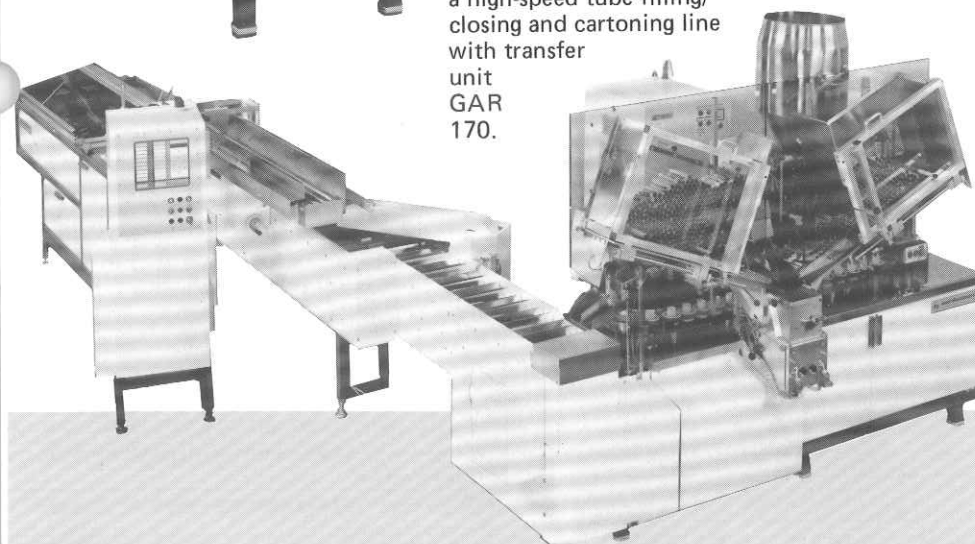
	NP 600	NP 1000	NP 2000
Capacity, cartons per minute	60*	100*	200*
Power consumption, kW:			
Standard	1,3	1,5	1,5
Optional UK device	1,9	2,1	2,1
Production, m ³ /hr:			
Standard	9	9	9
Optional UK device	11	11	11
Pressure, MPa			
Standard	0.4-0.6	0.4-0.6	0.4-0.6

	NP 600	NP 1000	NP 2000
Measurements			
Cartoner:			
- length, mm	3060	3060	3060
- width, mm	1220	1220	1220
- height, max mm	1825	1475	1475
Tube transfer unit:			
- length, mm	—	2335	2335
- width, mm	—	660	660
- height, mm	—	1170	1170

Cartoning machines for connection to Nordenmatic tube fillers



Nordenmatic/Nordenpac 1000, a medium-speed tube filling/closing and cartoning line equipped with leaflet folder and inserter and code reader.



Nordenmatic/Nordenpac 2000, a high-speed tube filling/closing and cartoning line with transfer unit GAR 170.

Additional functions

Insertion of leaflets and/or applicators.
Coding. Code reading. Hot-melt closing.
Connection to data terminal (not NP 600). Etc.

Shipping Specification (Approx.)

	NP 600	NP 1000	NP 2000
Net weight, kg	900	900	900
Gross weight, kg	1200	1300	1300

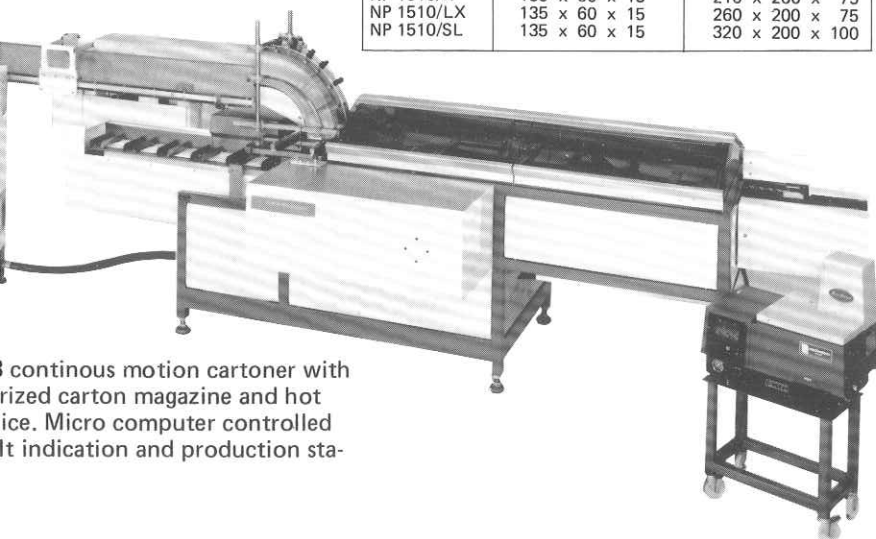
Single cartoning machines connectable to any product machine

NORDENPAC

600
1508
1510
3000

CARTON SIZE RANGE

Type	Min dim. mm			Max dim. mm		
	Length	Width	Height	Length	Width	Height
4 inch						
NP 600/N	70	x 20	x 15	210	x 52	x 52
NP 600/NX	70	x 20	x 15	210	x 70	x 75
NP 600/L	135	x 20	x 15	260	x 52	x 52
NP 600/LX	135	x 20	x 15	260	x 70	x 75
NP 3000/N	70	x 20	x 15	210	x 52	x 52
NP 3000/NX	70	x 20	x 15	220	x 70	x 75
NP 3000/L	135	x 20	x 15	260	x 52	x 52
NP 3000/LX	135	x 20	x 15	260	x 70	x 75
8 inch						
NP 1508/N	135	x 60	x 15	210	x 150	x 52
NP 1508/LX	135	x 60	x 15	260	x 150	x 75
10 inch						
NP 1510/N	135	x 60	x 15	210	x 200	x 75
NP 1510/LX	135	x 60	x 15	260	x 200	x 75
NP 1510/SL	135	x 60	x 15	320	x 200	x 100



continuous motion cartoner with
magazine and hot
melt device. Micro computer controlled
production indication and production sta-

	NP 600	NP 1508	NP 1510	NP 3000
Cartons	75*	150*	100*	200*
Power				
Device	1,3	1,5	1,5	1,5
Option**	1,9	2,1	1,9	2,1
r./c				
Device	9	9	9	9
	11	—	—	11

ing on product.
Pressure MPa 0,4-0,6 (bar 4-6)

al Functions

Shipping Specification (Approx)

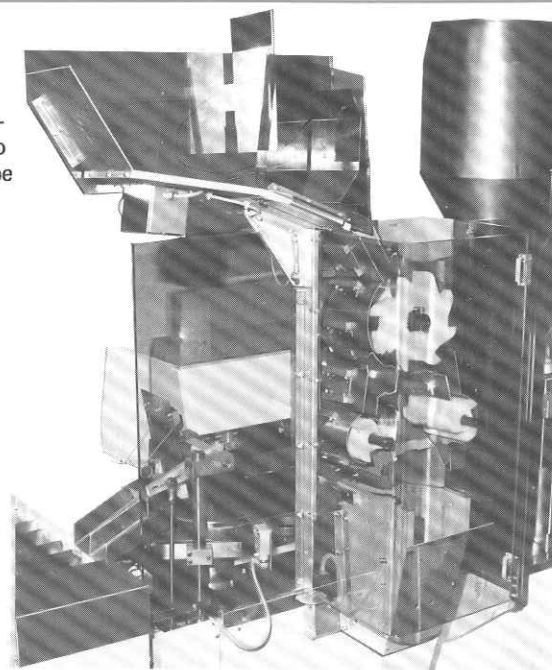
	NP 600	NP 1508	NP 1510	NP 3000
Product conveyor, height from floor level, std mm	852-910	852-910	852-910	852-910
Conveyorized carton feeder:				
- connected power kW	—	0,2	0,2	0,2
Hot melt device:				
- connected power kW	4,5	4,5	4,5	4,5
- air consumption Nm /hr	0,1	0,1	0,1	0,1
Measurements, cartoner:				
- length, mm	3060	4030	4330	3060
- width, mm	1220	1420	1415	1220

Special equipment tube filling machines



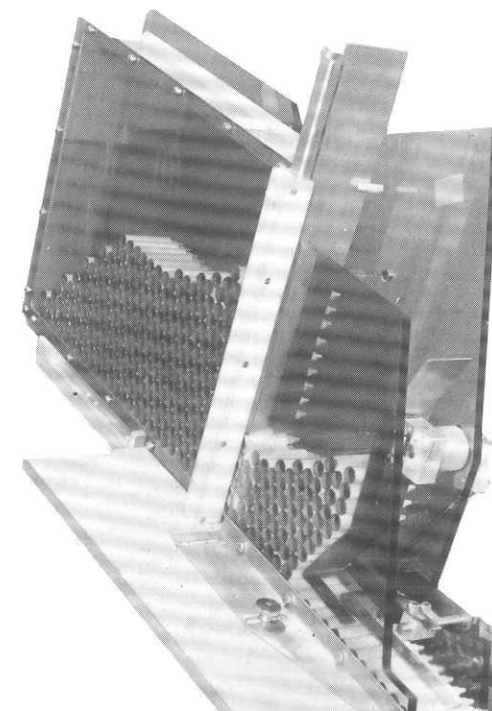
Auto - infeed

The AUTO-INFEED unit is used for feeding unpacked empty tubes, delivered to the machine on a conveyor, into the tube filler. (See picture). Used also in combination with Nordenfeed.



Cassette tube infeed

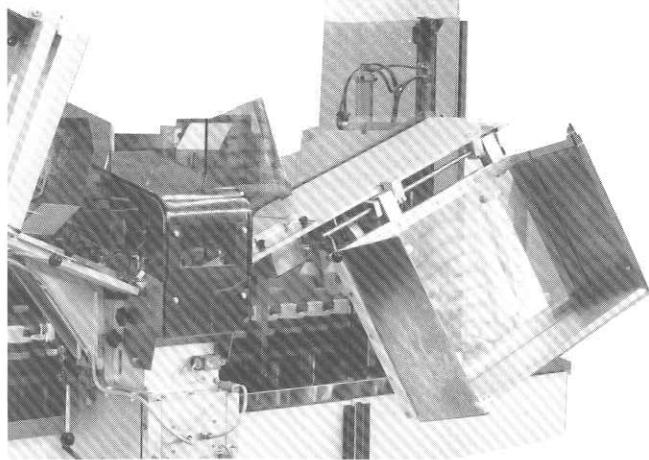
Cassette tube infeed
is performed by means of tube cas-
settes designed to suit the tube trans-
port box for the tube to be filled.
The empty tubes are manually
transferred to the cassette in one
step and the cassette is placed on
the infeed chute of the filler. The
system fits all our tube fillers.



Special equipment tube filling machines

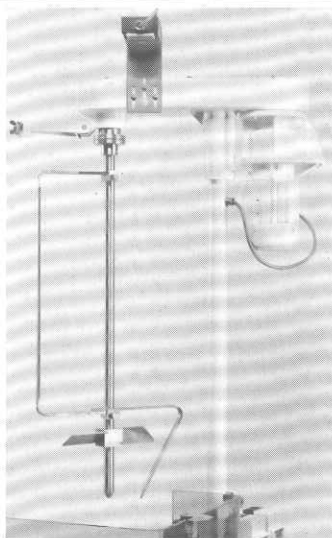
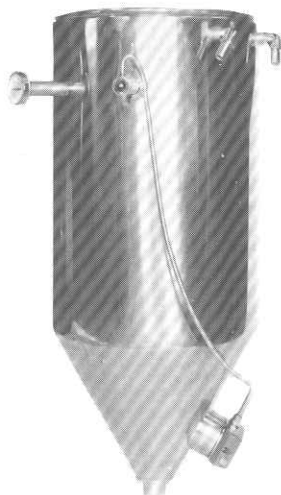
and cassette
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S

ate the handling
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cassette infeed
with hinged cas-
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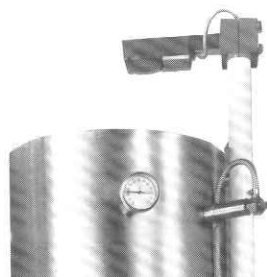
ed container
ump,
g device

ometimes necessary
the filling material
in raised tempe-
d to keep the
n a homogenous
for proper



ainer level control

the filling material at a certain
ne container when fed through
e, there is a need for a level
quipment. May also be used
ce manual refilling of the ma-
en the container is almost
ltra Sonic Level control



Special equipment tube filling machines

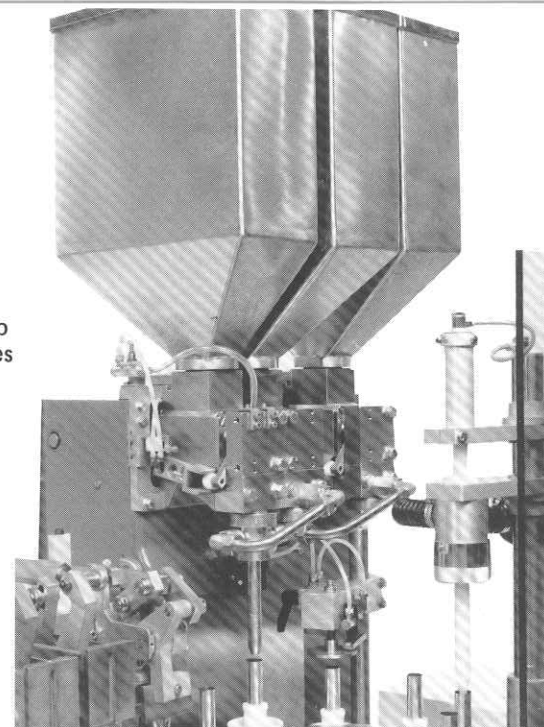


Two or three component filling equipment

With different filling methods it is possible to give a unic pattern to the two or three different filling products when squeezed out of tube.

Signal filling needs besides an extra pump and hopper also a special tube which gives the pattern to the product.

Co-extrusion means that two or more colours are mixed in the nozzle of the tube filler. Ordinary tubes are used and one pump unit is needed for each colour.



Inert gas protection

Some filling materials must be protected from the affection of air in the tube. By filling inert gas prior to and after the filling of the product, this problem is solved.

Central lubrication

When running our machines in hard conditions e.g. high air humidity, high surrounding temperature, dusty factories, etc., it is recommended to have the machines equipped with a central lubrication system.

Printer for the micro computer system

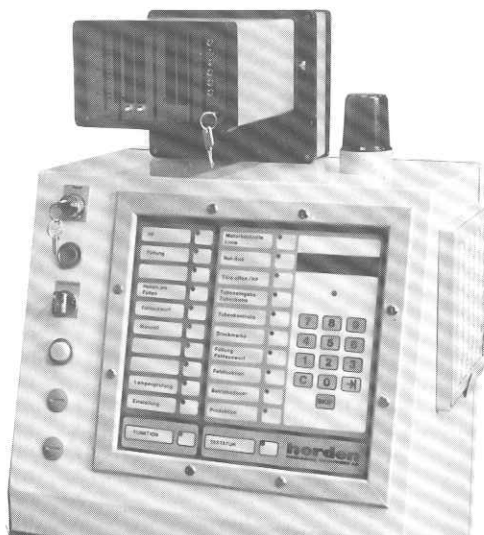
With a printer connected to the control system in our machines a communication between the machine and the operator will be a reality. All information is printed and ready for the file. One printer can serve several machines.



Special equipment tube filling machines

Code reader

When filling pharmaceutical tubes it is important that the right tube is filled with the proper product. A code marking device controls the code marking on the tube and if wrong code the tube is rejected from the machine, thereby eliminating mistakes.



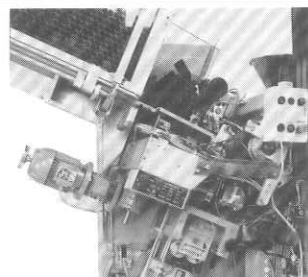
High frequency sealing kit

With growing interest in the use of metal tubes among our customers we have developed a kit for sealing these tubes on existing machines. The kit includes a beam with required sealing stations, an HF-generator and hardware for the connection. The unit does operate on 100 kHz.



Labeling system

The automatic tube filler can be equipped with the facility to label the infeed chute. The labeler often operates with pre-printed labels. In some cases the device can be equipped with different labeling units, for example hot foil

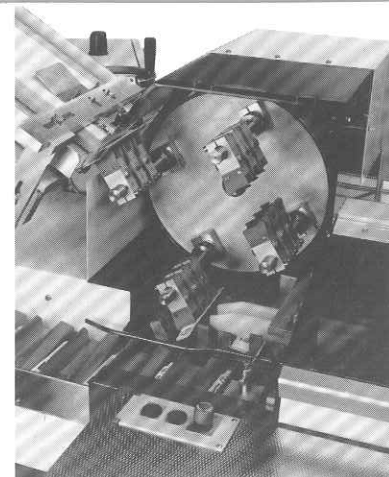


Special equipment cartoning machines



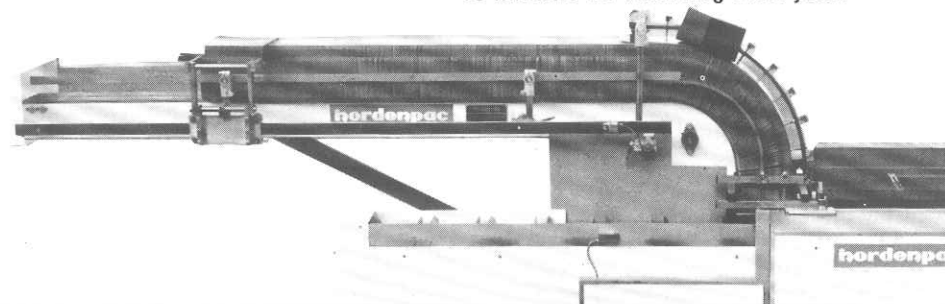
Rotary carton erection device

The rotary infeed system for cartons makes it possible to achieve a high speed with maintained efficiency at a lower noise level.



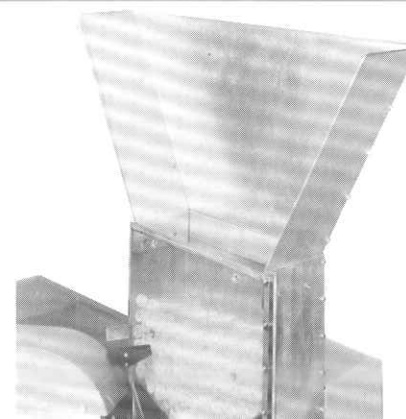
Conveyorized carton magazine

Nordenpac cartoners can be equipped with extended carton magazine, which can keep 1500-2000 unerected cartons. This will leave the operator free up to 15 minutes for attending other jobs.



Infeed device for additional products

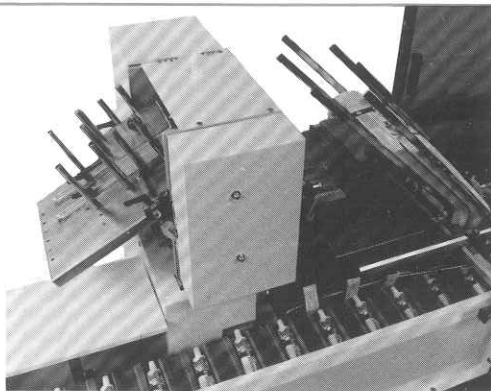
The cartoner may be equipped with infeed devices for additional articles such as spoons, spouts, spatulas etc. The device shown handles cylindrical plastic tubes which are inserted into the carton with the main product.



Special equipment cartoning machines

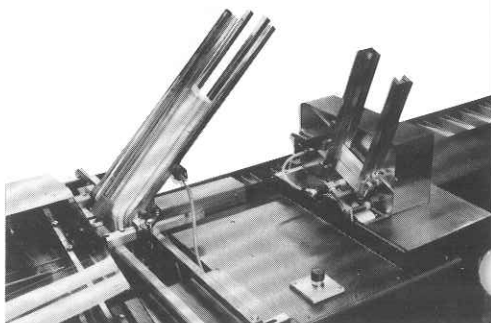
et folder and inserter

for folding plain leaflets and
ing the folded leaflet to the
in the cartoner where it is
into the carton together with
uct.



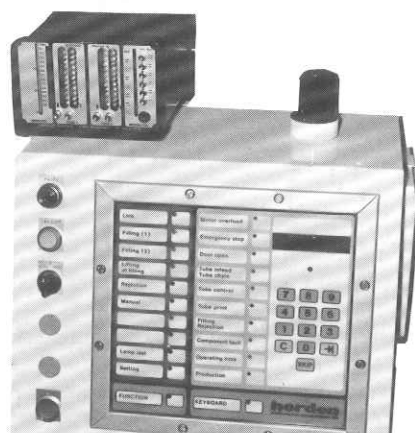
lded leaflet inserter

folded leaflets are stacked in a
from where they are transpor-
position in the cartoner in front
en carton. They are then pushed
carton together with the product.



reader

that the correct carton is used
product in question the cartoner
quipped with a code marking. A
der on the cartoner scans the
an incorrect carton is rejected
machine. Code reading of plain
may be performed in the same



Carton end flap code marking

The end flap of the carton can be
marked by embossing or printing



Special equipment cartoning machines



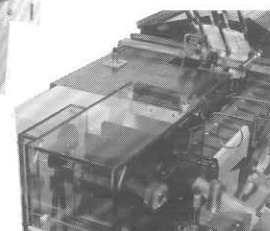
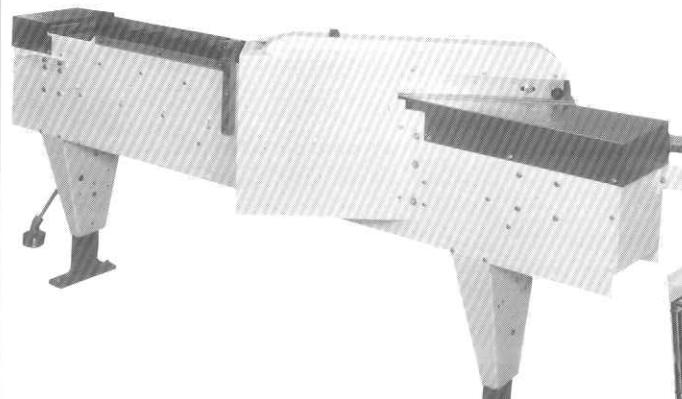
Hot melt sealing equipment

The cartoner can be equipped with a hot
melt glue sealing device. The carton is
then normally of the 4-flap type.

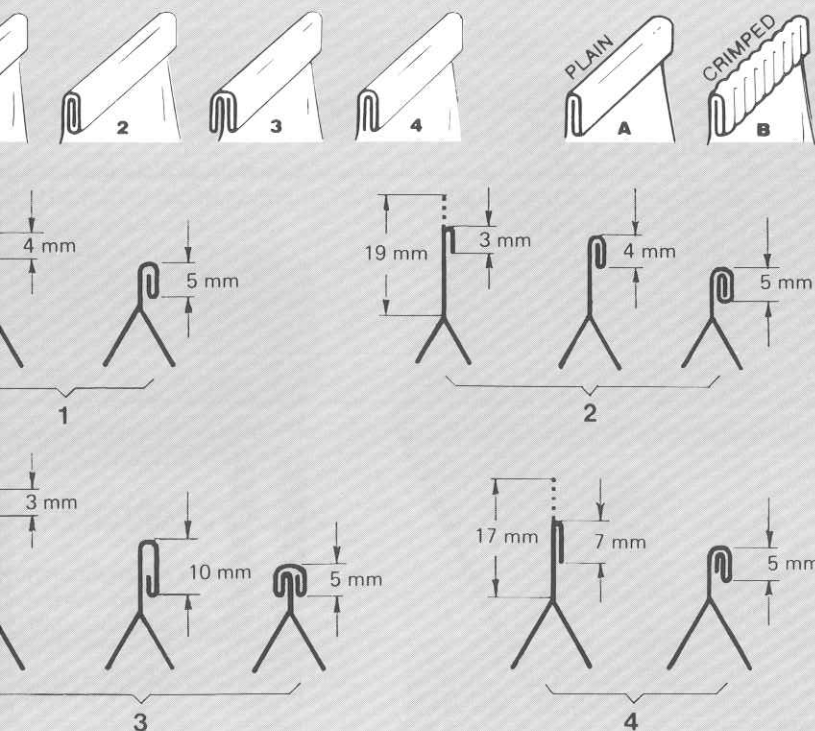


Transfer units for tubes from Nordenmatic tube fillers

Depending on machine layout different
transfer units have to be used to transport
the tube from filler to cartoner.
You can always choose the right transfer
unit by consulting our sales or technical
staff.



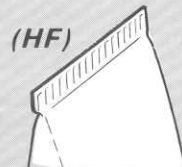
ing Types l tubes



ing Patterns ic tubes



nate tubes



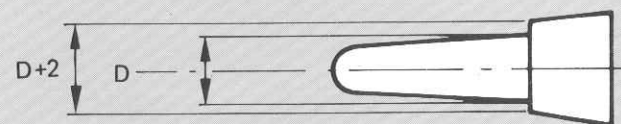
ing



BIOFILL 3000 and 4000 veterinary syringe filling and assembling machines

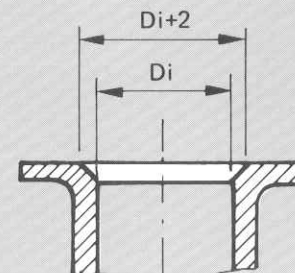
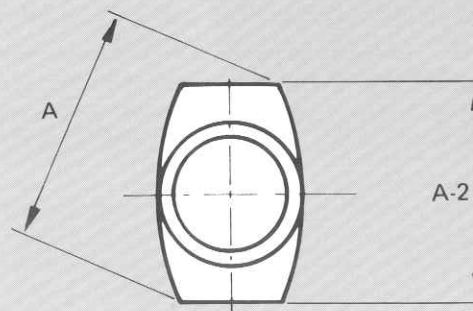
Component parts of syringe must conform to the following:

Tip cap - major diameter of tip cap must be at least **2 mm** larger than other diameters.



Syringe barrel - dimension across flats of finger rest must be at least **2 mm** smaller than dimension across corners.

the open end of the syringe barrel must have a chamfer that has a diameter at least **2 mm** larger than the inner diameter of the syringe barrel.



Plunger - diameter of head must be at least **2 mm** larger than diameter of plunger end.

