



NORDENPAC 1702

Cartoning machines

The new generation of cartoners from Norden

The new design of Nordenpac cartoners, offers extremely good accessibility. The doors above the table are manufactured in plexi glass providing excellent visibility of all the machine operations.

The machine table has an ergonomic working height. The table is covered by stainless steel sheets, providing not only a user friendly environment, but also facilitates easy cleaning and maintenance of the machine.

Many functions previously offered as options are standard on this new cartoner, such as changeover, without tools, of the product pockets, leaflets and the carton chains.

A Pick and Place unit transfers the tubes from the tube filling machine directly into the pockets of the cartoning machine. This system ensures positive control of the tubes during the transfer movement.

The footprint of the line is also kept to a minimum, as there are no extra conveyors between the two machines.

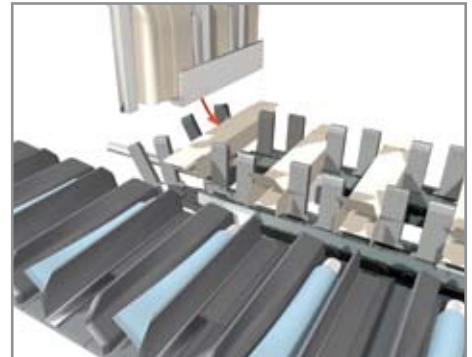
The servo system provides electrical synchronisation between the filler and the cartoner. Electrical synchronisation is faster and more reliable than traditional mechanical synchronisation. Other advantages of an "electrical shaft" are that the synchronisation during normal operation is more accurate and easier to monitor and control.



Nordenpac 1702 with carton erection system by oscillating arm.

**Carton feeding unit
up to 140 cartons/minute**

- Low "seagull wing"-covers facilitates entrance into the machine above the table.
- Adjustable magazine for cartons.
- Leading or trailing edge opening of carton.
- Vacuum system for the carton ejection by means of an ejector.
- Belt driven discharge conveyor for discharge of completed cartons.



*Carton erection
by oscillating arm.*



Leaflet reject bin.



Leaflet infeed from a folding unit.

NORDENPAC 1702

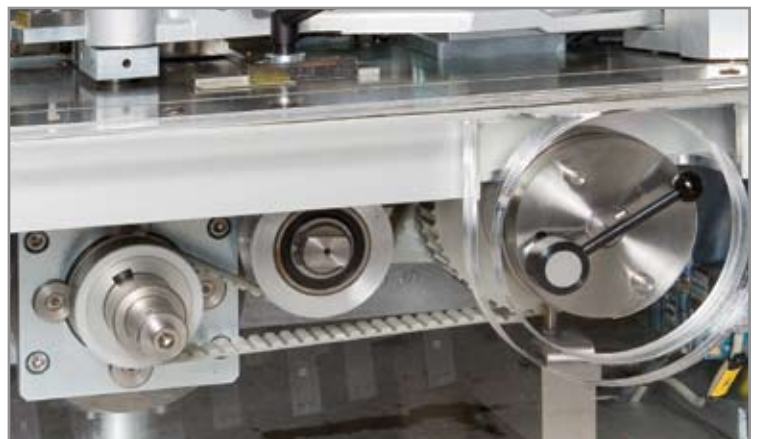


The machine table has an ergonomic working height and is covered by stainless steel sheets. This is ideal for pharmaceutical applications and allows very easy cleaning and maintenance.

All settings above the machine table are done with digital counters or handles with scale.



Conveyorized magazine for cartons and rotary carton erection for speeds up to 200 units per minute.



Easy and quick changeovers with wheels and digital counters for product pockets, leaflets and carton chains.

Nordenpac 1702 with rotary carton erection with pre-breaking and opening of cartons.

Carton feeding unit up to 200 cartons/minute

- High "seagull wing"-covers facilitates entrance into the machine above the table.
- Belt driven adjustable magazine for cartons, length of 0,8 m is standard. Various lengths on request.
- Leading edge for opening of carton.
- Vacuum system for the carton ejection by means of a pump and ejector.
- Belt driven discharge conveyor for discharge of complete cartons.



Rotary carton erection with "standing still" positions for picking, pre-breaking and opening of the cartons.



Easy and user friendly touch screen panel.

TECHNICAL SPECIFICATION

NORDENPAC 1702

Running capacity: max carton/min.

Continuously working:

Rotary carton erecting system
with pre-breaking of carton: 200 carton/min¹

Carton erection system by
oscillating arm: 140 carton/min¹

Power consumption, max kW standard: 3,1

With GUK device: 4,8

Air consumption², max Nm³/h standard: 10

With GUK device: 12

Air pressure MPa : 0,4 – 0,6 (4 – 6 bar)

Option:

Hot melt power consumption, max kW: 3,7

Air consumption², max Nm³/h Hot melt 1

NORDENPAC 1702

Carton size, standard range

- Max: 210 x 72 x 72 mm
- Min: 70 x 20 x 15 mm (with 3 carton chains)
- 100 x 20 x 15 mm (with 4 carton chains) option
- Max product length = 200 mm

SHIPPING SPECIFICATION

NORDENPAC 1702

Net weight approx.

2000 kg

Gross weight (case) approx.

2700 kg

Volume approx.

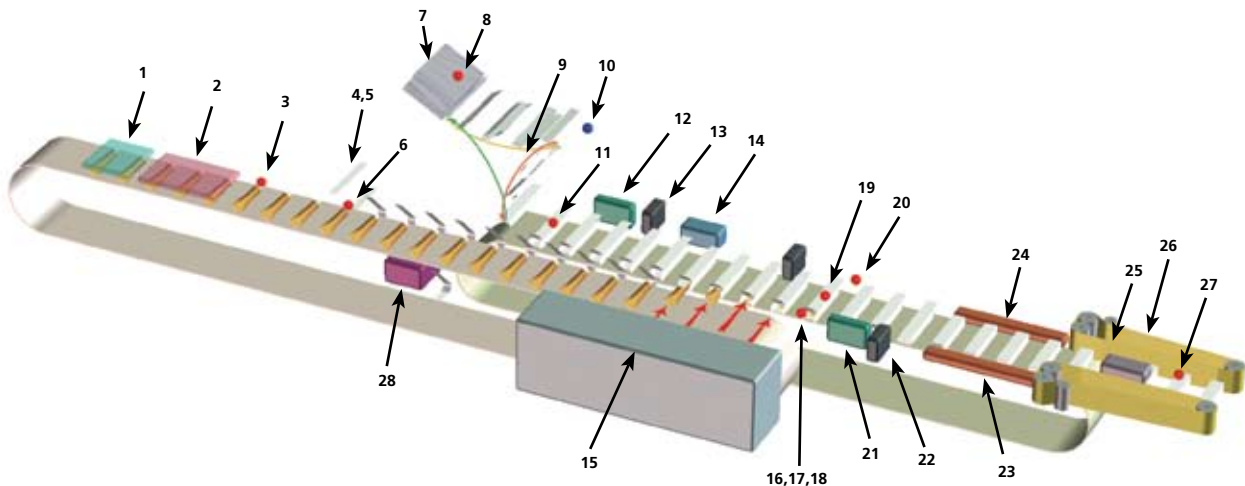
20 m³

(1) Depending on tube filler capacity (output varies with carton size, carton quality, carton design and product)

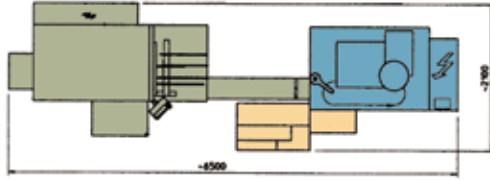
(2) Air pressure MPa 0,6 (6 bar)

OPERATION CYCLE

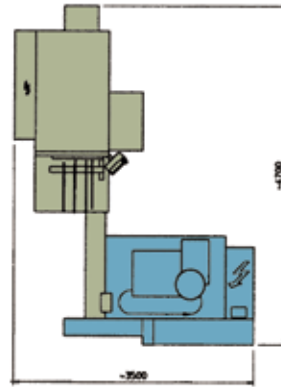
- | | | |
|--|--|--|
| 1. Product infeed. | 11. Detection of carton in carton chain. | 21. Closing of side flaps. |
| 2. Product pocket extension. | 12. Closing of side flaps. | 22. Coding - embossing. |
| 3. Product detection. | 13. Coding - embossing. | 23. Closing system. |
| 4. Leaflet infeed. | 14. Carton transfer system. | 24. Closing system. |
| 5. Code reading on leaflet. | 15. Product pushers including product infeed switch. | 25. Belt discharge conveyor. |
| 6. Detection of leaflet in leaflet pocket. | 16. Detection of no leaflet in leaflet pocket. | 26. Rejection of faulty cartons. |
| 7. Carton magazine. | 17. Code reading on carton. | 27. Detection of not rejected cartons. |
| 8. Level control. | 18. Detection of complete infeed product. | 28. Rejection of faulty leaflets. |
| 9. Rotary carton erection/oscillating arm | 19. Detection of product in carton. | |
| 10. Pre-breaking of cartons.
(rotary carton erection) | 20. Detection of leaflet in carton. (Lumat) | |



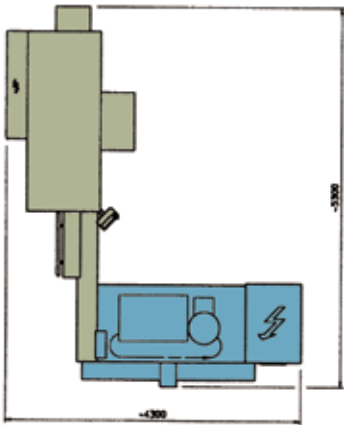
Examples of line configurations



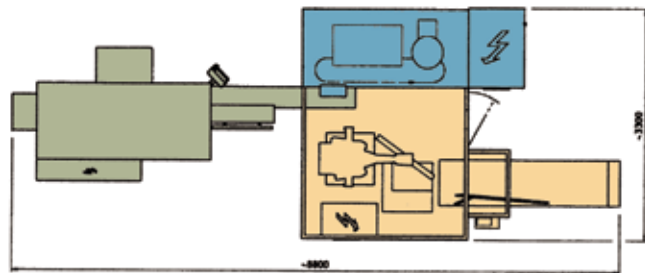
NSM/NM 902/NP 1702



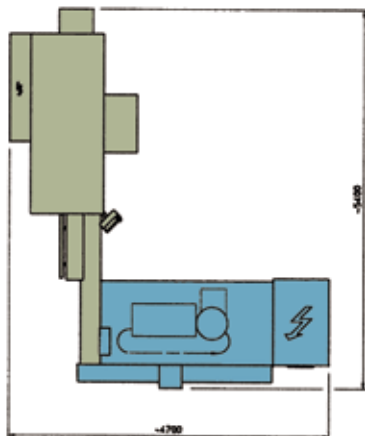
NM 902/NP 1702



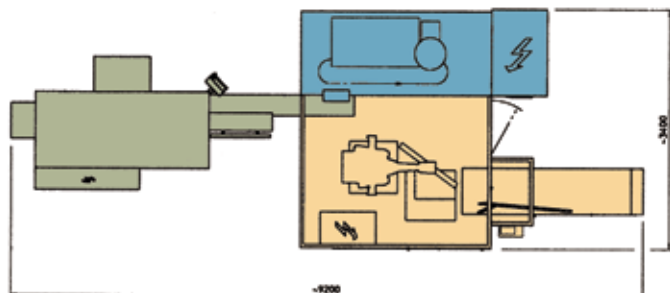
NM 1700/NP 1702



NM 1700E/NP 1702



NM 2002/NP 1702



NM 2002E/NP 1702

Basic machine:

- The machine is built on substantial rigid steel plates and anodized aluminium profiles.
- Covers below machine table are in stainless steel.
- Doors below machine table are in plexiglas PMMA.
- Door and covers above machine table are in Plexiglas PMMA
Two "seagull wing"-covers facilitate entrance into the machine above the table.
- The Guarding support frame is in anodised aluminium profiles.
- The Electrical cabinet is integrated onto the machine and is painted in RAL7042, stainless steel look.
- Machine table is low and ergonomic.
- The concept is comparable with machines of "balcony type" regarding line clearance and includes covered drive side.
- Main drive by servomotor, type ELAU.
- Minimised number of changeover positions.
Scales wherever possible.
- Max production speed: 140 or 200 cartons/minute depending on chosen carton feeding.

Standard equipment:

- Product pockets return part completely covered and supported by guides.
- In line synchronisation with tube filling machine is by servomotor.
- Level indicator for carton magazine.
- Standard 3 carton chains.
- Carton transfer system to minimized distance between product pocket and carton.
- Product rejection device – if carton is missing.
- Product and carton width, manually adjusted with scales. (no tools).
- Each size setting position in the machine is marked with identification number. The corresponding number can be found in the size setting tables.
- One set of size parts for one product and one carton size.
- One set of "first aid" spare parts.
- Machine standard in accordance with European standard EN 60204-1:1998.

Standard control function:

- Norden EasyWare based on ELAU Electrical control system with separatetouch screen operator panel.
- Operator panel is a 6.5" touch screen in colour.
- Safety functions (emergency stop and guard switches).
- Supervision for release of overload clutch – machine stops.
- Alarm signalling system with a three colour lamp and a buzzer
 - Red flashing: stop due to machine fault.
 - Green continuous: machine is running correctly or runs by the jogging system.
 - Green flashing: jogging mode, the machine stands still.
 - Yellow/Orange flashing: warning, low level.
 - Buzzer: short signal when machine starts on jogging mode.
- All alarm indicators may be pre-programmed by the customer from the operator panel.
- Electrical variable machine speed.
- Jogging device with four different modes:
 - Continual mode with low speed forward.
 - Continual mode with super low forward.
 - Step mode, one degree, forward.
 - Go to predefined position" mode..
- All electrical format changeovers from main panel.
- Production statistics OEE on operator panel.
- Thirty (30) programmable format tables.
- 16 (XGP) + 16 (YGP) free programmable functions.
- Parameters of functions may be set from the operator panel.
- The operator panel functions are secured by 7 different levels.
- Cycle stop in the most favourable position.
- Three consecutive rejections – machine stops.
- One Emergency stop button that stops the machine in a position before Tube filler indexing.
- No product – no carton function.

Carton feeding unit for up to 140 cartons/minute

Carton erection system by Oscillating arm, max 140 cartons/minute:

- Low "seagull wing"-covers facilitates entrance into the machine above the table.
- Adjustable magazine for cartons.
- Leading edge for opening of carton or trailing edge opening.
- Vacuum system for the carton ejection by means of an ejector.
- Belt driven discharge conveyor for discharge of complete cartons.

Carton feeding unit for up to 200 cartons/minute

Rotary wheel carton erection with pre-breaking and opening of cartons, max 200 cartons/minute:

- High "seagull wing"-covers facilitates entrance into the machine above the table..
- Belt driven adjustable magazine for cartons, standard length of 0,8 m. Various lengths on request.
- Leading edge for opening of carton.
- Vacuum system for the carton ejection by means of a pump and ejector.
- Belt driven discharge conveyor for discharge of complete cartons.
- Machine table is covered with stainless steel plates.

Above specification is Norden standard. Please note that the final specification will depend on the options chosen!

OPTIONAL EQUIPMENT

- Complete set of size parts for additional tube or carton size.
- 4th carton chain.
- Insertion of prefolded leaflets.
- Folding and insertion of unfolded leaflets.
- Automatic roll cutter and leaflet folder including unit for insertion of leaflets.
- Coding – embossing or inked embossing. Up to 4 lines on one or two flaps.
- Extended conveyerised carton magazine.
- Extended product chain.
- Control of product in carton.
- Hot melt sealing instead of tuck-in flaps.
- Hot melt on tuck-in flaps.
- Rejection of faulty cartons.
- Infeed systems of applicators or other articles.
- Telemecanique relays, contactors, motorprotectors etc.
- Electrical cabinet tropical execution.
- One set of recommended spare parts. • Code readers for cartons and /or leaflets.

- Presence control of leaflets in carton by Lumat photocell.
- Extended belt discharge conveyor.
- Labelling units.
- Ink-jet coding units.
- Laser coding units.
- Vision control units.
- Printers for connections to the control system.
- Communication connection to SCADA system (Ethernet or Profibus-DP).
- Compliance to FDA 11CFR21, on request.
- Conveyor systems.
- Check weighers.
- Bundlers.
- Case packers.
- Wrappers.
- Palletizers.

MACHINE PROGRAMME

We have different machine models for tube filling, with suitable cartoners or tray packers:

Nordenmatic	Output	
250	25 T/min	Single head filler
402	40 T/min	
602	60 T/min	
702	80 T/min	
902	100 T/min	
1002	120 T/min	
1700	170 T/min	Twin head fillers
2002	200 T/min	
3002	300 T/min	Triple head fillers
5002	500 T/min	Five head fillers

Nordenpac	Output
702	70-140 cpm
1702	140-200 cpm
2002	220 cpm
3002	300 cpm
5002	500 cpm
Norden Tray Pack Norden Store Magazine, NSM 180	



Norden Machinery is a medium size company producing first class packaging machinery. Operating globally we still maintain very close relationships with our customers. Every year we supply 150 packaging systems to every corner of the world, which in one way or another are designed and built specifically to meet the requirements of each customer.

Our 5000 machines in operation worldwide provide us with the industrial feedback and customer relations necessary for our future development.

When you choose Norden you invest for the future with an innovative, forward looking partner, which is dedicated to the success of its customers.

Norden Machinery originates from Arengo, which was founded in 1877. The first tube filling machine was designed in 1934. In 1980 the Norden Company was founded.

In January 2004 Norden became part of the Sirius Machinery Group, which is owned by the Swedish Industrial Company Nordstjernen.

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