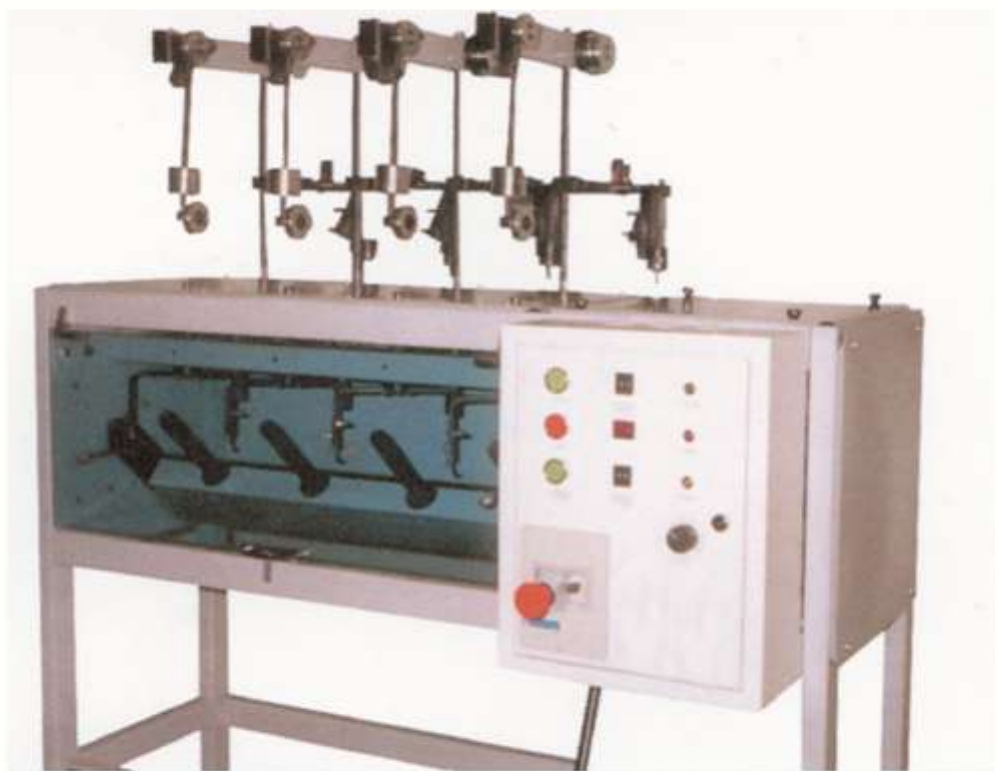
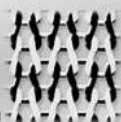


# MOD. NK-04

## Ball winding machine



Rundstrickmaschinen  
**Circular Knitting Machines**  
Machine à tricoter circulaire  
Tricotosas circulares  
Macchine circolari per maglieria



Wirkmaschinen  
**Warp Knitting Machines**  
Machine chaines  
Tricotosas por urdimbre  
Telai per maglia indemagliabile



Flecht-/Spiralisiermaschinen  
**Braiders/Spiralizing Machines**  
Machine à Tresser/Spiralizer  
Trenzadoras/Spiralatuçe  
Trecciatrici/Espiraladora



Sondermaschinen  
**Special Machines**  
Machine spécialité  
Macchine speciale  
Máquina especial



## Ball winding machine

### Appropriation of the machine

The appropriation of the ball winding machine NK 04 is to wind any kind of cords, gimps, yarn etc. to commercial bobbins in a form of none-tube balls, which have a very persistent structure, look very aesthetic and are easy to unwrap.

### Description of the machine

The ball winding machine NK 04 has 4 spindles, which means that it winds 4 bobbins simultaneously. In basic execution the re-rolled raw material is located in cylindrical cans placed next to the machine. It is also possible to equip the machine with separate creeling frame, which allows unwrapping the material from cylindrical and conical bobbins.

The winder works in semi-automatic mode. Removing of wound balls and clamping the cord requires manual interference, while all other activities are realized automatically.

The raw material is guided from the cans through the guide pieces, detectors, tension units and compensators to the yarn guides. The guides wind the cord to the hexagonal spindles in four phases:

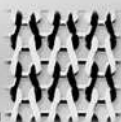
1. removing previously wound balls and clamping the cords in the slot of the spindle for winding on next balls. – position of the spindles is close to horizontal.
2. winding on the basic filling layers – with smaller inclination angle of the spindles.
3. winding on closing layers – with greater inclination angle of the spindles. Closing layers give the spherical shape to the balls and persist their structure.
4. winding the ball with several parallel lap rolls. – with vertical angle of the spindles.

### The machine is provided with :

- a microprocessor driver, which realizes functions such as:
- programming the full length of the cord
- programming the length of the cord for the filling layers.
- measurement of wound cord.
- executing of following phases of winding according to the specified algorithm.
- stopping the machine after winding the previously programmed length of the cord.
- stopping the machine in case of tearing the cord off or if no cord is available.
- stopping the machine in case of finding too big knot.
- stopping the machine in case of exceeding the permissible length of the diameter of the ball.
- stopping the machine in case of opened security cover.

### Technical data of the ball winding machine NK-04

| Notation   | Unit of measurement                    | Value                               |
|--|--|-------------------------------------|
| Number of spindles   | Unit                                   | 4                                   |
| Kind of the take-up bobbin   |  | Ball                                |
| Dimension of the winding spindle   | Mm                                     | 6kt 24 x 110                        |
| Maximum dimension of the winding guide (diameter x length)   | Mm                                     | 120 x 110                           |
| Rotary speed of yarn guides<br>I range:<br>II range:<br>III range:   | rpm<br>rpm<br>rpm                      | 500<br>338<br>222                   |
| Number of laps of the cord per 1 turn of the spindle:<br>for I range of braiding flyers:<br>for II range of braiding flyers:<br>for III range of braiding flyers | 1 per turn<br>1 per turn<br>1 per turn | 16,5 to 160<br>11 to 110<br>7 to 73 |
| Overall dimensions (length x width x height)   | Mm                                     | 1253 x 748 x 1448                   |
| Mass of the machine  | kg                                     | 120                                 |
| Nominal power of the main motor  | kW                                     | 0,37                                |
| Nominal rotary speed of the main motor   | Rpm                                    | 1380                                |





Knäuelwickler für Papier  
Ball.winder for paper



Knäuelwickler für Papier  
Ball.winder for paper



Knäuelwickler für Garne  
Ball.winder for efect yarn

