

Title (en)  
Winding machine

Title (de)  
Wickelmaschine

Title (fr)  
Machine d'enroulement

Publication  
**EP 2644549 B1 20160608 (EN)**

Application  
**EP 13160855 A 20130325**

Priority  
IT MI20120480 A 20120327

Abstract (en)  
[origin: EP2644549A1] A winding machine is disclosed for winding yarn on a tube to form a package (12). A package holder arm (14) is pivotally mounted to a fixed structure (30) of the winding machine for rotation about a pivot (28). A pneumatic actuator (31) causes the package holder arm (14) to be raised or lowered, rotating about the pivot (28). The actuator (31) has a cavity (40) with two cylindrical chambers (41, 42) of different diameters and a correspondingly shaped piston (44). The pneumatic actuator (31) is associated with a pressurized air supplying system comprising a control valve (51). The valve (51) separately supplies and discharges the first, wider cylindrical chamber (41) and the second, narrower cylindrical chamber (42) chamber through two separate first (57) and second (56) conduits. The first conduit (57), communicating with the wider chamber (59) comprises a choked nozzle (59) for causing a first loss of pressure in the fluid flowing through the first conduit (57). This first loss off pressure is greater than a second loss of pressure which takes place in the fluid flowing through the second conduit (56), which communicates with the narrower cylindrical chamber (42).

IPC 8 full level  
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Citation (examination)  
• JP 2011037608 A 20110224 - MURATA MACHINERY LTD  
• "Pneumatic Application & Reference Handbook", 1 January 2012 (2012-01-01), XP055173245, Retrieved from the Internet <URL:http://mead-usa.com/reference/media/pneumatic\_handbook.pdf> [retrieved on 20150303]

Cited by  
CN109607296A; CH717382A1

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