

SPIRAL WINDING MACHINE MODEL KWM-PLE-MINI

WITH SMALL DISPLAY WITH 2 PROGRAMMING LINES AND TEXT INFORMATION.

This automatic high speed spiral winding machine for continuous winding onto endless carrier material with permanent wire pitch or with several different lengths with each independent pitch.

FEATURES

- Versatile applications
- Many standard accessories
- Non stop operation
- Virtually maintenance free
- PLC control
- LCD display with 2 text lines
- Programming with user friendly windows

WINDING MATERIALS

- Round or flat wire
- Copper, aluminium, chrome-nickel and more
- Wire diam. 0,015 – 0,4 mm,
- AWG 35 – 26
- Wire supply spools up to DIN 125 (250)
- Also tape wrapping

CARRIER MATERIALS

- Flat- or round carriers up to 8 (10) mm in size (larger on request)
- Steel, glass fibre, plastic fibre, Nomex, cables and more
- Tube shaped materials
- Material supply spools up to DIN 400 (1000)
- Multi-strands from several suppl cones



MACHINE SPECIFICATION

- Power supply:
- 230 Volt AC, 50/60 Hz
- Motor power: 400 Watt
- Net weight: 140 kg
- Machine size: 2700 mm x 900 mm

MACHINE CONSISTING OF:

- 1 machine base with servo motor for pitch drive 0 – 5,0 mm per turn, servomotor for winding head drive up to 6.000 RPM, plexiglass security cover
- 1 winding nozzle and one set of flyer arms
- 1 PLC controller with 2 programming lines
- 1 Signal lamp for operation status
- Memory capacity of 10 programmes with each 20 independent lengths
- Interface for PC
- Optional software for data exchange

PROGRAMMING CAPABILITY

PROGRAMMABLE WINDING DATA:

- Production quantity (No. of Products)
- Winding material Ohm Value
- No. of lengths with independent pitch
- Distance per length
- Pitch of turns per length

PROGRAMMABLE MACHINE FUNCTIONS:

- Auto control of winding speed (acceleration, deceleration)
- Auto control of winding pitch (stepless 0 – 5,0 mm per turn)
- Auto control of wire tension (electromagnetic)
- Auto control of speed adjustment when pitch changes
- Auto Ohm control when resistance controller is used
- Auto carrier material brake control
- Auto winding material brake control

PRODUCTION DATA DISPLAY:

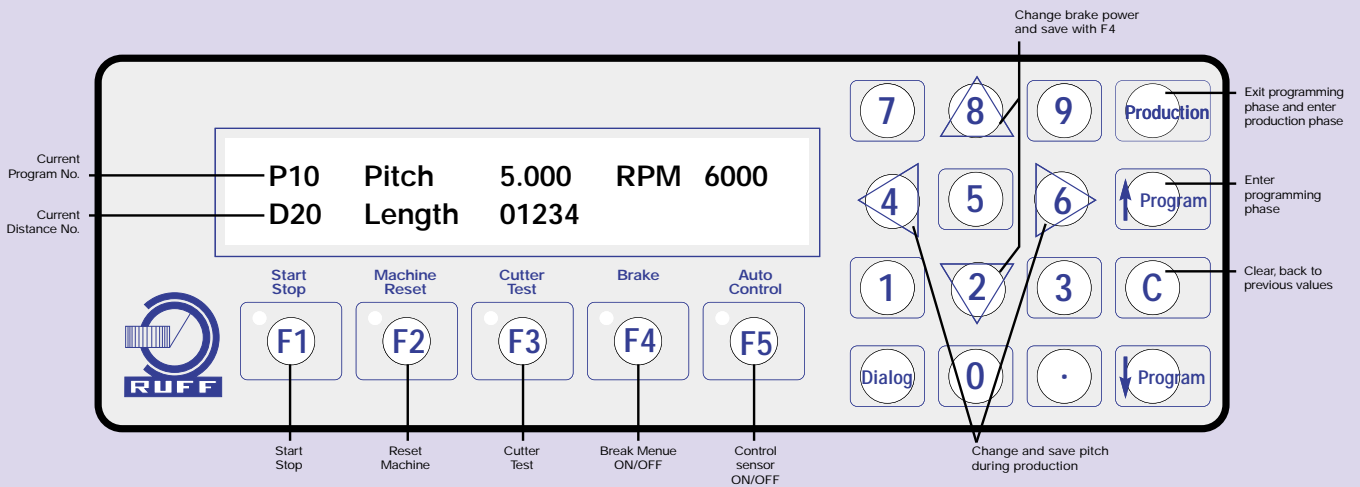
- Current program No. and length No.
- Current winding speed (in RPM)
- Current winding pitch (in mm)
- Current wire tension value (in %)
- Current Ohm control
- Current production quantity
- Programmed quantity reached

ACCESSORIES

- KWM-PLE-Z01: Standard take off unit for carrier material
- KWM-PLE-Z0: Overhead take off unit for fibre carrier material
- KWM-PLE-Z05: Brake tension unit for fibre carrier material
- KWM-PLE-Z13: Wire straightening unit for metal carrier material
- KWM-PLE-Z03: Standard take up unit with traverse fixture
- KWM-PLE-Z10: Motorized take up with auto speed control
- KWM-PLE-Z12: Winding head and software setup for music strings
- KWM-PLE-Z02: Standard take up unit without traverse
- KWM-PLE-Z11: Motorized take off with auto speed control
- KWM-PLE-Z06: Detwisting unit w. take up and traverse device
- KWM-PLE-Z08: Resistance controller (tolerance +/- 1%)
- KWM-PLE-Z07: Cutting device for finished product
- KWM-PLE-Z09: Separate transport machine for carrier material



KWM-PLE-MINI PLC DISPLAY MODUL



PROGRAMMING SCREENS

PROGRAMMING THE WINDING DATA

After switching on the machine, the software version is displayed.

Then you can select Programming phase or Production phase:

You can store 10 program numbers:

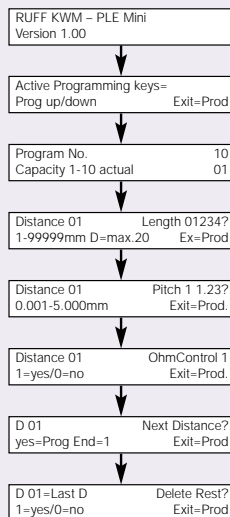
You can program 20 distance numbers:

You can program the pitch of the distance:

You can activate the OHM control function for each distance:

You can select next distance:

You can delete old additional parameters and easily exit to production:



PROGRAMMING THE MACHINE DATA

You can program the acceleration:

You can program the deceleration:

You can select different languages:

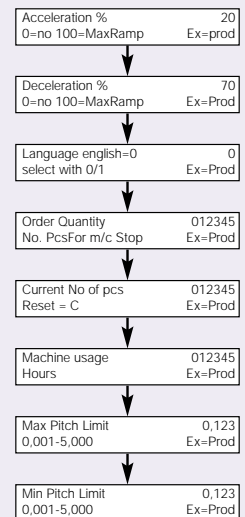
You can program the order (Production) quantity:

You can read out current quantity and reset counter to zero:

You can read out the machine usage in hours:

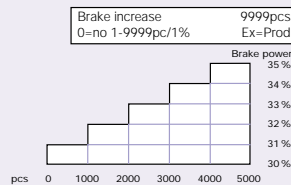
You can read out the max. pitch limit:

You can read out the min. pitch limit:



PROGRAMMING THE WIRE TENSION DATA

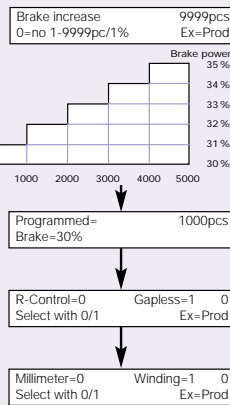
You can program the automatic brake power increase until the end brake control power. This compensates the difference between full wire spool and empty wire spool and guarantees uniform wire tension during the production.



You can program the start brake control power:

You can select the pitch control mode, either with automatic resistance-control-winding or with automatic gapless-control-winding:

The controller can also count the length of the wound material or the no. of wound windings:



PROGRAMMING WITH AUTOMATIC CALCULATION OF THE OHM VALUE

Programming the diameter carrier:

Programming the wire diameter:

Programming the required wire resistance:

Programming the required product resistance:

Display of the automatic calculated pitch value: Shows the calculated new pitch and the last old pitch.

