

螺旋绕线机



Spiral winding machines



70 JAHRE **The RUFF Group**

典型应用示例

发热元件 heating element



解冻元件 defrosting element



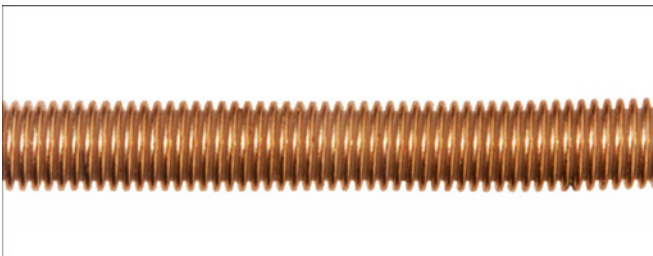
红外加热元件 infrared heating



琴弦 music string



保险丝 fuse

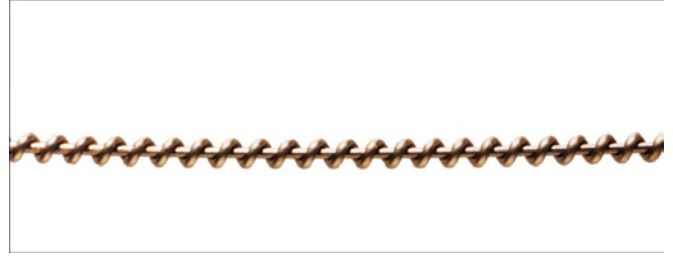


电位计 solid potentiometer



Typical winding examples

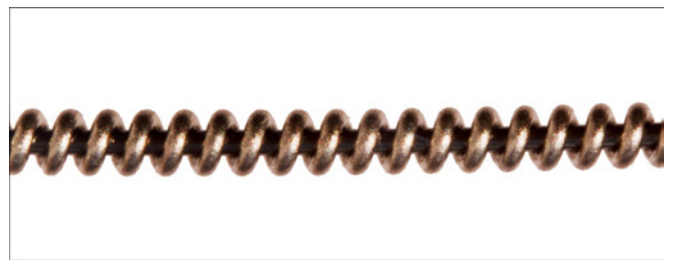
照明元件 lighting element



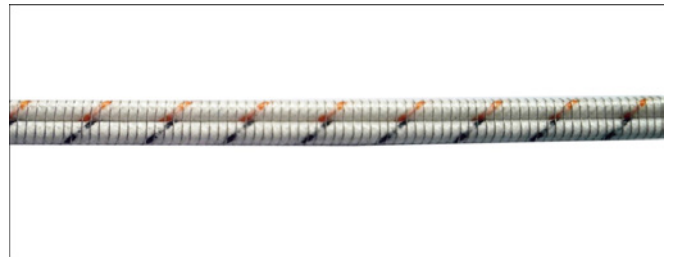
发热元件 heating element



发热元件 heating element



防护层绕线 protection winding



电阻丝 resistor



计算机线缆 computer cable



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THE RUFF GROUP

公司简介

正如很多企业一样，中小企业也可以孕育出一些很新奇有创意的产品，而RUFF正是这样的一家公司。

RUFF起源于70多年前慕尼黑附近的一个小仓库，多年来一直专注于生产高品质的线圈绕线机，并成为该领域的世界领先品牌。

我们生产的超过15000多台设备，销往全世界超过100个国家，这些设备受到客户的高度赞扬。

客户普遍认为，我们的机器具有高品质，标准性，同时耐用度极高，RUFF已成为高科技线圈绕线机行业规范的代名词。

1. 我们的市场地位及制造条件

- 拥有超过70年的线圈生产经验，以及先进的绕线行业专有技术。
- 拥有超过6000平米的欧洲标准化产房，配备现代化CNC数控车床，所有机械零部件自己生产。

2. 我们的智慧理念

- 利用现有的电子零部件，比如先进的PLC控制器，伺服驱动系统，自主研发控制系统及人机操作软件。
- 标准电子元器件在所有的RUFF绕线机上均采用统一的通讯协议。
- 采用模块化设计，便于对当前或以后的设备进行改装。
- 紧凑及坚固的机械结构设计。

3. 我们的市场及客户服务系统

- 全球范围内销售，服务及技术支持人员。
- 全球范围内48小时零配件服务。
- 全球范围内超50个国家和地区的销售代表。

基于以上这些理由，以及其他因素决定了我们能站在创新发展的前沿，并能为客户提供面向未来的具有开拓性的技术。

您可以充分地相信我们！相信RUFF！



落地式机型

KWM-Executive

配备10.4"触摸屏显示器

全自动高速螺旋绕线机的设计，是为了满足以恒定或按程序设定变化的节距，将细线绕到连续的中心线上。
典型应用：保险丝，发热丝，琴弦，照明元件

With 10.4" touch screen display

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



机器特征

- 适应多种不同应用
- 多样化的标准附件
- 持续不间断运作
- 真正的日常零保养
- 先进的PLC控制器
- 10.4"彩色触摸屏控制器
- 用户友好的编程操作界面

绕线材料

- 圆线或扁平线
- 铜线，铝合金线，镍铬合金线等
- 线径：0.015~0.4mm (AWG35-26)
- 线轴规格：K50 - K125 (可定制 20-250)
- 也可进行胶带缠绕

芯线材料

- 8mm 以内圆线或扁平线 (10mm 可定制)
- 钢丝，玻纤，塑胶线，芳纶线，线缆等
- 线径：空心管材料
- 线轴规格：K500 以内 (1000 可定制)
- 支持多股芯线

Features

- versatile applications
- many standard accessories
- non stop operation
- virtually maintenance free
- PLC-control
- 10,4" touch screen display
- 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: K50 (20) - K125 (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 K500 (1000)
- multi-strands from several supply cones

设备参数

- 电源供应: 230 Volt AC, 50/60 Hz, 16 A
- 双伺服马达
- 机器净重: 220 kg
- 机器尺寸: 2700 x 900 mm

机器组成部件

- 1 个标准机箱, 最高转速6000RPM
(含1个绕线伺服马达和1个芯线驱动伺服马达)
- 树脂玻璃防护罩
- 1个线嘴及1个绕线飞叉
- 1个10.4" 彩色触摸屏控制器
- 1个三色报警灯
- 可存储100组以上绕线程序
- PC 连接端口

编程参数范围

- 产量预设
- 绕线材料阻值设定 Ohm
- 独立节距绕线段落长度及数量
- 每个段落长度
- 每个段落的绕线节距

机器功能设置

- 绕线速度自动控制 (加速度/减速度)
- 绕线节距自动调节
- 绕线张力自动控制 (电子刹车盘)
- 节距变化时自动调节绕线速度
- 搭配电阻控制仪自动调节产品阻值
- 芯线刹车自动调节
- 绕线刹车自动调节

产品参数显示

- 当前程序及段落编号
- 当前绕线速度 转/分钟 (RPM)
- 当前绕线节距 mm
- 当前刹车值百分比 %
- 当前电阻控制仪百分比 %
- 当前产量
- 达到预设产量

Machine specification

- power supply: 230 Volt AC, 50/60 Hz, 16 A
- 2 servo motors
- net weight: 220 kg
- machine size approx.: 2700 x 900 mm

Machine consisting of

- 1 machine base with servo motor for pitch drive, servomotor for winding head drive up to 6000 RPM
- plexiglass security cover
- 1 winding nozzle and one set of flyer arms
- 1 PLC controller with 10.4" touch screen
- 1 signal lamp for operation status
- memory capacity of several 100 programmes
- interface for PC

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
- 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 (mm)
- current wire tension value (in %)
- current Ohm control (in %)
- current production quantity
- programmed quantity reached

附件

- 立式玻纤芯线送线支架
- 标准芯线送线支架
- 标准收线器 (不带排线装置)
- 标准收线器 (带排线装置)
- 玻纤芯线刹车装置
- 气动切线装置
- 电阻控制仪 (公差 +/-1%)
- 琴弦专用预设软件及绕线头
- 金属芯线拉直整形装置
- 履带式传送皮带
- AAU-PLE 500 (1000) 自动收线装置, 最大支持线轴 500 mm (可定制 1000 mm)
- AAB-PLE 500 (1000) 自动送线装置, 最大支持线轴 500 mm (可定制 1000 mm)
- ENT 褪扭力收线装置

Accessories

- overhead take off unit for fibre carrier material
- standard take off unit for carrier material
- standard take up unit without traverse
- standard take up unit with traverse fixture
- brake tension unit for fibre carrier material
- cutting device for finished product
- resistance controller (tolerance +/- 1%)
- winding head and software setup for music strings
- wire straightening unit for metal carrier material
- driven transport caterpillar
- AAU-PLE 500 (1000) automatic take up unit for max. spool dia. 500 (1000) mm
- AAB-PLE 500 (1000) automatic take off unit for max. spool dia. 500 (1000) mm
- ENT Detwisting unit with take up

KWM-Executive-S

特殊功能螺旋绕线机，可自动调节绕线节距，和在绕线过程中插入铜线束。
Special spiral winding machine with automatic pitch change and automatic copper wire insertion function.



配备10.4"触摸屏显示器
with 10.4" touch screen display

全自动高速螺旋绕线机的设计，是为了满足以恒定或按程序设定变化的节距，将细线绕到连续的中心线上。
典型应用：发热丝，照明元件，电阻丝，琴弦，连接线

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



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- 多样化的标准附件
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- 先进的PLC控制器
- 10.4"彩色触摸屏控制器
- 用户友好的编程操作界面

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- 铜线，铝合金线，镍铬合金线等
- 线径：0.015~0.4mm (AWG35-26)
- 线轴规格：K50 - K125 (可定制 20-250)
- 也可进行胶带缠绕

芯线材料

- 8mm 以内圆线或扁平线 (10mm 可定制)
- 钢丝，玻纤，塑胶线，芳纶线，线缆等
- 线径：空心管材料
- 线轴规格：K500 以内 (1000 可定制)
- 支持多股芯线

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- many standard accessories
- non stop operation
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- PLC-control
- 10.4" touch screen display
- programming with user friendly windows

Winding materials

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- 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 K500 (1000)
- multi-strands from several supply cones

插入材料

- 线径: 0.4mm以内 (AWG26)
- 最大支持4股线插入
- 线轴规格: K160 以内

设备参数

- 电源供应: 230 Volt AC, 50/60 Hz, 16 A
- 双伺服马达
- 机器净重: 220 kg
- 机器尺寸: 2700 x 900 mm

机器组成部件

- 1 个标准机箱, 最高转速6000RPM
(含1 个绕线伺服马达和1 个芯线驱动伺服马达)
- 树脂玻璃防护罩
- 1 个线嘴及1 个绕线飞叉
- 1 个10.4" 彩色触摸屏控制器
- 1 个三色报警灯
- 可存储100组以上绕线程序
- PC 连接端口

编程参数范围

- 产量预设
- 绕线材料阻值设定 Ohm
- 独立节距绕线段落长度及数量
- 每个段落长度
- 每个段落的绕线节距

机器功能设置

- 绕线速度自动控制 (加速度/减速度)
- 绕线节距自动调节
- 绕线张力自动控制 (电子刹车盘)
- 节距变化时自动调节绕线速度
- 搭配电阻控制仪自动调节产品阻值
- 芯线刹车自动调节
- 绕线刹车自动调节

产品参数显示

- 当前程序及段落编号
- 当前绕线速度 转/分钟 (RPM)
- 当前绕线节距 mm
- 当前刹车值百分比 %
- 当前电阻控制仪百分比 %
- 当前产量
- 达到预设产量

附件

- 立式玻纤芯线送线支架
- 铜线插入装置
- 电阻测量装置最大支持12米测量长度
- 自带马达的自动调速送线装置
- 电阻控制仪 (公差 +/-1%)
- 插入铜线的送线装置
- 履带式传送皮带
- AAU-PSE 500 (1000) 自动收线装置, 最大支持线轴 500 mm
(可定制 1000 mm)
- AAB-PSE 500 (1000) 自动送线装置, 最大支持线轴 500 mm
(可定制 1000 mm)
- 在线褪扭装置

Insertion materials

- wire diameter up to 0,4 mm (AWG 26)
- up to 4 wires quadfilar
- supply spools up to K160

Machine specification

- power supply: 230 Volt AC, 50/60 Hz, 16 A
- 2 servo motors
- net weight: 220 kg
- machine size approx.: 2700 x 900 mm

Machine consisting of

- 1 machine base with servo motor for pitch drive, servomotor for winding head drive up to 6000 RPM
- plexiglass security cover
- 1 winding nozzle and one set of flyer arms
- 1 PLC controller with 10.4" touch screen
- 1 signal lamp for operation status
- memory capacity of several 100 programmes
- interface for PC

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
- 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 (mm)
- current wire tension value (in %)
- current Ohm control (in %)
- current production quantity
- programmed quantity reached

Accessories

- overhead take off unit for fibre carrier material
- copper shooting device
- resistance measuring unit up to 12 meters length
- motorized take off with auto speed control
- resistance controller (tolerance +/- 1%)
- take off unit for copper insertion wire
- AAU-PSE 500 (1000) automatic take up unit for max. spool dia. 500 (1000) mm
- AAB-PSE 500 (1000) automatic take off unit for max. spool dia. 500 (1000) mm
- detection cutter for extruded cables
- Inline detwisting unit

WWM-Executive

配备10.4"触摸屏显示器
with 10.4" touch screen display

重型落地式螺旋绕线机，适用于粗线径大线轴的绕线应用。

Heavy duty spiral winding machine for large wires and big wire spools

全自动高速螺旋绕线机的设计，是为了满足以恒定或按程序设定变化的节距，将细线绕到连续的中心线上。
典型应用：超导材料，仪器/计算机连接线，汽车连接线

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



机器特征

- 适应多种不同应用
- 多样化的标准附件
- 持续不间断运作
- 真正的日常零保养
- 先进的 PLC 控制器
- 10.4"彩色触摸屏控制器
- 用户友好的编程操作界面

绕线材料

- 圆线或扁平线
- 铜线，铝合金线，镍铬合金线等
- 线径：0.4~1.5mm (AWG 14½-26)
- 线轴规格：K160 - K200 (可定制 250)
- 也可进行胶带缠绕

芯线材料

- 12mm 以内圆线或扁平线 (15mm 可定制)
- 钢丝，玻纤，塑胶线，芳纶线，线缆等
- 线径：空心管材料
- 线轴规格：K500 以内 (1000 可定制)
- 支持多股芯线

Features

- versatile applications
- many standard accessories
- non stop operation
- virtually maintenance free
- PLC-control
- 10.4" touch screen Display
- programming with user friendly windows

Winding materials

- round or flat wire
- copper, aluminium, chrome-nickel and more
- wire diam.: 0,4 - 1,5 mm (AWG 14½ - 26)
- wire supply spools: K160 - K200 (250)
- also tape wrapping

Carrier materials

- flat- or round carriers up to 12 (15) mm in size (larger on request)
- steel, glass fibre, plastic fibre, Nomex, cables and more
- tube shaped materials
- material supply spools up to K500 (1000)
- multi-strands from several supply cones

设备参数

- 电源供应: 230 Volt AC, 50/60 Hz, 16 A
- 双伺服马达
- 机器净重: 220 kg
- 机器尺寸: 2700 x 900 mm

机器组成部件

- 1 个标准机箱, 最高转速3000RPM
(含1个绕线伺服马达和1个芯线驱动伺服马达)
- 树脂玻璃防护罩
- 传送皮带防护罩
- 1 个线嘴及1 个绕线飞叉
- 1 个10.4" 彩色触摸屏控制器
- 1 个三色报警灯
- 可存储100组以上绕线程序
- PC 连接端口

编程参数范围

- 产量预设
- 绕线材料阻值设定 Ohm
- 独立节距绕线段落长度及数量
- 每个段落长度
- 每个段落的绕线节距

机器功能设置

- 绕线速度自动控制 (加速度/减速度)
- 绕线节距自动调节
- 绕线张力自动控制 (电子刹车盘)
- 节距变化时自动调节绕线速度
- 搭配电阻控制仪自动调节产品阻值
- 芯线刹车自动调节
- 绕线刹车自动调节

产品参数显示

- 当前程序及段落编号
- 当前绕线速度 转/分钟 (RPM)
- 当前绕线节距 mm
- 当前刹车值百分比 %
- 当前电阻控制仪百分比 %
- 当前产量
- 达到预设产量

Machine specification

- power supply: 230 Volt AC, 50/60 Hz, 16 A
- 2 servo motors
- net weight: 220 kg
- machine size approx.: 2700 x 900 mm

Machine consisting of

- 1 machine base with servo motor for pitch drive servomotor for winding head drive up to 3.000 RPM
- plexiglass security cover
- transparent safety cover
- 1 winding nozzle and one set of flyer arms
- 1 PLC controller with 10.4" touch screen display
- 1 signal lamp for operation status
- memory capacity of several 100 programmes
- interface for PC

Programming capability - programmable winding data

- production quantity (no. of products)
- winding material Ohm value with automatic pitch calculation
- 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
- 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 (mm)
- current wire tension value (in %)
- current Ohm control (in %)
- current production quantity
- programmed quantity reached

附件

- 立式玻纤芯线送线支架
- 标准芯线送线支架
- 标准收线器 (不带排线装置)
- 标准收线器 (带排线装置)
- 玻纤芯线刹车装置
- 气动切线装置
- 电阻控制仪 (公差 +/-1%)
- 金属芯线拉直整形装置
- 履带式传送皮带
- AAU-PLE 500 (1000) 自动收线装置, 最大支持线轴 500 mm (可定制 1000 mm)
- AAB-PLE 500 (1000) 自动送线装置, 最大支持线轴 500 mm (可定制 1000 mm)
- ENT 褪扭力收线装置

Accessories

- overhead take off unit for fibre carrier material
- standard take off unit for carrier material
- standard take up unit without traverse
- standard take up unit with traverse fixture
- brake tension unit for fibre carrier material
- cutting device for finished product
- resistance controller (tolerance +/- 1%)
- wire straightening unit for metal carrier material
- motorized transport caterpillar
- AAU-PLE 500 (1000) automatic take up unit for max. spool dia. 500 (1000) mm
- AAB-PLE 500 (1000) automatic take off unit for max. spool dia. 500 (1000) mm
- detwisting unit with take up

WWM-16

配备10.4"触摸屏显示器
with 10.4" touch screen display

重型落地式螺旋绕线机，适用于16股线同步并行绕线。
Heavy duty spiral winding machine for up to 16 winding wires

全自动高速螺旋绕线机的设计，是为了满足以恒定或按程序变化的节距，同时将16股绕到连续的中心线上。
典型应用：线缆，汽车连接线等专用工业线材

This automatic high speed spiral winding machine is designed for continuous winding of 16 wires onto endless carrier material with permanent wire pitch or several different lengths with each independent pitch.



机器特征

- 适应多种不同应用
- 多样化的标准附件
- 持续不间断运作
- 真正的日常零保养
- 先进的PLC控制器
- 10.4"彩色触摸屏控制器
- 用户友好的编程操作界面

绕线材料

- 圆线或扁平线
- 铜线，铝合金线，镍铬合金线等
- 线径：0.015~0.4mm (AWG35-26)
- 线轴规格：K60, K80
- 也可进行胶带缠绕

芯线材料

- 12mm 以内圆线或扁平线 (15mm 可定制)
- 钢丝，玻纤，塑胶线，芳纶线，线缆等
- 线径：空心管材料
- 线轴规格：K500 以内 (1000 可定制)
- 支持多股芯线

Features

- versatile applications
- many standard accessories
- non stop operation
- virtually maintenance free
- PLC-control
- 10.4" touch screen Display
- programming with user friendly windows

Winding materials

- round or flat wire
- copper, aluminium, chrome-nickel and more
- wire diam.: 0,015 – 0,6 mm (AWG 35 - 23)
- wire supply spools: K60, K80
- also tape wrapping

Carrier materials

- flat- or round carriers up to 12 (15) mm in size (larger on request)
- steel, glass fibre, plastic fibre, Nomex, cables and more
- tube shaped materials
- material supply spools up to K500 (1000)
- multi-strands from several supply cones

设备参数

- 电源供应: 230 Volt AC, 50/60 Hz, 16 A
- 双伺服马达
- 机器净重: 260 kg
- 机器尺寸: 2700 x 900 mm

机器组成部件

- 1 个标准机箱, 最高转速500RPM
(含1个绕线伺服马达和1个芯线驱动伺服马达)
- 16 个独立可调的绕线轴刹车
- 树脂玻璃防护罩
- 1 个线嘴及1个绕线飞叉
- 1 个10.4" 彩色触摸屏控制器
- 1 个三色报警灯
- 可存储100组以上绕线程序
- PC 连接端口

编程参数范围

- 产量预设
- 绕线材料阻值设定, Ohm 值在线校正
- 独立节距绕线段落长度及数量
- 每个段落长度
- 每个段落的绕线节距

机器功能设置

- 绕线速度自动控制 (加速度/减速度)
- 绕线节距自动调节
- 节距变化时自动调节绕线速度
- 搭配电阻控制仪自动调节产品阻值
- 芯线刹车自动调节
- 绕线刹车自动调节

产品参数显示

- 当前程序及段落编号
- 当前绕线速度 转/分钟 (RPM)
- 当前绕线节距 mm
- 当前刹车值百分比 %
- 当前电阻控制仪百分比 %
- 当前产量
- 达到预设产量

Machine specification

- power supply: 230 Volt AC, 50/60 Hz
- 2 servo motors
- net weight: 260 kg
- machine size approx.: 2700 x 900 mm

Machine consisting of

- 1 machine base with servo motor for pitch drive servomotor for winding head drive up to 500 RPM
- 16 individually adjustable winding wire brakes
- transparent safety cover
- 1 winding nozzle
- 1 PLC controller with 10.4" touch screen display
- 1 signal lamp for operation status
- memory capacity of several 100 programmes
- interface for PC

Programming capability - programmable winding data

- production quantity (no. of products)
- winding material Ohm value with automatic pitch calculation
- 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
- 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 (mm)
- current Ohm control (in %)
- current production quantity
- programmed quantity reached

附件

- 立式玻纤芯线送线支架
- 标准芯线送线支架
- 标准收线器 (不带排线装置)
- 标准收线器 (带排线装置)
- 玻纤芯线刹车装置
- 气动切线装置
- 电阻控制仪 (公差 +/-1%)
- 金属芯线拉直整形装置
- 履带式传送皮带
- AAU-PLE 500 (1000) 自动收线装置, 最大支持线轴 500 mm
(可定制 1000 mm)
- AAB-PLE 500 (1000) 自动送线装置, 最大支持线轴 500 mm
(可定制 1000 mm)
- ENT 褪扭力收线装置

Accessories

- overhead take off unit for fibre carrier material
- standard take off unit for carrier material
- standard take up unit without traverse
- standard take up unit with traverse fixture
- brake tension unit for fibre carrier material
- cutting device for finished product
- resistance controller (tolerance +/- 1%)
- wire straightening unit for metal carrier material
- driven transport caterpillar
- AAU-PLE 500 (1000) automatic take up unit for max. spool dia. 500 (1000) mm
- AAB-PLE 500 (1000) automatic take off unit for max. spool dia. 500 (1000) mm
- detwisting unit with take up

KWM DET

配备10.4"触摸屏显示器
with 10" touch screen display

全自动检测，标记，切断螺旋绕线机
Detection, marking and cutting machine

这款机器用于柔性或刚性的圆形及扁平材料绕线的同时
在线标记及自动切断。适用于没有内部屏蔽的挤压线缆。

This machine is used for continuous marking and cutting
of flexible or rigid round or flat materials. It is suitable for
extruded cables without internal shielding.



1 个10" HMI 触摸屏控制器
- USB 接口

1 个机械式延时刹车以维持进线处的稳定张力
- 包含检测线材余量的光电传感器

1 组传输装置
- 包含产品长度测量系统
- 包含检测线材内铜线经过位置的传感器

1 组集成打标系统，用来标记插入铜线的距离

1 组送线装置
- 包含履带式传送皮带
- 包含400W 伺服马达

1 个气动切线装置
- 6bar 压缩空气
- 包含 1 组切线刀
- 集成式配电箱

1x control with HMI 10" color touch panel
- USB connection point

1x mechanical brake device for even tension
of the cable at the inlet (hysteresis brake)
- incl. light sensor for material end detection

1x transition unit
- incl. product length measurement system
- incl. sensor technology to find the copper
transition point inside the cable

1x marking of copper shooting distances
via integrated marking system

1x transport device
- incl. transport caterpillar
- including 400 W servo motor

1x cutting device
- 6 bar air pressure necessary
- incl. 1 cutting nozzle
- integrated electrical cabinet

设备特征

- 适用多种绕线应用
- 不间断运行
- PLC 控制器
- 10" 触摸屏显示器
- 用户友好的编程界面

绕线材料

- 圆线或扁平线缆
- PVC, 硅胶等类似材料
- 材料范围: 12 mm Ø 以内
- 线轴规格: K160 - K355 (可定制 K500, K1000)

设备参数

- 电源供应: 230 Volt AC, 50/60 Hz, 16 A
- 伺服马达
- 机器净重: 240 kg
- 机器尺寸: 1725 x 760 mm

机器组成部件

- 1 个标准机箱, 含芯线驱动伺服马达
- 树脂玻璃防护罩
- 1 个 JET-Pen 集成打标系统
- 1 个 10" 彩色触摸屏控制器
- 1 个三色报警灯
- 可存储 100 组以上绕线程序

编程参数范围

- 产量预设
- 绕线段落长度及数量 (包含/不含铜线)
- 每个段落长度 (包含/不含铜线)

机器功能设置

- 绕线速度自动控制
- 材料用完自动停机
- 自动铜线插入点检测
- 自动测量检测距离长度

产品参数显示

- 当前程序名称
- 当前绕线速度 转/分钟 (RPM)
- 当前完成产品个数
- 预设目标产量
- 当前段落长度

附件

- 标准芯线送线支架
- AAB- 500 (1000) 自动送线装置, 最大支持线轴 500 mm (可定制 1000 mm)

Features

- versatile applications
- non stop operation
- PLC-control
- 10" touch screen Display
- programming with user friendly windows

Usable materials

- flat or round cables
- PVC, Silicon etc.
- material range: up to 12 mm Ø
- spool sizes: K160 – K355 (optional K500, K1000)

Machine specification

- power supply: 230 Volt AC, 50/60 Hz
- servo motor
- net weight: approximately 240 kg
- machine size approx.: 1725 x 760 mm

Machine consisting of

- 1 machine base with servo motor for pitch drive
- transparent safety cover
- 1 integrated marking system JET-Pen
- 1 PLC controller with 10" touch screen display
- 1 signal lamp for operation status
- memory capacity of several 100 programmes

Programming - programmable winding data

- production quantity (no. of products)
- no. of different lengths (with/without copper)
- distance per length (with/without copper)

Programmable machine functions

- adjustable winding speed
- auto material end control
- auto copper shooting detection
- auto length detection and measurement

Production data display

- current program
- current winding speed (in RPM)
- current number of pieces
- target quantity
- length of current distance

Accessories

- Standard take on unit
- AAB 500 (1000) automatic take off unit for spool diameter max. 500 (1000) mm

特殊应用 Special applications

双轴同向绕线机

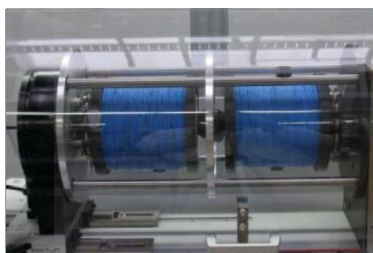
KWM with double spool unit

KWM-EXECUTIVE-2B 机型具有双线轴绕线头，每个绕组可独立设置刹车值。这样使两组绕丝在绕线过程中始终保持稳定张力，并同时两组绕丝缠绕到同一芯线上。

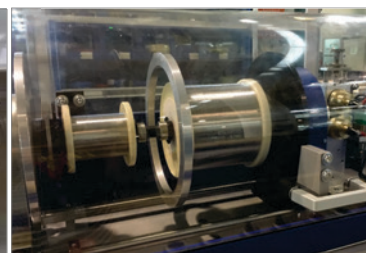


The here shown KWM-EXECUTIVE-2B machine has a double spool unit with two independent programmable brakes for the winding materials. Herewith both spools has continuously the same tension during the process for a perfect winding result. The machine is designed for simultaneously winding of two winding materials to one carrier.

相同大小双轴绕组



一大一小双轴绕组



超细线气悬辅助绕线机

KWM with air bearing for winding spool

气悬装置适用于超细线径如0.015mm，可将线轴旋转阻力降到最小。方案是一组特殊的气悬轴承，此方案将极细线径的绕线应用变为可能。



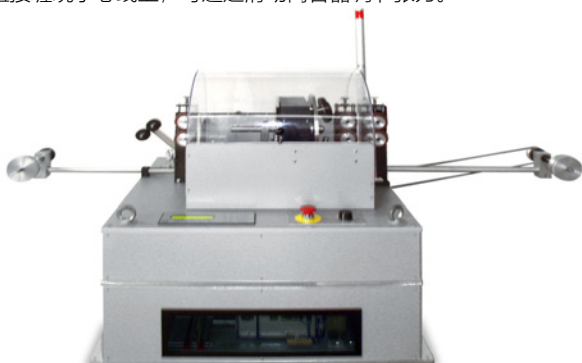
For very thin wires like 0,015 mm copper wire it is crucial to reduce the roll resistance to a minimum. Our solution is a special designed air bearing. This solution allow the winding of very delicate winding applications.



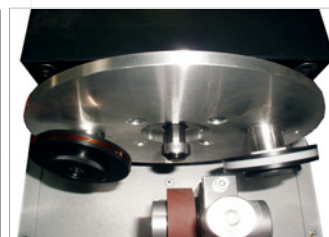
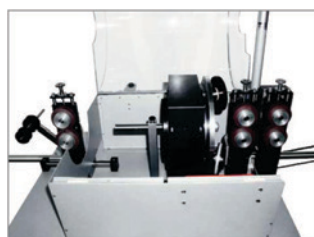
螺旋包带机

WWM with circulating tape system

螺旋包带机适用于光碟型胶带料盘的包带，胶带在旋转过程中从料盘带出，将胶带直接缠绕于芯线上，可通过滑动离合器调节张力。



This system is for disc wound adhesive tapes. The tape will be dereeled during the rotation and placed directly on the carrier. The tension of the tape can be adjusted by a slipping clutch.



双轴双工作站绕线及包带机

WWM with two winding heads and a double spool unit on one side

WWM-EXECUTIVE-2B-TAPE 机型具有两个独立可编程控制的工作站，完美地适用于两种不同绕丝同时连续缠绕在同一芯线或软管上的应用。另外，工作站 1 双轴绕线机可同时进行绕线，工作站 2 包带机可通过程序控制，与工作站 1 实现同步顺向或反向包胶带。

This special spiral winding machine has two independent programmable winding heads, which suits excellent for winding applications of one carrier with two different winding materials to be wound in one process. Further more, with the double spool unit, two wires can be wound simultaneously and the second winding head can be programmed in the same or in the opposite winding direction, according the requirement.

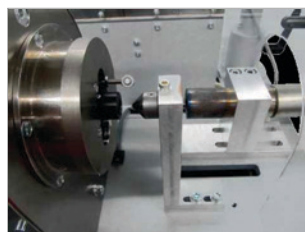


热风粘合及螺旋包带机

KWM with helix unit and heated nozzle

这款机器配置了可无极调温的热吹风装置。适用于比如：加热之后具有粘性的芯线材料，芯线通过气嘴进行加热，使其具有粘性，然后将绕丝缠绕并黏附在芯线表面，然后机器按设定长度自动切断。

This machine has a heated nozzle with stepless adjustable regulator for the temperature. It is for example for heated bondable wires, when the winding wire will be fixed in the bondable enamel of the carrier. At this special machine, after the winding: the products will be cut to the required length and further it will be wound by the helix unit in a spiral shape.



单轴双工作站螺旋绕线机

KWM with two winding heads

KWM-EXECUTIVE-DK 螺旋绕线机具有两个独立运行的绕线机头，可实现两种不同材料依次同时缠绕在同一芯线上。每个绕线机头由控制器独立控制，两种绕丝可采用不同节距，不同张力，不同缠绕方向CW/CCW。

The spiral winding machine KWM-Executive-DK with two winding heads enables to wind two winding materials to one carrier after each other in only one winding process. Both heads are controlled independent of each other from one controller. This allows for example to program different pitches, rotation direction as well brake tension for each head.

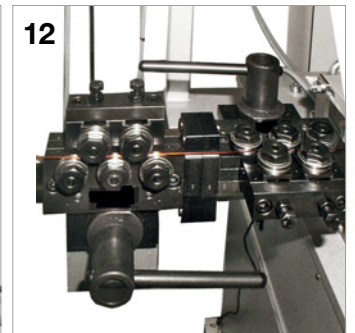
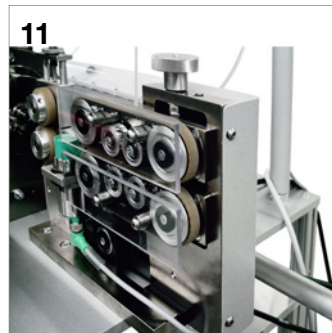
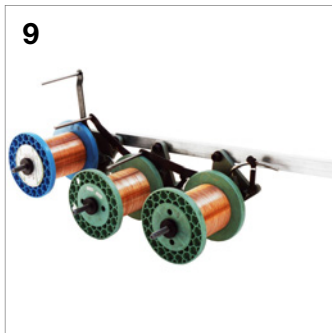
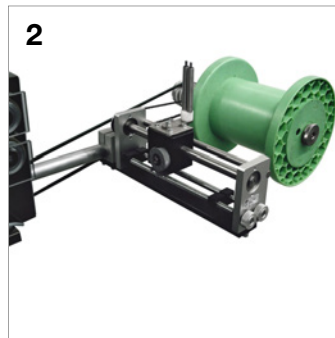


附件

- 1) 标准芯线送线支架
- 2) 带排线器的收线装置
- 3) 玻纤芯线刹车装置
- 4) 自动褪扭收线器
- 5) 自动切断装置
- 6) 自动电阻控制仪
- 7) 独立送线机
- 8) 立式玻纤芯线送线支架
- 9) 自带马达的自动调速送线装置
- 10) 自带马达和排线器，可自动调速的收线装置
- 11) 履带式传送皮带
- 12) 金属芯线拉直整形装置

Accessories

- 1) Standard take off unit for carrier material
- 2) Take up unit with traverse device
- 3) Brake tension unit for fibre carrier material
- 4) Detwisting unit with take up and traverse device
- 5) Cutting device
- 6) Automatic resistance controller
- 7) Separate transport machine
- 8) Overhead take off unit for fibre carrier material
- 9) Take off unit for copper insertion wire and inseration device
- 10) Motorized take up unit or take off unit with auto speed control
- 11) Transport caterpillar
- 12) Wire straightening unit for metal carrier material



螺旋绕线机配置咨询表

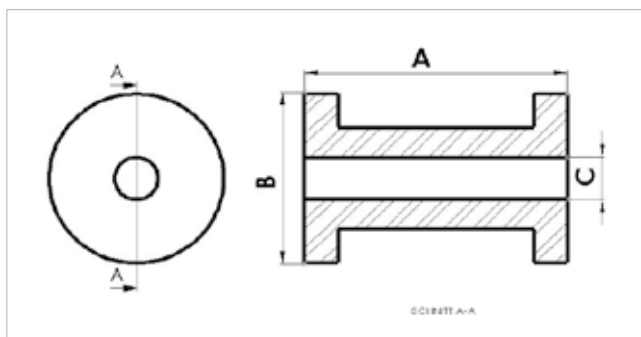
Questionnaire for machine configuration KWM / WWM

芯线规格 carrier material

芯线直径 diameter				mm
材质 material				
线轴规格 spool size	A 高度	B 外径	C 内孔	
	mm	mm	mm	
线轴重量 spool weight approx.	kg	kg	kg	

绕线规格 winding material

绕丝直径 diameter				mm
材质 material				
线轴规格 spool size	A 高度	B 外径	C 内孔	
	mm	mm	mm	
线轴重量 spool weight approx.	kg	kg	kg	



绕线方式图解 winding diagram

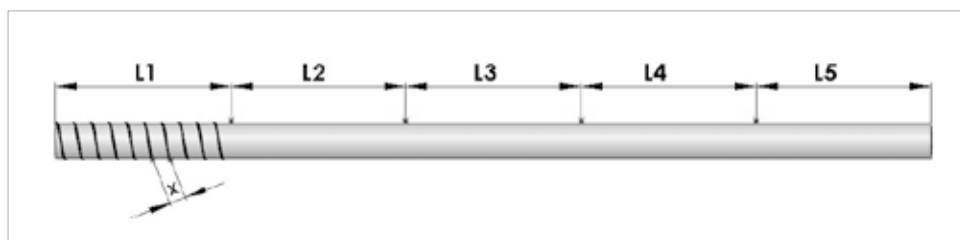
Executive

L1 =	mm	mm/X =	mm
L2 =	mm	mm/X =	mm
L3 =	mm	mm/X =	mm
L4 =	mm	mm/X =	mm

Pitch X 节距= 单倍线径 + 间距

Executive S

插入铜线长度= copper shooting L =	mm
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