

Plant engineering

COMPLETE SOLUTIONS FOR THE WIRE INDUSTRY

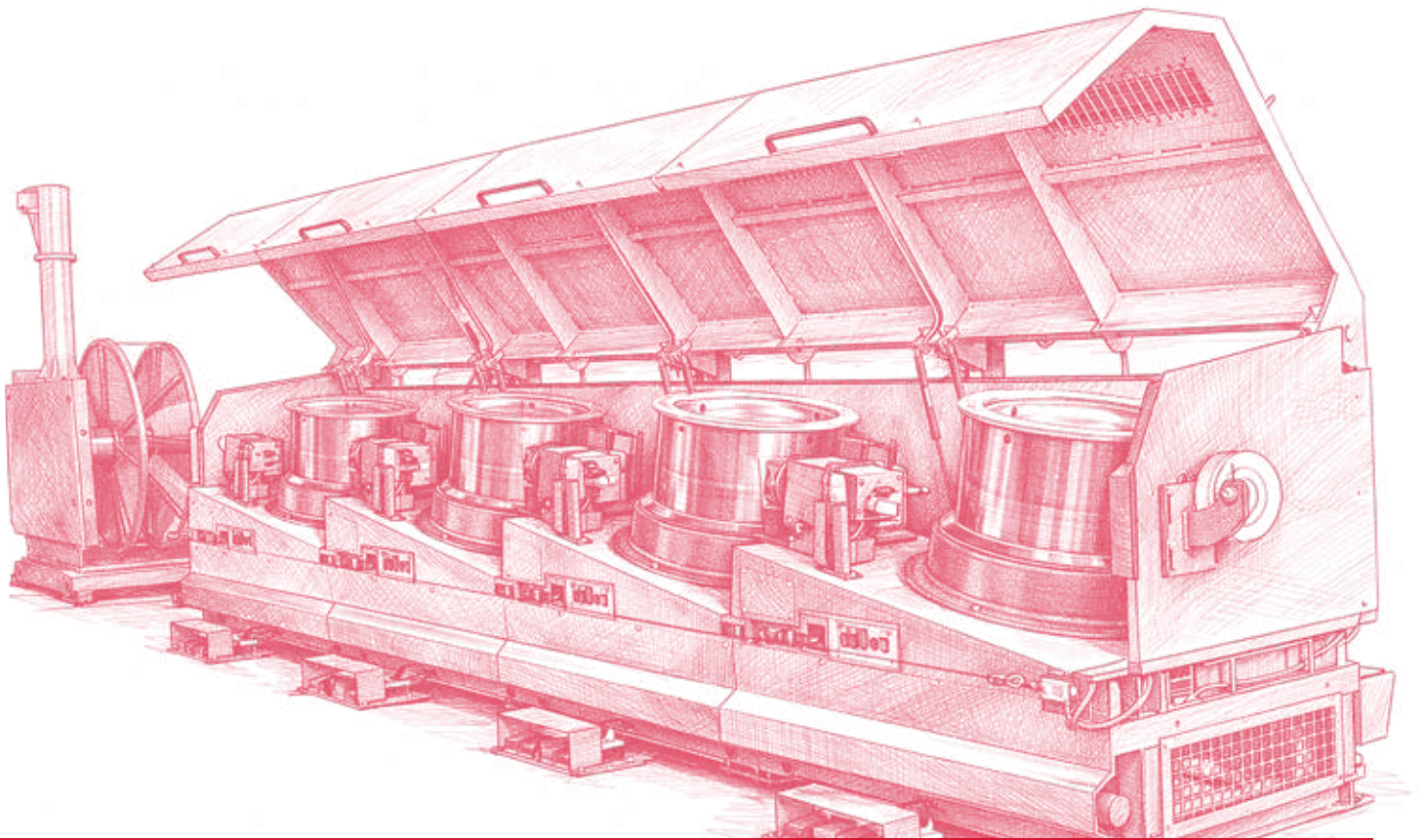


Table of Contents

About the Company	1
Retrofit- & CE-Upgrade-Service	2
Machine Modernisation	3
Overhead Pay-off for Wire Rod	4
Single Pay-off Reel for Wire Rod	5
Double Pay-off Reel for Wire Rod	6
Horizontal Pay-off System with Flyer	7
Single-Block Drawing Machine, Horizontal	8-9
Single-Block Drawing Machine, Vertical	10-11
Straight-Line Drawing Machine	12-13
Horizontal Coiling Machine	14-15
Vertical Coiling Machine	16-17
Static Coiler and Drawing Coiler, Horizontal	18-19
Static Coiler, Vertical	20-21
Bending Coiler	22-23
Drawing / Coiling System	24-25
Accessories	26-29



Kistner Anlagenbau GmbH

ABOUT THE COMPANY

Kistner Anlagenbau GmbH was founded in 1997 by Johannes Kistner.

Drawing on his extensive experience as an electrical service technician for a leading manufacturer of wire drawing equipment, the company initially focused on servicing and maintaining wire drawing systems both in Germany and internationally.

Shortly after its foundation, Kistner began modernising existing wire drawing systems, equipping them with state-of-the-art electrical components designed and manufactured in-house.

Thanks to the expertise of its employees, all of whom have a background in the wire industry, the company has continuously evolved and established itself as a reliable partner for the wire industry. Since 2004, Kistner Anlagenbau GmbH has been certified in accordance with DIN EN ISO 9001:2015.

In September 2024, Kistner Anlagenbau GmbH was acquired by Kjellberg Holding GmbH, which is also a shareholder of its long-standing partner, VWP Maschinenbau- und Service GmbH.

Customers benefit from the fact that both companies now operate under one roof, enabling even closer and more efficient collaboration. Today, in addition to service, modernisation and control cabinet manufacturing, the company offers complete systems for the entire wire industry.



A company of the Kjellberg-Stiftung

Kjellberg[®]
FINSTERWALDE

Retrofit- & CE-Upgrade-Service

RETROFIT WITH KISTNER ANLAGENBAU.

Many production machines are taken out of service even though they are still operating reliably. In many cases, this is simply because they no longer meet current requirements in terms of productivity, quality or safety. Wear and tear, as well as outdated control and safety systems, often appear to justify investment in new equipment.

With our modular retrofit and CE upgrade concept, we modernise existing machines in a targeted, efficient and cost-transparent manner.

The original equipment is retained, upgraded to the latest technical and safety standards, and optimally adapted to current production requirements.

Kistner Anlagenbau has been providing comprehensive expertise in the overhaul, modernisation and CE retrofitting of used machinery and equipment since 1997.

ANALYSIS & ENGINEERING

Assessment of mechanical, electrical and control system components, followed by the development of a customised modernisation and safety concept in accordance with the Machinery Directive 2006/42/EC.

IMPLEMENTATION

Modernisation carried out by experienced technicians either on-site at the customer's premises or at Kistner's facilities.

This includes inspection, repair or replacement of relevant components, as well as the integration of modern control and safety technology.

COMMISSIONING & CE CONFORMITY

Commissioning, acceptance testing and CE conformity assessment, including the provision of all required documentation.

Maintenance and service are included.

DIGITAL UPGRADES FOR YOUR SYSTEM

Upon request, your system can be enhanced with digital features to further increase efficiency. These include access to machine data, remote maintenance, targeted fault analysis, and simplified spare parts ordering.

Machine Modernisation with a Kistner Retrofit

TURNING OLD INTO NEW RETROFIT INSTEAD OF NEW INVESTMENT



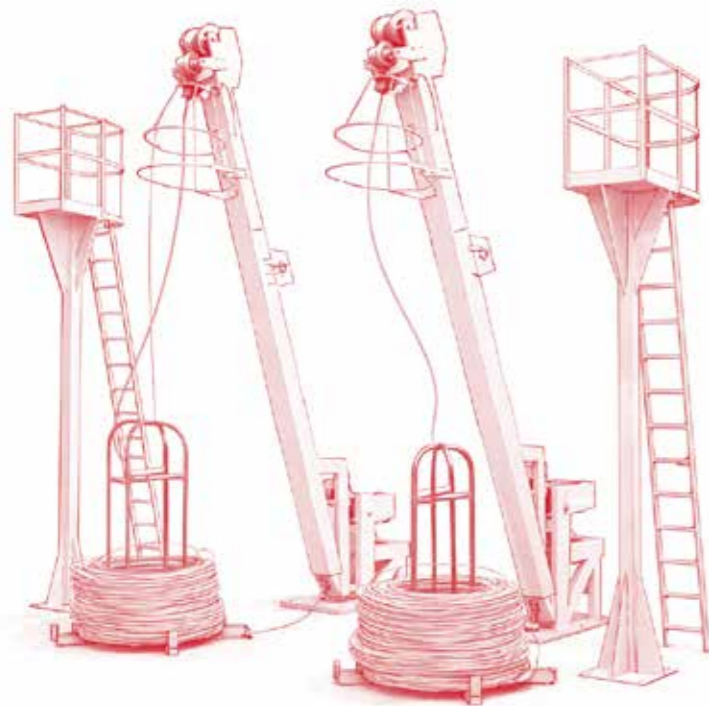
RETROFITS & UPGRADES (Examples)

- CE retrofitting and safety concepts
- Control system modernisation
- Replacement of drives and components
- Integration of modern safety technology
- Improved energy efficiency

YOUR BENEFITS

- Cost-transparent, modular modernisation
- Short implementation times and minimal downtime
- Seamless integration into ongoing production processes
- Complete documentation and certification
- As-new condition in terms of technology and safety

Overhead Pay-off for Wire Rod



APPLICATIONS

The overhead pay-off for wire rod is used, among other applications, upstream of drawing machines or reinforcing steel drawing lines with very high infeed speeds.

Typical applications include:

- multi-pass drawing machines (2–4 passes)
- reinforcing steel drawing machines (1–2 passes) with rolling cassettes

It is also particularly suitable where installation space is limited.

OPERATING PRINCIPLE

The system operates on the principle of vertical overhead wire guidance.

The vertically adjustable upper deflection sheave is lowered to enable loading of the wire rod.

This movement can be carried out hydraulically or by means of a chain hoist.

An integrated loop catcher ensures that downstream machines are stopped in the event of irregularities.

The arrangement of two hydraulically pivoting platforms in front of the pay-off allows continuous loading of wire rod coils by forklift truck without interrupting operation.

www.kistner-germany.de

TECHNICAL DATA

Load capacity per platform: up to 3 t

Wire rod diameter: 5.5 - 14.0 mm

Pay-off speed: up to 9 m/s (max.)

Space requirement: 6000 x 3200 x 6000 mm

Single Pay-off Reel for Wire Rod

APPLICATIONS

Pay-off reels are used for the torsion-free, tangential pay-off of wire coils.

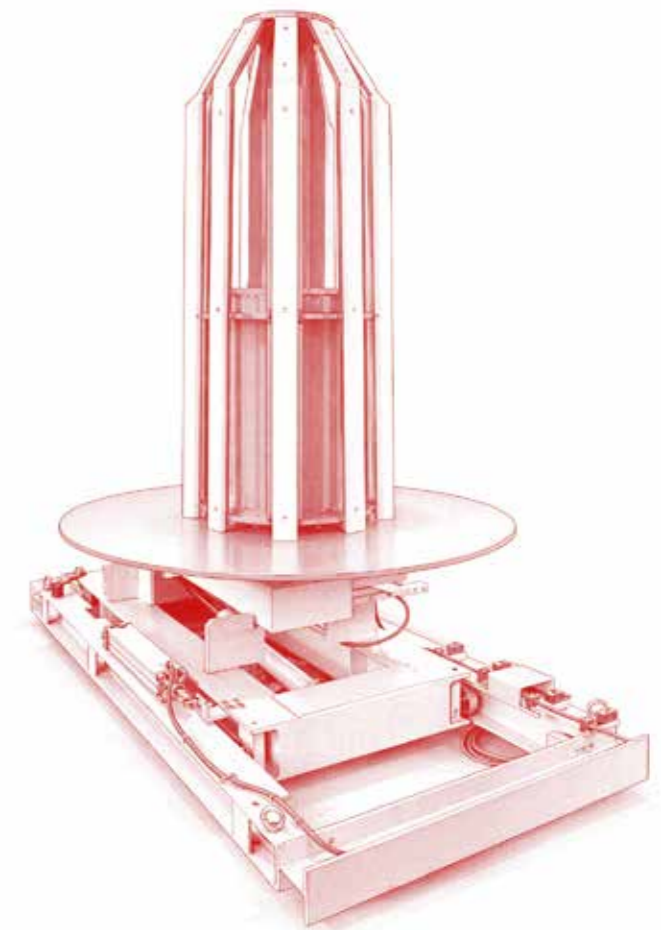
OPERATING PRINCIPLE

The pay-off reel is hydraulically tiltable.

In the loading position, the coil can be loaded using a forklift truck or a C-hook.

ELECTRICAL EQUIPMENT

- Pay-off drive via frequency-controlled three-phase geared motor (optional)
- Motor-driven operation and braking
- Holding brake (optional)
- Emergency stop brake
- Automatic shut-off in the event of wire entanglement on the reel
- Interchangeable reel mandrel for different coil inner diameters (optional)



TECHNICAL DATA

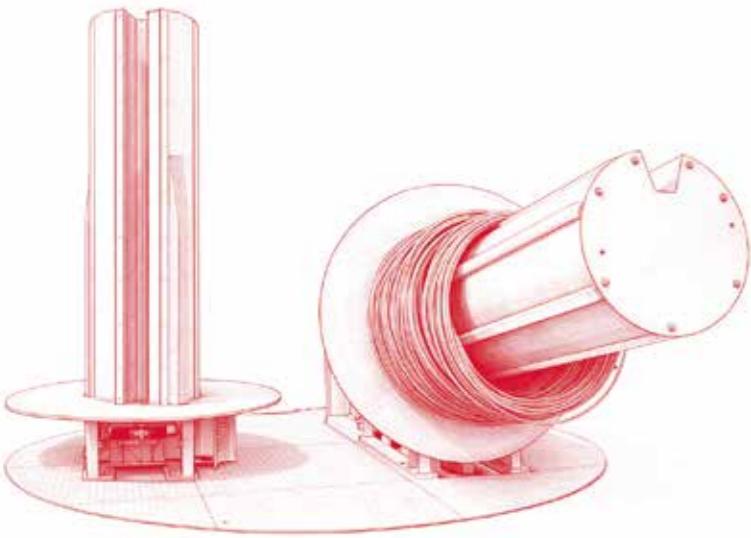
Load capacity: up to 3 t

Wire rod diameter: 5.5 - 20.0 mm

Pay-off speed: up to 3.5 m/s

Space requirement: 2000 x 4000 mm

Double Pay-off Reel for Wire Rod



APPLICATIONS

Pay-off reels are used for the torsion-free, tangential pay-off of wire rod coils.

OPERATING PRINCIPLE

The pay-off reel is hydraulically tiltable.

In the loading position, the coil can be loaded using a forklift truck or a C-hook.

In the double reel configuration, the reels are rotated alternately by 180°. This allows a new wire rod coil to be loaded while the drawing machine remains in operation.

ELECTRICAL EQUIPMENT

- Pay-off drive via frequency-controlled three-phase geared motor (optional)
- Motor-driven operation and braking
- Holding brake (optional)
- Emergency stop brake
- Automatic shut-off in the event of wire entanglement on the reel
- Interchangeable reel mandrel for different coil inner diameters (optional)

TECHNICAL DATA

Load capacity per reel: up to 3 t
Wire rod diameter: 5.5 - 20.0 mm
Pay-off speed: up to 3.5 m/s
Space requirement: 4000 x 4000 mm

Horizontal Pay-off System with Flyer

APPLICATIONS

Equipped with a driven flyer, this system is ideally suited for the pay-off of cold heading wire.

The horizontal pay-off system with flyer is typically installed upstream of drawing machines where drop-type pay-off reels were previously used.

It offers significant advantages, particularly when processing high-carbon steel wires.

Key Advantages:

- Low-noise pay-off
- No surface damage and no damage to the lubricant carrier
- Easy handling during loading
- High pay-off speeds
- Enhanced operational safety
- Ideal for processing cold heading wire with driven flyer

OPERATING PRINCIPLE

Loading is carried out using a C-hook and an overhead crane.

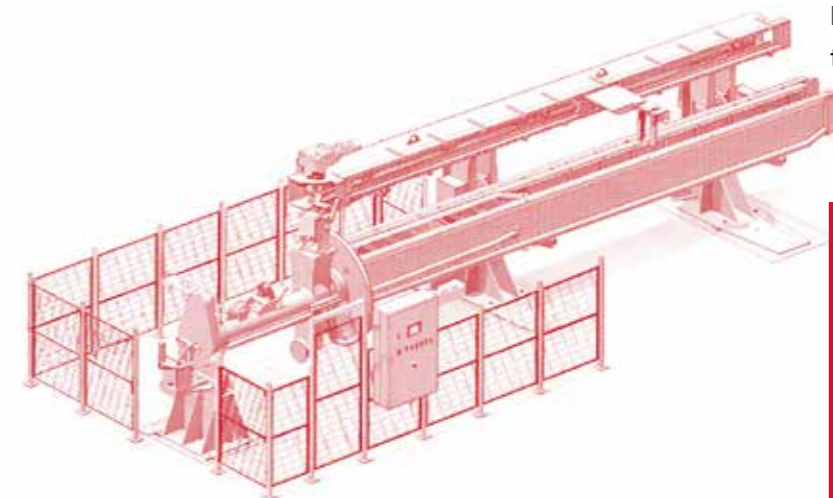
During loading, the front support arm is hydraulically pivoted to the rear position, while the pay-off-side support arm hydraulically supports the take-up mandrel.

Using a motor-driven transfer carriage, the coils are moved towards the flyer and positioned onto the take-up mandrel. During this process, the pay-off-side support arm is pivoted to the rear position.

The leading end of the wire from the first coil is guided via guide rollers at the flyer, through the rotor shaft and onwards to the drawing machine.

A feeding rope with a clamping device facilitates threading of larger wire diameters.

While one coil is being processed, a second coil is loaded onto the mandrel. The wire ends are welded together, ensuring continuous operation.



TECHNICAL DATA

Load capacity: max. 6 t (3 x 2 t / 2 x 3 t)
Wire rod diameter: 8.0 - 16.0 mm
Pay-off speed: up to 4.0 m/s
Space requirement: 11000 x 3000 x 2600 mm

Single-Block Drawing Machine

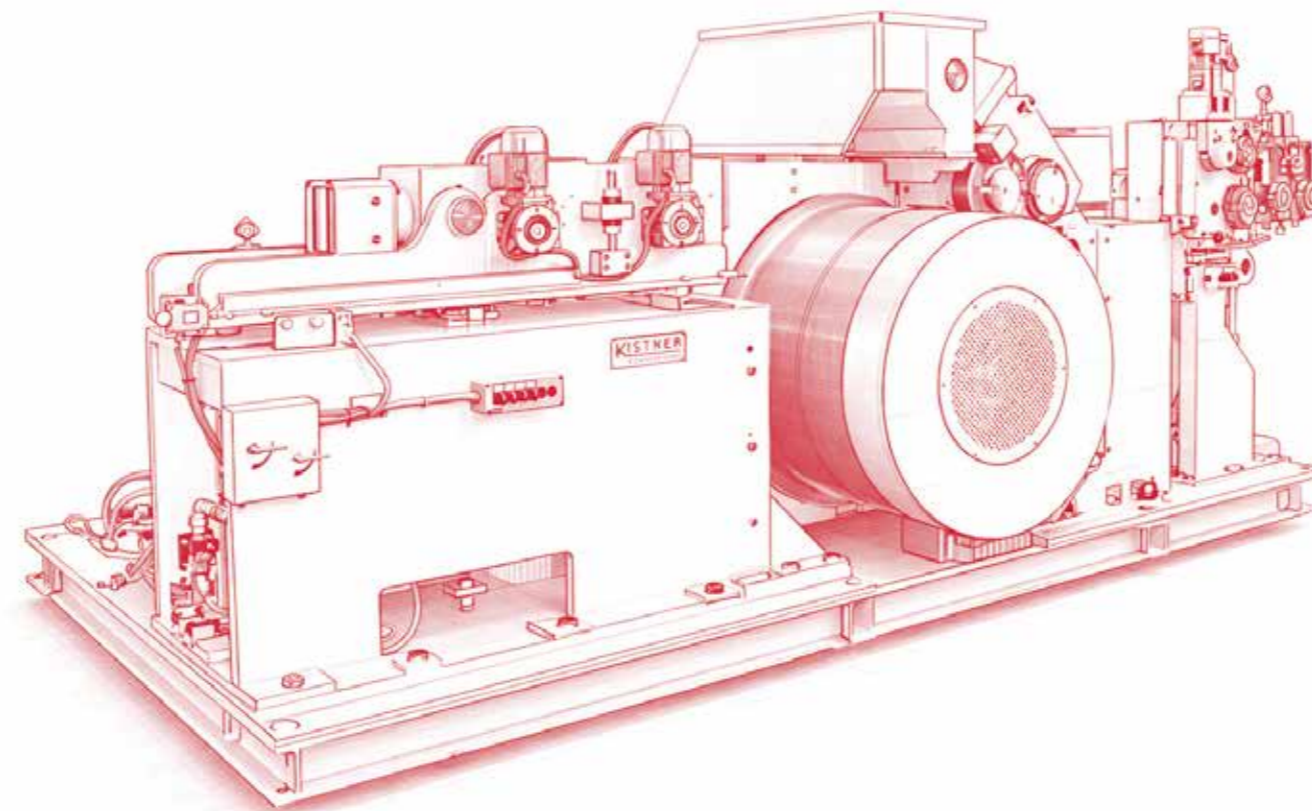
APPLICATIONS

Designed for drawing round and profiled wires made of steel and non-ferrous metals.

Particularly suitable for the production of cold heading wire, including applications with large wire diameters.

The machine enables processing of stress-relieved coils up to 3,000 kg, either with accumulation in the coiler pot or in combination with one of our coiling machines.

Both layer-wound and random-wound coils can be produced using split spools.



ELECTRICAL EQUIPMENT

- Three-phase motor, low noise level, environmentally friendly
- Frequency converter (Siemens), water-cooled or with air-conditioned control cabinet
- Programmable logic controller (PLC), Siemens TIA Portal
- Operator panel (OP)

TECHNICAL DATA

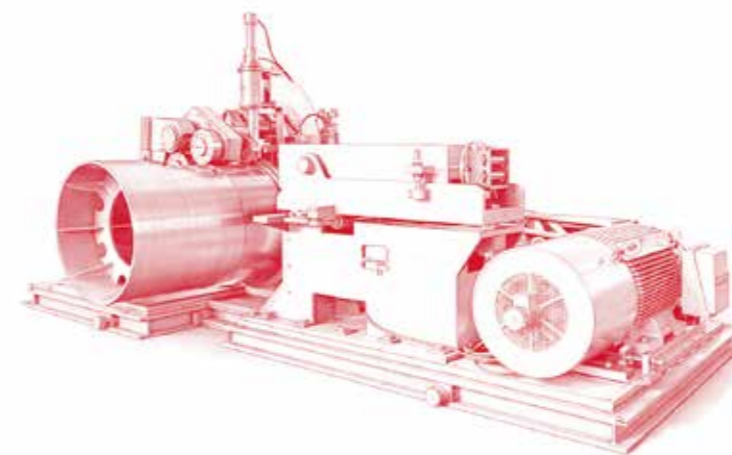
Capstan diameter: 600 - 1200 mm

Wire entry diameter: 6.5 - 35.0 mm

Drawing speed: up to 5.0 m/s

Motor power: 45 - 300 kW

Drawing force: 16 - 300 kN



Horizontal

MECHANICAL EQUIPMENT

- Capstan drive via high-performance spur gear unit, optionally with integrated gearbox for torque conversion
- Circulating oil lubrication with external gear pump and flow monitoring
- Disc brake designed as a safety brake
- Safety devices in accordance with EN standards
- Various capstan designs available
- Safety devices in accordance with accident prevention regulations (UVV) and CE marking
- Rotating coiler pot positioned in front of the capstan, mounted on a pivoting mechanism and enclosed in a sound-insulated design for coil weights up to 3,000 kg

CAPSTAN DESIGNS

- Water-cooled capstan via rotary connection for inlet and outlet, suitable for maximum drawing speeds and high-carbon steel wires
- Removable capstan head for safe opening of the drawing tongs
- Inclined (wobble) capstan for drawing profiled wires or cold heading wire in smoothing passes

Single-Block Drawing Machine

Vertical

APPLICATIONS

Designed for drawing round and profiled wires made of steel and non-ferrous metals.

When equipped with a capstan featuring an inclined pressure disc, the machine is particularly suitable for the production of cold heading wire.

It allows the processing of skin-pass drawn coils up to 1,500 kg, either accumulated on the capstan or in combination with one of our coiling machines using split spools.

Both layer-wound and random-wound coils can be produced.

ELECTRICAL EQUIPMENT

- Three-phase motor, low noise level and environmentally friendly
- Frequency converter (Siemens), water-cooled or with air-conditioned control cabinet
- Programmable logic controller (PLC), Siemens TIA Portal
- Operator panel (OP)

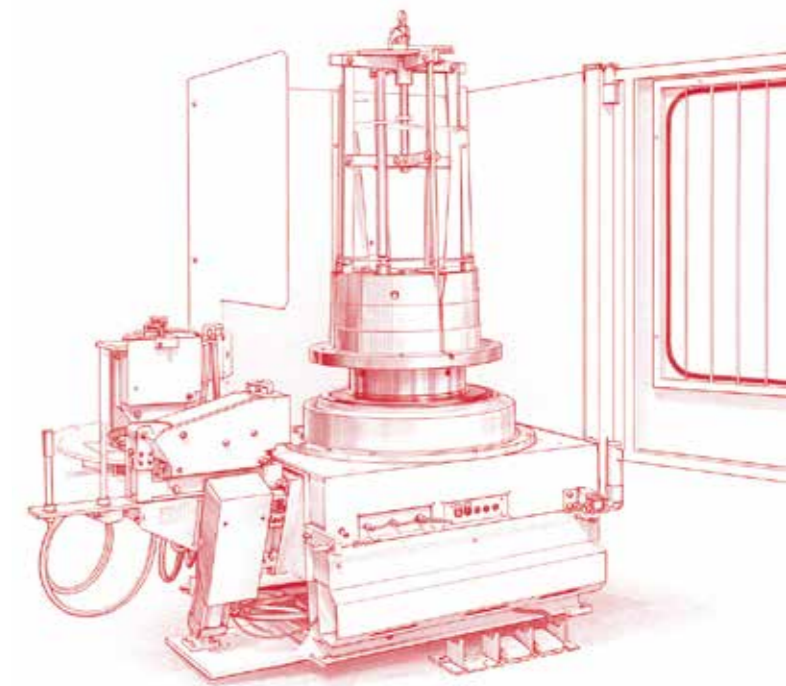
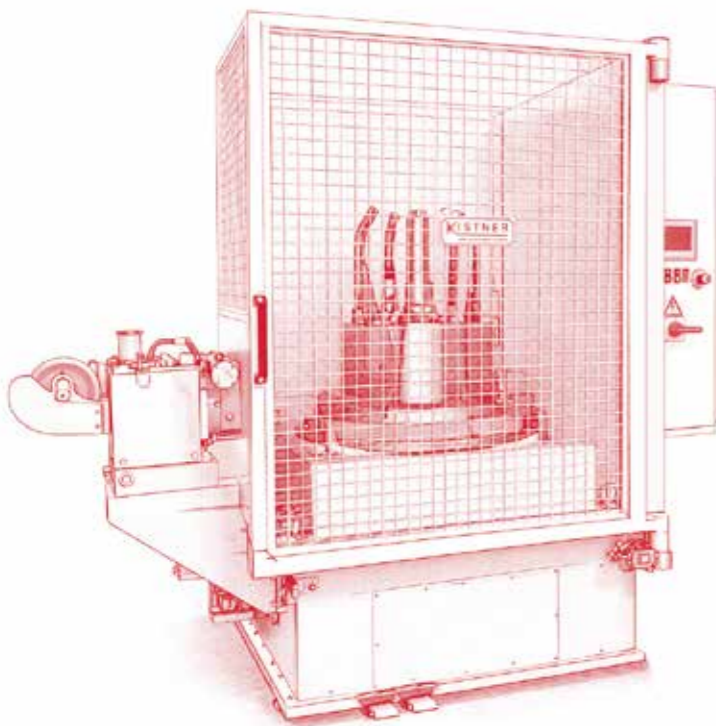
MECHANICAL EQUIPMENT

Capstan drive via high-performance spur gear unit, optionally with integrated gearbox for torque conversion

- Circulating oil lubrication with external gear pump and flow monitoring
- Various capstan designs
- Disc brake designed as a safety brake
- Safety devices in accordance with EN standards

CAPSTAN DESIGNS

- Capstan with slots for travelling gripping tongs and internal gripper system
- Inclined (wobble) capstan for drawing profiled wires or cold heading wire in smoothing passes



TECHNICAL DATA

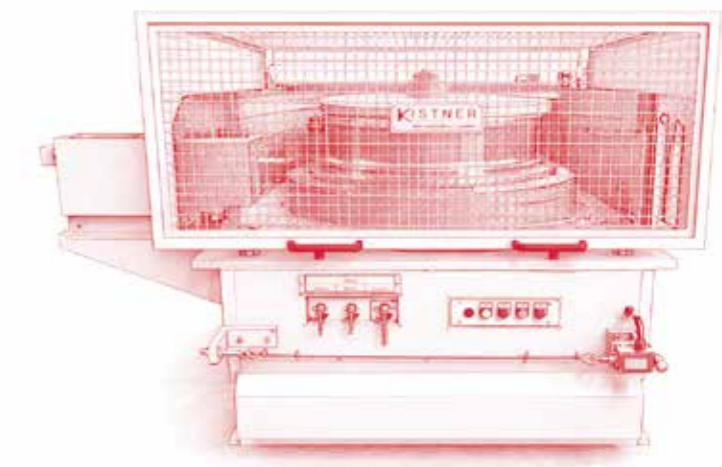
Capstan diameter: 400 - 1200 mm

Wire entry diameter: 5.5 - 26.0 mm

Drawing speed: up to 5.0 m/s

Motor power: 18 - 160 kW

Drawing force: 16 - 400 kN



www.kistner-germany.de

Straight-Line Drawing Machine

APPLICATIONS

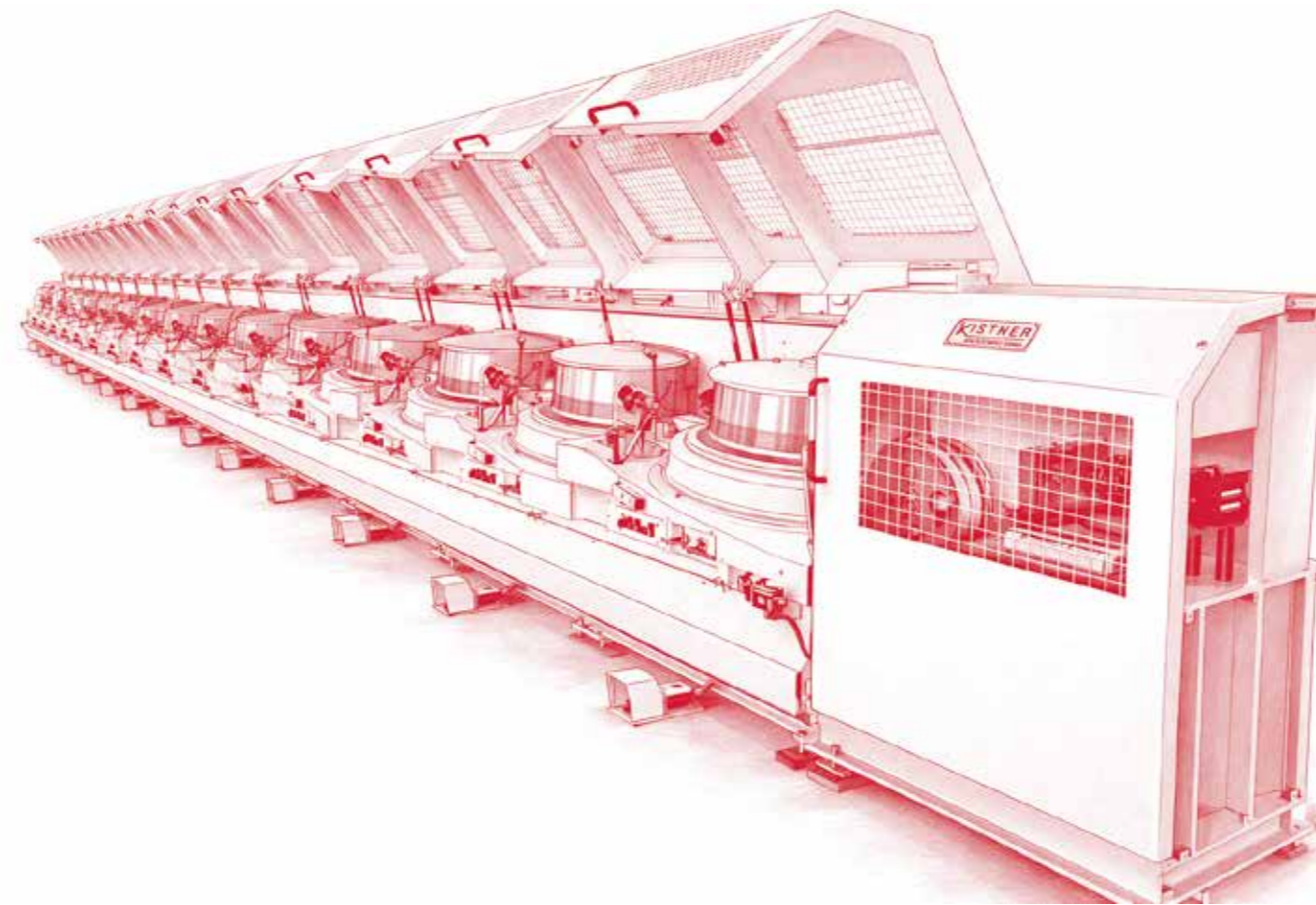
Particularly suitable for the torsion-free drawing of high-carbon steel wires on machines equipped with measuring rollers.

Also suitable for stainless steel wires processed using a dancer system and a loose capstan.

In addition, the machine can be used for drawing reinforcing steel wires with rolling cassettes.

ELECTRICAL EQUIPMENT

- Three-phase motors, low noise level and environmentally friendly
- Frequency converters (Siemens) with vector control system
- PROFINET interface
- Programmable logic controller (PLC), Siemens TIA Portal
- Operator panel (OP) with storage for up to 50 drawing programmes and programme selection



TECHNICAL DATA

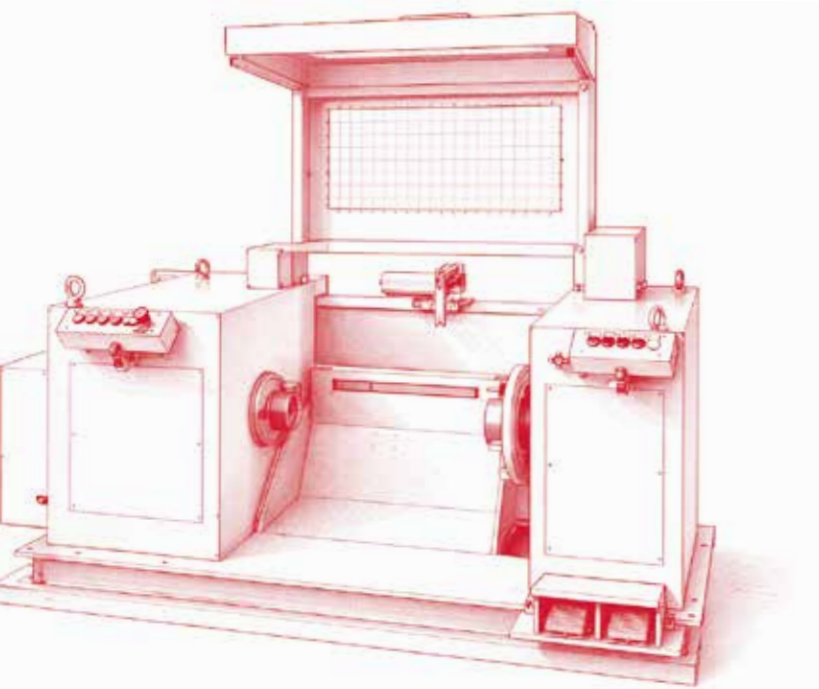
Drawing force: 8 - 80 kN
Capstan diameter: 400 - 1200 mm
Wire entry diameter: 3.6 - 18.0 mm
Motor power: 5.5 - 160 kW
Drawing speed: up to 35.0 m/s (max.)



MECHANICAL EQUIPMENT

- Single-block or multi-block design depending on capstan size
- Capstan drive via direct belt drive or spur gear reduction gearbox with constant efficiency across the entire drawing speed range
- Steel capstans with wear-resistant coatings (chrome steel or ceramic)
- Capstan mounting via clamping elements
- Efficient narrow-gap vortex cooling system for the capstans
- Safety devices in accordance with EN standards

Horizontal Coiling Machine



APPLICATIONS

Horizontal coiling machines are suitable for operation with all types of slip-free as well as slip-type drawing machines.

They can also be used as rewinding machines.

When equipped with a special laying unit and a split spool body with adjustable flange, these machines are used for producing layer-wound wire coils.

They are particularly suitable for applications in the production of cold heading wire and free-cutting steel wire.

TECHNICAL DATA

Spool diameter: 400 - 1250 mm

Wire diameter: 0.15 - 14.0 mm

Drawing speed: up to 30.0 m/s

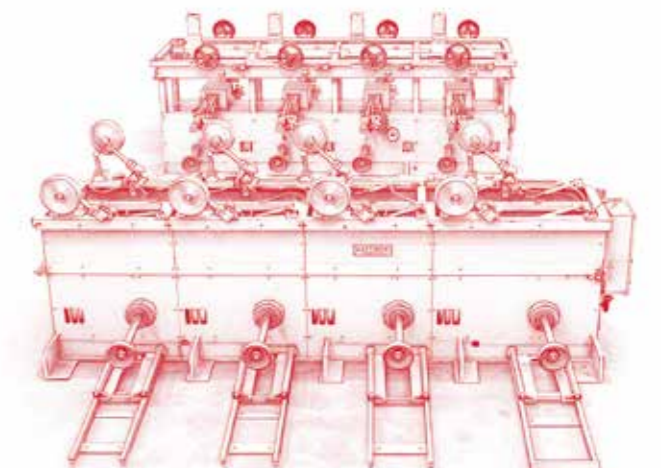
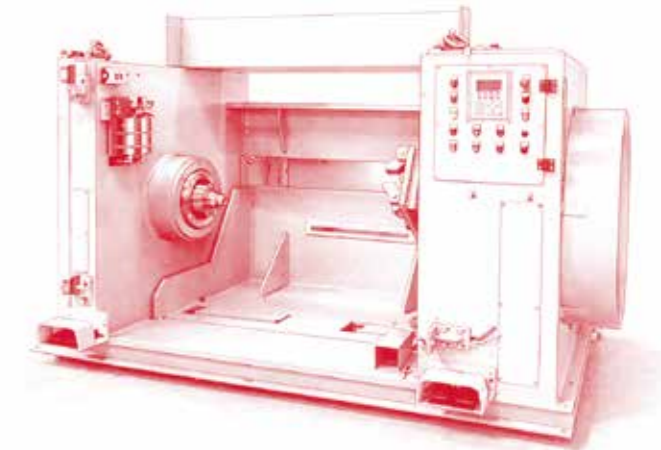
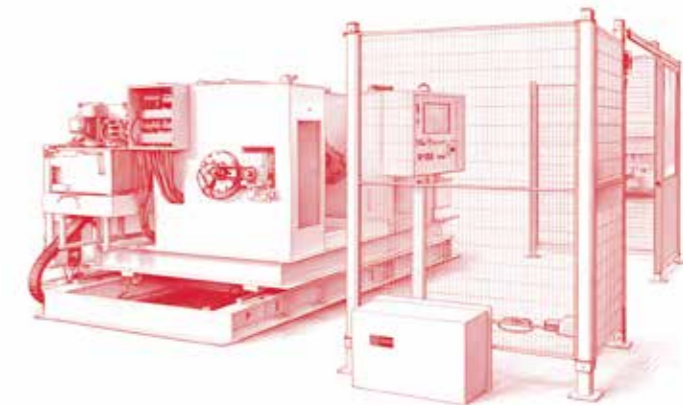
Motor power: 4 - 45 kW

ELECTRICAL EQUIPMENT

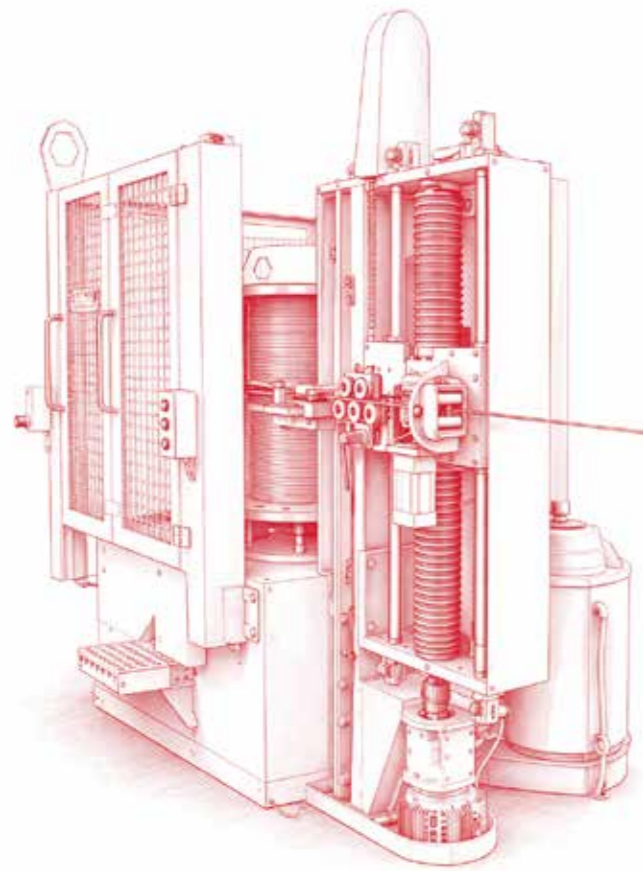
- Drive via asynchronous motor, energy-efficient, low noise level and environmentally friendly
- Control via frequency converter (Siemens), speed-controlled in combination with a dancer system or current-controlled
- Operator panel (OP)

MECHANICAL EQUIPMENT

- Machine housing in welded construction
- Spool tensioning via geared motor and threaded spindle
- Spool lifting and lowering device, hydraulically operated
- Laying unit driven by toothed belt and frequency-controlled three-phase geared motor
- Disc brake on the drive spindle
- Safety devices in accordance with EN standards



Vertical Coiling Machine



TECHNICAL DATA

Capstan diameter: 400 - 1200 mm
Wire diameter: 5.5 - 26.0 mm
Drawing speed: 2.5 - 30.0 m/s
Motor power: 18 - 160 kW

APPLICATIONS

Vertical coiling machines are suitable for operation with all types of slip-free as well as slip-type drawing machines.

When equipped with a special laying unit and a split spool body with adjustable flange, they are used for producing layer-wound wire coils.

They are particularly suitable for applications in the production of cold heading wire and free-cutting steel wire.

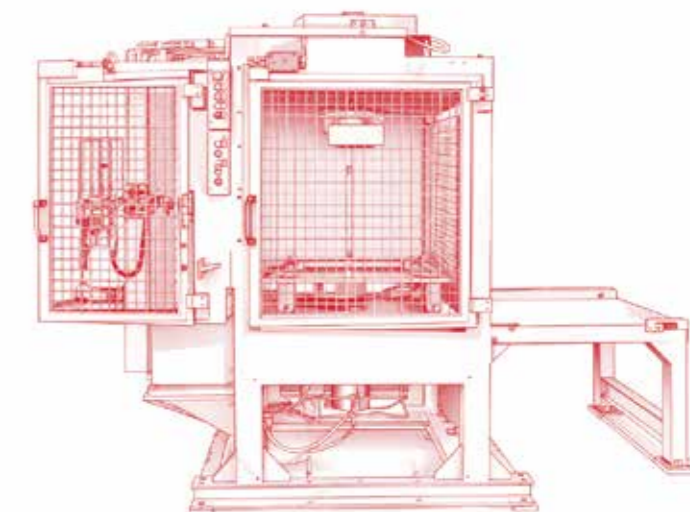
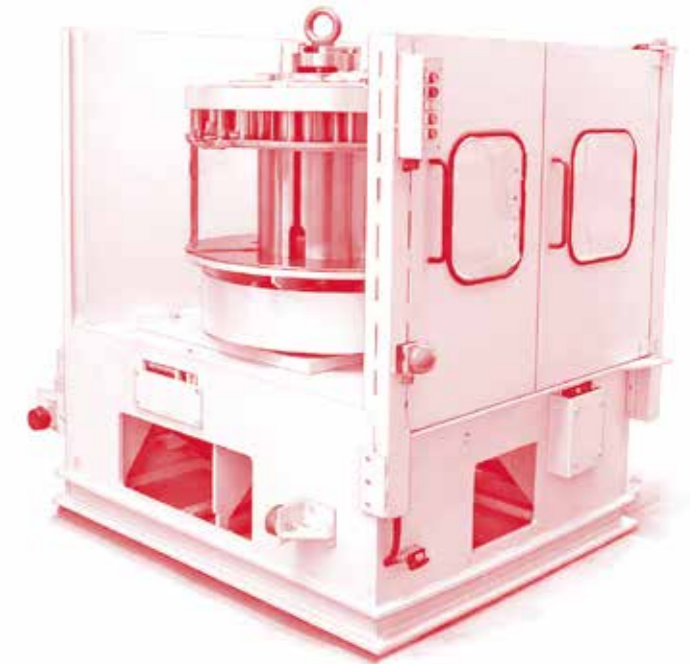
www.kistner-germany.de

ELECTRICAL EQUIPMENT

- Drive via asynchronous motor, energy-efficient and environmentally friendly
- Control via frequency converter (Siemens), speed-controlled in combination with a dancer system or current-controlled
- Three-phase squirrel-cage motor, low noise level and environmentally friendly
- Operator panel (OP)

MECHANICAL EQUIPMENT

- Machine housing in welded construction
- Spool mounted on mandrel with cantilever support for speeds up to 15 m/s
- Spool tensioning via geared motor and threaded spindle for speeds above 15 m/s
- Laying unit driven by toothed belt or threaded spindle and frequency-controlled three-phase geared motor
- Disc brake on the drive spindle
- Safety devices in accordance with EN standards



Static Coiler and Drawing Coiler

Horizontal

APPLICATIONS

Designed for coiling or combined drawing and coiling of steel and non-ferrous wires.

The machine is intended for use downstream of single-block drawing machines and straight-line drawing machines.

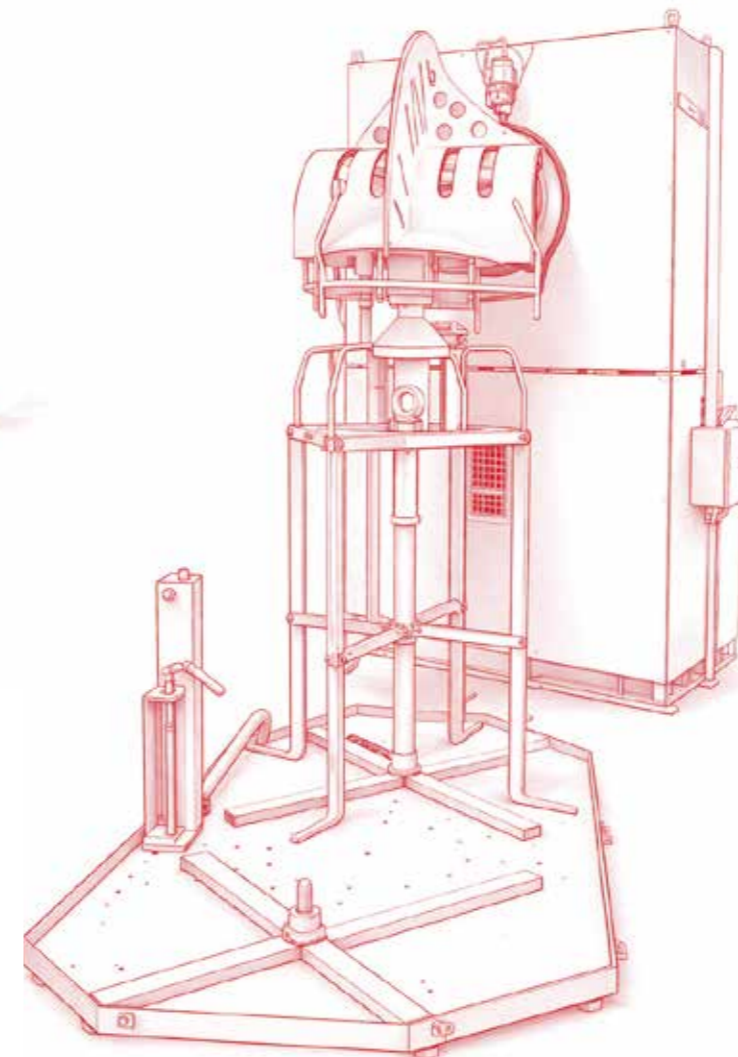
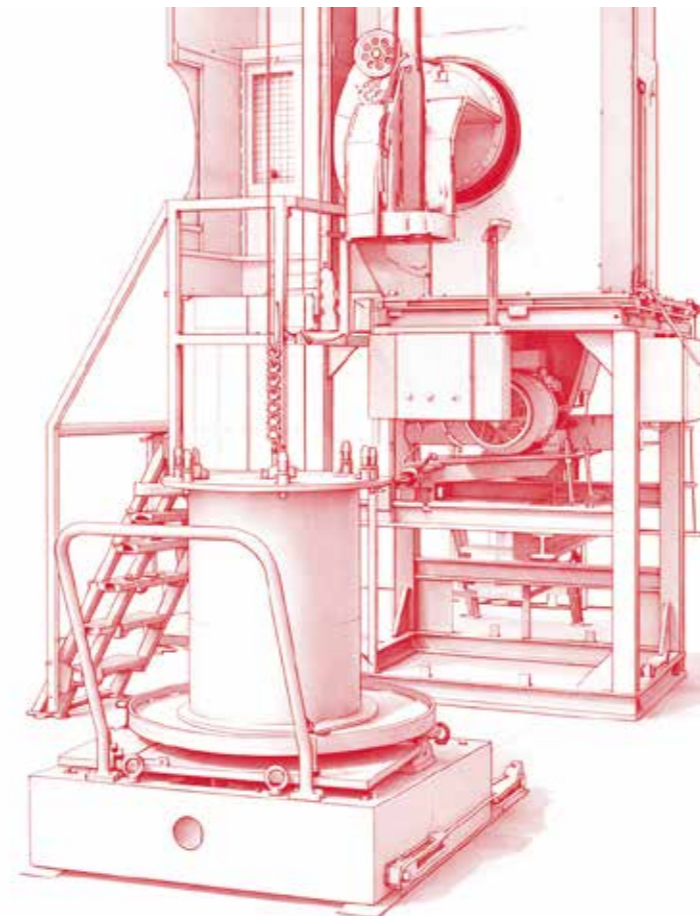
Wire is collected on carriers (crown blocks).

Continuous operation during carrier change is ensured by an integrated wire accumulator.

The machine operates according to the principle of a static coiler, where the coiling capstan remains stationary by being supported on the carrier.

ELECTRICAL EQUIPMENT

- Three-phase motor, low noise level and environmentally friendly
- Frequency converters (Siemens), speed-controlled in combination with a measuring roller system (for drawing coiler version)
- Programmable logic controller (PLC), Siemens TIA Portal with operator panel (OP)



TECHNICAL DATA

Coiling disc diameter: 500 - 900 mm

Wire diameter: 0.9 - 4.5 mm

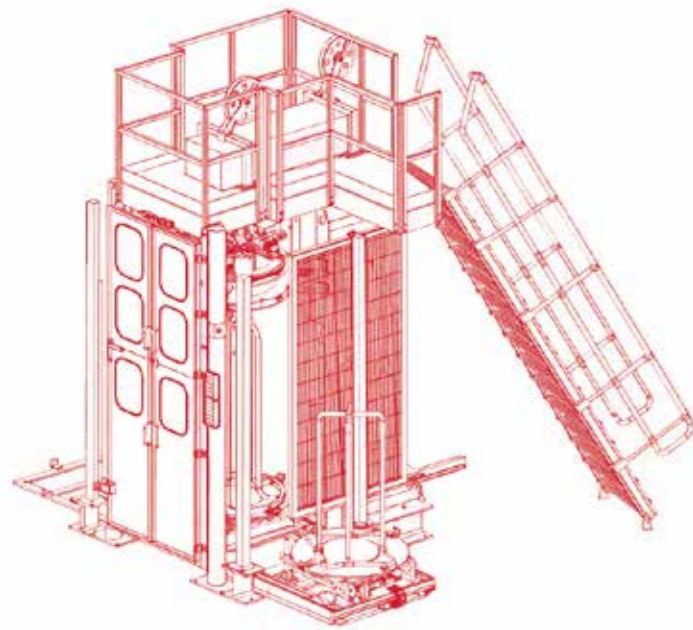
Speed: up to 25.0 m/s (max.)

Fill weight: depending on carrier size and wire diameter, up to 1,500 kg

MECHANICAL EQUIPMENT

- Machine frame in low-vibration welded construction
- Coiling rotor with integrated straightening units and die holder (in drawing coiler configuration)
- Rotor dynamically balanced
- In drawing coiler configuration: water-cooled capstan and drawing die, with water supply and return via rotary union and rotor connection
- Pattern laying unit and lowering device for wires ≤ 2.5 mm
- Carrier change via transfer carriage
- Safety devices in accordance with EN standards and CE requirements
- Coiling or drawing capstan with integrated support arm ("gooseneck") for positioning on the carrier

Static Coiler



OPERATING PRINCIPLE

The machine operates according to the principle of a static coiler. This means that the coiling capstan remains stationary, achieved by means of a zero-speed gearbox (planetary gearbox).

APPLICATIONS

Designed for coiling steel and non-ferrous wires.

Suitable for use downstream of both dry drawing and wet drawing machines, particularly in the smaller wire diameter range.

Especially well suited for processing brass wires.

Wire is collected on carriers or into drums.

Continuous operation during carrier or drum change is ensured by a turntable system combined with a wire accumulator.

TECHNICAL DATA

Coiling disc diameter: 400 - 600 mm

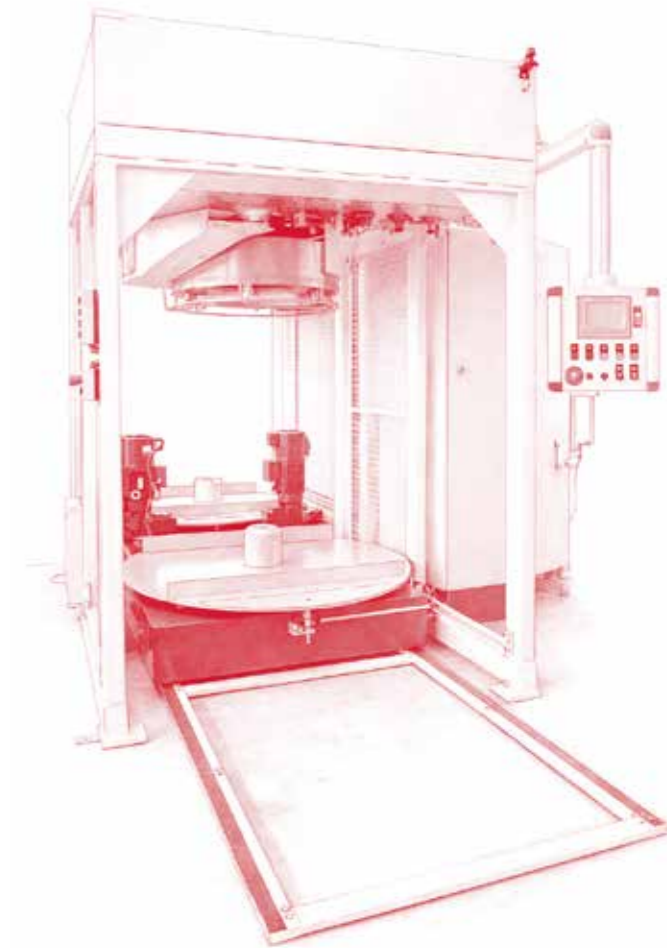
Wire diameter: 0.6 - 5.0 mm

Speed: up to 25.0 m/s (max.)

Fill weight: depending on carrier or drum size and wire diameter, up to 1,500 kg

www.kistner-germany.de

Vertical



MECHANICAL EQUIPMENT

- Machine body in welded construction
- Coiling rotor with integrated straightening units, dynamically balanced
- Coiling capstan without support
- Wire accumulator and turntable for two carriers, enabling continuous operation
- Safety devices in accordance with EN standards

ELECTRICAL EQUIPMENT

- Three-phase motor with frequency converter (Siemens)
- Speed control in combination with a dancer system or tension control
- Programmable logic controller (PLC), Siemens TIA Portal with operator panel (OP)

Bending Coiler

APPLICATIONS

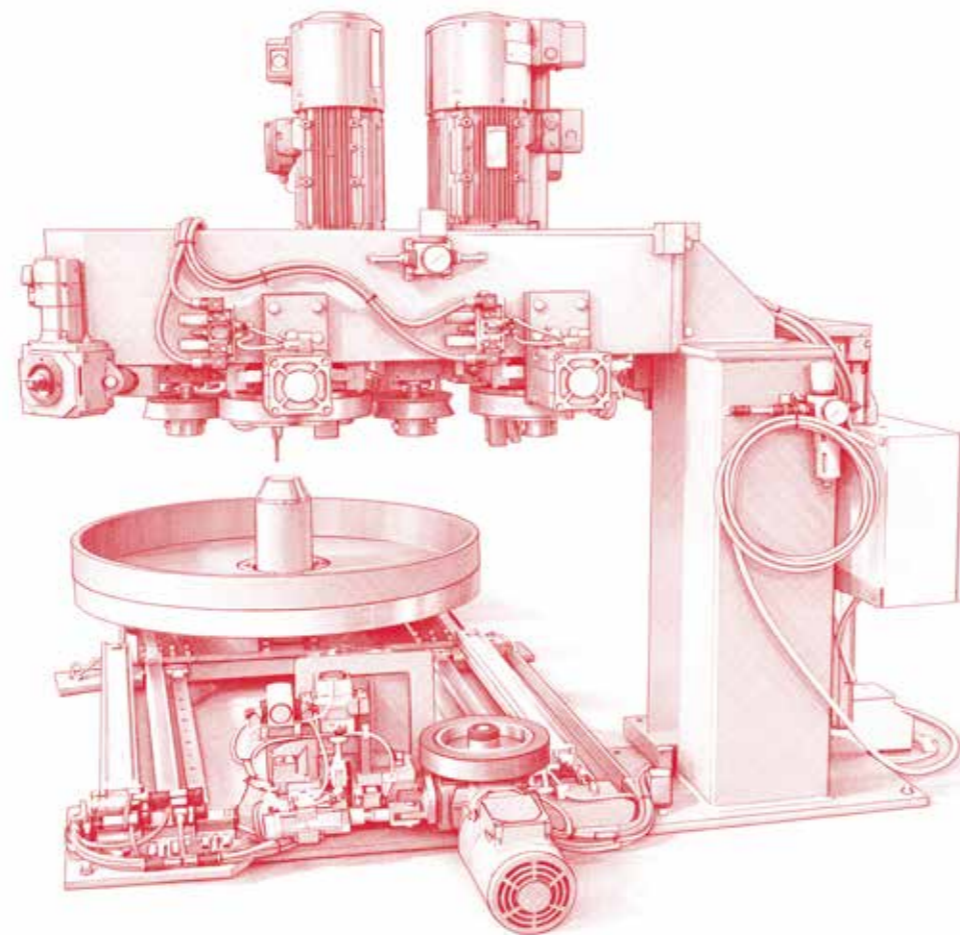
Designed for the torsion-free coiling of wires with diameters ≥ 4.0 mm, including:

- cold heading wire
- non-ferrous wires
- prestressing steel wires (e.g. for galvanising)

The bending coiler is suitable for operation in combination with single-block drawing machines (horizontal or vertical), as well as with heavy-duty straight-line drawing machines.

ELECTRICAL EQUIPMENT

- Drive via three-phase squirrel-cage motors
- Control via frequency converters (Siemens)
- Operator panel (OP)



TECHNICAL DATA

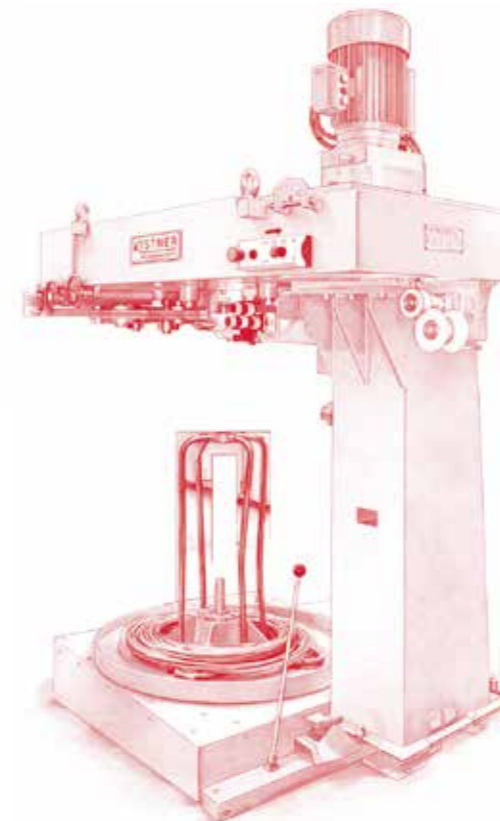
Wire diameter: 4.0 – 26.0 mm

Speed: up to 4.0 m/s (max.)

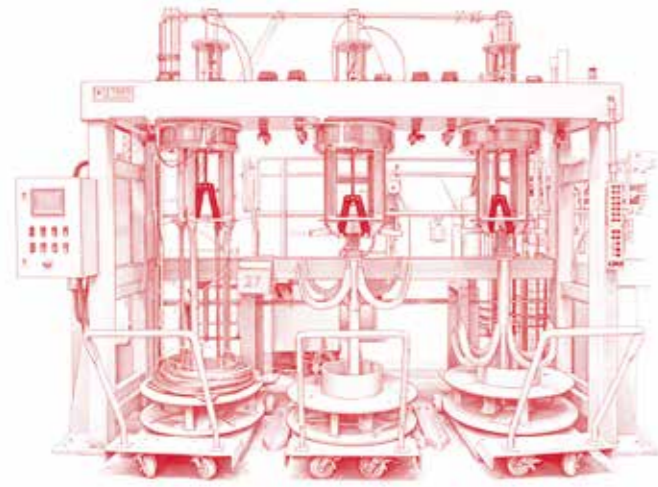
Fill weight: depending on carrier size and wire diameter, up to 2,000 kg

MECHANICAL EQUIPMENT

- Machine body and frame in welded steel construction
- Motor-driven bending roller
- Motor-driven feed roller units (1–3 units depending on wire diameter)
- Adjustment of the bending roller manually or electrically for spiral laying
- Pneumatic adjustment of feed roller units
- Bending roller made of ground steel; feed rollers made of steel or Vulkollan-coated for sensitive wire surfaces
- Take-up unit with independent drive, available as single or double version
- Double take-up either as turntable design or transfer carriage
- Drive of feed rollers and bending roller via high-performance toothed belts
- Safety devices in accordance with EN standards



Drawing / Coiling System with suspended, rotating capstans



APPLICATIONS

Designed for coiling or combined drawing and coiling of stainless steel and other steel wires.

The system is intended for use downstream of furnace systems with wire coating lines.

Wire is collected on carriers or into drums.

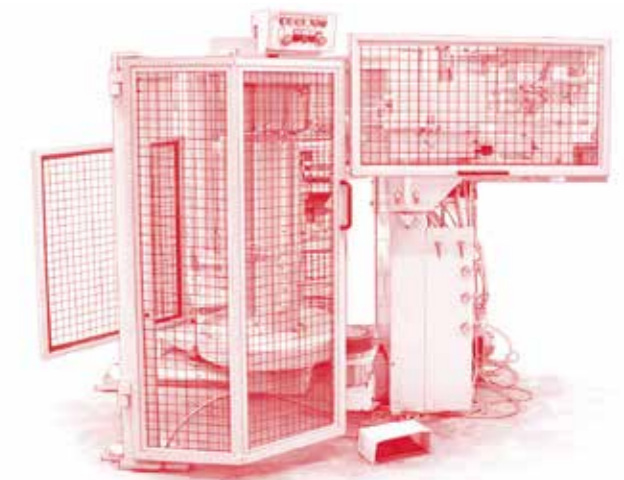
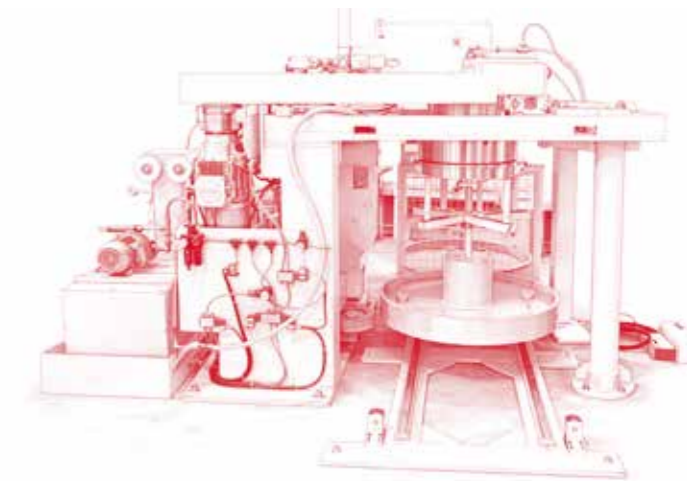
Continuous operation during carrier change is ensured by an intermediate accumulator, without interrupting the wire process in the furnace.

ELECTRICAL EQUIPMENT

- Three-phase drive, frequency-controlled
- Frequency converters (Siemens) for speed control of capstans and carriers
- Programmable logic controller (PLC), Siemens TIA Portal
- Operator panel (OP) on each capstan for input/output of:
 - furnace speed
 - drawing/coiling speed
 - process parameters

MECHANICAL EQUIPMENT

- Machine frame in welded construction
- Modular design for accommodating three capstans per section
- Capstans designed as V-groove or cylindrical types, with single or double pressure rollers
- Combination of V-type and cylindrical capstans to extend the application range
- Combination of different V-capstan sizes for various carrier and drum dimensions
- Pattern laying of coils via eccentrically arranged carrier plates with independent drive
- Optional integration of drawing die holders for dry or oil drawing
- Use of standardised drive units, ensuring advanced technical quality with an excellent cost-performance ratio



TECHNICAL DATA

Coiling disc diameter: 400 – 600 mm

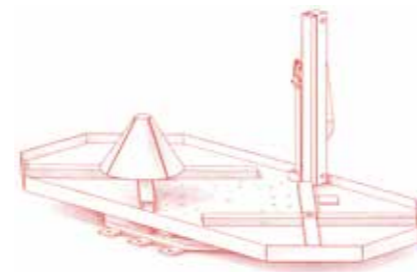
Wire entry diameter: 1.5 – 7.5 mm

Speed: 20 – 60 m/min

Accessories for the Wire Drawing Industry

TURNING STATIONS

- For faster removal of wire coils from horizontal coilers
- Coiled wire (up to 3 t) can be removed during operation
- Manual or automatic rotation available



TILTING STATIONS

- For lifting or tilting coil carriers in annealing lines
- Optional locking mechanism and protective plastic elements
- Suitable for double wire coils up to 6 t



BUNDLE COMPACTORS

- For compacting wire coils prior to strapping
- Fully rotatable, operated via foot switch
- Tilttable by approx. 90° for loading and unloading
- Individually adjustable: compaction force, coil height, coil diameter
- Loading via folding baskets, C-hooks or forklift mandrel



SPRAY OIL CHAMBERS

- Manual or automatic coating of wire coils
- For preservation or pre-treatment of internal and external surfaces
- Powered turntable for coils up to 1.5 t



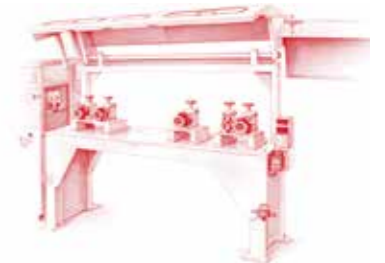
STRAIGHTENING AND FEED UNITS

- Integration into existing drawing lines for wire diameters up to 30 mm
- Straightening units and feed units are configured according to the wire type and the straightening task
- The unit can be hydraulically pivoted out of the wire line if required



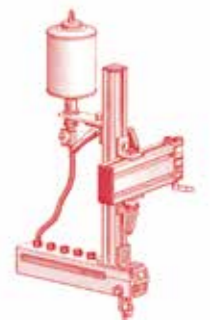
MEASURING TABLES

- Continuous inspection of wire quality
- Inspection of diameter and surface
- Measuring tables include straightening units and safety devices
- For in-line monitoring of the wire
- Monitoring of various parameters, e.g. diameter, roundness and surface
- With defect marking
- Suitable for all standard measuring systems



WIRE OILING

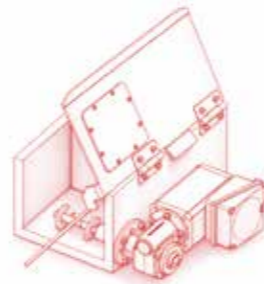
- For installation on bending coilers
- Application of a thin oil film to the wire



Accessories for the Wire Drawing Industry

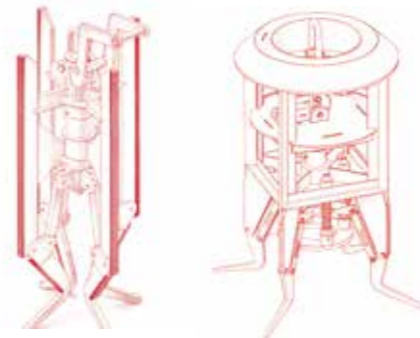
AGITATORS

- Various designs
- For mixing drawing compounds
- To prevent tunnel formation



LIFTING CROSSES / FOLDING BASKETS

- For wire coils up to 3 t
- Designs: folding arm or rigid frame
- Optional with opening cone



FORKLIFT MANDRELS

- For various forklift types and coil weights up to 3 t
- With plastic protection at the stop and plastic-coated mandrel



DEVICES / CUSTOM-MADE SOLUTIONS

DRAWING COMPOUND BOXES, INSERTS AND DIE NUTS

SPARE AND WEAR PARTS ACCORDING TO MEASUREMENT OR CUSTOMER SPECIFICATIONS

INSTALLATION

MAINTENANCE



Kistner Anlagenbau GmbH
Dr.-Rudolf-Quast-Str. 8
59425 Unna
Germany

☎: +49 2303 59396-0
☎: +49 2303 59396-70
office@kistner-germany.de
www.kistner-germany.de

