

Machines and services for
the wire industry

schmidt

Maschinenbau GmbH
Machines for the wire industry

Product-Range

Take-ups

Drawing machines

Re-spooling machines

Automatic spoolers

Drum coilers



*specialized for
powerful solutions*

schmidt

Maschinenbau GmbH
Machines for the wire industry

QUALITY AND EFFICIENCY FOR THE WIRE INDUSTRY

We are located in the historical center of German wire industry and are supporting our customers for more than 80 years with competence and experience in the wire production.

Meeting our customers' requirements and demands with high-level quality and precision is a principle of our corporate philosophy.

Requirements for our outstanding performance are excellence in design, manufacturing and service as well as a dedicated team of professionals ready to meet customer's requirements with a high degree of flexibility. These skills are the key advantages for the ongoing specialization of the wire industry.

This is the basis of our success – worldwide.
Our range of services around the wire industry comprises:

Services

- ☒ Consulting
- ☒ Design
 - ☒ Manufacturing
 - ☒ Maintenance
 - ☒ Repair
 - ☒ Machinery overhaul
 - ☒ After sales service

Machines

- ☒ Wet drawing machines
- ☒ Slipless drawing machines
- ☒ Spooler and take ups
- ☒ Drum coiler
- ☒ Pay-off devices
- ☒ Re-spooling units
- ☒ Special equipment

Wire materials

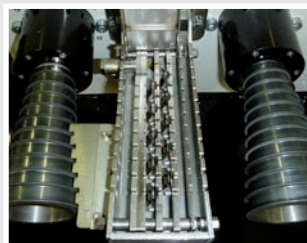
- ☒ Steel wire - bare, brass plated and galvanized
- ☒ Stainless steel and nickel
- ☒ Precious metals and alloys
- ☒ Copper and copper alloys
- ☒ Plated aluminium and copper
- ☒ EDM wire
- ☒ Special alloys
- ☒ Wire for watch manufacturing



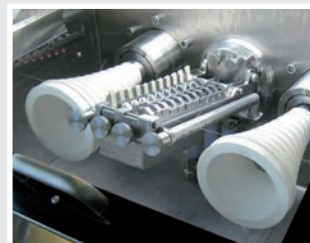
cone drawing machine for high carbon steel



cone drawing machine for precious metal



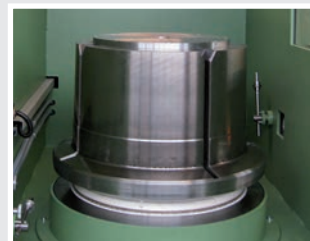
cone pair for ultrafine wire 12 µm



cone pair for fine wire 30 µm



cone pair for thick wire Ø 3 mm



coil manufacturing wire Ø 2 mm



*specialized for
powerful solutions*

OUR PRODUCTS

We focus on high performing powerful and extremely flexible machines to guarantee the highest possible productivity.

Our years of experience enable us to design machines that are handled efficiently and with little need for maintenance. The outstanding quality and durability of our machines is appreciated by our customers since several decades.

Among our longtime customers are wire drawing plants for weaving-, knitting-, braiding- and bunching wires. We supply manufacturers of EDM-Wire, heating wire and resistance wire as well as wire for precious metal catalysts, measurement technology and medical purposes.

Our supply range encompasses all components of our product line, among them various types of pay-off devices, roll-off devices, heat treatment and electroplating plants, drawing machines, spooler with traversing pulley or traversing spooler, with automatic spool rim correction, fully automated spool change over for a wide range of spool types.

For all downstream processes we offer re-spooling machines for all wire and features, also with fully automated spool changer as well as take-ups for annealing processes.

Customized machines manufactured in close collaboration with our clients complete our product range.

Therefore customers all over the world trust us as a reliable and professional partner.



drawing machine for precious metals 0,06 - 0,15mm mit traversig winder



VARIOUS PRODUCT RANGE

wire drawing machines for high quality products

TYPE LIST / IMPORTANT TECHNICAL DATA

CONE DRAWING MACHINES

type	inlet-Ø	outlet-Ø	strands	cone pairs	machine elongation
180-30	1,60 mm	0,30 - 0,80 mm	22	3	16%
180-15	1,40 mm	0,15 - 0,50 mm	19	2	16%
150-40	2,50 mm	0,15 - 1,20 mm	19	2	16%
150-40/R	3,00 mm	0,60 - 2,10 mm	13	2	21%
150-30	2,00 mm	0,15 - 1,20 mm	11	1	16%
150-15	1,40 mm	0,15 - 0,50 mm	21	2	16%
120-12	1,40 mm	0,12 - 0,35 mm	19	2	16%
100-8/T	1,20 mm	0,07 - 0,20 mm	28	3	2x16/1x13%
100-8	1,00 mm	0,06 - 0,15 mm	30	3	2x16/1x13%
30-3	0,60 mm	0,03 - 0,10 mm	25	3	13%
30-2/31	0,30 mm	0,02 - 0,05 mm	31	3	2x13/1x8,5%
30-2/38	0,30 mm	0,015 - 0,05 mm	38	4	2x13/2x8,5%
20-2/31	0,40 mm	0,04 - 0,20 mm	31	3	13%
20-2	0,35 mm	0,04 - 0,20 mm	21	2	11 alternative 13%
5-1	0,20 mm	min. 0,010 mm	20	2	10 alternative 12%

MULTI CAPSTAN DRAWING MACHINES

type	inlet-Ø	outlet-Ø	strands	capstan-Ø	machine elongation
200-40	1,60 mm	0,30 - 0,80 mm	22	160	16% or 21%

NON-SLIP DRAWING MACHINES

type	inlet-Ø	outlet-Ø	strands	capstan-Ø	machine elongation
WDM100	0,50 mm	0,02 mm	1-11	160	5 - 30 %
WDM160	1,50 mm	0,15 mm	1-11	160	5 - 30 %
5x160-40	1,50 mm	0,40 mm	5	160	10 - 30 %
5x200-40	2,50 mm	0,70 - 1,00 mm	5	200	10 - 30 %
5x200-50	2,00 mm	0,70 - 1,40 mm	5	250	15 - 35 %
7x300-50	3,00 mm	0,70 - 2,00 mm	7	300	15 - 35 %



☑ We provide four different types of single line wire drawing machines:

- standard cone drawing machines
- capstan drawing machines with fixed elongation
- slip reduced cone drawing machines
- slipless drawing machines with dancer controlled capstans for each drawing step

☑ Our machines will be manufactured customized and adapted to the requirements. We use energy-efficient motors and frequency converter. For high power and extremely environment. We recommend the use of water-cooled motors

☑ Optimised chilling by water cooled final drawing die, capstan and spreading disc

☑ Rotating and cardanic final drawing die holder

☑ Drawing lubrication supply by internal tank or prepared for a central system. We can design a suitable supply system as per your quality requirements

☑ Our drawing machines can be combined with standard spooler (single sided pivoted), tail stock spooler or automatic spooler (fully automated spool change over)



multi capstans drawing machine



water cooled capstan and spreader dish, rotating final die holder



cone drawing machine with multiple drives for slipreduced operation



11 die slipless drawing machine with additional capstan and traversing spooler, prepared for inline annealer



drawing machine with induction annealer and automatic spooler

THE POWERFUL

Wire drawing machine type 150-40

WET DRAWING MACHINE TYPE 150-40

Technical data:

19 dies, max. 33 m/s, inlet Ø max. 3 mm, finished Ø range 0.2 - 0.88 mm

Features:

Very powerful double-chamber fully submerged drawing machine with additional spraying of drawing dies at high pressure, large ceramic cone diameter as well as a water cooling system for the driving motor, capstan disc, spreading discs and final die

Advantages:

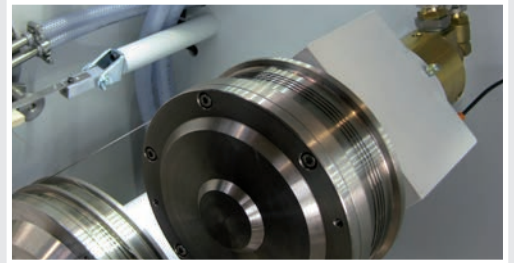
High drawing efficiency, high velocity due to large cone diameter, optimal wire guiding and an excellent cooling system. Drawing chamber design without S-deviation.



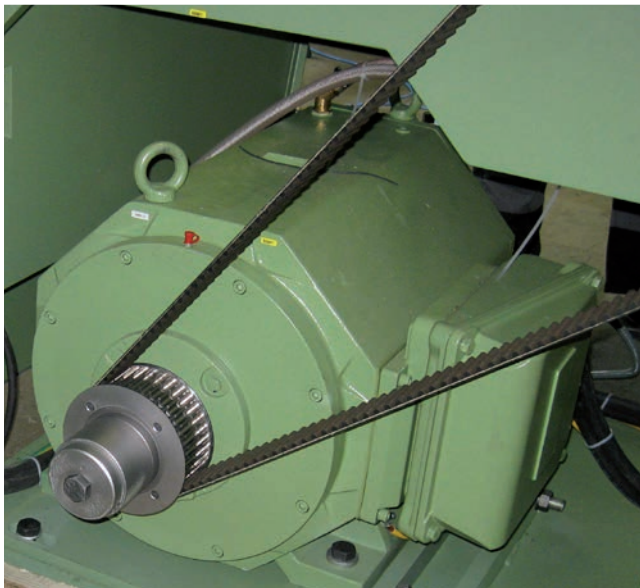
wet wire drawing machine type 150-40



wet wire drawing machine type 150-40 with automatic spooler type A250-400



water cooled final drawing die holder, capstan and spreading disc



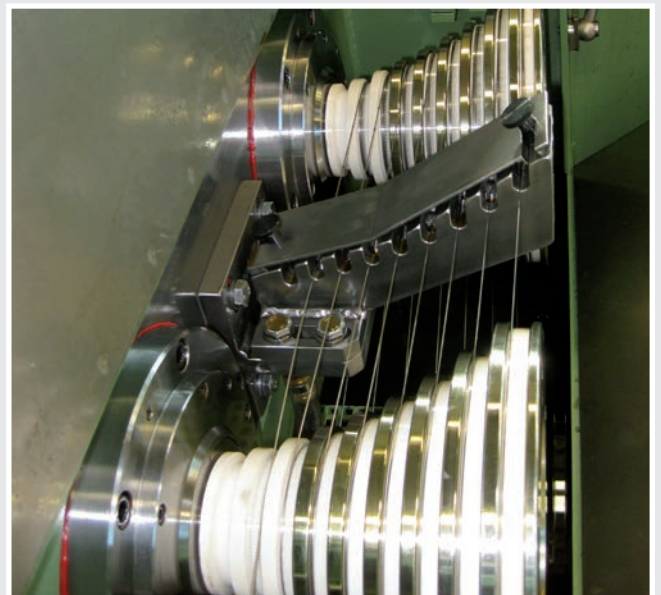
powerful motors up to 75 kW water cooled, compact size, totally closed for best noise protection, no dust or oil inside the machines



equipped with cone for coil manufacturing and stripper



wet wire drawing machine type 150-40, inlet \varnothing 3,0 mm, with pre die and tail stock spooler



ceramic drawing cones for steel wire type C86 up to \varnothing 2,5 mm



NON-SLIP for high-quality standards

MACHINES FOR NON-SLIP WIRE DRAWING

Our supply range encompasses, in addition to cone wire drawing machines, also machines for non-slip drawing.

Non-slip drawing is characterized by the absence of relative movement between the wire and the capstan, making the movement and velocity of both equal.

Our non-slip drawing machines has got individually driven and dancer controlled capstans.

Advantages:

- ☑ Automatic adaption of speed of the individual capstans to the actual graduation of the drawing dies and therefore reduction of slippage to a physically possible minimum
- ☑ Special profiled capstans
- ☑ Free choice of drawing die graduation
- ☑ Flexible drawing dies sets, to adapt optimally to material flowing characteristics
- ☑ Extended durability of the drawing dies
- ☑ Possibility to increase productivity through higher drawing velocities
- ☑ Enhanced quality of surfaces
- ☑ Oil and powder lubricants
- ☑ Sprayed or submerged types

SINGLE CAPSTAN MODULS DANCER CONTROLLED SLIPPAGE FREE DRAWING, MODULAR DESIGN



type WDM 160



type WDM 100



FINE WIRE TYPES

are of modular design. Thereby, clients can determine the numbers of drawing modules and choose from a variety of unwinding and spooling modules.

Type WDM 100 is characterized by air-cooled capstans Ø100 mm, which are profiled in a special way to reduce slippage even on the elastic relieving of the wire. The maximum wire inlet Ø is 0.5 mm and the minimum finished wire Ø is 0.02 mm.

The model WDM 160 is characterized by water-cooled capstans Ø160 mm, which are also provided with special profiles. The max.wire inlet diameter is 1.5 mm and the min. finished wire diameter is 0.15 mm.

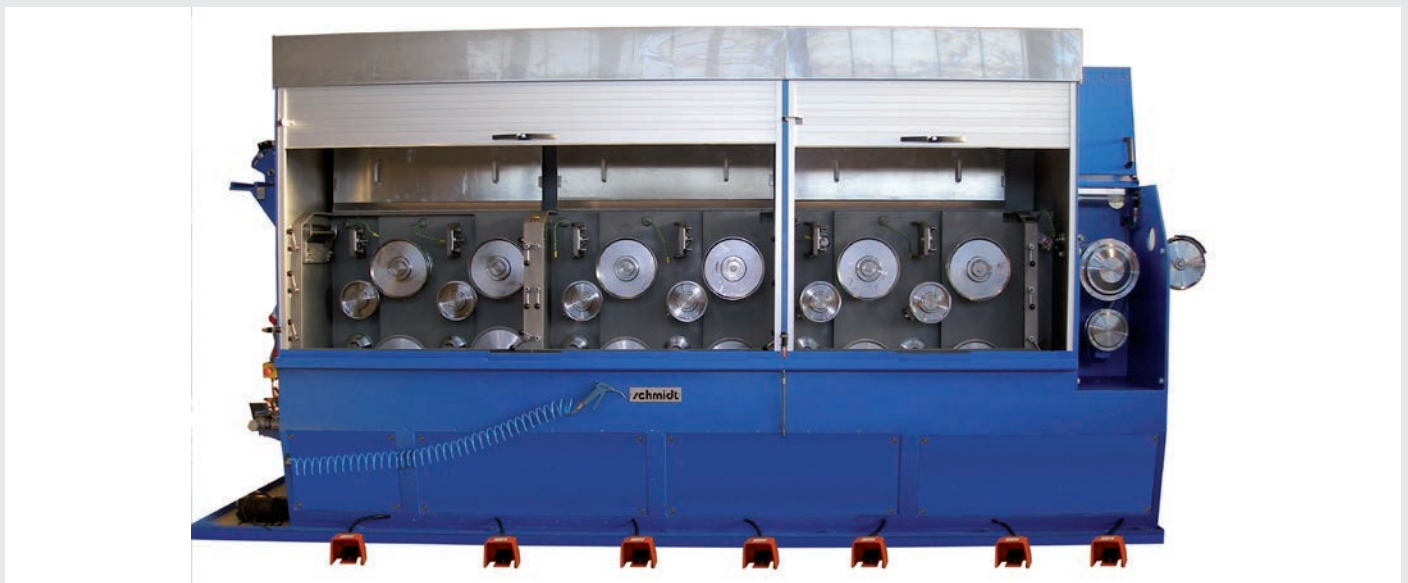
Both types are equipped with a cardanic drawing die holder, which is lubricated and cooled by oil.

SPRAYED AND SUBMERGED TYPES

are supplied for thicker wire dimensions. The wire and the drawing tools are placed in a sprayed or fully submerged drawing chamber and therefore optimally supplied with lubricant and thus chilled in the best possible way. Wire guidance inside the drawing chamber is reduced to a minimum of deflection pulleys and takes place without counter bending and lateral deflection. Each die holder is designed cardanically for precise adjustment of cast and helix. The drawing dies are sprayed with high pressure in addition to the submersion purging.

Drawing machines are completely made of stainless steel for operating with water-based emulsions.

MULTI CAPSTAN DANCER CONTROLLED SLIPPAGE FREE DRAWING, COMPACT DESIGN



non-slip drawing machine type 5x 200-50



TAKE-UP FOR DRAWING MACHINES

TYPE LIST / IMPORTANT TECHNICAL DATA

PLC controlled automatic traverse correction for high quality of spooling. Simple and robustly industrial design, for a less downtime and high productivity. If needed equipped with wire-diameter and ovality supervision.

STANDARD SPOOLER - cantilevered spooler shaft

type	wire-Ø	spool flange-Ø	spool weight	spool speed	spool supply
S160-250	0,20 - 0,80 mm	160 - 255 mm	max. 25 kg	max. 30 m/s	-
S250-355	0,20 - 0,80 mm	250 - 355 mm	max. 50 kg	max. 25 m/s	-
S250-400	0,20 - 0,80 mm	250 - 400 mm	max. 150 kg	max. 20 m/s	-
S400-560	0,50 - 2,80 mm	250 - 400 mm	max. 300 kg	max. 15 m/s	-

TAILSTOCK SPOOLER - for highspeed and heavy spools

type	wire-Ø	spool flange-Ø	spool weight	spool speed	spool supply
P160-250	0,20 - 0,80 mm	160 - 255 mm	max. 25 kg	max. 40 m/s	-
P200-355	0,20 - 0,80 mm	200 - 355 mm	max. 50 kg	max. 35 m/s	-
P250-400	0,20 - 0,80 mm	250 - 400 mm	max. 150 kg	max. 25 m/s	-
P315-750	0,20 - 2,00 mm	355 - 750 mm	max. 850 kg	max. 18 m/s	-

AUTOMATIC SPOOLER - fully automated spool change

type	wire-Ø	spool flange-Ø	spool weight	spool speed	spool supply
A125-250	0,20 - 0,80 mm	125 - 255 mm	max. 25 kg	max. 30 m/s	5+1, alternative 9+1
A250-355	0,20 - 0,80 mm	250 - 355 mm	max. 50 kg	max. 25 m/s	5+1, alternative 9+1
A250-400	0,20 - 0,80 mm	250 - 400 mm	max. 150 kg	max. 20 m/s	5+1, alternative 9+1

UNINTERRUPTED SPOOL CHANGER - for uninterrupted process

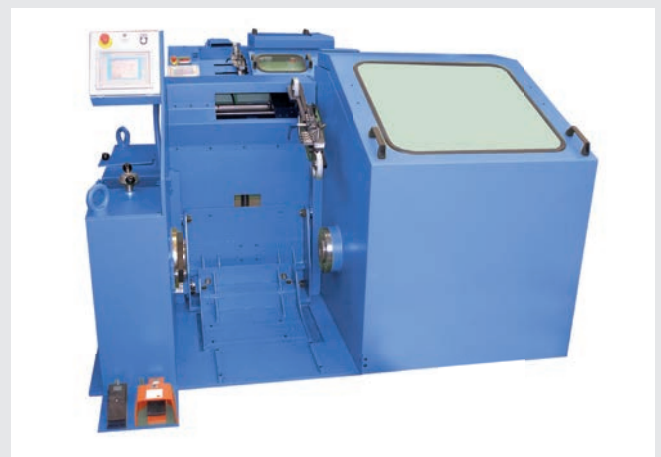
type	wire-Ø	spool flange-Ø	spool weight	spool speed	spool supply
DSP20St	0,05 - 0,125 mm	80 - 200 mm	max. 20 kg	max. 30 m/s	2
DSP45St	0,08 - 0,25 mm	160 - 355 mm	max. 45 kg	max. 20 m/s	2
DSP180St	0,10 - 0,80 mm	200 - 400 mm	max. 180 kg	max. 15 m/s	2



drawing machine with standard spooler type S160-250



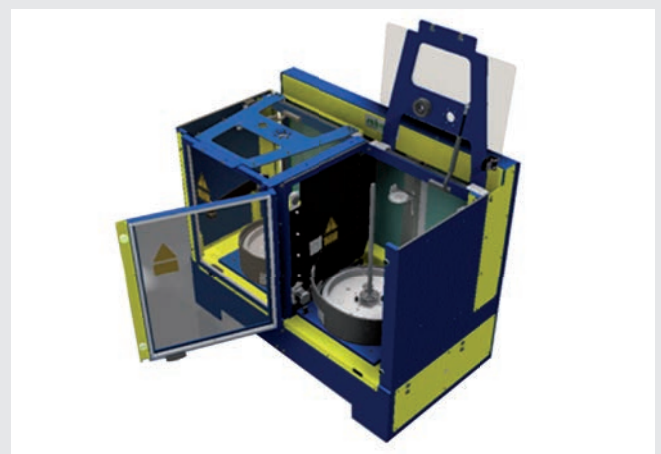
standard spooler type S160-355 with traversing spool



tailstock spooler type P250-400



automatic spool changer type A250-355 with 5-spool magazine



uninterrupted spool changer type DSP180St

SPOOLING DEVICES FOR CONTINUOUS PROCESSING

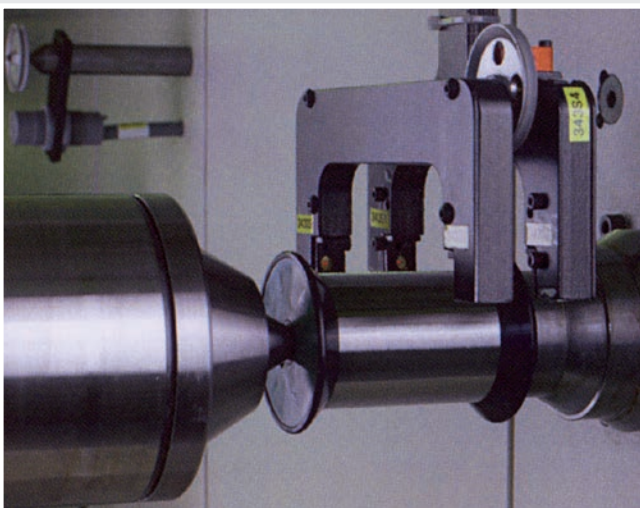
In the course of wire production there are a lot of respooling-processes necessary. Pre products has to be distributed to smaller spools, or the wire has to be treated by galvanizing or heat. The work flow is single or multiple line.

From our basic program of wire spooling machines we can customise any combination in order to match your production progress.

For ultra fine wire we have designed extremely compact units with high precision and efficiency. Ask us for the best solution.

RE SPOOLING DEVICES

One of our targets is the development of high efficiency re spooler for ultra fine stainless steel wire with speed up to 30 m/s. The design covers single drive units as well as multiple units for best productivity.



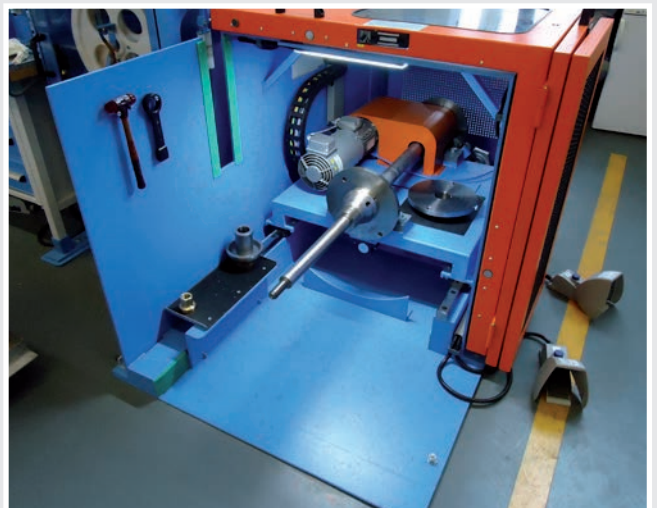
high efficiency spool machine for ultrafine wire 0,015 to 0,030 mm with laser detection

TAKE-UPS



take up plant SD 20-30/40 for annealing process

Re spooling plants are available with traversing pay off and take up spoolers.



re spooling machine for wire 0,3 to 3,0 mm and spools up to 800 mm



MULTIPLE TAKE-UPS

for annealing or plating purposes. This multiple take-ups can have various characteristics:

- ☑ Machine frame for 2, 3, 4, 5, 6, 10, 20 spooling units
- ☑ Wire diameter 0,015 – 3,5 mm
- ☑ Capstan single or group drive
- ☑ Spool orientation horizontal or vertically
- ☑ Spool range 63 mm – 800 mm
- ☑ Traversing pulley or traversing spool
- ☑ Wire tension dancer or torque controlled
- ☑ Integrated drawing die unit option



vertical take-ups



horizontal take-ups



take up with calibration die and traversing spooler



heavy duty wire take-ups for spools up to 800 mm

COMPACT SINGLE TAKE-UPS

Latest development with sophisticated features:

- ☑ Compact single housing, can be arranged in rows
- ☑ Minimum of wire bending due to neap design
- ☑ Wire diameter 0,015 – 1,8 mm
- ☑ Capstan single drive for independent products
- ☑ Spool size 63 - 400 mm
- ☑ Traversing spool with automatic rim control
- ☑ Wire tension dancer or torque controlled
- ☑ Optional automatic spool changer for uninterrupted spool change
- ☑ Vertical coiler for drums



grouped row of single take ups



single take up for spools up to 400 mm



take up with spool changer



single take up for spools up to 250 mm



vertical coiler



SERVICES

MACHINE MODERNIZING – OVERHAULING

We offer an extensively modernizing of your proven machines, independent of brand.

- ☑ Control systems – we are specialists in Siemens PLC
- ☑ Drive systems- modern drive concepts keep your production in flow
- ☑ Electronics- safe and energy saving electric cabinets
- ☑ Mechanics- machine overhaul, upgrades and conversions



AFTER SALES SERVICES

We get along as a partner for our customers. Service is a significant issue for the strategic use of our machines. We hand over your new machine ready-for-use in your factory. The machine set-up will be done in our workshop firstly and in your factory finally. But the responsibility does not end after hand over. Maintenance and repair keeps your systems valuable and reliable, and this kind of workmanship determines the downtime duration. – even in our just-in-time presence.

Services for the adaption of machines and process lines to new requirements is one of our explicit knowledge, due to many years of experience in the wire industry.

We can offer refurbishing for your valuable cones by our grinding machines – a cost-saving alternative to a new acquisition





SPECIAL MACHINES

Beside the wide range of our basic products we design and manufacture special machines and treatment units in accordance to customer requirements:

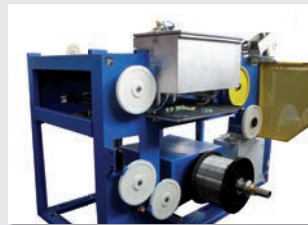
- ☑ Electroplating and – deplating lines
- ☑ Single die drawing machine with pay off and take-up
- ☑ Take-up with calibration die and ultrasonic wire surface cleaning device
- ☑ Horizontal and vertical high temperature (up to 1400 °C) annealing oven line for special precious metals
- ☑ Multiple ultra fine wire annealing with contact free wire guidance and integrated traversing pay-off and take-up
- ☑ Driven pay-off devices for all spool sizes
- ☑ Rotating pay off device for twisted wire



electroplating



annealing oven up to 1300°C



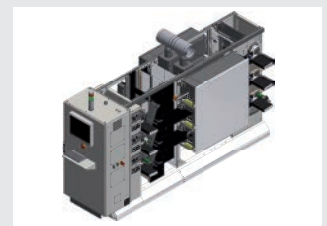
take-up with ultrasonic cleaner



vertical annealing oven up to 1400°C



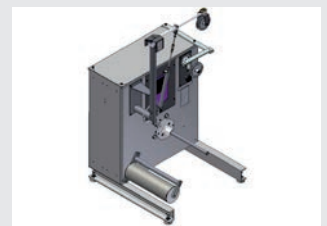
rotating pay off



multiple ultra fine wire annealing



driven pay off for spools up to 250 mm

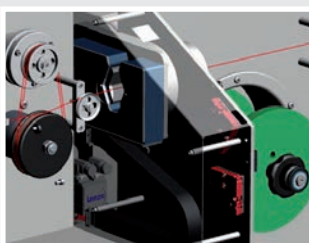


driven pay off for spools up to 400 mm

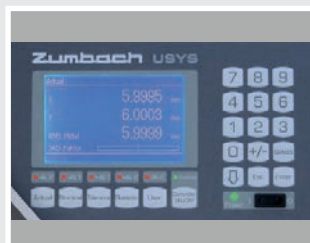
ACCESSORIES

Complementary to your drawing process we can consult and design all kind of accessories:

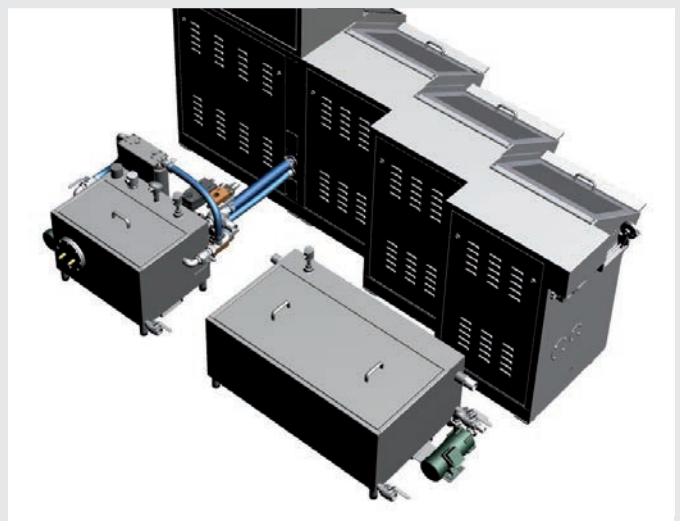
- ☑ Reversing laser diameter measurement device
- ☑ Spool handling devices and hoist
- ☑ Lubrication supply with pump and filter system
- ☑ Quality devices for wire surface and shape



reversing wir diameter measurement device



processor for measurement and data acquisition



lubrication tanks



schmidt Maschinenbau GmbH

Machines for the wire industry

Your competent partner for a broad
range of equipment

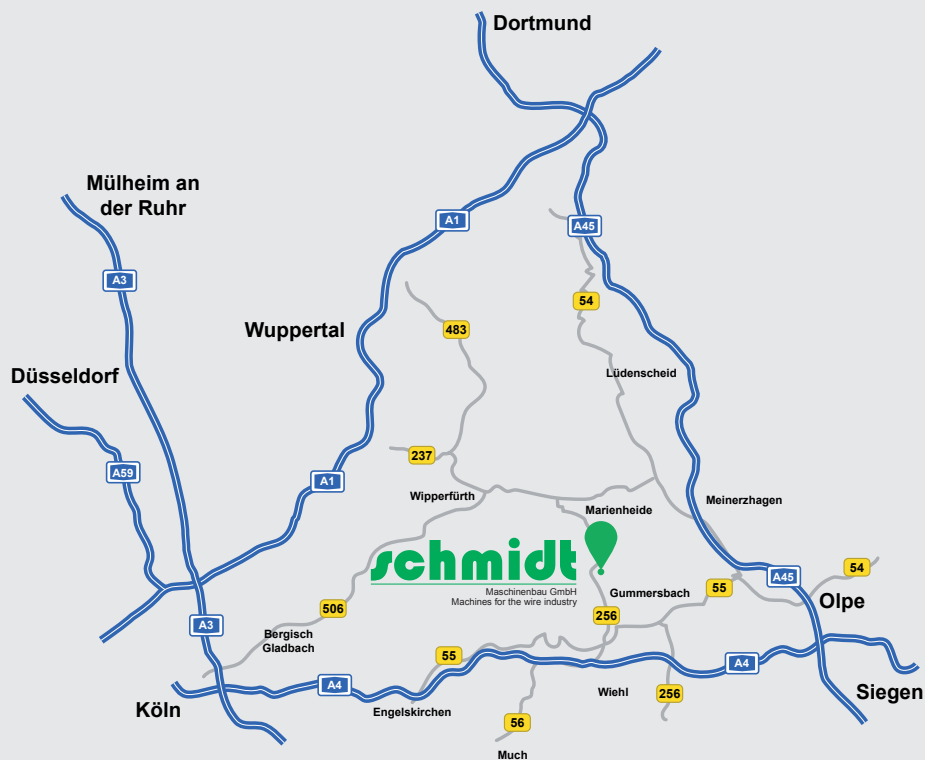
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