

Machines and services for  
the wire industry

# schmidt

Maschinenbau GmbH  
Machines for the wire industry

## TAKE UP SERIES

Advice

Engineering

Design work

Machinery delivery

Commissioning

Training

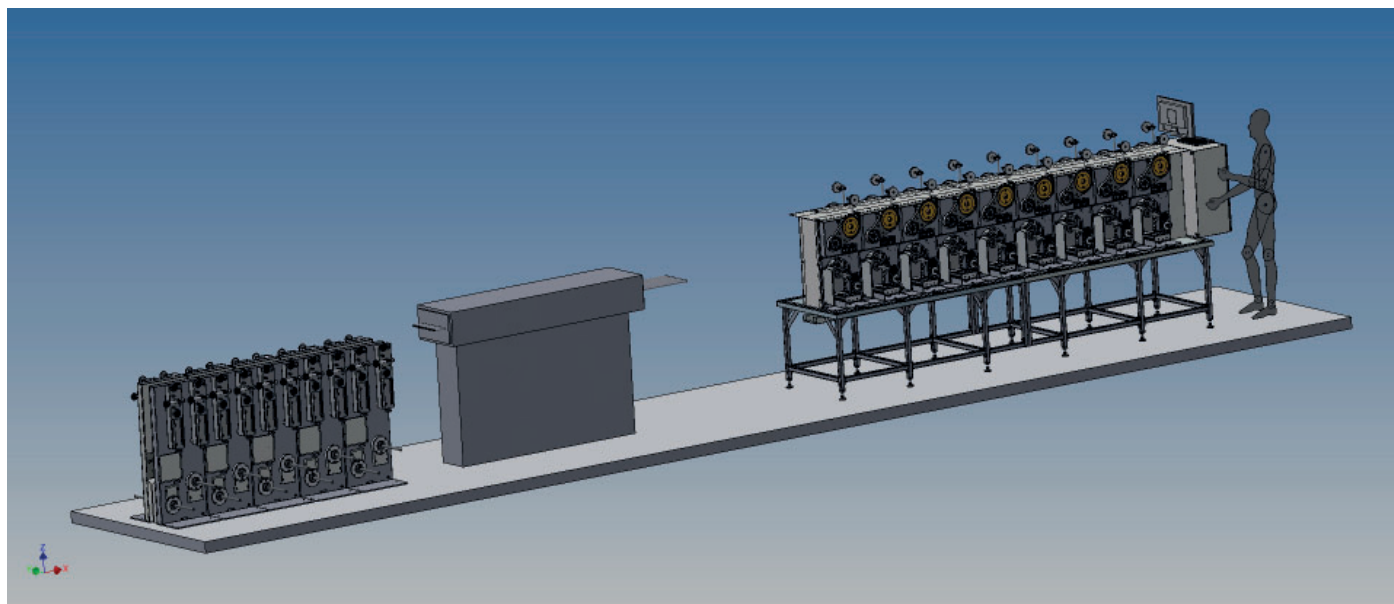


*specialized for  
powerful solutions*

# Schmidt

Maschinenbau GmbH  
Machines for the wire industry

After the drawing process, the wire needs to anneal in order to achieve the requested material properties. Schmidt has developed a wide range of sophisticated state-of-the-art take-ups for this kind of annealing processes. The modular line concept gives the opportunity to define the machine capabilities in accordance to the actual need.



## FEATURES AND BENEFITS

- Traversing spool for best spooling results
- Spooling tension measurement and control for supervised quality
- Supervision of all controlled values, with trend feature and historical data
- Modular design, each line comes with its own control and operation panel
- Optimal design with minimal wire bending
- Low energy consumption due to modern stepping motor drives
- Scalable units for different wire ranges

### Take Up Series SM

	Wire diameter range	Speed	Spool flange Ø max.	Spool weight max.	Spool shaft Ø	Traverse width	Spooling tension min.	Spooling tension max.
	mm	m/min	mm	kg	mm	mm	cN	cN
<b>SM36</b>	0,01 – 0,08	300	125	6	16	180	3	30
<b>SM33w</b>	0,03 – 0,1	200	160	14	16	180	40	400
<b>SM33</b>	0,05 – 0,3	180	200	25	16	180	90	900
<b>SM30</b>	0,3 – 1,8	60	400	90	22	250	500	10000



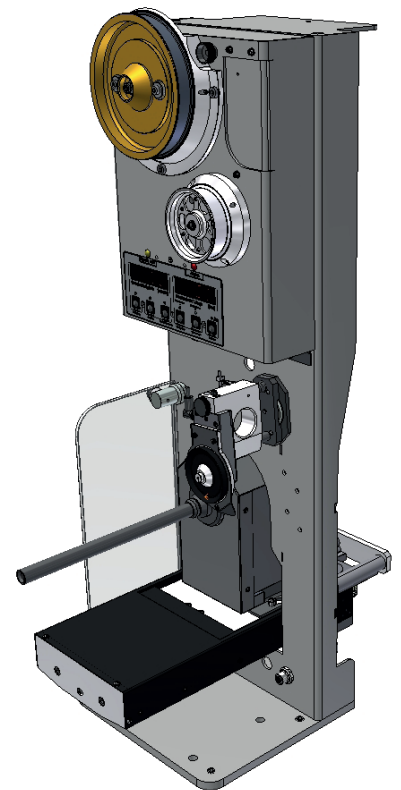
# FINE WIRE TAKE-UP Type SM36

Wire diameter  
From **0.01** to **0.08** mm (.0004" to .0032")

## FEATURES AND BENEFITS

Annealing take-up designed for ultra-fine wire 10 µm to 80 µm.  
production speed up to 300 m/min.

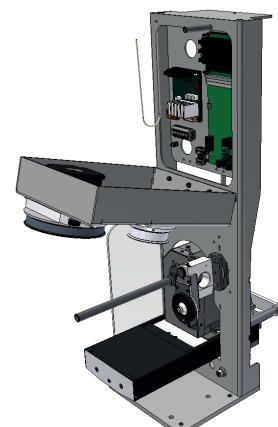
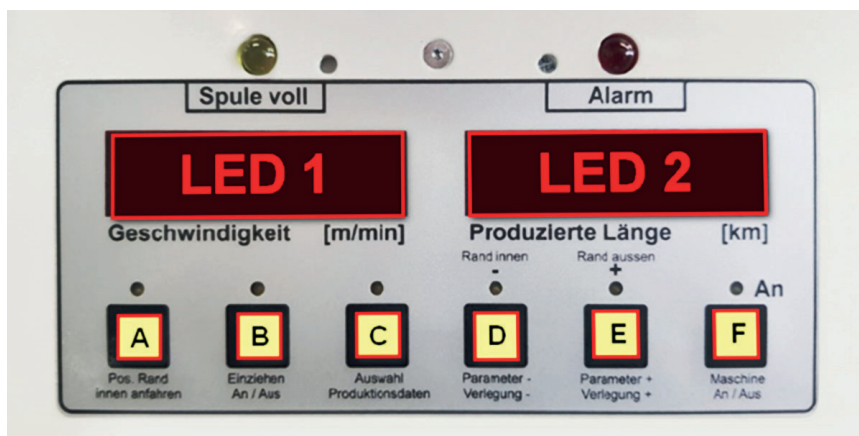
- Capstan and spreader disc with ceramic layer from Chrome Oxide
- Traversing spool, guiding pulley adjustable for easy centring of the spooling
- Both spool rims adjustable by operation panel buttons
- Spooler shaft Ø 16 mm (.63"), spool adapter for spool type HK100 and HK130
- Spooling tension controlled and supervised via tension-measurement device at guiding pulley
- Adjustment of spooling tension by inductive clutch, range 3 – 30 cN
- Low energy consumption, safety voltage 48 V only
- Single-line microcontroller card; local operation by built-in panel with 2 digital displays and 6 buttons, 2 Alarm LED



## DESIGN

- All electrical parts easily accessible via front flap
- Use of maintenance free parts only
- Units can be grouped to requested number of lines
- Controller cards accessible by network from central PC with HMI

	Housing width	Capstan Ø	Spreader disc Ø
	mm	mm	mm
SM36	250	135	68





## FINE WIRE TAKE-UP

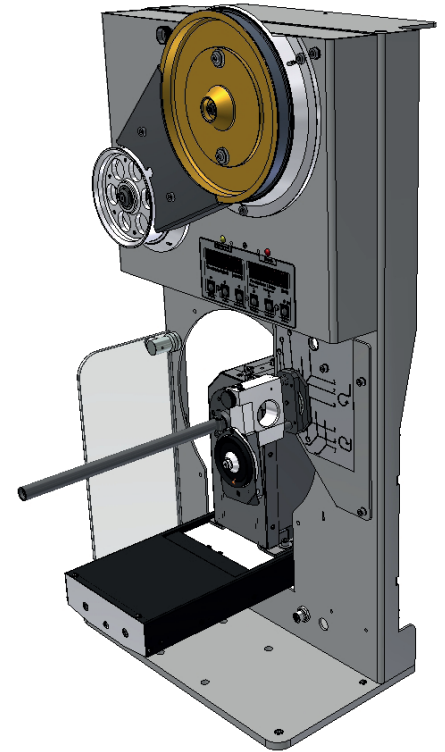
# Type SM33w

Wire diameter  
From **0.03** to **0.10** mm (.0012" to .004")

## FEATURES AND BENEFITS

Annealing take-up designed for ultra-fine wire 30 µm to 100 µm.  
production speed up to 200 m/min.

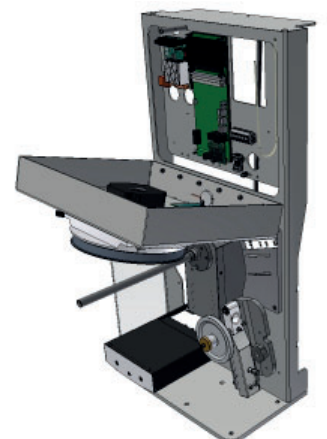
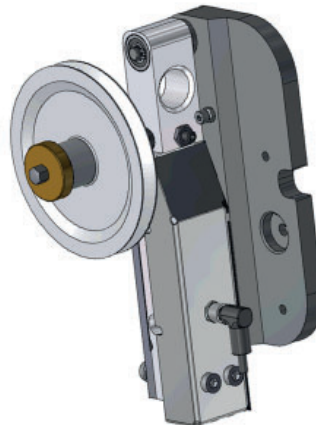
- Capstan and spreader disc with ceramic layer from Chrome Oxide
- Traversing spool, guiding pulley adjustable for easy centring of the spooling
- Both spool rims adjustable by operation panel buttons
- Spooler shaft Ø 16 mm (.63"), spool adapter for spool type up to DIN 160
- Spooling tension controlled and supervised via tension-measurement device at guiding pulley  
tension range 40 to 400 cN
- Low energy consumption, safety voltage 48 V only
- Single-line microcontroller card; local operation by built-in panel with 2 digital displays and 6 buttons, 2 Alarm LED



## DESIGN

- All electrical parts easily accessible via front flap
- Use of maintenance free parts only
- Units can be grouped to requested number of lines
- Controller cards accessible by network from central PC with HMI

	Housing width	Capstan Ø	Spreader disc Ø
	mm	mm	mm
<b>SM33w</b>	400	191	110





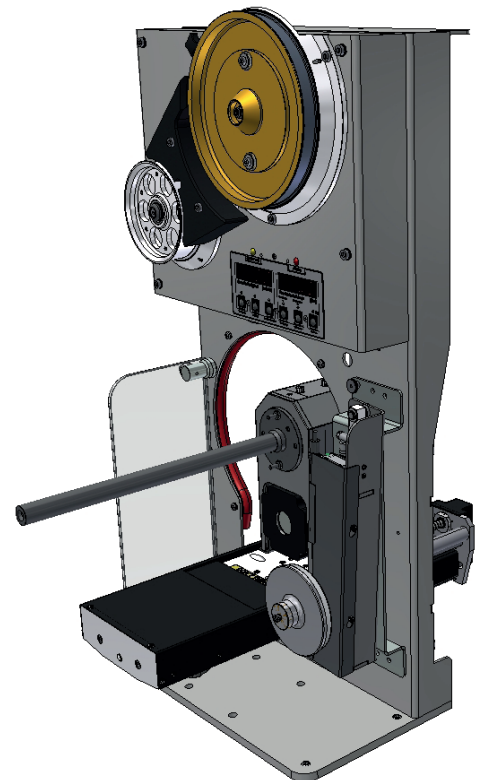
## FINE WIRE TAKE-UP Type SM33

Wire diameter  
From **0.05** to **0.3** mm (.002" to 0,012")

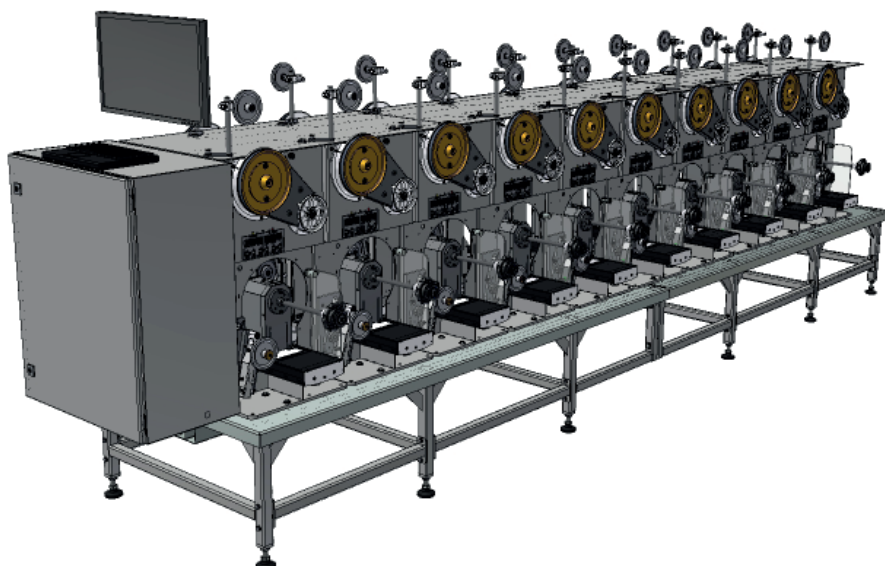
### FEATURES AND BENEFITS

Annealing take-up designed for ultra-fine wire 0,05 mm to 0,3 mm. Production speed up to 150 m/min.

- Capstan and spreader disc with ceramic layer from Chrome Oxide
- Traversing spool, guiding pulley adjustable for easy centring of the spooling
- Both spool rims adjustable by operation panel buttons
- Spooler shaft  $\varnothing$  16 mm (.03"), spool adapter for spool type up to DIN 160
- Spooling tension controlled and supervised via tension-measurement device at guiding pulley
- tension range 90 to 900 cN
- Low energy consumption, safety voltage 48 V only
- Single-line microcontroller card; local operation by built-in panel with 2 digital displays and 6 buttons, 2 Alarm LED



	Housing width	Capstan $\varnothing$	Spreader disc $\varnothing$
	mm	mm	mm
SM33	400	191	110



## ANNEALING TAKE-UP

# Type SM30

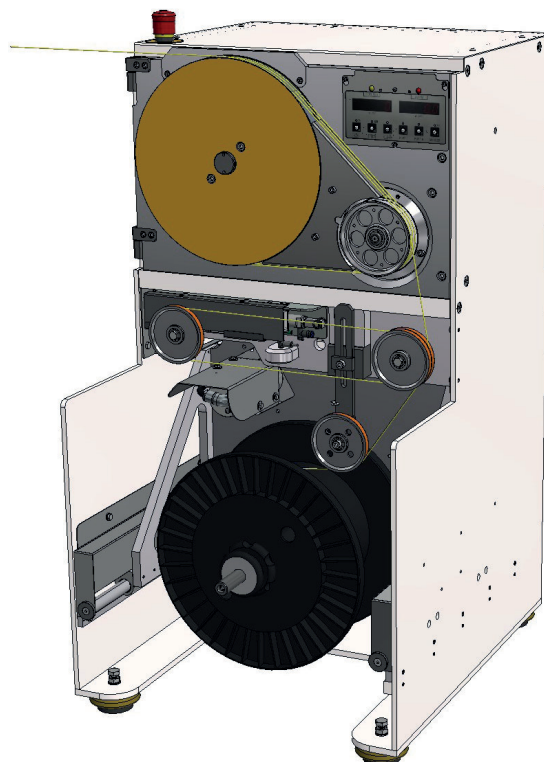
Wire diameter

From 0.3 to 1.8 mm (.012" to .07")

## FEATURES AND BENEFITS

Annealing take-up designed for fine wire 0,3 mm to 1,8 mm.  
Production speed up to 60 m/min.

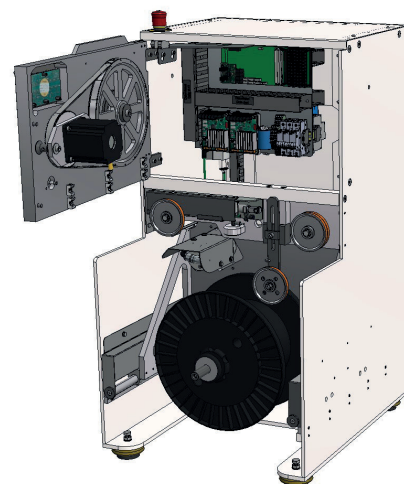
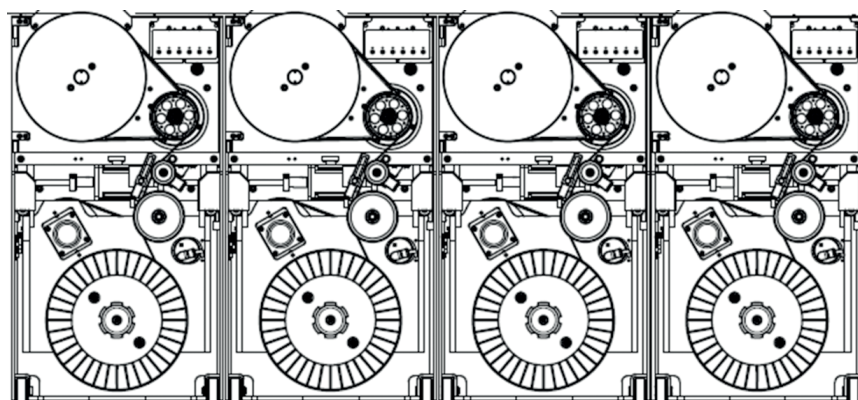
- Capstan and spreader disc with ceramic layer from Chrome Oxide
- Traversing spool, guiding pulley adjustable for easy centring of the spooling
- Both spool rims adjustable by operation panel buttons
- Spooler shaft  $\varnothing$  22 mm (.86"), spool adapter for spool type up to DIN 400
- Spooling tension controlled and supervised via tension-measurement device at guiding pulley
- Adjustment of spooling tension by torque-controlled servo drive, range 500 – 10,000 cN
- Pneumatic dancer with linear movement
- Low energy consumption, safety voltage 48 V only
- Single-line microcontroller card; local operation by built-in panel with 2 digital displays and 6 buttons, 2 Alarm LED



	Housing width	Capstan $\varnothing$	Spreader disc $\varnothing$
	mm	mm	mm
SM30	530	318	100

## DESIGN

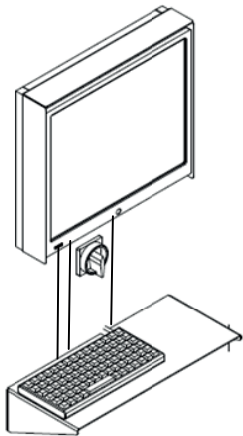
- All electrical parts easily accessible via front flap
- Use of maintenance free parts only
- Spool remove by pallet truck
- Units can be grouped to requested number of lines
- Controller cards accessible by network from central PC with HDMI





# Central user interface

- Flat screen 19"
- Network bus cable connection to all take-ups
- Data storage on hard disc
- Ethernet connection to factory LAN
- Software can be customized to any take-up configuration



## FEATURES AND BENEFITS

### Operator screen

- Show all actual values and set points
- Password protected entry
- Each take up data displayed in columns
- Supervision channels for all set points
- Change background colours if alarm occurs
- Historical alarm messages
- Trend feature

BDS-1	Unit	Pos 1	Pos 2	Pos 3	Pos 4	Pos 5	Pos 6
Ordernumber	Test-PA	0	0	0	0	0	0
Resttime	[hh:mm]	0,00	0,00	0,00	0,00	3,00	0,00
State		OFF	OFF	OFF	OFF	OFF	OFF
Wirespeed	[m/min]	120 / 0	115 / 0	50 / 0	50 / 0	50 / 0	50 / 0
Productionspool		178V = 11	HK76 = 4		HK76		50 / 0
Spool Unwinder		158 = 16	158 = 16		158		
GI: act. trav corr	RI / RA	86,7 / 75,0	56,0 / 20,8	81,8 / 2...	81,8 / 2...	81,8 / 22...	81,8 / 22,2
Productionlength	[m]	0 / 6230,0	0 / 21059,0	0 / 1736...	0 / 5610...	3 / 5455,0	0 / 29789...
Wireiameter	[um]	63,0	63,0	50,0	50,0	50,0	50,0
Full_level	[%]	0,8	100,0	6267,9	82,3	5592,4	1841,0
Annual Temp. In	[deg]	300 / 63	250 / 25	400 / 136	400 / 142	400 / 142	400 / 136
Annual Temp. Mid	[deg]	320 / 86	300 / 30	400 / 159	400 / 163	400 / 165	400 / 159



# Double spooler

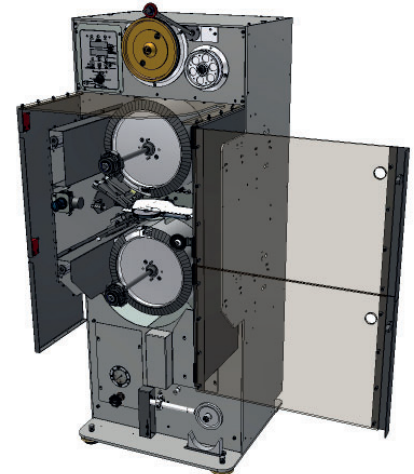
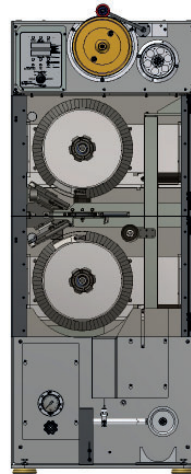
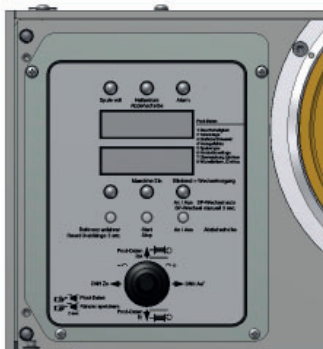
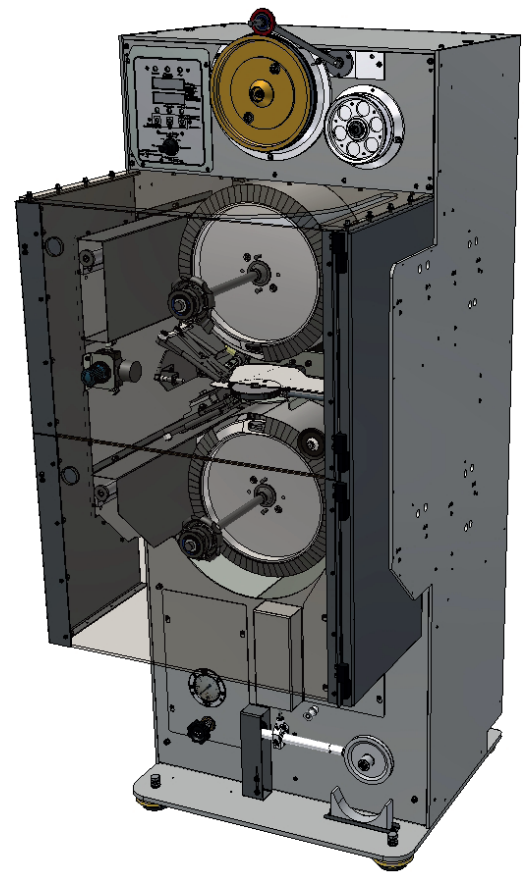
Wire diameter

From 0.08 to 0,12 mm (.0031" to .0047")

## TYPE SM33-DS

Annealing take-up with automatic spool changer, designed for ultra-fine wire 0.08 mm to 0.12 mm. Production speed up to 180 m/min. Spool change will take place automatically when spool is full. Spool must take off by hand.

- Capstan and spreader disc with ceramic layer from Chrome Oxide
- Traversing spool, guiding pulley adjustable for easy centring of the spooling
- Both spool rims adjustable by operation panel buttons
- Spooler shaft Ø 22 mm (.86"), spool adapter for spool type up to DIN 250
- Spooling tension controlled and supervised via pneumatic dancer
- Adjustment of spooling tension by torque-controlled servo drive, range 30 - 2500 cN
- Automatic spool change-over when spool is full
- Spool take-out by hand, single protection flaps to spooler bay
- Low energy consumption, safety voltage 48 V only
- Single-line microcontroller card; local operation by built-in panel with 2 digital displays and 6 buttons, 2 Alarm LED







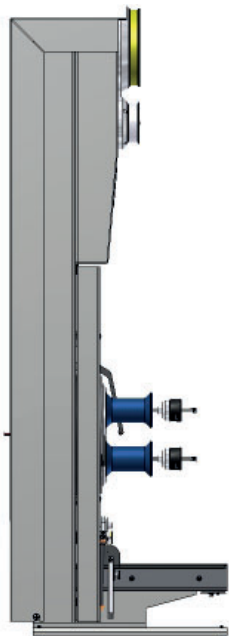
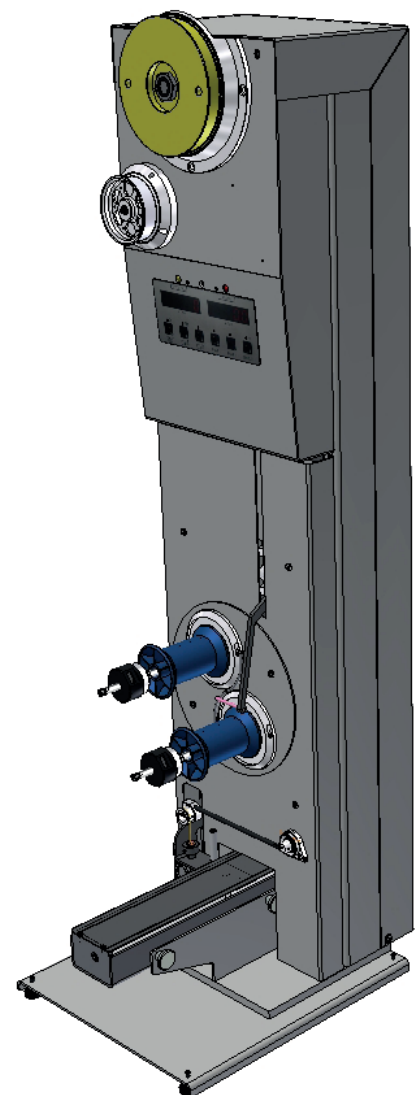
# Double spooler

Wire diameter  
From **0.01** to **0.08** mm (.0004" to .003")

## TYPE SM36-DS

Annealing take-up with automatic spool changer, designed for ultra-fine wire 10  $\mu$ m to 80  $\mu$ m. Production speed up to 300 m/min. Spool change will take place automatically when spool is full. Spool must take off by hand.

- Capstan and spreader disc with ceramic layer from Chrome Oxide
- Traversing, guiding pulley
- Both spool rims adjustable by operation panel buttons
- Spooler shaft  $\varnothing$  10 mm (.4"), spool adapter for spool type up to 100 mm, cylindrical and biconical
- Spooling tension controlled and supervised via spring actuated dancer, range 5 - 30 cN
- Automatic spool change-over when spool is full
- Spool take-out by hand
- Low energy consumption, safety voltage 48 V only
- Single-line microcontroller card; local operation by built-in panel with 2 digital displays and 6 buttons, 2 Alarm LED





# PAY OFF

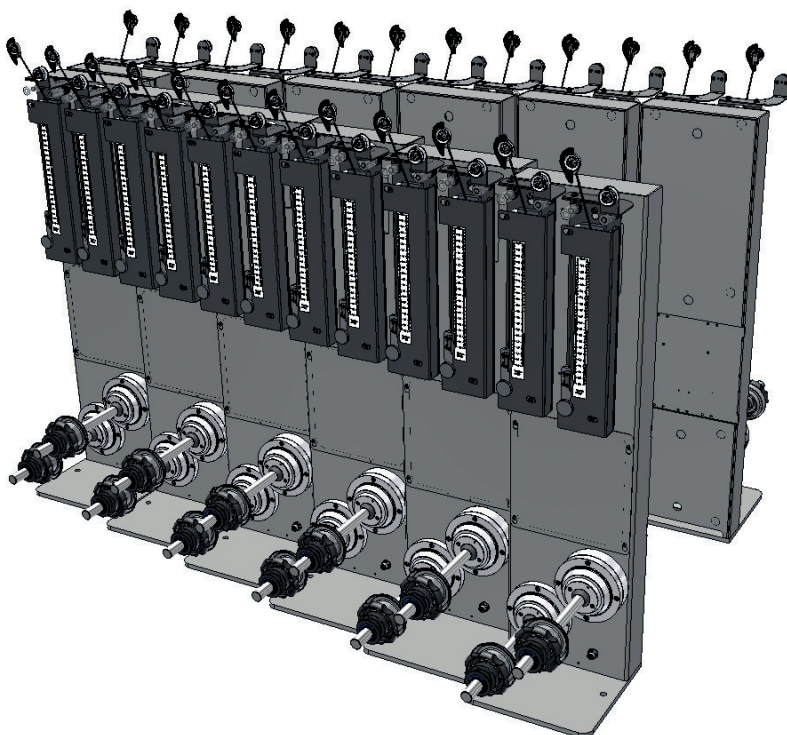
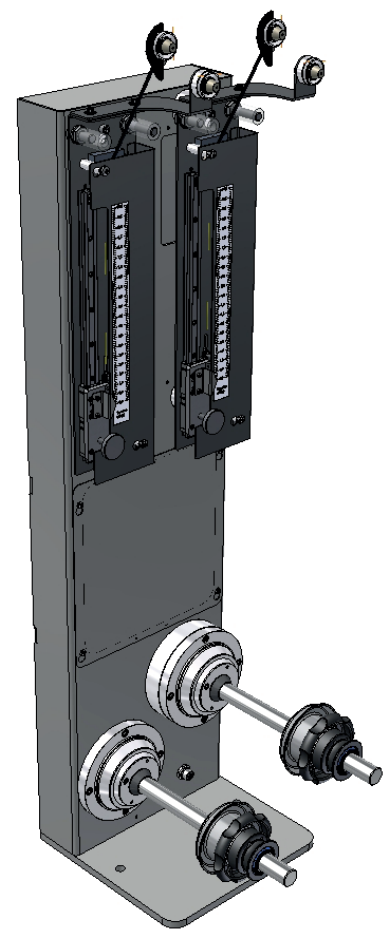
Wire diameter

From **0.01** to **0.08** mm (.0004" to .003")

## DOUBLE PAY OFF TYPE UW210, FOR TAKE UP SM36

Controlled pay off, designed for ultra-fine wire 10  $\mu$ m to 80  $\mu$ m.  
Production speed up to 300 m/min. Fixed offset to apply the annealing tubes distances.

- Two pay off units combined in one housing
- Spool shaft diameter 16 or 22 mm, direct driven by stepping motor
- Spool flange diameter up to 130 mm
- Pay off spooling force adjustable by spring actuated dancer to 0.5 – 10 cN
- Low energy consumption, safety voltage 48 V only
- Each spooler with own microcontroller
- Stop button to shut down the line
- Housing can be grouped to desired number of lines





# PAY OFF

Wire diameter  
From **0.03** to **0.6** mm (.0012" to .023")

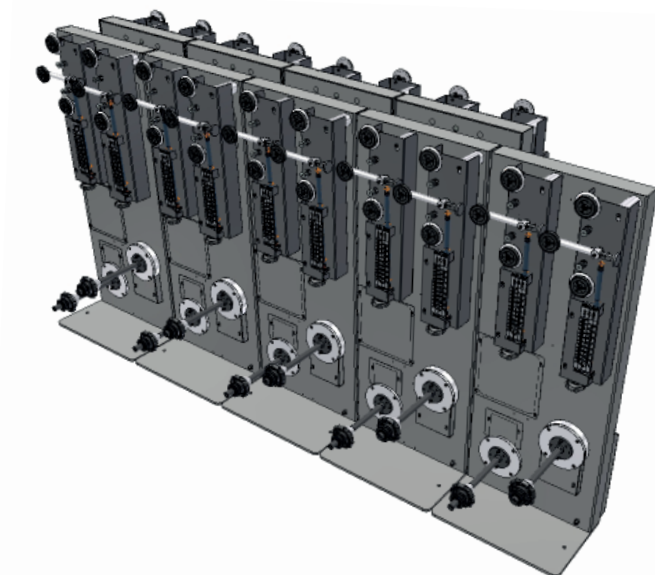
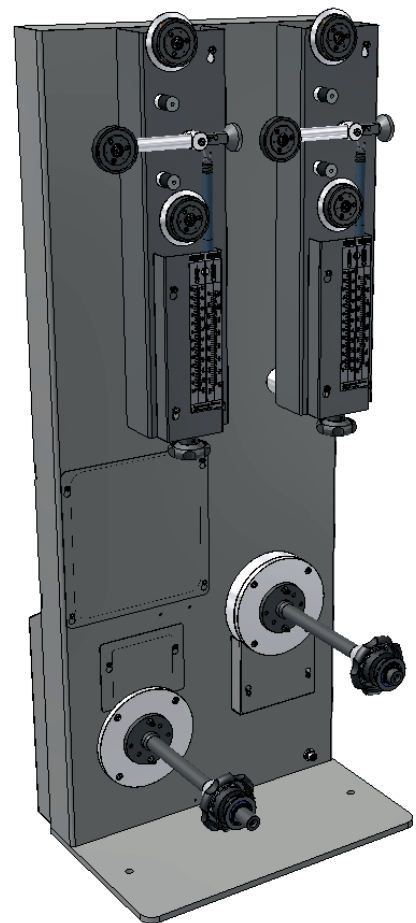
## DOUBLE PAY OFF TYPE UW2-800, FOR TAKE UP SM33

Controlled pay off, designed for fine wire 0.03 mm to 0.6 mm. Production speed up to 200 m/min. Fixed offset to apply the annealing tubes distances.

- Two pay off units combined in one housing
- Spool shaft diameter 16 or 22 mm, direct driven by stepping motor
- Spool flange diameter up to 250 mm
- Pay off spooling force adjustable by spring actuated dancer

Tension ranges:

- range #1: 30 – 90 cN
  - range #2: 50 – 150 cN
  - range #3: 50 – 500 cN
  - range #4: 80 – 800 cN
- Low energy consumption, safety voltage 48 V only
  - Each spooler with own microcontroller
  - Stop button to shut down each single line
  - Housing can be grouped to desired number of lines





## ANNEALING TAKE-UP

# Series SD

These take ups are designed heavy-duty for polluted environment, using industrial standards like Siemens S7-1200 PLC for controlling and supervision of the line. Other performance features are comparable with the SM series.



## FEATURES AND BENEFITS

- Annealing take-up designed for double sided lines
- Modular design for any number of annealing tubes
- Each module with own PLC for best plant certainty
- Traversing spool for best spooling quality
- Spooling tension controlled and supervised for optimal product quality
- PLC and other electrics protected in switchboard cabinets
- Low energy consumption, safety voltage 48 V only
- Three modules for different application

### Take Up Series SD

	Wire diameter range	Speed m/min	Spool flange Ø max. mm	Spool weight max. mm	Spool shaft Ø mm	Traverse width mm	Spooling tension min. cN	Spooling tension max. cN
	mm							
SD20/15	0,1 bis 0,35	100	200	76	15	180	150	1500
SD20/65	0,2 bis 0,65	100	250	100	20	180	400	4000
SD20/85	0,3 bis 1,0	60	355	100	20/35	180	500	5000



# ANNEALING TAKE-UP Series SD20/xx

Wire diameter  
From 0.1 to 1.0 mm

## FEATURES AND BENEFITS

Annealing take-up available in three different sizes for wire between 0.1 and 1.0 mm diameter. Production speed up to 100 m/min.

- Capstan and spreader disc with ceramic layer from Chrome Oxide
- Traversing spool, guiding pulley with tension measurement device
- Both spool rims adjustable by operation panel buttons
- Spooler shaft  $\varnothing$  15/22/35 mm, spool adapter for spool type up to DIN 355
- Adjustment of spooling tension by torque-controlled servo drive
- Spooling tension adjustable from 150 cN to 5000 cN
- Automatic spooling rim correction
- Dust protected electronic switchboard, aircon system available
- Local operation by built-in touch panel



Take Up Series SD

	Housing width	Capstan $\varnothing$	Spreader disc $\varnothing$
	mm	mm	mm
SD20/15	475	135	68
SD20/65	475	191	110
SD20/85	575	191	110



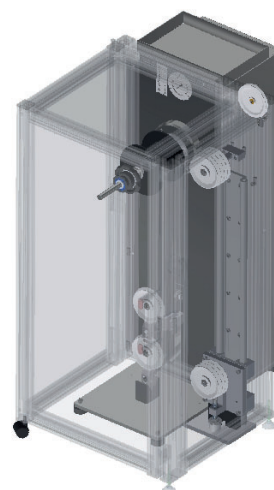
PAY OFF

# Series UW

## FEATURES

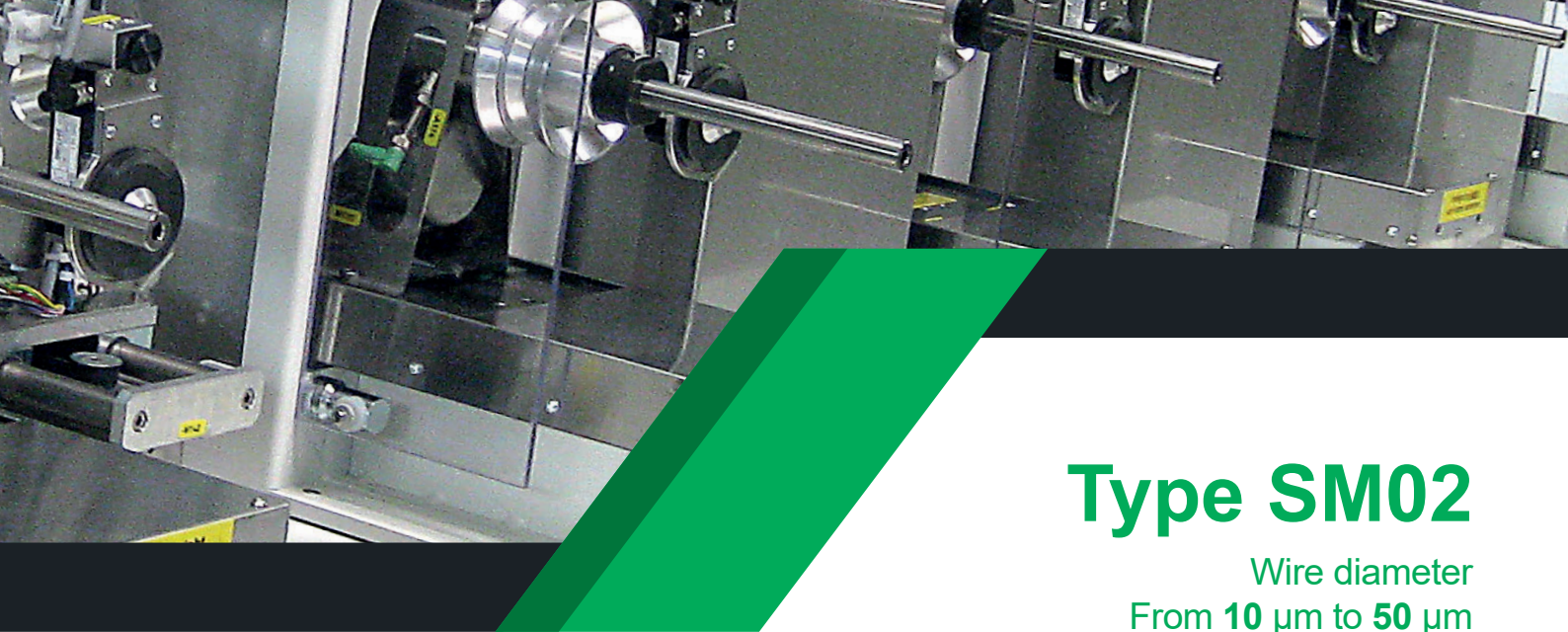
These pay offs are designed for re-reeling of single spools.

- Compact design
- Two models for different spool range and wire tension
- Adjustable spooling tension due to pneumatic dancer
- Selectable rotation sense and pay off direction
- Control gain adjustable by manual knob
- Voltage 110-270 V, 50/60 Hz
- Pressurized air connection 6 bar
- Available with wire accumulator and protection cage



### Pay Off Series UW

	Wire diameter range	Speed	Spool flange Ø max.	Spool weight max.	Spool shaft Ø	Spooling tension min.	Spooling tension max.	Housing width
	mm	UpM	mm	kg	mm	cN	cN	mm
<b>UW1/165</b>	0,05 – 0,20	550	250	15	16	10	140	300
<b>UW1/850</b>	0,17 – 0,50	550	355	22	22	50	850	300
<b>UW1/1700</b>	0,17 – 0,50	550	355	22	22	100	1700	300
<b>UW1/850/DAS</b>	0,17 – 0,50	550	355	22	22	50	850	600



# Type SM02

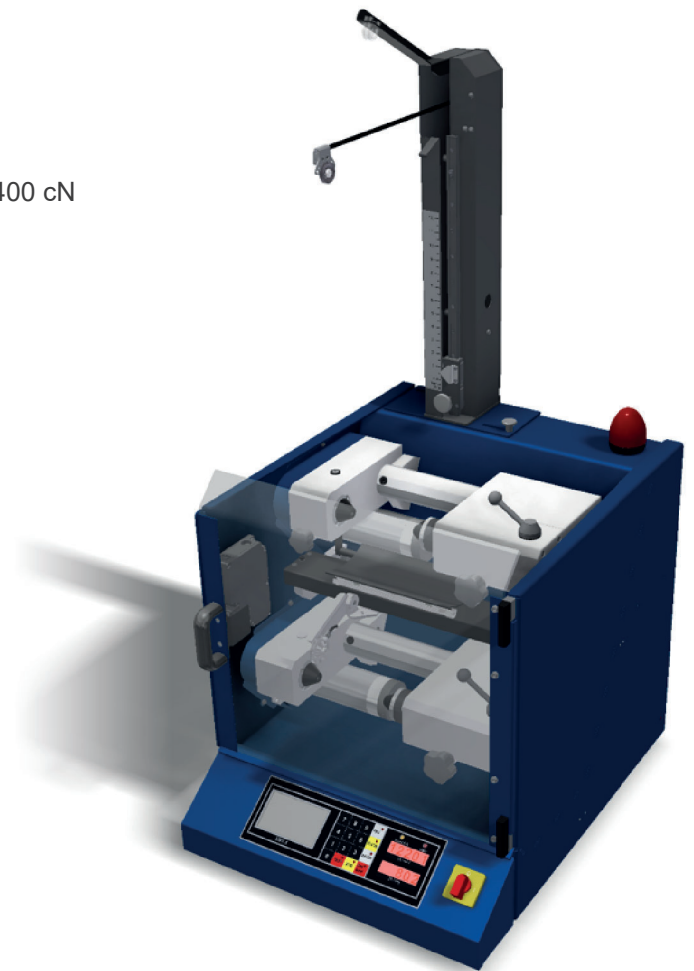
Wire diameter  
From 10 µm to 50 µm

## ULTRAFINE TABLE-TOP RE-SPOOLING DEVICE

- Spool types up to flange diameter 160 mm and overall width 160 mm
- Minimal drum diameter 40 mm
- Spool types cylindrical and biconical
- Spooling tension applied by spring actuated dancer
- Three dancer arms selectable: 1-10 cN; 10-100 cN; 40-400 cN
- Re-spooling speed up to 20 m/s
- Spooler revolution max. 6750 rpm

## SPOOL RANGE

DIN 160 (160K)	DIN 125 (125K)	DIN 100 (100K)	HKV 160 (159 45 R)	HKV 125 (124 45 R)
Abspulen / pay off	Abspulen / pay off	Abspulen / pay off	Abspulen / pay off	Abspulen / pay off
HK76/45	HK100-65-100	HK130-82-176	HK76	HK76/16-60
Aufspulen / take-up	Abspulen / pay off	Abspulen / pay off	Aufspulen / take-up	Aufspulen / take-up
HK80	SONOCO CRELLIN ø2,25" x 1" x ø1,76"	SONOCO CRELLIN ø2,5" x 3" x ø1,76"	Elmet Tungsten Spool FWM	Wardwell
Aufspulen / take-up	Aufspulen / take-up	Aufspulen / take-up	Abspulen / pay off	Aufspulen / take-up
SONOCO CRELLIN ø4,5" x 3" x ø2,5"	ø 4,86" x 3,5" x 3" Pittsfield 4-7/8" STD	ø 6" x 3,5" x ø 3,5" th in flange ABC Plastics FA-060	SONOCO CRELLIN ø6" x 3,5" x ø 3,5"	ø160mm x 90mm x ø90mm
Abspulen / pay off	Abspulen / pay off	Abspulen / pay off	Abspulen / pay off	Abspulen / pay off
Endura Braider Bobbin	Medium Hub Braider Bobbin	Large Hub Braider Bobbin Steeger 30mm	ø164x38,9xø87,6 ABC Plastics UA-060	Bonding Wire Spool 2"
Aufspulen / take-up	Aufspulen / take-up	Aufspulen / take-up	Abspulen / pay off	Aufspulen / take-up





## **schmidt Maschinenbau GmbH**

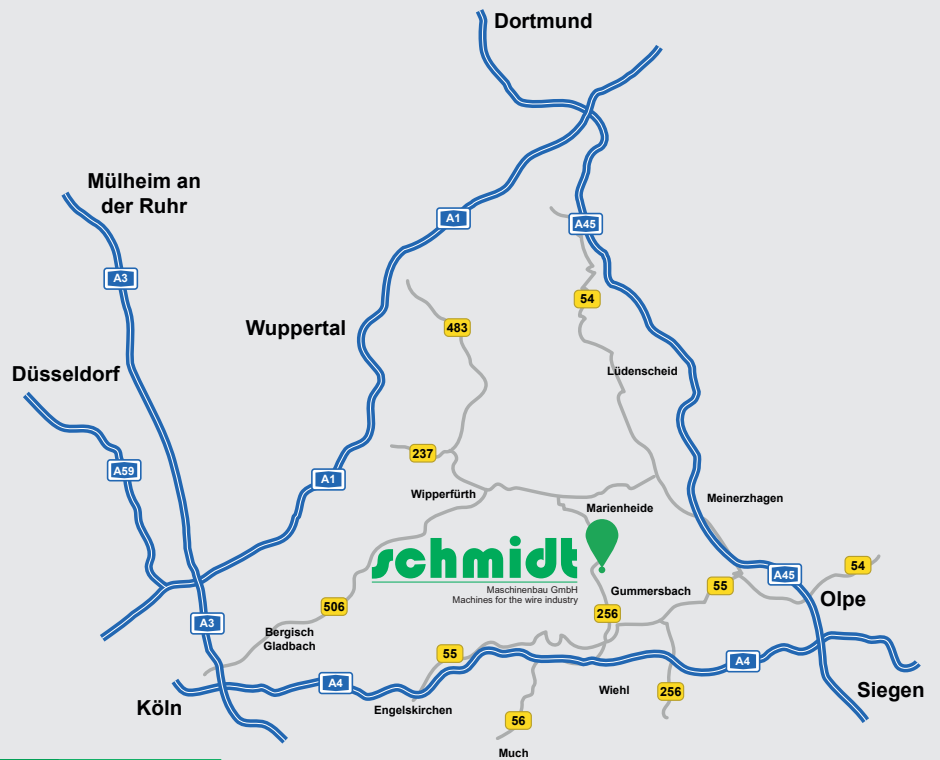
Machines for the wire industry

Your competent partner for a broad range of equipment

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