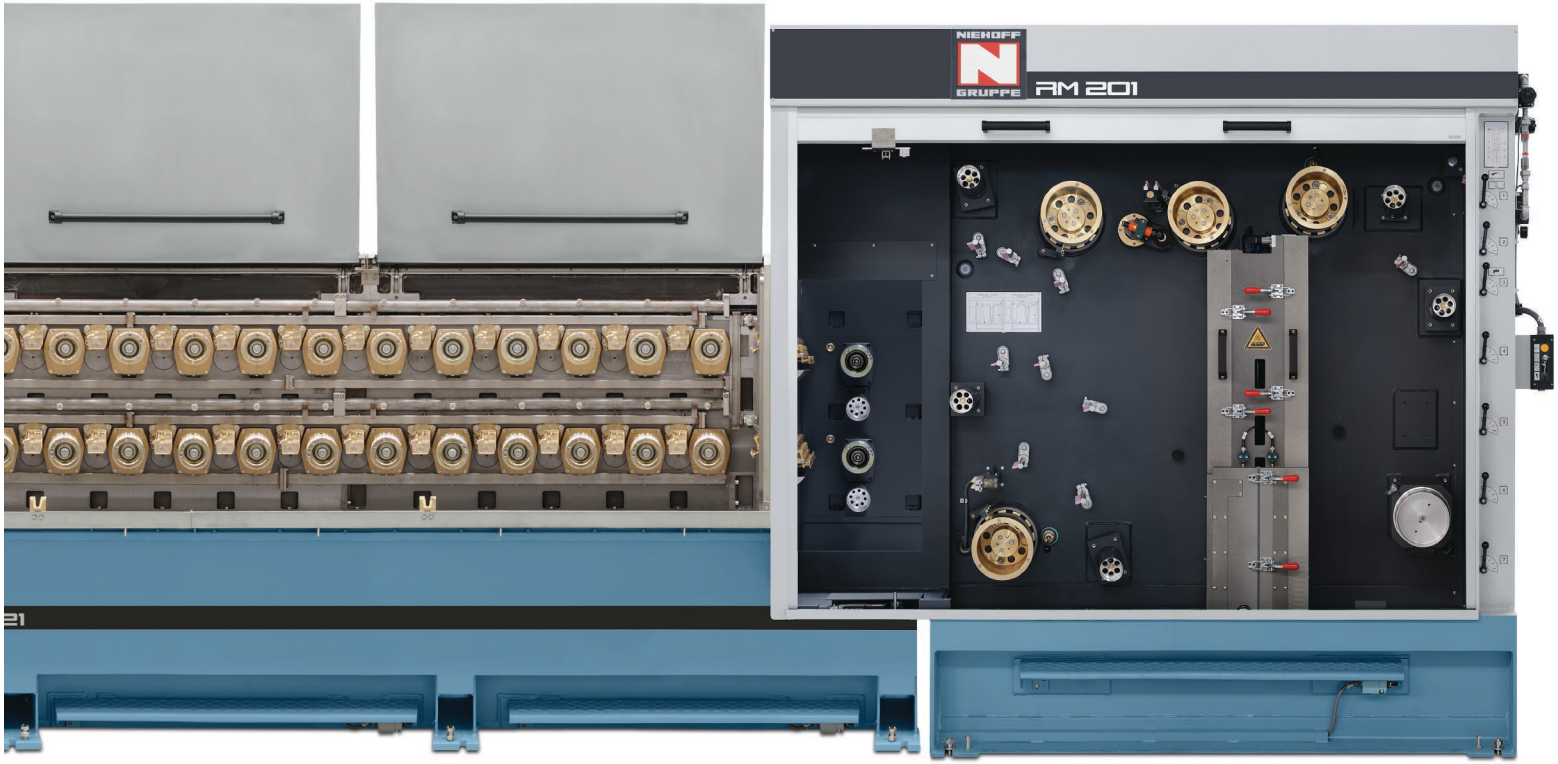


MMH 121 / RM 201
Multiwire Drawing Line

Expertise, Customer Driven, Service – in Good Hands with NIEHOFF

NIEHOFF
GRUPPE

MMH 121

Design:

- compact design for space saving use of the production area
- vibration-damping cast iron housing for long service life
- stainless-steel drawing chamber cover and pipes
- safe and reliable separation of drawing emulsion and gear oil via mechanical labyrinth seal (long service intervals)
- integration of the capstans in the working chamber of the annealer
- user-friendly design

Increase in quality:

- extremely smooth operation and uniform load transmission by helical precision gear
- high surface quality of the wires due to the optimized wire path in the drawing machine and optimized coolant supply to the drawing dies

Increase in productivity:

- reduced downtime when changing the machine setup for different dimensions via multi-motor drive technology (quick drawing die change system)
- NMI (NIEHOFF Machine Interface) color touchscreen for data entry, display of production parameters and maintenance instructions

Energy and cost efficiency:

- uniform electrical properties of the individual wires (individual wire path)
- reduced consumption of electric power per ton of manufactured wire
- cost savings for downstream processing due to the use of uniform wire bundles
- long service intervals and extended drawing tool service life minimize the requirement to stock and use spare parts
- reduced media consumption

Technical data

type		MMH 121	
max. production speed:	m/s	40	40
	fpm	7874	7874
max. no. of wires per level:		14	16
max. no. of wires per machine:		42	16
max. inlet dia.:	mm	8 x 2.6	16 x 2.05
	AWG	8x10	16x12
for max. inlet tensile strength:	N/mm^2	450	450
finished dia. drawing machine:	mm	0.15 ... 1.40	0.18 ... 0.64
	AWG	35½ ... 15	33 ... 22
possible no. of drafts:		16/19/22/25	22
drawing capstan dia.:	mm	100	100
haul-off capstan dia.:	mm	100	100

RM 201

Design:

- DC multi-wire resistance annealer with single-wire path
- single unit comprising drawing machine and annealer
- ergonomic machine design with openly accessible wire paths

Increase in quality:

- consistently high finished wire quality achieved through single-wire drying
- speed-controlled uniform wire annealing at speeds from 0 m/s
- contact tube cleaning device for longer service life and high wire quality in the production of tinned wires
- wire movement for longer life of the contact tubes
- optimum wire drying by patented 2/3-zone-system (with reheating)
- individually driven contact pulleys for high wire surface quality and longer service life of the contact tubes (optional)

Increase in productivity:

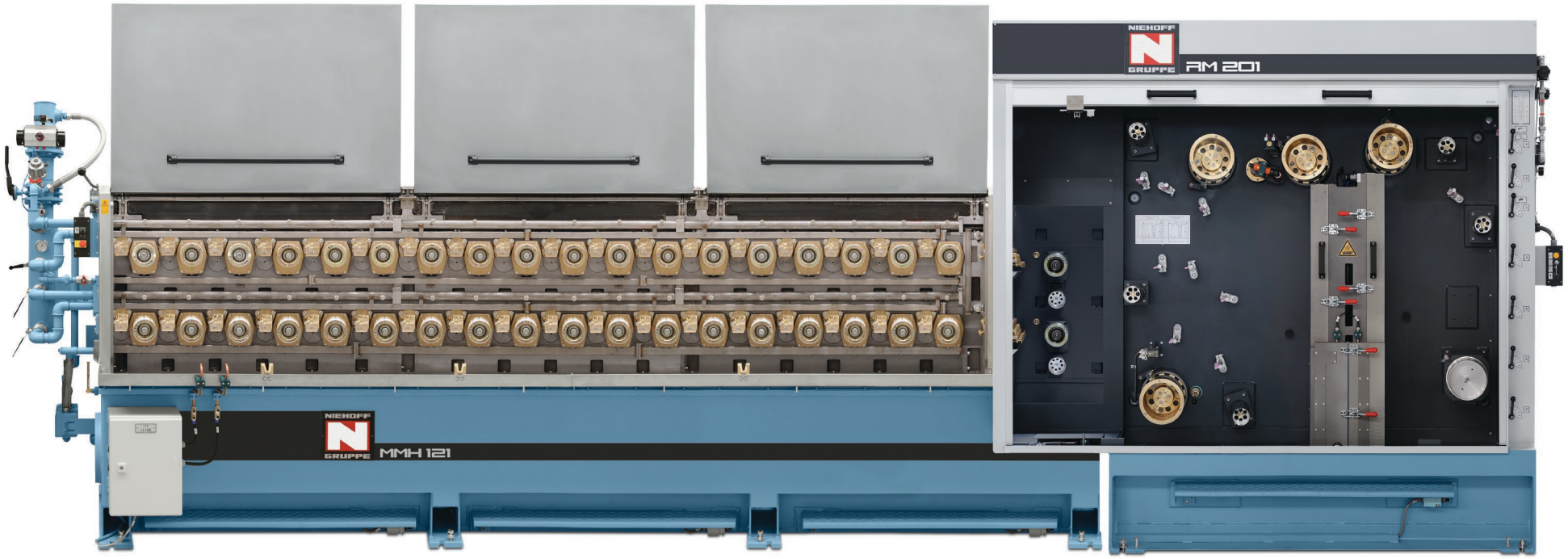
- wires can be drawn fast with the separately driven auxiliary pulley
- driven haul-off capstan (contact pulley) for constant wire tension in the annealer and reduced wire tension leading up to the downstream spooling system
- easy-to-change contact tubes with long service life

Energy and cost efficiency:

- quick return on investment by a high cost-benefit ratio
- high machine availability
- low energy consumption
- reduced costs of production resources and high product acceptance achieved by perfect quality

Technical data

type		RM 161	RM 201	RM 301
max. production speed:	m/s fpm	40 7,874	40 7,874	40 7,874
possible no. of wires:		8/16/20	8/16/24/32	8/16/24/28
finished dia. of the line:	mm AWG mm AWG	0.10 ... 0.64/0.50/0.40 38 ... 22/24/26	0.15 ... 1.05/0.72/0.55/0.48 35 ½ ... 18/21/23 ½/24 ½	0.40 ... 1.35/0.35 ... 1.15 26 ... 15 ½/27... 17 0.25 ... 0.90/0.25 ... 0.70 30 ... 19/30... 21
contact pulley dia.:	mm	160	200	300
max. annealing power:	kW	80	180	350
max. annealing current:	A	2,000	5,000	7,000
annealing principle:		switchable between 2/3 zones	switchable between 2/3 zones	not switchable between 2 or 3 zones
separately driven auxiliary pulley:		standard	standard	standard
individual drives:		optional	optional	standard
water-cooled slip rings:		standard	standard	standard


NIEHOFF
GRUPPE
MMH 121
NIEHOFF
GRUPPE
AM 201

Overall integration for superior performance

The entire line delivers technically innovative solutions for your production targets:

- convincing combinations of individual NIEHOFF components and the excellent quality standards guarantee superb line availability
- by using a freely programmable PLC control and standardized interfaces, the line can be combined very effectively with different spooling and coiling systems.

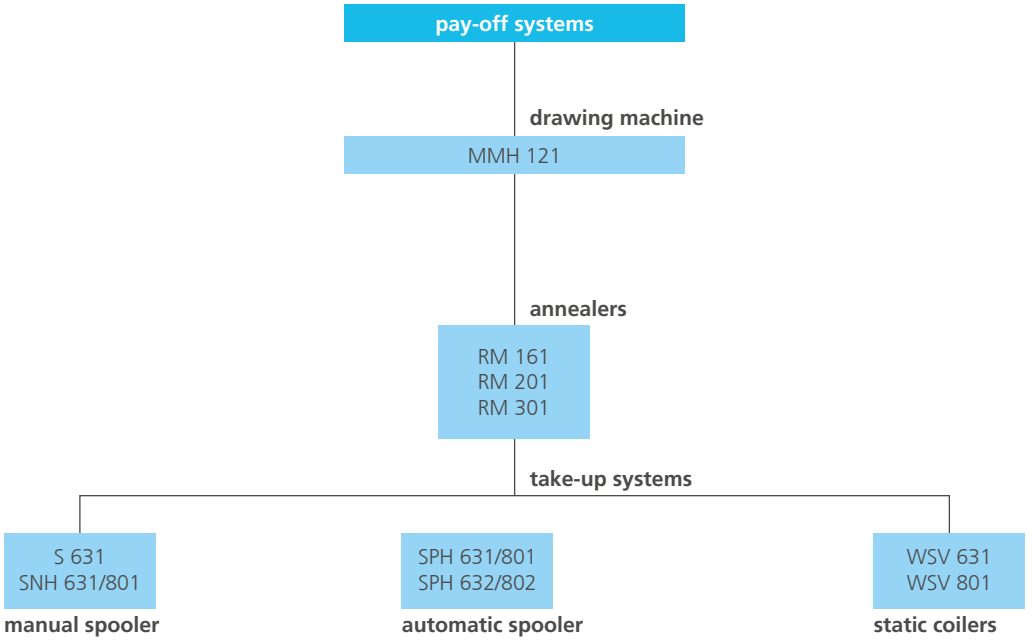
The MMH line concept already incorporates the potential for future integration of systems in overall production processes.

For example for areas such as:

- quality assurance
- operational data acquisition
- materials flow control

All possible combinations will deliver the ultimate in terms of quality and performance!

Suitable for combination and integration



(Further pay-off systems on request)

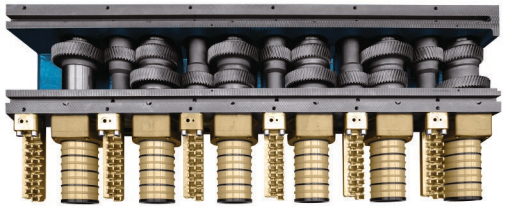
Example for NIEHOFF drawing die sequence MMH 121:

Einlauf-ø	1.241						1.250										1.200				-	1.128	MS
	1.260																1.210				-	1.198	DV
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	v [m/s]
2.0000	1.7817	1.5873	1.4141	1.2598	1.1223	0.9998	0.8907	0.7935	0.7069	0.6298	0.5610	0.4998	0.4453	0.3967	0.3534	0.3148	0.2862	0.2602	0.2365	0.2150	0.1970	0.1800	35.0
2.0000	1.7817	1.5873	1.4141	1.2598	1.1223	0.9998	0.8907	0.7935	0.7069	0.6298	0.5610	0.4998	0.4453	0.3967	0.3534	0.3148	0.2862	0.2602	0.2365	0.2150		0.2000	35.0
2.0000	1.7817	1.5873	1.4141	1.2598	1.1223	0.9998	0.8907	0.7935	0.7069	0.6298	0.5610	0.4998	0.4453	0.3967	0.3534	0.3148	0.2862	0.2602				0.2400	35.0
2.0000	1.7817	1.5873	1.4141	1.2598	1.1223	0.9998	0.8907	0.7935	0.7069	0.6298	0.5610	0.4998	0.4453	0.3967	0.3534	0.3148	0.2862					0.2600	35.0
2.0000	1.7817	1.5873	1.4141	1.2598	1.1223	0.9998	0.8907	0.7935	0.7069	0.6298	0.5610	0.4998	0.4453	0.3967	0.3534							0.3200	27.0
2.0000	1.7817	1.5873	1.4141	1.2598	1.1223	0.9998	0.8907	0.7935	0.7069	0.6298	0.5610	0.4998	0.4453	0.3967								0.3600	21.0
2.0000	1.7817	1.5873	1.4141	1.2598	1.1223	0.9998	0.8907	0.7935	0.7069	0.6298	0.5610	0.4998	0.4453									0.4000	17.0
2.0000	1.7817	1.5873	1.4141	1.2598	1.1223	0.9998	0.8907	0.7935	0.7069	0.6298	0.5610	0.4998										0.4500	14.0
2.0000	1.7817	1.5873	1.4141	1.2598	1.1223	0.9998	0.8907	0.7935	0.7069	0.6298	0.5610											0.5000	11.0
2.0000		1.7817	1.5873	1.4141	1.2598	1.1223	0.9998	0.8907	0.7935	0.7069	0.6298	0.5610	0.4998	0.4453	0.3967	0.3534						0.3200	34.0
2.0000		1.7817	1.5873	1.4141	1.2598	1.1223	0.9998	0.8907	0.7935	0.7069	0.6298	0.5610	0.4998	0.4453	0.3967							0.3600	27.0
2.0000		1.7817	1.5873	1.4141	1.2598	1.1223	0.9998	0.8907	0.7935	0.7069	0.6298	0.5610	0.4998	0.4453								0.4000	22.0
2.0000		1.7817	1.5873	1.4141	1.2598	1.1223	0.9998	0.8907	0.7935	0.7069	0.6298	0.5610	0.4998									0.4500	18.0
2.0000		1.7817	1.5873	1.4141	1.2598	1.1223	0.9998	0.8907	0.7935	0.7069	0.6298	0.5610										0.5000	14.0
2.0000		1.7817	1.5873	1.4141	1.2598	1.1223	0.9998	0.8907	0.7935	0.7069	0.6298											0.6000	8.0

EINLAUFDURCHMESSER max. 2.00mm Cu-weich / hart 24 Draehte (12 pro Etage)
Inlet diameter max. 2.00mm Cu-soft / hard 24 wires (12 per level)

AC-MOTOREN 370kW/60kW (mit RM201.5000A)
AC-DRIVES 370kW/60kW (with RM201.5000A)

- modular system for variable number of drafts
- system modules can be arranged in up to 3 levels above each other
- variable number to 14 wires per level



Maschinenfabrik NIEHOFF GmbH & Co. KG
Fuerther Strasse 30 · 91126 Schwabach, Germany · Phone +49 9122 977-0 · Fax +49 9122 977-155 · info@niehoff.de