



## MMH 112 / RM 202 Multiwire Drawing Line

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



## 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.

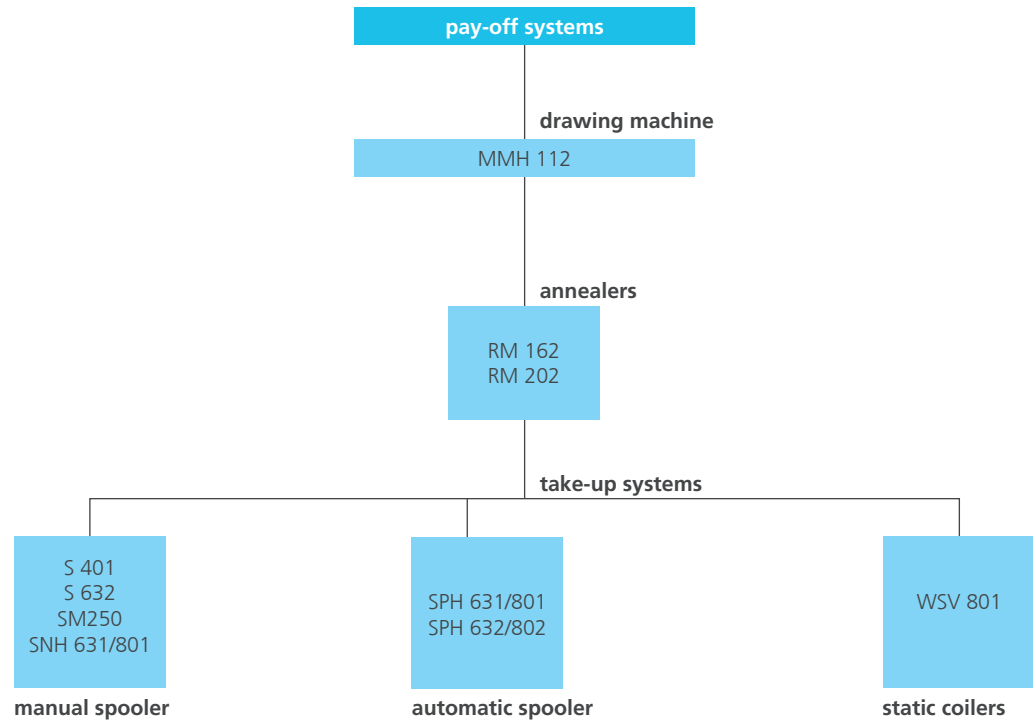
The MMH line concept already incorporates the potential for future integration of systems in overall production processes.

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)

# MMH 112

## 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 pipe
- safe and reliable separation of drawing emulsion and gear oil via mechanical labyrinth seal (long service intervals)
- integration of the capstans into 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 112	
max. production speed:	m/s	40	
	fpm	7873	
max. no. of wires per level:		16	12
max. no. of wires per machine:		32	24
max. inlet dia.:	mm	2.05	2.6
	AWG	12	10
for max. inlet tensile strength:	N/mm <sup>2</sup>	450	
finished dia. drawing machine:	mm	0.10 ... 0.70	
	AWG	38 ... 21	
possible no. of drafts:		17/21/25/31	
drawing capstan dia.:	mm	6x100, further drawing capstan dia. 80 mm	
haul-off capstan dia.:	mm	100 (in annealer)	

# RM 202

## 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)

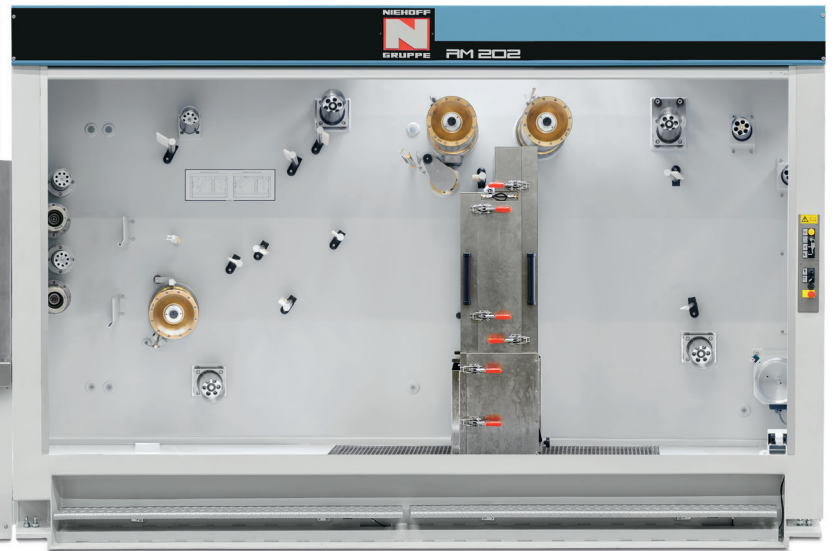
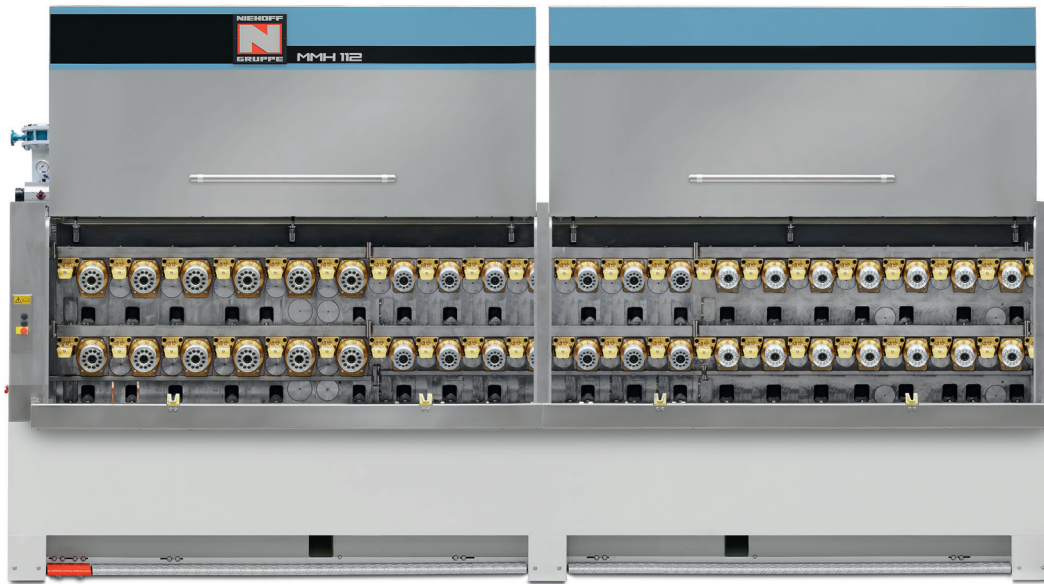
## Increase in productivity:

- 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 162	RM 202
max. production speed:	m/s	40	40
	fpm	7873	7873
possible no. of wires:		8/16/20	8/16/24/32
finished dia. of the line:	mm	0.10 ... 0.64/0.50/0.40	0.10 ... 1.05/0.72/0.55/0.48
	AWG	38 ... 22/24/26	38 ... 18/21/23.5/24 ½
contact pulley dia.:	mm	160	200
max. annealing power:	kW	80	180
max. annealing current:	A	2,000	5,000
annealing principle:		switchable between 2/3 zones	switchable between 2/3 zones
separately driven auxiliary pulley:		standard	standard
individual drives:		optional	optional
water-cooled slip rings:		standard	standard



**Example for NIEHOFF drawing die sequence MMH 112:**

- modular system for variable number of drafts
- system modules can be arranged in up to 2 levels above each other
- variable number with max. 12 or 16 wires per level

Einlauf- $\phi$	1.250					-	1.250					-	1.20					-	1.20	-	MS	DV Uebergang	
	1.284	1.260										1.210											DV
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21		v [m/s]
1.8000	1.5881	1.4120	1.2554	1.1162	0.9924	0.8841	0.7876	0.7017	0.6251	0.5569	0.4961	0.4420	0.3937	0.3508	0.3189	0.2899	0.2635	0.2396	0.2178	0.1980	0.1800	40.0 *	21.0%
1.8000	1.5881	1.4120	1.2554	1.1162	0.9924	0.8841	0.7876	0.7017	0.6251	0.5569	0.4961	0.4420	0.3937	0.3508	0.3189	0.2899	0.2635	0.2396	0.2178		0.1960	36.0 *	23.5%
1.8000	1.5881	1.4120	1.2554	1.1162	0.9924	0.8841	0.7876	0.7017	0.6251	0.5569	0.4961	0.4420	0.3937	0.3508	0.3189	0.2899	0.2635				0.2440	34.0 *	16.6%
1.8000	1.5881	1.4120	1.2554	1.1162	0.9924	0.8841	0.7876	0.7017	0.6251	0.5569	0.4961	0.4420	0.3937	0.3508	0.3189	0.2899					0.2700	28.0 *	15.3%
1.8000	1.5881	1.4120	1.2554	1.1162	0.9924	0.8841	0.7876	0.7017	0.6251	0.5569	0.4961	0.4420	0.3937	0.3508	0.3189						0.3000	23.0 *	13.0%
1.8000	1.5881	1.4120	1.2554	1.1162	0.9924	0.8841	0.7876	0.7017	0.6251	0.5569	0.4961	0.4420	0.3937	0.3508							0.3200	18.0 *	20.2%
1.8000	1.5881	1.4120	1.2554	1.1162	0.9924	0.8841	0.7876	0.7017	0.6251	0.5569	0.4961	0.4420	0.3937								0.3500	14.5 *	26.5%
1.8000	1.5881	1.4120	1.2554	1.1162	0.9924	0.8841	0.7876	0.7017	0.6251	0.5569	0.4961	0.4420									0.3980	11.5 *	23.3%
1.8000	1.5881	1.4120	1.2554	1.1162	0.9924	0.8841	0.7876	0.7017	0.6251	0.5569	0.4961										0.4500	9.5 *	21.5%
1.8000	1.5881	1.4120	1.2554	1.1162	0.9924	0.8841	0.7876	0.7017	0.6251	0.5569											0.5000	7.5 *	24.1%
1.8000				1.5881	1.4120	1.2554	1.1162	0.9924	0.8841	0.7876										20x	0.7100	7.5 *	23.0%
1.8000	1.6035	1.4285	1.2726	1.1337	1.0100	0.8998	0.8016	0.7141	0.6362	0.5667	0.5049	0.4498	0.4007			0.3570	0.3246	0.2950	0.2682	0.2438	0.2200	40.0 *	22.8%
1.8000	1.6035	1.4285	1.2726	1.1337	1.0100	0.8998	0.8016	0.7141	0.6362	0.5667	0.5049	0.4498	0.4007			0.3570	0.3246	0.2950	0.2682		0.2500	36.0 *	15.1%
1.8000	1.6035	1.4285	1.2726	1.1337	1.0100	0.8998	0.8016	0.7141	0.6362	0.5667	0.5049	0.4498	0.4007			0.3570	0.3246	0.2950			0.2750	34.0 *	15.1%
1.8000	1.6035	1.4285	1.2726	1.1337	1.0100	0.8998	0.8016	0.7141	0.6362	0.5667	0.5049	0.4498	0.4007			0.3570	0.3246				0.3250	28.0 *	20.7%
1.8000	1.6035	1.4285	1.2726	1.1337	1.0100	0.8998	0.8016	0.7141	0.6362	0.5667	0.5049	0.4498	0.4007			0.3570					0.3600	23.0 *	26.5%
1.8000	1.6035	1.4285	1.2726	1.1337	1.0100	0.8998	0.8016	0.7141	0.6362	0.5667	0.5049	0.4498	0.4007								0.3800	18.0 *	7.3%
1.8000	1.6035	1.4285	1.2726	1.1337	1.0100	0.8998	0.8016	0.7141	0.6362	0.5667	0.5049	0.4498									0.4000	14.5 *	22.1%
1.8000	1.6035	1.4285	1.2726	1.1337	1.0100	0.8998	0.8016	0.7141	0.6362	0.5667	0.5049										0.4500	11.5 *	21.5%
1.8000	1.6035	1.4285	1.2726	1.1337	1.0100	0.8998	0.8016	0.7141	0.6362	0.5667											0.5000	9.5 *	24.0%

We reserve the right to modify technical specifications according to technical improvement and advances. 05.2022