



MMH 103 / RM 163 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.

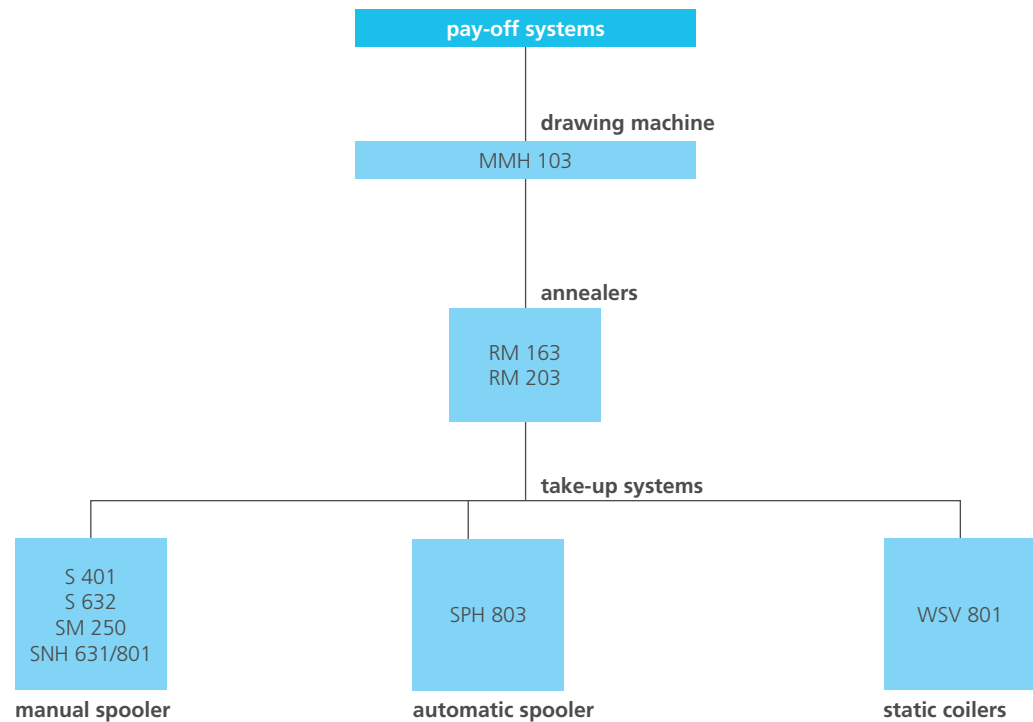
The MMH line concept already incorporates the potential for future integration of systems in overall production processes.

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)

Example for NIEHOFF drawing die sequence MMH 103:

- modular system for variable number of drafts
- system modules can be arranged in up to 3 levels above each other
- variable number with max. 8 or 16 wires per level

v _n [m/s]	Gear ratio	Block 1 1x 168 kW																Block 2 1x 19 kW					F.c. 1x 15 kW	v _n [m/s]	WE last Transition	v _n [m/s] With annealer
		1,25								1,182								1,182					-			
Wire elongation row 1		1,280	1,265	1,260	1,260	1,260	1,260	1,260	1,260	1,260	1,260	1,260	1,260	1,260	1,260	1,259	1,190	1,190	1,191	1,190	1,190	1,190	1,190	1,190	1,213	
Shaft		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Capstan Diameter		Ø80	Ø80	Ø80	Ø80	Ø80	Ø80	Ø80	Ø80	Ø80	Ø80	Ø80	Ø80	Ø80	Ø80	Ø80	Ø80	Ø80	Ø80	Ø80	Ø80	Ø80	Ø80	Ø80	Ø80	Ø100

Row 1	0.16	Cu < 250 MPa	16 x	1.8000	1.5910	1.4146	1.2602	1.1227	1.0002	0.8910	0.7938	0.7071	0.6300	0.5612	0.5000	0.4454	0.3968	0.3535	0.3149	0.2806	0.2572	0.2358	0.2161	0.1981	0.1816	0.1665	0.1526	0.1399	0.1270	* 31,5	21,3 %	* 31,5	
Row 2	0.25	Cu < 250 MPa	16 x	1.8000	1.5910	1.4146	1.2602	1.1227	1.0002	0.8910	0.7938	0.7071	0.6300	0.5612	0.5000	0.4454	0.3968	0.3535	0.3149	0.2806	0.2572	0.2358	0.2161	0.1981	-	-	0.1816	0.1665	0.1520	* 35,0	20,0 %	* 35,0	
Row 3	0.31	Cu < 250 MPa	16 x	1.8000	1.5910	1.4146	1.2602	1.1227	1.0002	0.8910	0.7938	0.7071	0.6300	0.5612	0.5000	0.4454	0.3968	0.3535	0.3149	0.2806	0.2572	0.2358	0.2161	0.1981	-	-	-	0.1816	0.1700	* 35,0	14,1 %	* 35,0	
Row 4	0.35	Cu < 250 MPa	16 x	1.8000	1.5910	1.4146	1.2602	1.1227	1.0002	0.8910	0.7938	0.7071	0.6300	0.5612	0.5000	0.4454	0.3968	0.3535	0.3149	0.2806	0.2572	0.2358	0.2161	0.1981	-	-	-	-	-	0.1800	* 35,0	21,1 %	* 35,0
Row 5	0.38	Cu < 250 MPa	16 x	1.8000	1.5910	1.4146	1.2602	1.1227	1.0002	0.8910	0.7938	0.7071	0.6300	0.5612	0.5000	0.4454	0.3968	0.3535	0.3149	0.2806	0.2572	0.2358	0.2161	-	-	-	-	-	0.2000	* 31,0	16,7 %	* 31,0	
Row 6	0.39	Cu < 250 MPa	16 x	1.8000	1.5910	1.4146	1.2602	1.1227	1.0002	0.8910	0.7938	0.7071	0.6300	0.5612	0.5000	0.4454	0.3968	0.3535	0.3149	0.2806	0.2572	0.2358	-	-	-	-	-	-	0.2200	* 26,0	14,9 %	* 26,0	
Row 7	0.39	Cu < 250 MPa	16 x	1.8000	1.5910	1.4146	1.2602	1.1227	1.0002	0.8910	0.7938	0.7071	0.6300	0.5612	0.5000	0.4454	0.3968	0.3535	0.3149	0.2806	-	-	-	-	-	-	-	-	0.2500	* 20,0	26,0 %	* 20,0	
Row 8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Row 9	0.43	Cu < 250 MPa	16 x	1.8000	-	-	1.5910	1.4146	1.2602	1.1227	1.0002	0.8910	0.7938	0.7071	0.6300	0.5612	0.5000	0.4454	0.3968	0.3535	0.3241	0.2971	0.2723	0.2496	-	-	0.2319	0.2126	0.2000	* 35,0	13,0 %	* 35,0	
Row 10	0.52	Cu < 250 MPa	16 x	1.8000	-	-	1.5910	1.4146	1.2602	1.1227	1.0002	0.8910	0.7938	0.7071	0.6300	0.5612	0.5000	0.4454	0.3968	0.3535	0.3241	0.2971	0.2723	0.2496	-	-	-	0.2319	0.2200	* 35,0	11,1 %	* 35,0	
Row 11	0.61	Cu < 250 MPa	16 x	1.8000	-	-	1.5910	1.4146	1.2602	1.1227	1.0002	0.8910	0.7938	0.7071	0.6300	0.5612	0.5000	0.4454	0.3968	0.3535	0.3241	0.2971	0.2723	-	-	-	-	-	0.2500	* 31,5	18,6 %	* 31,5	
Row 12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Row 13	0.68	Cu < 250 MPa	16 x	1.8000	-	-	-	1.5910	1.4146	1.2602	1.1227	1.0002	0.8910	0.7938	0.7071	0.6300	0.5612	0.5000	0.4454	0.3968	0.3638	0.3335	0.3057	0.2802	-	-	-	0.2657	0.2500	* 35,0	13,0 %	* 35,0	
Row 14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Row 15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Row 16	0.20	Cu < 450 MPa	16 x	1.6000	-	1.4146	1.2602	1.1227	1.0002	0.8910	0.7938	0.7071	0.6300	0.5612	0.5000	0.4454	0.3968	0.3535	0.3149	0.2806	0.2572	0.2358	0.2161	0.1981	0.1816	0.1665	0.1526	0.1399	0.1270	* 31,5	21,3 %	* 31,5	
Row 17	0.32	Cu < 450 MPa	16 x	1.6000	-	1.4146	1.2602	1.1227	1.0002	0.8910	0.7938	0.7071	0.6300	0.5612	0.5000	0.4454	0.3968	0.3535	0.3149	0.2806	0.2572	0.2358	0.2161	0.1981	-	-	0.1816	0.1665	0.1520	* 35,0	20,0 %	* 35,0	
Row 18	0.40	Cu < 450 MPa	16 x	1.6000	-	1.4146	1.2602	1.1227	1.0002	0.8910	0.7938	0.7071	0.6300	0.5612	0.5000	0.4454	0.3968	0.3535	0.3149	0.2806	0.2572	0.2358	0.2161	0.1981	-	-	-	0.1816	0.1700	* 35,0	14,1 %	* 35,0	
Row 19	0.44	Cu < 450 MPa	16 x	1.6000	-	1.4146	1.2602	1.1227	1.0002	0.8910	0.7938	0.7071	0.6300	0.5612	0.5000	0.4454	0.3968	0.3535	0.3149	0.2806	0.2572	0.2358	0.2161	0.1981	-	-	-	-	0.1800	* 35,0	21,1 %	* 35,0	
Row 20	0.48	Cu < 450 MPa	16 x	1.6000	-	1.4146	1.2602	1.1227	1.0002	0.8910	0.7938	0.7071	0.6300	0.5612	0.5000	0.4454	0.3968	0.3535	0.3149	0.2806	0.2572	0.2358	0.2161	-	-	-	-	-	0.2000	* 31,0	16,7 %	* 31,0	
Row 21	0.49	Cu < 450 MPa	16 x	1.6000	-	1.4146	1.2602	1.1227	1.0002	0.8910	0.7938	0.7071	0.6300	0.5612	0.5000	0.4454	0.3968	0.3535	0.3149	0.2806	0.2572	0.2358	-	-	-	-	-	-	0.2200	* 26,0	14,9 %	* 26,0	
Row 22	0.49	Cu < 450 MPa	16 x	1.6000	-	1.4146	1.2602	1.1227	1.0002	0.8910	0.7938	0.7071	0.6300	0.5612	0.5000	0.4454	0.3968	0.3535	0.3149	0.2806	-	-	-	-	-	-	-	-	-	0.2500	* 20,0	26,0 %	* 20,0
Row 23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Row 24	0.55	Cu < 450 MPa	16 x	1.6000	-	-	-	1.4146	1.2602	1.1227	1.0002	0.8910	0.7938	0.7071	0.6300	0.5612	0.5000	0.4454	0.3968	0.3535	0.3241	0.2971	0.2723	0.2496	-	-	0.2319	0.2126	0.2000	* 35,0	13,0 %	* 35,0	
Row 25	0.66	Cu < 450 MPa	16 x	1.6000	-	-	-	1.4146	1.2602	1.1227	1.0002	0.8910	0.7938	0.7071	0.6300	0.5612	0.5000	0.4454	0.3968	0.3535	0.3241	0.2971	0.2723	0.2496	-	-	-	0.2319	0.2200	* 35,0	11,1 %	* 35,0	
Row 26	0.77	Cu < 450 MPa	16 x	1.6000	-	-	-	1.4146	1.2602	1.1227	1.0002	0.8910	0.7938	0.7071	0.6300	0.5612	0.5000	0.4454	0.3968	0.3535	0.3241	0.2971	0.2723	-	-	-	-	-	0.2500	* 31,5	18,6 %	* 31,5	
Row 27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Row 28	0.85	Cu < 450 MPa	16 x	1.6000	-	-	-	-	1.4146	1.2602	1.1227	1.0002	0.8910	0.7938	0.7071	0.6300	0.5612	0.5000	0.4454	0.3968	0.3638	0.3335	0.3057	0.2802	-	-	-	0.2657	0.2500	* 35,0	13,0 %	* 35,0	
Row 29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Row 30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

We reserve the right to modify technical specifications according to technical improvement and advances. 03.2026

MMH 103

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
- uniform electrical properties of the individual wires (individual wire path)

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:

- 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 103		
max. production speed	m/s	35	
	fpm	6,889	
max. no. of wires per level	8		
max. no. of wires per machine	24		
max. inlet dia.	mm	1.8	1.6
	AWG	13	14
for max. inlet tensile strength	N/mm ²	250	450
finished dia. drawing machine	mm	0.10 ... 0.50	
	AWG	38 ... 24	
possible no. of drafts	21/25/31		
drawing capstan dia.	mm	80	
haul-off capstan dia.	mm	100	

RM 163

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 163	RM 203
max. production speed	m/s	40	40
	fpm	7,874	7,874
possible no. of wires		8/12/16/24	8/12/16/24/32
finished dia.	mm	0.10 ... 0.67 (8-wire)	0.15 ... 1.20 (8-wire)
		0.10 ... 0.55 (12-wire)	0.15 ... 1.00 (12-wire)
		0.10 ... 0.52 (16-wire)	0.15 ... 0.76 (16-wire)
		0.10 ... 0.41 (24-wire)	0.15 ... 0.65 (24-wire)
	AWG	22/23 ½/24/26	34 ½ ... 16 ½/18/20 ½/22/23
contact pulley dia.	mm	160	200
max. annealing power	kW	100	180
max. annealing current	A	2,000	5,000
annealing principle		2/3 zones	2/3 zones
separately driven auxiliary pulley		standard	standard
individual drives		optional	optional
water-cooled slip rings		standard	standard
machine dimensions (W x D x H)	m	2.40 x 1.40 x 2.30	2.80 x 1.60 x 2.30
weight (w/o transformer)	kg	approx. 4,600	approx. 7,000

