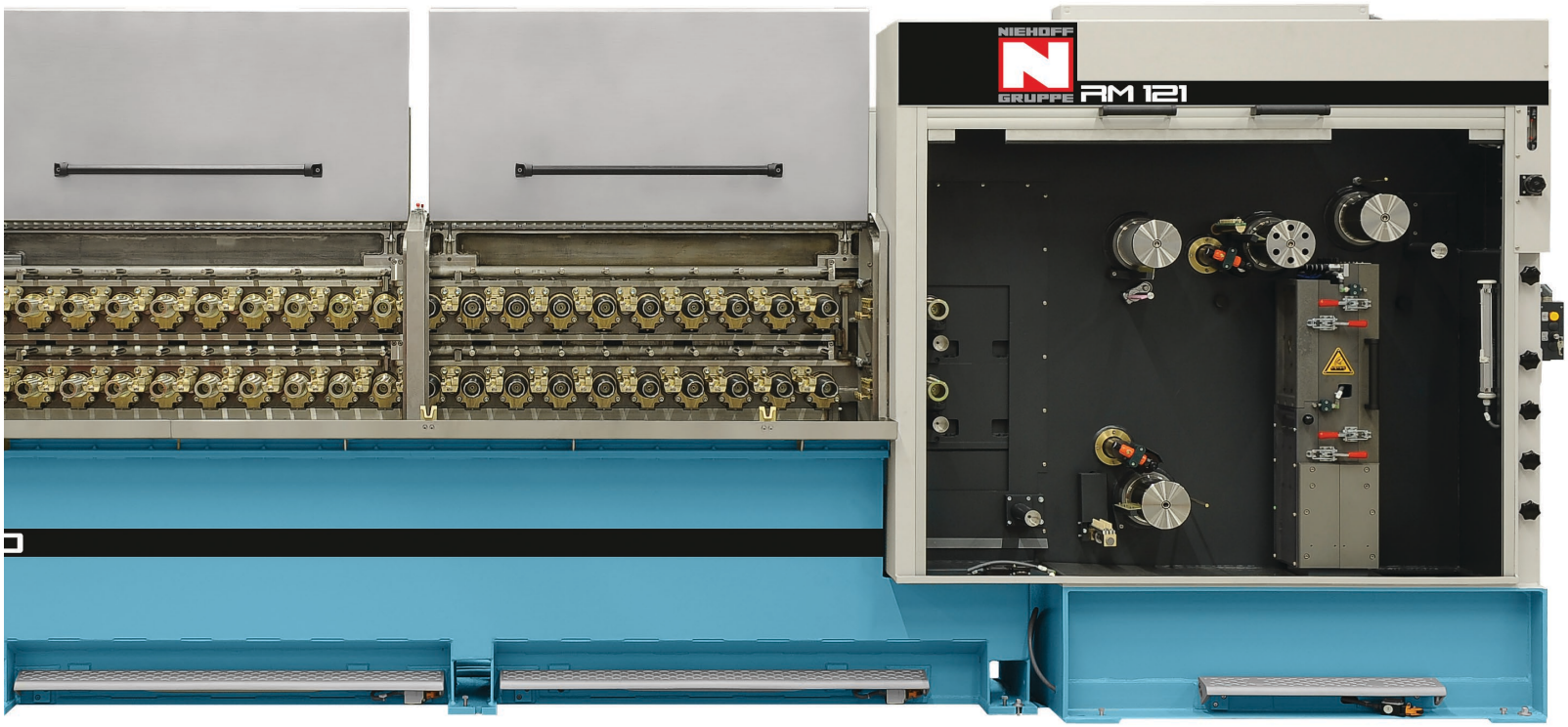


MMH 50 / RM 121
Multiwire Drawing Line

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

NIEHOFF
GRUPPE

MMH 50

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 50		MMH 50 reinforced	
max. production speed:	m/s	31.5		31,5	
	fpm	6201		6201	
max. no. of wires per level:		8		8	
max. no. of wires per machine:		16		16	
max. inlet dia.:	mm	1.2	1.0	1.8	1.4
	AWG	16 ½	18	14	16
for max. inlet tensile strength:	N/mm²	250	450	250	450
finished dia. drawing machine:	mm	0.15 ... 0.05		0.15 ... 0.05 (0.07)	
	AWG	34 ½ ... 44		34 ½ ... 44 (41)	
possible no. of drafts:		31/35		35	
drawing capstan dia.:	mm	50		(4 x 80) + 50	
haul-off capstan dia.:	mm	60		60	

RM 121

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 3-zone-system (with reheating)

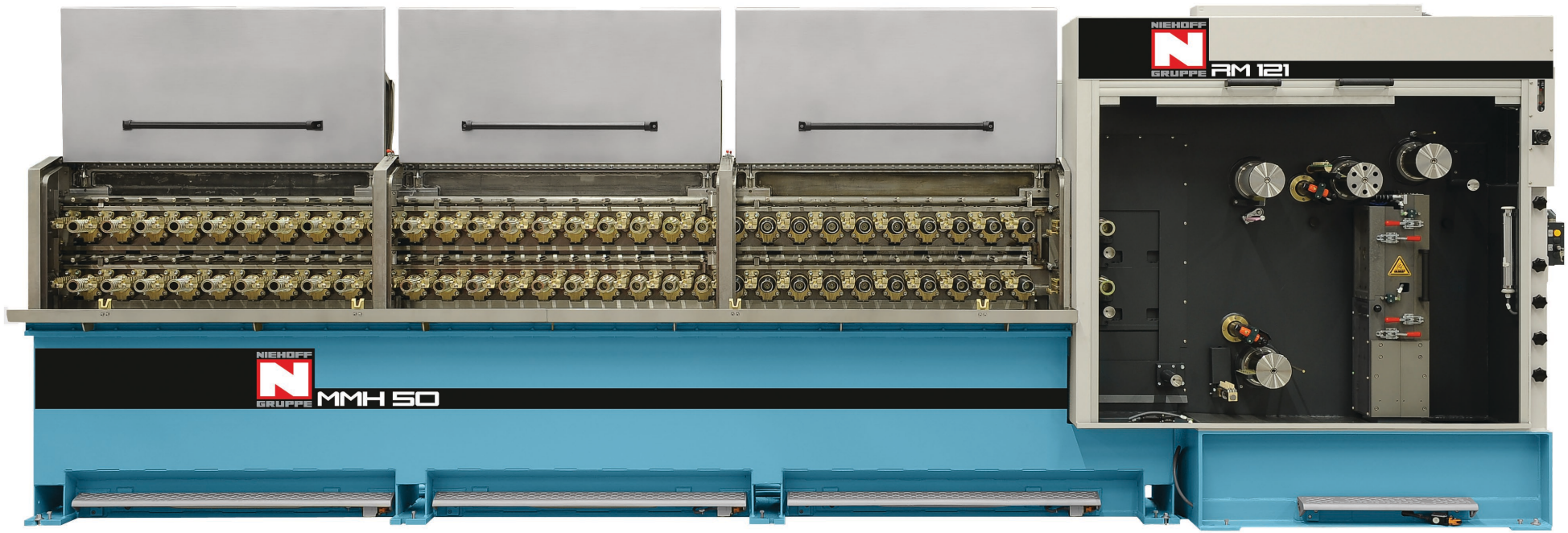
Increase in productivity:

- 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 121**
max. production speed:	m/s fpm	31.5 6201
possible no. of wires:		8/16
finished dia. of the line:	mm AWG	0.05 ... 0.15 44 ... 30
contact pulley dia.:	mm	140
max. annealing power:	kW	23
max. annealing current:	A	500
annealing principle:		3-zone
separately driven auxiliary pulley:		N/A
individual drives:		N/A
water-cooled slip rings:		N/A


NIEHOFF
GRUPPE
AM 121
NIEHOFF
GRUPPE
MMH 50

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.

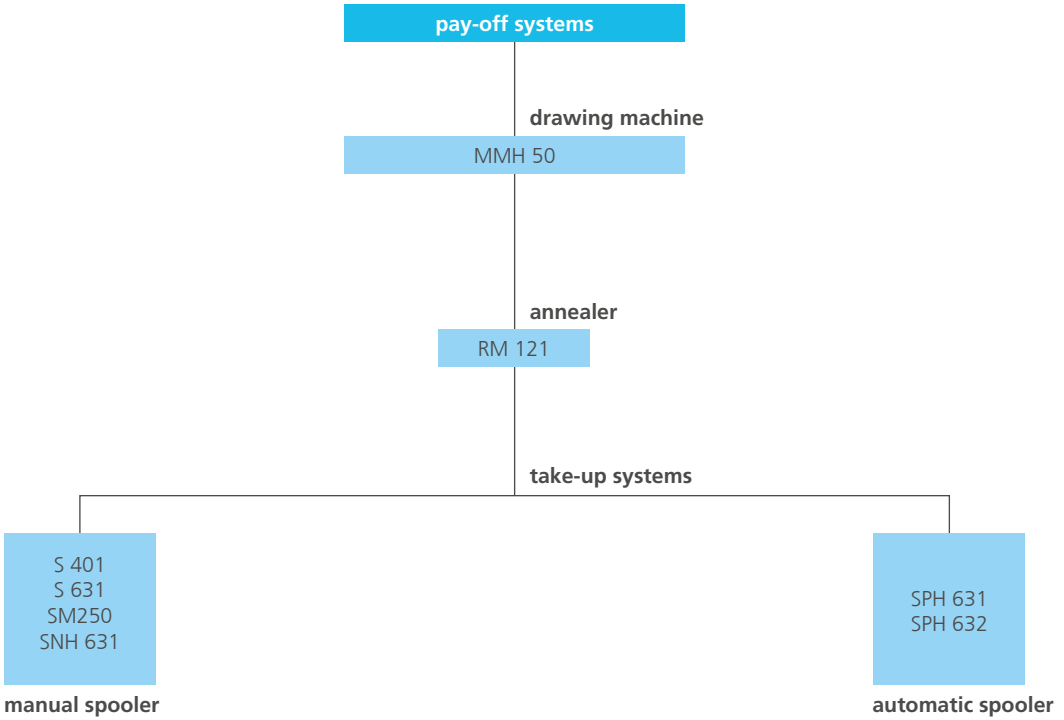
The MMH line concept already incorporates the potential for future integration of systems in overall production processes.

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



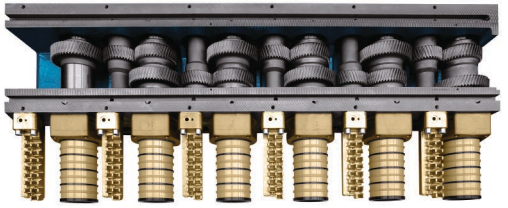
(Further pay-off systems on request)

Example for NIEHOFF drawing die sequence MMH 50:

Einlauf-ø	1.250				1.190												1.130												-	1.130				1.076	MS
	1.285	1.265			1.225	1.215											1.155								1.150									1.149	DV
	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	26	27	28	29	30	31	32	33	34	35	v [m/s]
1.000	0.8822	0.7844	0.6974	0.6201	0.5603	0.5083	0.4611	0.4183	0.3795	0.3443	0.3124	0.2834	0.2571	0.2332	0.2116	0.1920	0.1787	0.1663	0.1547	0.1439	0.1339	0.1246	0.1159	0.1078	0.1005	0.0937	0.0874	0.0815	0.0760	0.0709	0.0661	0.0617	0.0575	0.0536	0.0500	25.0
1.000	0.8822	0.7844	0.6974	0.6201	0.5603	0.5083	0.4611	0.4183	0.3795	0.3443	0.3124	0.2834	0.2571	0.2332	0.2116	0.1920	0.1787	0.1663	0.1547	0.1439	0.1339	0.1246	0.1159	0.1078	0.1005	0.0937	0.0874	0.0815	0.0760				0.0709	0.0661	0.0620	25.0
1.000	0.8822	0.7844	0.6974	0.6201	0.5603	0.5083	0.4611	0.4183	0.3795	0.3443	0.3124	0.2834	0.2571	0.2332	0.2116	0.1920	0.1787	0.1663	0.1547	0.1439	0.1339	0.1246	0.1159	0.1078	0.1005	0.0937	0.0874	0.0815	0.0760						0.0700	25.0
1.200		1.0741	0.9569	0.8525	0.7750	0.7045	0.6405	0.5823	0.5293	0.4812	0.4375	0.3977	0.3615	0.3287	0.2988	0.2716	0.2527	0.2352	0.2188	0.2036	0.1895	0.1763	0.1640	0.1526	0.1420	0.1321	0.1230	0.1144	0.1065	0.0993	0.0926	0.0863	0.0805	0.0751	0.0700	30.0
1.200		1.0741	0.9569	0.8525	0.7750	0.7045	0.6405	0.5823	0.5293	0.4812	0.4375	0.3977	0.3615	0.3287	0.2988	0.2716	0.2527	0.2352	0.2188	0.2036	0.1895	0.1763	0.1640	0.1526	0.1420	0.1321	0.1230	0.1144	0.1065						0.1000	25.0
1.200		1.0741	0.9569	0.8525	0.7750	0.7045	0.6405	0.5823	0.5293	0.4812	0.4375	0.3977	0.3615	0.3287	0.2988	0.2716	0.2527	0.2352	0.2188	0.2036	0.1895	0.1763	0.1640	0.1526	0.1420	0.1321	0.1230								0.1150	19.0
1.200		1.0741	0.9569	0.8525	0.7750	0.7045	0.6405	0.5823	0.5293	0.4812	0.4375	0.3977	0.3615	0.3287	0.2988	0.2716	0.2527	0.2352	0.2188	0.2036	0.1895	0.1763	0.1640	0.1526	0.1420	0.1321									0.1270	16.0
1.200					1.0808	0.9785	0.8895	0.8087	0.7352	0.6683	0.6076	0.5523	0.5021	0.4565	0.4150	0.3773	0.3518	0.3280	0.3059	0.2853	0.2660	0.2480	0.2313	0.2157	0.2011	0.1876	0.1749	0.1631	0.1521	0.1418	0.1322	0.1233	0.1150	0.1072	0.1000	30.0
1.200					1.0808	0.9785	0.8895	0.8087	0.7352	0.6683	0.6076	0.5523	0.5021	0.4565	0.4150	0.3773	0.3518	0.3280	0.3059	0.2853	0.2660	0.2480	0.2313	0.2157	0.2011	0.1876	0.1749	0.1631	0.1521			0.1461	0.1362	0.1270	0.1200	30.0
1.200					1.0808	0.9785	0.8895	0.8087	0.7352	0.6683	0.6076	0.5523	0.5021	0.4565	0.4150	0.3773	0.3518	0.3280	0.3059	0.2853	0.2660	0.2480	0.2313	0.2157	0.2011	0.1876	0.1749	0.1631	0.1521				0.1461	0.1362	0.1270	28.0
1.200					1.0808	0.9785	0.8895	0.8087	0.7352	0.6683	0.6076	0.5523	0.5021	0.4565	0.4150	0.3773	0.3518	0.3280	0.3059	0.2853	0.2660	0.2480	0.2313	0.2157	0.2011	0.1876	0.1749	0.1631							0.1500	21.0

EINLAUFDURCHMESSER max. 1.20mm Cu-weich 16 Draehte (8 pro Etage)
Inlet diameter max. 1.20mm Cu-soft 16 wires (8 per level)
AC-MOTOREN 81kW/22.5kW (mit RM121/500A)
AC-Drives 81kW/22.5kW (with RM121/500A)

- modular system for variable number of drafts
- system modules can be arranged in up to 2 levels above each other
- variable number to 8 wires per level



We reserve the right to modify technical specifications according to technical improvement and advances. 04.2014

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