

EXTRA HEAVY machine line

The RW55 is the largest and heaviest toroidal winding machine. The modular system covers 3 winding heads and 4 roller tables. These machines are designed for extra heavy applications, with strong wires and very heavy toroidal cores. The extra sturdy construction and the strong motors of the machine guarantees always a sufficient performance.

EXTRA HEAVY floor machine line RW 55

Models RW 55-Evolution, RW 55-Evo-Shuttle

3 interchangeable heads

1 gear rack head	RW 55	
2 taping heads	RW 55/B	RW 55/BU

4 interchangeable tables	RW 555-1	RW 555-1P
	RW 555-1PSR	RW 555-SO

Models RW 55-Evolution / RW 55-Evo-Shuttle

The machine bases are available in two versions: RW 55-Evolution with a fixed winding head and RW 55-Evo-Shuttle with a moveable winding head. The machine base in Shuttle-Version has a slide system for the winding heads. It enables to move the winding heads out of the winding area for a comfortable load and unload the machine with toroidal cores (e.g. with a crane). This system brings especially for very large or very heavy cores crucial advantages. Programs are saved in CSV-Format. Therefore programs can be made externally by Excel. The Windows system allows own data management saved onto USB-Stick, or onto the CF-Card in a separate file on the machine. A central program management on an external PC

(Server) is possible via Ethernet connection. Easy file structure can be created and every program can be reported with a text description. The machine can also be remote controlled by Ftp-connection. Teleservice by our technicians via internet connection (Ftp-connection) for trouble shooting in the logic program. Update of PLC- and visual display software via USB-Stick, datas can be sent via E-mail.



Capability ranges

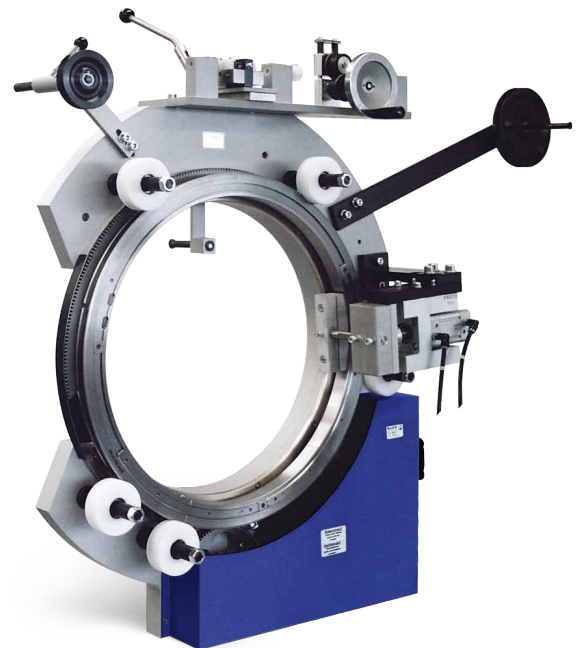
wire Ø monofilar	0.8 - 6.5 mm	compressed air	6 bar
wire Ø bifilar	up to 2x4 mm	tape size	9 - 30 mm
flat wire	up to 5x12 mm	supply voltages	3 Ph / 400 V / 16 A
finished core OD	100 - 2800 mm	machine size	approx. 1630 x 1800 mm
finished core ID	up from 60 mm		Shuttle: 1630 x 2700 mm
finished core H	bis 300 mm	machine weight	approx. 600 kg
operating panel	8" touchpanel with 4 function buttons		
memory	Compact Flash 64 MB - 2 GB		
system	Windows CE 5.0		
language	Unitext (all characters)		
interface	USB-connection, ethernet-interface, 1x10/100 Mbit, RJ45 PS/2-interface, serial interface		
PCI modul card	MC-CAN Dual Can Controller, hand control unit with 3 additional function buttons		

Heads for the EXTRA HEAVY floor models

The RW55 machine models can be supplied with one winding head and two taping heads. All of these heads work with a gear rack drive system. The winding head has a range of 6 standard interchangeable magazines with suitable wire guide rollers. Specially designed components for special applica-

tions such as multifilar or strip windings can be supplied upon request. The taping head works automatically from a foot switch for load and tape in one operation. The winding head can also be converted for direct tape dispensing if required.

head data	RW 55		RW 55/B		RW 55/BU	
	mm	inch/AWG	mm	inch/AWG	mm	inch/AWG
wire range	0,8-6,5	2-20	-	-	-	-
tape widths	-	-	15-30	-	20-50	0,79-1,97
build up factor	-	-	+35	-	-	-
magazine diameter	650	25,59	650	25,59	-	-
finished core OD	100-2800	4-110	100-2800	4-110	500-2800	19,7-110
finished core ID	60	2,36	50	2,59	400	15,75
finished core height	300	11,8	300	11,8	300	11,8
max. winding taping speed rpm	120		120		120	
compatible roller tables	RW 555-1 RW 555-1P RW 555-1PSR RW 555-S0		RW 555-1 RW 555-1P RW 555-1PSR RW 555-S0		RW 555-1 RW 555-1P RW 555-1PSR RW 555-S0	
compatible m/c base	RW 55		RW 55		RW 55	











Magazine data base with wire length in meters: for wire length in feet, multiply by factor 3,28

magazine type	smallest final hole		0,8	0,9	1,0	1,12	1,25	1,32	1,4	1,5	1,6	1,7	1,8	1,9	2,0	2,12	2,24	mm
			20	19	18	17	16½	16	15½	15	14½	14	13½	13	12½	12	11½	AWG
	mm	inch/AWG																
55/65	60	2,36	384	274	250	200	162	145	129	113	100	88	79	71	64	57	52	
70	70	2,76	865	620	562	450	365	328	293	256	226	201	180	162	146	130	117	
90	90	3,54	1080	775	700	564	457	410	366	320	283	251	225	200	182	163	146	
120	120	4,72	2040	1463	1327	1065	862	774	691	605	534	475	425	382	345	308	276	
150	150	5,90	6630	4750	4300	3450	2800	2515	2245	1965	1734	1540	1380	1243	1120	1000	899	
200	200	7,87	11520	8250	7487	6010	4866	4371	3900	3414	3013	2680	2399	2159	1946	1741	1562	

magazine type	smallest final hole		2,36	2,5	2,65	2,8	3,0	3,15	3,35	3,55	3,75	4	4,25	4,5	4,75	5	mm
			11	10½	10	9½	9	8½	8	7½	7	6½	6	5½	5	4½	AWG
	mm	inch/AWG															
55/65	60	2,36	46	42	37	33	29	26	23	21	19	16	14	13	12	10,8	
70	70	2,76	105	94	84	75	66	60	53	47	42	31	33	30	26	24	
90	90	3,54	132	118	105	94	82	75	66	59	53	47	42	37	33	30	
120	120	4,72	264	223	199	178	155	142	125	111	100	89	79	71	63	57	
150	150	5,90	810	727	648	579	506	461	407	363	329	289	257	230	206	185	
200	200	7,87	1408	1263	1126	1007	879	802	708	631	572	503	448	400	358	306	

head finished core OD range	winding head RW 55		taping head RW 55/B		taping head RW 55/BU	
	mm	inch/AWG	mm	inch/AWG	mm	inch/AWG
roller table RW 555-1	100-800	3,94-32	100-800	3,94-32	500-800	19,7-32
roller table RW 555-1P	100-800	3,94-32	100-800	3,94-32	500-800	19,7-32
roller table RW 555-1PSR	-	-	-	-	500-2800	19,07-10
roller table RW 555-S0	200-1500	7,87-59	200-1500	7,87-59	500-1500	19,7-59
compatible m/c base	RW55		RW55		RW55	

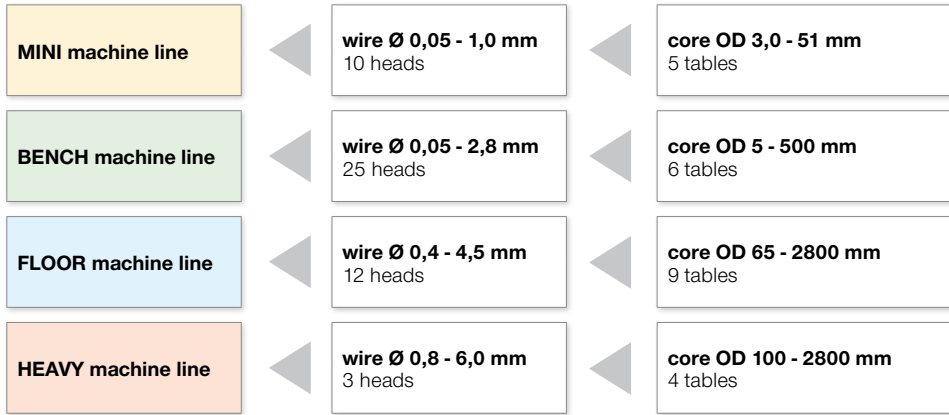


<p>kleine Spulen mit Feindraht small coils with fine wire</p> <p>bare core size mm turns x Ø wire size mm wound coil size mm machine base roller table winding head + magazine</p>	 <p>6,7 x 6,7 x 4,8 37 x 0,20 7,3 x 1,9 x 5,3 MINI RW 111-MINI (F.B.) RW 60-MINI + 1,6</p>	 <p>7 x 3,2 x 3 150 x 0,08 bifilar 7,4 x 2,3 x 3,6 MINI RW 111-MINI (R.B.) RW 60-MINI + 1,6</p>	 <p>6,2 x 4,4 x 5,3 150 x 0,08 trifilar 7,4 x 2,3 x 3,6 MINI RW 111-MINI (R.B.) RW 45-MINI + 1,8</p>	 <p>6,6 x 3 x 2,9 1 layer x 0,112 bifilar 7,2 x 2,5 x 3,5 MINI RW 111-MINI (R.B.) RW 75-MINI + 1,8</p>	 <p>8 x 3,75 x 3,7 30 x 0,35 9,1 x 2,7 x 4,5 MINI RW 111-MINI (F.B.) RW 75-MINI + 2,0</p>	 <p>10,5 x 4 x 4,8 200 x 0,125 bifilar 11,2 x 3,1 x 5,5 MINI RW 111-MINI (R.B.) RW 75-MINI + 2,0</p>
<p>kleine Spulen mit Feindraht small coils with fine wire</p> <p>bare core size mm turns x Ø wire size mm wound coil size mm machine base roller table winding head + magazine</p>	 <p>9,5 x 4,8 x 3,2 61 x 0,18 x 37 x 0,3 1 0,8 x 2,9 x 4,6 MINI RW 111-MINI (F.B.) RW 100-MINI + 2,0</p>	 <p>13,5 x 7,8 x 2,8 580 x 0,1 14,5 x 5,5 x 4 MINI RW 111-MINI (S.S.) RW 100-MINI + 4,5</p>	 <p>16 x 4 x 8 1 layer x 0,1 16,5 x 2,9 x 9 RWE RW 111 (I.S.) RW 10 + 2,0</p>	 <p>16 x 8,5 x 6 800 x 0,3 18 x 5 x 8,9 RWE RW 111 (F.B.) RW 100-C + 2,5</p>	 <p>12 x 6 x 4,5 30 x 0,4 13 x 4,3 x 5,5 RWE RW 111 (F.B.) RW 100-C + 2,0</p>	 <p>15,5 x 9 x 5,5 17 x 0,5 bifilar 16 x 7 x 7 RWE RW 111-V RW 100 + 3,0</p>
<p>kleine Drossel und Filter mit dickem Draht small chokes and filters with heavy wire</p> <p>bare core size mm turns x Ø wire size mm wound coil size mm machine base roller table winding head + magazine</p>	 <p>13 x 7,7 x 8,5 23 x 0,8 16,8 x 4,2 x 10,5 RWE RW 111-V RW 100 + 3,0</p>	 <p>24 x 13 x 7 20 x 1,6 28,5 x 8,5 x 11,5 RWE RW 112 RW 200-V + 4,7</p>	 <p>20,5 x 12,5 x 6,5 35 x 1,15 24 x 6 x 11,5 RWE RW 112 RW 200-V + 4,2</p>	 <p>38,5 x 19,8 x 8,2 2 layer x 0,8 40,5 x 17 x 11 RWE RW 222-L RW 1 + 1/11</p>	 <p>40 x 24 x 15 11 x 1,32 trifilar 44 x 20 x 18 RWE RW 222-L RW 2 + 2/13</p>	 <p>33 x 17,5 x 11,5 100 x 1,0 39 x 9 x 18 RWE RW 112 RW 200-V + 6,3</p>
<p>kleine Drossel und Filter mit dickem Draht small chokes and filters with heavy wire</p> <p>bare core size mm turns x Ø wire size mm wound coil size mm machine base roller table winding head + magazine</p>	 <p>47 x 24 x 18,4 130 x 1,2 bank wound 55 x 9 x 28 RWE RW 222-VSO RW 300-V + 8,2</p>	 <p>38,2 x 25 x 16,4 3 sectors each 11 x 1,8 47 x 17 x 21 RWE RW 112 RW 200-VS + 7,4</p>	 <p>4 x 2,0 x 1,6 36 x 0,1 bifilar MINI RW 35-D-RO RW 111-D</p>	 <p>47 x 24 x 18,4 95 x 1,8 58 x 10 x 29 RWE RW 222-VSO RW 300-V + 8,2</p>	 <p>53 x 28 x 18 each sec. with 3 layers with bank wound x1,8 60 x 16 x 27 RWE RW 222-VSO RW 300-V + 9</p>	 <p>51 x 30 x 23,5 32 x 2,5 58 x 24 x 30,5 RWE RW 332-SO RW 3-V + 3/25</p>
<p>stromkompensierte Drossel balancing chokes</p> <p>bare core size mm turns x Ø wire size mm wound coil size mm machine base roller table winding head + magazine</p>	 <p>15,5 x 8 x 6 each sector 20 x 0,3 16,1 x 7,2 x 6,5 RWE RW 111-V (F.B.) RW 100-C + 2,5</p>	 <p>13,5 x 6 x 5,5 each sector 12 x 0,5 15 x 5 x 7 RWE RW 111-V (F.B.) RW 100-C + 2,5</p>	 <p>19 x 9 x 10 each sector 20 x 0,4 20 x 8 x 12 RWE RW 111-V RW 100-C + 4,0</p>	 <p>25 x 14 x 8 each sector 20 x 0,8 28 x 10 x 11 RWE RW 112 RW 200-V + 4,7</p>	 <p>26 x 14 x 10 each sector 9 x 1,4 30 x 10,5 x 14 RWE RW 112 RW 200-V + 5,1</p>	 <p>34,5 x 15 x 15 each sector 68 x 0,9 39 x 8,5 x 21 RWE RW 112 RW 200 + 5,0</p>
<p>kleine Sonderspulen small coils special</p> <p>bare core size mm turns x Ø wire size mm wound coil size mm machine base roller table winding head + magazine</p>	 <p>13 x 7,5 x 5 7 x 0,355 litz wire 15,3 x 6 x 6,6 RWE RW 111-V RW 100 + 3,0</p>	 <p>22,6 x 6,5 x 12 55 x 0,16 RWE RW 111-V (R.B.) RW 100-C + 2,0</p>	 <p>16,5 x 7 x 21,5 1 sector x 0,25 RWE RW 111-V (F.B.) RW 100-C + 2,5</p>	 <p>17 x 7 x 18,5 each sector 19 x 0,3 18 x 6 x 19,5 RWE RW 111-V (F.B.) RW 100-C + 2,5</p>	 <p>18 x 16 x 2,8 1 layer x 0,25 precision wound 18,8 x 14,6 x 3,5 RWE RW 222-L RW 0 + 10,0</p>	 <p>22 x 15,8 x 4 each sec. 1 layer prec. wound x 0,125 22,5 x 14,9 x 4,4 RWE Segment holder RW 0 + 10,0</p>
<p>Netztrafos power transformers</p> <p>bare core size mm turns x Ø wire size mm wound coil size mm machine base roller table winding head + magazine</p>	 <p>175 x 55 x 15,5 primary 3 layers x 0,9 180 x 48 x 21 RWE RW 222-VSO RW 30 + 30/1 6</p>	 <p>120 x 65 x 68 secondary 3 layers x 1,32 126 x 55 x 74 RWE RW 332 RW 4 + 4/50</p>	 <p>47 x 30 x 50 primary progressive/wound x 0,335 50 x 24,5 x 55 RWE RW 222-VL RW 25+14</p>	 <p>81 x 44 x 26 primary 1500 x 0,315 83 x 40 x 30 RWE RW 222-VL RW 25+14</p>	 <p>84 x 39 x 31 secondary 90 x 1,32 87 x 36 x 33 RWE RW 222-VL RW 300 + 10/K</p>	 <p>sample of power transformer View or primary winding interlayer taping with copper foil and secondary winding</p>

How to find your ideal machine

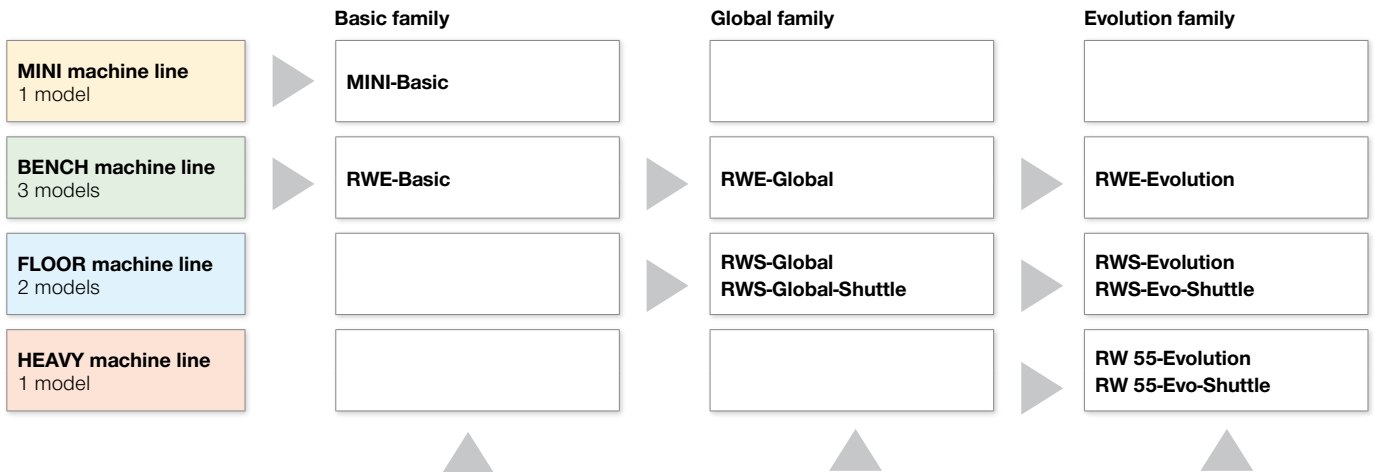
Step 1

Select the suitable machine line: RUFF offers four different machine lines and each machine line is extremely flexible with its own head and table changing system. Following graphic enables you to select the suitable machine line for your application. Please check wire range and core OD range.



Step 2

Select the suitable machine model: RUFF offers different machine families. Following overview of models enable you to select your machine. Please check the characteristics:



drives	roller tables with stepper motor winding heads with servo motor		roller tables with servo motor winding heads with motor and inverter		roller tables with servo motor winding heads with servo motor
controller	N.C. SIAX 110L		N.C. SIAX 80 monochrom touch screen		N.C. IPC EL870 touch screen
display	LCD-Display		5.7" monochrom touch screen		N.C. IPC EL870 touch screen 8" touchpanel with 4 funktion buttons, USB-connetion, ethernet interface, PS/2 interface, RJ45, serial interface language, unitext (all characters e.g. Cyrillic etc.)
programming	simple programming, user friendly controller		simple programming, user friendly controller with touch screen monitor		programming for sophisticated winding applications with industry-PC controller; clear text touch screen with graphical display and automatically winding program calculation
applications	all standard winding jobs		all standard winding jobs		all standard jobs and special resp. hi tech winding applications

Step 3

Select the suitable winding head. Following is an overview of available winding heads. Please compare your winding application with the technical specification of the heads in the RUFF product catalogue:

MINI machine line	wire 0,05 - 1,0 mm 10 heads, 5 tables						
direct, multisystem and miniature winding heads	RW 35-D direct winding head	RW 35-MINI miniature winding head	RW 45-MINI miniature winding head	RW 60-MINI miniature winding head	RW 75-MINI multisystem winding head	RW 100-MINI multisystem winding head	RW 200-MINI multisystem winding head

BENCH machine line	wire 0,05 - 2,8 mm 25 heads, 6 tables						
gear rack heads	RW 0	RW 1	RW 2	RW 3	RW 4	RW 4-V	
slider heads	RW 10	RW 20	RW 25	RW 30	RW 40	RW 40-V	
belt heads	RW 60-C	RW 100-C	RW 100	RW 200	RW 200-V	RW 300	
taping heads	RW 0/B	RW 1/B	RW 2/B	RW 3/B	RW 4/B	RW 200/B	RW 300/B

FLOOR machine line	wire 0,4 - 4,5 mm 12 heads, 9 tables						
gear rack heads	RW 33	RW 44-1	RW 44-1V	RW 45	RW 45-V	RW 45-380	RW 45-EH
taping heads	RW 33/B	RW 44/1B	RW 45/B	RW 45-380/BU			

HEAVY machine line	wire 0,8 - 6,0 mm 3 heads, 4 tables						
gear and taping rack heads	RW 55	RW 55/B	RW 55/BU				