

RMG Integrated Multi-Roll Wire Straighteners

RMG's unique design, The Integrator®, provides users with the following benefits:

- 1) The ability to control the wire's straightness with a single-knob or single-screw adjustment.
- 2) The ability to accommodate a very wide range of wire diameters by being able to mount many different rolls, on various center distances on a single assembly.

6.1

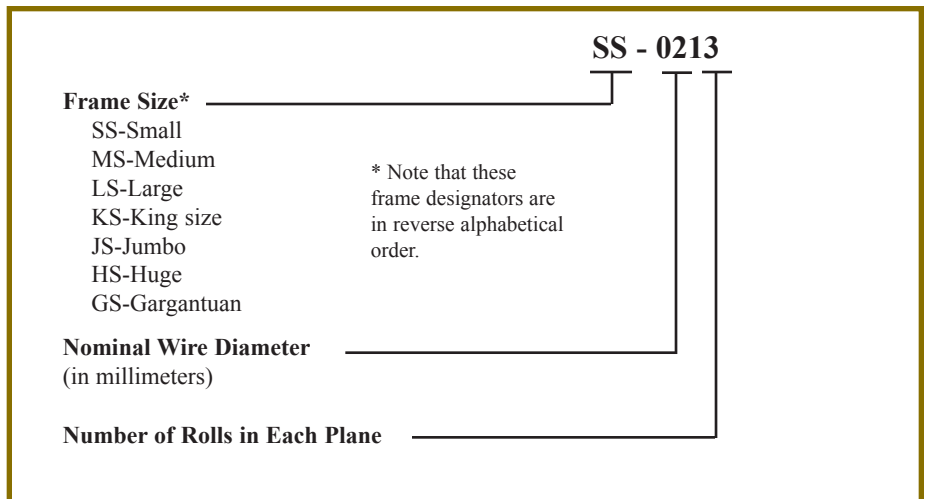
Features and Benefits

RMG Multi-Roll Wire Straighteners offer the following advantages:

1. Single adjustment straightness control.
2. Wide range of wire or rod diameters. A minimum range ratio of 4 to 1 can be accommodated on any RMG straightener frame size.
3. Complete line from .030" to 1.75" (0.8 mm to 45 mm).
4. Modular construction. Most RMG Integrated Wire Straighteners can be changed in the customer's plant from left-to-right or right-to-left wire flow, and for either horizontal or vertical uncoiling. Complete assemblies can be furnished using a different number of rolls in each plane.
5. Many unique construction features, including universal X-Y-Z axis adjustment, sealed double-row ball bearing construction, and carbide entrance guide bushings.
6. Use with either power-driven feed rolls or power-driven uncoilers. RMG custom-designed adjustable speed drives can be used to automate and provide controlled, power-driven feeding systems for certain types of feeding, straightening and cutting systems.

Seven basic frames accommodate all RMG Integrated Wire Assemblies. These frames fall into three separate categories:

Typical Model Designation



Model SS and MS Straighteners

The most universal assemblies for easy conversion from one diameter range to another. One has only to unscrew one set of rolls and screw in another set to convert it from one diameter range to another. All Model SS and MS mounting frames include pre-tapped holes for roll changing at any time in the future.

Model LS, KS and JS Straighteners

These models are converted from one range to another by replacing entire sub-assemblies referred to as "rails," on which the individual rolls are mounted. The bending loads imposed on the shafts by relatively larger wire and rod diameters preclude the use of screw-in mounts.

Model HS and GS Straighteners.

This type of straightener cannot incorporate easily-removable rolls and mounting shafts or studs. This includes any type of straightener on which a centralized grease lubrication system is specified.

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All straighteners (except the larger HS and GS units) are available in standard assemblies as either single-plane or double-plane units. Most RMG single-plane assemblies can be converted into double plane assemblies at the customer's plant.

6.2

Power-Driven Feed Rolls

Power-driven feed roll assemblies can be ordered for all Model LS and larger straightener assemblies. These are usually powered by a 5 HP adjustable speed drive, but many optional drive arrangements are available with custom-designed transmission assemblies.

Power-Driven Uncoiler Combinations

RMG's power-driven uncoilers are used for rod and wire diameters in a range of .625" - 1.75" (16 - 45 mm). Type KS and larger straightener assemblies can be easily adapted to these power-driven uncoilers.

Notes on Selection Criteria

- All ratings are based on mild steel. Consult RMG for all applications involving alloy, high tensile wire, stainless steel, and non-ferrous material.
- Straightness quality can usually be improved and set-up time can usually be minimized by increasing the number of rolls. Roll-type straighteners, including RMG's Integrator, *do not* achieve perfect straightness. Only a rotary arbor type straightener can consistently provide this straightness quality.
- Optimum L/d values are usually in a range of 6 to 10 for mild steel. Harder or tougher materials favor a higher value; softer, non-ferrous materials favor lower values.
- Optimum L/d values are in a range of 6 to 10. The advantages involved in being able to change (1) the number of rolls, (2) the roll center distance and (3) the roll diameter (with a required change in wire diameter) should be obvious.
- Two-plane straighteners can be assembled to permit wire flow from left-to-right or right-to-left and/or with horizontal plane on right or left. Complete adjustments are provided for wire line alignment in both axis.
- The Model GS-4005-00 uses sealed double row spherical roller bearings.

The Integrator® Selection Criteria

Size Designator—mm	02	04	06	08	12	16	20	30	40	
Size Designator—inch	.080	.160	.240	.310	.470	.630	.780	1.10	1.57	
Number of Rolls (2)	SS (Small)	13	7	5						
	MS (Medium)		9	7	5					
	LS (Large)		13	9	7	5				
	KS (King-size)				11	7	5			
	JS (Jumbo)					9	7	5		
	HS (Huge)								5	
GS (Gargantuan)									5	
Roll Diameter	.78	1.25	1.78	2.38	4.00	5.00	5.00	7.00	10.00	
Center Spacing (L)	.63	1.13	1.50	2.00	3.00	4.50	6.00	8.00	11.00	
Recommended Wire Diameter (d)	Minimum	.030	.080	.100	.125	.200	.350	.500	.700	1.00
	Nominal	.080	.160	.240	.310	.470	.630	.780	1.10	1.57
	Maximum	.100	.175	.250	.340	.500	.700	.870	1.30	1.75
L/d Ratio (3)	Minimum	21.0	14.1	15.0	16.0	15.0	12.9	12.0	11.4	11.0
	Nominal	7.9	7.1	6.3	6.5	6.4	7.1	7.7	7.3	7.0
	Maximum	6.3	6.5	6.0	5.9	6.0	6.4	6.9	6.2	6.3
Roll Part Number	M-160	M-161	M-162	M-163	4434	288-4	3055	935	3122	
Type of Bearings	Sealed, double-row, ball bearings				Single-row ball bearings		Double-row ball bearings		Note (4)	

