

RMG Power-Driven Uncoilers

RMG's Power Driven Uncoilers represent the best proven method of increasing the efficiency of the overall cold forming system.

Features

1. Heavy duty coil splitter rolls prevent coil tangling and are virtually indestructible.
2. Optional remote control station is equipped with self-coiling cord, permitting remote pushbutton reversing and retraction of stock, as well as remote disengagement of both feed rolls and straightener.
3. Outboard bearing support is recessed and out of harm's way.
4. Robust rigid frame designed to clear largest available coils.
5. Feed rolls gearing is mounted on alloy shafting and cannot loosen in service.
6. Air actuators for engaging feed rolls are located at back of unit, out of harm's way.
7. Grease fitting provided for clutch over-ride and it can be greased in operation.
8. Optional cut-off saw can be built in. It provides a burr-free square cut.
9. Electrical control panel is recessed.
10. Models equipped with adjustable speed drive include a potentiometer to regulate the machine speed.
11. All pneumatic solenoid valves are manifold mounted for easy maintenance.
12. Integrated straightener for pre-straightening the wire located on the side of the feedhead. Includes simple, one-stop straightening adjustment.



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Benefits

Reduced downtime

A power-driven uncoiler prefeeds and prestraightens the stock, and delivers it over into the feeding mechanism of the cold former, with less downtime and with the quickest possible coil change-over. And, when it comes to reducing coil changeover time no other method can match the efficiency of an RMG power driven uncoiler.

Reduced Load on the Feed Rolls

The uncoiler's ability to reduce the coil's load on the feeding mechanism reduces the possibilities of short feeds. This is accomplished by:

- continuous (adjustable speed) or intermittent power-driven coil rotation.
- built-in snag switch for the "bound coil" condition.
- rugged RMG coil splitter rollers reduce coil tangling.

Reduced Manpower

Power driven uncoilers provide the most efficient, safest and easiest method of handling large diameter coils. One man, with the aid of only pushbutton controls, can load large coils.

Safe Operation

Every aspect of coil handling is improved when an RMG power-driven uncoiler is used. Straightening the tail end of the stock when the coil is depleted is easily done. Operator fatigue is minimized and the possibility of accidents is reduced.

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Transmission Equipment

Fixed Speed (-01 Designation)

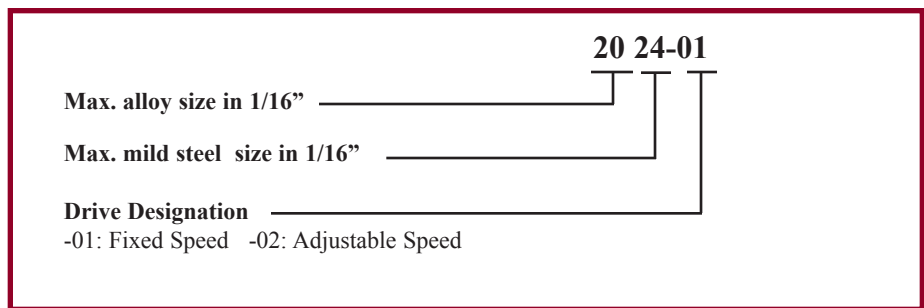
Standard (-01) models use a TEFC motor and worm gear speed reducer which chain-drives the feed rolls and coil support mandrel. A one-way clutch allows the feed rolls and coil support mandrel to “over-run” when the cold former pulls the stock. Reversing the direction of rotation is accomplished by automatically “locking-out” the over-running clutch whenever the reverse button is pressed.

Adjustable Speed (-02 Designation)

Adjustable speed models (-02) are usually employed on applications involving wire/rod consumption faster than 30 fpm (9 m/min). An AC variable frequency drive controls the speed of a TEFC motor. This motor drives the speed reducer which chain-drives the feed rolls the same as with a fixed speed uncoiler. The advantage with adjustable speed is that the entire coil can be continuously rotated at a speed approximately equal to the consumption rate. This not only alleviates most of the load on the production machine’s feed rolls, but assures that the coil is in a “loose”, tangle-free condition.

A calibrated potentiometer provides a reference for the operator so that once he has determined the proper uncoiling speed for the job, he can reset the speed for the same application in the future.

Typical Model Designation



TANGLEGARD

All RMG Power-Driven Uncoilers are equipped with a coil sensor. Whenever the coil begins to cinch-up or bind:

1. On **-01** models, the coil support mandrel is power rotated.
2. On **-02** models, the coil support mandrel is power rotated, and if the coil continues to cinch-up or tighten, the mandrel rpm is increased.

After the coil frees up, the mandrel will continue to run at the increased rpm for a brief period, determined by a timer setting. This is another setting that may be recorded for future reference.

3. On both **-01** and **-02** models, a snag detector option is available so that if the coil continues to bind up, the sensor will send a signal to the production machine, thus stopping the process before a short feed occurs.

Feed Rolls

V-grooved feed rolls are standard for hot-rolled rod with a range of approximately .130” (3.5 mm). Full contoured rolls are recommended for drawn wire. Standard feed rolls are case hardened thru-hardened rolls are available as part of a “green rod” kit, which also includes thru-hardened straightener, guide and splitter rolls.

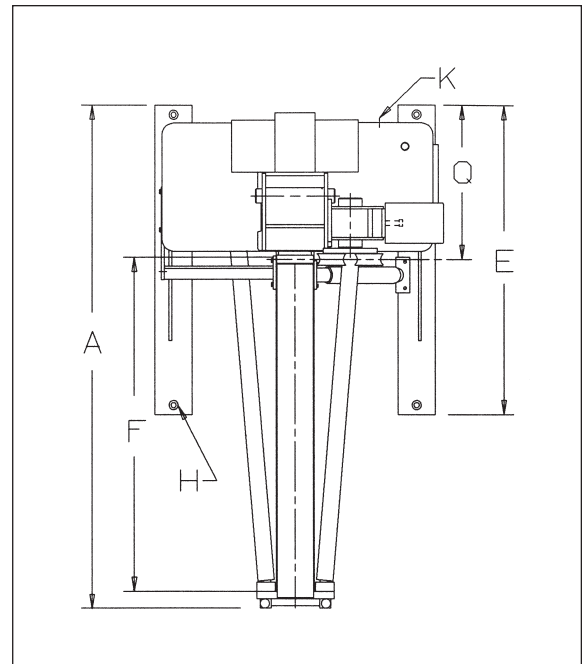
All RMG Power-Driven Uncoilers are arranged for quick changing of the feed rolls.

Pneumatic Equipment

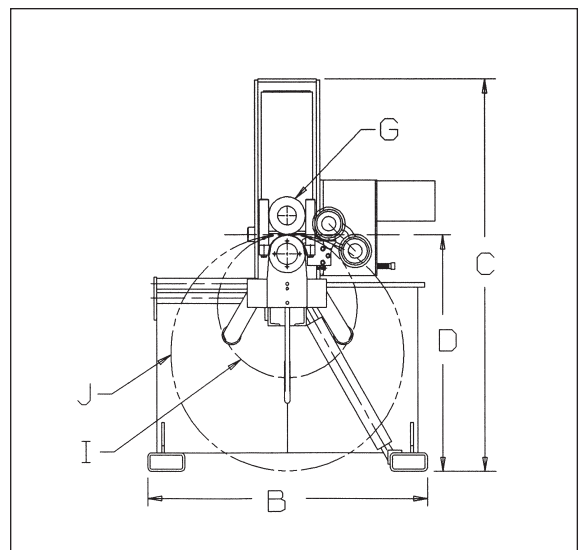
Unique heavy duty actuators provide power and dependability for the feed rolls and straightener. All necessary filters are provided as standard equipment and all valves are manifold mounted, with visual indicators, plug-in solenoids and mechanical overrides.

RMG Power-Driven Uncoilers

Dimension or Design Parameter		1216	2024	2428
A	Overall Length	107 [2718]	117 [2972]	127 [3225]
B	Overall Width	63 [1600]	66 [1676]	83 [2108]
C	Overall Height	84 [2134]	90 [2286]	95 [2413]
D	Feed Line Height	50 [1270]	60 [1524]	65.5 [1664]
E	Base	65 [1651]	79 [2007]	79 [2007]
F	* Coil Support Roller	69 [1753]	75 [1905]	75 [1905]
G	Feed Roll Diameter	8 [203]	12 [305]	12 [305]
H	Hold-Down Bolt Size	1 [25]	1.25 [32]	1.25 [32]
I	Min. ID Coil Dia.	30 [762]	33 [838]	33 [838]
J	Max. OD Coil Dia.	50 [1270]	60 [1524]	64 [1626]
K	Air Line Connection NFPT	1/4"	1/4"	1/4"
Q	Wire Centerline	33 [838]	39 [991]	49.63 [1260]
Min. Air Pressure Required		80 psi (5.5 bar)	80 psi (5.5 bar)	80 psi (5.5 bar)
Maximum Coil Weight CAUTION: Condition of coil, rod diameter, i.d. and o.d. of coil and coil width are determining factors in weight limitation.		6500 lb. (2950 kg)	7000 lb. (3175 kg)	7000 lb. (3175 kg)
Max. Rod or Wire Size	Alloy or HT 100,000 psi (73 kg/mm ²)		1.25 [32]	1.50 [38]
	Mild Steel 85,000 psi (60 kg/mm ²)	1 [25]	1.50 [38]	1.75 [45]
Min. Rod or Wire Size	Alloy or HT 100,000 psi (73 kg/mm ²)	.50 [12]	.63 [16]	.63 [16]
	Mild Steel 85,000 psi (60 kg/mm ²)	.63 [16]	.63 [16]	.63 [16]
Motor HP	Fixed Speed	2 hp (1.5 kW)	5 hp (3.7 kW)	—
	Adjustable Speed	3 hp (2.2 kW)	7.5 hp (5.6 kW)	10 hp (7.5 kW)
Feed Roll Force	Fixed Speed	1500 lb (680 kg)	4200 lb (1905 kg)	8800 lb (3992 kg)
	Adjustable Speed	1500 lb (680 kg)	4000 lb (1814 kg)	8800 lb (3992 kg)
Prefeeding Speed		30 fpm (9 m/min)	30 fpm (9 m/min)	40 fpm (12.2 m/min)
Approx. Shipping Weight		4800 lb (2177 kg)	7200 lb (3266 kg)	15820 lb (7176 kg)
<p>NOTES: * Coil Support Roller dimensions = maximum width of coil in unbanded condition.</p> <p>Dimensions shown are in [mm]</p>				



Top view of uncoiler.



Elevation view of uncoiler.

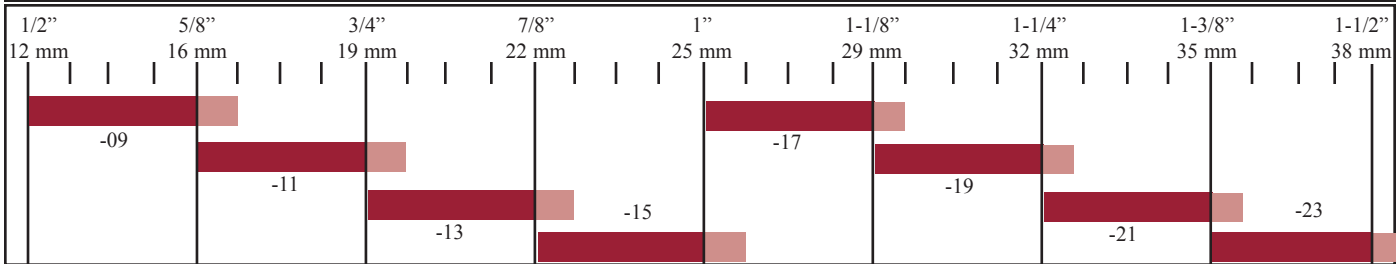
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Ten Questions and Answers Relating to the Use of RMG Power-Driven Uncoilers.

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Feed Roll Selection Chart

(Order Feed Rolls Using 2-Digit Numbers)



1. How much distance should we allow between the uncoiler and the cold former (or wire drawer)?

When the feed roll height of the cold former is the same as the uncoiler, only three feet is required. For each inch of difference in this height, add six inches to the distance between the two machines.

2. Can RMG provide higher feed roll heights?

Yes. We accomplish this by altering the basic dimensions of the machine frame. We must always anticipate an O.D. coil dimension of 50" (1270 mm), therefore we would not consider lowering the feed roll height.

3. Will RMG machines accommodate 6000 lb. coils?

Although the table on page 5.2 indicates that the Model 2024 will accommodate 7000 lb. coils, the actual weight depends on the physical size of the bundle. A 7000 lb. coil of 5/8" material may be too large, whereas a 7000 lb. coil of 1-1/2" material can easily be accommodated.

4. When should adjustable-speed drives be used?

Generally speaking, whenever the uncoiling speed exceeds 30 fpm (9 m/min.), and on most long-stroke applications involving cut-off blank lengths of 8" (203 mm) or longer. The adjustable-

speed drive is always a good investment because it can be set up to continuously rotate the coil, helping to reduce the load on the cold former's feed rolls. This minimizes the possibility of short feeding, and at the same time minimizes coil tangling.

5. Why not keep the feed rolls of the uncoiler engaged all the time? Wouldn't this provide even greater assistance to the cold former's feed rolls?

In theory, this is a good idea. In practice, it can't work unless the uncoiler could be moved back about 25 feet (7.6 m) to allow a "storage loop" to make up for differences in feed roll timing, velocity characteristics of the cold former's feed rolls, etc.

6. Should the uncoiler be anchored to the floor?

Yes, four hold down holes are provided.

7. On a typical cold-former or boltmaker application, why not keep the uncoiler's straightening rolls engaged at all times?

This isn't advisable. In the first place, these straightening rolls are not designed for *continuous* straightening. In the second place, the additional load imposed on the cold former's feed rolls—along with perhaps a 2000 lb. (907 kg), 3000 lb. (1361 kg) or 4000 lb. (1814 kg) coil—might do more harm than good.

8. Can we use coils wound with a left-hand pitch interchangeably with those wound with a right-hand pitch?

Almost all coils of hot-rolled rod and wire produced in North America are wound with a right-hand pitch, so that they uncoil from left to right. It is impractical to attempt mixing-up LH and RH pitch coils. While RMG machines may be arranged to be field-changed to accommodate either LH or RH pitch coils, it means the uncoiler must be pointed 180° in the opposite direction and the location of the straightening assembly changed.

9. We have quite an inventory of feed rolls for our existing combination prefeeders and uncoilers. Can we interchange RMG feed rolls with our existing machines?

Yes, on all types except the Malmadie (or W-F) type of prefeeders.

10. What range of rod and wire sizes will the feed rolls accommodate?

When used for uncoiling wire, the feed rolls must be machined exactly to the finished cold-drawn wire size. This prevents deformation of the accurately-sized wire.

When used for uncoiling rod, the feed rolls are machined with a V-grooved configuration which accommodates a range of approximately 1/8"/3.30 mm (\pm 1/16"/1.52 mm). Feed rolls for rod should be selected using the chart shown above.



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