

SPRING MAKING MACHINES

(Automatic Spring Making Plant)

- (a) Automatic Spring Coiling Machine
- (b) Automatic Wire Decoiler
- (c) Automatic Spring End Grinding Machine

AUTOMATIC SPRING COILING MACHINE



FEATURES

- Coiling Machine has a segment drive in place of the Clutch.
- Variable Speed Drive for different geometry of Springs.
- Minimum Spring Index D_m / d (Mean diameter / Wire Diameter) for Wire Drawing upto to 2 mm - 5 mm, above 2.5 mm - 7 mm.

STANDARD ACCESSORIES

- Horizontal and Vertical Straightening Device. Clamping Device for Adjusting pressure of feeding rollers, clamping device for Coiling Mandrel, retractable mandrel, Brake arrangement for feeding Rollers, Piece Counter, Electric Control Panel and electricals, complete set of tools to cover entire wire diameter range of the machine.

SPECIFICATION

Item Code No.	ABM-FM-8050	ABM-FM-8051	ABM-FM-8052
Wire Dia. (mm)	0.2 - 0.8	0.6 - 3.0	1.0 - 4.0
Spring OD upto (mm)	20	60	60
Production rate upto (Springs / Min)	200	80	80
Wire Feed Length (mm)	850	1500	1500
Motor (H.P.)	0.5	7.5	7.5
Gross Weight (Kgs.)	450	750	750
Approx. Shipping Volume (m ³)	0.35	1.25	1.25

AUTOMATIC WIRE DECOILER



FEATURES

- The decoiler starts and when the Coiling Machine require Wire. As soon as sufficient wire in the form of Loop is available, the decoiler stops, only to start again as required. This intermittent operation is performed automatically with use of proximity switches and solid state control panel.
- In case the wire gets entangles or cannot be fed for any reason, the decoiler and coiling machine motors cutoff automatically, preventing the wire from breaking.

SPECIFICATION

Item Code No.	ABM-FM-8060	ABM-FM-8061
Motor (H.P.)	0.25	1.50
Loading Plate Dia. (mm)	600	1200
Coil Weight (Kgs.)	60	300
Approx. Shipping Volume (m ³)	0.70	1.00

AUTOMATIC SPRING END GRINDING MACHINE



FEATURES

- Available in two different versions with different Grinding Cycles - Crush Grinding and Down Feed Grinding.
- Model with Crush Grinding Cycle as the springs in these wire ranges can be easily ground with this process.
- Model with an option of Crush Grinding or Down Feed Grinding as with bigger wire size springs can be ground better with Down Feed cycle and it gives high production rate with minimum handling of springs.

PROCEDURE

- **CRUSH GRINDING**
In this process, distance between the two grinding wheels is set to the required spring length. Springs are fed through the loading plate between the grinding wheels. As the desired length is attained, springs fall through a chute to the bottom from where they may be collected. The removal of extra material is possible by single pass as well as by multiple pass.
- **DOWN FEED GRINDING**
In this process, the top wheel has a down feed arrangement. After the springs are loaded and fed between the grinding wheels, the Down Feed cycle starts. As the cycle proceeds, grinding pressure on the wheel rises, which increases the current of the spindle motor till it reaches the preset upper limit. At this point, Down Feed Stops and grinding continues in Spark Out. During Spark Out, current begins to drop gradually, down to the preset lower limit. Then Down Feed starts again. This cycle continues till the desired spring length is reached. The setting of cycle is done with the help of scale, dogs and electrical limit switches. The down Feed and the loading plate drive are both infinitely variable to suit individual springs.

SPECIFICATION

Item Code No.	ABM-FM-8070	ABM-FM-8071	ABM-FM-8072
Grinding Process	CRUSH	CRUSH	CRUSH or DOWN FEED
Wire Diameter (mm)	0.4 - 1.0	0.3 - 3.0 (Single Pass) upto 5.0 (Multi Pass)	3.0 - 12.0
Spring External Dia. (mm)	3 - 15	3 - 40	10 - 120
Spring Length (mm)	5 - 150	5 - 150	10 - 350 (With new wheels) 15 - 425 (With worn our wheels)
Wheel Type (mm)	Plain	Cup	Cup
Wheel Dimensions (mm)	200 OD x 40 W	400 OD x 125 ID x 55 w	660 OD x 300 ID x 90 W
Feed Plate Dia. (mm)	200	420	580
Feed plate Drive by DC Motor	0.125	0.25	1.50
Feed plate Speed, Infinitely variable (RPM)	1 - 5	1 - 5	1 - 30
Wheel Drive Motor (each)	1.0 H.P.	3.0 H.P.	10.0 H.P.
Gross Weight (Kgs.)	450	800	1300
Shipping Volume (m ³)	0.50	1.00	4.60

All Specifications are subject to change towards improvements without any prior notice.

Manufactured by ABM Fasteners (India) and Export Marketing by ABM Tools