

## A.C. Electromagnetic Brakes

### INTRODUCTION :

A.C. drum brakes are suitable for single phase A.C. supply up to 440V and are available for drum diameters of 100 mm to 375 mm and braking torques up to 69 kg-m.

### CONSTRUCTION AND WORKING :

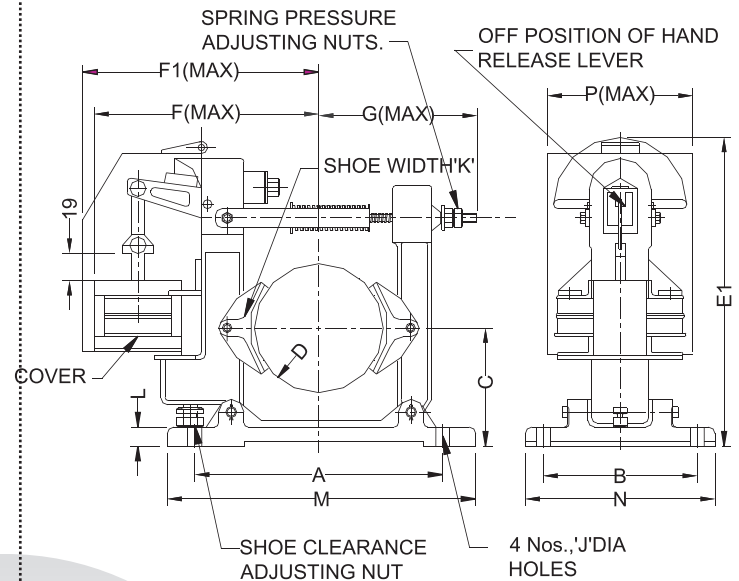
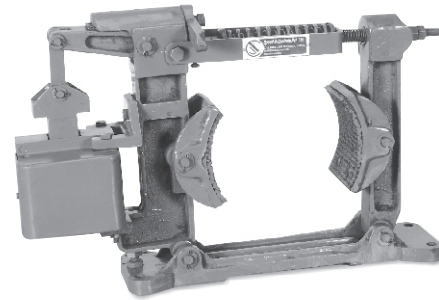
The shoes and the base of brakes are of graded cast Iron. Other components are of fabricated steel. The lever is hinged on the main arm, which is connected to the side arm through a tie rod, and is stressed by a pre-loaded compression spring. The compression of the spring can be adjusted to set the braking torque to desired value.

The brake liner of selected quality material and are rivetted to the shoes by aluminium rivets.

A.C. solenoid with laminated magnetic sheet steel houses a copper magnetizing coil which is impregnated with Class F materials. The plunger which is connected to the lever, is drawn in to the coil, when it is energised with AC source. This loads the spring and releases the brake shoes from the brake drum. When the supply is cut off, the plunger is pulled out of the coil, and spring force clamps the brake shoes on the brake drum and the brake is applied.

### FEATURES :

1. The brake is Fail-to-safety. The brake is applied in absence of A.C. current, and is released when the supply is restored.
2. High quality brake lining material ensures consistent braking torque and reliable operation.
3. Clean environmental working, less noise.
4. Braking torque can be adjusted easily and quickly.
5. Ease of maintenance.



### Notes

1. Brake type EMS 4 denotes A.C. single phase 4" drum diameter (inch series)
2. Brake type EMS 100 denotes A.C. single phase 100mm drum diameter (metric series)
3. Brakes are made to inch or metric drum
4. Coils are rated for operation single phase, 400/ 440V, 50 cycles .
5. Coils can be supplied with ' class B ' insulation.
6. Coils for higher ambient temperature upto 60 c can be offered on request.
7. Tolerance on indicated dimensions is + 2mm.
8. Higher braking torque can be adjusted for reduced CDF duty.

### Dimensional Details

| Brake Type          | Drum Dia. |     | Braking Torque<br>Kg. M. | A   | B   | C   | E<br>(Max) | E1<br>(Max) | F<br>(Max) | F1<br>(Max) | G<br>(Max) | J  | K   | L<br>(Max) | M   | N   | P   | Wt. In (Kg.)<br>Approx. |
|---------------------|-----------|-----|--------------------------|-----|-----|-----|------------|-------------|------------|-------------|------------|----|-----|------------|-----|-----|-----|-------------------------|
|                     | Inch      | mm  |                          |     |     |     |            |             |            |             |            |    |     |            |     |     |     |                         |
| EMS - 4" EMS - 100  | 4         | 100 | 1.87                     | 232 | 70  | 130 | 275        | 295         | 230        | 255         | 140        | 10 | 57  | 14         | 267 | 98  | 155 | 13                      |
| EMS - 6" EMS - 150  | 6         | 150 | 6.5                      | 310 | 76  | 143 | 305        | 325         | 260        | 285         | 175        | 10 | 70  | 18         | 340 | 114 | 155 | 18.5                    |
| EMS - 8" EMS - 200  | 8         | 200 | 15                       | 400 | 92  | 175 | 380        | 390         | 340        | 265         | 235        | 14 | 89  | 20         | 441 | 126 | 175 | 30.5                    |
| EMS - 10" EMS - 250 | 10        | 250 | 19.3                     | 470 | 114 | 225 | 460        | 480         | 380        | 405         | 275        | 14 | 108 | 23         | 508 | 150 | 175 | 43.5                    |
| EMS - 12" EMS - 300 | 12        | 300 | 38.8                     | 530 | 152 | 254 | 530        | 552         | 445        | 470         | 320        | 18 | 127 | 22         | 616 | 210 | 190 | 78                      |
| EMS - 15" EMS - 380 | 15        | 380 | 58.6                     | 610 | 190 | 315 | 645        | 667         | 495        | 520         | 355        | 22 | 152 | 28         | 680 | 240 | 190 | 97                      |