KAKKU MILL DUTY AC ELECTRO-MAGNETIC BRAKES (CLAPPER TYPE & SOLENOID TYPE)
SERIES KBA & KBS

SPECIAL FEATURES

- Clapper type Electro-magnet suitable for arduous mill duty operations.
- Well proven performance and hence reliability is ensured.
- Provided with class 'F' insulated epoxy encapsulated coil ensuring longer life and suitability to work efficiently in hazardous environment.
- Ease of adjustment of torque quickly by just turning the adjustment nut.
- Accurate manufacturing and strict adherence to engineering standards for longer working life.
- Brake arms and base are manufactured from steel and are of sturdy construction.
- Convenient manual release possible in every brake by just turning the manual release nut.
- All the parts are easily accessible and hence ensures quick maintenance.
- Quick adjustment of both the shoes together by just one adjustment bolt to maintain uniform shoe gap.

SALIENT FEATURES

SIMPLICITY

KAKKU Brakes series KBA / KBS are robust in construction and simple in design having minimum No. of parts and thus reducing maintenance problems and down time.

RELIABLE BRAKING ACTION

The design of KAKKU brakes ensures efficient transmission of braking force. Also the braking action is spread evenly over both the shoes providing maximum stopping power with minimum wear of shoe linings. Because of the large bearing area and close tolerances, minimum wear of supporting pins is ensured.

MAGNET SYSTEM & COIL

KAKKU Brakes series KBA are provided with powerful A.C. clapper type electro-magnet, whereas brake type KBS are provided with solenoid type electromagnet. The Electro-magnetic gap can be conveniently adjusted by holding the lock nut at the tail end of the tie rod and turning the tie rod from its square tail.

KAKKU Brakes are provided with epoxy encapsulated coil with class 'F' insulation. The design of the brake ensures convenient replacement of coil. The coils are liberally designed for high ambients.

LINING

Shoe linings are made from asbestos based woven material, which has a high co-efficient of friction & low rate of wear. The linings are normally riveted to the shoe.

SHOE ADJUSTMENT

Uniform receding of both the shoes can be adjusted by just turning one shoe adjuster bolt, provided on the lever arm under the magnet assembly. This adjustment can be locked with the help of a check nut.

SHOE POSITIONING

The brakes are provided with shoe positioners under the brake shoe to rigidly secure the brake shoes & prevent them from tilting and riding the drum when brakes are released.

TORQUE SETTING

The U-Shaped clamp within which the torque spring is assembled is marked with various torque positions of the spring. The torque can be adjusted by compressing the torque spring up to the desired marking. This adjustment can also be locked with the help of a check nut. Once set, the braking torque does not require any major adjustment for a long time.

FAIL SAFE DESIGN

KAKKU AC Electro-Magnetic brakes series KBA are electrically released and spring set. When the coil is energised the armature is attracted to compress the torque spring and move the shoe away from the drum thus releasing the brake. De-energising the coil allows the torque spring to separate the armature and press the shoes against the drum thus setting brake. This makes the brake fail safe in the event of power failure.

SIZES

Available for sizes 100, 200 and 300mm dia of drum.

DIMENSIONS

As per relevant figures shown in the catalogue.

TABLE – I

Brake Type	Apparent Power, VA at % of CDF				Effective Power Consumption (Sealed),W at % CDF	
	Inrush		Sealed			
	40%	100%	40%	100%	40%	100%
KBA-100	2100	1250	420	240	140	80
KBA-200/ 100	2100	1250	420	240	140	80
KBA-200	6800	4000	1350	700	450	225
KBA-300 / 200	6800	4000	1350	700	450	225
KBA-300	19000	8500	3800	1350	1400	450

TABLE – II

Brake Type	Drum Dia. (mm)	Braking Torque (in Kg Cm.)	
		25 & 40 % CDF	100% CDF
KBA-100	100	200	110
KBA-200/100	200	400	220
KBA-200	200	1600	800
KBA-300/200	300	2400	1200
KBA-300	300	5000	2000

TECHNICAL DATA

Ambient temp : Upto 50° C

Torque Characteristic : See Table-II

Class of insulation of coil : Class 'F'

Insulation Voltage : 660V

Coil Voltage : Available for 220 , 240, 380, 400, 415V and 440V AC, 50Hz.

Permissible Variation : + 6%, -10% of rated coil V.

Frequency of Operation : 600 per hour.

Power Consumption : Ref. Table – I

Reference Standard : Generally IPSS

No. of operations per hour : 720

SELECTION OF BRAKE SIZE

- For most application, the brake torque must be equal to or greater than motor full load torque as referred to the drum/ wheel shaft.
- Thus, Torque in Kg.M = $\frac{974 \times KW}{rpm}$

Where,
KW = motor output
rpm= revolution per minute.

With torque requirements known and the type of duty cycle established, the brake is selected accordingly from the selection table.

For certain special applications e.g. crane hoist and other overhauling loads, the brake should be capable of providing at least 150% of motor torque.

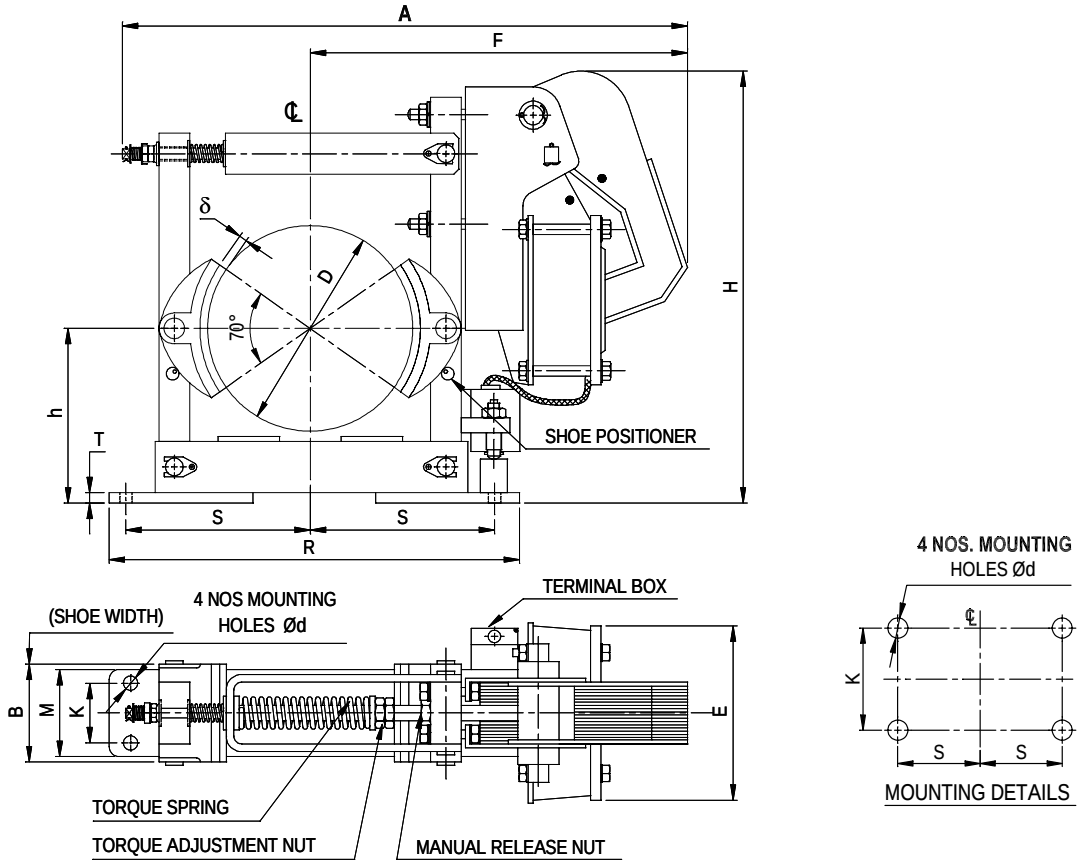
OPTIONAL EXTRAS

- Special epoxy paint to withstand corrosive atmosphere.

ORDERING INFORMATION

- Give KAKKU type No. and Duty.
- Coil Voltage.
- Optional extras if any.

SERIES KBA
Dimensions (mm)



Brake Type	A (Approx.)	B	D	E	F (Approx.)	H	K	M	R	S	h	δ	T	Ød	Wt. in Kgs. (Approx.)
KBA-100	370	70	100	130	223	250	40	80	250	110	100	6	6	13	12
KBA-200/100	520	90	200	130	290.5	400	60	95	430	175	170	6	10	18	25
KBA-200	600	90	200	177	367.5	415	60	95	430	175	170	6	10	18	37
KBA-300/200	725	140	300	177	428	547	80	140	540	250	240	8	12	22	68
KBA-300	790	140	300	243	493	570	80	140	540	250	240	8	12	22	92

Product improvement is a continuous process at KAKKU. Hence data given in this catalogue is subject to revision without notice.

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