

# CRANE CONTROL EQUIPMENTS

SINCE 1988

*A vital support of your Cranes*



- Established Since 1988
- Complete In-house Testing Facilities
- Approved with various Govt. agencies
- Computer Aided Design.
- Compatible with all other makes.
- AN ISO 9001-2015 Certified Company.
- CE Certified Company.



# An Introduction about us at Crane Control Equipments.

We are a leading **ISO 9001- 2015 & CE CERTIFIED COMPANY** established in the year **1988** manufacturing **Control Gear Equipment**, used in **EOT Cranes** , **Cane Unloaders** as well as **Grabbing Cranes** etc. which includes the following.

**STARTING RESISTORS**

- **AUTO Matic ROTOR STARTER PANEL**

**DYNAMIC BRAKING RESISTORS**

- **PUNCHED GRID RESISTANCE BOXES**

**MASTER CONTROLLERS**

- **S.S.WIRE GRID RESISTANCE BOXES**

**LEVER LIMIT SWITCHES**

- **ELECTRO HYDRAULIC THRUSTOR BRAKES**

**ROTARY LIMIT SWITCHES**

- **ELECTRO HYDRAULIC THRUSTORS**

**CURRENT COLLECTORS**

- **ELECTRO MAGNETIC BRAKES**

**CABLE REELING DRUMS**

- **FLEXIBLE GEARED COUPLINGS**

**CABLE TROLLEYS**

- **PENDANT PUSH BUTTON**

We are also manufacturing Starting / Slip Resistors used for starting high capacity Slip ring Motors in industries such as Sugar Mills, Rolling Mills etc. as well as Dynamic Braking Resistors for AC Drives.

Our **USP** has been to provide excellent service to both **Crane manufacturers** as well as users and most of the Crane manufacturers are installing our products as **original equipment**.

**Our products are approved in both private as well as Government organisations.**

**We are in fact also a regular supplier to various Electricity Boards ,Railway Workshops and other government organisations all over India and our material is also being exported out side India.**

Our products are designed, based on the respective Indian Standards and hence can be interchanged with other brands provided of course if the other manufacturer has also followed the correct Indian Standards while designing and manufacturing his product. Also in our company we have an on going process of **R&D** for improving the Quality of our products.

Since we are regularly manufacturing the products at times we can even supply material at short notice there by reducing the down time of the **customer's system during maintenance or brake down.**

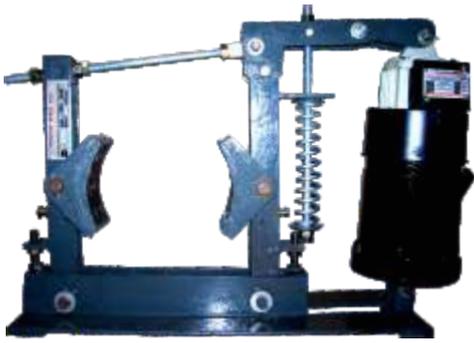
Supplying equipment at short notice does not mean that the equipment does not under go proper tests.

An in house testing facility and quality control department checks every product as per the relevant standards before it is despatched from our works.

In addition to the complete range of Control Gear Equipment and in keeping with our commitment to provide our customers with the best possible services, We also supply **SHROUDED BUS BAR CONDUCTORS** as well as **RADIO REMOTE CONTROLS & ANTI-COLLISION DEVICE** etc. so that at our factory where we have a single out let, we can provide our customer be it a Crane manufacturer or a Crane user this unique service:

**“The availability of complete range of Control Gear Products under one Roof”**

# ELECTRO HYDRAULIC THRUSTOR BRAKES (MDT)



## INTRODUCTION

Thruster brake is a device to retard the speed of moving machinery and to stop it accurately to the desired position. The braking force is applied to the brake shoes by a pre-stressed compression spring. The shoes press on the rotating brake drum retarding its speed, and finally stopping it. The releasing of the brake and compressing of the spring is done by thruster. Other release devices like pneumatic cylinder or manual release arrangements can be offered on request.

## CONSTRUCTION AND OPERATION

Thruster brake has a pair of cast iron shoes which are lined up with friction pads. The shoes are hinged on main arm and side arm of the brake. Each of them have a hinge pin fitted in the base. They are connected to each other on top by a tie rod which is hinged in the main arm and locked to the swivel block in the side arm by a lock nut.

A crank lever is hinged on the main arm and the other end is fixed to the top clevis of the thruster by a hinge pin. A brake spring, is fixed on the main arm and is pre-loaded by a locknut on the lever. The pre-tension in this spring decides the braking torque. The thruster is fitted on the base by a hinge pin. When the thruster is not energized, the brake shoes are pressed on the brake drum fitted on the drive motor shaft and hold it under the effect of braking force provided by the spring. In such condition, the brake is applied and the drum cannot rotate.

When the thruster motor is energized, the thrust provided by the thruster lifts up the crank lever which move the arms and the shoes away from the brake drum, there by releasing the braking force. The spring is compressed and braking energy is stored for the next cycle.

## FOUNDATION

To install the brake, the foundation must be made ready with tapped holes of proper size as per the dimensions mentioned in the dimension table. Care must be taken to ensure the center line of the brake coincides with the centerline of the brake drum and also the level of mounting pads "h" is matching with the center height of the brake drum.

## INSTALLING BRAKE IN POSITION :

To insert the brake in position the brake shoes are to be taken apart to clear the drum diameter. To do this, slacken the setting bolts and the tie-rod nuts in the side arm and pull it slightly. This will increase the distance between the brake shoes and the brake can now be inserted on the foundation bolts and the shoes can be positioned on the brake drum. Re-tighten the setting bolt and the tie-rod nuts. Tighten the mounting bolts.

## INSTALLING THRUSTER ON BRAKE :

The thruster to be filled with sufficient quantity of oil as mentioned in the Thruster Table. To mount the thruster on the brake, remove one side split pins on the thruster hinge pins of the brake and the lever. Remove both pins and re-insert them after positioning the thruster on the pin holes in the base and lever of the brake. Replace both split pins. Check that the thruster movement is unobstructed when the crank lever is pulled manually and the thrust rod of the thruster moves freely. Open the terminal box cover of the thruster and connect 3-phase, 415 Volts power supply cables to the three terminals on the terminal plate inside the terminal box. Terminate the earthing lead on the earth terminal provided on the thruster or brake. Replace the terminal box cover on the terminal box. The thruster is ready for operation.

## ALIGNING AND SETTING OF BRAKE :

Next, align the brake shoes with the diameter and surface of the brake drum and adjust the nuts on the tie-rod such that both shoes grip the brake drum equally. Energize the power cables. this will cause the thrust rod of the thruster to move up and the brake is released as the shoes release the brake drum. Adjust the gap between the drum and shoes to 0.3 to 0.5 , equally by adjusting the setting bolts on both arms.

For equal and uniform liner wear it is necessary to ensure that the shoes and the arms move equally. This is done automatically by the ball on one arm and a matching vee on the other arm.

## Technical Data :

DRUM DIAMETER	BRAKING TORQUE
100 mm (4") x 18 kg	06 kgm
150 mm (6") x 18 kg	09 kgm
160 mm (6") x 18 kg	09 kgm
200 mm (8") x 18 kg	020 kgm
200 mm (8") x 34 kg	032 kgm
250 mm (10") x 18 kg	035 kgm
250 mm (10") x 34 kg	042 kgm
300 mm (12") x 18 kg	042 kgm
300 mm (12") x 34 kg	062 kgm
400 mm (16") x 34 kg	090 kgm
400 mm (16") x 46 kg	110 kgm
400 mm (16") x 68 kg	170 kgm
400 mm (16") x 114 kg	180 kgm
500 mm (20") x 46 kg	190 kgm
500 mm (20") x 68 kg	290 kgm
500 mm (20") x 114 kg	485 kgm
600 mm (24") x 68 kg	350 kgm
600 mm (24") x 114 kg	580 kgm

# ELECTRO HYDRAULIC THRUSTOR BRAKES COMPLETE CHART

- C = SHOE WIDTH
- D = DRUM DIA
- M = THRUSTOR STROKE
- O = SHOE ANGLE

- NOTE :-** (1) USE ONLY BS-148 GRADE TRANSFORMER OIL  
 (2) MOUNTING HOLES CAN BE GIVEN AS PER PARTY REQUIREMENT  
 (3) WHERE F=0, THERE 'E' TREAT UP TO DRUM CENTER.  
 (4) FOR QUALITY IMPROVEMENT DIMENSION ARE SUBJECT TO CHANGE WITHOUT INFORMATION.

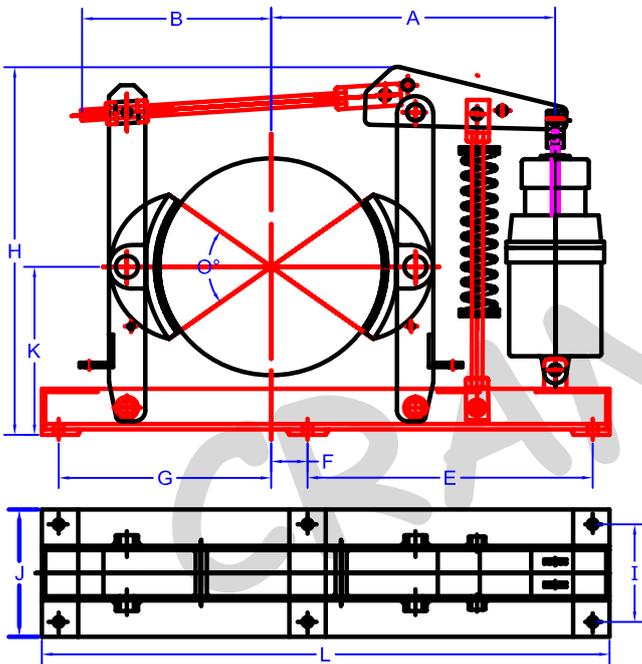
## SELECTION OF BRAKE SIZE

Brake torque Of **180 to 250%** of motor rated torque is sufficient for normal applications like Cranes, Hoist and other material handling equipments, For **CT** and **LT** drives, braking torque of **180 to 150%** of motor rated torque will ensure braking without excessive noise and mechanical jerk.

Rated Motor Torque is given by

$$T = \frac{716.2 \times \text{HP}}{\text{RPM}} \quad \text{OR} \quad \frac{975 \times \text{KW}}{\text{RPM}}$$

Where, KW or HP is motor rated power and RPM is motor rated speed in revolution per minute.



DIA	100	150	160	200	200	250	250	300	300	400	400	400	500	500	500	600	600
CAPACITY	18	18	18	18	34	18	34	18	34	34	46	68	46	68	114	68	114
<b>A</b>	250	270	270	345	420	355	365	445	445	520	520	590	618	630	630	688	688
<b>B</b>	150	175	175	200	230	260	232	270	270	370	370	370	410	430	430	480	480
<b>C</b>	65	65	65	90	90	115	110	145	145	165	165	165	200	225	225	240	240
<b>E</b>	135	150	150	354.5	260	290	325.5	355	355	510	510	510	680	520	520	765	765
<b>F</b>	----	----	----	----	172	----	----	105	105	65	65	65	150	140	140	150	150
<b>G</b>	115	100	100	175.5	208	195	194.5	240	240	380	380	380	380	395	395	465	465
<b>H</b>	450	420	420	435	510	490	561	590	560	750	750	578	857	900	900	970	970
<b>I</b>	100	100	100	125	125	120	130	145	145	180	180	180	*	215	215	*	*
<b>J</b>	125	125	125	175	170	185	185	205	205	235	235	235	302	260	260	322	322
<b>K</b>	125	125	125	200	200	225	225	275	275	310	310	310	417	417	417	475	475
<b>L</b>	440	470	480	570	680	640	675	750	750	1015	1015	1015	1130	1130	1130	1300	1300
<b>M</b>	51.8	51.8	51.8	51.8	51.8	51.8	51.8	51.8	51.8	51.8	51.8	76	51.8	76	76	76	76
<b>O°</b>	70°	70°	72°	90°	90°	90°	90°	90°	90°	90°	90°	90°	90°	90°	90°	90°	90°
<b>P</b>	6	9	9	20	32	35	42	42	62	90	110	170	190	290	485	350	580

# RADIO REMOTE CONTROL



Durability, Reliability

Easy to use, Safe to operate

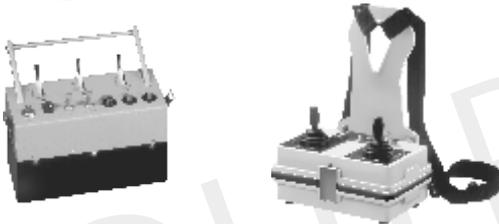


Economical, Safe to operate

User friendly, Easy to Install



Flexible push button layout



Compact, Choice of colour



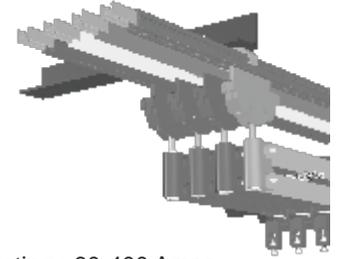
Designed as per requirement



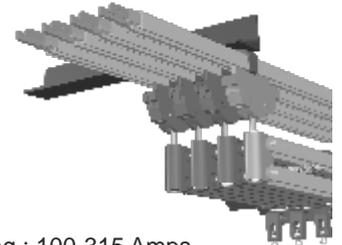
Compatible with all CC models

Handy / Compact Transmitter

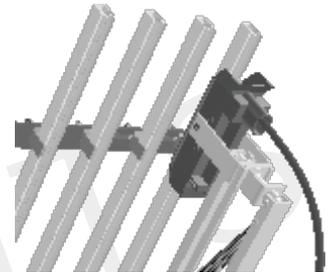
# INSULATED CONDUCTOR BAR



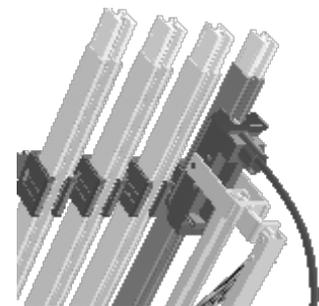
Rating : 60-400 Amps.



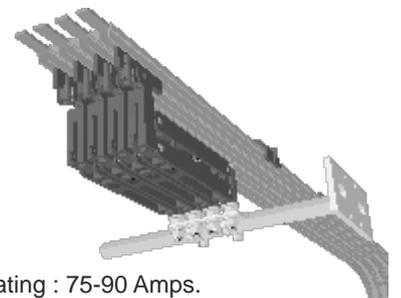
Rating : 100-315 Amps.



Rating : 60-150 Amps.



Rating : 500-1500 Amps.



Rating : 75-90 Amps.

# CRANE CONTROL EQUIPMENTS



ROTARY GEARED LIMIT SWITCH



LEVER LIMIT SWITCH



COUNTER WT. LIMIT SWITCH



CROSS BAR LIMIT SWITCH



WORM DRIVE LIMIT SWITCH



DIFFERENTIAL LIMIT SWITCH



MASTER / CAM CONTROLLER



DUAL MASTER CONTROLLER



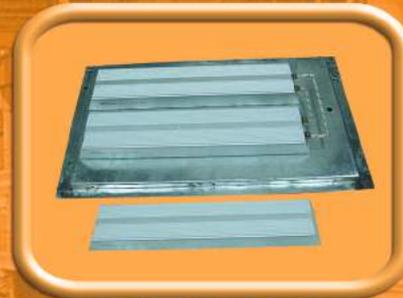
PENDANT PUSH BUTTON



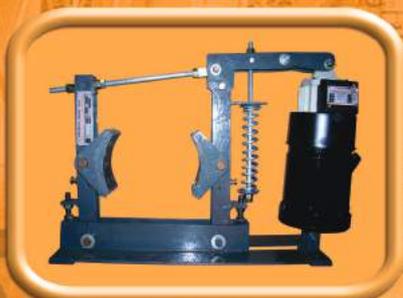
RESISTANCE BOX



DYNAMIC PUNCHED GRID TYPE



DBR MOULDED TYPE



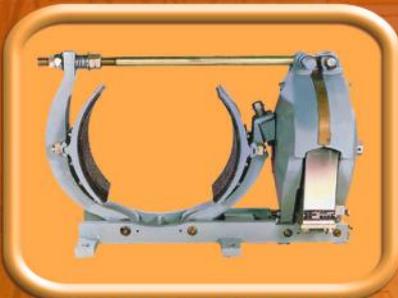
ELECTRO HYDRAULIC  
THRUSTER BRAKE



ELECTRO-HYDRAULIC THRUSTERS



A.C. ELECTROMAGNETIC BRAKE



D.C. ELECTRO - MAGNETIC BRAKE



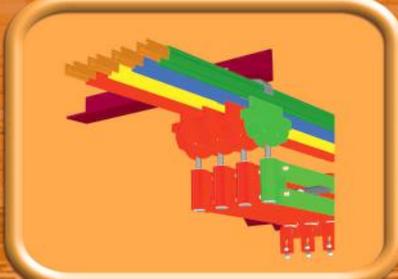
BRAKE DRUM COUPLING



FLEXIBLE GEARED COUPLING



RADIO REMOTE CONTROL



SHROUDED DSL



CURRENT COLLECTORS



DISC BRAKE



SNATCH BLOCK



RAIL CLAMPS



FLEXIBLE TRAILING CABLE



CABLE TROLLEYS



CABLE REELING DRUM

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**CRANE CONTROL EQUIPMENTS**

AN ISO 9001-2015  
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