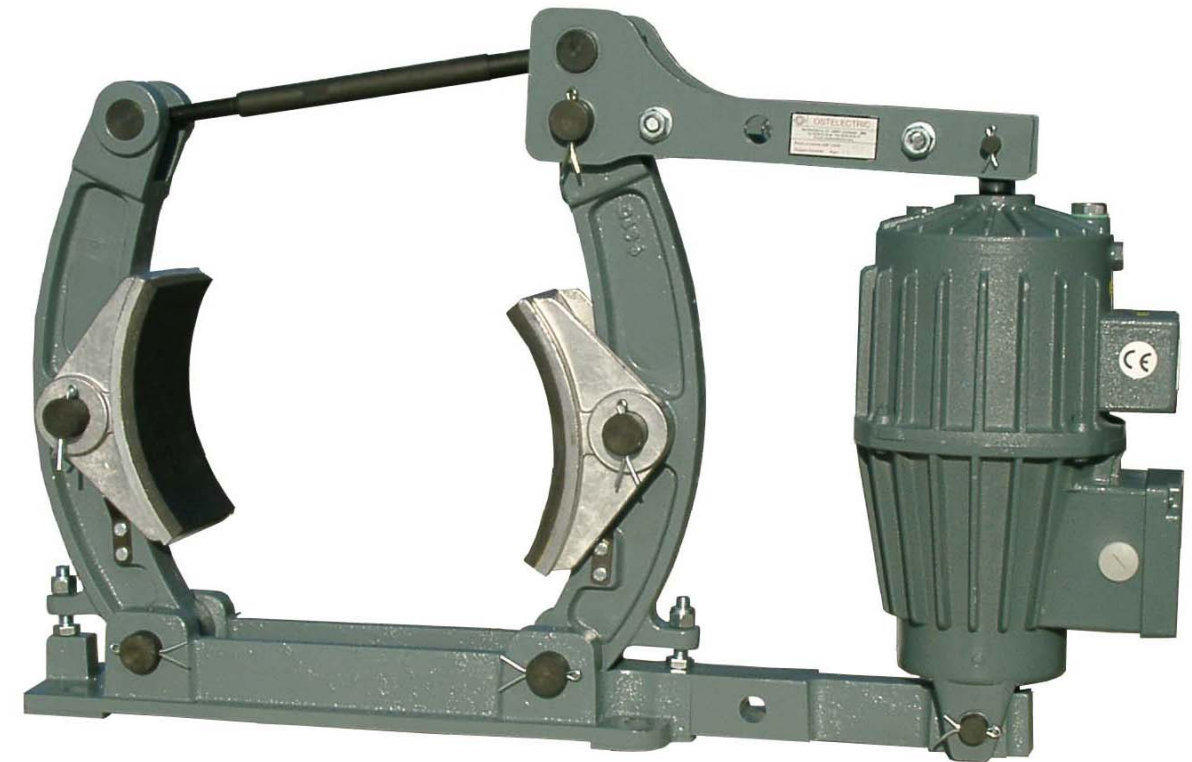


**Applications**

Lifting installations, cranes, winches, conveyors, elevators, movable bridges, rolling-mill drives, ski lift.



Brake type	Braking torque Nm	Dimensions in mm													
		D	A	B	C	d	F	G	h	Hmax.	L	K	M	P	S
NC200-Th1	230	200	115	145	55	14	55	70	160	430	90	422	142	165	12
NC200-Th2	310	200	115	145	55	14	55	70	160	430	90	450	168	165	12
NC250-Th1	260	200	144	180	62	18	65	90	190	485	100	476	142	208	14
NC250-Th2	350	250	144	180	62	18	65	90	190	485	100	501	168	208	14
NC250-Th3	700	250	144	180	62	18	65	90	190	485	100	510	192	208	14
NC315-Th1	285	315	189	220	68,5	18	80	110	230	532	120	536	174	257,5	15
NC315-Th2	425	315	189	220	68,5	18	80	110	230	532	120	593	168	257,5	15
NC315-Th3	850	315	189	220	68,5	18	80	110	230	532	120	601	192	257,5	15
NC315-Th3.75	1050	315	189	220	68,5	18	80	110	230	532	120	601	192	257,5	15
NC315-Th4	1700	315	189	220	68,5	18	80	110	230	532	120	618	234	257,5	15
NC400-Th2	525	400	240	270	74	22	100	140	280	668	150	687	168	314	17
NC400-Th3	1040	400	240	270	74	22	100	140	280	668	150	695	192	314	17
NC400-Th3.75	1300	400	240	270	74	22	100	140	280	668	150	695	192	314	17
NC400-Th4	2075	400	240	270	74	22	100	140	280	668	150	715	234	314	17
NC500-Th4	2500	500	295	325	85	22	130	180	340	760	170	812	234	380	20
NC500-Th5	4170	500	295	325	85	22	130	180	340	785	170	823	274	380	20

**Working principle**

The braking occurs by cutting power to thruster motor. Thanks to the action of a spiral spring, housed inside the thruster and pushing the piston rod along with the brake lever downwards, the two arms, holding the jaws, approach to each other, thus setting the brake. Electric power at thruster motor let overcome the spring action, thereby releasing the brake. On demand, the brake may be provided with external spring rather than the internal one.

**Materials**

Base and brake arms in ductile cast iron. Levers in steel Fe510. Pins and rod in galvanized or phosphorized steel C40. Jaws in aluminium league, provided with clamping springs.

**Friction linings**

Linings in asbestos free material with friction coefficient about 0,42 bonded to the shoes.

**Surface protection**

Epoxy primer coat and final tint colour RAL 7031

**Design**

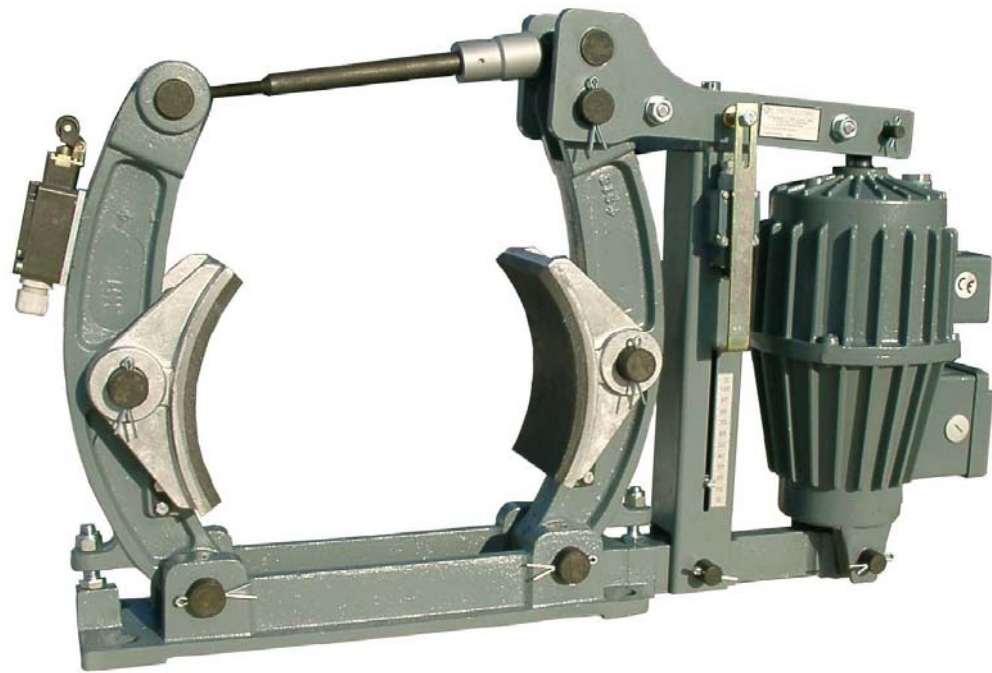
The over-sized base and arms bestow stability and reliability to the brake. Thanks to large pins, acting into self lubricated pins, frictions are reduced at lowest, although maintaining high precision in arm and lever swinging.

**Braking torque and braking spring**

Braking spring is housed inside the thruster and is designed to develop the highest braking torque. If reduction and adjusting of braking torque is needed – as in horizontal drives of bridge cranes without inverter controlling – it is worthwhile to utilize the optional external braking spring, rather than the internal one.

**Electro-hydraulic thrusters**

Casing in aluminium league, enclosure IP 56, rated for continuous as well as intermittent duty up to 2000 switching/hour. Standard tension is 3-phase 220/380 V, 50 Hz, but voltage variation up to ± 10% doesn't affect performance. Special tensions are available on demand. Thrusters require an easy maintenance and are delivered with complete oil filling.



**External braking spring**

It is housed into a square tube provided with graduated scale to ease torque setting. External braking spring is an option to the one inside the thruster and it is utilized in applications requiring braking torque reduction and adjusting, such as horizontal drives without inverter controlling.



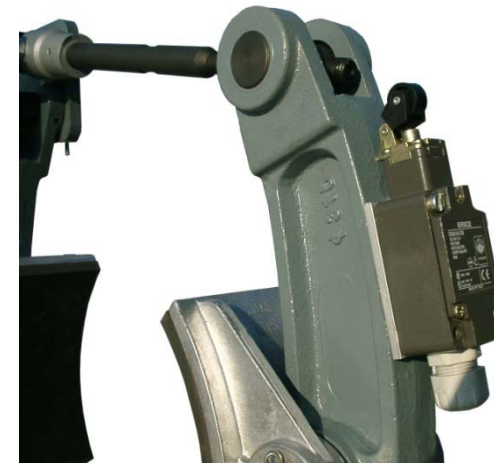
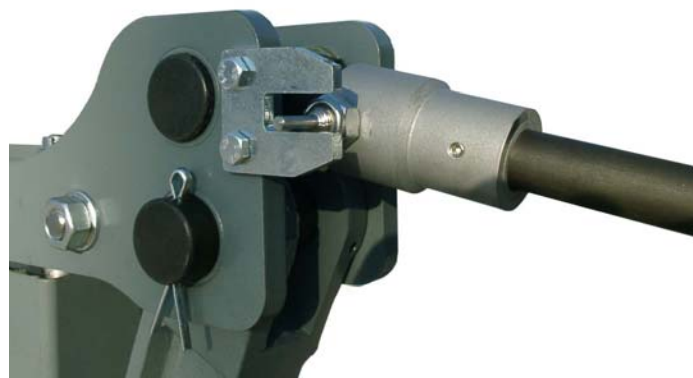
**Micro-switch signaling "BRAKE RELEASED"**

It advises that the brake is duly released. The signal usually lights a led on the operator's push-button panel. Its role is preventing damage caused by using the crane with set brake. Whenever the brake isn't provided with external braking spring, this micro-switch is mounted on the top of the thruster.



**Automatic lining wear compensator (DRAG)**

It provides for automatic re-adjusting of shoe clearance. It acts progressively with lining wear through a free wheel device. It is very useful in heavy braking application to reduce maintenance rate. It also maintains the brake at its proper operating torque.



**Hand release lever**

It enables the manual release the brake in power blackout. It is mainly employed to speed up lining replacement or maintenance operations. The symmetric layout of the lever makes easy the release of the brake, without inducing any deflection in the frame work.

**Micro-switch signaling "LINING WORN"**

It issues an electric signal as the 2 brake's arm approach too much to each other on account of worn linings. It is very useful as it advises, whenever the linings have to be replaced, thus preventing the jaws to damage the drum surface. It is mostly employed along with the automatic lining wear compensator.



**Thruster rotated of 90°**

In this layout the thruster is rotated of 90° versus its bottom hinge. This arrangement may be useful to save space in length direction and is standard in the brake NC315-Th1.



**Further option:**

- Shoes with extended width (1,5 times the standard value) to increase heat dissipation
- Pins and rod in stainless steel for aggressive environments
- Pins provided with grease nipple and grease reserve to enhance lubrication in extremely aggressive environment
- Copper wire fabric linings to prevent sticking of lining at drum surface in particular environment
- Thrusters in HR design (Heat Resistant) for hot metal cranes and rolling mills
- Special hydraulic fill for very hot or frosty environment
- Special tensions and frequencies on demand