

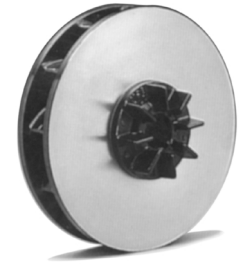
# NEXEN XTB TENSION CONTROL BRAKES

**Cool performance for hotter profits.**



XTB shaft temperature at 140° F, (60° C), the shaft temperature of a competitive brake at 240° F, (115° C).

Recommended shaft bearing temperatures are normally around 170 ° F, (76° C). If this heat is not directed away, it travels back into the brake and up the shaft to the bearings. This can cause brake fade, shaft crystallization and bearing seal meltdown.



Fins on the one-piece rotor help deflect hot air and draw cool air over the brake.

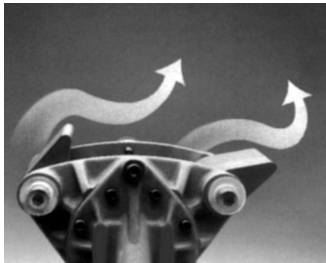
**Less weight for lower rotational inertia**

Not only is Nexen's rotor lighter than other brake rotors, the entire brake weighs 40% of what other brakes weigh for

your material runs all the way to the core. And your web will break even earlier when running delicate materials.

Why waste several hundred feet of product every roll due to breakage?

**The new airflow path design that keeps the XTB brake cool.**



The caliper fins redirect dissipated heat out into space

**Keeping cool with the XTB airflow path.**

Unlike other brake designs that can direct heat back into the brake, shaft and bearings, the XTB maximizes heat dissipation by deflecting it away from the brake components.

This unique airflow design uses fins on the rotor, hub back and calipers to throw dissipated heat into space, not into the brake or shaft. The design also helps draw cooler air around and over the brake. The new, one-piece lightweight rotor pulls cool air into the brake and draws it over the air hoses so they don't overheat and crack.

It's just one feature of this brake that will help generate hotter profits. Its lower weight and rotational inertia will simplify installation and reduce web waste. Quick change components make maintenance a snap. Plus, Nexen technical service, parts and accessories are only a phone call away. No other tension control brake in the industry has such a comprehensive package of features. Affordably priced, the XTB series comes in various sizes to fit your application.

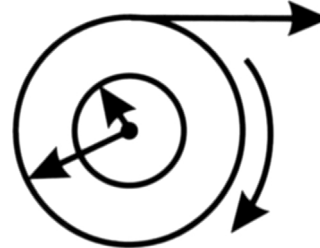
With all these features, it makes you wonder why you'd consider using any other tension control brake.

Note that air hoses run along the inner, not outer, circumference of the calipers. This keeps hose lengths to a minimum, to help protect them and keep them cool.

The airflow path then directs the air over the caliper fins. These fins redirect air out and away from the assembly.

Fins on the back of the hub also draw cool air back over the friction material and hoses.

Tests run with the brakes at maximum torque show the



Unwind roll dynamics

$$RPM = V/2\pi R$$

V = product velocity (constant)  
R = unwind roll radius

$$I = wk^2$$

I = inertia  
w = weight  
k = radius

up to 2/3 less rotational inertia. Lower weight and lower rotational inertia are critical because of the dynamics of the unwind roll. Tension is constant and the radius is changing constantly. Lower rotational inertia makes the XTB more precise at lower torques. This is especially important when running delicate materials that require precise tension, such as tissue or nylon.

**Lower rotational inertia for less web waste**

The XTB has up to 2/3 less rotational inertia than other brakes. Rotational inertia creates undesirable tension that can break your web before

**Precisely control each caliper pneumatically or electronically**

There are 2 pistons that activate the friction pads on each caliper. Choose up to 9 calipers per brake, depending upon brake size.

Precise control of the air pressure to the calipers generates the low to high torque range. High torque maintains the tension needs on a large roll of material. Low torque yields the delicate control needed near the core.

You get this precision control by using Nexen's Three Stage Caliper Control to divide the number of XTB calipers into three groups, or stages.

Pneumatically control these stages individually or in combination. This gives you the effect of having several brakes with different torque ranges.

For the ultimate in precision unwind control, combine the Three Stage Caliper Control with a Nexen Electronic Tension Control System. Don't risk downtime by using another brake you can't accurately control.



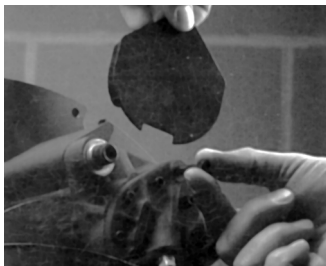
For precise control, choose a Nexen pneumatic or electronic controller.

### Choose from a full line of controllers

Choose either single caliper or three stage caliper control for pneumatic control. For electronic control, choose from several models that vary by programmability, readout and control sophistication. Please consult Nexen for the best controller for your application.

### Less weight for easier installation

40% less weight also makes XTB brakes easier to install and maintain. You will not need to adjust pad overhang or shim the pads for proper installation. A lighter brake also puts less strain on shafts, unwind rolls, bearings and stands.



Spring-loaded retaining pins make the friction pads easy to change

### Friction pads change quickly without tools, springs or cotter keys.

Change the caliper friction pads by releasing two spring-loaded friction facing retaining pins that hold them in place. Replace them in seconds without tools, leaf springs, hitch pins, pad retaining rod, pins or clips. There are no screws or cotter keys to remove or drop into the machinery. You do not even have to remove the caliper from the brake to change the friction pad.

Friction pads are completely interchangeable, so you won't need to stock different size pads for different size brakes. These features will maximize your uptime and keep maintenance simple.



Remove the disc without removing or disassembling the brake.

### Change the disc without removing the brake from the shaft

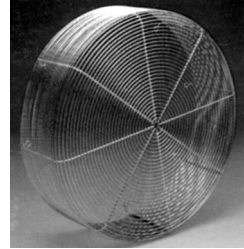
Changing the disc on other brakes is no simple task. You must remove the brake from the shaft and mark the location for the new disc. Then you must disassemble it until you have enough access to remove the old disc. With the XTB, you can change the disc by pulling it from the shaft without removing the entire brake. The new disc can be installed without marking the disc location because the hub stays locked and located on the shaft.

### XTB Cooling Enhancement

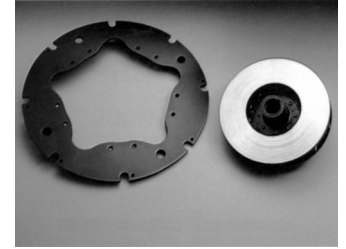
Increase heat dissipation at lower RPMs for increased performance without upgrading brake size. This squirrel cage fan mounts on the brake guard and blows air onto the hub and deflects heat out through the disc. Use it at lower RPMs when the rotor is less effective at dissipating heat because of the lower speed. Works on all XTB tension control brakes. Operates on 110 volts. Don't buy a larger brake just to get higher heat dissipation specifications. Try this cooling enhancement first!

### Nexen Kits and Accessories

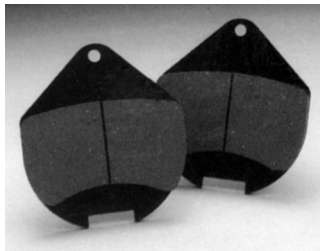
For information on Nexen kits, accessories or parts, including complete assemblies or individual rotors, hubs, mounting plates, friction pad kits or brake guards, call 800-843-7445.



GUARD



ROTOR/HUB/MOUNTING PLATE ASSEMBLY



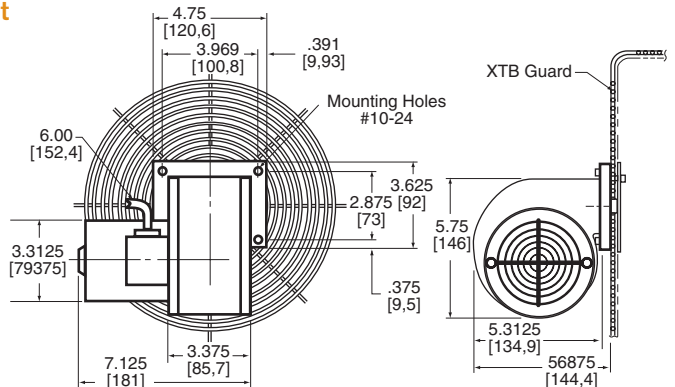
FRICION PAD KIT



CALIPER ASSEMBLY

### Cool performance for hotter profits

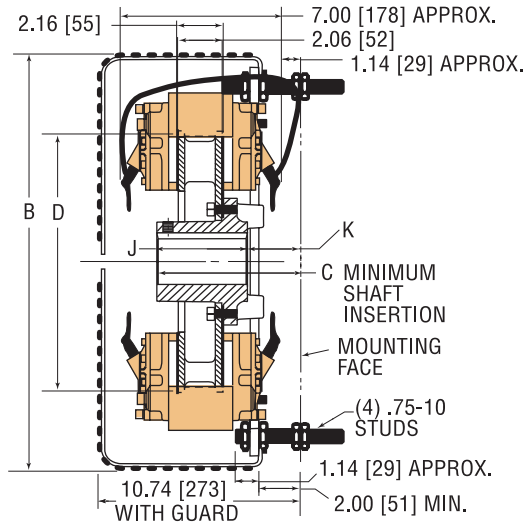
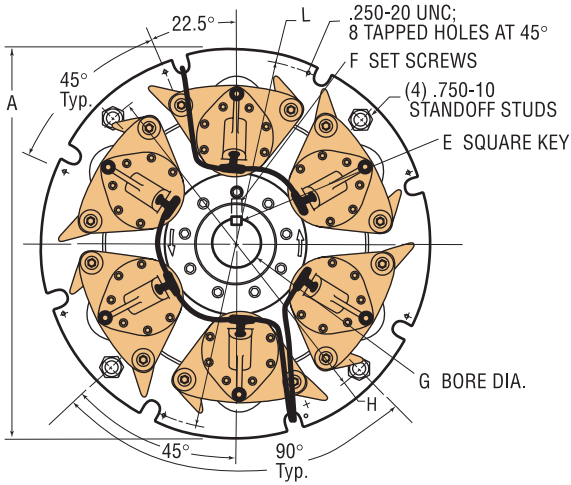
The XTB brake gives you superior heat dissipation for worry-free performance, less weight for lower rotational inertia, and easier installation and maintenance. All this plus technical service from the folks who have been designing and manufacturing pneumatically actuated brakes for over 50 years. Add this to a full line of web controlling products with technical service to match and you won't go anywhere else for your web tension needs.



### Ordering Information

Model	Product Number	Shipping Wt. Lbs. [kg]
XTB Cooling Enhancement	835175	6.0 [2,7]

XTB 12A & XTB 12 Tension Control Brakes



Note:  
Dimensions in  
INCHES  
[MM]

MODEL	A W/OUT GUARD	B WITH GUARD	C	D	E*	F	G BORE RANGES *			H	J	K	L
							STD.	MIN.	MAX				
XTB 12A & XTB 12	17.81 [452]	19.06 [484]	6.64 [118]	12.0 [305]	.375 STD [9,525]	(3) .500-13 [12.7]	1.625 [41]	1.250 [32]	2.125 [54]	16.0 [4064]	4.125 [105]	2.52 [64]	17.00 [432]

\* Bored-to-size rotors available upon request. See Bore & Keyway Dimensions.

XTB 12A & XTB 12 TORQUE (INCH POUNDS)

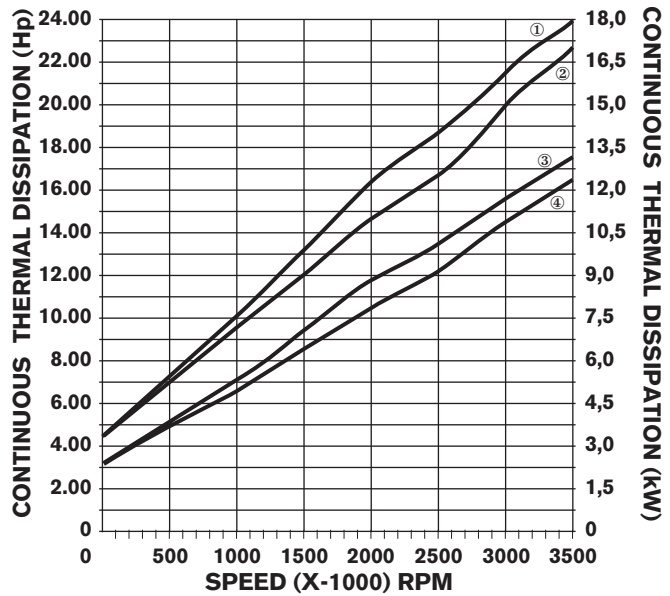
Number of Calipers	Coefficient of Friction			
	0.15 (LoCo)		0.35 (Std)	
	80 PSI	1 PSI	80 PSI	1 PSI
1	573	7	973	12
2	1145	14	1947	24
3	1718	21	2920	37
4	2290	29	3893	49
5	2863	36	4867	61
6	3435	43	5840	73

Note: Rated torque may vary depending on operating conditions.  
Friction coefficients are nominal

XTB 12A & XTB 12 TORQUE (NEWTON METERS)

Number of Calipers	Coefficient of Friction			
	0.15 (LoCo)		0.35 (Std)	
	550 kPa	7 kPa	550 kPa	7 kPa
1	65	0,8	110	2,7
2	129	1,6	220	2,7
3	194	2,4	330	4,2
4	259	3,3	440	5,5
5	324	4,1	550	6,9
6	388	4,9	660	8,3

Cross Drilled XTB 12A vs. XTB 12  
THERMAL HORSEPOWER vs. SPEED



① XTB 12A, Optimum HP<sub>t</sub>, Cross-Drilled Rotor    ② XTB 12, Optimum HP<sub>t</sub>, Standard Rotor  
③ XTB 12A, Optimum Facing Wear, Cross-Drilled Rotor    ④ XTB 12, Optimum Facing Wear, Standard Rotor

# XTB 12A & XTB 12 Tension Control Brakes

### BORE AND KEYWAY DIMENSIONS

Bore Range	Key (Square)	Keyway Tolerance
1.250 [29,21]	0.250 [6,35]	+0.002 -0.000 [+0,05 - 0,0]
1.312 - 1.375 [33,32 - 34,92]	0.312 [7,92]	+0.003 -0.000 [+0,07 - 0,0]
1.437 - 1.750 [36,50 - 44,45]	0.375 [9,53]	+0.003 -0.000 [+0,07 - 0,0]
1.812 - 2.125 [46,02 - 53,98]	0.500 [12,7]	+0.003 -0.000 [+0,07 - 0,0]

Note: Bushings not acceptable for XTB applications. Bore sizes not indicated are available (see Min./Max, ranges on dimensional drawing).

### ORDERING INFORMATION

XTB Tension Controlled Brakes are custom assembled for each application. Consult with Nexen Technical Service to determine your exact needs.

Quantity	Description	Shipping Wt. Lbs. [Kg]
1	Rotor, Hub, & Mounting Plate Assembly	See below
1-6	Caliper Assemblies as required	See below
1-6	Friction Facing Kits as required	See below
1	Guard (Product No. 835447)	17 [7,7]

### ROTOR, HUB & MOUNTING PLATE

Best thermal dissipation if brake is ordered for direction of rotation. Reduce by 10% for 0-500 RPM and reduce by 25% for 501-1800 RPM.

Model (CCW)	Hub Bore Diameter INCHES [MM]	Product Number	Model (CW)	Hub Bore Diameter INCHES [MM]	Product Number	Max. RPM	Rotor Inertia Lb.Ft² [Kgm²]	Shipping Wt. Lbs. [Kg]
XTB 12A	1.25	835657	XTB 12A	1.25	835656	3300	3.60	60
XTB 12	[32]	835412	XTB 12	[32]	835411		[0,15]	[27,2]
XTB 12A	1.625	835659	XTB 12A	1.625	835658	3300	3.60	60
XTB 12	[41,2]	835414	XTB 12	[41,2]	835413		[0,15]	[27,2]
XTB 12A	2.125	835661	XTB 12A	2.125	835660	3300	3.60	53
XTB 12	[54]	835416	XTB 12	[54]	835415		[0,15]	[24,0]

NOTE: XTB 12A Rotors are Cross-Drilled for Optimum Thermal Dissipation.

### CALIPER ASSEMBLIES

Each caliper assembly has two caliper halves. Order one caliper assembly for each caliper position. The number of caliper positions is determined by your torque requirements.

Model	Product Number	Description	Shipping Wt. Lbs. [Kg]
XTB-12	835451	1 Caliper Assembly	4.5 [2]

### FACING KITS-ALL MODELS

Facing kits contain two asbestos-free facings of organic, low coefficient of friction, standard coefficient of friction or low dust Kevlar®. One facing kit per caliper assembly is required.

Facing Kits	LOCO (0.15) Product No.	STD. (0.35) Product No.	STD. (0.30) Kevlar® Product No.	Shipping Wt. Lbs. [Kg]
1	835471	835461	835631 <sup>①</sup>	1.00 [0,45]

① Use 'Optimum Facing Wear' Thermal Curves. Kevlar® is a registered trademark of DuPont Company.

