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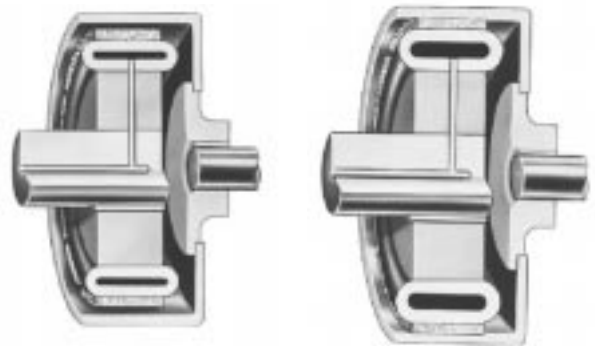
Expanding Type Clutches and Brakes

C

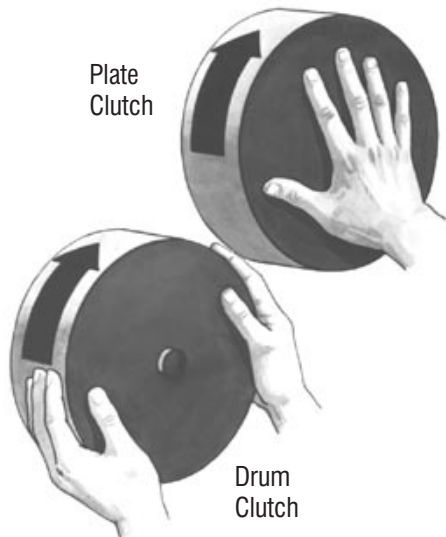
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How They Work

E, EB, ER and VE elements utilize a rugged tire-like neoprene and cord tube that expands radially outward when pressurized. The expanding tube forces a friction surface against an inner cylindrical drum surface. The rate at which the tube is pressurized determines the rate at which element torque increases. Final tube pressure determines the element torque capacity.



Design Features

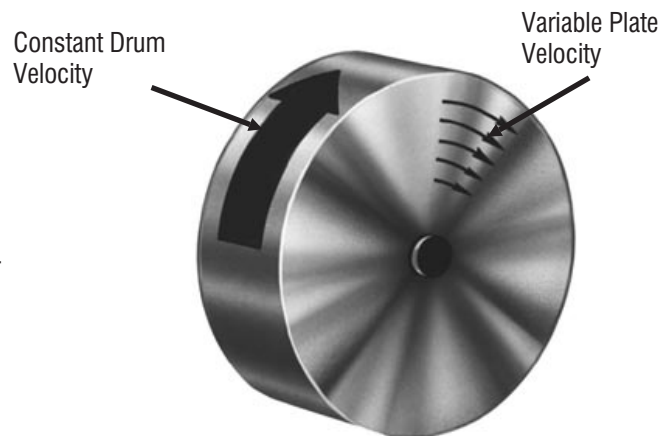


- **Force applied at maximum radius from axis**

Airflex expanding elements concentrate the frictional force on the inside drum diameter thereby achieving maximum torque. The torque lever arm is the drum radius, not a reduced radius as occurs in plate clutches. Not only is the force generated at the optimum radius, it is also applied uniformly around the drum circumference.

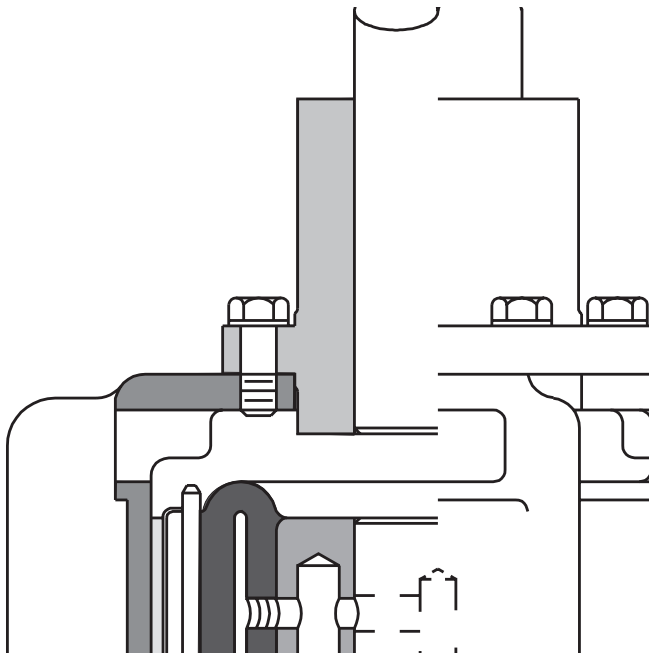
- **Uniform contact velocity**

Friction shoe contact occurs across the cylindrical surface of the drum where the contact velocity is constant unlike plate types where the contact velocity varies across the friction plate face.



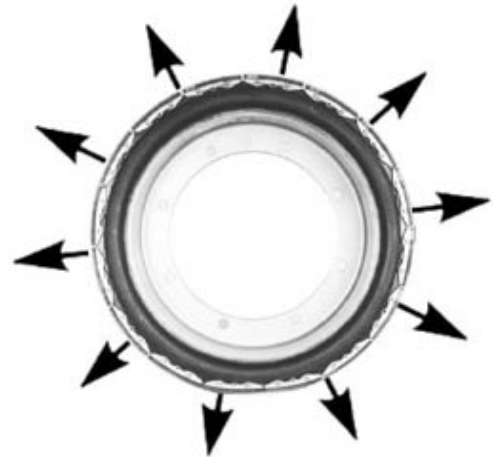
- **Heat Dissipation**

Heat, generated at the inner drum surface, is quickly conducted to the drum's exposed outer surface area where it is dissipated by radiation and convection. This feature is ideal for slip clutch and tension brake applications where heat must be dissipated continuously.



- **Operates in any plane**

Drum design permits operation in any plane. A plate type unit operates best in a vertical plane.



- **Self-adjustment**

As friction surfaces wear, the tube expands further and compensates for the wear. Normal wear will not reduce torque capacity.

- **No lubrication**

There are no close fitting sliding components which require lubrication.