

# Product Directory

A complete  
line of  
clutches  
and brakes  
for industry



**Airflex®**  
Clutches & Brakes

חברות לאון פסח  
ובניו בע"מ  
טלפון: 09-8651152

**EATON**

## **Airflex...**

### **your source for quality industrial clutches and brakes**

This directory contains a brief description of the various types of Airflex® clutches and brakes developed to meet industry's needs over the past 50 years. Today, you will find them in use on all types of machinery... from the equipment that mines the raw materials to the machines that produce the finished products.

### **Worldwide Sales and Service**

Airflex Sales offices and stocking distributors are located in most major trading areas throughout the world. Sales Representatives in these offices are ready to assist you in the selection and application of Airflex products. Field assistance is also available for start up and trouble shooting.



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### CB Clutches and Brakes

These popular units are used as both clutches and brakes in general power transmission applications on all types of machinery. The primary feature of the CB design is the Airflex torsional resilient principle made possible by the transmission of power through the sidewalls of the flexible neoprene and cord actuating tube. This flexibility also permits minor shaft misalignment.



Torque capacities up to: 1,220,000 lb-in, 137.890 N·m

## VC Clutches and Brakes

Airflex VC units are designed and built for severe clutching and braking applications on heavy-duty equipment. They are unmatched for high starting loads and sustained slippage where heat generated tends to shorten the operating life of conventional clutches. Their high torque ratings permit use of small diameter compact units.

Ventilated construction permits passage of cooling air to rapidly dissipate heat from the friction shoes. Torque is transmitted from the side plates of the elements through torque bars to the friction shoes.



Torque capacities up to: 14,933,000 lb·in, 1.687.470 N·m

### CM Clutches and Brakes

These units were designed primarily for the marine industry for use on diesel driven reverse-reduction gears. In addition to providing all of the features of a CB clutch, their ventilated friction shoes permit clutch slippage during vessel maneuvering, as well as cycling engagements. Rim registering allows triple element assemblies.



Torque capacities up to: 3,348,000 lb-in, 378.325 N·m

## E Clutches and Brakes

These expanding type units are primarily used as slip clutches and tension brakes; however, they can also be used for general power transmission service.

Torque is transmitted from the friction shoes to the element housing through torque bars. Engagement occurs when air expands the actuating tube forcing the friction shoes against the inside diameter of the drum. Release springs assist shoe disengagement and counteracts centrifugal force.

Torque capacities up to: 1,010,000 lb-in, 114,000 N-m



## VE Clutches and Brakes

This ventilated unit was specially designed for greater heat dissipation capacity in an expanding type design. Available in a limited number of sizes, they feature all the advantages of the Type E units shown above.

Torque capacities up to: 3,600,000 lb-in, 406,800 N-m



## EB Clutches and Brakes

Airflex EB units are used in both clutch and brake service with light starting loads. The EB is similar in design to a CB unit (shown on page 4) in an expanding type design.



Torque capacities up to:  
98,580 lb-in, 11.130 N-m

## ER Clutches and Brakes

The ER unit is an expanding type design with neoprene facing used as a coupling. As such, they combine all the advantages of a flexible and disconnect coupling. Engagement of the element should occur when there is no speed differential between driving and driven shaft.

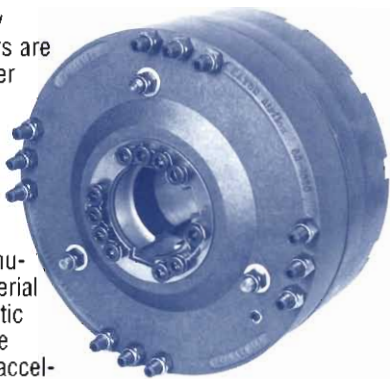


Torque capacities up to: 122,470 lb-in, 13.840 N-m



## CH Clutches and Brakes

These heavy-duty multiple-disc units are designed for either air or hydraulic actuation. They are suitable for wet or dry operation. When operating in oil, the specially formulated friction material delivers a low static to dynamic torque ratio for smooth acceleration and high energy performance.



Torque capacities up to: 1,038,000 lb-in, 117,200 N-m

### Hydraulic AS and AR Clutches and Brakes

Airflex hydraulic clutches are multiple-disc units available in stationary or rotating cylinder design. They are intended for use with a spray, splash or through the shaft lubricating system; where high speeds are encountered and a high torque/small envelope ratio is required. They are also suitable for air actuation.



Torque capacities up to: 36,900 lb-in, 4.166 N-m

### Magnetic SC and SB Clutches and Brakes

Airflex magnetic clutches and brakes are stationary field, multiple-disc units controlled by electromagnetic force. Units are designed to be used in an oil environment, where high speeds and high cyclic rates are encountered.



Torque capacities up to: 24,600 lb-in, 930 N-m

## DC Clutches and Brakes

Airflex DC clutches and brakes are air-applied units available in both single and dual disc designs. They feature a favorable torque to size ratio and low inertia friction disc assemblies.



Torque capacities up to: 2,061,000 lb-in, 233,000 N-m

## DB Brakes

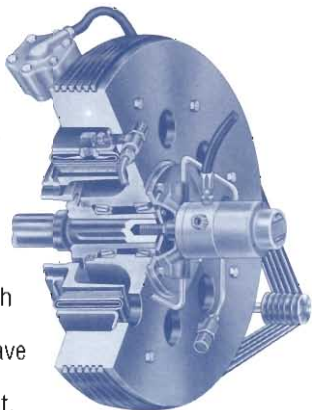
The DBA and DBB disc style brakes are spring-applied and air released. Their torque capacities and heat dissipation characteristics make them ideal for high speed cyclic applications. Equal torque is developed in either direction of rotation. Units are available with either ventilated or solid discs.



Static torque capacities up to: 420,000 lb-in, 47,460 N-m

### FSPA Clutch/Brake and Control Packages for Presses

Airflex FSPA packages feature drum type CB or VC air applied clutches fastened to standard bearing-mounted fly-wheels. These clutch/fly-wheel assemblies are then combined with an Airflex drum type CS and CTE or disc type DBA spring-applied, air released brakes. Although designed primarily for punch press use, they have found application on all types of cyclic equipment.



Eaton also offers Airflex press controls that feature two independent circuits electrically interlocked and monitored to provide two-hand protection.

Clutch capacities to: 516,000 lb-in, 58.260 N·m  
Brake capacities to: 336,200 lb-in, 37.960 N·m

### Desch Lutex\* Clutch/Brake Combination

The Desch Lutex unit combines an air-actuated disc clutch and spring-applied disc brake into a compact package, which can be readily adapted to new or existing fly-wheel drives. Designed primarily for high cyclic punch press service, the unit has been applied on a wide variety of high speed, high cyclic applications.

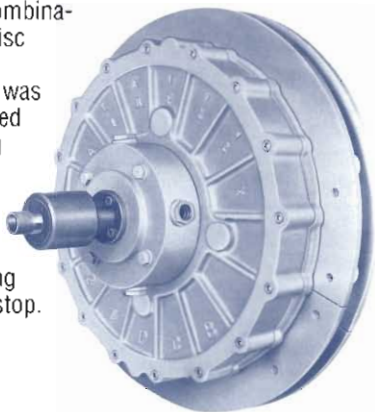
\* Exclusive U.S. distributor of Lutex clutches from Heinrich Desch KG, Amsberg, West Germany.



Clutch capacities to: 770,000 lb-in, 87.010 N·m  
Brake capacities to: 490,000 lb-in, 55.370 N·m

### DCB Clutch/Brake Combination

The Airflex DCB combination air-actuated disc clutch and spring-applied disc brake was specifically designed for the can making industry. They are ideally suited for high speed continuously running machinery requiring an extremely fast stop.



Clutch capacity: 75,000 lb-in, 8.475 N-m

Brake capacity: 55,000 lb-in, 6.215 N-m

## CS Brakes

These drum style brakes are spring-applied and air released. They automatically engage should an air or electrical loss of power occur. Due to the self-engaging design, the brake develops more torque in one direction of rotation than the other.



Static torque capacities up to: 19,800 lb-in, 2.235 N·m

## CTE Brakes

The CTE drum style brake is spring-applied, air released and develops greater torque than Type CS. Its design and construction are ideal for moderate speed, high torque, cyclic applications. The brake is bidirectional, developing approximately the same torque in either direction of drum rotation.



Static torque capacities up to: 108,350 lb-in, 12.200 N·m

### DP and H Disc Brakes

The Airflex design features opposed pistons for balanced braking. Their symmetrical split construction accommodates discs of any thicknesses and permits mounting from either side or at the split line.

Type DP is ideally suited for most stopping and light tensioning applications. An automatic adjustment mechanism compensates for lining wear and maintains constant release clearance and response time.

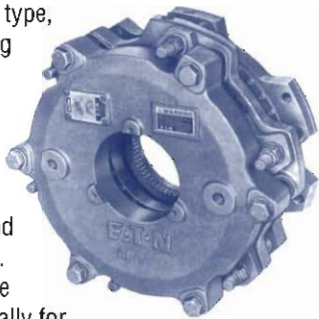


Frictional force capacities up to: 5,300 lb·in, 23.575 N·m



## WCS Brakes

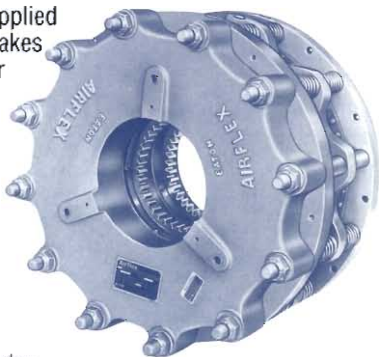
WCS elements are disc type, externally cooled, spring applied units. They are designed to absorb and dissipate the thermal loads associated with the most severe braking and tensioning applications. The WCS friction couple was developed specifically for continuous slip service and has a dynamic coefficient of friction which is larger than its static coefficient of friction. Special high coefficient linings are also available which provide 50% higher torque than standard friction linings and provide a 1:1 dynamic to static torque ratio.



Torque capacities up to: 1,596,000 lb·in, 180.200 N·m  
Thermal capacities up to: 2,600 HP, 1940 kW

## WC Brakes

Airflex WC air applied water cooled brakes are designed for applications requiring high horsepower absorption. Their design incorporates copper alloy wear plates which transfer heat rapidly to circulating water.



They are used for heavy-duty braking and tensioning applications, such as those found in metal and paper processing, as well as for cable tension control on logging, marine mooring and winching equipment. The unit can also be used as an absorption dynamometer.

Torque capacities up to: 2,700,000 lb-in, 304.830 N·m

Thermal capacities up to: 2,600 HP, 1940 kW

## Geislinger\* Torsional Couplings and Engine Dampers

The Geislinger torsional coupling is designed to tune the major natural frequencies outside of the normal operating range and to dampen the remaining vibrations.



Used extensively on diesel and internal combustion engine drives, it features a unique design incorporating multiple leaf springs and oil displacement chambers to combine torsional stiffness control with high damping.

The coupling can also be used on other machinery such as pumps, compressors and turbines where it is desirable to reduce vibratory stresses in shafts and gears.

The Geislinger engine damper is similar in design to the coupling and mounts on the free end of an internal combustion engine crankshaft to control vibrations.

\*Manufactured by Eaton Corp., Airflex Div. Under license from Dr. Ing Geislinger & Co., Salzburg, Austria, for the U.S., Canadian, and Mexican markets.

### Geislinger\* Flexible Link Couplings

The Geislinger flexible link coupling is designed to compensate for shaft parallel and angular misalignment. It consists of tangential links of spring steel, which connect the driving and driven members of the coupling. This design results in small reaction forces being transmitted to the drive line support bearings.



\*Manufactured by Eaton Corp., Airflex Div. Under license from Dr. Ing Geislinger & Co., Salzburg, Austria, for the U.S., Canadian, and Mexican markets.

Torque capacities up to: 24,900,000 lb-in, 2.810.000 N·m  
Angular misalignment to: 0.69 deg, 12 m rad

## Rotorseals

Airflex rotorseals allow passage of pressurized fluids from a stationary inlet to a rotating shaft end. Single, dual, triple, and quadruple passage rotorseals are available in a variety of sizes and designs to meet most flow requirements. The multiple passage units can be used for individual control of components mounted on the same shaft, component lubrication and circulating fluid systems.



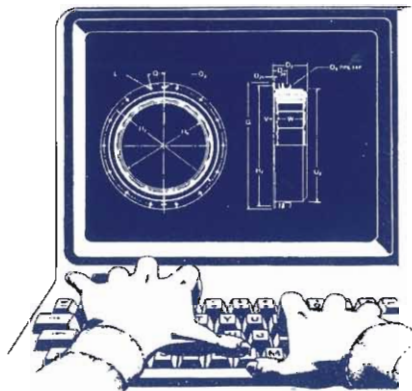
## Quick Release Valves

Airflex quick release valves provide rapid evacuation of pressurized air from pneumatic devices. They provide an exhaust port at the device rather than at the end of a long supply line and/or control component. Exhaust is rapid and positive as soon as there is a pressure drop in the supply line. Available with or without mufflers.



Airflex products are used in a wide variety of applications found in almost every industry. Chances are we already have an answer to your special problem. If the standard products featured in this product directory are not applicable, Airflex can custom design and manufacture units for your application

Our experienced staff of engineers can analyze your power transmission drive using the latest



technology. The drive can be computer modeled to predict dynamic response of such variables as acceleration, speed, torque and thermal load during a simulated start or stop. These results are used to select an appropriate clutch or brake.



