

# Selection Guide

## Application Factors

To determine the best Wichita clutch or brake for your application:

1. Decide which of the four possible functions you wish to perform.
2. Choose the mounting arrangement best suited to your application.
3. In the Function/Mounting chart below, choose the proper type of mounting (1,2,3, etc.) to make a preliminary product selection. (Consult your Wichita representative for final product selection.)

Wichita Product	Page No.	Function/Mounting Condition					
		Controlled Acceleration Provide smooth acceleration of a load.	Cycling Accurately positions a load in a repeatable fashion.	Controlled Deceleration Provides a smooth, cushioned deceleration of a load.	Controlled Slip Provide continuous tension to a web or strand.	High Heat	Low Heat
Combination Clutch/Brake	10		7, 8, 9				
Very Low Inertia Clutch or Brake	24	1, 2	1, 2	1, 2, 3		1, 2, 3	
Low Inertia Clutch or Brake	24	1, 2	1, 2	1, 2, 3		1, 2	
High Torque Clutch	44		1	1		1	
Spring-Set Air Release Brake	58		1, 2, 3	1, 2, 3			
AquaMaKs Clutch or Brake (Tensioning)	70	1, 2, 3	1, 2, 3	1, 2, 3	1, 2, 3		
Kopper Kool Clutch or Brake (Tensioning)	75	1, 2, 3	1, 2, 3	1, 2, 3	1, 2, 3		
Mistral Brake (Tension Brakes)	102					2	
ModEvo (Tension Brakes)	106					2, 3	
Motor Brakes (Spring-Set Brake)	114			2, 6			
Standard Vent Coupling Clutch	131	3, 4					
Standard Vent Grinding Mill Clutch	136	3, 4					
Power Take-Off Clutch	145	5					
Measu-Fil Couplings	154	1, 2, 4					

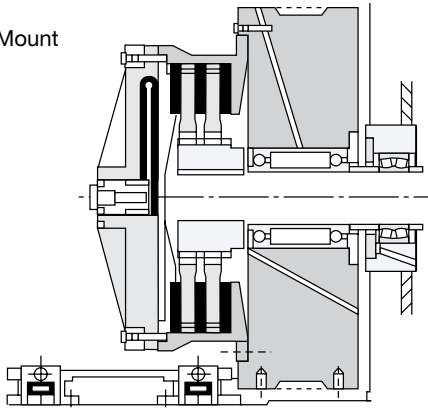
## Types of Mounting (see page 7)

- |                  |                              |   |
|------------------|------------------------------|---|
| 1 Indirect Mount | 4 Shaft-to-Shaft             | 7 Ring to Extended Pin                  |
| 2 Direct Mount   | 5 Engine Mounted             | 8 Pin to Pin, Ring to Pin, Ring to Ring |
| 3 Through Shaft  | 6 Brake Mount Electric Motor | 9 Pin to Extended Pin                   |

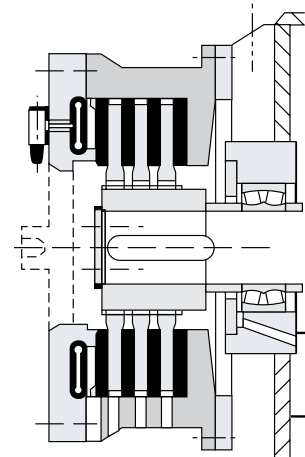
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## Types of Mounting

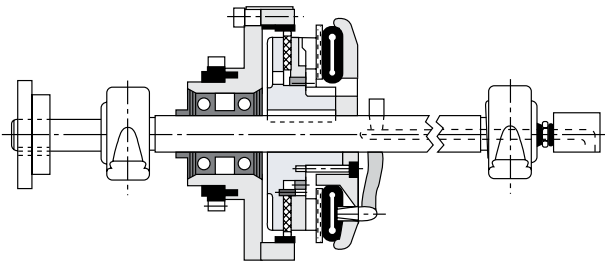
**1** Indirect Mount



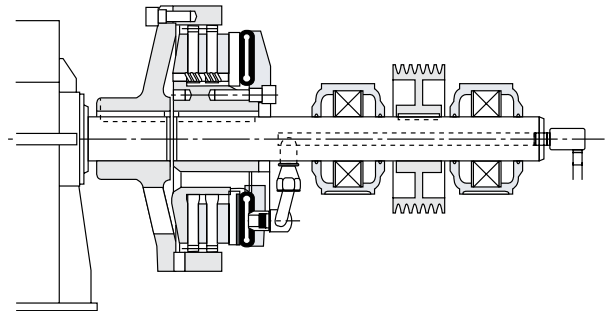
**2** Direct Mount



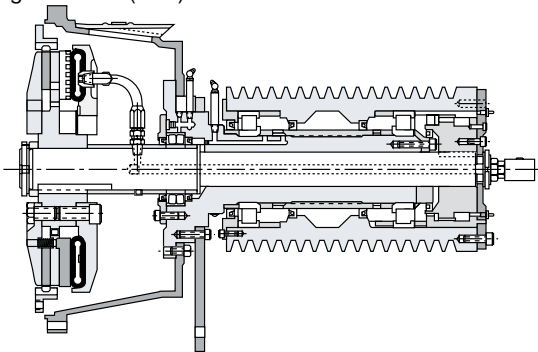
**3** Through Shaft, Inboard Mount Clutch



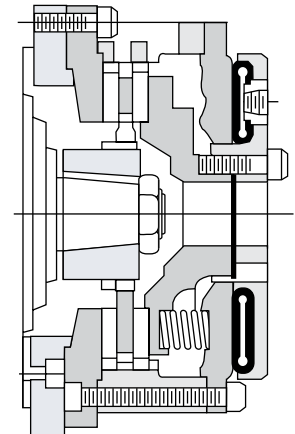
**4** Shaft-to-Shaft In-line (clutch-coupling)



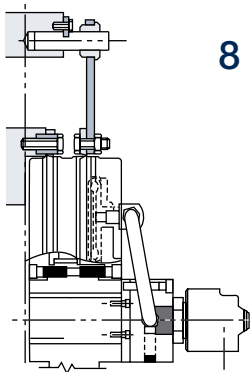
**5** Engine Mount (PTO) Clutch



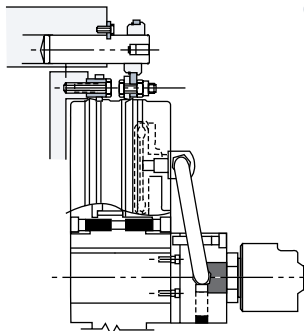
**6** Electric Motor  
C-Face or Foot  
Mount Brake



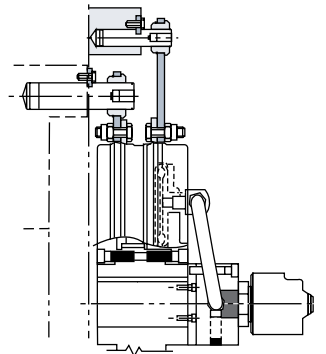
**7** Ring to  
Extended  
Pin



**8** Pin to Pin,  
Ring to Pin,  
Ring to Ring



**9** Pin to  
Extended  
Pin



Pneumatic Combination Clutch Brake

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## Application Factors

Clutch/Brake sizes are affected by the following variables:

1. Machines that operate under smooth loads require smaller clutch/brakes. These machines are driven by either multi-cylinder high speed engines or electric motors with reduced starting current.
2. Drives that require high starting current motors will require clutch/brakes with sufficient torque to prevent excessive slipping while starting.
3. Starting torque may be high, which requires a fast clutch/brake response time to transmit the required torque; or, extended clutch/brake slip time is required to protect the prime mover.
4. Starting torques may be very low compared to the normal torque which may result in the clutch/brake not being fully pressurized prior to the time of torque requirement. This will cause the clutch/brake to over heat from slippage. Clutch/brake inflation time in this instance is very important.
5. Clutch/brakes on most machines are designed to slip prior to damage from shockloads. As a result, the clutch/brake may require periodic maintenance; therefore the clutch/brake should be located in the power train for easy access. Clutch/brakes should also be located for maximum cooling air. In instances where this is not possible, forced air cooling may be desirable to extend clutch/brake life.
6. Safe operating speeds for clutch/brakes should be maintained in design. The following material specifications are recommended for safe operation. The maximum speeds shown are safe operating speeds based upon years of Wichita experience.

Maximum Clutch/Brake Contact Velocity FPM	Material
6,000 (Recommended upper limit for slip)	cast iron
9,000	ductile iron
12,000	steel

Dynamic balancing recommended when peripheral speeds exceed 3500 FPM. These velocities are measured at the nominal outside diameter of the clutch/brake plate.

Field of Application	Machine or Equipment	Wichita Product														
		Combination C/B	Air Tube Disc Clutches & Brakes				Tension Brakes				Spring-Set Motor Brakes	Standard Vent Clutches		Power Take-Off	Mesur-Fil Couplings	
			Very Low Inertia	Low Inertia	High Torque	Spring-Set	AquaMaKks	Kopper Kool	Mistral	ModEvo		Coupling	Ball Mill			
Air Movement Pumps	Centrifugal compressors			•	•								•			
	Reciprocating compressors (over 2 cylinders)			•	•				•				•			
	Reciprocating compressors (1 or 2 cylinders)			•	•				•				•			
	Centrifugal fans Blowers			•	•				•				•			•
Agitators	Liquid															
	Semi-solid Solids			•	•				•				•			
Brick manufacturing	Brick press		•	•									•			
	Extruder Pug mill			•	•								•			
Canning & bottling machine	Bottle-can feeders		•	•	•											
	Filling Mixers			•	•								•			•

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			Very Low Inertia	Low Inertia	High Torque	Spring-Set	AquaMaKks	Kopper Koal	Mistral	ModEvo		Coupling	Ball Mill			
Engine driven equipment	Crane			•								•	•			
	Hoist			•									•			
	Engine														•	
	Crowd			•									•			
Grinding mills	Ball-rod-sag-pebble															•
	Crushers															•
	Shakers															•
Lumber processing	Yarder		•	•	•		•	•	•							
	Carriages, conveyers		•	•	•		•	•	•							•
	Chipper, logger															
Marine	Propulsion clutch CP wheel			•									•			
	Shaft brakes			•									•			
	Propulsion reversing type			•									•			
	Anchor winch			•									•			
Bulk material handling	Conveyors evenly loaded	•		•	•	•							•			•
	Line shaft evenly loaded			•	•	•							•			
	Feeders			•	•	•							•			
	Elevators			•	•	•							•			
Metal production & metalforming	Coilers		•	•			•	•	•				•			
	Slitters	•	•	•	•	•	•	•	•				•			
	Press brake	•	•	•	•	•			•				•			
	Non-geared press	•	•	•	•	•			•				•			
	Geared press	•	•	•	•	•			•				•			
	Draw bench		•	•		•							•			
	Rolling mill		•	•									•			
	Shear	•	•	•	•	•			•				•			
	Back geared press	•	•	•	•	•			•				•			
	Hammer Mill			•		•							•			
	Forging			•		•							•			
Paper industry dryer sections & calenders, consult factory	Fourdrinier to 500 FPM															
	Fourdrinier to 1800 RPM															
	Paper mill plane			•		•							•			
	Smoothing press															
	Press selections															
	Dryers															
Petroleum production	Calenders															
	Drilling & service rig			•			•	•					•			
	Master clutches			•									•			
	Compound clutches			•									•			
	Rotary Drum			•									•			
	Mud pumps												•		•	
Rubber manufacturing	PTO clutches												•		•	
	Transfer machines evenly loaded															
	Banberry mixer															
	Drum mixer			•								•				
	Extruder															
	Calender															
	Centrifuge															