

**Coupling Corporation of America** 

# Anti-Reverse<sup>™</sup> Coupling

## A Simple Way to Keep Equipment Turning in The Right Direction

In some applications, there is a need to restrain the equipment from rotating in the reverse direction. This is typically known as an anti-reverse rotation device. A clutch or brake can be used for this purpose, but they might be too complicated or expensive for the system. CCA can offer a simple anti-reverse rotation solution that keeps things running in the right direction.

### **Typical Design Applications**

#### Vertical

- Vertical Pumps
- Vertical Mixers
- Turbines
- Integrates with the Vertical Clamp Coupling
- Can be mounted on motor hub, pump hub, or in the spacer sleeve
- Stationary backstop can be mounted inside the motorstand
- Can be designed for Sumerged
  Duty

#### Horizontal

- Used in fans, pumps, and compressors
- Integrates into the spacer tube of the FLEXXOR coupling
- Especially useful in turbine drives where there is no easy access to the other end of the shaft
- Works in systems with turning gears
- Normally the stationary backstop mounts to the base plate under the coupling

#### Retrofit

- In applications where there is no coupling, the unit can be mounted to a shaft
- The Anderson Clamp Hub is used to clamp the device on to the shaft in any position no keyway needed
- The stationary backstop can be mounted to a baseplate or any other feature
- Custom geometry can be used to fit with existing equipment





## Anatomy of the Anti-Reverse Coupling





#### Locked Position Key Features

- Spring Force Engages the Pawl at Low Speed
- Large Back Torque Capacity
- Multiple Pawls Share the Load
- Scales to Any Size



#### Running Position Key Features

- Centrifugal Forces
  Create Pawl Rotation
- Pawl Rotates on a Low-Friction Pin
- Transition Speed normally 100-200 RPM
- Can Be Non-Sparking

Anderson Clamp Hub with an Integrated Anti-Reverse System

### **Solution for the Following Problems**

- Fan Systems with Back Pressure or Windy Environment
- Multiple Pumps in Parallel
- Multiple Fans or Blowers Connected to the Same Plenum
- Leaky Check Valves Creating Unexpected Backflow
- The Anti-Rotation Coupling helps Prevent Large Reversing Torque Spikes During Startup - Protecting the Coupling and the Driving Equipment

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