

# Customized solutions



# General information on special designs and customized solutions



## Customized solutions from SUCO

Where the use of a standard version is not practical or the power capacity inadequate, one of our customer-specific designs can provide a solution. Here, SUCO has many years of experience.

In cooperation with the customer, our engineers study enquiries for their feasibility and produce a cost-effective solution. Every effort is made to ensure that the design of the product will comply with the customers' requirements and wishes.

SUCO has its own workshop with a wide choice of different CNC machines which enable to satisfy your specific needs from single piece orders up to serial quantities.

There is a strong link between SUCO engineering and production which ensures highest efficiency by matching customer needs, product design and machinability.

On the following pages SUCO shows a small selection of the numerous ways of solving drive problems, using

combinations of centrifugal clutches and brakes or electromagnetic clutches and brakes that we can offer. They can form the basis for complete system solutions realised in combination with other drive components.

SUCO has patented many designs and variants in this field.

# Examples of different customized solutions

## Electrically-controlled centrifugal brake

An electrically-controlled centrifugal brake allows braking at speeds below the operating speed of the system that is to be braked.

When power is not applied, the brake disc of a spring-loaded brake and the brake drum of a centrifugal brake are not free to rotate. When the engagement speed, which is below the normal operating speed, is exceeded, the centrifugal brake applies a braking torque.

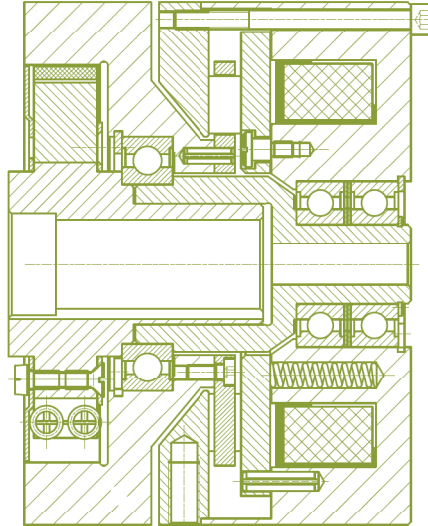


Figure 1

## Centrifugal brake „SUCO-ZERO“

This brake is used to bring a system quickly to standstill if a pre-defined speed is exceeded.

The system can then be reset manually to its original condition.

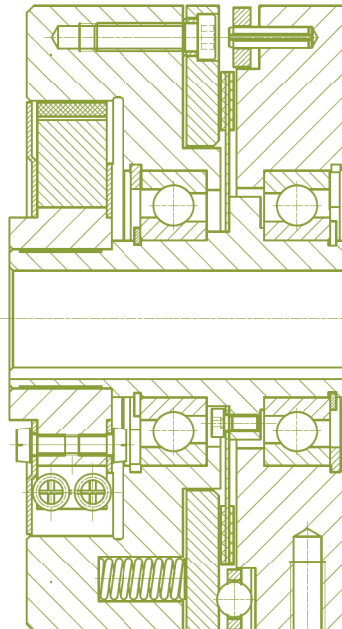


Figure 2

# Examples of different customized solutions

## New safety system SUCO Smartstop

SUCO Smartstop brake is a combination of a classic centrifugal brake to control the speed of a wind turbine and thermal actuated static holding brake to bring down the system to a complete stop.

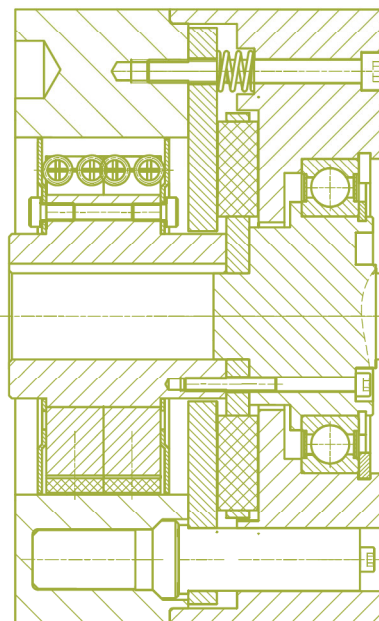


Figure 3

## Electromagnetic brake in combination with a centrifugal brake

This version is used for lowering loads at a defined speed with no electric power applied (power failure in the system).

In normal operation, the load is held by the electromagnetic brake. Power failure causes the electromagnetic brake to release.

To prevent the uncontrolled descent of the load, the centrifugal brake operates to lower the load at a defined speed.

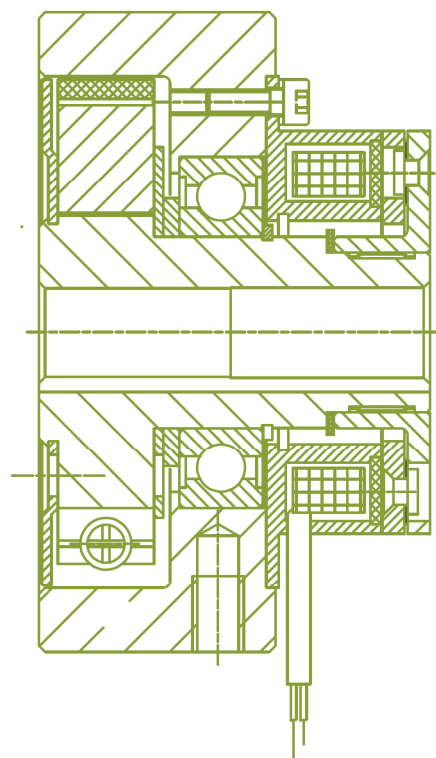


Figure 4

### Centrifugal clutch with electromagnetic brake and belt drive

In this case the centrifugal clutch is used to start a heavily-loaded machine. This protects the drive, which can accelerate at no-load until the engagement speed is reached.

Power is transmitted by V-belts. When the drive is switched off, the electromagnetic brake can be used to bring it to standstill.

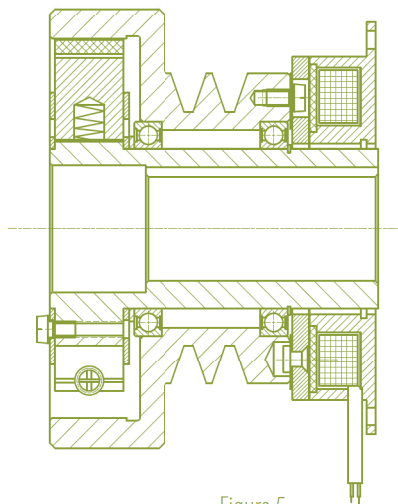


Figure 5

### Self-inducing electromagnetic clutch

A belt pulley driven by an internal-combustion engine is fitted with permanent magnets and serves as the rotor of a generator. The stator consists of a pack of laminations with copper windings.

The electric current induced in the windings is fed to the coil of an electromagnetic clutch. This switches automatically at a certain speed to connect the drive to a machine (in this case via a timing-belt pulley).

Where necessary, it is possible for the electromagnetic clutch to be switched on or off at any speed manually or by a control system.

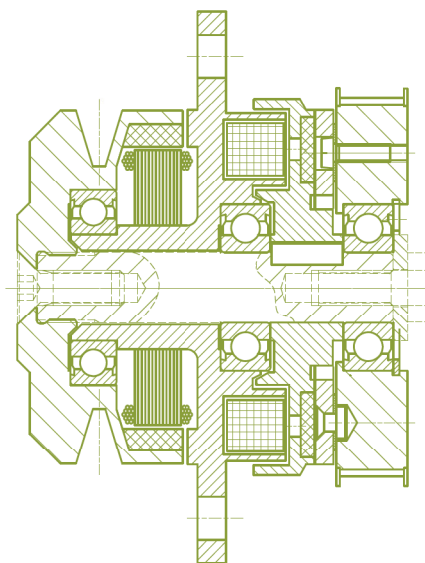


Figure 6