

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 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 customer's requirements and wishes.

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 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.

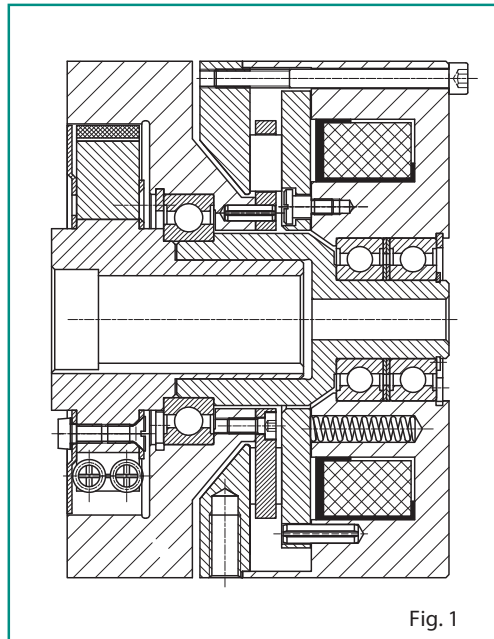


Fig. 1

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.

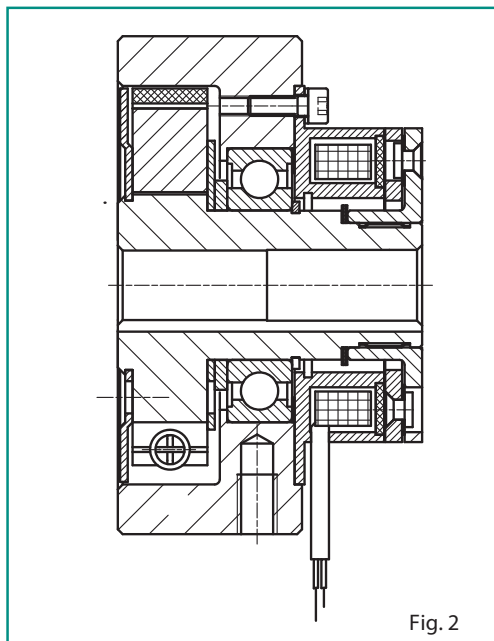


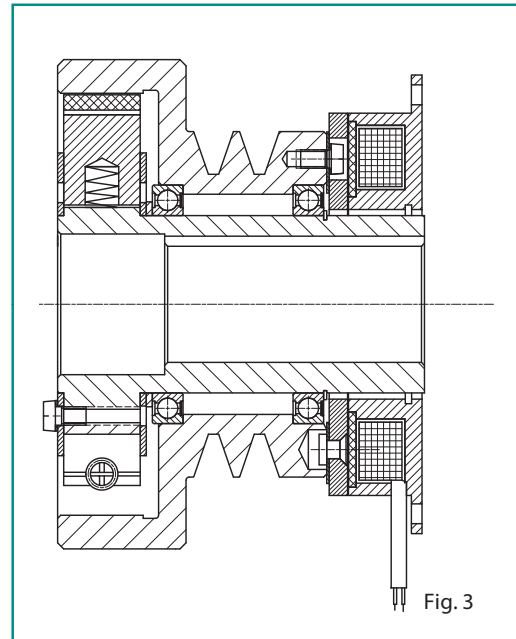
Fig. 2

Examples of different solutions

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.

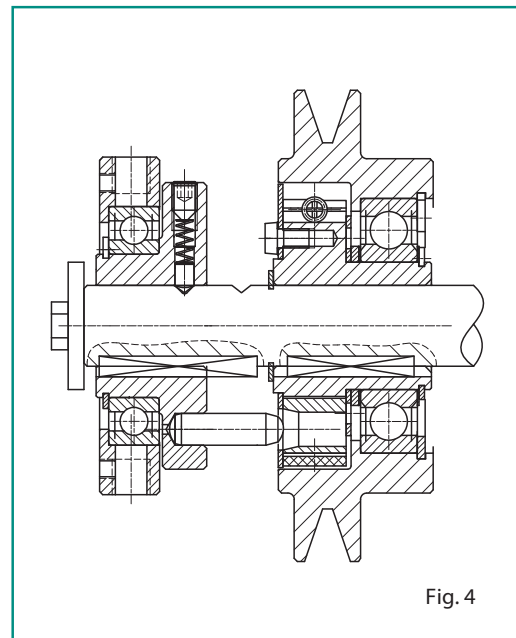
Power is transmitted by V-belts. When the drive is switched off, the electromagnetic brake can be used to bring it to a standstill.



Switchable centrifugal clutch

A collar can be moved axially towards a centrifugal clutch. Pins in the collar engage in the flyweights so that no torque can be transmitted.

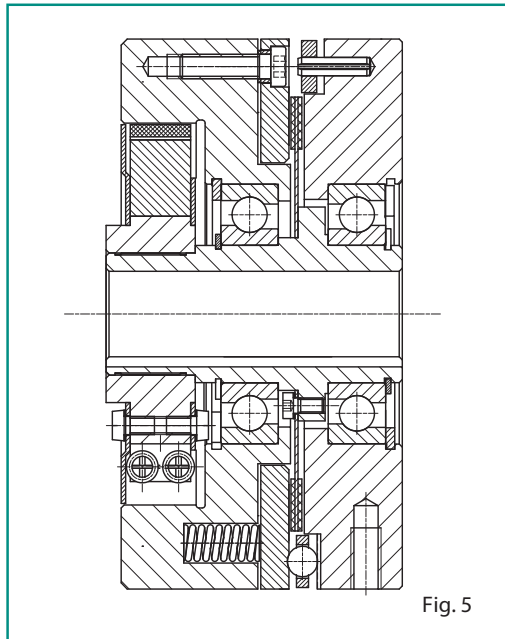
The coupling can be switched on or off at any speed; the switching operation may be carried out manually, or by a pneumatic or hydraulic system.



Centrifugal brake „SUCO-ZERO“

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

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



A decisive advantage is the ability to function independent of an external power supply.

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.

