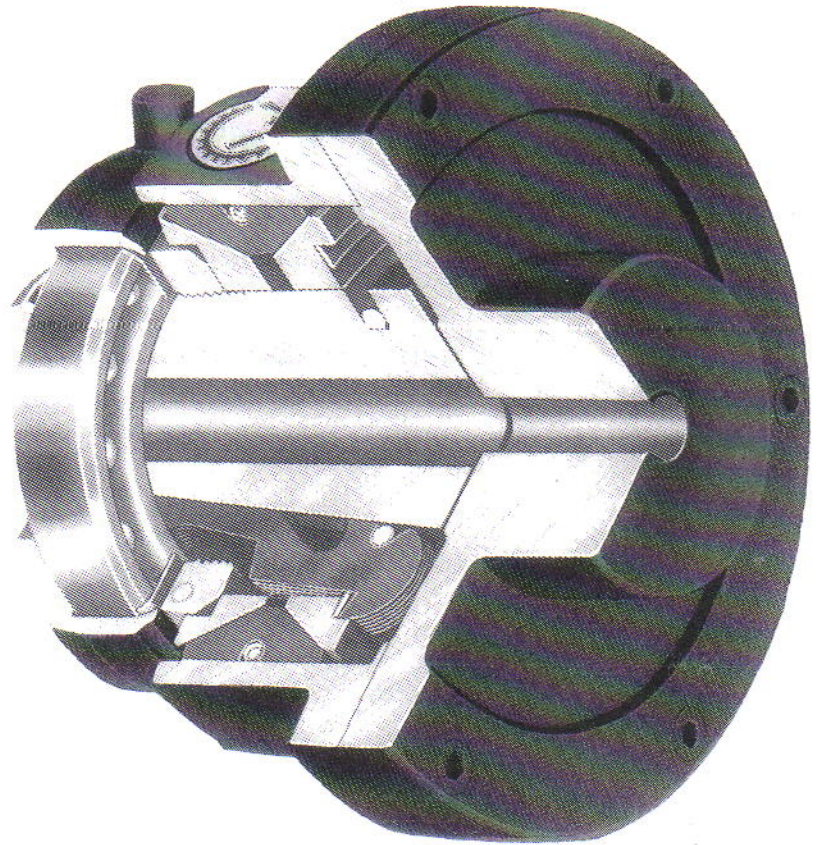




Van der Graaf B.V.

## „G.V.“ FRICTION CLUTCHES



5 sizes

Output torque up to 640 Nm

6 different types

Also with flexible coupling

With ball bearing clutch collar

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**NEW NUMBER**

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## VAN DER GRAAF POWER TRANSMISSION EQUIPMENT

The Friction Clutches as described in this leaflet are only one item of our range based on more than 40 year's experience and „know-how“.

### **„G.V.“ Start-up Couplings – Granulock –**

- soft and load free start
- 100% efficient, saving energy
- simple to install

### **„G.V.“ Drum-Motors**

- oilbath cooling
- 0,1 – 11kW
- Ø 127, 160, 215, 315, 400 and 500 mm

### **„G.V.“ Gear Boxes**

- for mounting on the driven shaft
- helical gears
- up to 2100 Nm

### **„G.V.“ Variable Pulleys**

- for V-belts A/SPA and B/SPB
- ratio 1 : 1,9
- up to 3 kW x 1500 r.p.m. nominal

**ASK FOR DETAILED INFORMATION!!**

## „G.V.“ FRICTION CLUTCH

### Construction

The „G.V.“ Friction Clutch comprises (see sketch on page 4) a steel hub (1) with grooves corresponding with those in the two identical conical compression rings (2), a shell (3), friction segments (9), an adjusting nut (11), a set of levers (14), and the clutch collar with ball bearing (16). The parts exposed to wear are of hardened steel i.e.; the clutch collar, levers, compression plate, lever pivot (7), and the spring rings (15).

The compression plate (6) prevents indentation by the short arms of the levers into the conical compression ring.

The friction segments are of a very resilient and coefficient material, guaranteeing a long service life.

The split adjusting nut is secured by means of a clamping screw (17).

The set of levers are composed of stainless steel laminates which are formed into groups of 3, gripping with slots around the 2-part lever pivot. The levers are placed in grooves around the hub and the conical compression rings, so that a multiple key connection is made, transmitting the torque and absorbing the shock loads. This construction has the advantage that the hub can have relatively large bores.

The bearing of the clutch collar is provided with a lifetime lubricator, is dust tight, and consequently free of maintenance.

Replacement of the friction segments can be made in two different ways:

- a. by loosening and shifting the shell or
- b. by taking away the clutch collar, the adjusting nut, and the outer conical compression ring.

The levers as well as the annular 2-part lever pivot can easily be replaced after taking away the conical inner compression ring, and the compression plate.

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## Operation

The clutch is engaged by shifting the clutch collar (16) on the long arms of the levers (14); the short arms shift a conical compression ring (2), which pushes the friction segments (9) against the inner surface of the shell (3). If the clutch collar has reached the „stop”, a spring ring (15) expands itself behind the ball bearing of the clutch collar so that an unintentional disengaging is prevented.

If the clutch is disengaged, the said spring ring ensures that the inner track of the ball bearing turns along with the rotating hub (1). During the disengagement the compression springs (19), push the conical compression ring back into its starting position. The segments run entirely free from the shell surface, and consequently do not wear.

The required torque is attained by adjusting nut (11) being secured by clamping screw (17). This clamping screw should only be tightened when the clutch is disengaged.

After the running-in time further adjustment will seldom be necessary provided the correct size of clutch is applied.

- |      |                             |
|------|-----------------------------|
| 1FK  | Hub                         |
| 1FKL | Hub                         |
| 2    | Compression ring            |
| 3A   | Coupling shell              |
| 3F   | Coupling shell              |
| 4    | Flange screw                |
| 5    | Flange nave                 |
| 6    | Compression plate           |
| 7    | Lever pivot (2-part)        |
| 8    | Spring pin                  |
| 9NF  | Friction ring               |
| 9SF  | Friction ring               |
| 10NF | Tension spring              |
| 10SF | Spring ring                 |
| 11   | Adjusting nut               |
| 12   | Set screw                   |
| 13   | Spring pin                  |
| 14   | Levers (set)                |
| 15   | Spring ring                 |
| 16   | Clutch collar               |
| 17   | Clamping screw              |
| 18   | Hexagonal key for 12 and 17 |
| 19   | Compression spring          |

Fig. 1

