

## Handwheels, which supplied in series as safety handwheels:

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94

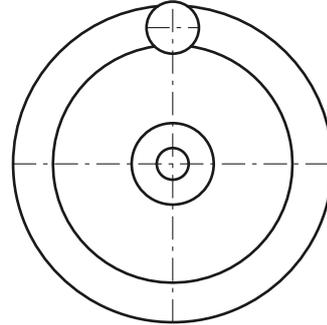
Operating elements

### Solid handwheels GN 321

Aluminium  
with polished rim

### Revolving handles GN 598

Steel  
plastic coated  
matt black, textured finish

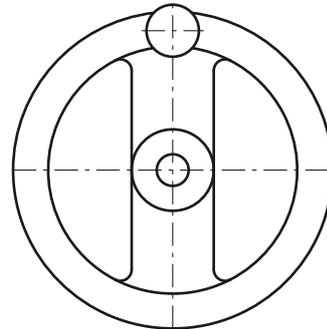


### Spoked handwheels GN 322

Aluminium  
with polished rim

### Revolving handles GN 598

Steel  
plastic coated  
matt black, textured finish

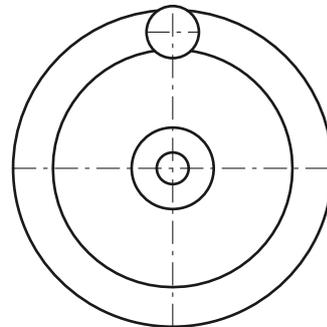


### Solid handwheels GN 323

Aluminium  
plastic coated  
matt black, textured finish

### Revolving handles GN 598

Steel  
plastic coated  
matt black, textured finish

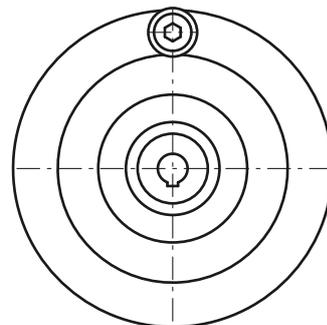


### Safety handwheels VD.FP+I+ST

Duroplast

### Revolving handles I.281+x

Duroplast



# Instructions application guide

## Safety handwheels

According to the health and safety at work regulations, handwheels must be secured to the shafts such that they do not rotate along with mechanical drives. Safety handwheels comply with this requirement:

- When idle, the wheel is disengaged. Two serrated wheel rims engage by the axial displacement of the wheel (push or pull). The wheel is now positively keyed to the shaft.
- When the wheel is released, it automatically disengages.

To ensure utmost accident safety, the following guidelines have been prepared. We can, however, not accept any liability for any consequential damage which may be caused by the use of our coupling attachments.

### 1. Safety handwheels with coupling bushing GN 000.4 (friction bearing)

The coupling elements are assembled in an enclosed unit known as the coupling attachment. This coupling attachment is designed for easy attachment to all current types of handwheels and other machine parts.

The same coupling attachment can optionally be fitted into the handwheel such that either a pushing or pulling action is required for engagement. As the risk of inadvertent engagement is lower, the "pulling" action is safer.

#### Model A (without handle)

As there is no unbalance (handle), the handwheel will also rotate without the risk of accident because it stops upon contact. These safety wheels can be used at much higher speeds. The bearing load is negligible, although the unbalanced handwheel can cause vibrations at higher speeds.

#### Model R (with handle)

The range of applications of these handwheels is limited to relatively low shaft speeds or higher speeds of short duration (e.g. lead-screws for milling machines with fast traverse speed). Their use can be limited even further by grinding dust particles.

If the decoupled handwheel is deliberately put into motion in the same direction as the revolving shaft, the bearing friction may cause it to rotate continuously. At higher handwheel speeds this could lead to vibrations caused by the rotating mass of the handle which, in turn, can be hazardous.

Lubrication at regular intervals is required for the trouble-free function of the friction bearing coupling attachments.

*Coupling bushings GN 000.4 see page 103.*

*Solid safety handwheels GN 321.4 see page 96-97.*

### 2. Safety handwheels with coupling bushing GN 000.5 (needle bearing)

The details specified under paragraph 1 will also apply to these safety handwheels.

The needle bearings offer greater advantages over friction bearings through lower friction and they are less prone to breakdown

Cause by lack of lubrication at higher speeds.

The increased bearing length and lower friction (bearing surface is hardened) and the finer teeth also make it easier to engage the handwheels.

*Coupling bushings GN 000.5 see page 104.*

*Solid safety handwheels GN 321.5 see page 98-99, VD.FP+I+ST see page 102.*

### 3. Safety handwheels with hub cap GN 321.6

These handwheels are an advanced development of the safety handwheels with coupling attachment GN 000.5 (needle bearing).

The coupling elements are specially designed for this type of handwheel, which means they are no all-purpose elements. Also, they are designed only for the "pull" engagement option.

For the application guidelines, see items 1 and 2 above. With their design and their special hub cap, these handwheels are also better protected against dirt.

*Solid safety handwheels GN 321.6 see page 100-101.*