

# Franke (Cross) Roller Bearing



Roller bearings with wire race bearing technology as bearing element or as 2-row slewing ring for high loads and rigidity.



Franke is the inventor of the wire race bearing and the global technology leader in developing and manufacturing lightweight motion systems. The product range includes rotary and linear components with and without drive. The latest series are rolling bearings with crossed rollers for maximum load capacity and rigidity.

# Franke (Cross) Roller Bearing

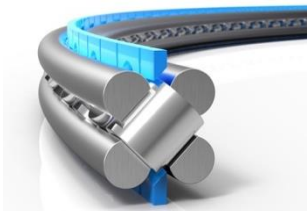


Fig.1: Wire race bearings of type LEW with cross-shaped rollers.

Franke bearing elements with **cross rollers (type LEW)** are particularly suitable for medium rotational speeds and accuracies. They impress with their smooth running, high rigidity and compact installation space. The crossed rollers can support equally high loads from all directions. Bearing elements of type LEW are robust and insensitive to shocks and vibrations.

Bearing elements of type LEW consist of two inner and two outer races and a plastic cage with rollers. The races are split at one point and can thus compensate for different temperature expansions, for example. They have compensating properties for demanding types of load. Due to the **line contact**, the rotational resistance remains constantly low - even in unequal load situations. Bearing elements of type LEW are usually installed without play. Depending on the requirements, the preload can be adjusted individually.

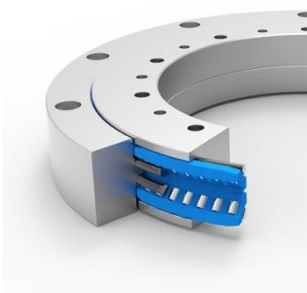


Fig.2: Bearing assemblies type LVG with integrated 2-row roller wire-race bearing.

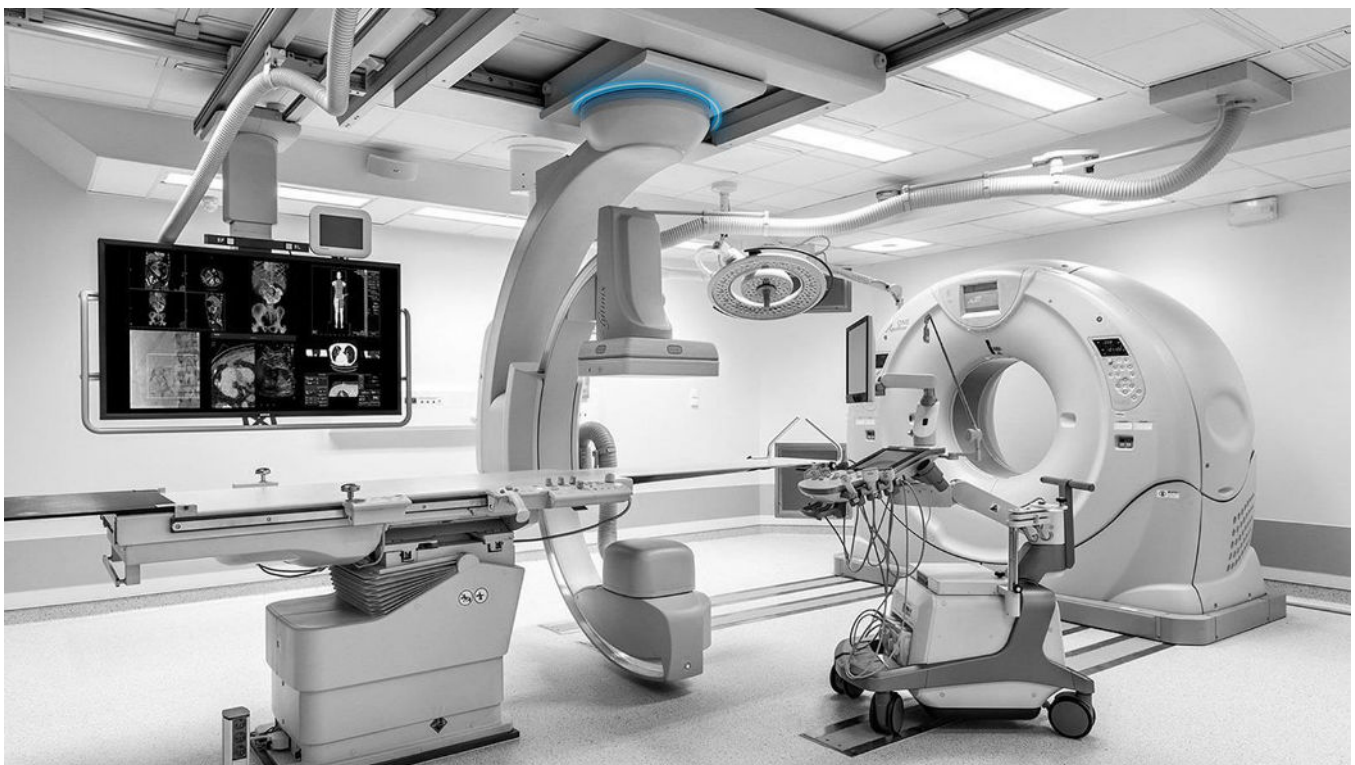
Franke **bearing assemblies with rollers (type LVG)** are ready-to-fit complete bearings with integrated wire-race bearings. Designed as a 2-row angular contact roller bearing, they consist of aluminium housing rings and two integrated bearing elements with track rollers. Franke slewing rings type LVG are suitable for the **highest loads**. They impress with their high rigidity, low rotational resistance and low weight.

Designed as roller bearings, they absorb equally high loads from all directions and are insensitive to shocks and vibrations. The slewing rings are sealed on both sides and preloaded with zero clearance. By using housing parts made of aluminium, a weight reduction of 60% compared to steel bearings is achieved.


# Franke (Cross) Roller Bearing

Franke roller bearing in use:

Advantages of the product: small installation space, lightweight design, cost effective



The LEW7 bearing element is used in a ceiling light for suspending a large X-ray unit. High load-bearing capacity, compact installation space and uniformly light rotational resistance came into play as product advantages. The strongly dimensioned bearing element also reliably compensates for the lack of rigidity of the enclosing construction.

> For more information on the application example  
Please click here: 

# Franke (Cross) Roller Bearing

## Advantages of Franke (Cross) Roller Bearings:

### Bearing element as Cross roller bearing (type LEW)

- Optimum integration into enclosing parts
- Customer specific adjustment of the bearing preload
- Low rotational resistance with high moment load
- High stiffness
- High load capacity
- Customised diameter ranges ( $\varnothing$  400 – 2.000 mm)

### Bearing assembly as 2-row roller bearing (type LVG)

- Highest load rating
- Highest stiffness
- Aluminium construction (low weight and corrosion protection)

### Preferred areas of application:

- Medical technology
- Navigation / Antenna
- Vehicle construction
- Aerospace

### Technical data:

#### Material

Ball race rings: hardened steel and tempered chrome-silicon steel

Rolling element: hardened roller bearing steel

Cage: polyamide or thermoplastic polyurethane

Inner/Outer ring (LVG): aluminium, anodized

Sealing (LVG): NBR

#### Operating temperature

-30 °C to +80 °C, short-term up to +100°C

#### Peripheral speed

Max. 4 m/s

#### Lubricant

Shell Gadus S3 V220 C2

#### Relubrication

Via grease nipples to DIN 3405