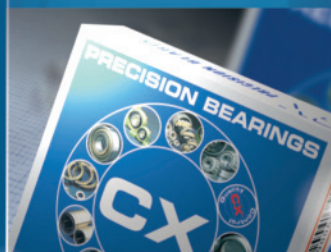
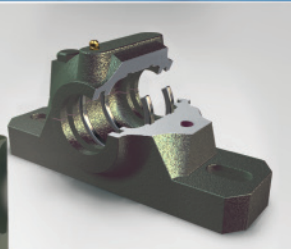


15. BEARING UNITS AND BEARING HOUSINGS



ZESPOŁY ŁOZYSKOWE

CAST IRON BALL



ON BALL BEARING UNITS

POŁY ŁOZYSKOWE

ZESPOŁY ŁOZY

TABLES:**15. BEARING UNITS AND BEARING HOUSINGS**

- 15.1. Cast-iron bearings units with insert ball bearings – type – UCP
- 15.2. Cast-iron bearings units with insert ball bearings – type – UCPA
- 15.3. Cast-iron bearings units with insert ball bearings – type – UCF
- 15.4. Cast-iron bearings units with insert ball bearings – type – UCFL
- 15.5. Cast-iron bearings units with insert ball bearings – type – UCFC
- 15.6. Cast-iron bearings units with insert ball bearings – type – UCT
- 15.7. Cast-iron bearings units with insert ball bearings – type – UKP
- 15.8. Cast-iron bearings units with insert ball bearings – type – UKF
- 15.9. Cast-iron bearings units with insert ball bearings – type – UKFL
- 15.10. Cast-iron bearings units with insert ball bearings – type – UKFC
- 15.11. Cast-iron bearings units with insert ball bearings – type – UKT
- 15.12. Split bearing housings for spherical roller and self aligning bearings – type SN
- 15.13. Split bearing housings for spherical roller and self aligning bearings – type SNU

INTRODUCTION:**15. Cast-iron bearing housings – bearing units****15.1. Cast-iron bearing housings – bearing units****15.1.1. Dimension series:**

- ..P.. – P-type – two fixing bores
- ..PA.. – P-type – two fixing bores
- ..F.. – F-type – four fixing bores
- ..FL.. – F-type – two fixing bores
- ..FC.. – F-type – four fixing bores
- ..T.. – T-type – special tension fixing

15.1.2. Structure

Cast-iron bearing housings serve as elements of the so-called bearing units. These units are formed together with all kinds of insert ball bearings. Bearing housings can be divided into three types: P, F and T. P-type housings have fixing bores pointing out at right angle to the shaft axis, and

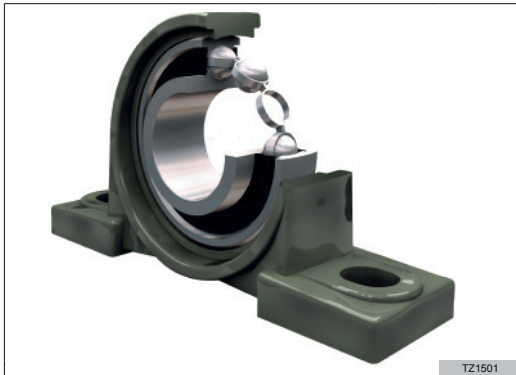


Fig.47 UCP-type bearing unit

and equipped with a valve delivering grease, whereas one shall pay special attention to the proper placement of the lubricating groove and bore in the mounted bearing.



Fig.48 UCPA-Type bearing unit

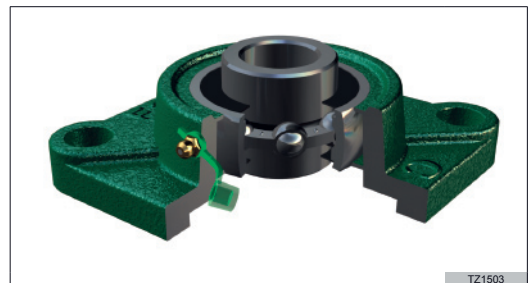


Fig.49 UCF-type bearing unit

15.1.3. The designation structure of bearing units' symbols

they are commonly called "standing" bearing housings, whereas in the PA-version bores are made in the housing itself and in the A-type they are located in the housing's flanges. The fixing bores of F-type bearing housings are arranged parallel to the shaft axis. Square-shaped F-type has four bores, FL-type shaped as an extended ellipse has two fixing bores and the circular FC-type bearing housing has four fixing bores. The most specific features has the T-type bearing housing, called a tension-fixing housing. T-shape and the ability of adjusting the tension through a special fixing are the most distinguishing features of this bearing housing. All housings are made of modified gray cast iron

The system of creating designations for ready-to-use bearing units bases on the rule of combining the symbols of individual parts of the bearing housing and bearing itself. CX terminology puts the bearing symbol on the first position followed by the bearing housing symbol. For comparison, bearing units' symbols in the F&T terminology are formed the other way round:

- CX designation – bearing symbol + bearing housing symbol e.g. UC205 + P205 = UCP205

Traditional Polish designation is as follows: bearing housing symbol + bearing symbol e.g. Z205 + FB205 = ZFB205.

15.1.4. Features and application

It is hard to specify only the features of bearing housings themselves because really important features can be seen only after bearing units have been formed. Just the same as insert ball bearings themselves have no special features in comparison to deep-groove ball bearings, also the bearing housings themselves have no features significant for bearing system. On the other hand features of the bearing unit can be compared to those of the self-aligning spherical roller bearing or self-aligning ball bearing. At the same time it is not important what kind of bearing has been assembled in the housing – unit features are going to be the same.

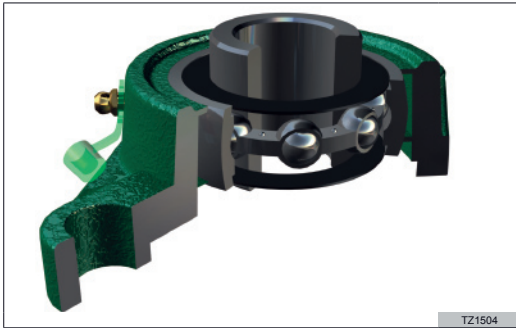


Fig.50 UCFL-Type bearing unit

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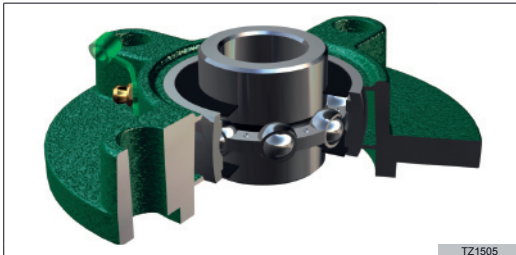


Fig.51 UCFC-Type bearing unit

TZ1505



Fig.52 UCT-Type bearing unit

TZ1506

One should take into account that a bearing unit is an element that is ready to be built-in. A very simple design, easiness of mounting and dismounting, if necessary, easy replacement of an insert ball bearings, and a low cost of a bearing unit – all this results in a great popularity of bearing units. Owing to the self-alignment ability, bearing units are able to compensate errors of alignment, thus correcting assembly inaccuracies or deviations caused by shaft deflections. The bearing structure ensures own grease

supply and effective seal. Enlarged radial clearance affects positively the ability of compensation of shaft deflections and heat deformations. In case of heavy and continuous operation additional lubrication of the bearing located in the housing is necessary. Valves located in each housing type make it possible. During assembly one should pay special attention to the fact that the lubricating bore in the housing should match the lubricating groove and the lubricating hole of the mounted bearing. Owing to their advantages bearing units are widely applied in agricultural machines, construction machines, mining installations, textile machines, conveyors, fans and in the food and woodworking industry.

15.2. Split bearing housings for spherical roller and self-aligning bearings

15.2.1. Dimension series

- SN.. - felt seal
- SNU.. - plastic seal (U-ring).

15.2.2. Key features

“Standing”, cast-iron, split bearing housings of **SN-** and **SNU-**types are for housing self-aligning ball bearings and spherical roller bearings, more rarely for housing deep-groove ball bearings, mounted on the shaft both directly and by means of an adapter and withdrawal sleeve. Bearing seatings are made within tolerance range enabling freely shifting of the bearing inside the housing in both directions and compensating changes in the shaft length resulting from heat expansion and assembly inaccuracies. Lengthened fixing bores in the housing base enable additional axial fixing.

These bearing housings differ from each other in the seal type in the first place. In the **SN** seals sealing felt strips are implemented and in the **SNU**-type seals special sealing **U**-rings are used. It is standard practice to position **PU**-rings inside each housing for fixing the bearings.

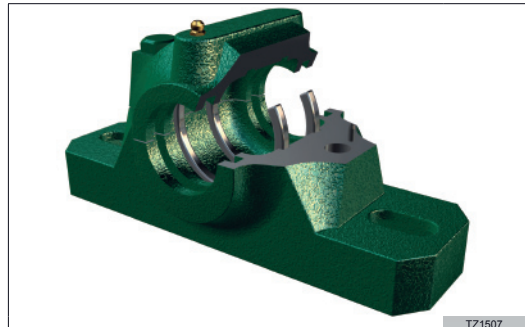


Fig.53 Solid “standing” bearing housing for self-aligning ball bearings and spherical roller bearings of SN-type.

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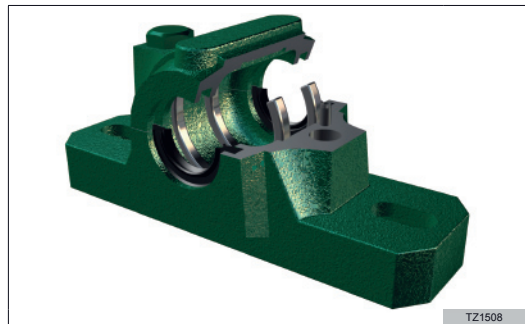


Fig.54 Solid “standing” bearing housing for self-aligning ball bearings and spherical roller bearings of SNU-type

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