

**Ductile Series bearing unit****2.7 Tough, light, compact Ductile Series bearing units****1) Tough bearing housing**

The bearing housing of the Ductile Series bearing units is made of spheroidal graphite cast iron (FCD450, ductile cast iron). They feature a breaking strength of approx. 30% (average for all Ductile Series bearing units) higher than the conventional gray cast iron (FC200) bearing units. It can be seen from the static breaking stress test results (**Fig. 2.8** on next page) the Ductile Series bearing unit breaking strength is superior against the load in any direction to those of conventional and other manufacturers' products.

**2) 40% lighter and compatible**

The weight of bearing housings of the Ductile Series are 40% lighter than those of conventional models. Thus, the Ductile Series bearing unit contributes to the overall weight reduction of the machinery. Because the mounting dimensions of Ductile Series bearing units are identical with those of conventional JIS standard products, they are compatible with any JIS product and can be used either in new designs or repair work. The outer dimensions of the bearing units are as small as possible. In particular, the side face width has been reduced to 80% of conventional models. Thus, the Ductile Series bearing units offer comprehensive advantages, including an opportunity to reconsider mounting methods.

### 3) Applications

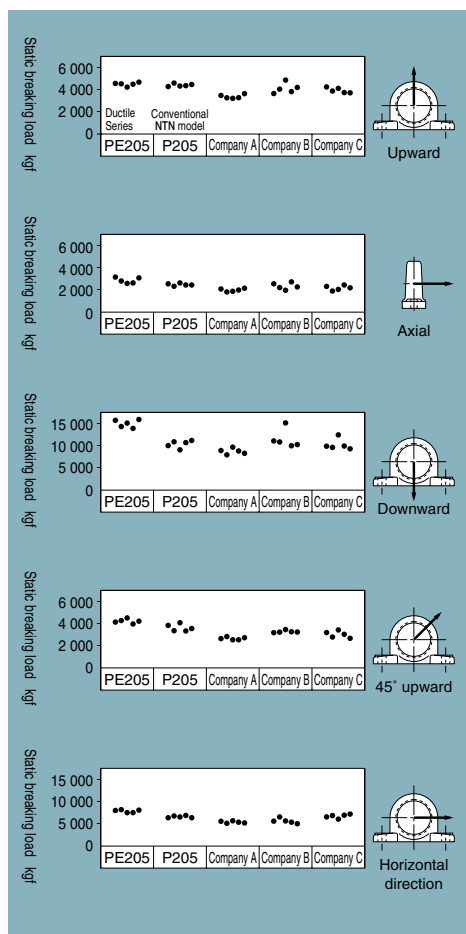
The Ductile Series bearing units are suitable for machines whose installation space and weight must be kept to a minimum, such as packing machines, small blowers, furnaces, food processing

machines, printing machines and agricultural machines. They are also suitable for movable racks and sky parking, where bearing housings are subjected to impact loads.

For further details, refer to the separate catalogue "Bearing Units, Ductile Series."

#### Pillow block bearing units

(Tightening torque for M10 hex. head bolts: 280 kgf-cm)



#### Rhombus flange bearing unit

(Tightening torque for M14 hex. head bolts: 780 kgf-cm)

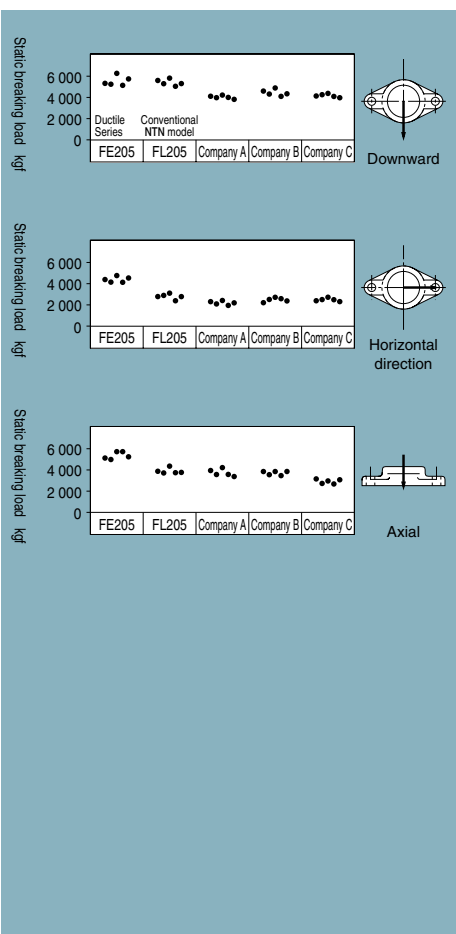


Fig.2.8 Comparison of static breaking strengths for bearing housings

## Plastic Series bearing unit

### 2.10 Corrosion and chemical resistant

#### 1) Solid Grease included

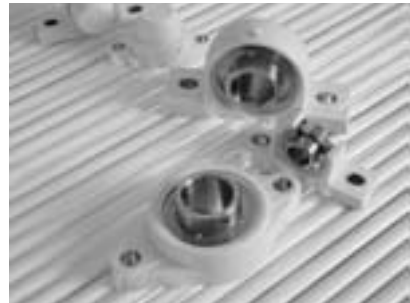
The bearing insert of the Plastic Series is identical to that of the Stainless Series, which contain authentic NTN solid grease. The grease is made from ultra-high polymer polyethylene that is specially heat-treated to solidify. As a result, the **NTN Plastic Series** bearing units can run at a low torque, are virtually free from grease leakage and do not pose any threat of environmental contamination.

#### 2) Light weight bearing unit

The Plastic Series bearing unit comes with a bearing housing made of polyester resin (VALOX420®) that contains reinforcing glass fiber, and weighs 30% to 60% less than conventional **NTN** cast-iron bearing units. The color of the bearing housing is white, to suit clean operating environments.

#### 3) Recommended operating temperature








Use the Plastic Series bearing units only for applications where the temperature range of the housing is -20 to 80°C. For bearing units that need to operate for extended periods,
























use at 60°C or lower.

#### 4) Static strength of bearing housing

The table below indicates the average static strength of the bearing housing of the Plastic Series bearing units at a room temperature (23°C ± 5°C). The static strength of the bearing housing varies depending on operating temperature, type of bearing housing, type and direction of loading, etc. A sufficient safety margin should be allowed when selecting Plastic Series bearing units. When used in sites where there are risks of injury or death, be sure to implement proper, reliable safety precautions.

Bearing housing type	Load direction	Static strength of bearing housing N {Kgf}				
		Part number				
		204	205	206	207	208
PR	Downward 	16,600 {1,690}	19,600 {2,000}	28,300 {2,890}	38,300 {3,910}	44,500 {4,540}
	Horizontal 	7,000 {710}	7,400 {760}	8,600 {880}	10,300 {1,050}	12,100 {1,230}
	Upward ※Not recommended for actual use 	5,600 {570}	5,800 {590}	6,000 {610}	6,600 {670}	11,100 {1,130}
	Axial ※Not recommended for actual use 	3,000 {310}	3,200 {330}	4,000 {410}	5,700 {580}	8,500 {870}
FLR	Horizontal 	5,600 {570}	8,000 {820}	10,800 {1,100}	13,800 {1,410}	17,300 {1,760}
	45° upward 	6,600 {670}	8,400 {860}	10,300 {1,050}	12,200 {1,240}	14,000 {1,430}
	Upward 	7,400 {760}	7,600 {780}	8,500 {870}	10,700 {1,090}	15,100 {1,540}

## 3.7 Bearing Unit Type Code

Pillow block unit	Cast iron pillow block type		Cylindrical bore, set screw type	UCP, S-UCP, C-UCP, SM-UCP, CM-UCP type
			Tapered bore, adapter type	UKP, S-UKP, C-UKP, SM-UKP, CM-UKP type
	Spheroidal graphite cast iron pillow block type		Cylindrical bore, set screw type	UCPE, UKPE type (Ductile Series)
			Tapered bore, adapter type	
	General structural rolled steel pillow block type		Cylindrical bore, set screw type	UCPGtype (Steel Series)
	Stainless steel pillow block type		Cylindrical bore, set screw type	F-UCPM type (Stainless Series)
	Glass fiber reinforcing resin pillow block type		Cylindrical bore, set screw type	F-UCPR, F-RM-UCPR type (Plastic Series)
	Thick pillow block type		Cylindrical bore, set screw type	UCIP type
			Tapered bore, adapter type	UKIP type
	High-center pillow block type bearing		Cylindrical bore, set screw type	UCHP type
	Narrow pillow block type		Cylindrical bore, set screw type	UCUP type
	Light pillow block type		Cylindrical bore type	ASPB, AELPB, CSPB...LLU type
Flange type unit	Steel plate pillow block type		Cylindrical bore, set screw type	AELPP, AELRPP type
			Cylindrical bore, eccentric collar type	ASPP, ASRPP type
	Square flange type		Cylindrical bore, set screw type	UCF, S-UCF, C-UCF, SM-UCF, CM-UCF type
			Tapered bore, adapter type	UKF, S-UKF, C-UKF, SM-UKF, CM-UKF type
	Square flange type w/spigot joint		Cylindrical bore, set screw type	UCFS, C-UCFS, CM-UCFS type
			Tapered bore, adapter type	UKFS, C-UKFS, CM-UKFS type
	Round flange type w/spigot joint		Cylindrical bore, set screw type	UCFC, S-UCFC, C-UCFC, SM-UCFC, CM-UCFC type
			Tapered bore, adapter type	UKFC, S-UKFC, C-UKFC, SM-UKFC, CM-UKFC type
	Rhombus flange type		Cylindrical bore, set screw type	UCFL, S-UCFL, C-UCFL, SM-UCFL, CM-UCFL type
			Tapered bore, adapter type	UKFL, S-UKFL, C-UKFL, SM-UKFL, CM-UKFL type
	Spheroidal graphite cast iron rhombus flange type		Cylindrical bore, set screw type	UCFE, UKFE type (Ductile Series)
			Tapered bore, adapter type	
	General structural rolled steel square flange type		Cylindrical bore, set screw type	UCFG type (Steel Series)
	Stainless steel rhombus flange type		Cylindrical bore, set screw type	F-UCFM type (Stainless Series)
	Glass fiber reinforcing resin rhombus flange type		Cylindrical bore, set screw type	F-UCFLR, F-RM-UCFLR type (Plastic Series)
	Modified rhombus flange type		Cylindrical bore, set screw type	UCFA type
	Modified flange type		Cylindrical bore, set screw type	UCFH type
	Light cast iron rhombus flange type		Cylindrical bore type	ASFB, AELFB, CSFB type...LLU type