

SKF insert bearing units UC range



SKF UC range, designed for JIS* equipment

You need a robust and reliable insert bearing unit solution, one that's easy to install, simple to order and improves productivity. SKF now offers a product that matches your operational and application requirements.

At SKF, we have developed a range of insert bearing units, called "UC range", designed to be interchangeable with JIS* equipment. These SKF UC bearing units are designed with a set screw locking feature, to operate in environments where systemic vibrations are characteristic application conditions.

* JIS: Japanese Industrial Standards

Easy to order, easy to replace

You want a solution that makes your life easy – A solution with the same boundary dimensions, housing configurations and part numbers as many other products available today on the market.

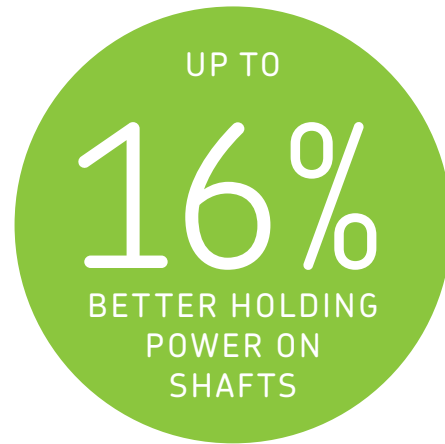
The SKF insert bearing units - UC range achieves this and more. It's an interchangeable solution with JIS* housings available today on the market with an enhanced locking design insert bearing that helps provide more productive, more reliable, and smoother running rotating equipment.

What's more, no modification of your machine is needed. The dimensions meet most of the current UC designated bearing unit fitting requirements, enhancing interchangeability. And whatever product you need, with SKF you know it will be easy to obtain and straightforward to install.



Applications include

- Parcel and baggage handling conveyors
- Material handling conveyors
- Food process machinery
- Packaging equipment
- HVAC equipment
- Agriculture machinery
- Construction machinery
- Textile machinery
- Fitness equipment
- Escalators
- Metals industry
- Industrial fans



Combining JIS* compatibility with SKF reliability

With over 100 years of experience, SKF understands machine and plant productivity and the need to deliver high rotating equipment performance.

The SKF UC range has been designed to provide reliable performance as well and reduce machine downtime. It includes specific features that can make the difference in your equipment.

An enhanced set screw locking system

One of the reasons for failure in a low speed, highly loaded conveyor applications is machine vibration loosening the locking systems.

SKF has overcome this problem by using an enhanced set screw locking design. At its heart is a nylon patch that creates extra resistance to screw loosening. A simple, solution which eliminates the labour associated with the use of messy liquid locking compounds that have no removal or reinstallation options.

The locking device on the SKF UC range increases the axial holding power by up to 16% (→ **Diagram 1**), so there is greater grip between the shaft and bearing. This is a big advantage for units operating in systemic vibrating applications, such as conveyors.

A solid base and solid feet for increased cleanliness and better bearing unit support

The solid base design of SKF insert bearing units – UC range provides a cleaner surface with less contaminant ingress for improved bearing unit support, especially the often heavily contaminated conveyor operating environment. A solid base design is now standard on our two bolt flanged housings as well as a solid feet on our pillow block housings (→ **fig. 1**). This limits the opportunity for dirt to collect underneath the housing support – another step forward for better bearing unit hygiene.

Diagram 1

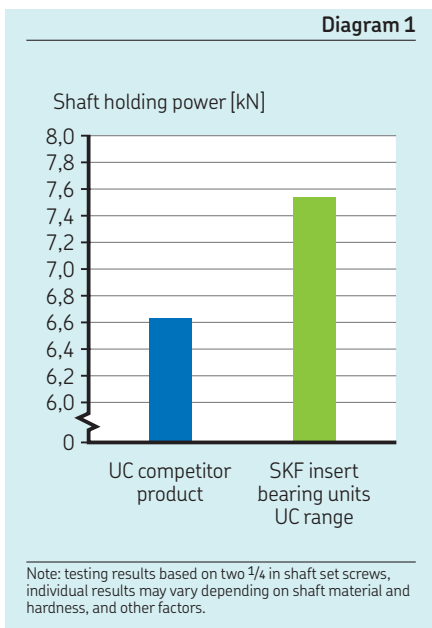
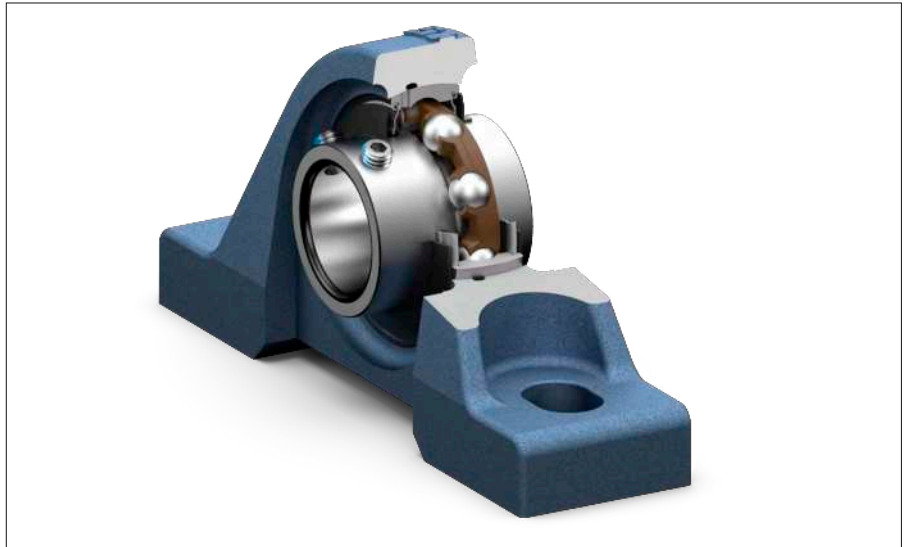


Fig. 1





Please note that end covers are not included with the SKF insert bearing units and must be ordered separately.



Optional end covers for flanged and take-up housings

To comply with health and safety regulations, SKF UC bearing units with flanged and take-up housings are available with polypropylene end covers. SKF offers these end covers as high availability option.

SKF high-quality grease

Poor lubrication accounts for over 36% of premature bearing failures. In fact, most low speed applications fail due to lubrication related issues, not necessarily due to bearing fatigue. Provided recommended maintenance

intervals are followed, SKF high-quality grease helps bearings achieve expected service life as the SKF range of lubricants are designed to perform under real conditions (→ Table 1).

Sealing system

The standard seal for SKF insert bearing units – UC range is the rugged integral seal protected with an additional flinger to help exclude contaminants. The integral seal consists of a pressed sheet steel washer with a sealing lip made of NBR bonded to its inner surface. The coated non-contact sheet steel washer forms a narrow gap with the cylindrical surface of the inner ring protecting the

land-riding seal against contaminants. Enhancing the seal's effectiveness are externally applied coated flingers.

Other sealing solutions are available for extremely contaminated operating environments. Please contact the SKF application engineering service for more information.

Benefit from the SKF's global distribution network

Finding replacement parts can sometimes be a challenge. SKF is well positioned to bring you the right support and the right parts, no matter where your application is based. We have 17 000 distribution locations in over 130 countries around the globe.

Table 1

Lubricating greases

Technical specification	Grease fills in standard insert bearings standard insert bearing units
Thickener	Lithium-calcium soap
Base oil	Mineral oil
Colour	Yellowish brown
Temperature range [°C] (continuous operation)	-30 to +120 ¹⁾
Kinematic viscosity [mm ² /s]	190/15
Consistency (to NLGI scale)	2
Other	Long life grease

¹⁾ The temperature range for reliable operation in accordance with the SKF traffic light concept is between 10 and 120 °C.

The advantages for you at a glance

- Interchangeable with JIS* housings
- A more secure locking system in applications where systemic vibrations occur
- Widely available throughout SKF's global distribution network resulting in shorter lead times

* JIS: Japanese Industrial Standards

Designations

The complete designation for the SKF insert bearing units – UC range consists of:

- Prefixes, identifying insert bearing or housing series
- Figures, identifying the size
- Suffixes, identifying design and variants

More details about the basic designations and the supplementary designations can be obtained from the table **Designation system**.

Designation system

Examples:	UCP 205	UC	P	2	05	
	UCF 205-15	UC	F	2	05-15	
	T 215		T	2	15	
	UC 312	UC		3	12	
	UKP 204 K	UK	P	2	04	K

Bearing series

UC	Insert bearing, cylindrical bore with set screws
UK¹⁾	Insert bearing with a tapered bore and adapter sleeve

Housing type

P	Pillow block unit
F	Flanged unit, square 4-bolt flange
FL	Flanged unit, oval 2-bolt flange
FC	Flanged unit, round 4-bolt flange
FS	Flanged unit, square piloted 4-bolt flange
T	Take-up unit for linear motion
FB	Flanged unit, 3-bolt flange
PA	Tapped base pillow block unit
LP	Pillow block unit, lower center height
PH	Pillow block unit, high center height
IP	Thick pillow block unit
FA	Take-up unit for swivel motion
C	Cartridge unit
HA	Hanger unit

Dimension series

2	Normal series
3	Heavy duty series

Bore diameter

04	For metric shaft 20 mm
15	75 mm
	For inch shaft Two-digit number follows the basic metric bearing size and is separated from this by a hyphen; it is the number of sixteenths ($\frac{1}{16}$) of an inch
05-15	$\frac{15}{16}$ in = 23,813 mm

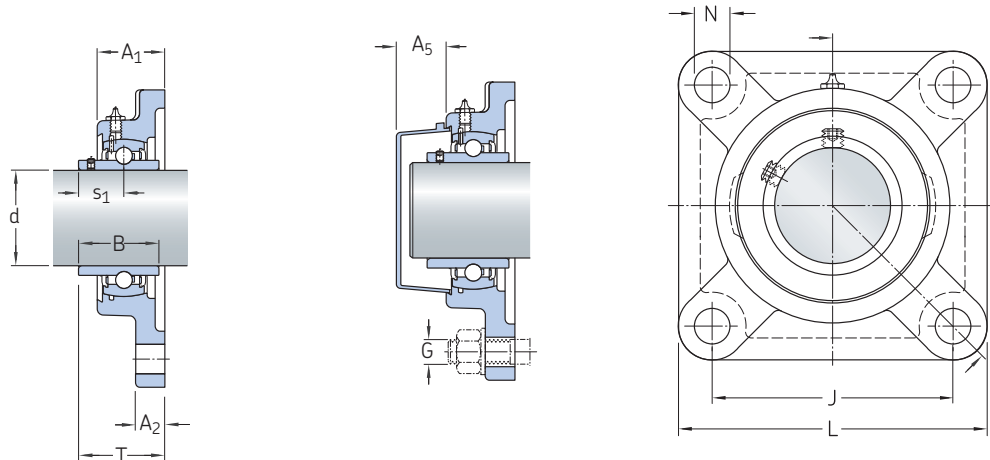
Suffixes

K	Without adapter sleeve
/AH	Air handling execution
VZ811	With groove for mounting end cover (omitted in some flanged housing types as a standard design)

¹⁾ Order adapter sleeve separately.

Insert bearing flanged units with square 4-bolt flange housing, set screws, for metric shafts

d 20 – 100 mm



Dimension	Basic load ratings		Fatigue load limit	Limiting speed with shaft tolerance h6	Mass	Designations			
	dynamic	static				Housing	Bearing	Appropriate end cover	Unit
d	C	C ₀	P _u						
mm	kN		kN	r/min	kg	–			
20	12,7	6,7	0,3	6 500	0,49	F 204	UC 204	ECY 204	UCF 204
25	14,0	7,8	0,3	5 850	0,63	F 205	UC 205	ECY 205	UCF 205
30	19,5 26,5	11,4 15,0	0,5 0,64	5 000 5 300	0,89 1,75	F 206 F 306	UC 206 UC 306	ECY 206 –	UCF 206 UCF 306
35	25,5 33,2	15,3 19,3	0,7 0,815	4 300 4 700	1,25 2,1	F 207 F 307	UC 207 UC 307	ECY 207 –	UCF 207 UCF 307
40	32,5 41,0	20,0 24,0	0,9 1,02	3 750 4 200	1,69 2,95	F 208 F 308	UC 208 UC 308	ECY 208 –	UCF 208 UCF 308
45	32,5 52,7	20,4 32,0	0,9 1,34	3 400 3 750	1,96 3,80	F 209 F 309	UC 209 UC 309	ECY 209 –	UCF 209 UCF 309
50	35,1 61,8	23,2 38,0	1,0 1,6	3 300 3 400	2,23 5,05	F 210 F 310	UC 210 UC 310	ECY 210 –	UCF 210 UCF 310
55	43,6 71,5	29,0 45,0	1,3 1,9	3 000 3 100	3,60 5,5	F 211 F 311	UC 211 UC 311	ECY 211 –	UCF 211 UCF 311
60	52,7 81,9	36,0 52,0	1,5 2,2	2 700 2 900	3,97 7	F 212 F 312	UC 212 UC 312	ECY 212 –	UCF 212 UCF 312
65	57,2	40,0	1,7	2 350	5,08	F 213	UC 213	ECY 213	UCF 213
70	62,4	44,0	1,9	2 250	5,34	F 214	UC 214	ECY 214	UCF 214
75	66,3 114,0	49,0 76,5	2,0 3,0	2 100 2 300	5,86 11,6	F 215 F 315	UC 215 UC 315	ECY 215 –	UCF 215 UCF 315
80	71,5 124,0	54,0 86,5	2,2 3,25	1 900 2 150	7,02 15,4	F 216 F 316	UC 216 UC 316	ECY 216 –	UCF 216 UCF 316
85	83,2	64,0	2,5	1 800	8,91	F 217	UC 217	ECY 217	UCF 217
90	95,6	72,0	2,7	1 600	11,38	F 218	UC 218	ECY 218	UCF 218
100	174,0	140,0	4,75	1 700	29,8	F 320	UC 320	–	UCF 320

Dimensions

d	A ₁	A ₂	B	J	L	N	G	s ₁	T	A ₅
mm							–	mm		
20	25,4	11,1	31	64	85,7	12	M10	18,3	33,3	18,5
25	26,9	12,7	34	70	95,3	12	M10	19,7	35,7	18
30	30 33,8	14,3 16	38,1 43	83 95	108 127	12 16	M10 M14	22,2 26	40,2 44	20 –
35	32 38	15,1 17	42,9 48	92 100	117,5 137	14 19	M12 M16	25,4 29	44,4 49	22 –
40	35,7 42	15,1 18	49,2 52	102 112	130,2 149	16 19	M14 M16	30,2 33	51,2 56	23,5 –
45	38,1 45,8	15,9 19	49,2 57	105 125	136,5 162	16 19	M14 M16	30,2 35	52,2 60	23 –
50	39,7 49,5	15,9 20	51,6 61	111 132	142,9 175	16 23	M14 M20	32,6 39	54,6 67	29,5 –
55	42,9 52,9	18,3 21	55,6 66	130 140	161,9 183	19 23	M16 M20	33,4 41	58,4 71	34 –
60	47,6 57,4	18,3 23	65,1 71	143 150	174,6 193	19 23	M16 M20	39,7 45	68,7 78	35,5 –
65	50	22,2	65,1	149	187,3	19	M16	39,7	69,7	35,5
70	53,9	22,2	74,6	152	192,9	19	M16	44,4	75,4	38,5
75	56,4 68	22,2 26	77,8 82	159 184	200 229	19 25	M16 M22	44,5 50	78,5 89	38,5 –
80	57,9 68,7	22,2 28	82,6 86	165 196	207,9 252	23 31	M20 M28	49,3 52	83,3 90	41,5 –
85	62,7	23,8	85,7	175	219,9	23	M20	51,6	87,6	43,2
90	68,3	25,4	96	187	234,9	23	M20	56,3	96,3	45,3
100	94,5	33	108	242	312	38	M33	66	125	–