

Designs

Y-bearing take-up units consist of a cast housing and an insert bearing (→ **fig. 1**). These units are typically mounted in take-up frames and connected by an adjustment screw. A grease fitting is provided in the housing for relubrication. Standard Y-bearing take-up units can be located on the shaft via the inner ring of the insert bearing with either:

- grub (set) screws
- an eccentric locking collar

The Y-bearing is sealed with either:

- the standard integral seal
- the standard integral seal and an additional flinger

For additional information about Y-bearings, refer to the section *Y-bearings*, starting on **page 79**.

Data – general

Dimensions

The boundary dimensions of SKF Y-bearing take-up housings in the:

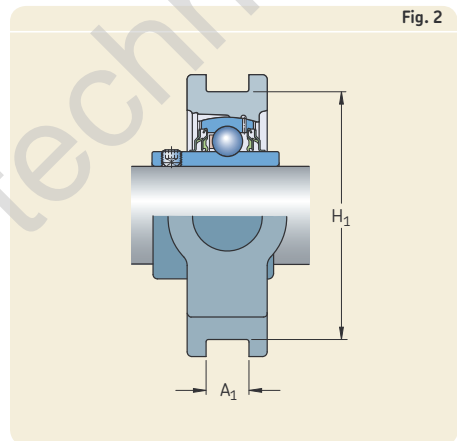
- TU series are in accordance with ISO 3228:1993
- TUJ series are in accordance with JIS B 1559-1995

Tolerances

The tolerances (→ **fig.2**), which are in accordance with ISO 3228:1993, are:

- $\pm 0,25$ mm for the distance between the guide surfaces H_1
- within the tolerance range H13 for the width of the guide surfaces A_1

Information about the tolerances of the inner ring bore diameter can be found in the section *Y-bearings* on **page 89**.



Radial internal clearance

The Y-bearing used in a Y-bearing take-up unit has the same radial internal clearance as a similarly sized individual Y-bearing. The values for radial internal clearance can be found in the section *Y-bearings* on **page 90**.

Materials

The housings for Y-bearing take-up units are manufactured from grey cast iron EN-GJL HB195 in accordance with EN 1561:1997.

Load carrying ability of the housings

Cast housings can withstand the same dynamic and static loads as their insert bearings. Therefore, Y-bearing take-up units may also be used where shock loads or variable axial loads occur, provided the adjustment screw and the way it is secured to the Y-bearing take-up unit is sufficiently strong.

If SKF Y-bearing units are to be used in an application where health, safety, or the environment is at risk, contact the SKF application engineering service during the design phase.

End covers

To protect the shaft ends and avoid any accidents, end covers are available for Y-bearing take-up units in the TU series (→ **fig. 3**).

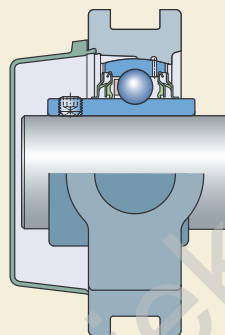
In the product tables, end covers in the ECY 2 series are shown together with the appropriate bearing unit. The designation of the end cover is listed, together with the distance that the end cover protrudes from the housing.

For additional information about end covers, refer to the section *Design of Y-bearing arrangements* on **page 47**.

Grease fills

All standard SKF Y-bearing take-up units are filled with a high-quality, long-lasting grease containing a lithium-calcium thickener that has a consistency of 2 on the NLGI scale.

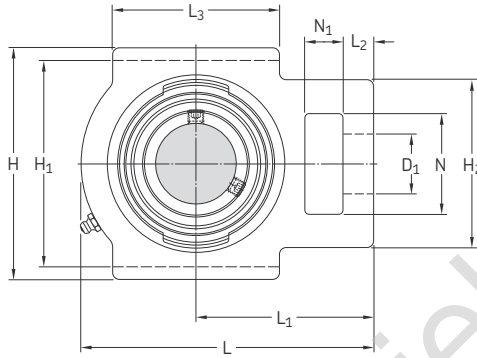
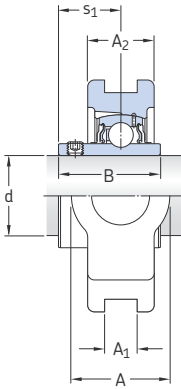
For additional information about lubricants and lubrication, refer to the section *Lubrication and maintenance*, starting on **page 48**.



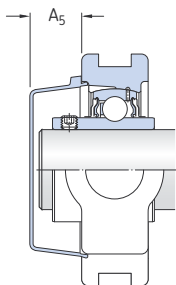
Mounting

The mounting procedures for a Y-bearing take-up unit depend on the method used to attach the unit to the shaft. The procedures are briefly described in the section *Mounting instructions*, starting on **page 52**.

Y-bearing take-up units with a cast housing and grub screws, metric shafts
d 20 – 60 mm



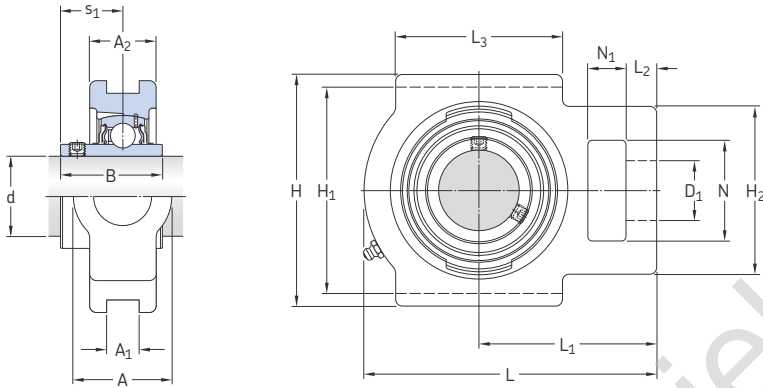
Dimensions															Designation		
d	A	A ₁	A ₂	B	D ₁	H	H ₁	H ₂	L	L ₁	L ₂	L ₃	N	N ₁	s ₁	Bearing unit	
mm																	
20	34	13,5	25	31	19	92	76	54	97	62	10	54	32	16	18,3	TU 20 TF	TUJ 20 TF
	34	12	25	31	19	92	76	54	97	62	10	54	32	16	18,3		
25	34	13,5	25	34,1	19	91	76	53	100	64	10	52	33	16	19,8	TU 25 TF	TUJ 25 TF
	34	12	25	34,1	19	91	76	53	100	64	10	52	33	16	19,8		
30	37	13,5	28	38,1	22	104	89	56	114	70	10	57	37	16	22,2	TU 30 TF	TUJ 30 TF
	37	12	28	38,1	22	104	89	56	114	70	10	57	37	16	22,2		
35	37	13,5	30	42,9	22	103	89	64	129	78	12	64	38	17	25,4	TU 35 TF	TUJ 35 TF
	37	12	30	42,9	22	103	89	64	129	78	12	64	38	17	25,4		
40	49	17,5	33	49,2	29	115	101	83	145	88	15	83	50	19	30,2	TU 40 TF	TUJ 40 TF
	49	16	33	49,2	29	115	102	83	145	88	15	83	50	19	30,2		
45	49	17,5	35	49,2	29	117	101	83	144	87	15	83	49	19	30,2	TU 45 TF	TUJ 45 TF
	49	16	35	49,2	29	117	102	83	144	87	15	83	49	19	30,2		
50	49	17,5	36	51,6	29	117	101	83	149	90	16	86	49	19	32,6	TU 50 TF	TUJ 50 TF
	49	16	36	51,6	29	117	102	83	149	90	16	86	49	19	32,6		
55	64	27	41	55,6	35	146	130	102	171	106	19	95	64	25	33,4	TU 55 TF	TUJ 55 TF
	64	22	41	55,6	35	146	130	102	171	106	19	95	64	25	33,4		
60	60	22	44	65,1	35	146	130	102	186	118	19	100	63,5	32	39,7	TU 60 TF	



Designations Bearing unit	Separate components		Basic load ratings		Fatigue load limit P_u	Limiting speed with shaft tolerance h6	Mass Bearing unit	Appropriate end cover	
	Housing	Bearing	dynamic C	static C_0				Designation	Dimension A_5
			kN		kN	r/min	kg	mm	
TU 20 TF	TU 504 M	YAR 204-2F	12,7	6,55	0,28	8 500	0,73	ECY 204	18,5
TUJ 20 TF	TUJ 504	YAR 204-2F	12,7	6,55	0,28	8 500	0,76	–	–
TU 25 TF	TU 505 M	YAR 205-2F	14	7,8	0,335	7 000	0,77	ECY 205	18
TUJ 25 TF	TUJ 505	YAR 205-2F	14	7,8	0,335	7 000	0,82	–	–
TU 30 TF	TU 506 M	YAR 206-2F	19,5	11,2	0,475	6 300	1,25	ECY 206	20
TUJ 30 TF	TUJ 506	YAR 206-2F	19,5	11,2	0,475	6 300	1,28	–	–
TU 35 TF	TU 507 M	YAR 207-2F	25,5	15,3	0,655	5 300	1,45	ECY 207	22
TUJ 35 TF	TUJ 507	YAR 207-2F	25,5	15,3	0,655	5 300	1,50	–	–
TU 40 TF	TU 508 M	YAR 208-2F	30,7	19	0,8	4 800	2,30	ECY 208	23,5
TUJ 40 TF	TUJ 508	YAR 208-2F	30,7	19	0,8	4 800	2,35	–	–
TU 45 TF	TU 509 M	YAR 209-2F	33,2	21,6	0,915	4 300	2,30	ECY 209	23
TUJ 45 TF	TUJ 509	YAR 209-2F	33,2	21,6	0,915	4 300	2,35	–	–
TU 50 TF	TU 510 M	YAR 210-2F	35,1	23,2	0,98	4 000	2,40	ECY 210	29,5
TUJ 50 TF	TUJ 510	YAR 210-2F	35,1	23,2	0,98	4 000	2,50	–	–
TU 55 TF	TU 511 M	YAR 211-2F	43,6	29	1,25	3 600	3,85	ECY 211	34
TUJ 55 TF	TUJ 511	YAR 211-2F	43,6	29	1,25	3 600	4,00	–	–
TUJ 60 TF	TUJ 512	YAR 212-2F	52,7	36	1,53	3 400	5,00	–	–

Y-bearing take-up units with a cast housing and grub screws, inch shafts

d $\frac{3}{4}$ – $1 \frac{7}{16}$ in



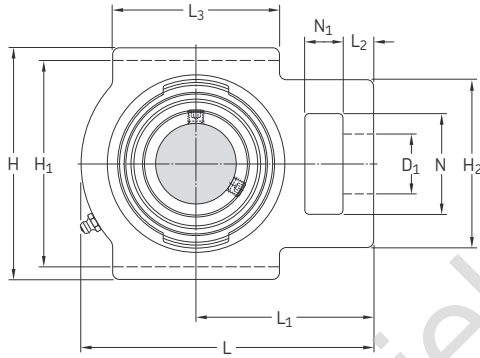
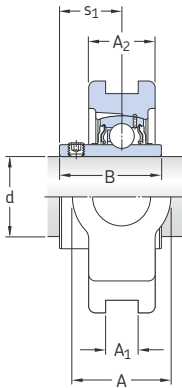
Dimensions

d	A	A ₁	A ₂	B	D ₁	H	H ₁	H ₂	L	L ₁	L ₂	L ₃	N	N ₁	s ₁	Designation Bearing unit
in/mm																
$\frac{3}{4}$ 19,05	1,34 34	0,53 13,5	0,98 25	1,22 31	0,75 19	3,62 92	2,99 76	2,13 54	3,82 97	2,44 62	0,39 10	2,13 54	1,26 32	0,63 16	0,72 18,3	TU 3/4 TF
$\frac{13}{16}$ 20,638	1,34 34	0,53 13,5	0,98 25	1,34 34,1	0,75 19	3,58 91	2,99 76	2,09 53	3,94 100	2,52 64	0,39 10	2,05 52	1,3 33	0,63 16	0,78 19,8	TU 13/16 TF
$\frac{7}{8}$ 22,225	1,34 34	0,53 13,5	0,98 25	1,34 34,1	0,75 19	3,58 91	2,99 76	2,09 53	3,94 100	2,52 64	0,39 10	2,05 52	1,3 33	0,63 16	0,78 19,8	TU 7/8 TF
$\frac{15}{16}$ 23,813	1,34 34	0,53 13,5	0,98 25	1,34 34,1	0,75 19	3,58 91	2,99 76	2,09 53	3,94 100	2,52 64	0,39 10	2,05 52	1,3 33	0,63 16	0,78 19,8	TU 15/16 TF
1 25,4	1,34 34	0,53 13,5	0,98 25	1,34 34,1	0,75 19	3,58 91	2,99 76	2,09 53	3,94 100	2,52 64	0,39 10	2,05 52	1,3 33	0,63 16	0,78 19,8	TU 1. TF
$1 \frac{1}{16}$ 26,988	1,46 37	0,53 13,5	1,1 28	1,5 38,1	0,87 22	4,09 104	3,5 89	2,2 56	4,49 114	2,76 70	0,39 10	2,24 57	1,46 37	0,63 16	0,87 22,2	TU 1.1/16 TF
$1 \frac{1}{8}$ 28,575	1,46 37	0,53 13,5	1,1 28	1,5 38,1	0,87 22	4,09 104	3,5 89	2,2 56	4,49 114	2,76 70	0,39 10	2,24 57	1,46 37	0,63 16	0,87 22,2	TU 1.1/8 TF
$1 \frac{3}{16}$ 30,163	1,46 37	0,53 13,5	1,1 28	1,5 38,1	0,87 22	4,09 104	3,5 89	2,2 56	4,49 114	2,76 70	0,39 10	2,24 57	1,46 37	0,63 16	0,87 22,2	TU 1.3/16 TF
$1 \frac{1}{4}$ 31,75	1,46 37	0,53 13,5	1,18 30	1,69 42,9	0,87 22	4,06 103	3,5 89	2,52 64	5,08 129	3,07 78	0,47 12	2,52 64	1,5 38	0,67 17	1 25,4	TU 1.1/4 TF
$1 \frac{5}{16}$ 33,338	1,46 37	0,53 13,5	1,18 30	1,69 42,9	0,87 22	4,06 103	3,5 89	2,52 64	5,08 129	3,07 78	0,47 12	2,52 64	1,5 38	0,67 17	1 25,4	TU 1.5/16 TF
$1 \frac{3}{8}$ 34,925	1,46 37	0,53 13,5	1,18 30	1,69 42,9	0,87 22	4,06 103	3,5 89	2,52 64	5,08 129	3,07 78	0,47 12	2,52 64	1,5 38	0,67 17	1 25,4	TU 1.3/8 TF
$1 \frac{7}{16}$ 36,513	1,46 37	0,53 13,5	1,18 30	1,69 42,9	0,87 22	4,06 103	3,5 89	2,52 64	5,08 129	3,07 78	0,47 12	2,52 64	1,5 38	0,67 17	1 25,4	TU 1.7/16 TF

Designations Bearing unit	Separate components		Basic load ratings		Fatigue load limit P_u	Limiting speed with shaft tolerance h_6	Mass Bearing unit
	Housing	Bearing	dynamic C	static C_0			
			lbf/kN	lbf/kN	r/min	lb/kg	
TU 3/4 TF	TU 504 U	YAR 204-012-2F	2 860 12,7	1 470 6,55	60 0,28	8 500	1.61 0,73
TU 13/16 TF	TU 505 U	YAR 205-013-2F	3 150 14	1 760 7,8	80 0,335	7 000	1.79 0,81
TU 7/8 TF	TU 505 U	YAR 205-014-2F	3 150 14	1 760 7,8	80 0,335	7 000	1.76 0,80
TU 15/16 TF	TU 505 U	YAR 205-015-2F	3 150 14	1 760 7,8	80 0,335	7 000	1.72 0,78
TU 1. TF	TU 505 M	YAR 205-100-2F	3 150 14	1 760 7,8	80 0,335	7 000	1.68 0,76
TU 1.1/16 TF	TU 506 U	YAR 206-101-2F	4 390 19,5	2 520 11,2	110 0,475	6 300	2.85 1,30
TU 1.1/8 TF	TU 506 U	YAR 206-102-2F	4 390 19,5	2 520 11,2	110 0,475	6 300	2.80 1,25
TU 1.3/16 TF	TU 506 U	YAR 206-103-2F	4 390 19,5	2 520 11,2	110 0,475	6 300	2.75 1,25
TU 1.1/4 TF	TU 507 M	YAR 207-104-2F	5 740 25,5	3 440 15,3	150 0,655	5 300	3.30 1,50
TU 1.5/16 TF	TU 507 U	YAR 207-105-2F	5 740 25,5	3 440 15,3	150 0,655	5 300	3.30 1,50
TU 1.3/8 TF	TU 507 U	YAR 207-106-2F	5 740 25,5	3 440 15,3	150 0,655	5 300	3.20 1,45
TU 1.7/16 TF	TU 507 U	YAR 207-107-2F	5 740 25,5	3 440 15,3	150 0,655	5 300	3.15 1,45

Y-bearing take-up units with a cast housing and grub screws, inch shafts

d 1 1/2 – 2 3/16 in

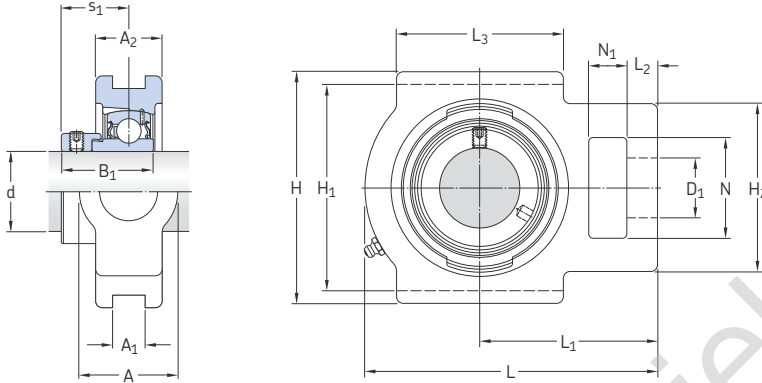


Dimensions

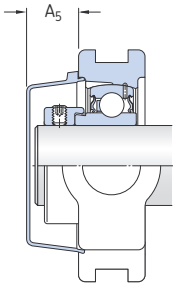
	Dimensions															Designation
	A	A ₁	A ₂	B	D ₁	H	H ₁	H ₂	L	L ₁	L ₂	L ₃	N	N ₁	s ₁	Bearing unit
d																-
in/mm																-
1 1/2	1.93	0.69	1.3	1.94	1.14	4.53	3.98	3.27	5.71	3.46	0.59	3.27	1.97	0.75	1.19	TU 1.1/2 TF
38,1	49	17,5	33	49,2	29	115	101	83	145	88	15	83	50	19	30,2	
1 11/16	1.93	0.69	1.38	1.94	1.14	4.61	3.98	3.27	5.67	3.43	0.59	3.27	1.93	0.75	1.19	TU 1.11/16 TF
42,863	49	17,5	35	49,2	29	117	101	83	144	87	15	83	49	19	30,2	
1 3/4	1.93	0.69	1.38	1.94	1.14	4.61	3.98	3.27	5.67	3.43	0.59	3.27	1.93	0.75	1.19	TU 1.3/4 TF
44,45	49	17,5	35	49,2	29	117	101	83	144	87	15	83	49	19	30,2	
1 15/16	1.93	0.69	1.42	2.03	1.14	4.61	3.98	3.27	5.87	3.54	0.63	3.39	1.93	0.75	1.28	TU 1.15/16 TF
49,213	49	17,5	36	51,6	29	117	101	83	149	90	16	86	49	19	32,6	
2	2.52	1.06	1.61	2.19	1.38	5.75	5.12	4.02	6.73	4.17	0.75	3.74	2.52	0.98	1.31	TU 2. TF
50,8	64	27	41	55,6	35	146	130	102	171	106	19	95	64	25	33,4	
2 3/16	2.52	1.06	1.61	2.19	1.38	5.75	5.12	4.02	6.73	4.17	0.75	3.74	2.52	0.98	1.31	TU 2.3/16 TF
55,563	64	27	41	55,6	35	146	130	102	171	106	19	95	64	25	33,4	

Designations Bearing unit	Separate components		Basic load ratings		Fatigue load limit P_u	Limiting speed with shaft tolerance h_6	Mass Bearing unit
	Housing	Bearing	dynamic C	static C_0			
			lbf/kN		lbf/kN	r/min	lb/kg
TU 1.1/2 TF	TU 508 M	YAR 208-108-2F	6 910 30,7	4 280 19	180 0,8	5 300	4,95 2,25
TU 1.11/16 TF	TU 509 U	YAR 209-111-2F	7 470 33,2	4 860 21,6	210 0,915	4 300	5,20 2,35
TU 1.3/4 TF	TU 509 U	YAR 209-112-2F	7 470 33,2	4 860 21,6	210 0,915	4 300	5,50 2,50
TU 1.15/16 TF	TU 510 U	YAR 210-115-2F	7 900 35,1	5 220 23,2	220 0,98	4 000	5,30 2,40
TU 2. TF	TU 511 M	YAR 211-200-2F	9 810 43,6	6 530 29	280 1,25	4 000	8,80 4,00
TU 2.3/16 TF	TU 511 U	YAR 211-203-2F	9 810 43,6	6 530 29	280 1,25	3 600	8,40 3,80

Y-bearing take-up units with a cast housing and an eccentric locking collar, metric shafts
 d 20 – 55 mm



Dimensions															Designation		
d	A	A ₁	A ₂	B ₁	D ₁	H	H ₁	H ₂	L	L ₁	L ₂	L ₃	N	N ₁	s ₁	Bearing unit	
mm																-	
20	34	13,5	25	31	19	92	76	54	97	62	10	54	32	16	23,5	TU 20 FM	
25	34	13,5	25	31	19	91	76	53	100	64	10	52	33	16	23,5	TU 25 FM	
30	37	13,5	28	35,7	22	104	89	56	114	70	10	57	37	16	26,7	TU 30 FM	
35	37	13,5	30	38,9	22	103	89	64	129	78	12	64	38	17	29,4	TU 35 FM	
40	49	17,5	33	43,7	29	115	101	83	145	88	15	83	50	19	32,7	TU 40 FM	
45	49	17,5	35	43,7	29	117	101	83	144	87	15	83	49	19	32,7	TU 45 FM	
50	49	17,5	36	43,7	29	117	101	83	149	90	16	86	49	19	32,7	TU 50 FM	
55	64	27	41	48,4	35	146	130	102	171	106	19	95	64	25	36,4	TU 55 FM	



Designations Bearing unit	Separate components		Basic load ratings		Fatigue load limit P_u	Limiting speed with shaft tolerance h6	Mass Bearing unit	Appropriate end cover	
	Housing	Bearing	dynamic C	static C_0				Designation	Dimension A_5
			kN	kN	kN	r/min	kg	–	mm
TU 20 FM	TU 504 M	YET 204	12,7	6,55	0,28	8 500	0,73	ECY 204	18,5
TU 25 FM	TU 505 M	YET 205	14	7,8	0,335	7 000	0,77	ECY 205	18
TU 30 FM	TU 506 M	YET 206	19,5	11,2	0,475	6 300	1,25	ECY 206	20
TU 35 FM	TU 507 M	YET 207	25,5	15,3	0,655	5 300	1,45	ECY 207	22
TU 40 FM	TU 508 M	YET 208	30,7	19	0,8	4 800	2,30	ECY 208	23,5
TU 45 FM	TU 509 M	YET 209	33,2	21,6	0,915	4 300	2,30	ECY 209	23
TU 50 FM	TU 510 M	YET 210	35,1	23,2	0,98	4 000	2,40	ECY 210	29,5
TU 55 FM	TU 511 M	YET 211	43,6	29	1,25	3 600	3,85	ECY 211	34