



SINCE 1961

UC / UCP / UCF / UCFL MATRIX SERIES BEARINGS

PRODUCT CATALOGUE - 2022 - 2023



BEARINGSTECHNOLOGY

COMPANY











Established in 1961, today TEXSPIN[®] is one of the major contributors to the automotive industry and has carved out a niche for itself as a provider of unmatched innovative solution and products predominantly to the automotive industry and to other engineering industry.

Major focus of TEXSPIN^{∞} is on technological products, components & systems with customized solutions. It is dedicated to being a development partner to the automotive industry in providing innovative technological product and solutions.

TEXSPIN'S[®] continuous growth is supported by its Research & Development centre which guarantees number of innovations to serve the high standard set by the automotive industry. The R & D centre is equipped with the advanced software technology to design and accurately simulate, analyze, validate, test and develop systems for varied applications.

TEXSPIN[®]'s core competence lies in its vast reservoir of Expertise and infrastructure created over the decades. An indepth understanding of the technological requirement of the automotive industry through our long association over the years, has helped us to provide contemporary customized technological products and solutions to our customers through a synergetic enhancement of indigenous technologies and world benchmark requirements.

With over 61 years experience and over 1600 experienced employees dedicated to the culture of quality and innovation, engaged in manufacturing and sales, and with Quality Systems like QS 9000 / TS16949, TEXSPIN^{∞} is committed to exceed the high standards of the automotive industry.

INNOVATE TO CREA





UCP MATRIX SERIES HEAVY DUTY WITH F-TYPE SEAL

TEXSPIN[®] offers a technically superior and efficient UCP Matrix Bearings (Heavy Duty Pillow Bearings) through years of research and development efforts.

TEXSPIN[®] provides high strength housing design with superior Castings material to provide the best performance in high demand operating conditions in industrial applications. The robust sealing design prevents dust entry and leakage, extending bearing life.



UCF MATRIX SERIES - HEAVY DUTY

Through years of research and development efforts, TEXSPIN[®] offers technically superior and efficient UCF Matrix Bearings (Heavy Duty Square Bearings) that are used in countless applications. (Industrial segment)

TEXSPIN[®] offers a high-strength housing design with superior casting materials to provide the best performance under the rigorous operating conditions of industrial applications. Advanced robust seal design prevents dust ingress and leakage, extending bearing life.



UCFL MATRIX SERIES - HEAVY DUTY

Through years of research and development efforts, TEXSPIN[®] offers technically superior and efficient UCF Matrix Bearings (Heavy Duty Square Bearings) that are used in countless applications. (Industrial segment)

TEXSPIN[®] offers a high-strength housing design with superior casting materials to provide the best performance under the rigorous operating conditions of industrial applications. Advanced robust seal design prevents dust ingress and leakage, extending bearing life.



UC MATRIX SERIES - HEAVY DUTY

TEXSPIN[®] supplies technically superior and efficient UC Matrix Bearings (Heavy Duty Plain Bearings) in Industrial applications as a result of years of R&D efforts. (Industrial Sector)

TEXSPIN^{*} offers advanced features Robust seal design keeps out dust and leaks and extends bearing life. Bearings are lubricated and ready to install.



Construction

The TEXSPIN bearing unit is a combination of a radial ball bearing, seal, and a housing of high-grade cast iron or pressed steel, which comes in various shapes. The outer surface of the bearing and the internal surface of the housing are spherical, so that the unit is self-aligning. The inside construction of the ball bearing for the unit is such that steel balls and retainers of the same type as in series 62 and 63 of the TEXSPIN deep groove ball bearing are used. A duplex seal consisting of a combination of an oilproof synthetic rubber seal and a slinger, unique to TEXSPIN, is provided on both sides.

Depending on the type, the following methods of fitting to the shaft are employed:

- (1) The inner ring is fastened onto the shaft in two places by set screws.
- (2) The inner ring has a tapered bore and is fitted to the shaft by means of an adapter.
- (3) In the eccentric locking collar system, the inner ring is fastened to the shaft by means of eccentric grooves provided at the side of the inner ring and on the collar.

Structure of Pillow Blocks





Pillow Block Elements

- Cast iron Housing... Of one-piece rigid Structure and easy for Fixing.
- Wide Inner Ring . . . for rigidity and more effective setscrews locking.
- Hollow setscrews . . . two hollow setscrews 120° apart on the inner ring ensure easy and firm mounting on a shaft. Inner ring has been treated through special heat treatment.
- Steel Plate Slinger . . . one on each side of the bearing by which dust can be efficiently excluded.
- Contact-type seals . . . at both sides of bearing units.
- Grease Filling . . . from which grease can be added.
- Full Self-alignment . . . when the bearing undergoes inevitable deformations or proper alignment can not be achieved during mounting.

Design Features and Advantages

Maintenance Free Type

The TEXSPIN Maintenance free bearing unit contains a highgrade lithium-based grease, good for use over a long period, which is ideally suited to sealed-type bearings. Also provided is an excellent sealing device, unique to TEXSPIN, which prevents any leakage of grease or penetration of dust and water from outside. It is designed so that the rotation of the shaft causes the sealed-in grease to circulate through the inside space, effectively providing maximum lubrication. The lubrication effect is maintained over a long period with no need for replenishment of grease. To summarize the advantages of the TEXSPIN maintenance free bearing unit:

- (1) As an adequate amount of good quality grease is sealed in at the time of manufacture, there is no need for replenishment. This means savings in terms of time and maintenance costs.
- (2) Since there is no need for any regreasing facilities, such as piping, a more compact design is possible.
- (3) The sealed-in design eliminates the possibility of grease leakage, which could lead to stained products.
- (4) TEXSPIN have Heavy Pillow Block design for Long lasting performance.

Maintenance Free Type

The TEXSPIN relubricatable type bearing unit has an advantage over other similar units being so designed as to permit regreasing even in the case of misalignment of 2 to the right or left. The hole through which the grease fitting is mounted usually causes structural weakening of the housing. However, as a result of extensive testing, in the TEXSPIN bearing unit the hole is positioned so as to minimize this adverse effect. In addition, the regreasing groove has been designed to minimize weakening of the housing. While the TEXSPIN maintenance free type bearing unit is satisfactory for use under normal operating conditions indoors, in the following circumstances it is necessary to use the relubricatable type bearing unit:

- (1) Cases where the temperature of the bearing rises above 100 C, 212F: *- Normal temperature of up to 200 C, 392 F heat resistant bearing units.
- (2) Cases where there is excessive dust, but space does not permit using a bearing unit with a cover. (3) Cases where the bearing unit is constantly exposed to splashes of water or any other liquid, but space does not permit using a bearing unit with a cover.
- (4) Cases in which the humidity is very high, and the machine in which the bearing unit is used is run only intermittently.
- (5) Cases involving a heavy load of which the Cr/Pr value is about 10 or below, and the speed is 10 rpm or below, or the movement is oscillatory.
- (6) Cases where the number of revolutions is relatively high and the noise problem has to be considered; for example, when the bearing is used with the fan of an air conditioner.



Special sealing feature

Standard Bearing Units

The sealing device of the ball bearing for the TEXSPIN bearing unit is a combination of a heat-resistant and oil-proof synthetic rubber seal and a slinger of an exclusive TEXSPIN design.

- Duel Seal :Oil seal Is fixed in the outer ring inner diameter groove, and the rubber sealing lip beaked inside. In Additional, the simultaneous revolution with inner ring generates the wind pressure for dust-proof property.
- F Seal : This type enclosed a synthetic washer between two metal caps, Due to the three pieces design with protective outer shroud, the selling is excellent.

Secure Fitting

Fastening the bearing to the shaft is affected by tightening the ball-end set screw, situated on the inner ring. This is a unique TEXSPIN feature which prevents loosening, even if the bearing is subjected to intense vibrations and shocks.

Self-Aligning

With the TEXSPIN bearing unit, the outer surface of the ball bearing and the inner surface of the housing are spherical, thus this bearing unit has self-aligning characteristic. Any misalignment of axis that may arise from poor workmanship on the shaft or errors in fitting will be properly adjusted.

Higher rated load capacity

The bearing used in the unit is of the same internal construction as those in TEXSPIN bearing series 62 and 63, and is capable of accommodating axial load as well as radial load, or composite load. The rated load capacity of this bearing is considerably higher than that of the corresponding self-aligning ball bearings used for standard Plummer blocks.

Easy Mounting

The TEXSPIN bearing unit is an integrated unit consisting of a bearing and a housing. As the bearing is pre lubricated at manufacture with the correct amount of high-grade lithium base, it can be mounted on the shaft just as it is. It is sufficient to carry out a short test run after mounting.

Accurate fitting of the housing

In order to simplify the fitting of the pillow block and flange type bearing units, the housings are provided with a seat for a dowel pin, which may be utilized as needed.

Bearing replaceability

The bearing used in the TEXSPIN bearing unit is replaceable. In the event of bearing failure, a new bearing can be fitted to the existing housing.

Material

Raceway and rolling element materials

Materials with high hardness and appropriate toughness are used for the inner rings, outer rings and balls of the insert bearings since large compression forces and repetitive stresses are applied to a small contact. In general, Cold rolled steel is used for the cages. For special applications, stainless steel is also available for use in the insert bearings.

Housing materials

The most common materials used in TEXSPIN bearing unit housings are cast iron or steel plate, with cast iron being the standard. For special applications, materials such as spheroidal graphite iron, structural steel, stainless steel cast iron or plastic resin are also available for use in the housings. The chemoresistance properties of glass-fiber reinforced resin are shown in Table 3.5.



Boundary Dimensions & Selection of Bearing

Static Load Calculation formula as per ISO:76

$$C_{\rm 0r} = f_0 i Z D_{\rm w}^2 \cos \alpha$$

Γ



Dynamic Load Calculation formula as per ISO:281

$$C_{\rm r} = b_{\rm m} f_{\rm c} (i\cos\alpha)^{0,7} Z^{2/3} D_{\rm w}^{-1,8}$$

for $D_{\rm w} \le 25,4$ mm
$$C_{\rm r} = 3,647 b_{\rm m} f_{\rm c} (i\cos\alpha)^{0,7} Z^{2/3} D_{\rm w}^{-1,4}$$

for $D_{\rm w} > 25,4$ mm



Radial Internal Clearance of bearings.

The redial clearance for the spherical outside surface ball bearing is usually greater than that od the same sizes od deep groove ball bearing.

NOMINAL BORE DIAMETER		CLEARANCE									
		С	2	С	N	C3					
>	≤	Min.	Max.	Min.	Max.	Min.	Max.				
10	18	3	18	10	25	18	33				
18	24	5	20	12	28	20	36				
24	30	5	20	12	28	23	41				
30	40	6	20	13	33	28	46				
40	50	6	23	14	36	30	51				
50	65	8	28	18	43	38	61				
65	80	10	30	20	51	46	71				
80	100	12	36	24	58	53	84				
100	120	15	41	28	66	61	97				
120	140	18	48	33	81	71	114				



Pillow block ball bearing units, grub screw locking (UC)



Boundary Dimensions with Load Rating of UC Bearings

Part Number	Shaft Diameter (d)	Dimensions (mm)								Basic Load Rating (N)		Mass
		D	С	С	S	S1	G	h	ds	Dynamic Cr	Staric Cr	UC
TX-UC204	20+0.021	47-0.011	31±0.120	16	12.7- 0.200	18.3	4.7	4.4	M6X1.0	12800	6650	0.16
TX-UC205	25+0.021	52-0.013	34±0.12	17	14.3- 0.200	19.7	5.5	4.3	M6X1.0	14000	7880	0.23
TX-UC206	30+0.021	62-0.013	38.1±120	19	15.9 0.200	22.2	5.5	5	M6X1.0	19500	11200	0.33
TX-UC207	35+0.025	72-0.013	42.9±0.120	20	17.5 0.200	25.4	6.5	5.8	M8X1.0	25700	15200	0.53
TX-UC208	40+0.025	80-0.013	49.2±0.120	21	19 0.200	30.2	8	6.3	M8X1.0	29600	18200	0.68
TX-UC209	45+0.025	85-0.015	49.2±0.120	22	19 0.200	30.2	8	6.8	M8X1.0	31850	20800	0.77
TX-UC210	50+0.025	90-0.015	51.6±0.120	23	19 0.200	32.6	9	6.5	M10X1.25	35100	23200	0.82
TX-UC211	55+0.030	100-0.015	55.6±0.150	25	22.2 0.250	33.4	9	7.2	M10X1.25	43550	29200	1.19
TX-UC212	60+0.030	110-0.015	65.1±0.150	27	25.4 0.250	39.7	10.5	8.2	M10X1.25	47800	32800	1.54
TX-UC213	65+0.030	120-0.015	65.1±0.150	28	25.4 0.250	39.7	12	8	M10X1.25	57200	40000	1.84



Pillow block ball bearing units, grub screw locking (UCP)



Boundary Dimensions (UCP)

Bearing Name	Shaft	Dimensions (mm)										Dalk Oine		
	(d)	Н	L	J	А	Ν	N1	H1	H0	S	В	DUIL SIZE		
TX-UCP204	20	22.2	107	06	27	12	16	14	65	10.7	21	M10		
TX-UCP204T	20	55.5	121	90	57	15	10	14	05	12.7	51	IVITO		
TX-UCP205	05	26.5	140	105	29	12	10	15	71	10.7	24	M10		
TX-UCP205T	20	50.5	140	105	50	15	19	15	7.1	12.7	54	IVITO		
TX-UCP206	20	12.0	160	101	11	14	10	16	02	14.2	20.1	Mio		
TX-UCP206T	50	42.5	100	121	44	14	19	10	05	14.5	50.1	IVIIZ		
TX-UCP207	35	17.6	167	126	48	15	10	17	03	15.9	12.0	M10		
TX-UCP207T		47.0	107	120	40	15	19	17	90	15.5	42.5	IVIIZ		
TX-UCP208	40	10.2	190	126	50	15	01	10	100	17.5	10.2	Mio		
TX-UCP208T	40	49.2	100	100	52	10	21	10	100	17.0	10.2	IVIIZ		
TX-UCP209	45	45	54	100	146	54	15	01	20	108	10	10.2	M10	
TX-UCP209T		54	150	140	54	15	21	20	100	15	40.2	IVIIZ		
TX-UCP210	50	50	50	57.2	204	159	57	10	22	01	11/	10	51.6	Mie
TX-UCP210T		57.2	204	100	57	15	22	21	114	15	51.0	IVITO		
TX-UCP211	55	55	62.5	017	170	60	10	22	22	106	10	55.6	Mie	
TX-UCP211T	55	03.5	217	172	00	19	22	22	120	19	55.6	IVITO		
TX-UCP212	00	60.0	000	196	66	10	05	04	100	00.0	65 1	Mic		
TX-UCP212T	00	09.9	230	100	00	19	20	24	130	22.2	05.1	IVITO		
TX-UCP213	65	76.0	060	202	70	00	20	26	151	05.4	65 1	Maa		
TX-UCP213T		10.2	202	203	70	20	29	20	151	20.4	05.1	IVIZO		
TX-UCP214	70	70 79.4	266	266 210	72	22	20	07	157	20.0	74.0	Maa		
TX-UCP214T	70	79.4	200	210	12	20	29	21	137	50.2	74.0	IVIZO		
TX-UCP215	75	92.6	274	017	74	25	20	29	164	22.2	77.9	M20		
TX-UCP215T	/5	02.0	214	217	74	20	29	20	104	00.0	11.0	IVIZU		





Square Flange block ball bearing units, grub screw locking (UCF)

Boundary Dimensions (UCF)

Decring Name	Shaft Diameter (d)	Dimensions (mm)									
bearing Name		L	J	A2	A1	А	E	N	S	Boit Size	
TX-UCF204 TX-UCF204T	20	86	64	15	11	25.5	33.3	11.5	12.7	M10	
TX-UCF205 TX-UCF205T	25	95	70	16	13	27	35.7	11.5	14.3	M10	
TX-UCF206 TX-UCF206T	30	108	83	18	13	31	40.2	11.5	15.9	M12	
TX-UCF207 TX-UCF207T	35	117	92	19	15	34	44.4	14	17.5	M12	
TX-UCF208 TX-UCF208T	40	130	102	21	15	36	51.2	14	19	M12	
TX-UCF209 TX-UCF209T	45	137	105	22	16	38	52.2	16	19	M12	
TX-UCF210 TX-UCF210T	50	143	111	22	16	40	54.6	18	19	M16	
TX-UCF211 TX-UCF211T	55	162	130	25	18	43	58.4	18	22.2	M16	
TX-UCF212 TX-UCF212T	60	175	143	29	18	48	68.7	18	25.4	M16	
TX-UCF213 TX-UCF213T	65	187	149	30	22	50	69.7	18	25.4	M20	
TX-UCF214 TX-UCF214T	70	193	152	31	22	54	75.4	18	30.2	M20	
TX-UCF215 TX-UCF215T	75	200	159	34	22	56	78.5	18	33.3	M20	



At 60 TEXSPIN[®] rededicates itself to our core value of strong relationship with our valued partners and will remain the central guiding principle towards building a rock-solid partnership for the coming 60 years of our journey. TEXSPIN[®] stands committed to provide cutting edge technologies & products through its culture of innovation to exceed the expectation of the industry.

OUR QUEST REMAINS ENDLESS



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