OILES CORPORATION

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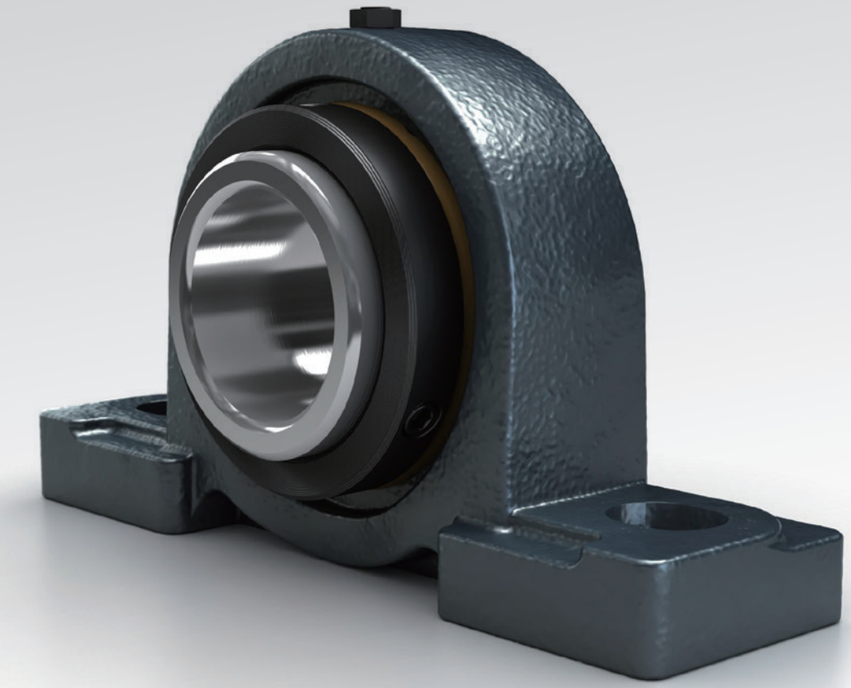
JC-700.17SH(3)

OILES™

OILES PILLOW BLOCK

Self-Aligning Plain Bearing Unit



Reduced Lubrication Burden

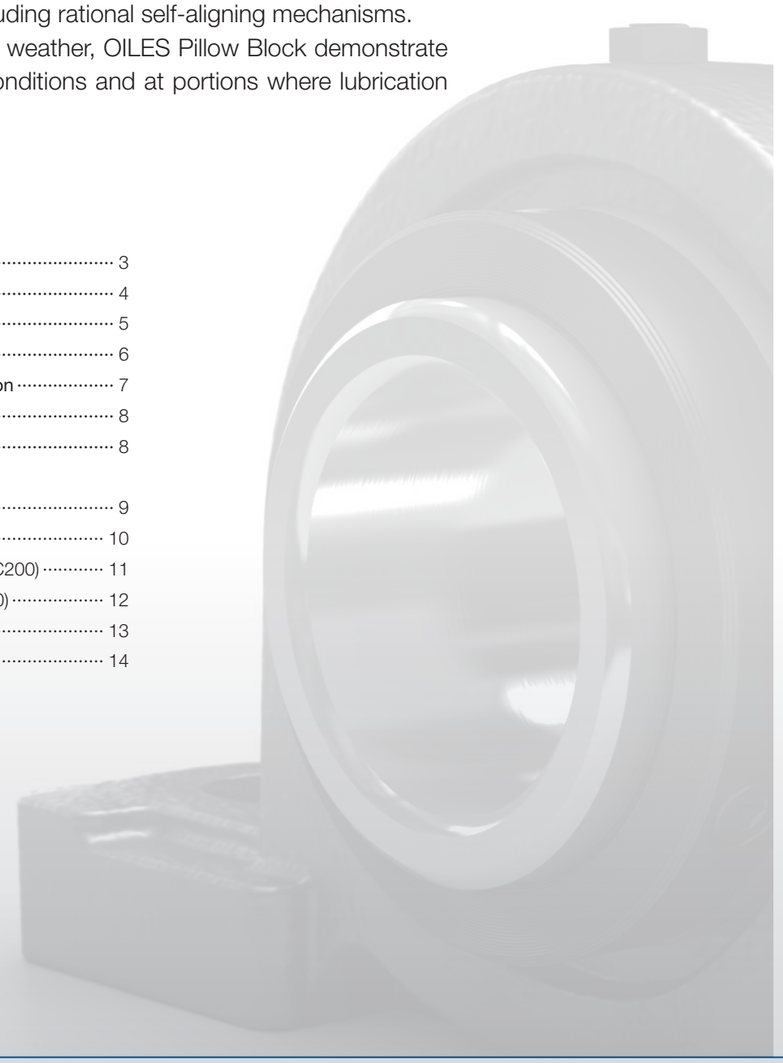
Applicable to Severe Environment

Easy Installation

OILES CORPORATION

OILES PILLOW BLOCK

OILES Pillow Blocks, consisting of an OILES spherical bearing combined with a bearing housing and an inner ring in various shapes, are plain bearing units with a variety of outstanding features, including rational self-aligning mechanisms. With superior resistance to wear and weather, OILES Pillow Block demonstrate superior performance even in bad conditions and at portions where lubrication is impossible.



CONTENTS

1. OILES Pillow Block Features and Structure

Easy handling enabled by complete integration into a unit

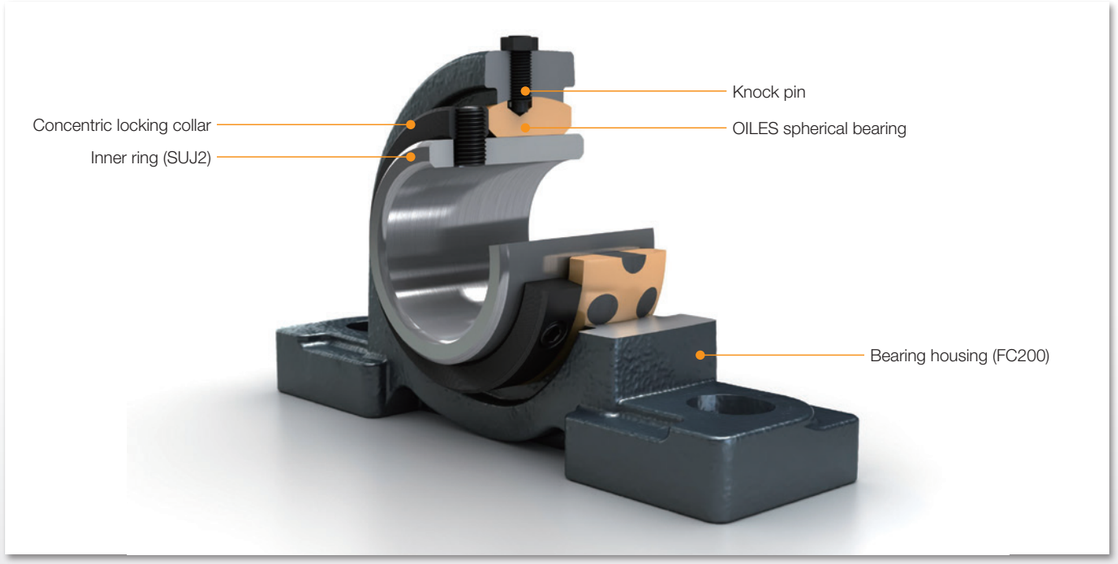
Similar to ball bearings, the OILES pillow blocks can be easily fixed to a mounting shaft with locking screws. An inner ring provided in the OILES spherical bearing bore contributes to excellent friction performance irrespective of surface roughness of the mounting shaft.

Rational self-alignment

Machined with high accuracy with a spherical surface processing machine, the mating surface of the OILES sphere bearing and the bearing housing allows smooth alignment without making deviated contact with the sliding surface, so the bearing performance is fully demonstrated while absorbing installation misalignment.

Maintenance-free operation

The OILES pillow blocks are usable without the need for lubrication, so they can be used on food processing machines where the use of grease is undesirable and also on portions that are difficult to lubricate, without worry.
(The bearing life can be extended by providing lubrication.)



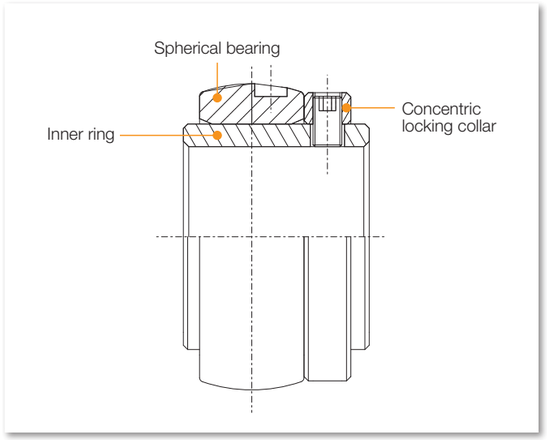
Bearing housing (manufactured by FYH INC.)

2. OILES Pillow Block Types

2.1 OILES Pillow Block

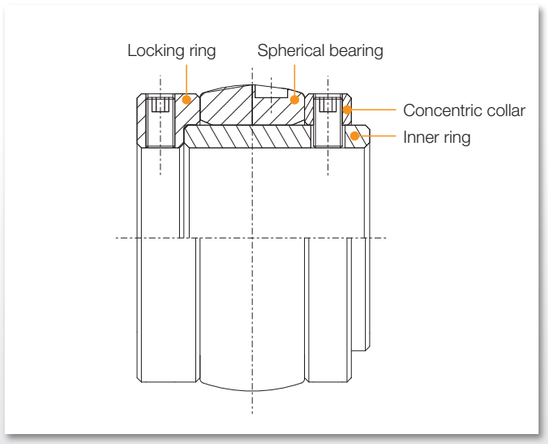
The OILES Pillow Blocks are available in different varieties, as shown below, in terms of type (whether a locking ring for use in a thermal expansion environment is provided or not), bearing housing shape and the OILES spherical bearing material.

UO type
Standard type for OILES Pillow Block bearing



Type	Bearing housing (shape)	Spherical bearing
UO	P	OILES 500B
		OILES 425
	F	OILES 500B
		OILES 425
	FC	OILES 500B
		OILES 425
	FL	OILES 500B
		OILES 425
	T	OILES 500B
		OILES 425

DUO type
Mainly used for bearings on the fixed side of high temperature portions where a shaft thermally expands.
(Refer to page 8.)



Type	Bearing housing (shape)	Spherical bearing
DUO	P	OILES 500B
		OILES 425
	F	OILES 500B
		OILES 425
	FC	OILES 500B
		OILES 425
	FL	OILES 500B
		OILES 425
	T	OILES 500B
		OILES 425

2.2 Bearing housings

Bearing housings applicable to OILES pillow blocks are the Pillow type (P), the Flange type (F, FC, FL) and the Take-up type (T).

2.3 OILES Spherical Bearing Material

OILES 500B

The OILES 500B series are self-lubricating bearings made from bronze cast base metal which is selected based on various experiments and actual performance and embedded with a graphite solid lubricant at a constant rate. This series is particularly outstanding in its heat resistance.

OILES 425 (for underwater applications)

Made-to-order products

The OILES 425 series are bearings made of phenol resin with special cotton cloth base material, which is treated with special processing to achieve excellent bearing performance in water.
This series has superior wear resistance and impact resistance to foreign matter as well as high durability, which is suitable for underwater applications (water treatment plants, food and beverage machinery).

*Please contact us for stainless products.

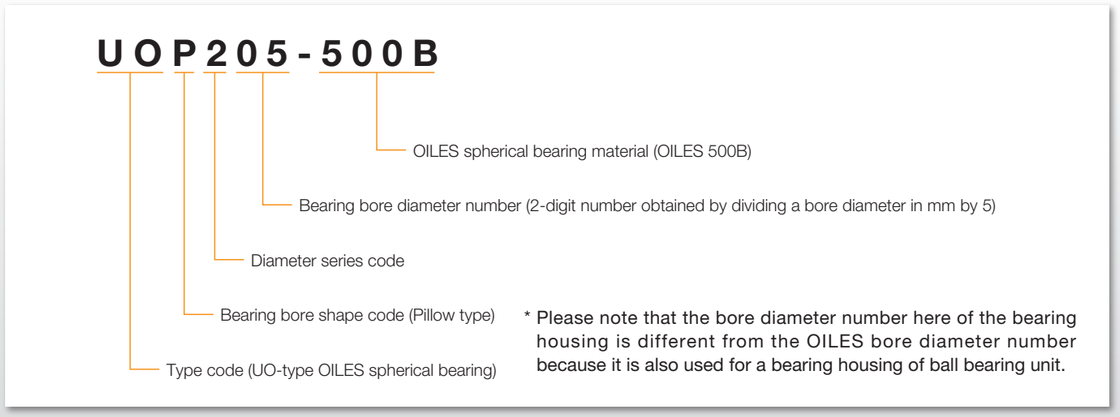
■ Mechanical and physical properties of OILES bearings

Item	Unit	OILES 500B	OILES 425
Specific gravity		8.7～8.8*1	1.3～1.4*2
Coefficient of linear expansion	$\times 10^{-5}$/°C	1.8	2～3
Thermal conductivity	W/m°C{cal/sec°Ccm}	71.1{0.17}	—
Tensile strength	N/mm²{kgf/mm²}	195{20}	35{3.6}
Hardness		HB60	HRM70
Tensile elongation at break	%	15	—

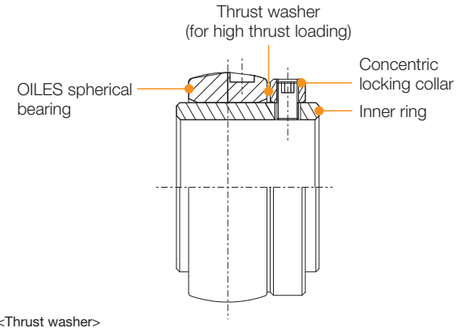
*1: The values indicate typical density (g/cm³).
*2: The values are typical values of JIS K6911.

3. Designation of OILES Pillow Block

The OILES pillow block number is composed in order of a type code, a bearing housing shape code, a diameter series code, a bearing bore diameter number and an OILES spherical bearing material code, as shown in the example below.



4. Service Range of OILES Pillow Block



<Thrust washer>
- Material: OILES Toughmet 2mm
- Mount the thrust washer with the Toughmet lining side (sliding surface) attached to the concentric locking collar side.

The service range of OILES pillow block is as shown in [Table 1]. The values are determined considering the service limit of OILES spherical bearing material and safety.
The allowable maximum load (P) in [Table 1] indicates radial load.
The running performance of the OILES pillow blocks is largely affected by load properties, operating condition, intrusion of foreign matter and various other conditions as well as by principal conditions. For this reason, correct the bearing load (P) and the rotation speed (n), which are used as rough selection guides, by multiplying an actually affected value by a condition coefficient shown in [Table 2].
To use the OILES pillow blocks in an oscillating motion, convert the maximum oscillating speed to the rotation speed.

If high thrust loading is expected with OILES 500B, please contact us for a thrust washer that can be inserted as shown in the left figure. (Made-to-order)

[Table 1] OILES pillow block service range

Bearing	500B (T: 200°C, MAX250°C*)						425 (T: Room temperature, 60°C or less in water)					
No.	P (kgf)	P (N)	n (rpm)	n (s^{-1})	Pn (kgf • rpm)	Pn (N • s^{-1})	P (kgf)	P (N)	n (rpm)	n (s^{-1})	Pn (kgf • rpm)	Pn (N • s^{-1})
204	460	4511	170	2.833	31800	5199	290	2844	220	3.667	25400	4152
205	540	5296	150	2.500	31800	5199	340	3334	190	3.167	25400	4152
206	710	6963	120	2.000	35000	5722	440	4315	160	2.667	28000	4577
207	940	9218	110	1.833	39800	6506	590	5786	140	2.333	31800	5199
208	1130	11082	100	1.667	42900	7013	710	6963	130	2.167	34300	5607
209	1320	12945	90	1.500	46100	7536	820	8041	120	2.000	36900	6032
210	1450	14220	80	1.333	46100	7536	900	8826	110	1.833	36900	6032
211	1690	16573	70	1.167	47700	7798						
212	2050	20104	70	1.167	52500	8583						
213	2240	21967	60	1.000	54100	8844						
214	2640	25890	55	0.917	60500	9890						
215	2920	28635	50	0.833	63600	10397						
216	3160	30989	50	0.833	63600	10397						
217	3550	34814	45	0.750	66800	10920						
218	4060	39815	45	0.750	71600	11705						

Notes P: Maximum allowable load PXn: Maximum allowable Pn value
n: Maximum allowable rotation speed T: Maximum allowable temperature

*Please contact your local sales office for use in the environment exceeding 200°C.

[Table 2] Condition coefficient

	Conditions	Coefficient			Applicable OILES bearing material
Load coefficient (f_R)	Shock application state	Nearly no shock is applied	Repeated load is applied	Shock is applied	500B • 425
		1.0～1.2	1.2～2.0	2.0～4.0	
Temperature coefficient (f_T)	Service temperature	～50°C	50～150°C	150～250°C	500B
		1.0	1.0～1.5	1.5～2.5	
Operation coefficient (f_K)	Operating condition	Intermittent operation	Continuous operation		500B • 425
		1.0	1.5		
Lubrication coefficient (f_L)	Lubrication state	Dry	Lubricated		500B
		1.0	0.7		

Note: Set the lubrication coefficient fL to 0.7 for periodic small amount of lubrication. Set it to 1.0 when the service temperature is 150°C or higher.

5. Calculation Examples of OILES Pillow Block Selection

[Example 1]

Load	P_0	2942N
Rotation speed	n_0	0.500s^{-1}
Load coefficient	f_R	1.2
Temperature coefficient (180oC)	f_T	1.8
Operation coefficient (continuous)	f_K	1.5
Lubrication coefficient (dry)	f_L	1.0

Can UOP208 500B be used?

Condition coefficient (f) $f_R \times f_T \times f_K \times f_L = 3.24$

Bearing load (P) $f \times P_0$
$3.24 \times 2942 = 9532N$

Rotation speed (n) $f \times n_0$
$3.24 \times 0.500 = 1.620s^{-1}$

Pn value (Pn) $f \times P_0 \times n_0$
$3.24 \times 2942 \times 0.500 = 4766N \times s^{-1}$

According to Table 1, the allowable bearing load of the bearing UOP208 500B is 11082 N, the maximum allowable rotation speed is 1.667 s-1 and the maximum allowable Pn value is 7013 N × s-1, which means that all of the calculated values meet their tolerances and thus the bearing UOP208 500B can be used.

[Example 2] Underwater application at 40°C

Load	P_0	1765N
Rotation speed	n_0	1.500s^{-1}
Load coefficient	f_R	1.1
Operation coefficient (continuous)	f_K	1.5
Lubrication coefficient (dry)	f_L	1.0

Select an OILES pillow block usable in the following conditions.

Condition coefficient (f) $f_R \times f_K \times f_L = 1.65$

Bearing load (P) $f \times P_0$
$1.65 \times 1765 = 2912N$

Rotation speed (n) $f \times n_0$
$1.65 \times 1.500 = 2.475s^{-1}$

Pn value (Pn) $f \times P_0 \times n_0$
$1.65 \times 1765 \times 1.500 = 4368N \times s^{-1}$

From Table 1, select a bearing UO206 425 that meets the use conditions among the bearings OILES 425 for underwater applications.

*** For underwater applications, a bearing housing and an inner ring also need to be considered separately.**

6. Estimated Wear Amount of OILES Pillow Block

The service life of plain bearings, including the OILES pillow block, is determined mainly by the wear amount of the bearing sliding surface, except for the case of rapid seizure of the bearings. Since the wear phenomenon of the plain bearings is largely affected by conditions such as the lubrication state and intrusion of foreign matter, it is extremely difficult to apply the wear calculation formula in practice. Thus, for wear amount of the OILES pillow block, use the value obtained in the formulas on the right, which were derived from years of experience and experiments, as a rough standard.

Wear coefficient (K) values vary by material type of OILES spherical bearing. The values obtained from approximate maximum allowable PV values a re shown in [Table 3].
Use the wear amount (w) just as a rough standard because the wear coefficient (K) values change according to the operating conditions.

[Table 3] Wear coefficient (K)

OILES bearing material	Wear coefficient (K)
500B	$3\times10^{-2}\sim6\times10^{-5}$
425	$3\times10^{-2}\sim6\times10^{-5}$

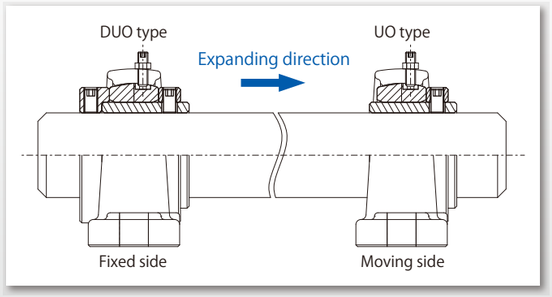
[Pressure] $p = P/(Be \times C)$ (N/mm^2)
[Peripheral speed] $v = \pi \times C \times n/1000$ (m/s)
P: Working load (N)
Be: OILES spherical bearing width (mm) (Refer to page 14)
C: OILES spherical bearing bore diameter (mm)
n: Rotation speed per second (s^{-1})
[Wear amount] $w = K \times p \times v \times H$ (mm)
K: Wear coefficient
H: Total operating time (h)

7. Precautions for Use of OILES Pillow Block

(1) For OILES pillow block, it is recommended to apply the shaft tolerance of h7 and h8 shown in [Table 4].
(2) At the time of assembly, apply grease between the OILES spherical bearing bore and the inner ring outside surface and break in the bearing sufficiently before use so that the initial wear is reduced and the service life is extended. (e.g. use lithium soap based grease at normal temperature and heat-resistant grease added with molybdenum disulfide at high temperature)
(3) For use at high temperature portions, fix one bearing and install the other bearing so that the inner ring can slide in the axial direction, as shown in the figure below, considering thermal expansion of the shaft due to atmospheric temperature.

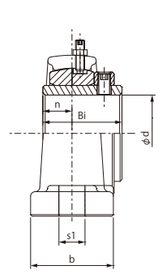
[Table 4] Shaft tolerance Unit: 0.001 mm

Shaft dimension (mm)	h7	h8
Above 10, up to 18	0～−18	0～−27
Above 18, up to 30	0～−21	0～−33
Above 30, up to 50	0～−25	0～−39
Above 50, up to 80	0～−30	0～−46
Above 80, up to 120	0～−35	0～−54

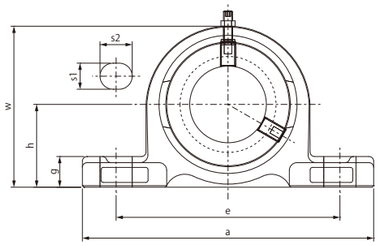


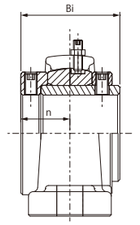
Pillow Block Units
UOP200
DUOP200

Select a type based on the shaft diameter to be applied, a unit number and a spherical bearing material.
[Example] To order a 500B pillow block unit for a shaft diameter of 35 mm
UOP207-500B * 425-type spherical bearings are made to order.



UOP200





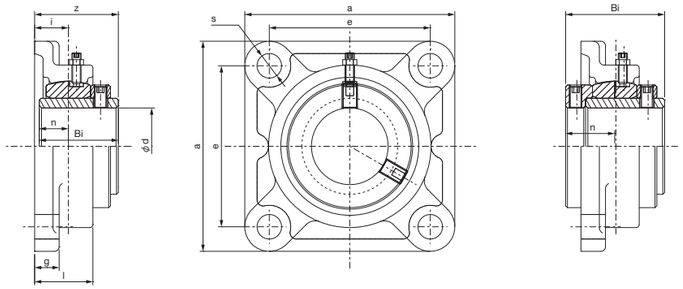
DUOP200

Unit No.	Shaft diameter (mm)	Dimension (mm)										Mounting bolt nominal diameter	Bearing number	Bearing housing number
	d	h	a	e	b	s1	s2	g	w	Bi	n			
UOP 204	20	33.3	127	95	38	13	18	16	64	31	12.7	M10	UO204	P204
DUOP 204										39	20.7		DUO204	
UOP 205	25	33.3	127	95	38	13	18	16	64	34.1	12.8	M10	UO205	P204
DUOP 205										43.1	21.8		DUO205	
UOP 206	30	36.5	140	105	38	13	18	16	70	38.1	14.3	M10	UO206	P205
DUOP 206										48.1	24.3		DUO206	
UOP 207	35	42.9	165	121	48	17	21	17	84	42.9	15.9	M14	UO207	P206
DUOP 207										52.9	25.9		DUO207	
UOP 208	40	47.6	167	127	48	17	21	18	93	49.2	17	M14	UO208	P207
DUOP 208										61.2	29		DUO208	
UOP 209	45	49.2	184	137	54	17	21	18	98	49.2	19	M14	UO209	P208
DUOP 209										61.2	31		DUO209	
UOP 210	50	54	190	146	54	17	21	20	105	51.6	19	M14	UO210	P209
DUOP 210										64.6	32		DUO210	
Only 500B products are made to order for the following models.														
UOP 211	55	57.2	206	159	60	20	22	21	113	55.6	21.5	M16	UO211	P210
DUOP 211										70.6	36.5		DUO211	
UOP 212	60	63.5	219	171	60	20	22	23	125	65.1	21.5	M16	UO212	P211
DUOP 212										81.1	37.5		DUO212	
UOP 213	65	69.8	241	184	70	20	25	25	138	65.1	25.5	M16	UO213	P212
DUOP 213										81.1	41.5		DUO213	
UOP 214	70	76.2	265	203	70	25	30	27	150	74.6	26.5	M20	UO214	P213
DUOP 214										90.6	42.5		DUO214	
UOP 215	75	79.4	266	210	72	25	30	27	156	77.8	27	M20	UO215	P214
DUOP 215										96.8	46		DUO215	
UOP 216	80	82.6	275	217	74	25	30	28	162	82.6	30	M20	UO216	P215
DUOP 216										102.6	50		DUO216	
UOP 217	85	88.9	292	232	78	25	35	30	174	85.7	30	M20	UO217	P216
DUOP 217										105.7	50		DUO217	
UOP 218	90	95.2	310	247	83	25	40	32	185	96	32	M20	UO218	P217
DUOP 218										116	52		DUO218	

Square Bolt Flange Units

UOF200
DUOF200

Select a type based on the shaft diameter to be applied, a unit number and a spherical bearing material.
[Example] To order a 500B square bolt flange unit for a shaft diameter of 25 mm
UOF205-500B * 425- type spherical bearings are made to order.



UOF200 DUOF200

Unit No.	Shaft diameter (mm)	Dimension (mm)									Mounting bolt nominal diameter	Bearing number	Bearing housing number
	d	a	e	i	g	l	s	Z	Bi	n			
UOF 204	20	86	64	15	11	25.5	12	33.3	31	12.7	M10	UO204	F204
DUOF 204									39	20.7		DUO204	
UOF 205	25	86	64	15	11	25.5	12	36.3	34.1	12.8	M10	UO205	F204
DUOF 205									43.1	21.8		DUO205	
UOF 206	30	95	70	16	13	27	12	39.8	38.1	14.3	M10	UO206	F205
DUOF 206									48.1	24.3		DUO206	
UOF 207	35	108	83	18	13	31	12	45	43	15.9	M10	UO207	F206
DUOF 207									53	25.9		DUO207	
UOF 208	40	117	92	19	15	34	14	51.2	49.2	17	M12	UO208	F207
DUOF 208									61.2	29		DUO208	
UOF 209	45	130	102	21	15	36	16	51.2	49.2	19	M14	UO209	F208
DUOF 209									61.2	31		DUO209	
UOF 210	50	137	105	22	16	38	16	54.6	51.6	19	M14	UO210	F209
DUOF 210									64.6	32		DUO210	

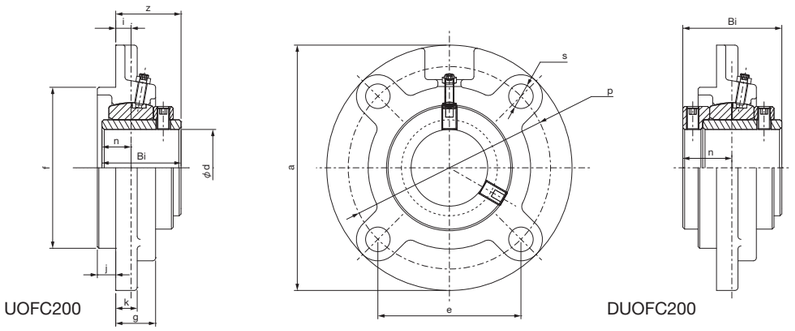
Only 500B products are made to order for the following models.

UOF 211	55	143	111	22	16	40	16	56.1	55.6	21.5	M14	UO211	F210
DUOF 211									70.6	36.5		DUO211	
UOF 212	60	162	130	25	18	43	19	68.6	65.1	21.5	M16	UO212	F211
DUOF 212									81.1	37.5		DUO212	
UOF 213	65	175	143	29	18	48	19	68.6	65.1	25.5	M16	UO213	F212
DUOF 213									81.1	41.5		DUO213	
UOF 214	70	187	149	30	22	50	19	78.1	74.6	26.5	M16	UO214	F213
DUOF 214									90.6	42.5		DUO214	
UOF 215	75	193	152	31	22	54	19	81.8	77.8	27	M16	UO215	F214
DUOF 215									96.8	46		DUO215	
UOF 216	80	200	159	34	22	56	19	86.6	82.6	30	M16	UO216	F215
DUOF 216									102.6	50		DUO216	
UOF 217	85	208	165	34	22	58	23	89.7	85.7	30	M20	UO217	F216
DUOF 217									105.7	50		DUO217	
UOF 218	90	220	175	36	24	63	23	100	96	32	M20	UO218	F217
DUOF 218									116	52		DUO218	

Piloted Flange Cartridge Units

UOFC200
DUOFC200

Select a type based on the shaft diameter to be applied, a unit number and a spherical bearing material.
[Example] To order a 500B piloted flange cartridge unit for a shaft diameter of 40 mm
UOFC208-500B * 425- type spherical bearings are made to order.



UOFC200 DUOFC200

Unit No.	Shaft diameter (mm)	Dimension (mm)													Mounting bolt nominal diameter	Bearing number	Bearing housing number
	d	a	p	e	i	s	j	k	g	f	Z	Bi	n				
UOFC 204	20	100	78	55.1	10	12	5	7	20.5	62	28.3	31	12.7	M10	UO204	FC204	
DUOFC 204												39	20.7		DUO204		
UOFC 205	25	100	78	55.1	10	12	5	7	20.5	62	31.3	34.1	12.8	M10	UO205	FC204	
DUOFC 205												43.1	21.8		DUO205		
UOFC 206	30	115	90	63.6	10	12	6	7	21	70	33.8	38.1	14.3	M10	UO206	FC205	
DUOFC 206												48.1	24.3		DUO206		
UOFC 207	35	125	100	70.7	10	12	8	8	23	80	37	43	15.9	M10	UO207	FC206	
DUOFC 207												53	25.9		DUO207		
UOFC 208	40	135	110	77.8	11	14	8	9	26	90	43.2	49.2	17	M12	UO208	FC207	
DUOFC 208												61.2	29		DUO208		
UOFC 209	45	145	120	84.8	11	14	10	9	26	100	41.2	49.2	19	M12	UO209	FC208	
DUOFC 209												61.2	31		DUO209		
UOFC 210	50	160	132	93.3	10	16	12	14	26	105	42.6	51.6	19	M14	UO210	FC209	
DUOFC 210												64.6	32		DUO210		

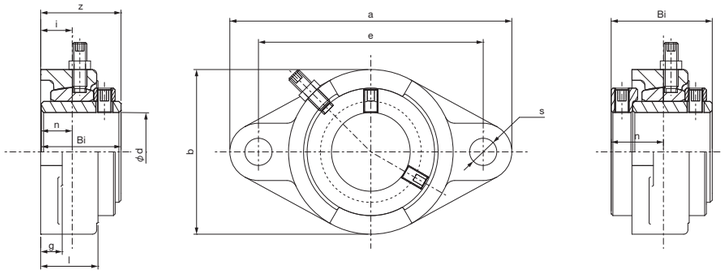
Only 500B products are made to order for the following models.

UOFC 211	55	165	138	97.6	10	16	12	14	28	110	44.1	55.6	21.5	M14	UO211	FC210
DUOFC 211												70.6	36.5		DUO211	
UOFC 212	60	185	150	106.1	13	19	12	15	31	125	56.6	65.1	21.5	M16	UO212	FC211
DUOFC 212												81.1	37.5		DUO212	
UOFC 213	65	195	160	113.1	17	19	12	15	36	135	56.6	65.1	25.5	M16	UO213	FC212
DUOFC 213												81.1	41.5		DUO213	
UOFC 214	70	205	170	120.2	16	19	14	15	36	145	64.1	74.6	26.5	M16	UO214	FC213
DUOFC 214												90.6	42.5		DUO214	
UOFC 215	75	215	177	125.1	17	19	14	18	40	150	67.8	77.8	27	M16	UO215	FC214
DUOFC 215												96.8	46		DUO215	
UOFC 216	80	220	184	130.1	18	19	16	18	40	160	70.6	82.6	30	M16	UO216	FC215
DUOFC 216												102.6	50		DUO216	
UOFC 217	85	240	200	141.4	18	23	16	18	42	170	73.7	85.7	30	M20	UO217	FC216
DUOFC 217												105.7	50		DUO217	
UOFC 218	90	250	208	147.1	18	23	18	20	45	180	82	96	32	M20	UO218	FC217
DUOFC 218												116	52		DUO218	

Diamond Bolt Flange Units

UOFL200
DUOFL200

Select a type based on the shaft diameter to be applied, a unit number and a spherical bearing material.
[Example] To order a 500B diamond bolt flange unit for a shaft diameter of 20 mm
UOFL204-500B *425- type spherical bearings are made to order.



UOFL200 DUOFL200

Unit No.	Shaft diameter (mm)	Dimension (mm)										Mounting bolt nominal diameter	Bearing number	Bearing housing number
	d	a	e	i	g	l	s	b	Z	Bi	n			
UOFL 204	20	113	90	15	11	25.5	12	60	33.3	31	12.7	M10	UO204	FL204
DUOFL 204										39	20.7		DUO204	
UOFL 205	25	113	90	15	11	25.5	12	60	36.3	34.1	12.8	M10	UO205	FL204
DUOFL 205										43.1	21.8		DUO205	
UOFL 206	30	130	99	16	13	27	16	68	39.8	38.1	14.3	M14	UO206	FL205
DUOFL 206										48.1	24.3		DUO206	
UOFL 207	35	148	117	18	13	31	16	80	45	43	15.9	M14	UO207	FL206
DUOFL 207										53	25.9		DUO207	
UOFL 208	40	161	130	19	14	34	16	90	51.2	49.2	17	M14	UO208	FL207
DUOFL 208										61.2	29		DUO208	
UOFL 209	45	175	144	21	14	36	16	100	51.2	49.2	19	M14	UO209	FL208
DUOFL 209										61.2	31		DUO209	
UOFL 210	50	188	148	22	15	38	19	108	54.6	51.6	19	M16	UO210	FL209
DUOFL 210										64.6	32		DUO210	

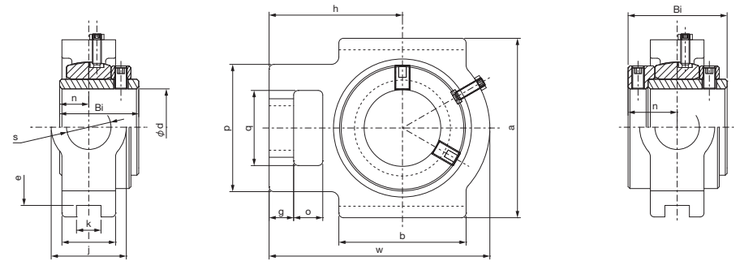
Only 500B products are made to order for the following models.

UOFL 211	55	197	157	22	15	40	19	115	56.1	55.6	21.5	M16	UO211	FL210
DUOFL 211										70.6	36.5		DUO211	
UOFL 212	60	224	184	25	18	43	19	130	68.6	65.1	21.5	M16	UO212	FL211
DUOFL 212										81.1	37.5		DUO212	
UOFL 213	65	250	202	29	18	48	23	140	68.6	65.1	25.5	M20	UO213	FL212
DUOFL 213										81.1	41.5		DUO213	
UOFL 214	70	258	210	31	20	50	23	155	79.1	74.6	26.5	M20	UO214	FL213
DUOFL 214										90.6	42.5		DUO214	
UOFL 215	75	265	216	31	20	54	23	160	81.8	77.8	27	M20	UO215	FL214
DUOFL 215										96.8	46		DUO215	
UOFL 216	80	275	225	34	20	56	23	165	86.6	82.6	30	M20	UO216	FL215
DUOFL 216										102.6	50		DUO216	
UOFL 217	85	290	233	34	20	58	25	180	89.7	85.7	30	M22	UO217	FL216
DUOFL 217										105.7	50		DUO217	
UOFL 218	90	305	248	36	22	63	25	190	100	96	32	M22	UO218	FL217
DUOFL 218										116	52		DUO218	

Take-up Units

UOT200
DUOT200

Select a type based on the shaft diameter to be applied, a unit number and a spherical bearing material.
[Example] To order a 500B take-up unit for a shaft diameter of 35 mm
UOT207-500B *425- type spherical bearings are made to order.



UOT200 DUOT200

Unit No.	Shaft diameter (mm)	Dimension (mm)															Bearing number	Bearing housing number
	d	o	g	p	q	s	b	k	e	a	w	j	l	h	Bi	n		
UOT 204	20	16	10	51	32	19	51	12	76	89	94	32	21	61	31	12.7	UO204	T204
DUOT 204															39	20.7	DUO204	
UOT 205	25	16	10	51	32	19	51	12	76	89	94	32	21	61	34.1	12.8	UO205	T204
DUOT 205															43.1	21.8	DUO205	
UOT 206	30	16	10	51	32	19	51	12	76	89	97	32	24	62	38.1	14.3	UO206	T205
DUOT 206															48.1	24.3	DUO206	
UOT 207	35	16	10	56	37	22	57	12	89	102	113	37	28	70	42.9	15.9	UO207	T206
DUOT 207															52.9	25.9	DUO207	
UOT 208	40	16	13	64	37	22	64	12	89	102	129	37	30	78	49.2	17	UO208	T207
DUOT 208															61.2	29	DUO208	
UOT 209	45	19	16	83	49	29	83	16	102	114	144	49	33	88	49.2	19	UO209	T208
DUOT 209															61.2	31	DUO209	
UOT 210	50	19	16	83	49	29	83	16	102	117	144	49	35	87	51.6	19	UO210	T209
DUOT 210															64.6	32	DUO210	

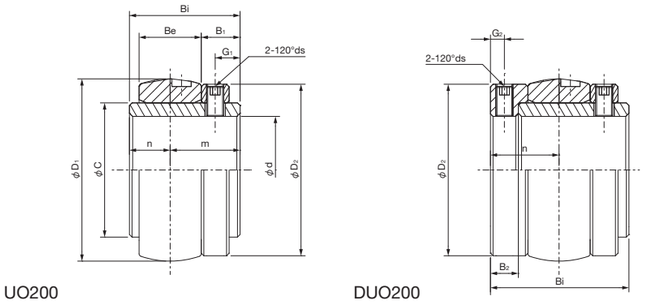
Only 500B products are made to order for the following models.

UOT 211	55	19	16	83	49	29	86	16	102	117	149	49	37	90	55.6	21.5	UO211	T210
DUOT 211															70.6	36.5	DUO211	
UOT 212	60	25	19	102	64	35	95	22	130	146	171	64	38	106	65.1	21.5	UO212	T211
DUOT 212															81.1	37.5	DUO212	
UOT 213	65	32	19	102	64	35	102	22	130	146	194	64	42	119	65.1	25.5	UO213	T212
DUOT 213															81.1	41.5	DUO213	
UOT 214	70	32	21	111	70	41	121	26	151	167	224	70	44	137	74.6	26.5	UO214	T213
DUOT 214															90.6	42.5	DUO214	
UOT 215	75	32	21	111	70	41	121	26	151	167	224	70	46	137	77.8	27	UO215	T214
DUOT 215															96.8	46	DUO215	
UOT 216	80	32	21	111	70	41	121	26	151	167	232	70	48	140	82.6	30	UO216	T215
DUOT 216															102.6	50	DUO216	
UOT 217	85	32	21	111	70	41	121	26	165	184	235	70	51	140	85.7	30	UO217	T216
DUOT 217															105.7	50	DUO217	
UOT 218	90	38	29	124	73	48	157	30	173	198	260	73	54	162	96	32	UO218	T217
DUOT 218															116	52	DUO218	

OILES Spherical Bearing Unit

UO200
DUO200

Select a type based on the bearing number to be applied and a spherical bearing material.
[Example] To order a 500B unit without a locking collar for a shaft diameter of 20 mm
UO204-500B *425- type spherical bearings are made to order.



Bearing No.	Shaft diameter (mm)	Dimension (mm)											
	d	D_1	C	Be	Bi	n	m	D_2	B_1	B_2	G_1	G_2	ds
UO 204	20	47	29.06	20	31	12.7	18.3	39	8.3	—	4.3	4	M5×0.8
DUO 204					39	20.7				8			
UO 205	25	47	34	20	34.1	12.8	21.3	45	11.3	—	6.8	4.5	M6×0.75
DUO 205					43.1	21.8				9			
UO 206	30	52	40.4	22	38.1	14.3	23.8	52	12.8	—	7.8	5	M6×0.75
DUO 206					48.1	24.3				10			
UO 207	35	62	47.45	25	42.9	15.9	27	60	14.5	—	9.5	5	M6×0.75
DUO 207					52.9	25.9				10			
UO 208	40	72	52.7	27	49.2	17	32.2	68	18.7	—	12.7	6	M8×1
DUO 208					61.2	29				12			
UO 209	45	80	57.14	29	49.2	19	30.2	73	15.7	—	9.7	6	M8×1
DUO 209					61.2	31				12			
UO 210	50	85	62.6	29	51.6	19	32.6	80	18.1	—	11.6	6.5	M8×1
DUO 210					64.6	32				13			
Only 500B products are made to order for the following models.													
UO 211	55	90	70.5	30	55.6	21.5	34.1	89	19.1	—	11.6	7.5	M10×1.25
DUO 211					70.6	36.5				15			
UO 212	60	100	77.7	33	65.1	21.5	43.6	95	27.1	—	19.1	8	M10×1.25
DUO 212					81.1	37.5				16			
UO 213	65	110	82.7	34	65.1	25.5	39.6	106	22.6	—	14.6	8	M10×1.25
DUO 213					81.1	41.5				16			
UO 214	70	120	87	38	74.6	26.5	48.1	110	29.1	—	21.1	8	M10×1.25
DUO 214					90.6	42.5				16			
UO 215	75	125	91.4	40	77.8	27	50.8	115	30.8	—	21.3	9.5	M12×1.5
DUO 215					96.8	46				19			
UO 216	80	130	98.85	40	82.6	30	52.6	122	32.6	—	22.6	10	M12×1.5
DUO 216					102.6	50				20			
UO 217	85	140	105.8	42	85.7	30	55.7	129	34.7	—	24.7	10	M12×1.5
DUO 217					105.7	50				20			
UO 218	90	150	112.8	45	96	32	64	136	41.5	—	31.5	10	M12×1.5
DUO 218					116	52				20			

How to order components (single items)

The OILES pillow block components are available separately. Refer to the following for ordering procedures.

Component	Material	How to order
Spherical bearing	OILES 500B OILES 425	Select relevant numbers (page 14) and a bearing material, and add “E” to the end of the code. [Example] For UO204 and 500B: ·····**UO204-500BE** For UO204 and 425: ·····**UO204-425E**
Inner ring Concentric locking collar	SUJ2 S45C + Manganese phosphate treatment	Select relevant numbers (page 14) and add “IN” to the end of the code. [Example] For UO204: ·····**UO204-IN**
Locking ring	S45C + Manganese phosphate treatment	Select relevant numbers (page 14) and add “CLS” to the end of the code. [Example] For DUO204: ·····**UO204-CLS** *Note that “D” is not added to the beginning of the code.
Bearing housing	FC200	Select a relevant OILES pillow block number and add “H” to the end of the code. [Example] For pillow block unit UOP204: ·····**UOP204-H** For square bolt flange unit UOF204: ·····**UOF204-H**

Introduction of OILES Spherical Bearing Units

*Please contact our sales office for details.

Model: SPS

OILES 500SP1 spherical bearing

Features

- In compliance with Type E of ISO standard, dimensionally compatible and highly accurate.
- Capable of responding to large-angle oscillations made in the circumferential direction.
- Serviceable without the need for lubrication. Extremely long service life.

Service range

Lubrication conditions		Dry
Service temperature range (°C)	°C	−40～+150
Allowable maximum pressure (P)	N/mm^2{kgf/cm^2}	39.2{400}
Allowable maximum velocity (V)	m/s{m/min}	0.15{9}
Allowable maximum PV value (PV)	N/mm^2 • m/s{kgf/cm^2 • m/min}	0.80{490}

*The values above are applicable when SL1 is used as solid lubricant.

Models: 80UP/80FL

OILES Pillow 80 (Pillow-type unit, Diamond flanged unit)

Features

- Provides OILES 80 (oil impregnated polyacetal bearing) features, such as not needing lubrication, superior load bearing and superior wear resistance.
- Demonstrates high sliding performance during intermittent motion.
- All of the bearing unit components are made of plastic. The unit is small and lightweight and has high corrosion resistance.
- Standard products are available in various sizes

Service range

Lubrication conditions		Intermittent	Continuous
Service temperature range (°C)	°C	−20～+60	
Allowable maximum pressure (P)	N/mm^2{kgf/cm^2}	2.0{21}	
Allowable maximum velocity (V)	m/s{m/min}	0.40{24}	0.25{15}
Allowable maximum PV value (PV)	N/mm^2 • m/s{kgf/cm^2 • m/min}	0.50{306}	0.30{184}