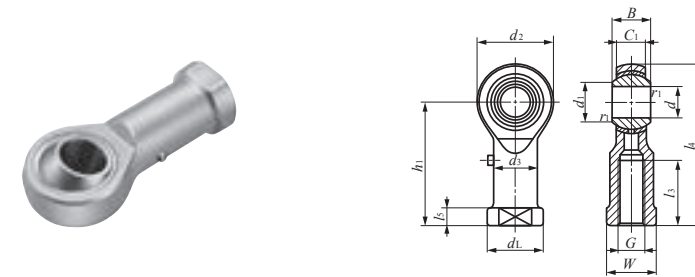


# PILLOBALLS

- PILLOBALL Spherical Bushings - Insert Type
- PILLOBALL Rod Ends - Insert Type
- PILLOBALL Rod Ends - Die-cast Type
- PILLOBALL Rod Ends - Maintenance-free Type



## Lubrication Type PILLOBALL Rod Ends Insert Type/With Female Thread



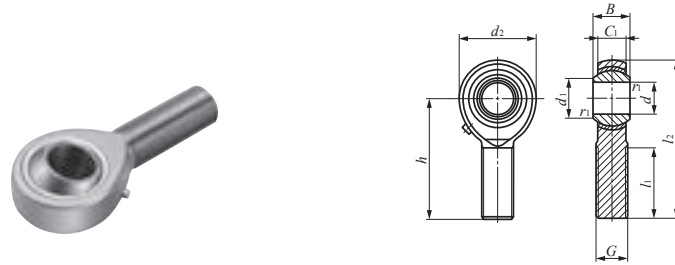
PHS(···A)

Identification number	Mass (Ref.) g	Boundary dimensions mm														Dynamic load capacity $C_d$ N	Static load capacity $C_s$ N	
		$d$	Thread $G$	$d_2$	$C_1$	$B$	$d_1$	$l_4$	$h_1$	$l_3$	$l_5$	$W$	$d_3$	$d_L$	$r_{1\text{min}}^{(1)}$			Ball dia. mm (inch)
PHS 3	5.7	3	M 3×0.5	12	4.5	6	5.2	27	21	10	3	5.5	5	6.5	0.2	7.938 ( $\frac{5}{16}$ )	1 750	3 670
PHS 4	11.9	4	M 4×0.7	14	5.3	7	6.5	31	24	12	4	8	8	9.5	0.2	9.525 ( $\frac{3}{8}$ )	2 480	4 680
PHS 5A	16.5	5	M 5×0.8	16	6	8	7.7	35	27	14	4	9	9	11	0.2	11.112 ( $\frac{7}{16}$ )	3 270	5 730
PHS 6A	25	6	M 6×1	18	6.75	9	9	39	30	14	5	11	10	13	0.2	12.700 ( $\frac{1}{2}$ )	4 200	6 910
PHS 8A	43	8	M 8×1.25	22	9	12	10.4	47	36	17	5	14	12.5	16	0.2	15.875 ( $\frac{5}{8}$ )	7 010	10 200
PHS 10A	72	10	M10×1.5	26	10.5	14	12.9	56	43	21	6.5	17	15	19	0.2	19.050 ( $\frac{3}{4}$ )	9 810	13 300
PHS 12A	107	12	M12×1.75	30	12	16	15.4	65	50	24	6.5	19	17.5	22	0.2	22.225 ( $\frac{7}{8}$ )	13 100	16 900
PHS 14A	160	14	M14×2	34	13.5	19	16.9	74	57	27	8	22	20	25	0.2	25.400 (1)	16 800	20 900
PHS 16A	210	16	M16×2	38	15	21	19.4	83	64	33	8	22	22	27	0.2	28.575 ( $1\frac{1}{8}$ )	21 000	25 400
PHS 18A	295	18	M18×1.5	42	16.5	23	21.9	92	71	36	10	27	25	31	0.2	31.750 ( $1\frac{1}{4}$ )	25 700	30 200
PHS 20	380	20	M20×1.5	46	18	25	24.4	100	77	40	10	30	27.5	34	0.2	34.925 ( $1\frac{3}{8}$ )	30 800	35 500
PHS 22	490	22	M22×1.5	50	20	28	25.8	109	84	43	12	32	30	37	0.2	38.100 ( $1\frac{1}{2}$ )	37 400	41 700
PHS 25	750	25	M24×2	60	22	31	29.6	124	94	48	12	36	33.5	42	0.6	42.862 ( $1\frac{11}{16}$ )	46 200	72 700
PHS 28	950	28	M27×2	66	25	35	32.3	136	103	53	12	41	37	46	0.6	47.625 ( $1\frac{7}{8}$ )	58 400	87 000
PHS 30	1 130	30	M30×2	70	25	37	34.8	145	110	56	15	41	40	50	0.6	50.800 (2)	62 300	92 200

Note<sup>(1)</sup> Minimum allowable value of chamfer dimension  $r_1$   
 Remarks1. Neither oil hole nor grease nipple is provided for PHS with an inner ring bore diameter  $d$  of 4 mm or less.  
 For others, a grease nipple is provided on the body.  
 2. No grease is prepacked. Perform proper lubrication.  
 3. When a metric fine thread specification for inner ring bore diameter  $d$  of 8 mm to 14 mm is required, please contact **IKO**.

**PILLOBALL**

Lubrication Type PILLOBALL Rod Ends **Insert Type/With Male Thread**

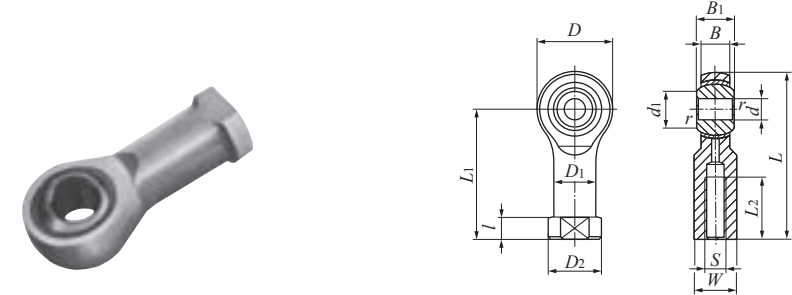


POS(...A)

Identification number	Mass (Ref.) g	Boundary dimensions mm											Dynamic load capacity $C_d$ N	Static load capacity $C_s$ N
		$d$	Thread $G$	$d_2$	$C_1$	$B$	$d_1$	$l_2$	$h$	$l_1$	$r_{1smin}^{(1)}$	Ball dia. mm (inch)		
POS 3	5.0	3	M 3×0.5	12	4.5	6	5.2	33	27	15	0.2	7.938 (5/16)	1 750	1 220
POS 4	8.1	4	M 4×0.7	14	5.3	7	6.5	37	30	17	0.2	9.525 (3/8)	2 480	2 060
POS 5A	12.5	5	M 5×0.8	16	6	8	7.7	41	33	20	0.2	11.112 (7/16)	3 270	3 340
POS 6A	19	6	M 6×1	18	6.75	9	9	45	36	22	0.2	12.700 (1/2)	4 200	4 730
POS 8A	32	8	M 8×1.25	22	9	12	10.4	53	42	25	0.2	15.875 (5/8)	7 010	8 640
POS 10A	54	10	M10×1.5	26	10.5	14	12.9	61	48	29	0.2	19.050 (3/4)	9 810	13 300
POS 12A	85	12	M12×1.75	30	12	16	15.4	69	54	33	0.2	22.225 (7/8)	13 100	16 900
POS 14A	126	14	M14×2	34	13.5	19	16.9	77	60	36	0.2	25.400 (1 )	16 800	20 900
POS 16A	185	16	M16×2	38	15	21	19.4	85	66	40	0.2	28.575 (1 1/8)	21 000	25 400
POS 18A	260	18	M18×1.5	42	16.5	23	21.9	93	72	44	0.2	31.750 (1 1/4)	25 700	30 200
POS 20	340	20	M20×1.5	46	18	25	24.4	101	78	47	0.2	34.925 (1 3/8)	30 800	35 500
POS 22	435	22	M22×1.5	50	20	28	25.8	109	84	51	0.2	38.100 (1 1/2)	37 400	41 700
POS 25	650	25	M24×2	60	22	31	29.6	124	94	57	0.6	42.862 (1 11/16)	46 200	72 700
POS 28	875	28	M27×2	66	25	35	32.3	136	103	62	0.6	47.625 (1 7/8)	58 400	87 000
POS 30	1 070	30	M30×2	70	25	37	34.8	145	110	66	0.6	50.800 (2 )	62 300	92 200

Note<sup>(1)</sup> Minimum allowable value of chamfer dimension  $r_1$   
 Remarks1. Neither oil hole nor grease nipple is provided for POS with an inner ring bore diameter  $d$  of 4 mm or less. For those with an inner ring bore diameter  $d$  of 5 to 6 mm, an oil hole is provided on the body. For others, a grease nipple is provided on the body.  
 2. No grease is prepacked. Perform proper lubrication.  
 3. When a metric fine thread specification for inner ring bore diameter  $d$  of 8 mm to 14 mm is required, please contact **IKO**.

Inch series PILLOBALL Rod Ends **Insert Type/With Female Thread**

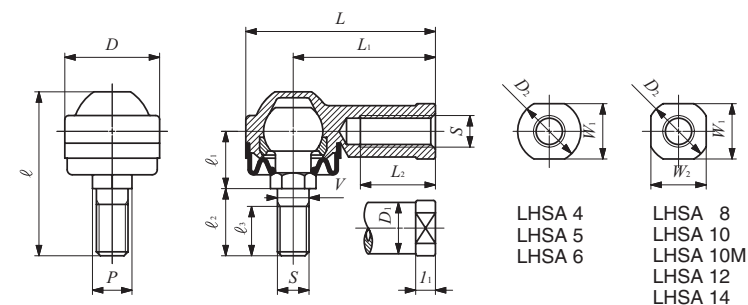


PHSB

Identification number	Mass (Ref.) g	Boundary dimensions mm(inch)															Dynamic load capacity $C_d$ N	Static load capacity $C_s$ N
		$d$	Thread $S$ class 3B	$D$	$B$	$B_1$	$d_1$	$L$	$l$	$L_1$	$L_2$	$W$	$D_1$	$D_2$	$r_{smin}^{(1)}$	Ball dia. mm (inch)		
PHSB 2	6.8	3.175 (.1250)	-32UNC (.1380)	11.91 (.469)	4.75 (.187)	6.35 (.250)	4.75 (.187)	26.57 (1.046)	4.75 (.187)	20.62 (.812)	9.53 (.375)	6.35 (.250)	6.35 (.250)	7.92 (.312)	0.3 (.012)	7.938 (5/16)	1 850	5 840
PHSB 2.5	11	3.967 (.1562)	-32UNC (.1640)	14.27 (.562)	5.56 (.219)	7.14 (.281)	6.32 (.249)	29.36 (1.156)	4.75 (.187)	22.23 (.875)	9.53 (.375)	7.14 (.281)	7.14 (.281)	8.74 (.344)	0.3 (.012)	9.525 (3/8)	2 600	8 210
PHSB 3	14	4.826 (.1900)	-32UNF (.1900)	15.88 (.625)	6.35 (.250)	7.92 (.312)	7.77 (.306)	34.93 (1.375)	4.75 (.187)	26.97 (1.062)	14.27 (.562)	7.92 (.312)	7.92 (.312)	10.31 (.406)	0.3 (.012)	11.112 (7/16)	3 460	9 090
PHSB 4	23	6.350 (.2500)	-28UNF (.2500)	19.05 (.750)	7.14 (.281)	9.53 (.375)	9.02 (.355)	42.85 (1.687)	4.75 (.187)	33.32 (1.312)	19.05 (.750)	9.53 (.375)	9.53 (.375)	11.89 (.468)	0.5 (.020)	13.097 (33/64)	4 590	13 200
PHSB 5	36	7.938 (.3125)	-24UNF (.3125)	22.23 (.875)	8.74 (.344)	11.10 (.437)	11.35 (.447)	46.02 (1.812)	4.75 (.187)	34.93 (1.375)	19.05 (.750)	11.10 (.437)	11.10 (.437)	12.70 (.500)	0.5 (.020)	15.875 (5/8)	6 800	16 500
PHSB 6	59	9.525 (.3750)	-24UNF (.3750)	25.40 (1.000)	10.31 (.406)	12.70 (.500)	13.13 (.517)	53.98 (2.125)	6.35 (.250)	41.28 (1.625)	23.80 (.937)	14.27 (.562)	14.27 (.562)	17.45 (.687)	0.5 (.020)	18.256 (23/32)	9 230	21 600
PHSB 7	82	11.112 (.4375)	-20UNF (.4375)	28.58 (1.125)	11.10 (.437)	14.27 (.562)	14.88 (.586)	60.33 (2.375)	6.35 (.250)	46.02 (1.812)	26.97 (1.062)	15.88 (.625)	15.88 (.625)	19.05 (.750)	0.5 (.020)	20.638 (13/16)	11 200	26 100
PHSB 8	132	12.700 (.5000)	-20UNF (.5000)	33.32 (1.312)	12.70 (.500)	15.88 (.625)	17.73 (.698)	70.64 (2.781)	6.35 (.250)	53.98 (2.125)	30.15 (1.187)	19.05 (.750)	19.05 (.750)	22.23 (.875)	0.5 (.020)	23.812 (15/16)	14 800	36 200
PHSB 10	191	15.875 (.6250)	-18UNF (.6250)	38.10 (1.500)	14.27 (.562)	19.05 (.750)	21.31 (.839)	82.55 (3.250)	7.92 (.312)	63.50 (2.500)	38.10 (1.500)	22.23 (.875)	22.23 (.875)	25.40 (1.000)	0.5 (.020)	28.575 (1 1/8)	20 000	39 300
PHSB 12	286	19.050 (.7500)	-16UNF (.7500)	44.45 (1.750)	17.45 (.687)	22.23 (.875)	24.84 (.978)	95.25 (3.750)	7.92 (.312)	73.03 (2.875)	44.45 (1.750)	25.40 (1.000)	25.40 (1.000)	28.58 (1.125)	0.5 (.020)	33.338 (1 1/16)	28 500	55 000
PHSB 16	998	25.400 (1.0000)	-12UNF (1.2500)	69.85 (2.750)	25.40 (1.000)	34.93 (1.375)	32.23 (1.269)	139.70 (5.500)	11.07 (.436)	104.78 (4.125)	53.98 (2.125)	38.10 (1.500)	38.10 (1.500)	44.45 (1.750)	0.5 (.020)	47.625 (1 7/8)	59 300	86 800

Note<sup>(1)</sup>  $r_{smin}$  stands for minimum allowable value of chamfer  $r$ .  
 Remark No grease is prepacked. Perform proper lubrication.





LHSA 4  
LHSA 5  
LHSA 6

LHSA 8  
LHSA 10  
LHSA 10M  
LHSA 12  
LHSA 14

Identification number	Mass (Ref.) g	Boundary dimensions mm												
		Thread S	V	D	L	L <sub>1</sub>	L <sub>2</sub>	l <sub>1</sub>	W <sub>1</sub>	W <sub>2</sub>	D <sub>1</sub>	D <sub>2</sub>	ℓ	P
LHSA 4	11	M 4×0.7	*4	14	25	18	8	4	8	—	8	10	19.5	*5.5
LHSA 5	27	M 5×0.8	5	17	38.5	30	16	5	10	—	10	12	32.5	8
LHSA 6	27	M 6×1	6	19	39.5	30	16	5	10	—	10	12	32.5	8
LHSA 8	64	M 8×1.25	8	24	48	36	19	5	14	14	13	16	41.5	10
LHSA 10	106	M10×1.25	10	28	57	43	23	6.5	17	17	15	19	49	12
LHSA 10M	106	M10×1.5	10	28	57	43	23	6.5	17	17	15	19	49	12
LHSA 12	180	M12×1.75	12	34	67	50	27	6.5	19	19	17.5	22	64	14
LHSA 14	260	M14×2	14	38	76	57	30	8	22	22	20	25	72	17

Remarks1. The item marked \* is manufactured with a neck diameter of  $\phi 3.4$ . The item marked \* is manufactured with a diameter of  $\phi 5.5$  instead of a width across flats.  
2. Provided with prepacked grease.

l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	Ball dia.	Static load capacity
				C <sub>s</sub> N
7	7	5	8	880
12	13	10	11.112	1 180
12	13	10	11.112	1 670
14.5	17	12.5	15	4 380
16	21	17	19.05	7 400
16	21	17	19.05	7 400
20	30	20	22.225	9 900
22.5	33.5	22	25.4	14 600

K  
LHSA  
LHS