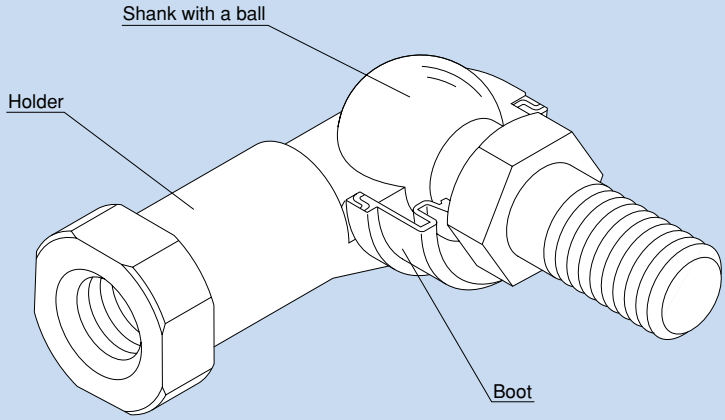


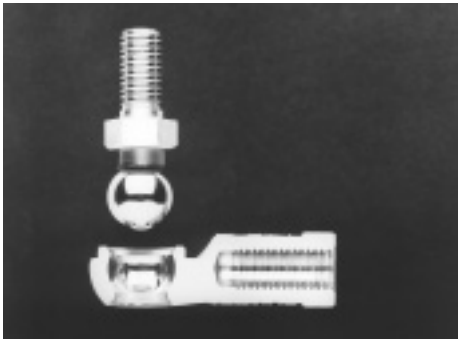
Fig. 1 Structure of Link Ball Model BL

Structure and Features

With the THK Link Ball, a highly accurate bearing steel ball used in the spherical area is first encased in the holder by die cast molding, and then is specially welded with the shank. This unique process enables the mirror surface of the steel ball to be transferred or duplicated on the spherical surface inside the holder to ensure full contact between the ball and the holder. As a result, smooth motion is achieved with a minimum clearance.

●Compact Design

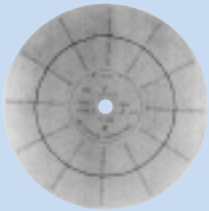
Model AL has an adequately firm and yet extremely compact shape because of highly balanced design. Together with use of an A-1 alloy, the compact design has achieved weight saving. Thus, this model is optimal for use in the stabilizer connecting rod and the transmission control of automobiles.



Cut sample of the spherical area of model BL

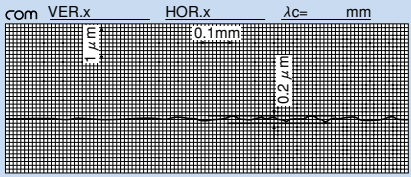
●Achieves Sphericity of 0.001 mm

The spherical surface of the shank ball is transferred on the inner surface of the holder while maintaining the sphericity of the bearing steel ball. This allows smooth motion to be achieved with a minimum clearance and provides favorable operability and feel to the link motion.

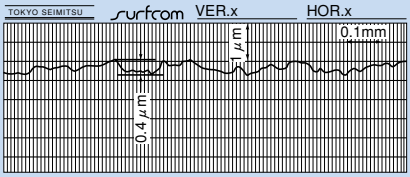


Sphericity: 0.001 mm

Sphericity of the spherical surface of the ball shank



Roughness of the spherical surface of the ball shank



Roughness of the spherical surface of the holder

●Two Types of Holder Material

Model AL uses the newly developed high-strength aluminum alloy "A-1 Alloy" (see page t-7), which is light and highly resistant to wear. Models BL, RBL and RBI use the proven, high-strength zinc alloy (see page t-8).

●High Lubricity

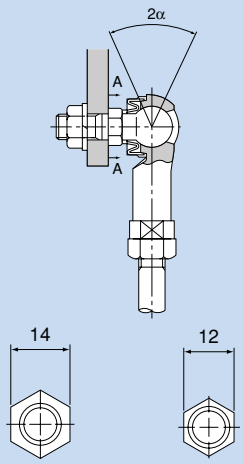
Since models AL and BL and those models attached with boots contain grease, they have high lubricity and increased wear resistance.

●Large Hexagonal Bolt Seat

The hexagonal bolt seat of the shank has the same dimensions as the seating surface for small hexagon head bolts in accordance with automotive specifications. This prevents the seating surface from sinking and ensures a stable link motion mechanism.

●Lightweight, High Strength

Use of the A-1 Alloy enables the Link Ball to achieve mechanical strength approximately twice that of the commonly used aluminum die cast material ADC 12, or almost equal to the high-strength zinc alloy, while maintaining aluminum alloys' advantages: lightweight and corrosion resistance.



Model AL10 Model equivalent to
Model BL10 similar product
A-A cross section

Jaw Span for Wrenching

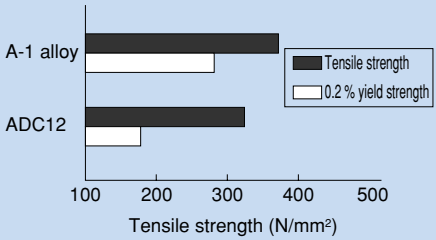
●Equipped with a Boot for Protection against Muddy Water

Use of a boot with high trackability in the ball shank prevents muddy water from entering the spherical area even in a muddy atmosphere. Accordingly, those types equipped with boots are used also in outdoor applications and automobile parts under the chassis.

Types and Features

●High-strength Aluminum Alloy

"A-1 Alloy," a high-strength aluminum alloy newly developed for the Link Ball, has yield strength approximately twice that of the commonly used aluminum die cast material ADC 12, and its strength and wear resistance are equivalent to the high-strength zinc alloy.
With its specific gravity less than that of the high-strength zinc alloy, model AL is optimal as an automotive part that requires lightweight, high strength, high corrosion resistance and high wear resistance.



Tensile Strength and Yield Strength of THK A-1 Alloy and ADC 12

Model AL

The holder is connected in perpendicular to the shank, which comprises a male thread specially welded with a highly accurate steel ball.
With a grease pocket formed on the top and bottom of the spherical area, this model achieves high lubricity and high wear-resistance.
Use of the A-1 alloy in the holder significantly reduces the weight.

●High-strength Zinc Alloy Series

Model RBL

The holder made of the high-strength zinc alloy is connected in perpendicular to the shank, which is incorporated with a ball.
Since grease in contained in the boot, this model achieves high lubricity and high wear-resistance.

Model BL

A compact type of model RBL, this model's holder made of the high-strength zinc alloy is connected in perpendicular to the shank, which is incorporated with a ball.
With a grease pocket formed on the top and bottom of the spherical area, this model achieves high lubricity and high wear-resistance.

Model RBI

With this Link Ball model, the high-strength zinc alloy is used in its holder and the mounting bolt and the holder are arranged on the same axis, allowing this model to receive both a compressive load and a pulling load.
Since grease in contained in the boot, this model achieves high lubricity and high wear-resistance.

Model TBS

The rolled thread on the circumference of the outer ring allows this model to easily be mounted on the housing. Simply by tightening the screw, the user can achieve play-free, firm installation.
Since the covering area of sphere is large, the model is capable of receiving a large axial load.

High-strength Aluminum Alloy "A-1 Alloy"

"A-1 Alloy," a newly developed high-strength aluminum alloy, is an alloy with Aℓ-Zn-Si3 being the main components, is used in the holder of model AL.

●Features of the A-1 Alloy

- ●Achieves one of the highest strengths among the existing aluminum die cast alloys.
- ●Has yield strength approximately twice that of the commonly used aluminum die cast alloy (ADC 12)
- ●Has hardness equal to the high-strength zinc alloy and achieves high wear resistance.
- ●Achieves specific gravity less than a half of the high-strength zinc alloy to allow significant weight saving.
- ●Highly resistant to corrosion and can be used as an automotive part related to wheel control.

●Mechanical Properties

Tensile strength:	343 to 392 N/mm²
Tensile yield strength (0.2%):	245 to 294 N/mm²
Compressive strength:	490 to 637 N/mm²
Compressive yield strength (0.2%):	294 to 343 N/mm²
Charpy impact strength:	0.098 to 0.196 N-m/mm²
Elongation:	2 to 3 %
Hardness:	140 to 160 HV

●Physical Properties

Specific gravity:	3
Melting point:	570 ℃
Specific heat:	793 J/(kg·k)
Linear expansion ratio:	22×10^{-6}

●Wear Resistance

The result of our test has proven that the wear resistance of the A-1 alloy is equivalent to the high-strength zinc alloy.

Rotation-and-rocking comparative durability test between model AL10D (A-1 alloy) and model BL10D (high-strength zinc alloy)

Test conditions	Ambient temperature	Normal temperature	
	Applied load	±1.9kN (perpendicular to axis) (note)	
	Loading frequency	0.6Hz	
	Kinematic angle	Rotation ±20°	Rocking ±20°
	No. of cycles	40 cycles per min.	40 cycles per min.
	Total No. of cycles	1,000,000 cycles	
Test result: change in clearance (mm)		AL10D (A-1 alloy)	BL10D (high-strength zinc alloy)
	Perpendicular to axis	0.036	0.033
	Axial direction	0.052	0.045

Note: For the load direction, see page t-9.

High-strength Zinc Alloy

The high-strength zinc alloy used in the holders of models BL, RBL, RBI and TBS has been developed as a bearing alloy by mixing Aℓ, Cu, Mg, Be and Ti as well as zinc as the base component. It is excellent in mechanical properties, seizure resistance and wear resistance.

●Composition

Table 1 Composition of the High-strength Zinc Alloy

Unit: %

Aℓ	3 to 4
Cu	3 to 4
Mg	0.03 to 0.06
Be	0.02 to 0.06
Ti	0.04 to 0.12
Zn	Remaining portion

●Mechanical Properties

Tensile strength: 275 to 314 N/mm²
Tensile yield strength (0.2%): 216 to 245 N/mm²
Compressive strength: 539 to 686 N/mm²
Compressive yield strength (0.2%): 294 to 343 N/mm²
Fatigue strength 132 N/mm²×10⁷ (Schenk bending test)
Charpy impact strength: 0.098 to 0.49 N-m/mm²
Elongation: 1 to 5 %
Hardness: 120 to 145 HV

●Physical Properties

Specific gravity: 6.8
Melting point: 390 ℃
Specific heat: 460 J/(kg·k)
Linear expansion ratio: 24×10⁻⁶

●Wear Resistance

The wear resistance of the high-strength zinc alloy is superior to that of class-3 brass and class-3 bronze, almost equal to that of class-2 phosphor bronze.

Amsler wear-tester:
Test piece rotation speed: 185 min⁻¹
Load: 392 N
Lubricant: Dynamo oil

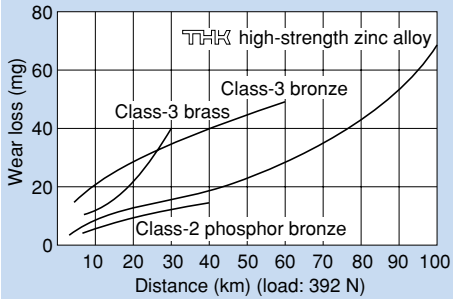


Fig. 2 Wear Resistance of the High-strength Zinc Alloy

Safety Design

●Permissible Tilt Angle

The permissible tilt angles of Link Ball models are indicated in the corresponding dimensional tables.

Note: If the permissible tilt angle is exceeded, it may cause serious damage to the holder or the boot. Be sure to use the Link Ball within its permissible tilt angle.

●Service Temperature

If the Link Ball is to be used at temperature of 80℃ or higher, or receives an impact at low temperature, it is necessary to consider the safety factor of the holder. Contact THK in advance. For details, see the data on durability tests conducted in high and low temperatures (page T-16 of the "THK General Catalog - Technical Descriptions of the Products," provided separately).

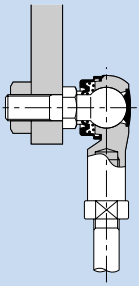
In an actual application, the Link Ball has been used as a ball joint for transmission control of a truck at service temperature between -40℃ and +140℃.

●How Load Directions Are Called

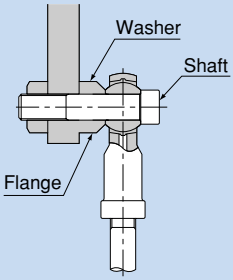
Regardless of the shape, the direction of the load applied to the Link Ball is called "axial direction" if it is parallel to the axis of the ball shank, and "perpendicular-to-axis direction" if it is perpendicular to the axis.

Examples of Installation

●Comparison of THK Link Ball and the Conventional Rod End



THK model BL

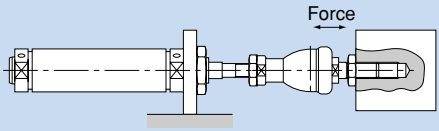


Conventional Rod End model PHS

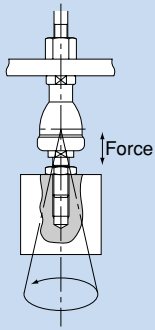
- Sine it has a shaft, model BL can easily be installed (especially useful for rod assembly).
- Because of the improved shape of the boot lip, the spherical area is protected from muddy water even in a muddy atmosphere.
- Since it contains grease, it can be used without further lubrication (superb in lubricity).
- Unlike the conventional type, which has a clearance between the shaft and the inner circumference of the ring and cannot be fixed completely, model BL has minimum distortion and high rigidity since the shank is integrated with the ball.

●Examples of Installing Model RBI

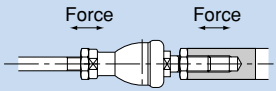
Joint for cylinder end metal fitting



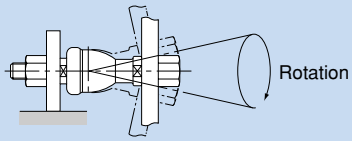
Suspending a light object



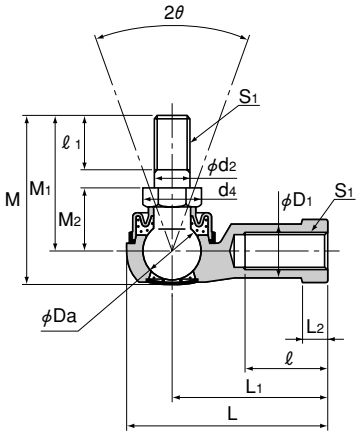
Connecting a rod in the axial direction

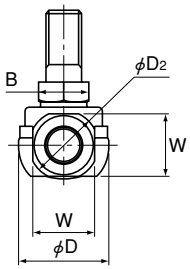


Rotation support



Model AL





Unit: mm

Model No.	Outer dimensions			Thread	Holder dimensions						Ball shank dimensions						Ball diameter	Permissible tilt angle	Applied static load	Yield point strength	Mass
	Length L	Diameter D	Height M	S1 JIS Class 2	L1	ℓ	L2	D1	D2	W 0 −0.3	d2 h9	M1	M2 ±0.3	ℓ1	Hexagon B 0 −0.3	d4	Da	2θ°	Cs N	Pk N	g
AL 4D	24.5	13	20	M4×0.7	18	8	4	7.5	9.5	8	4	15	7	6	7	8.1	7.938	40	4510	1370	7
AL 5D	34.5	15	26.7	M5×0.8	27	15	4	9	12	10	5	21	10	8	8	9.2	9.525	40	6470	2250	12
AL 6D	38.5	17	32.6	M6×1	30	16	5	10	13	11	6	26	11	11	10	11.6	11.112	40	9900	3920	18
AL 8D	46	20	38.6	M8×1.25	36	19	6	13	16	14	8	31	14	12	12	13.8	12.7	40	12500	6570	32
AL 10D	56	26	46.3	M10×1.25	43	23	7	15.5	19	17	10	37	17	15	14	16.2	15.875	40	18300	11300	65
AL 10BD	56	26	52.3	M10×1.5	43	23	7	15.5	19	17	10	43	17	21	14	16.2	15.875	40	18300	11300	68

Material

Holder: A-1 alloy (see page t-7)
Ball shank: Bearing steel ball
Hardness: 650 Hv or higher
Shank S35C (20 to 28 HRC)
Color chromate finish
Boot: NBR-based special synthetic rubber

Spherical Clearance

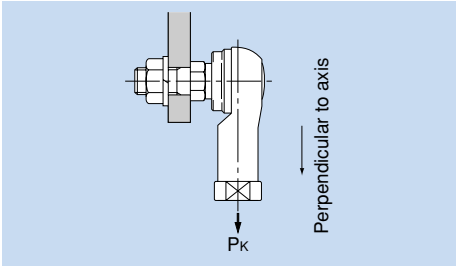
Perpendicular to axis: 0.02 mm to 0.06 mm
Axial direction: 0.3 mm or less

Tolerance of the Mating Hole of the Ball Shank

H10 is recommended.

Yield Point Strength

It indicates the strength in the direction shown in the figure below.



Lubrication

Lithium soap group grease No. 2 is contained in the boot and the cap.

Identification of Left-hand Thread

If the female thread is left-hand, its identification depends on the cap color and marking.

Thread	Identification	
	Cap color	Cap marking
Right-hand	White	–
Left-hand	Yellow	"L" mark

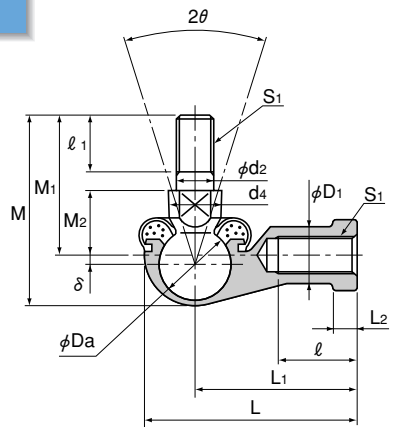
Model number coding

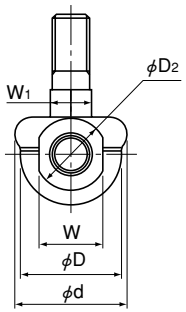
AL6 D L
1 2 3

1 Model number 2 With boot attached 3 Left-hand thread

Selecting a Model Number Refer to the "THK General Catalog - Technical Descriptions of the Products," provided separately

Model RBL





Unit: mm

Model No.	Outer dimensions Length L	Diameter D	Height M	Thread S1 JIS Class 2	Holder dimensions L1	L2	ℓ	D1	D2	W 0 −0.3	Ball shank dimensions d2 h9	M1	M2 ±0.3	ℓ1	W1 0 −0.3	d4	Boot d	Eccentricity δ	Ball diameter Da	Permissible tilt angle 2θ°	Applied static load Cs N	Yield point strength PK N	Mass g
RBL 5D	35	16	29	M5×0.8	27	4	14	9	11	9	5	21	10	8	7	9	19	1	11.112	45	9220	2250	24
RBL 6D	40	19	35.5	M6×1	30	5	14	10	13	11	6	26	11	11	8	10	20	1.2	12.7	45	12100	3530	37
RBL 8D	48	23	42.5	M8×1.25	36	5	17	12.5	16	14	8	31	14	12	10	12	24	2	15.875	45	19100	6570	67
RBL 10D	57	27	50.5	M10×1.25	43	6.5	21	15	19	17	10	37	17	15	11	14	30	2.5	19.05	45	27500	10700	110
RBL 10BD	57	27	56.5	M10×1.5	43	6.5	21	15	19	17	10	43	17	21	11	14	30	2.5	19.05	45	27500	10700	113
RBL 12D	66	31	57.5	M12×1.25	50	6.5	25	17.5	22	19	12	42	19	17	17	19	32	2	22.225	45	37500	16400	165
RBL 12BD	66	31	64.5	M12×1.75	50	6.5	25	17.5	22	19	12	49	19	24	17	19	32	2	22.225	45	37500	16400	170
RBL 14D	75	35	73.5	M14×1.5	57	8	26	20	25	22	14	56	21.5	22	17	19	38	2	25.4	45	48900	19800	255
RBL 14BD	75	35	79.5	M14×2	57	8	26	20	25	22	14	62	21.5	28	17	19	38	2	25.4	45	48900	19800	260
RBL 16D	84	39	79.5	M16×1.5	64	8	32	22	27	22	16	60	23.5	23	19	22	44	2	25.4	35	48900	26900	335
RBL 16BD	84	39	85.5	M16×2	64	8	32	22	27	22	16	66	23.5	29	19	22	44	2	25.4	35	48900	26900	340
RBL 18D	93	44	90	M18×1.5	71	10	34	25	31	27	18	68	26.5	25	20	23	48	4.5	28.575	35	61900	33300	465
RBL 20D	99	44	90	M20×1.5	77	10	35	27.5	34	30	20	68	27	25	24	29	50	2	28.575	35	61900	45900	540
RBL 22D	109	50	95	M22×1.5	84	12	41	30	37	32	22	70	28	26	24	27	54	5	31.75	27	75400	48000	715

Note The fine letters in the model numbers represent semi-standard types. We recommend using model BL on page t-16.

Note The permissible tilt angle of types without boot are greater by approximately 5°.

■Material

Holder: High-strength zinc alloy (see page t-8)
Ball shank: Bearing steel ball
Hardness: 650 Hv or higher
Shank S35C (color chromate finish)
Boot: NBR-based special synthetic rubber

■Tolerance of the Mating Hole of the Ball Shank

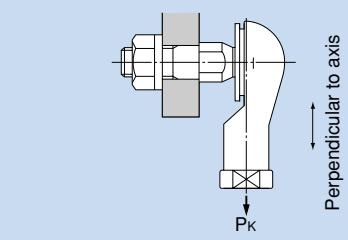
H10 is recommended.

■Spherical Clearance

Perpendicular to axis: 0.02 mm to 0.06 mm
Axial direction: 0.3 mm or less

■Yield Point Strength

It indicates the strength in the direction shown in the figure below.



■Lubrication

Lithium soap group grease No. 2 is contained in the boot.

■Identification of Left-hand Thread

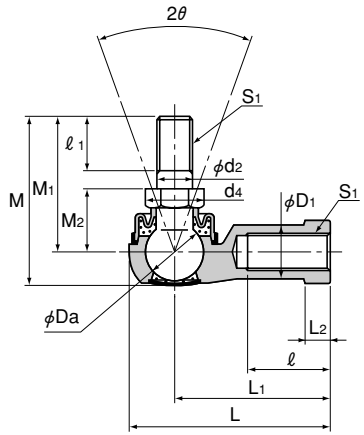
If the female thread is left-hand, symbol "L" is added.
The actual product is marked with symbol "L" on the wrench jaw area of the holder.

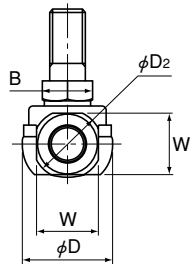
Model number coding

RBL10 D L
1 2 3

1 Model number 2 With boot attached 3 Left-hand thread

Model BL





Unit: mm

Model No.	Outer dimensions Length L	Diameter D	Height M	Thread S1 JIS Class 2	Holder dimensions L1	ℓ	L2	D1	D2	W 0 −0.3	Ball shank dimensions d2 h9	M1	M2 ±0.3	ℓ1	Hexagon B 0 −0.3	d4	Ball diameter Da	Permissible tilt angle 2θ°	Applied static load CS N	Yield point strength PK N	Mass g
BL 6D	38	16	32.6	M6×1	30	16	5	10	13	11	6	26	11	11	10	11.6	11.112	40	9900	3920	26
BL 8D	45.5	19	38.6	M8×1.25	36	19	6	12.5	16	14	8	31	14	12	12	13.8	12.7	40	12500	6570	49
BL 10D	55.5	25	46.3	M10×1.25	43	23	7	14.5	19	17	10	37	17	15	14	16.2	15.875	40	18300	11300	87
BL 10BD	55.5	25	52.3	M10×1.5	43	23	7	14.5	19	17	10	43	17	21	14	16.2	15.875	40	18300	11300	90
BL 12D	64.5	29	52.7	M12×1.25	50	26	8	17.5	22	19	12	42	19	17	17	19.6	19.05	40	26700	16400	143
BL 12BD	64.5	29	59.7	M12×1.75	50	26	8	17.5	22	19	12	49	19	24	17	19.6	19.05	40	26700	16400	148
BL 14D	74	34	68.4	M14×1.5	57	30	10	20	25	22	14	56	21.5	22	19	21.9	22.225	40	36400	19800	235
BL 14BD	74	34	74.4	M14×2	57	30	10	20	25	22	14	62	21.5	28	19	21.9	22.225	40	36400	19800	245
BL 16D	83	38	74	M16×1.5	64	34	11	22	27	24	16	60	23.5	23	22	25.4	22.225	30	36400	26900	315
BL 16BD	83	38	80	M16×2	64	34	11	22	27	24	16	66	23.5	29	22	25.4	22.225	30	36400	26900	325

Material

Holder: High-strength zinc alloy (see page t-8)
Ball shank: Bearing steel ball
Hardness: 650 Hv or higher
Shank S35C (20 to 28 HRC)
Color chromate finish
Boot: NBR-based special synthetic rubber

Spherical Clearance

Perpendicular to axis: 0.02 mm to 0.06 mm
Axial direction: 0.3 mm or less

Tolerance of the Mating Hole of the Ball Shank

H10 is recommended.

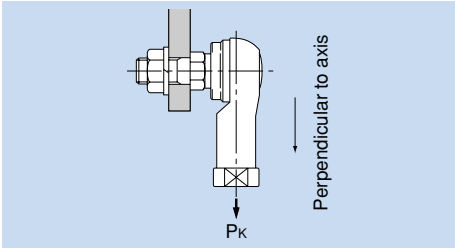
Model number coding

BL6 D L
1 2 3

1 Model number 2 With boot attached 3 Left-hand thread

Yield Point Strength

It indicates the strength in the direction shown in the figure below.



Lubrication

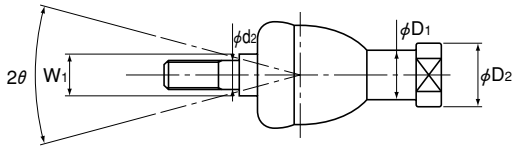
Lithium soap group grease No. 2 is contained in the boot and the cap.

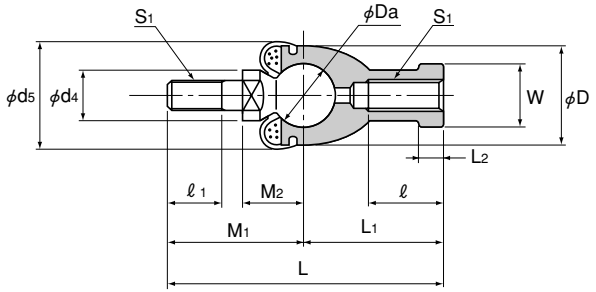
Identification of Left-hand Thread

If the female thread is left-hand, its identification depends on the cap color and marking.

Thread	Identification	
	Cap color	Cap marking
Right-hand	White	–
Left-hand	Yellow	"L" marking

Model RBI





Unit: mm

Model No.	Outer dimensions Length L	Outer dimensions Diameter D	Thread S1 JIS Class 2	Holder dimensions L1	L2	ℓ	D1	D2	W 0 −0.3	Shaft diameter d2 h9	Ball shank dimensions M1	M2 ±0.3	ℓ1	W1 0 −0.3	d4	Boot d5	Ball diameter Da	Permissible tilt angle 2θ°	Applied static load Tensile Cs N	Applied static load Compressive Cs N	Yield point strength Pk N	Mass g
RBI 5D	46	17	M5×0.8	24	4	12	9	11	9	5	22	11	8	7	9	20	11.112	25	5690	11400	2840	25
RBI 6D	55.2	20	M6×1	28	5	15	10	13	11	6	27.2	12.2	11	8	10	20	12.7	25	7450	14900	3730	40
RBI 8D	65	24	M8×1.25	32	5	16	12.5	16	14	8	33	16	12	10	12	24	15.875	25	11700	23200	5880	75
RBI 10D	74.5	28	M10×1.25	35	6.5	18	15	19	17	10	39.5	19.5	15	11	14	30	19.05	25	16800	33500	8430	120
RBI 10BD	80.5	28	M10×1.5	35	6.5	18	15	19	17	10	45.5	19.5	21	11	14	30	19.05	25	16800	33500	8430	123
RBI 12D	84	32	M12×1.25	40	6.5	20	17.5	22	19	12	44	21	17	17	19	32	22.225	25	22800	45600	11400	185
RBI 12BD	91	32	M12×1.75	40	6.5	20	17.5	22	19	12	51	21	24	17	19	32	22.225	25	22800	45600	11400	190
RBI 14D	103	36	M14×1.5	45	8	25	20	25	22	14	58	23.5	22	17	19	38	25.4	17	29800	59600	14900	275
RBI 14BD	109	36	M14×2	45	8	25	20	25	22	14	64	23.5	28	17	19	38	25.4	17	29800	59600	14900	280
RBI 16D	112	40	M16×1.5	50	8	27	22	27	22	16	62	25.5	23	19	22	44	25.4	17	29800	59600	14900	360
RBI 16BD	118	40	M16×2	50	8	27	22	27	22	16	68	25.5	29	19	22	44	25.4	17	29800	59600	14900	370
RBI 18D	130.5	45	M18×1.5	58	10	32	25	31	27	18	72.5	31	25	20	23	45	28.575	17	37700	75400	18900	535
RBI 20D	133	45	M20×1.5	63	10	38	27.5	34	30	20	70	29	25	24	29	50	28.575	10	37700	75400	18900	570
RBI 22D	145	50	M22×1.5	70	12	43	30	37	32	22	75	33	26	24	27	52	31.75	10	46600	93100	23500	755

Note The permissible tilt angle of types without boot are greater by approximately 5°.

■Material

Holder: High-strength zinc alloy (see page t-8)
Ball shank: Bearing steel ball
Hardness: 650 Hv or higher
Shank S35C (color chromate finish)
Boot: NBR-based special synthetic rubber

■Spherical Clearance

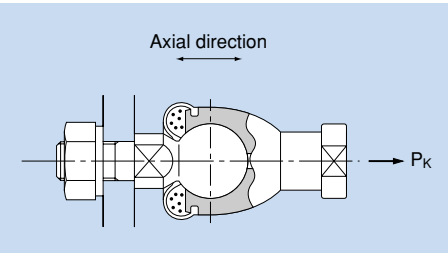
Perpendicular to axis: 0.03 mm or less
Axial direction: 0.1 mm or less

■Tolerance of the Mating Hole of the Ball Shank

H10 is recommended.

■Yield Point Strength

It indicates the strength in the direction shown in the figure below.



■Lubrication

Lithium soap group grease No. 2 is contained in the boot.

■Identification of Left-hand Thread

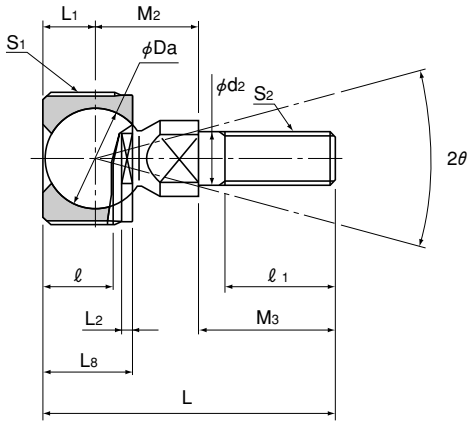
If the female thread is left-hand, symbol "L' is added.
The actual product is marked with symbol "L" on the holder.

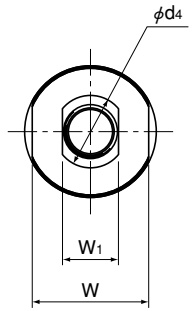
Model number coding

RBI10 D L
1 2 3

1 Model number 2 With boot attached 3 Left-hand thread

Model TBS





Unit: mm

Model No.	Outer dimensions: Thread S1 JIS Class 2	Outer dimensions: Length L	Holder dimensions: L8	Holder dimensions: ℓ	Holder dimensions: L1	Holder dimensions: L2	Holder dimensions: W 0 −0.3	Shaft diameter: d2 h9	Thread S2 JIS Class 2	Ball shank dimensions: d4	Ball shank dimensions: M2	Ball shank dimensions: M3	Ball shank dimensions: ℓ 1	Ball shank dimensions: W1 0 −0.3	Ball diameter: Da	Permissible tilt angle: 2θ°	Applied static load: Perpendicular to axis CS N	Applied static load: Axial direction CSa (Tensile) N	Applied static load: Axial direction CSa (Compressive) N	Yield point strength: PK N	Mass: g
TBS 6	M20×1.5	34.2	11.5	8	7	2	17	6	M6×1	10	12.2	15	11	8	12.7	30	13700	4900	12000	2450	30
TBS 8	M22×1.5	41.5	14.5	11	8.5	2	19	8	M8×1.25	12	16	17	12	10	15.875	30	24600	10400	17600	5200	50
TBS 10	M25×1.5	55.5	17	13.5	10	2	22	10	M10×1.5	14	19.5	26	21	11	19.05	30	32700	14400	25000	7250	80
TBS 12	M30×1.5	63	20	15.5	12	3	27	12	M12×1.75	19	21	30	24	17	22.225	30	44000	18300	35000	9220	130

■Material

Holder: High-strength zinc alloy (see page t-8)
Ball shank: Bearing steel ball
Hardness: 650 Hv or higher
Shank S35C (color chromate finish)

■Spherical Clearance

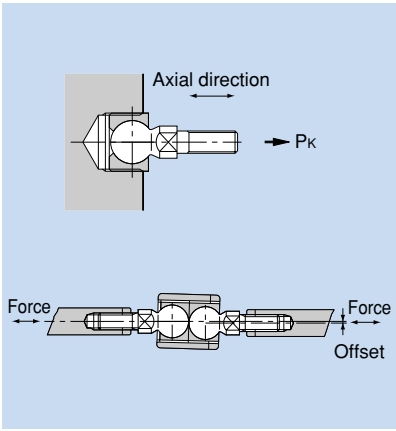
Perpendicular to axis: 0.03 or less
Axial direction: 0.1 mm or less

■Female Thread for Attaching the Outer Ring

JIS Class 2 thread

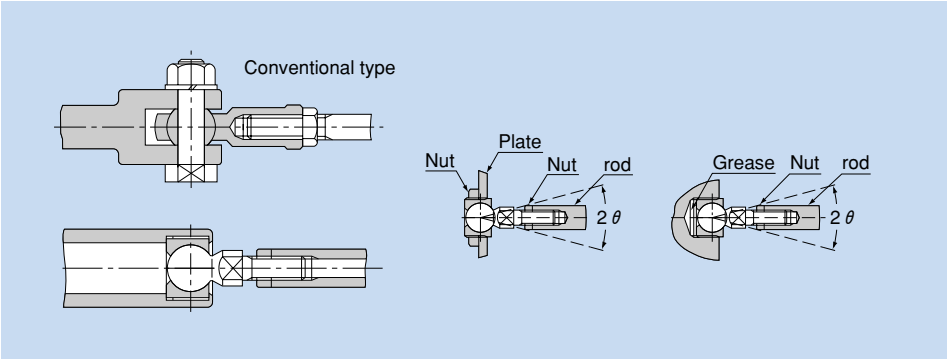
■Yield Point Strength

It indicates the strength in the direction shown in the figure below.



■Example of Installation

As shown in the figure below, compared with the conventional installation using a frog-shaped joint, model TBS can be installed more compactly and more easily.



■Lubrication

Since the holder has an oil pocket, it allows grease to be replenished as necessary.